

2015

Drives and controls

for intelligent building technology



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2015

Drives and controls

for intelligent building technology

Tubular drives

Venetian blind drives

Speciality drives

Home automation

Controls

Sensors

Door drives

Door controls

Accessories



Pioneer

Becoming a global player with a simple idea

Never again raising roller shutters by hand – this simple thought marked the start for elero in 1964. Since then the company name has been synonymous with a mission: making roller shutters, awnings, venetian blinds and rolling doors roll electrically at the push of a button. The workshop from back then has become a global player that regularly sets new standards in home automation, whether in 1984 with the first electronic timer or in 1992 with the automatic controller that follows the yearly course of the sun. In 2009 elero presented the “ProLine 2”, the first bidirectional radio system with routing function. Centero has enabled the simple and convenient control of building services by smartphone or tablet PC since 2013. Today, over 50 years after the establishment of the company, elero employs over 450 staff with branches all over the world and is still as innovative as it was on the very first day.

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Colours

Tubular drives RevolLine S + M + L



Tubular drives Typ 9 + 11



Venetian blind drives



Speciality drives



Home automation, radio control units and -sensors



Hardwired control units and -sensors



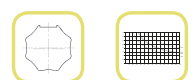
Door drives



Door controls



Drive adapter profiles and lifting capacity tables



RevolLine

Type 9 + 11

Venetian blind drives

Speciality drives

Hausautomation, radio controls, radio sensors

Hardwired controls sensors

Door drives

Door controls

Adapter profiles
Lifting capacity tables

A large window with a view of a harbor and boats. The window frame is made of dark metal. The view outside shows a harbor with several boats, including a large white boat with a mast. The sky is bright and overcast.

Quality of life

Greater living comfort at the push of a button

It's the little details that constitute perfect living comfort: never again having to pull or wind your sun protection by hand. Roller shutters that automatically open and close – to protect you against heat, cold and burglars. An awning controller that gently stretches the cloth taut in the sunshine and retracts the sun protection system in wind and rain. And all of this maintenance-free, noiseless and comfortable in operation, at the push of a button, by radio remote control or app from anywhere in the world. Tenants as well as house and flat owners soon realise that products and solutions from elero save time, lower energy costs and thus quickly pay off in the truest sense of the words. However, elero offers even more that cannot be measured in euros and cents: an undreamt-of high degree of living comfort and a new quality of life.



Innovation

Highest demands on design, technology and quality

Noble and plain on the outside, high-end technology on the inside. That has been elero's recipe for success for 50 years. We have been the leaders in innovation in building automation since 1964 and have shaped the market with new and visionary products. With our high product quality and innovative force, we are the only supplier that still develops and produces entirely in Germany. Our product development focuses on our customers with their requests and requirements.

Hence, we develop user-friendly products with intuitive operation and high comfort and find the best solution even for special requirements. The result: internationally award-winning innovations, the Centero app for the simple mobile operation of the building services. And delighted customers worldwide.





50

1964

1964

First tubular motor

elero GmbH was founded in Kirchheim unter Teck. Development of the first tubular motor

1982

1982

PEZ-84

First freely programmable timer PEZ-84 for roller shutters, and venetian blinds

2004

Since 1964

elero – turn your life

elero manufactured all of these milestones in drive and control technology first in Kirchheim unter Teck and since 1987 in its main factory in Beuren. Since 2011 the company has been the premium brand for roller shutters and sight screens within the Nice Group. The development and production capacities of the main plant in Germany are currently being expanded still further. Today, elero is an internationally aligned company and is growing into a globally leading brand.

2009

programmable
to control
awnings
blinds

2004

Soft brake

Development of
the noiseless soft
brake for venetian
blinds

2009

ProLine 2

Implementation of the
ProLine 2 bidirectional
radio control system

2014

50th anniversary

Half a century on course
for growth

2014



Our future

Drive on the job

It is the individual employees that lead a company to success. Therefore, in order to meet its needs for qualified and dedicated skilled workers, elero has trained its own apprentices for many years. Great importance is attached to well-trained employees. They make the company strong for the future. Those who begin their career at elero thus receive a great deal of input in theory and practice. In addition, special projects in the team provide for work enjoyment and solidarity.



Made in Germany

Half a century of company history – with all its highs and lows, many innovations and constant “German-made” quality. The customer is the central generator of ideas and each employee is an important part of the works. Long-standing relationships with customers are decisive for success. Since its establishment, elero has catered to the interests of building owners, craftsmen, architects and system manufacturers. Hence, it provides a good service and develops tailor-made and innovative products that are really needed.



YES to JA drives

Elero venetian blind drives are optimally tailored to the specific requirements of venetian blinds. The reliable drives operate with high precision and are maintenance-free. The drives are equipped with integrated thermal protection and an easily adjustable limit stop. The indestructible, maintenance-free planetary gears, the splash-proof motor housing and the standard use of high-precision individual parts maintain the quality of these drives. The accurately functioning latching limit stops, whose adjustment is both simple and easily accessible for both directions of rotation, offer further advantages.

Gentle technology

Modern drives fulfil a variety of requirements. They should be robust, durable and reliable, but at the same time work quietly and be maintenance-free. The RevoLine roller shutter drives from elero move the shutters smoothly and precisely. The drives have an integrated slow speed which ensures a smooth stop travel. That especially protects the roller shutters and considerably reduces noise development.



Automation

Control the awning from your deck chair or the light and the roller shutters from the bed without having to juggle with lots of different remote controls – who has never wanted to be able to do that? With the Centero automation solution from elero, building services can be controlled by smartphones and tablet PCs. Additional living comfort is offered by the new Unio-868 radio power socket, via which the Centero can be linked with further devices.





Your direct line

International service

We have developed into a leading, globally operative brand in the field of drives and controllers for intelligent, sustainable home automation and industrial applications. For elero, everything revolves around the customer. And customer satisfaction is a measure of success. This is expressed in expert advice, short delivery times and intensive customer service. Almost worldwide. How else would we have so many satisfied regular customers?

Drives

	Page	Electronic limits with Soft Stop on end position approach	Mechanical limit switches	Bi-directional radio system	Noiseless soft brake *	Integrated slow drive **	Torque control	Parallel connection possible	Roller shutter	Sonro roller shutter	Awning	Blind and screen	Dual screen	Roller shutter with louvre function	ZIP Screen	Special applications =< 90 rpm	Venetian blind	Rolling doors	Folding shutter drive
RevoLine S																			
RolTop S-868	28	•		•	•	•	•	•	•			•							
RolTop S	30	•			•	•	•	•				•							
RolTop D+ S-868	32	•		•	•	•	•	•											
RolTop D+ S	34	•			•	•	•	•											
RolTop T S-868 bidi	36	•		•	•	•	•	•					•						
SunTop S-868	38	•		•	•	•	•	•			•	•							
SunTop S	40	•			•	•	•	•			•	•							
VariEco S-868	42		•	•	•						•	•							
VariEco S	44		•		•						•	•							
RevoLine M																			
RolTop M-868	56	•		•	•	•	•	•	•			•							
RolTop M-868-K	58	•		•	•	•	•	•				•							
RolTop M	60	•			•	•	•	•				•							
RolTop M-K	62	•			•	•	•	•				•							
RolSmart M10-K	64	•			•	•	•	•				•							
RolSmart M20	66	•			•	•	•	•				•							
RolTop/D+ M-868	68	•		•	•	•	•	•				•							
RolTop/D+ M	70	•			•	•	•	•				•							
RolTop Sonro M-868	72	•		•	•	•	•	•		•									
RolTop Sonro M	74	•			•	•	•	•		•									
RolTop/J M-868	76	•		•	•	•	•	•					•						
RolTop/J M	78	•			•	•	•	•					•						
RolTop M-868 (90 rpm)	80	•		•	•	•	•	•				•				•			
RolTop M (90 rpm)	82	•			•	•	•	•				•				•			
SunTop M-868	84	•		•	•	•	•	•			•	•							
SunTop M	86	•			•	•	•	•			•	•							
VariEco M-868	88		•	•	•						•	•							
VariEco M	90		•		•						•	•							
RolTop M-868 RH	100	•		•	•	•	•	•				•		•					
RolTop M-868-K RH	102	•		•	•	•	•	•				•		•					
RolTop M RH	104	•			•	•	•	•				•		•					
RolTop M-K RH	106	•			•	•	•	•				•		•					
RevoLine L																			
RolTop L-868	116	•		•			•	•	•			•							
RolTop L	118	•					•	•				•							
SunTop L-868	120	•		•			•	•			•	•							
SunTop L	122	•					•	•			•	•							
VariEco L-868	124		•	•							•	•							
VariEco L	126		•								•	•							

	Page	Electronic limits	Mechanical limit switches	Bi-directional radio system	Noiseless soft brake *	Integrated slow drive **	Torque control	Parallel connection possible	Roller shutter	Sonro roller shutter	Awning	Blind and screen	Dual screen	Roller shutter with louvre function	ZIP Screen	Special applications =< 90 rpm	Venetian blind	Rolling doors	Folding shutter drive
Type 11																			
Type 11 CSM-868	134	•					•	•											
Type 11 CSM-F-868	134	•					•	•											
Type 11 CSM-E	136	•					•	•											
Type 11	138		•						•		•	•							
Type 9 NHK / Type 11 NHK																			
Type 9 NHK	144		•						•		•	•						•	
Type 11 NHK	146		•						•		•	•						•	
Type 15																			
Type 15	260		•						•		•	•							
Type 15 NMA	262		•						•		•	•						•	
Venetian blind drives																			
JA	158		•															•	
JA Soft	158		•		•													•	
JAR	160		•															•	
JAR Soft	160		•		•													•	
JA NHK	162		•															•	
Speciality drives																			
Box 5	170		•							•								•	
Folding shutter drive	172		•																•
Door drives																			
DFM NHK	270		•																•
DFM SHK	272		•																•
DKM NHK	274		•																•
DKM SHK	276		•																•
DFM-ZE	278		•																•
WFM	280		•																•
WKM	280		•																•

* Noiseless soft brake: Serie S up to 8 Nm including; Serie M up to 20 Nm including

** Integrated slow drive: only in combination with soft brake

Possible limit switch modes

	Page	Programmable end limits combinations				Mechanically adjustable end limits		Self learning limits	
		Upper limit switch		Lower limit switch		Upper limit switch	Lower limit switch	Upper limit switch	Lower limit switch
		on limit stop	freely programmable	on limit stop	freely programmable	freely programmable	freely programmable	on limit stop	on limit stop
RevoLine S									
RolTop S-868	28	•		•					
RolTop S	30	•			•				
			•	•					
			•		•				
RolTop/D+ S-868	32							•	
RolTop/D+ S	34								•
RolTop/T S-868	36	•		•					
		•			•				
			•	•					
			•		•				
SunTop S-868	38	•		•					
SunTop S	40	•			•				
			•	•					
			•		•				
VariEco S-868	42					•			
VariEco S	44						•		
RevoLine M									
RolTop M-868	56	•		•					
RolTop M-868-K	58	•			•				
RolTop M	60		•	•					
RolTop M-K	62		•		•				
			•						
RolSmart M10-K	64	•		•					
RolSmart M20	66	•			•				
			•	•					
RolTop/D+ M-868	68							•	
RolTop/D+ M	70								•
RolTop Sonro M-868	72	•		•					
RolTop Sonro M	74	•			•				
			•	•					
			•		•				
			•						
RolTop M-868 (90 rpm)	80	•		•					
RolTop M (90 rpm)	82	•			•				
			•	•					
			•		•				
SunTop M-868	84	•		•					
SunTop M	86	•			•				
			•	•					
			•		•				
VariEco M-868	88					•			
VariEco M	90						•		

	Page	Programmable end limits combinations				Mechanically adjustable end limits		Self learning limits	
		Upper limit switch		Lower limit switch		Upper limit switch	Lower limit switch	Upper limit switch	Lower limit switch
		on limit stop	freely programmable	on limit stop	freely programmable	freely programmable	freely programmable	on limit stop	on limit stop
RevoLine M									
RolTop M-868 RH	100	•		•					
RolTop M-868-K RH	102	•			•				
RolTop M RH	104		•	•					
RolTop M-K RH	106		•		•				
RevoLine L									
RolTop L-868	116	•		•					
RolTop L	118	•			•				
			•	•					
			•		•				
SunTop L-868	120	•		•					
SunTop L	122	•			•				
			•	•					
			•		•				
VariEco L-868	124					•	•		
VariEco L	126								
Type 11									
Type 11 CSM-868	134	•			•				
			•	•					
Type 11 CSM-F-868	134		•		•				
Type 11 CSM-E	136	•			•				
			•	•					
Type 11	138					•	•		
Type 9 NHK / Type 11 NHK									
Type 9 NHK	144					•	•		
Type 11 NHK	146								
Type 15									
Type 15	262					•	•		
Type 15 NMA	264								
Venetian blind drives									
JA	158					•	•		
JA Soft	158								
JAR	160					•	•		
JAR Soft	160								
JA NHK	162					•	•		
Speciality drives									
Box 5	170					•	•		
Folding shutter drive	172								

Control units overview

Control units

	Page	Roller shutters/ Interior shading	Awnings/External shading	Venetian blinds	Switching lights	Heating	Switching of mains voltage (230V)	Switching of low voltage (<6V)	Radio transmitter, number of channels	Radio receiver	Requires 230V connection	External inputs/Building automation system/Audio visual system integration	Manual/automatic sliding switch	Integrated operation buttons	24-hour and 7-day basic timer	Astro, sun set timer (or weekly timer)	Astro, sun rise timer (or weekly timer)	Astro shift (user adjustable)	City selection (156 locations)	Longitude/latitude degree adjustable	Time adjustable
Control units																					
Centero	176	•	•	•	•	•			15 ¹		•		•	•	•	•	•	•	•	•	•
TempoTel 2 *	178	•	◦	•	•	◦			10				•	•		•	•	•	•	•	•
MultiTel 2	180	•	•	•	•	•			15				•	•							
VarioTel 2	180	•	•	•	•	•			5				•	•							
LumeroTel 2	182	•	•	•	•	•			1				•	•							
MonoTel 2	182	•	◦	◦	•	•			1					•							
SoloTel 2	182	•	◦	◦	•	•			1					•							
AstroTec-868 /bidi	184	•	◦	•	•	◦			1				•	•	•	•	•	•	•	•	•
MemoTec-868	186	•	◦	•	•	◦			1				•	•	•						
UniTec-868	188	•	•	•	•	•			1				•	•							
Invio-868	190	•	◦	◦	•	•			1		•	•									
VarioTec-868 RM	192	•	•				•	•		•	•	•	•	•							
VarioTec-868 JA	192			•			•	•		•	•	•	•	•							
AeroControl-868	194		•	•			•			•	•	•									
Revio-868	196	•	•	•			•			•	•	•									
Revio-868 P	196	•	•	•			•	•		•	•										
Revio-868 SW	196	•	•	•	•		•	•		•	•	•									
Unio-868	1968				•	•	•			•	•			•							
Combio-868 JA	200			•			•			•	•										
Combio-868 JA Pulse	200			•			•			•	•										
Combio-868 RM	200	•	•				•			•	•										
Combio-868 HE	202					•	•			•	•										
Combio-868 LI	202				•		•			•	•										
Combio-868 SW	202				•		•			•	•										
Sensero-868 AC/ Sensero-868 AC Plus	204	◦	•	•					1		•			•							
Aero-868	206		•						1					•							
Aero-868 Plus	206		•	•					1					•							
Ventero-868	206		•						1					•							
Protero-868	208		•						1					•							
Lumero-868	210	•	•	•					1					•							
Lumo-868	212	•	◦	◦					1				◦	•							
AeroTec	216	◦	•	•			•	•			•	•	•	•							
AstroTec	218	•	◦	•	•		•	•			•	•	•	•		•	•	•	•	•	•
TempoTec	218	•	◦	•			•				•	•	•	•		•		•	•	•	•
MemoTec	220	•	◦	◦			•				•	•	•	•	•						
VarioTec	222	•	•	•			•	•			•	•	•	•							
MonoTec	224	•	•	•				•						•							
TimeTec	226	•					•				•	•	•								

◦ With restrictions/Partially suitable

• Yes/Suitable

¹ up to 150 channels

	Page	Use as weekly timer (1x up and 1x down each day)	2nd weekly timer (1x up and 1x down each day)	Offset (offset command, based on first set timer)	Light sensor input/twilight function	Light sensor function	Wind sensor input/function	Multi pre-set languages	Intermediate position & ventilation position	Tilting position/fabric tight	Holiday (intelligent randomiser)	Travel position assignment down	Travel position assignment up	Automatic summer/winter time adjustment	Running time setting	Disable group/master inputs	Disable (Wind) alarm signal	Non erasable memory for automatic date of installation, relay activation counter, motor running time	Storage dimm value	Fixed dimm value	Transmitter/receiver for bidirectional mode
Control units																					
Centro	176	•	•					•	•	•		•	•	•							•
TempoTel 2 *	178	•	◦					•	•	•	•	•	•	•							•
MultiTel 2	180							•	•	•											•
VarioTel 2	180																				•
LumeroTel 2	182																				•
MonoTel 2	182																				•
SoloTel 2	182																				•
AstroTec-868 /bidi	184	•	•	•	•	•		•	•	•	•	•		•	•			◦			•+
MemoTec-868	186																				
UniTec-868	188																				•
Invio-868	190																				
VarioTec-868 RM	192								•	•							•				
VarioTec-868 JA	192								•	•							•				
AeroControl-868	194				•	•	•		•	•											
Revio-868	196								•	•											•
Revio-868 P	196								•	•											•
Revio-868 SW	196								•	•											•
Unio-868	198																				•
Combio-868 JA	200								•	•											•
Combio-868 JA Pulse	200								•	•											•
Combio-868 RM	200								•	•											•
Combio-868 HE	202																			•	•
Combio-868 LI	202																	•			
Combio-868 SW	202																				
Sensero-868 AC/ Sensero-868 AC Plus	204				•	•	•														•
Aero-868	206					•	•														•
Aero-868 Plus	206					•	•														•
Ventero-868	206						•														•
Protero-868	208						•														•
Lumero-868	210				•	•															•
Lumo-868	212				•	•															•
AeroTec	216	•			•	•	•	•	•	•		•		•	•	•		•			
AstroTec	218	•	•	•	•	•		•	•	•	•	•		•	•	•	•	•			
TempoTec	218	•						•	•	•	•	•		•				•			
MemoTec	220								•	•											
VarioTec	222								•	•							•				
MonoTec	224																				
TimeTec	226	•																			

◦ With restrictions/Partially suitable

• Yes/Suitable

* Times of 2 Groups + Central

+ AstroTec-868 bidi only

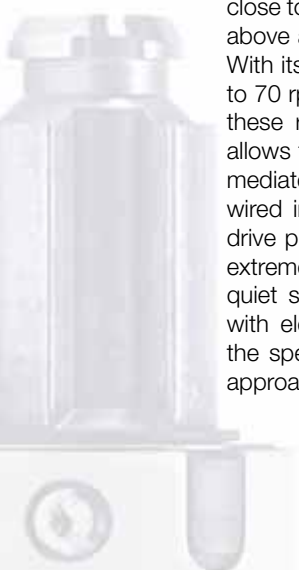


RevoLine S

– Little big drive!



The drives have to fulfil three criteria: small side gap, so that the blinds can be positioned very close to one another, a high motor speed, and, above all, the quietest running noise possible. With its diameter of 35 mm and speeds of up to 70 rpm the RevoLine S drive perfectly fulfils these requirements. A hand-held transmitter allows for precise setting of the end and intermediate positions – even with several drives wired in parallel. In addition, the RevoLine S drive produces very little vibration and is thus extremely quiet. The „Soft“ brake ensures a quiet stop without clicking sounds. Together with electronic limits the drive even reduces the speed towards the end limits for a „soft“ approach.



RolTop S-868



Radio tubular drives for roller shutters and sun protection systems

RolTop S-868 (230V/50 Hz)

- Application:** Roller shutter and textile sun protection (Blinds)*
- Limit switch:** Electronic limits with Soft Stop on end position approach on motors with soft brake
- Highlights:** Smart force measurement
Application protection in up and down direction and reversion on obstacle
Parallel connection possible
Limits can be adjusted via radio remote control or installation lead, plug-able cable
- Shaft size:** From Ø = 38 mm
- Features:** Noiseless soft brake up to 8 Nm
- Radio system:** Bi-directional 868 MHz radio including routing (alternative 915 MHz available)

* Drive might stop on heavy wind load to protect drive



RolTop S-868 with white and black motor head



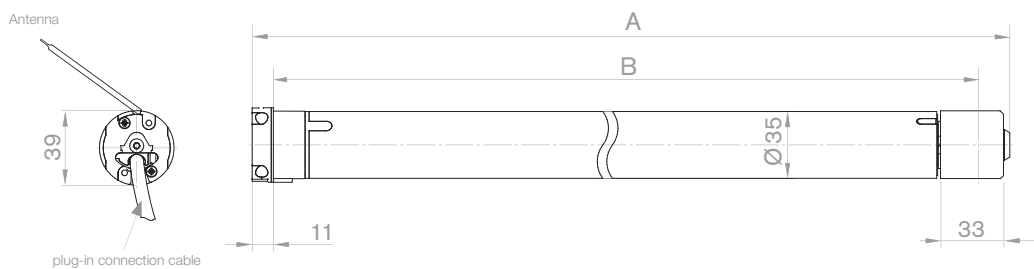
Possible limit switch modes	
Upper limit switch	Lower limit switch
On limit stop	Freely programmable
Freely programmable	On limit stop
On limit stop	On limit stop
Freely programmable	Freely programmable

Technical data and dimensions

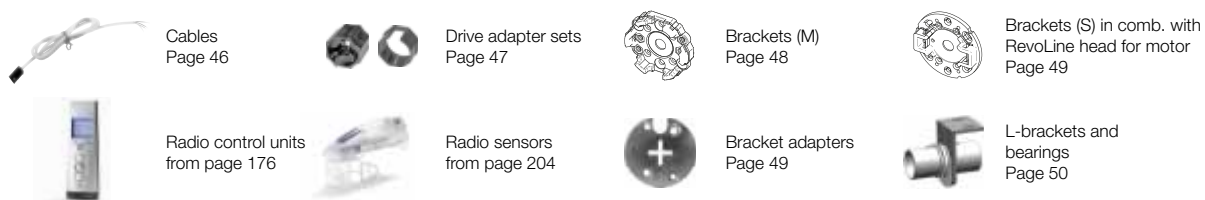
Type	RolTop S1.5/70-868	RolTop S3/30-868	RolTop S5/30-868	RolTop S5-868	RolTop S8-868	RolTop S12-868
Roller shutter	-	-	•	•	•	•
Blinds	•	•	•	-	-	-
Operating Voltage (V)	1 ~ 230					
Frequency (Hz)	50					
Noiseless soft brake	•					
Fast-running version	•					
Max. torque (Nm)	1.5	3	5		8	12
Speed (rpm)	70	30		17		
Current (A)	0.55		0.73	0.55		0.73
Power (W)	130		168	130		168
Shaft Ø (mm)	38					
Ingress protection (IP)	44					
Max. limit switch range in Revolutions of the shaft	160	80		40		
Operating mode (KB in min.)	5		4	5	4	
Length A (mm)	545					
Length B (mm)	515.5					
Weight (kg)	1.3	1.2	1.3	1.2	1.3	
Temperature range (°C)	-20 to +60					
Conformity						
Connecting cable, pluggable (m)	2.0					
White motor head	•					
Accessories included	-					
	On request included (only on 17 rpm drives): "T"-head for motor to suit older Type 8 (restores backwards compatibility to Type 8 motors). RevoLine head for motor (item no. 99 000.7501) (enables use of RevoLine brackets).					

Item Number	30 222.0006	30 212.0006	30 232.0006	30 234.0006	30 254.0006	30 814.0006
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



Accessories



RolTop S



Tubular drives for roller blinds and sun protection systems

RolTop S (230V/50 Hz)

- Application:** Roller shutter and textile sun protection (Blinds)*
- Limit switch:** Mechanical limit switches with Soft Stop on end position
- Highlights:** Smart force measurement
Application protection in up and down direction and reversion on obstacle
Parallel connection possible
Limits can be adjusted via installation lead, plug-able cable
- Shaft size:** From $\varnothing = 38$ mm
- Features:** Noiseless soft brake up to 8 Nm

* Drive might stop on heavy wind load to protect drive



RolTop S-868 with white and black motor head



Possible limit switch modes

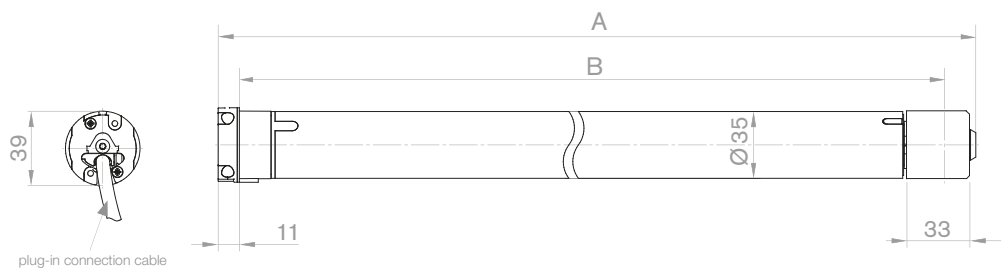
Upper limit switch	Lower limit switch
On limit stop	Freely programmable
Freely programmable	On limit stop
On limit stop	On limit stop
Freely programmable	Freely programmable

Technical data and dimensions

Type	RolTop S1.5/70	RolTop S3/30	RolTop S5/30	RolTop S5	RolTop S8	RolTop S12
Roller shutter	-	-	•	•	•	•
Blinds	•	•	•	-	-	-
Operating Voltage (V)	1 ~ 230					
Frequency (Hz)	50					
Noiseless soft brake	•					
Fast-running version	•					
Max. torque (Nm)	1.5	3	5		8	12
Speed (rpm)	70	30		17		
Current (A)	0.55		0.73	0.55		0.73
Power (W)	130		168	130		168
Shaft Ø (mm)	38					
Ingress protection (IP)	44					
Max. limit switch range in Revolutions of the shaft	160	80		40		
Operating mode (KB in min.)	5		4	5	4	
Length A (mm)	545					
Length B (mm)	515.5					
Weight (kg)	1.3	1.2	1.3	1.2	1.3	
Temperature range (°C)	-20 to +60					
Conformity						
Connecting cable pluggable (m)	2.0					
White motor head	•		-			
Accessories included	-		On request included (only on 17 rpm drives): "T"-head for motor to suit older Type 8 (restores backwards compatibility to Type 8 motors). RevoLine head for motor (item no. 99 000.7501) (enables use of RevoLine brackets).			

Item Number	30 221.0001	30 211.0001	30 231.0001	30 233.0001	30 253.0001	30 813.0001
-------------	-------------	-------------	-------------	-------------	-------------	-------------

All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



Accessories

Cables Page 46	Drive adapter sets Page 47	Brackets (M) Page 40	Brackets (S) in comb. with RevoLine head for motor Page 49
ProLine control units from page 216	Sensors from page 240	Bracket adapters Page 49	L-brackets and bearings Page 50
Radio receivers from page 192			

RolTop/D+ S-868 bidi



Radio tubular drives for roller shutters and sun protection systems
Torque mode only motor

RolTop/D+ S-868 (230V/50 Hz)




- Application:** Roller shutter and sun protection system
- Limit switch:** Electronic limits with Soft Stop on end position approach
- Highlights:** Smart force measurement
Application protection in up and down direction and reversion on obstacle
End limits are self-learning
Plug-able cable
- Shaft size:** From Ø = 38 mm
- Features:** Noiseless soft brake up to 8 Nm
Only possible to use with torque stops in both directions!
- Radio system:** Bi-directional 868 MHz radio including routing (alternative 915 MHz available)

No limit setting required!
(requires torque stop in both directions)



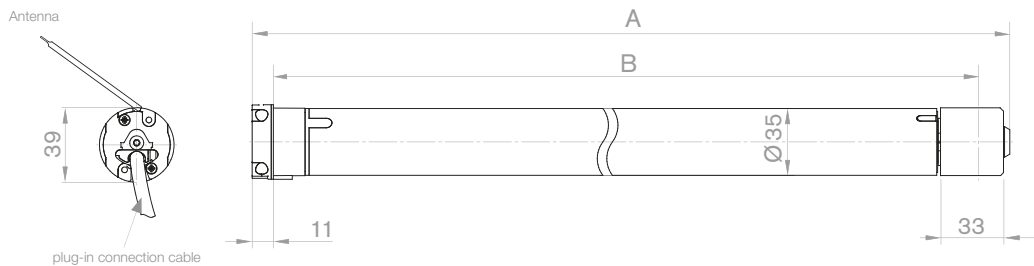
Possible limit switch modes	
Upper limit switch	Lower limit switch
On limit stop	On limit stop

Technical data and dimensions







Type	RolTop/D+ S5-868 bidi	RolTop/D+ S8-868 bidi	RolTop/D+ S12-868 bidi
Operating Voltage (V)	1 ~ 230		
Frequency (Hz)	50		
Noiseless soft brake	•		–
Fast-running version	–		
Max. torque (Nm)	5	8	12
Speed (rpm)	17		
Current (A)	0.55		0.73
Power (W)	130		168
Shaft Ø (mm)	38		
Ingress protection (IP)	44		
Max. limit switch range in Revolutions of the shaft	40		
Operating mode (KB in min.)	5	4	
Length A (mm)	545		
Length B (mm)	515.5		
Weight (kg)	1.2	1.3	
Temperature range (°C)	–20 to +60		
Conformity	  		
Connecting cable pluggable (m)	2.0		
Accessories included	On request included (only on 17 rpm drives): "T"-head for motor to suit older Type 8 (restores backwards compatibility to Type 8 motors). RevoLine head for motor (item no. 99 000.7501) (enables use of RevoLine brackets)		

Item Number	30 238.0006	30 258.0006	30 818.0006
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



Accessories

	Cables Page 46		Drive adapter sets Page 47		Brackets (M) Page 48		Brackets (S) in comb. with RevoLine head for motor Page 49
	Radio control units from page 176		Radio sensors from page 204				

RevoLine S
Type 9 + 11
Venetian blind drives
Speciality drives
Hausautomation, radio controls, radio sensors
Hardwired controls sensors
Door drives
Door controls
Adapter profiles
Lifting capacity tables

RolTop/D+ S



Tubular drives for roller shutters and sun protection systems
Torque mode only motor

RolTop/D+ S (230V/50 Hz)

- Application:** Roller shutter and sun protection system
- Limit switch:** Electronic limits with Soft Stop on end position approach
- Highlights:** Smart force measurement
Application protection in up and down direction and reversion on obstacle
End limits are self-learning
Plug-able cable
- Shaft size:** From $\varnothing = 38$ mm
- Features:** Noiseless soft brake up to 8 Nm




No limit setting required!
(requires torque stop in both directions)



Possible limit switch modes

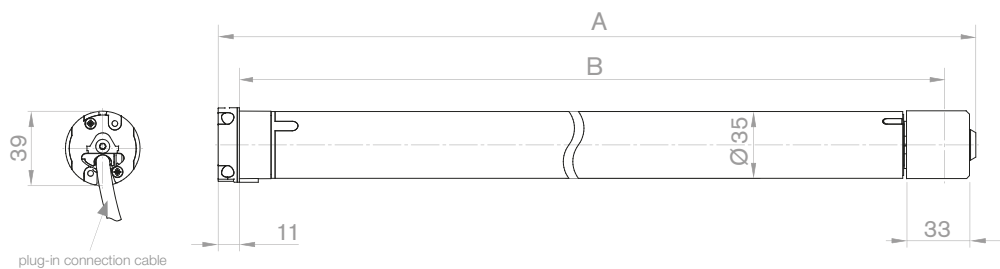
Upper limit switch	Lower limit switch
On limit stop	On limit stop

Technical data and dimensions








Type	RolTop/D+S5	RolTop/D+S8	RolTop/D+S12
Operating Voltage (V)	1 ~ 230		
Frequency (Hz)	50		
Noiseless soft brake	•		–
Fast-running version	–		
Max. torque (Nm)	5	8	12
Speed (rpm)	17		
Current (A)	0.55	0.73	
Power (W)	130	168	
Shaft Ø (mm)	38		
Ingress protection (IP)	44		
Max. limit switch range in Revolutions of the shaft	40		
Operating mode (KB in min.)	5	4	
Length A (mm)	545		
Length B (mm)	515.5		
Weight (kg)	1.2	1.3	
Temperature range (°C)	–20 to +60		
Conformity	  		
Connecting cable pluggable (m)	2.0		
Accessories included	On request included (only on 17 rpm drives): "T"-head for motor to suit older Type 8 (restores backwards compatibility to Type 8 motors). RevoLine head for motor (item no. 99 000.7501) (enables use of RevoLine brackets)		

Item Number	30 237.0001	30 257.0001	30 817.0001
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



Accessories

 Cables Page 46	 Drive adapter sets Page 47	 Brackets (M) Page 48	 Brackets (S) in comb. with RevoLine head for motor Page 49
 ProLine control units from page 216	 Sensors from page 240		
 Radio receivers from page 192			

RevoLine S
Type 9 + 11
Venetian blind drives
Speciality drives
Hausautomation, radio controls, radio sensors
Hardwired controls sensors
Door drives
Door controls
Adapter profiles Lifting capacity tables

RolTop/T S-868 bidi

Radio tubular drives for Dual Screen



RolTop/T S-868 bidi (230V/50 Hz)




- Application:** **Dual Screen**
- Limit switch: Electronic limits with Soft Stop on end position approach
- Highlights: Initial momentary mode with latching mode after 2 seconds
Smart force measurement
Application protection in up and down direction and reversion on obstacle
Parallel connection possible
Limits can be adjusted via radio remote control or installation lead
- Shaft size: From $\varnothing = 38$ mm
- Features: Noiseless soft brake up to 8 Nm
- Radio system: Bi-directional 868 MHz radio including routing (alternative 915 MHz available)



Possible limit switch modes

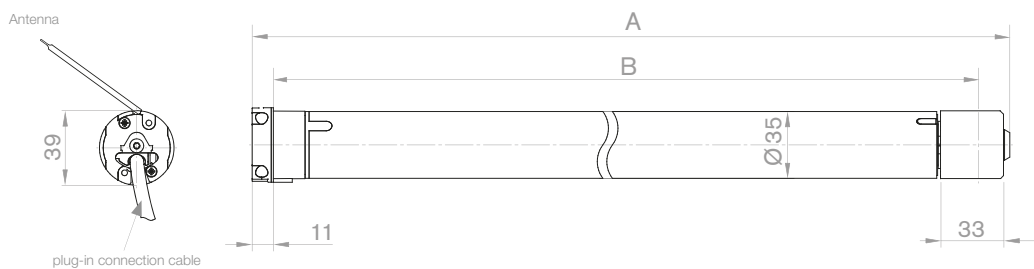
Upper limit switch	Lower limit switch
On limit stop	Freely programmable
Freely programmable	On limit stop
On limit stop	On limit stop
Freely programmable	Freely programmable

Technical data and dimensions









Type	RolTop/T S1.5/70-868	RolTop/T S3/30-868	RolTop/T S5/30-868
Operating Voltage (V)	1 ~ 230		
Frequency (Hz)	50		
Noiseless soft brake	•		
Fast-running version	•		
Max. torque (Nm)	1.5	3	5
Speed (rpm)	70	30	
Current (A)	0.55		0.73
Power (W)	130		168
Shaft Ø (mm)	38		
Ingress protection (IP)	44		
Max. limit switch range in Revolutions of the shaft	160	80	
Operating mode (KB in min.)	5		4
Length A (mm)	545		
Length B (mm)	515.5		
Weight (kg)	1.3	1.2	1.3
Temperature range (°C)	-20 to +60		
Conformity	  		
Connecting cable pluggable (m)	2.0		
Accessories included	-		

Item Number	30 226.0006	30 216.0006	30 236.0006
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



Accessories

 Cables Page 46	 Drive adapter sets Page 47	 Brackets (M) Page 48	 Brackets (S) in comb. with RevoLine head for motor Page 49
 Radio control units from page 176	 Radio sensors from page 204	 Bracket adapters Page 49	 L-brackets and bearings Page 50

RevLine S
Type 9 + 11
Venetian blind drives
Speciality drives
Hausautomation, radio controls, radio sensors
Hardwired controls sensors
Door drives
Door controls
Adapter profiles
Lifting capacity tables

SunTop S-868

Radio tubular drives for awnings



SunTop S-868 (230 V/50 Hz)

- Application:** Awnings
- Limit switch: Electronic limits with Soft Stop on end position approach
- Highlights: Smart force measurement
Blockage detection Up/Down
Limits can be adjusted via radio remote control or installation lead
Plug-able cable
- Shaft size: From $\varnothing = 38$ mm
- Features: Noiseless soft brake up to 5 Nm
- Radio system: Bi-directional 868 MHz radio including routing (alternative 915 MHz available)




SunTop S-868 with white and black motor head



Possible limit switch modes

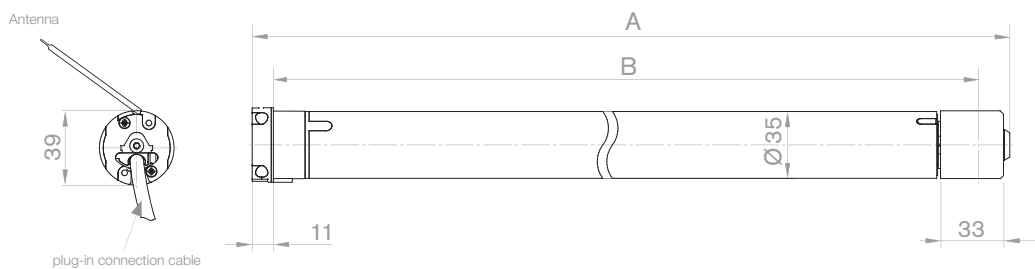
Upper limit switch	Lower limit switch
On limit stop	Freely programmable
Freely programmable	On limit stop
On limit stop	On limit stop
Freely programmable	Freely programmable

Technical data and dimensions









Type	SunTop S5/30-868	SunTop S7/30-868 FL
Operating Voltage (V)	1 ~ 230	
Frequency (Hz)	50	
Noiseless soft brake	•	–
Fast-running version		•
Max. torque (Nm)	5	7
Speed (rpm)	30	
Current (A)	0.73	0.55
Power (W)	168	130
Shaft Ø (mm)	38	
Ingress protection (IP)	44	
Max. limit switch range in Revolutions of the shaft	80	40
Operating mode (KB in min.)	4	5
Length A (mm)	545	
Length B (mm)	515.5	
Weight (kg)	1.2	
Temperature range (°C)	–20 to +60	
Conformity		
White motor head	•	–
Connecting cable pluggable (m)	2.0	

Item Number	30 732.0006	30 752.0006
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



Accessories

 Cables Page 46	 Drive adapter sets Page 47	 Brackets (M) Page 48	 Brackets (S) in comb. with RevoLine head for motor Page 49
 Radio control units from page 176	 Radio sensors from page 204	 Bracket adapters Page 49	 L-brackets and bearings Page 50

RevLine S
Type 9 + 11
Venetian blind drives
Speciality drives
Hausautomation, radio controls, radio sensors
Hardwired controls sensors
Door drives
Door controls
Adapter profiles
Lifting capacity tables

SunTop S

Tubular drives for awnings



SunTop S (230V/50 Hz)

- Application:** Awnings
- Limit switch: Electronic limits with Soft Stop on end position approach
- Highlights: Smart force measurement
Blockage detection Up/Down
Parallel connection possible
Limits can be adjusted via installation lead
Plug-able cable
- Shaft size: From $\varnothing = 38$ mm
- Features: Noiseless soft brake up to 5 Nm




SunTop S with white and black motor head



Possible limit switch modes

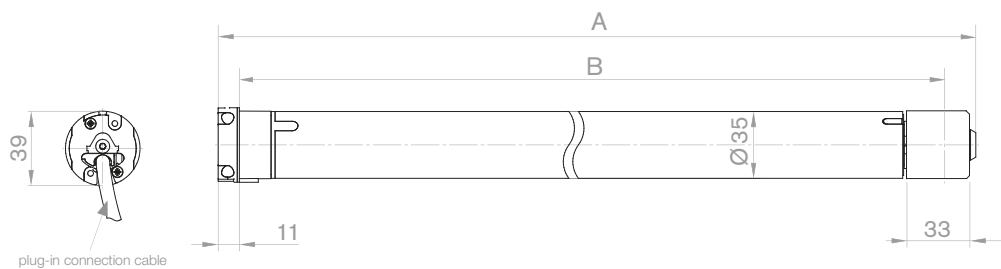
Upper limit switch	Lower limit switch
On limit stop	Freely programmable
Freely programmable	On limit stop
On limit stop	On limit stop
Freely programmable	Freely programmable

Technical data and dimensions










Type	SunTop S5/30	SunTop S7/30 FL
Operating Voltage (V)	1 ~ 230	
Frequency (Hz)	50	
Noiseless soft brake	•	–
Fast-running version	•	
Max. torque (Nm)	5	7
Speed (rpm)	30	
Current (A)	0.73	0.55
Power (W)	168	130
Shaft Ø (mm)	38	
Ingress protection (IP)	44	
Max. limit switch range in Revolutions of the shaft	80	40
Operating mode (KB in min.)	4	5
Length A (mm)	545	
Length B (mm)	515.5	
Weight (kg)	1.2	
Temperature range (°C)	–20 to +60	
Conformity		
White motor head	•	–
Connecting cable pluggable (m)	2.0	

Item Number	30 731.0001	30 751.0001
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



Accessories

 Cables Page 46	 Drive adapter sets Page 47	 Brackets (M) Page 48	 Brackets (S) in comb. with RevoLine head for motor Page 49
 ProLine control units from page 216	 Sensors from page 240	 Bracket adapters Page 49	 L-brackets and bearings Page 50
 Radio receivers from page 192			

RevLine S
Type 9 + 11
Venetian blind drives
Speciality drives
Hausautomation, radio controls, radio sensors
Hardwired controls sensors
Door drives
Door controls
Adapter profiles Lifting capacity tables

VariEco S-868

Radio tubular drives for roller shutters and sun protection systems



VariEco S-868 (230 V/50 Hz)

- Application:** Roller shutter and textile sun protection
- Limit switch: Mechanical limit switches
- Shaft size: From $\varnothing = 38$ mm
- Features: Noiseless soft brake up to 8 Nm
- Radio system: Bi-directional 868 MHz radio including routing (alternative 915 MHz available)



VariEco S-868 with white and black motor head



Possible limit switch modes

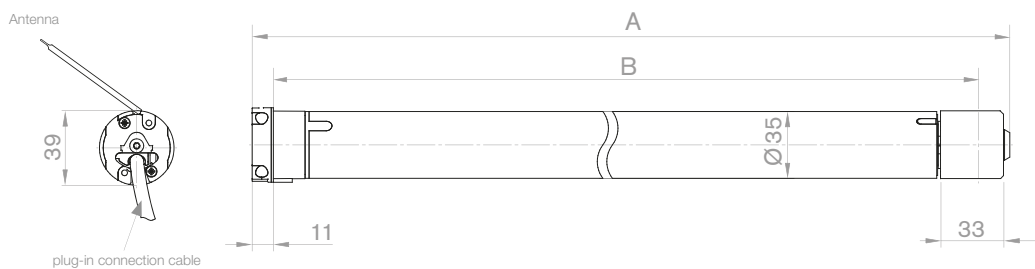
Upper limit switch	Lower limit switch
Freely programmable	Freely programmable

Technical data and dimensions

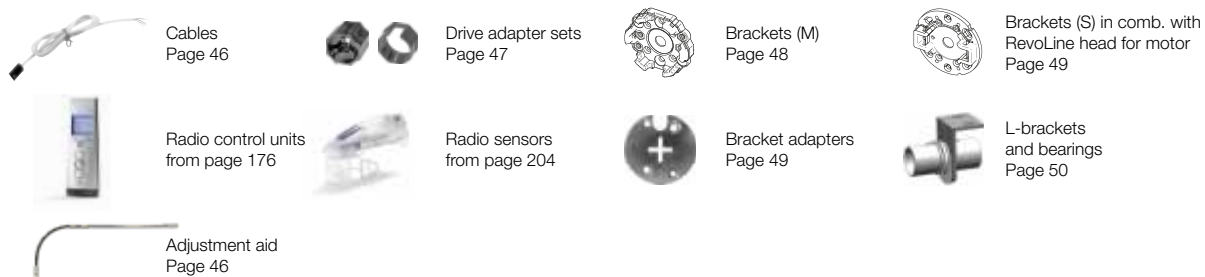
Type	VariEco S1.5/70-868	VariEco S3/30-868	VariEco S5/30-868	VariEco S5-868	VariEco S8-868	VariEco S8-868 FL	VariEco S12-868
Roller shutter	-	-	•	•	•	•	•
Textile sun protection	•	•	•	-	•	-	-
Operating Voltage (V)	1 ~ 230						
Frequency (Hz)	50						
Noiseless soft brake							-
Fast-running version	•						-
Max. torque (Nm)	1.5	3	5		8		12
Speed (rpm)	70	30		17			
Current (A)	0.55		0.73	0.60		0.73	
Power (W)	130		168	140		168	
Shaft Ø (mm)	38						
Ingress protection (IP)	44						
Max. limit switch range in Revolutions of the shaft	42						
Operating mode (KB in min.)	5		4	5		4	
Length A (mm)	545			525		545	
Length B (mm)	515.5			495.5		515.5	
Weight (kg)	1.2			1.3			
Temperature range (°C)	-20 to +60						
Conformity							
Connecting cable pluggable (m)	2.0						
White motor head	•						-
Accessories included	-						On request included (only on 17 rpm drives): "T"-head for motor to suit older Type 8 (restores backwards compatibility to Type 8 motors). RevoLine head for motor (item no. 99 000.7501) (enables use of RevoLine brackets)

Item Number	30 922.0106	30 912.0106	30 932.0106	30 844.0106	30 954.0106	30 854.0106	30 864.0106
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



Accessories



VariEco S

Tubular drives for roller shutters and sun protection systems



VariEco S (230V/50 Hz)

- Application:** Roller shutter and textile sun protection
Limit switch: Mechanical limit switches
Shaft size: From $\varnothing = 38$ mm
Features: Noiseless soft brake up to 8 Nm



RoITop S-868 with white and black motor head



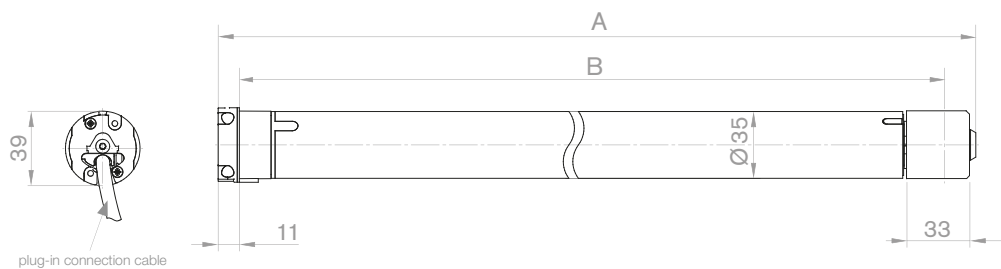
Possible limit switch modes
Upper limit switch Freely programmable
Lower limit switch Freely programmable

Technical data and dimensions

Type	VariEco S1.5/70	VariEco S3/30	VariEco S5/30	VariEco S5	VariEco S8	VariEco S8 FL	VariEco S12
Roller shutter	-	-	•	-	•	•	•
Textile sun protection	•	•	-	•	-	•	-
Operating Voltage (V)	1 ~ 230						
Frequency (Hz)	50						
Noiseless soft brake		•	-		•		-
Fast-running version			•			-	
Max. torque (Nm)	1.5	3	5			8	12
Speed (rpm)	70		30			17	
Current (A)	0.55		0.73		0.60	0.73	
Power (W)	130		168		140	168	
Shaft Ø (mm)	38						
Ingress protection (IP)	44						
Max. limit switch range in Revolutions of the shaft	42						
Operating mode (KB in min.)	5		4		5	4	
Length A (mm)	545					525	545
Length B (mm)	515.5					495.5	515.5
Weight (kg)	1.2					1.3	
Temperature range (°C)	-20 to +60						
Conformity							
Connecting cable pluggable (m)	2.0						
White motor head		•					-
Accessories included		-				On request included (only on 17 rpm drives): "T"-head for motor to suit older Type 8 (restores backwards compatibility to Type 8 motors). RevoLine head for motor (item no. 99 000.7501) (enables use of RevoLine brackets)	

Item Number	30 921.0101	30 911.0101	30 931.0101	30 831.0101	30 843.0101	30 953.0101	30 853.0101	30 863.0101
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



Accessories

Cables Page 46	Drive adapter sets Page 47	Brackets (M) Page 48	Brackets (S) in comb. with RevoLine head for motor Page 49	Adjustment aid Page 46
ProLine control units from page 178	Sensors from page 240	Bracket adapters Page 49	L-brackets and bearings Page 50	
Radio receivers from page 192				

Tubular drives RevoLine S – Accessories

Cables and accessories

It is not possible to return connecting cables.



Special cable lengths in combination with the drive (standard 2.0 m), **white**

Item Number	Type/Item Description
99 000.4101	2.0 m plug-in connecting cable (comes with drive as standard)
99 000.4201	3.0 m plug-in connecting cable
99 000.4301	5.0 m plug-in connecting cable
99 000.4401	10.0 m plug-in connecting cable
99 000.4801	20.0 m plug-in connecting cable
99 000.4501	0.4 m plug-in connecting cable with Hirschmann plug
99 000.7001	2.0 m plug-in connecting cable with Hirschmann plug
99 000.4601	3.0 m plug-in connecting cable universal push button (middle) and earthed plug

Special cable lengths in combination with the drive (standard 2.0 m), **black**

Item Number	Type/Item Description
99 000.6001	2.0 m plug-in connecting cable
99 000.5201	3.0 m plug-in connecting cable
99 000.5301	5.0 m plug-in connecting cable
99 000.5401	10.0 m plug-in connecting cable
99 000.5501	0.4 m plug-in connecting cable with Hirschmann plug

Connecting cables without drive, **white**

23 395.0201	2.0 m plug-in connecting cable
23 395.0301	3.0 m plug-in connecting cable
23 395.0401	5.0 m plug-in connecting cable
23 395.0501	10.0 m plug-in connecting cable
23 395.0601	20.0 m plug-in connecting cable
23 395.0101	0.4 m plug-in connecting cable with Hirschmann plug
23 395.0801	2.0 m plug-in connecting cable with Hirschmann plug
23 395.0701	3.0 m plug-in connecting cable with universal push button (centred) and earthed plug

Connecting cables without drive, **black**

23 395.2201	2.0 m plug-in connecting cable
23 395.2301	3.0 m plug-in connecting cable
23 395.2401	5.0 m plug-in connecting cable
23 395.2501	10.0 m plug-in connecting cable
23 395.2101	0.4 m RevoLine cable with Hirschmann plug

Installation-, connecting cables and accessories

23 243.0002	Installation cable
23 246.0001	Installation cable with Hirschmann plug Stak 3
23 395.2701	QuickConnect, the fast connection system, IP 65
23 395.4701	QuickConnect, set of 10
23 395.2601	QuickConnect with MiniPlug, IP 65
23 846.0001	Stas 3 with clip (motor side)
13 701.5301	Stak 3 (power supply side)
13 308.0001	Flexible adjustment aid



23 243.0002



23 246.0001



13 308.0001



23 395.2701



23 395.2601

Assembly and disassembly only in the de-energised state!

The connections to the 230V mains must be made by authorised specialist personnel.

Adapter sets

Profiles of the drive adapter sets in 1:1 scale on page 314.



Item Number	Type/Item Description	Notch tubes	Round tubes	Profile tubes
22 017.0001	Ø 52 x 1.5 mm	•		
22 004.0001	Ø 63 x 1.0 mm	•		
22 011.0001	Ø 40 x 1.0 mm		•	
22 009.0001	Ø 40 x 1.5 mm		•	
13 119.0601	Ø 40 x 2.0 mm Ø 38 x 1.0 mm		•	
22 015.0001	Ø 42 x 1.0 mm		•	
22 071.0001	Ø 50 x 1.5 mm		•	
22 016.0001	Ø 50 x 2.0 mm, Italy		•	
22 010.0001	Octagonal a/f 40, Alu tube, Selve			•
23 097.0001	Ø 42 mm Aluminium, Silentgliss			•
22 013.0001	Ø 42 x 2.0 mm, Bautex, Sundrape			•
22 018.0001	Ø 43.5 mm, Technilight/Acmeda, Ø 44 mm, Garattoni			•
22 014.0001	Ø 45 mm, Zurflüh-Feller ZF 45			•
22 068.0001	Ø 47 mm			•
22 002.0001	AXE Ø 48 mm, Griesser-Hüppe			•
22 006.0001	Octagonal a/f 50, Selve			•
22 007.0001	Ø 50 x 1.5 mm, Siral			•
22 012.0001	Ø 50 mm, Alu			•
22 008.0001	54 x 0.5 mm, Zurflüh-Feller			•
22 005.0001	60 mm octagonal tube, Selve, Döhner			•
22 054.0001	Ø 50 mm, Alu, Latin America			•

Mounting plate

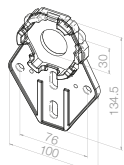
22 145.0001



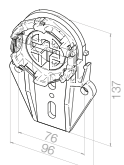
99 000.7501



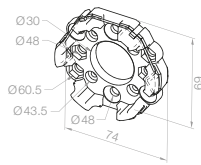
Motor bearings in combination with mounting plate



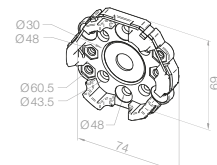
23 004.0001
Universal wall bracket (plastic)
max. 50 Nm



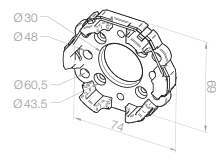
23 615.4401
Disengageable
max. 30 Nm



23 003.0001
48/60 mm centres (Alloy)

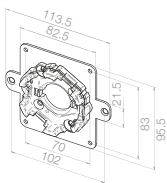


23 003.0201
Motor bearing 48/60 mm
centres (Alloy) with nuts
4 x M6 and 12.5 mm hole
in plastic center ring



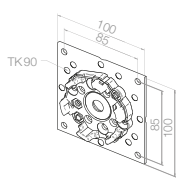
23 003.0301
Motor bearing with 48/60 mm
centres (Alloy) with M6/M8
thread

SKS



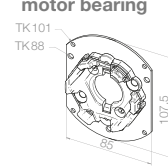
23 004.0101
max. 50 Nm

Base plate

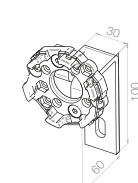


23 615.9901
With motor bearing
(e.g. for VEKA Variant
elements)

Mounting plate with motor bearing

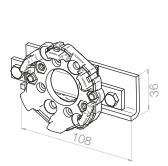


23 615.7101
Plastic max. 30 Nm
(Thyssen, Schüco,
Veka, Home)



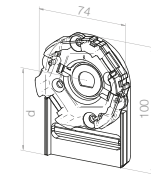
23 615.9101
60 mm offset for replacing
manual roller shutter belt
max. 50 Nm

Clamp bearing



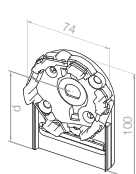
23 615.7201
For roller bearing bracket
max. 30 Nm

screwless left



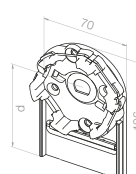
23 615.8201
For built-on roller shutters,
size 137 mm
d = 64 – 65.5 mm,
up to max. 30 Nm

screwless right



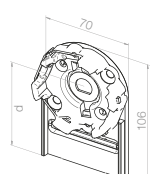
23 615.9201
For built-on roller shutters,
size 137 mm
d = 64 – 65.5 mm,
up to max. 30 Nm

screwless left



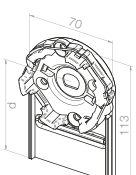
23 615.8301
For built-on roller shutters,
size 150 mm
d = 70.7 mm,
up to max. 30 Nm

screwless right



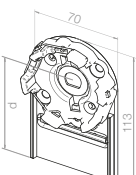
23 615.9301
For built-on roller shutters,
size 150 mm
d = 70.7 mm,
up to max. 30 Nm

screwless left



23 615.8401
For built-on roller shutters,
size 165 mm
d = 78.2 – 79.7 mm,
up to max. 30 Nm

screwless right



23 615.9401
For built-on roller shutters,
size 165 mm
d = 78.2 – 79.7 mm,
up to max. 30 Nm

T-motor head

22 141.0001



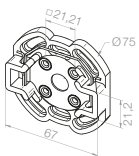
99 000.7401



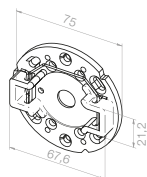
22 144.0001



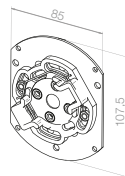
Motor bearings in combination with T-motor head



23 322.0001
T-head motor bearing
48/60 mm centres



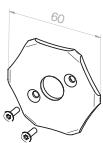
23 108.0001
T-head motor bearing
48/60 mm centres



23 277.0001
T-head motor bearing
(Thyssen, Schüco,
Brüggmann)

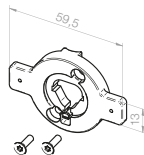
T-motor head, mounting- and adapter plates

Adapter plate kit

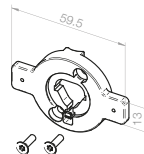


22 145.0001
Motor head add-on for
use of S motors in Revo-
Line wall brackets

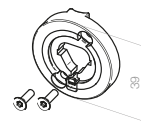
Adapter plates



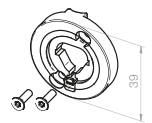
22 141.0001
T-motor head add-on
orange, complete, including
mounting accessories



22 144.0001
T-motor head add-on
white, complete, including
mounting

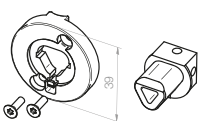


22 140.0001
Round motor head add-on
without wings, orange,
complete, including mounting
accessories

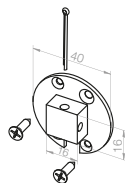


22 042.0001
Round motor head
add-on white,
complete,
including mounting
accessories

Kit square bolt

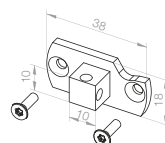


22 143.0001
Round motor head
add-on incl. 16 x 16 mm
motor bolt, max. 5 Nm

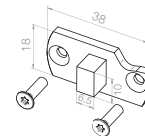


23 367.0001
Motor head add-on
with bolt 16 x 16 mm
including fixing screws

Motor bolt add ons

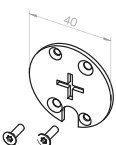


22 040.0001
10 x 10 mm, complete,
including mounting
accessories

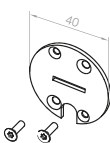


23 099.0001
With bolt 10 x 6.5mm
(11 mm high),
including fixing screws

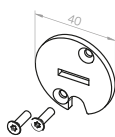
Mounting plates



22 064.0001
Cross slot = 13 mm
complete, including
mounting accessories



22 065.0001
Slot = 16.4 mm
complete, including
mounting accessories

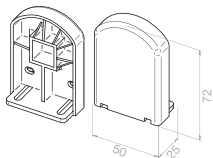


22 080.0001
(Slot 15 x 3 mm), Benthin
including mounting accessories

Tubular drives RevoLine S – Accessories

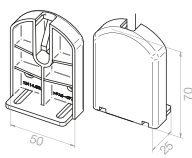
Blinds accessories – bearings

Drive bearing

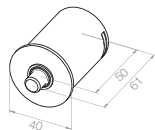


13 114.9001
Alpine white
for 16 x 16 mm bolts
max. 5 Nm

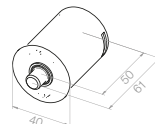
Idler bearing



13 114.8901
Alpine white
for bolts Ø 10 mm



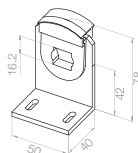
23 013.0002
For 40 x 2.0 mm tube or
Limit switch, crown with
spring loaded, 10 mm bolt



23 013.0001
With movable bolt Ø 10 mm
for tube 40 x 1.0 mm

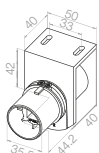
Blinds accessories – shaft height 42 mm

Motor bearings complete



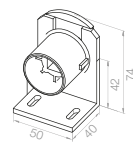
23 095.0001
With square 16 x 16 mm
standard version 42 mm

Intermediate fixing supports



23 203.0001
Complete up to 5 Nm
standard version 42 mm

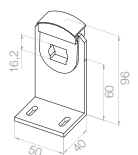
Shaft bearings complete



23 096.0001
With outer Ø 35.5 mm
standard version 42 mm

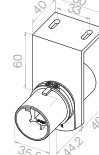
Blinds accessories – shaft height 60 mm

Motor bearings complete



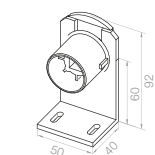
23 095.0101
With square 16 x 16 mm
extended version 60 mm

Intermediate fixing supports



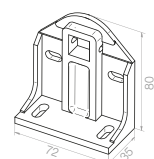
23 203.0101
Complete up to 5 Nm
extended version 60 mm

Shaft bearings complete

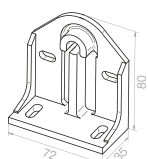


23 096.0101
With outer Ø 35.5 mm
extended version 60 mm

Bearing brackets



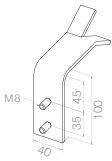
13 109.1701
Plastic
Motor side, max. 20 Nm
with square 16 x 16 mm
shaft height 60 mm



13 109.1801
Plastic
Ø 10 mm,
opposite side
shaft height 60 mm

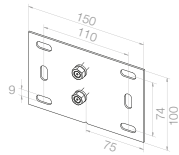
Mounting plates and mounting accessories

Plaster-in bracket

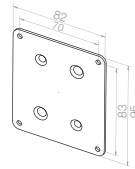


13 300.9202
max. 80 Nm
For plastering into wall

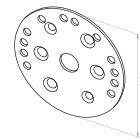
Mounting plate



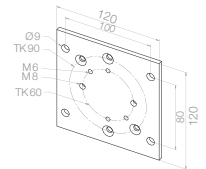
24 554.0001
For wall bracket
(23 004.001 and
23 615.4401)



13 302.2601
For Motor bearing
(Stakusit)

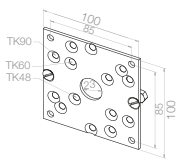


13 302.7801
48/60/78 mm centres
for Weru

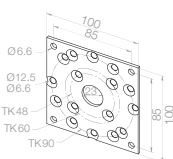


23 457.0001

Universal adapter plate set

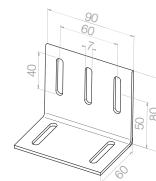


23 687.0501
With 2 countersunk
screws M6 x 16 and nuts

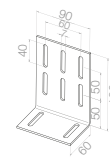


13 109.2902
48/60/85/90 mm centres

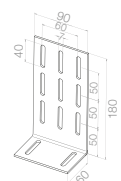
Angle brackets



13 110.5001
80 mm high

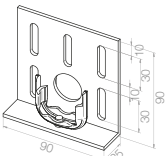


13 110.5101
130 mm high



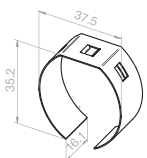
13 110.5201
180 mm high

Roller bearing holder brackets

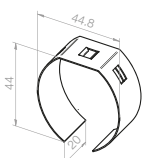


23 852.0001
90 mm wide

Spring clips



13 301.8201
For 40 mm octagonal
tube to support roller
shutter fixing spring



13 301.8501
For 50 mm octagonal tube
to support roller shutter
fixing spring

Rigid shaft fastener MiniClick and MaxiClick

Universal for octagonal tubes, 40, 50, 60 and 70 mm



MiniClick, with twist lock

For mini profiles and octagonal shafts size SW 40, 50 (0.6 and 0.8 mm) and SW 60 (0.6 and 0.9 mm)

Item Number	Type/Item Description
13 309.0001	MiniClick, 1 section
13 309.0101	MiniClick, 2 sections
13 309.0201	MiniClick, 3 sections
13 309.0301	MiniClick, 4 sections
13 309.0401	MiniClick profile insert
13 309.0501	MiniClick profile spacer insert

MaxiClick, with twist lock

For standard profiles and octagonal shaft size SW 60 (0.9 mm) and SW 70 (1.0 / 1.2 and 1.5 mm)

Item Number	Type/Item Description
13 309.1001	MaxiClick, 1 section
13 309.1101	MaxiClick, 2 sections
13 309.1201	MaxiClick, 3 sections
13 309.1401	MaxiClick profile insert
13 309.1501	MaxiClick profile spacer insert

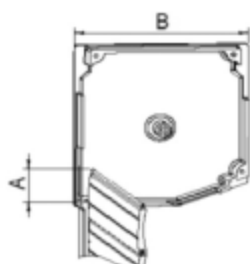
MiniClick selection table

Shaft fastener	By box depth B ¹ (mm)	Number/shutter	Shutter weight (kg)	Application range
1 section	115 – 150	Use minimum 1 fastener every 60 cm or 4 Nm drive torque	max. 8 / shaft fastener	Mini- / Maxi-Profil ¹
2 sections	155 – 180			
3 sections	185 – 210			
4 sections	215 – 240			

MaxiClick selection table

Shaft fastener	By box depth B ¹ (mm)	Number/shutter	Shutter weight (kg)	Application range
1 section	125 – 160	Use minimum 1 fastener every 60 cm or 6 Nm drive torque.	max. 12 / shaft fastener	Mini- / Maxi-Profil ¹
2 sections	160 – 200			
3 sections	200 – 250			

¹Select MiniClick or MaxiClick by Shaft size.

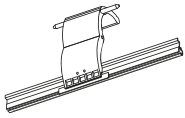


The top most profile slat should not be exposed by more than 1/2 profile height above the guide rails (A).

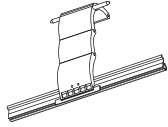
Anti-push up will only work if the slats are compressed and can exert upwards pressure against the Anti-push up device.

Anti push-up devices

Anti push-up device mini profile

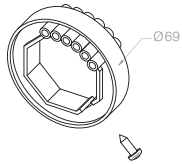


13 301.8901
2 sections

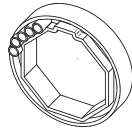


13 301.9101
3 sections

Fixing rings



13 301.9401
for 40 mm
octagonal shaft

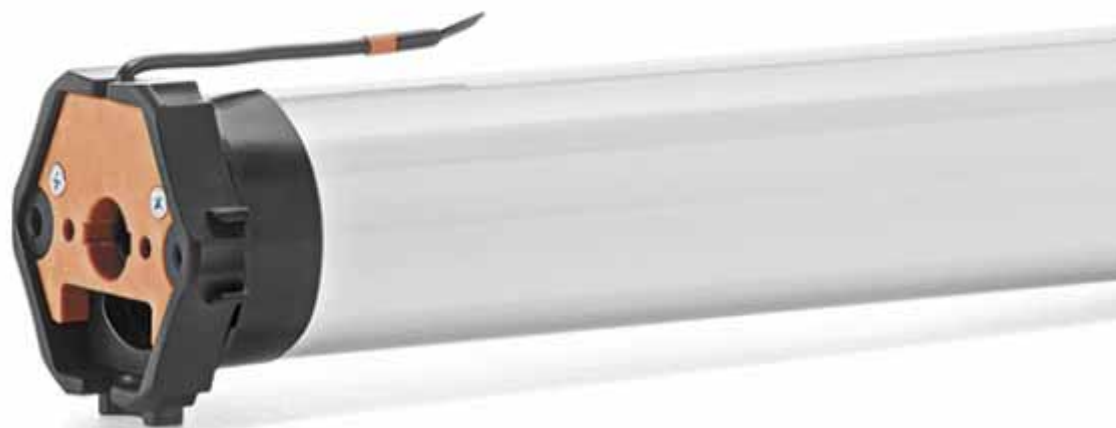


13 302.1501
for 50 mm
octagonal shaft



RevoLine M

– Powerful drives!



Size M is available with torques with 2.5 Nm, 6 Nm, 7 Nm, 10 Nm, 12 Nm, 20 Nm, 30 Nm, 40 Nm and 50 Nm versions. The standard speed of the Revoline M drives is 14 rpm with higher speeds available up to 90 rpm. The power output shaft shape is the same with all Revoline drives and guarantees high power transmission. The drive shaft output further is the same as used for the larger L series motors. This enables the use of L drive adapters on the M series motors as well (with Limit switch crown adapter). All the drives are suited to installation on the left or right side. All M drives with a torque of up to 20 Nm have a noiseless, wear-free “Soft brake”.

RolTop M-868

Radio tubular drives for roller shutters



RolTop M-868 (230 V/50 Hz)

- Application:** Roller shutter
- Limit switch: Electronic limits with Soft Stop on end position approach (on motors with soft brake)
- Highlights: Smart force measurement
Application protection in up and down direction and reversion on obstacle
Limits can be adjusted via radio remote control or installation lead
Plug-able cable
- Shaft size: From $\varnothing = 50$ mm
- Features: Noiseless soft brake up to 20 Nm
- Radio system: Bi-directional 868 MHz radio including routing (alternative 915 MHz available)



Possible limit switch modes

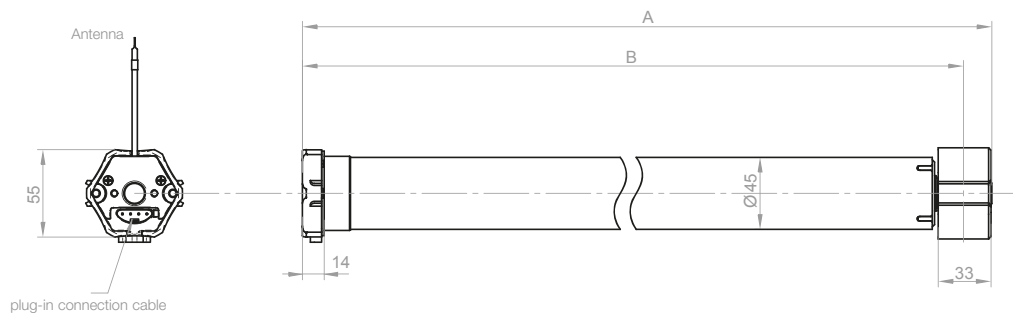
Upper limit switch	Lower limit switch
On limit stop	Freely programmable
Freely programmable	On limit stop
On limit stop	On limit stop
Freely programmable	Freely programmable

Technical data and dimensions

Type	RolTop M6-868	RolTop M7/23-868	RolTop M10-868	RolTop M12/23-868	RolTop M20-868	RolTop M30-868	RolTop M40-868	RolTop M50-868
Operating Voltage (V)	1 ~ 230							
Frequency (Hz)	50							
Noiseless soft brake	•			-			-	
Fast-running version	•		-		•		-	
Max. torque (Nm)	6	7	10	12	20	30	40	50
Speed (rpm)	14	23	14	23	14			
Current (A)	0.6			0.9			1.2	1.3
Power (W)	140			200			270	300
Shaft Ø (mm)				50				
Ingress protection (IP)				44				
Max. limit switch range in Revolutions of the shaft	40							
Operating mode (KB in min.)	5			4			5	4
Length A (mm)	478	480	530	540	530	540	560	
Length B (mm)	460	462	513	523	512	522	542	
Weight (kg)	1.9			2.2		2.3	2.6	3.1
Temperature range (°C)	-20 to +60							
Conformity								
Connecting cable pluggable (m)	2.0							

Item Number	34 302.0006	34 226.0006	34 222.0006	34 236.0006	34 232.0006	34 242.0006	34 252.0006	34 262.0006
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



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Radio sensors
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Rigid shaft fastener
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RolTop M-868-K



Radio tubular drives for roller shutters – short model

RolTop M-868-K (230V/50 Hz)

- Application:** Roller shutter and internal roller blind
- Limit switch:** Electronic limits with Soft Stop on end position approach (on motors with soft brake)
- Highlights:** Smart force measurement
Application protection in up and down direction and reversion on obstacle
Limits can be adjusted via radio remote control or installation lead
Plug-able cable
- Shaft size:** From Ø = 50 mm
- Features:** Noiseless soft brake
- Radio system:** Bi-directional 868 MHz radio including routing (alternative 915 MHz available)



Possible limit switch modes

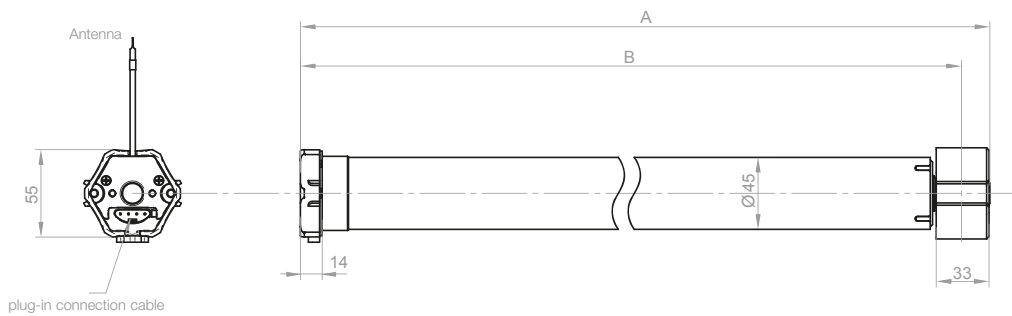
Upper limit switch	Lower limit switch
On limit stop	Freely programmable
Freely programmable	On limit stop
On limit stop	On limit stop
Freely programmable	Freely programmable

Technical data and dimensions

Type	RoITop M10-868-K
Operating Voltage (V)	1 ~ 230
Frequency (Hz)	50
Noiseless soft brake	•
Max. torque (Nm)	10
Speed (rpm)	14
Current (A)	0.6
Power (W)	140
Shaft Ø (mm)	50
Ingress protection (IP)	44
Max. limit switch range in Revolutions of the shaft	40
Operating mode (KB in min.)	5
Length A (mm)	405
Length B (mm)	387
Weight (kg)	1.6
Temperature range (°C)	-20 to +60
Conformity	CE
Connecting cable pluggable (m)	2.0

Item Number	34 112.0006
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All drives are exclusive of:
drive adapter, wall bracket (motor bearing) and switches.



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Radio control units
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from page 204



Rigid shaft fastener
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RolTop M

Tubular drives for roller shutters



RolTop M (230V/50 Hz)




- Application:** Roller shutter
- Limit switch: Electronic limits with Soft Stop on end position approach (on motors with soft brake)
- Highlights: Smart force measurement
Application protection in up and down direction and reversion on obstacle
Limits can be adjusted via installation lead
Plug-able cable
- Shaft size: From Ø = 50 mm
- Features: Noiseless soft brake up to 20 Nm



Possible limit switch modes

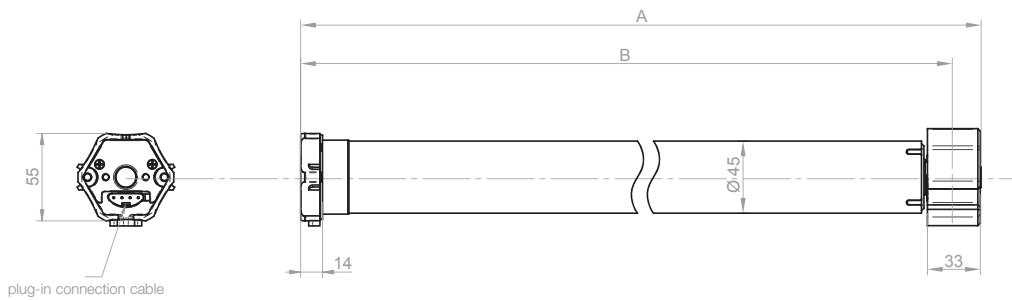
Upper limit switch	Lower limit switch
On limit stop	Freely programmable
Freely programmable	On limit stop
On limit stop	On limit stop
Freely programmable	Freely programmable

Technical data and dimensions








Type	RolTop M6	RolTop M7/23	RolTop M10	RolTop M12/23	RolTop M20	RolTop M30	RolTop M40	RolTop M50
Operating Voltage (V)	1 ~ 230							
Frequency (Hz)	50							
Noiseless soft brake	•			•			-	
Fast-running version	•		-		•		-	
Max. torque (Nm)	6	7	10	12	20	30	40	50
Speed (rpm)	14	23	14	23	14			
Current (A)	0.6			0.9			1.2	1.3
Power (W)	140			200			270	300
Shaft Ø (mm)				50				
Ingress protection (IP)				44				
Max. limit switch range in Revolutions of the shaft	40							
Operating mode (KB in min.)	5			4			5	4
Length A (mm)	478	480	530	540	530	540	560	560
Length B (mm)	460	462	513	523	512	522	542	542
Weight (kg)	1.9			2.2		2.3	2.6	3.1
Temperature range (°C)	-20 to +60							
Conformity	  							
Connecting cable pluggable (m)	2.0							

Item Number	34 301.0001	34 225.0001	34 221.0001	34 235.0001	34 231.0001	34 241.0001	34 251.0001	34 261.0001
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



Accessories

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-  Radio receivers
from page 192

RolTop M-K



Tubular drives for roller shutters – short model

RolTop M-K (230V/50 Hz)

- Application:** Roller shutter
- Limit switch: Electronic limits with Soft Stop on end position approach
- Highlights: Smart force measurement
Application protection in up and down direction and reversion on obstacle
Limits can be adjusted via or installation lead
Plug-able cable
- Shaft size: From Ø = 50 mm
- Features: Noiseless soft brake



Possible limit switch modes

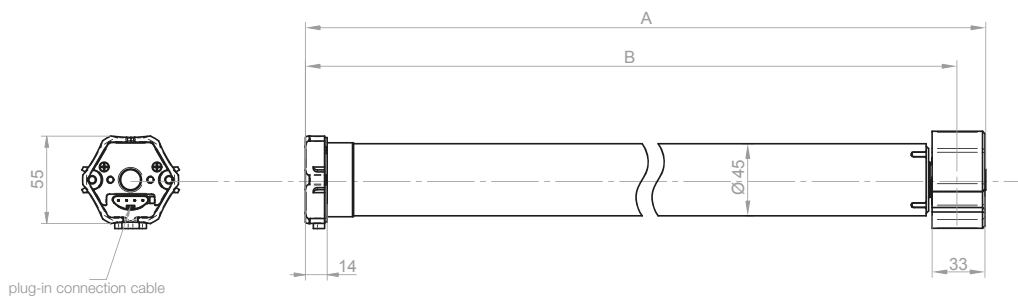
Upper limit switch	Lower limit switch
On limit stop	Freely programmable
Freely programmable	On limit stop
On limit stop	On limit stop
Freely programmable	Freely programmable

Technical data and dimensions








Type	RoI Top M10-K
Operating Voltage (V)	1 ~ 230
Frequency (Hz)	50
Noiseless soft brake	•
Max. torque (Nm)	10
Speed (rpm)	14
Current (A)	0.6
Power (W)	140
Shaft Ø (mm)	50
Ingress protection (IP)	44
Max. limit switch range in Revolutions of the shaft	40
Operating mode (KB in min.)	4
Length A (mm)	405
Length B (mm)	387
Weight (kg)	1.6
Temperature range (°C)	-20 to +60
Conformity	CE
Connecting cable pluggable (m)	2.0

Item Number	34 111.0001
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All drives are exclusive of:
drive adapter, wall bracket (motor bearing) and switches.



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RolSmart M-K



Tubular drives for roller shutters – short model

RolSmart M-K (230V/50 Hz)



Application:	Roller shutter
Limit switch:	Electronic limits with Soft Stop on end position approach
Highlights:	Smart force measurement Application protection in up and down direction Limits can be adjusted via installation lead Plug-able cable
Shaft size:	From $\varnothing = 50$ mm
Features:	Noiseless soft brake Parallel connection impossible Requires at least one torque stop



Possible limit switch modes

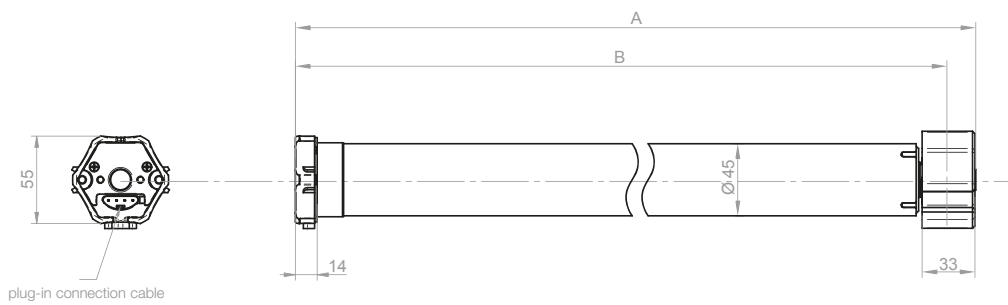
Upper limit switch	Lower limit switch
On limit stop	Freely programmable
Freely programmable	On limit stop
On limit stop	On limit stop

Technical data and dimensions

Type	RoISmart M10-K
Operating Voltage (V)	1 ~ 230
Frequency (Hz)	50
Noiseless soft brake	•
Max. torque (Nm)	10
Speed (rpm)	14
Current (A)	0.6
Power (W)	140
Shaft Ø (mm)	50
Ingress protection (IP)	44
Max. limit switch range in Revolutions of the shaft	40
Operating mode (KB in min.)	4
Length A (mm)	405
Length B (mm)	387
Weight (kg)	1.6
Temperature range (°C)	-20 to +60
Conformity	CE  
Connecting cable pluggable (m)	2.0

Item Number	34 011.0001
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



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ProLine control units
from page 216



Sensors
from page 240



Rigid shaft fastener
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Radio receivers
from page 192

RolSmart M

Tubular drives for roller shutters





RolSmart M (230V/50 Hz)

Application:	Roller shutter
Limit switch:	Electronic limits with Soft Stop on end position approach
Highlights:	Smart force measurement Application protection in up and down direction Limits can be adjusted via installation lead Plug-able cable
Shaft size:	From $\varnothing = 50$ mm
Features:	Noiseless soft brake Requires at least one torque stop



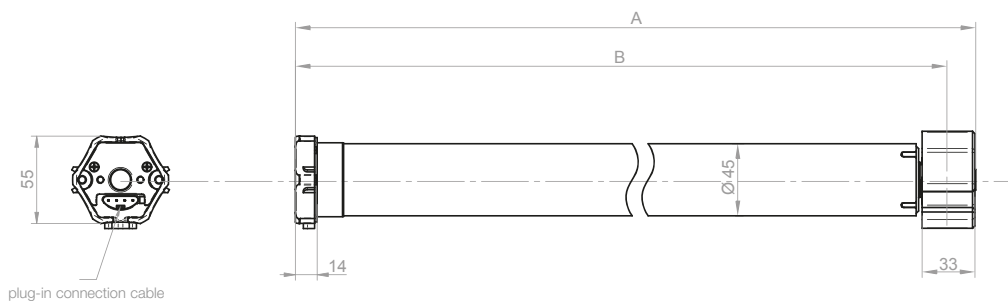
Possible limit switch modes	
Upper limit switch	Lower limit switch
On limit stop	Freely programmable
Freely programmable	On limit stop
On limit stop	On limit stop

Technical data and dimensions

Type	RoISmart M20
Operating Voltage (V)	1 ~ 230
Frequency (Hz)	50
Noiseless soft brake	•
Max. torque (Nm)	10
Speed (rpm)	14
Current (A)	0.9
Power (W)	200
Shaft Ø (mm)	50
Ingress protection (IP)	44
Max. limit switch range in Revolutions of the shaft	40
Operating mode (KB in min.)	4
Length A (mm)	520
Length B (mm)	504
Weight (kg)	2.1
Temperature range (°C)	-20 to +60
Conformity	CE  
Connecting cable pluggable (m)	2.0

Item Number	34 131.0002
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



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Rigid shaft fastener
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Radio receivers
from page 192

RolTop/D+ M-868



Tubular drives for roller shutters – torque mode only motor

No limit setting required!
(requires torque stop in both directions)

RolTop/D+ M-868 (230V/50 Hz)

- Application:** Roller shutter
- Limit switch: Electronic limits with Soft Stop on end position approach
- Highlights: Smart force measurement
Application protection in up and down direction and reversion on obstacle
Parallel connection possible
End limits are self-learning
Plug-able cable
- Shaft size: From Ø = 50 mm
- Features: Noiseless soft brake up to 20 Nm
- Radio system: Bi-directional 868 MHz radio including routing (alternative 915 MHz available)
- Limitations: Only possible to use with torque stops in both directions



Possible limit switch modes

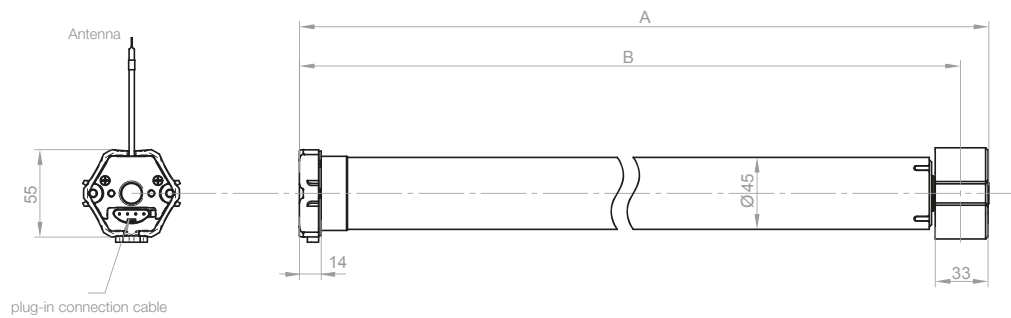
Upper limit switch	Lower limit switch
On limit stop	On limit stop

Technical data and dimensions

Type	RoTop/D+ M6-868	RoTop/D+ M10-868	RoTop/D+ M20-868	RoTop/D+ M30-868
Operating Voltage (V)	1 ~ 230			
Frequency (Hz)	50			
Noiseless soft brake	•			–
Max. torque (Nm)	6	10	20	30
Speed (rpm)	14			
Current (A)	0.52	0.6	0.9	
Power (W)	118	140	200	
Shaft Ø (mm)	50			
Ingress protection (IP)	44			
Max. limit switch range in Revolutions of the shaft	40			
Operating mode (KB in min.)	4	5	4	
Length A (mm)	460	480	540	530
Length B (mm)	442	462	523	512
Weight (kg)	1.6	1.9	2.2	2.3
Temperature range (°C)	-20 to +60			
Conformity	CE	CE		
Connecting cable pluggable (m)	2.0			

Item Number	34 014.0006	34 024.0006	34 034.0006	34 044.0006
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



Accessories

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RevLine M
Type 9 + 11
Venetian blind drives
Speciality drives
Hausautomation, radio controls, radio sensors
Hardwired controls sensors
Door drives
Door controls
Adapter profiles
Lifting capacity tables

RolTop/D+ M



Tubular drives for roller shutters – torque mode only motor

No limit setting required!
(requires torque stop in both directions)

RolTop/D+ M (230V/50 Hz)

Application:	Roller shutter
Limit switch:	Electronic limits with Soft Stop on end position approach
Highlights:	Smart force measurement Application protection in up and down direction and reversion on obstacle Parallel connection possible End limits are self-learning Plug-able cable
Shaft size:	From $\varnothing = 50$ mm
Features:	Noiseless soft brake up to 20 Nm
Limitations:	Only possible to use with torque stops in both directions



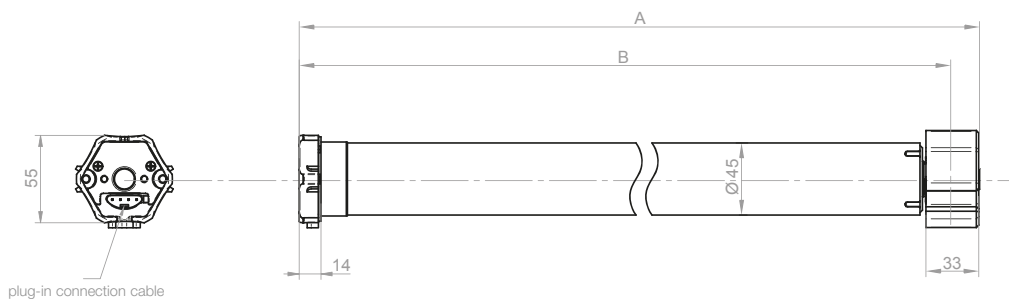
Possible limit switch modes	
Upper limit switch	Lower limit switch
On limit stop	On limit stop

Technical data and dimensions

Type	RoTop/D+ M6	RoTop/D+ M10	RoTop/D+ M20	RoTop/D+ M30
Operating Voltage (V)	1 ~ 230			
Frequency (Hz)	50			
Noiseless soft brake	•			–
Max. torque (Nm)	6	10	20	30
Speed (rpm)	14			
Current (A)	0.52	0.6	0.9	
Power (W)	118	140	200	
Shaft Ø (mm)	50			
Ingress protection (IP)	44			
Max. limit switch range in Revolutions of the shaft	40			
Operating mode (KB in min.)	4	5	4	
Length A (mm)	460	480	540	530
Length B (mm)	442	462	523	512
Weight (kg)	1.6	1.9	2.2	2.3
Temperature range (°C)	-20 to +60			
Conformity	CE	CE	RoHS	EMC
Connecting cable pluggable (m)	2.0			

Item Number	34 013.0001	34 023.0001	34 033.0001	34 043.0001
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



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- Rigid shaft fastener Page 96
- Sensors from page 240

RolTop Sonro M-868



Radio tubular drives with soft stop downwards for S_onro roller shutters

RolTop Sonro M-868 (230V/50 Hz)




- Application:** Roller shutter
- Limit switch: Electronic limits with Soft Stop on end down position
- Highlights: Smart force measurement
Blockage detection Up/Down
Limits can be adjusted via radio remote control or installation lead
Plug-able cable
- Shaft size: From Ø = 50 mm
- Features: Soft stop downwards
Noiseless soft brake
- Radio system: Bi-directional 868 MHz radio including routing (alternative 915 MHz available)



Possible limit switch modes

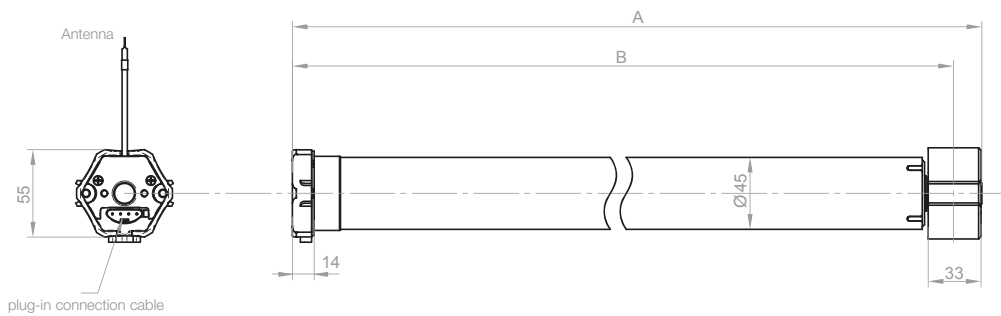
Upper limit switch	Lower limit switch
On limit stop	Freely programmable
Freely programmable	On limit stop
On limit stop	On limit stop
Freely programmable	Freely programmable

Technical data and dimensions


Type	RoTop Sonro M10-868	RoTop Sonro M20-868
Operating Voltage (V)	1 ~ 230	
Frequency (Hz)	50	
Noiseless soft brake	•	
Max. torque (Nm)	10	20
Speed (rpm)	14	
Current (A)	0.6	0.9
Power (W)	140	200
Shaft Ø (mm)	50	
Ingress protection (IP)	44	
Max. limit switch range in Revolutions of the shaft	40	
Operating mode (KB in min.)	5	4
Length A (mm)	480	540
Length B (mm)	462	523
Weight (kg)	1.9	2.2
Temperature range (°C)	-20 to +60	
Conformity	  	
Connecting cable pluggable (m)	2.0	


Item Number	34 222.5606	34 232.5606
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.





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Rigid shaft fastener
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Revoline M
Type 9 + 11
Venetian blind drives
Speciality drives
Hausautomation, radio controls, radio sensors
Hardwired controls sensors
Door drives
Door controls
Adapter profiles
Lifting capacity tables

RolTop Sonro M



Tubular drives with soft stop downwards for S_onro roller shutters

RolTop Sonro M (230V/50 Hz)




Application:	Roller shutter
Limit switch:	Electronic limits with Soft Stop on end down position
Highlights:	Smart force measurement Blockage detection Up/Down Limits can be adjusted via or installation lead Plug-able cable
Shaft size:	From Ø = 50 mm
Features:	Soft stop downwards Noiseless soft brake



Possible limit switch modes

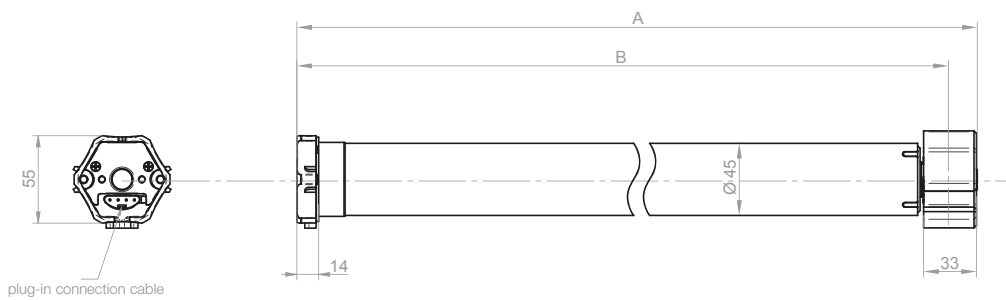
Upper limit switch	Lower limit switch
On limit stop	Freely programmable
Freely programmable	On limit stop
On limit stop	On limit stop
Freely programmable	Freely programmable

Technical data and dimensions







Type	RoTop Sonro M10	RoTop Sonro M20
Operating Voltage (V)	1 ~ 230	
Frequency (Hz)	50	
Noiseless soft brake	•	
Max. torque (Nm)	10	20
Speed (rpm)	14	
Current (A)	0.6	0.9
Power (W)	140	200
Shaft Ø (mm)	50	
Ingress protection (IP)	44	
Max. limit switch range in Revolutions of the shaft	40	
Operating mode (KB in min.)	5	4
Length A (mm)	480	540
Length B (mm)	462	523
Weight (kg)	1.9	2.2
Temperature range (°C)	-20 to +60	
Conformity	  	
Connecting cable pluggable (m)	2.0	

Item Number	34 221.5601	34 231.5601
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



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control units
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RolTop/J M-868



Radio tubular drives for special roller shutters with louvre function

RolTop/J M-868 (230V/50 Hz)




- Application:** Roller shutter with louvre function
- Limit switch: Electronic limits with Soft Stop on end position approach
- Highlights: Smart force measurement
Application protection in up and down direction and reversion on obstacle
Limits can be adjusted via radio remote control or installation lead, plug-able cable
- Shaft size: From Ø = 50 mm
- Features: Noiseless soft brake up to 20 Nm
Drive suitable for tilt-able roller shutters
Includes special 2nd lower end position for opening shutter to tilt position
- Radio system: Bi-directional 868 MHz radio including routing (alternative 915 MHz available)



Possible limit switch modes

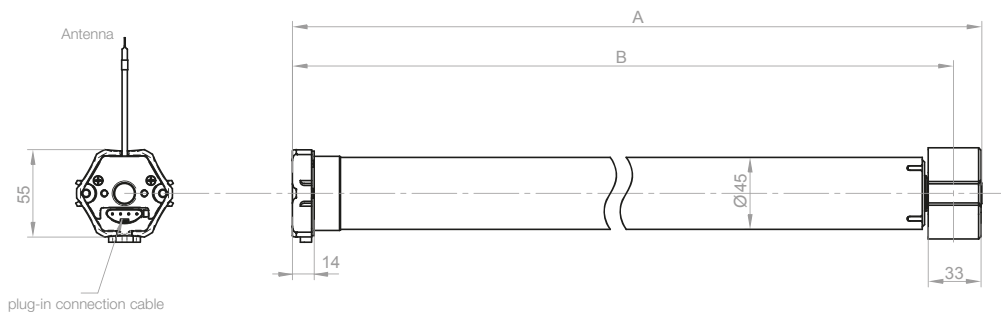
Upper limit switch	Lower limit switch
On limit stop	Freely programmable
Freely programmable	On limit stop
On limit stop	On limit stop
Freely programmable	Freely programmable

Technical data and dimensions

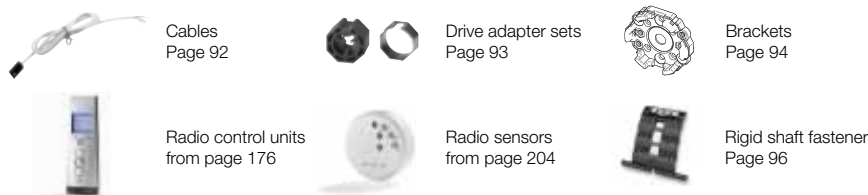
Type	RoITop/J M10-868	RoITop/J M20-868	RoITop/J M30-868	RoITop/J M40-868	RoITop/J M50-868
Operating Voltage (V)	1 ~ 230				
Frequency (Hz)	50				
Noiseless soft brake	•				
Max. torque (Nm)	10	20	30	40	50
Speed (rpm)	14				
Current (A)	0.6	0.9		1.2	1.3
Power (W)	140	200		270	300
Shaft Ø (mm)	50				
Ingress protection (IP)	44				
Max. limit switch range in Revolutions of the shaft	40				
Operating mode (KB in min.)	5		4	5	4
Length A (mm)	480	540	530	540	560
Length B (mm)	462	523	512	522	542
Weight (kg)	1.9	2.2	2.3	2.6	3.1
Temperature range (°C)	-20 to +60				
Conformity	  				
Connecting cable pluggable (m)	2.0				

Item Number	34 224.0006	34 234.0006	34 244.0006	34 254.0006	34 264.0006
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



Accessories



RevLine M
Type 9 + 11
Venetian blind drives
Speciality drives
Hausautomation, radio controls, radio sensors
Hardwired controls sensors
Door drives
Door controls
Adapter profiles Lifting capacity tables

RolTop/J M



Tubular drives for special roller shutters with louvre function

RolTop/J M (230V/50 Hz)




- Application:** Roller shutter with louvre function
- Limit switch: Electronic limits with Soft Stop on end position approach
- Highlights: Smart force measurement
Application protection in up and down direction and reversion on obstacle
Limits can be adjusted via installation lead, plug-able cable
- Shaft size: From Ø = 50 mm
- Features: Noiseless soft brake up to 20 Nm
Drive suitable for tilt-able roller shutters
Includes special 2nd lower end position for opening shutter to tilt position



Possible limit switch modes

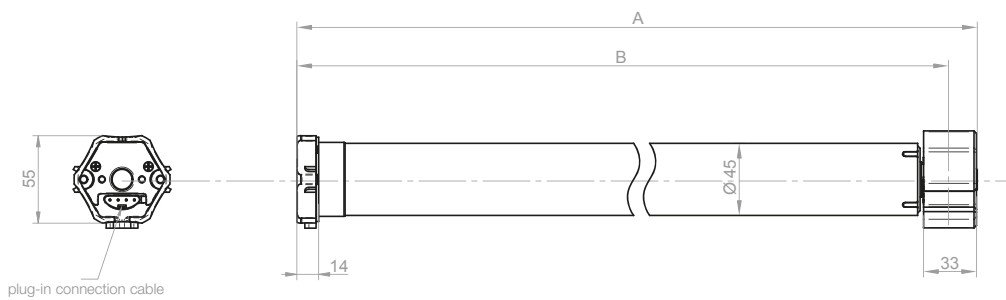
Upper limit switch	Lower limit switch
On limit stop	Freely programmable
Freely programmable	On limit stop
On limit stop	On limit stop
Freely programmable	Freely programmable

Technical data and dimensions


Type	RolTop/J M10	RolTop/J M20	RolTop/J M30	RolTop/J M40	RolTop/J M50
Operating Voltage (V)	1 ~ 230				
Frequency (Hz)	50				
Noiseless soft brake	•				
Max. torque (Nm)	10	20	30	40	50
Speed (rpm)	14				
Current (A)	0.6	0.9		1.2	1.3
Power (W)	140	200		270	300
Shaft Ø (mm)	50				
Ingress protection (IP)	44				
Max. limit switch range in Revolutions of the shaft	40				
Operating mode (KB in min.)	5		4	5	4
Length A (mm)	480	540	530	540	560
Length B (mm)	462	523	512	522	542
Weight (kg)	1.9	2.2	2.3	2.6	3.1
Temperature range (°C)	-20 to +60				
Conformity	  				
Connecting cable pluggable (m)	2.0				


Item Number	34 223.0001	34 233.0001	34 243.0001	34 253.0001	34 263.0001
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.





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Rigid shaft fastener
Page 96

RevLine M
 Type 9 + 11
 Venetian blind drives
 Speciality drives
 Hausautomation, radio controls, radio sensors
 Hardwired controls sensors
 Door drives
 Door controls
 Adapter profiles Lifting capacity tables

RolTop M-868 (90 rpm)



Radio tubular drives with soft start for blinds and insect screens

RolTop M-868 (90 rpm) (230 V/50 Hz)

- Application:** Roller shutter, blinds and insect screens
- Limit switch:** Electronic limits with Soft Stop on end position approach (on motors with soft brake)
- Highlights:** Soft start
Smart force measurement
Application protection in up and down direction and reversion on obstacle
Limits can be adjusted via radio remote control or installation lead
Plug-able cable
- Shaft size:** From Ø = 50 mm
- Features:** Noiseless soft brake
- Radio system:** Bi-directional 868 MHz radio including routing (alternative 915 MHz available)



Possible limit switch modes

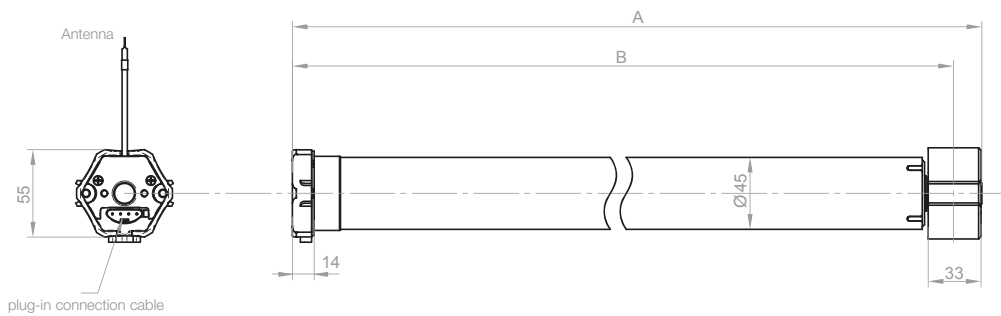
Upper limit switch	Lower limit switch
On limit stop	Freely programmable
Freely programmable	On limit stop
On limit stop	On limit stop
Freely programmable	Freely programmable

Technical data and dimensions

Type	RoI Top M2.5/90-868
Operating Voltage (V)	1 ~ 230
Frequency (Hz)	50
Noiseless soft brake	-
Max. torque (Nm)	2.5
Speed (rpm)	90
Current (A)	0.6
Power (W)	140
Shaft Ø (mm)	50
Ingress protection (IP)	44
Max. limit switch range in Revolutions of the shaft	40
Operating mode (KB in min.)	5
Length A (mm)	480
Length B (mm)	462
Weight (kg)	1.9
Temperature range (°C)	-20 to +60
Conformity	CE
Connecting cable pluggable (m)	2.0

Item Number	34 160.0006
-------------	-------------

All drives are exclusive of:
drive adapter, wall bracket (motor bearing) and switches.



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Rigid shaft fastener
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RolTop M (90 rpm)



Tubular drives with soft start for blinds and insect screens

RolTop M (90 rpm) (230V/50 Hz)

- Application:** Roller shutter, blinds and insect screens
- Limit switch:** Electronic limits with Soft Stop on end position approach (on motors with soft brake)
- Highlights:** Soft start
Smart force measurement
Application protection in up and down direction and reversion on obstacle
Limits can be adjusted via installation lead
Plug-able cable
- Shaft size:** From Ø = 50 mm
- Features:** Noiseless soft brake



Possible limit switch modes

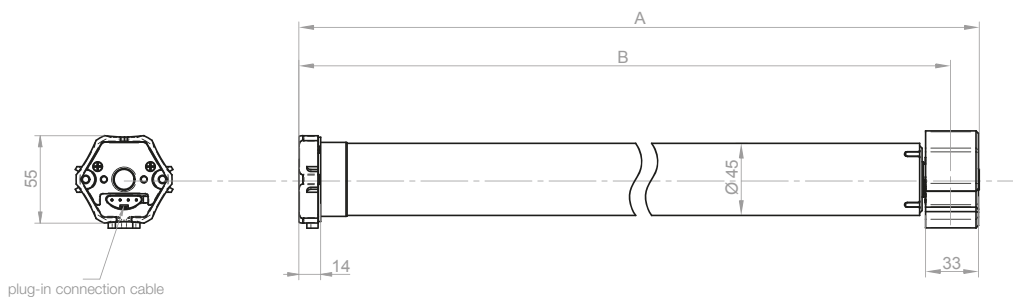
Upper limit switch	Lower limit switch
On limit stop	Freely programmable
Freely programmable	On limit stop
On limit stop	On limit stop
Freely programmable	Freely programmable

Technical data and dimensions








Type	RoI Top M2.5/90
Operating Voltage (V)	1 ~ 230
Frequency (Hz)	50
Noiseless soft brake	-
Max. torque (Nm)	2.5
Speed (rpm)	90
Current (A)	0.6
Power (W)	140
Shaft Ø (mm)	50
Ingress protection (IP)	44
Max. limit switch range in Revolutions of the shaft	40
Operating mode (KB in min.)	5
Length A (mm)	480
Length B (mm)	462
Weight (kg)	1.9
Temperature range (°C)	-20 to +60
Conformity	CE
Connecting cable pluggable (m)	2.0

Item Number	34 169.0001
-------------	-------------

All drives are exclusive of:
drive adapter, wall bracket (motor bearing) and switches.



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-  Sensors
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SunTop M-868

Radio tubular drives for sun protection systems



SunTop M-868 (230V/50 Hz)

- Application:** Textile sun protection
- Limit switch: Electronic limits with Soft Stop on end position approach
- Highlights: Smart force measurement
Blockage detection Up/Down
Limits can be adjusted via radio remote control or installation lead
Plug-able cable
- Shaft size: From Ø = 50 mm
- Features: Noiseless soft brake up to 20 Nm
- Radio system: Bi-directional 868 MHz radio including routing (alternative 915 MHz available)



Possible limit switch modes

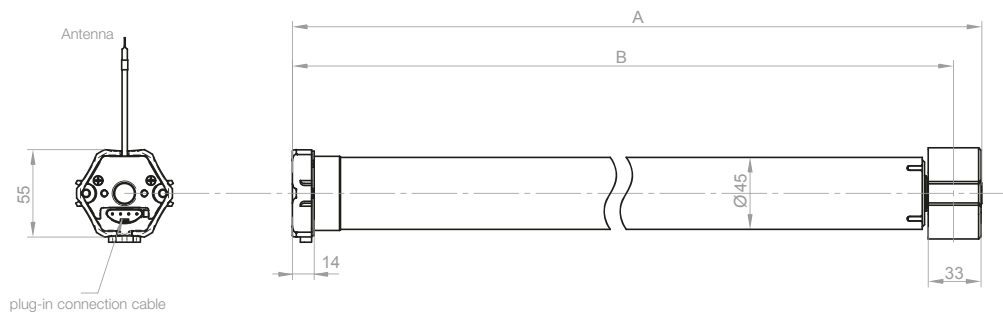
Upper limit switch	Lower limit switch
On limit stop	Freely programmable
Freely programmable	On limit stop
On limit stop	On limit stop
Freely programmable	Freely programmable

Technical data and dimensions

Type	SunTop M7/23-868	SunTop M10-868	SunTop M12/23-868	SunTop M20-868	SunTop M30-868	SunTop M40-868	SunTop M50-868
Operating Voltage (V)	1 ~ 230						
Frequency (Hz)	50						
Noiseless soft brake	•			-			
Fast-running version	•	-	•	-			
Max. torque (Nm)	7	10	12	20	30	40	50
Speed (rpm)	23	14	23	14			
Current (A)	0.6		0.9			1.2	1.3
Power (W)	140		200			270	300
Shaft Ø (mm)	50						
Ingress protection (IP)	44						
Max. limit switch range in Revolutions of the shaft	40						
Operating mode (KB in min.)	5			4		5	4
Length A (mm)	480		530	540	530	540	560
Length B (mm)	462		513	523	512	522	542
Weight (kg)	1.9		2.2	2.3		2.6	3.1
Temperature range (°C)	-20 bis +60						
Conformity							
Connecting cable pluggable (m)	2.0						

Item Number	34 726.0006	34 722.0006	34 736.0006	34 732.0006	34 742.0006	34 752.0006	34 762.0006
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



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SunTop M

Tubular drives for sun protection systems



SunTop M (230V/50 Hz)




- Application:** Textile sun protection
- Limit switch: Electronic limits with Soft Stop on end position approach
- Highlights: Smart force measurement
Blockage detection Up/Down
Limits can be adjusted via installation lead
Plug-able cable
- Shaft size: From $\varnothing = 50$ mm
- Features: Noiseless soft brake up to 20 Nm



Possible limit switch modes

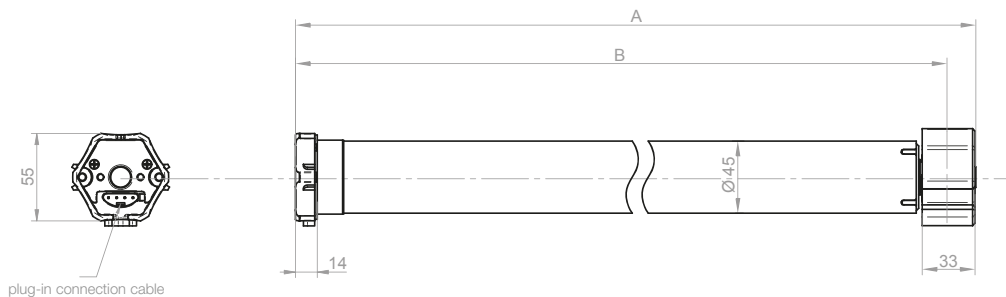
Upper limit switch	Lower limit switch
On limit stop	Freely programmable
Freely programmable	On limit stop
On limit stop	On limit stop
Freely programmable	Freely programmable

Technical data and dimensions







Type	SunTop M7/23	SunTop M10	SunTop M12/23	SunTop M20	SunTop M30	SunTop M40	SunTop M50	
Operating Voltage (V)	1 ~ 230							
Frequency (Hz)	50							
Noiseless soft brake	•			-				
Fast-running version	•	-	•	-				
Max. torque (Nm)	7	10	12	20	30	40	50	
Speed (rpm)	23	14	23	14				
Current (A)	0.6		0.9		1.2		1.3	
Power (W)	140		200		270		300	
Shaft Ø (mm)	50							
Ingress protection (IP)	44							
Max. limit switch range in Revolutions of the shaft	40							
Operating mode (KB in min.)	5			4		5		4
Length A (mm)	480		530	540	530	540	560	
Length B (mm)	462		513	523	512	522	542	
Weight (kg)	1.9		2.2		2.3		3.1	
Temperature range (°C)	-20 to +60							
Conformity	  							
Connecting cable pluggable (m)	2.0							

Item Number	34 725.0001	34 721.0001	34 735.0001	34 731.0001	34 741.0001	34 751.0001	34 761.0001
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



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VariEco M-868

Radio tubular drives for roller shutters
and sun protection systems



VariEco M-868 (230V/50 Hz)

Application:	Roller shutter and textile sun protection
Limit switch:	Mechanical limit switches
Shaft size:	From $\varnothing = 50$ mm
Features:	Noiseless soft brake up to 20 Nm
Radio system:	Bi-directional 868 MHz radio including routing (alternative 915 MHz available)



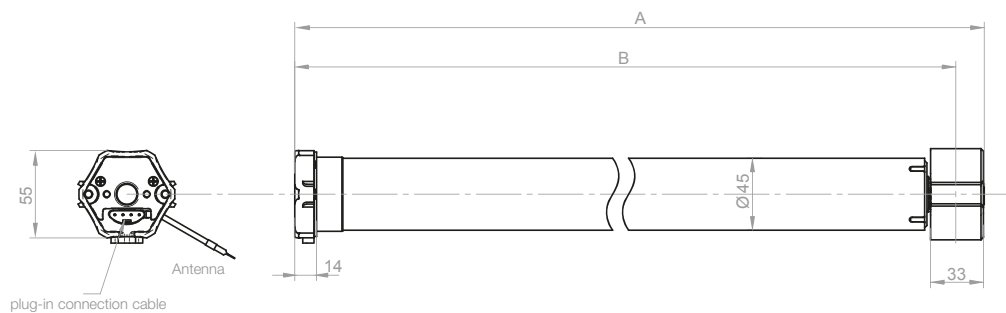
Possible limit switch modes	
Upper limit switch	Lower limit switch
Freely programmable	Freely programmable

Technical data and dimensions

Type	VariEco M7/23-868	VariEco M10-868	VariEco M12/23-868	VariEco M20-868	VariEco M30-868	VariEco M40-868	VariEco M50-868
Operating Voltage (V)	1 ~ 230						
Frequency (Hz)	50						
Noiseless soft brake	•			-			
Fast-running version	•	-	•	-			
Max. torque (Nm)	7	10	12	20	30	40	50
Speed (rpm)	23	14	23	14			
Current (A)	0.6		0.9			1.2	1.3
Power (W)	140		200			270	300
Shaft Ø (mm)	50						
Ingress protection (IP)	44						
Max. limit switch range in Revolutions of the shaft	35						
Operating mode (KB in min.)	5		4			5	4
Length A (mm)	491	552		541	571		
Length B (mm)	474	534		524	554		
Weight (kg)	1.9			2.2			
Temperature range (°C)	-20 to +60						
Conformity							
Connecting cable pluggable (m)	2.0						

Item Number	34 926.0106	34 922.0106	34 936.0106	34 932.0106	34 942.0106	34 952.0106	34 962.0106
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



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Adjustment aid
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VariEco M

**Tubular drives for roller shutters
and sun protection systems**






VariEco M (230V/50 Hz)

Application: Roller shutter
and textile sun protection
Limit switch: Mechanical limit switches
Shaft size: From Ø = 50 mm
Features: Noiseless soft brake up to 20 Nm



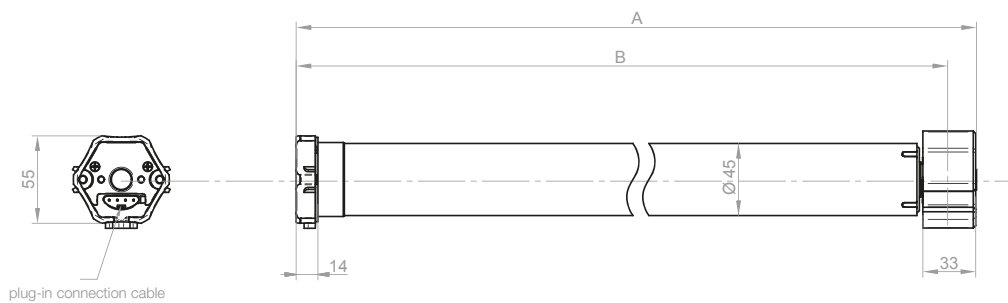
Possible limit switch modes
Upper limit switch **Lower limit switch**
Freely programmable | Freely programmable

Technical data and dimensions


Type	VariEco M7/23	VariEco M10	VariEco M12/23	VariEco M20	VariEco M30	VariEco M40	VariEco M50
Operating Voltage (V)	1 ~ 230						
Frequency (Hz)	50						
Noiseless soft brake	•			-			
Fast-running version	•	-	•	-			
Max. torque (Nm)	7	10	12	20	30	40	50
Speed (rpm)	23	14	23	14			
Current (A)	0.6		0.9		1.2		1.3
Power (W)	140		200		270		300
Shaft Ø (mm)	50						
Ingress protection (IP)	44						
Max. limit switch range in Revolutions of the shaft	35						
Operating mode (KB in min.)	5		4		5		4
Length A (mm)	491		552		541	571	
Length B (mm)	474		534		524		554
Weight (kg)	1.9		2.2		2.3	2.6	3.1
Temperature range (°C)	-20 to +60						
Conformity	  						
Connecting cable pluggable (m)	2.0						


Item Number	34 925.0101	34 921.0101	34 935.0101	34 931.0101	34 941.0101	34 951.0101	34 961.0101
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.

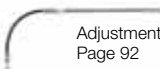



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Adjustment aid
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ProLine control units
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Tubular drives RevoLine M – Accessories

Cables and accessories

It is not possible to return connecting cables.



Special cable lengths in combination with the drive (standard 2.0 m), **white**

Item Number	Type/Item Description
99 000.4101	2.0 m plug-in connecting cable (comes with drive as standard)
99 000.4201	3.0 m plug-in connecting cable
99 000.4301	5.0 m plug-in connecting cable
99 000.4401	10.0 m plug-in connecting cable
99 000.4801	20.0 m plug-in connecting cable
99 000.4501	0.4 m plug-in connecting cable with Hirschmann plug
99 000.7001	2.0 m plug-in connecting cable with Hirschmann plug
99 000.4601	3.0 m plug-in connecting cable universal push button (middle) and earthed plug

Special cable lengths in combination with the drive (standard 2.0 m), **black**

Item Number	Type/Item Description
99 000.6001	2.0 m plug-in connecting cable
99 000.5201	3.0 m plug-in connecting cable
99 000.5301	5.0 m plug-in connecting cable
99 000.5401	10.0 m plug-in connecting cable
99 000.5501	0.4 m plug-in connecting cable with Hirschmann plug

Connecting cables without drive, **white**

23 395.0201	2.0 m plug-in connecting cable
23 395.0301	3.0 m plug-in connecting cable
23 395.0401	5.0 m plug-in connecting cable
23 395.0501	10.0 m plug-in connecting cable
23 395.0601	20.0 m plug-in connecting cable
23 395.0101	0.4 m plug-in connecting cable with Hirschmann plug
23 395.0801	2.0 m plug-in connecting cable with Hirschmann plug
23 395.0701	3.0 m plug-in connecting cable with universal push button (centred) and earthed plug
23 615.2401	0.2 m Adapter cable Type 9/RevoLine

Connecting cables without drive, **black**

23 395.2201	2.0 m plug-in connecting cable
23 395.2301	3.0 m plug-in connecting cable
23 395.2401	5.0 m plug-in connecting cable
23 395.2501	10.0 m plug-in connecting cable
23 395.2101	0.4 m RevoLine cable with Hirschmann plug



23 243.0002



23 246.0001

Installation-, connecting cables and Accessories

23 243.0002	Installation cable
23 246.0001	Installation cable with Hirschmann plug Stak 3
23 395.2701	QuickConnect, the fast connection system, IP 65
23 395.4701	QuickConnect, set of 10
23 395.2601	QuickConnect with MiniPlug, IP 65
23 846.0001	Stas 3 with clip (motor side)
13 701.5301	Stak 3 (power supply side)
13 308.0001	Flexible adjustment aid



13 308.0001



23 395.2701



23 395.2601

Assembly and disassembly only in the de-energised state!

The connections to the 230V mains must be made by authorised specialist personnel.

Adapter sets

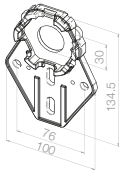
Profiles of the drive adapter sets in 1:1 scale on page 316.



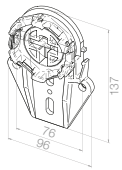
Item Number	Type/Item Description	Notch tubes	Round tubes	Profile tubes
23 041.0001	Ø 57 mm, Ates, MHZ	•		
23 055.0001	Ø 60 mm, AXE, Griesser, Hüppe	•		
23 042.0001	Ø 62 x 0.6 mm, DEPRAT F2000	•		
23 031.0001	Ø 63 x 1.0 mm	•		
23 018.0001	Ø 70 mm, IMBAC, Ahlquist, round notch	•		
23 020.0001	Ø 70 mm, flat notch, Welser, Griesser	•		
23 065.0001	Ø 70 mm	•		
23 054.0001	Ø 71 x 1.5 mm	•		
23 015.0001	Ø 78 x 1.0 mm 78 x 1.25 mm, for flat- and round notch, MHZ	•		
22 088.0001	Ø 80 x 1.0 mm and Ø 80 x 1.25 mm, Welser	•		
23 017.0001	Ø 85 x 1.0 mm	•		
23 048.0001	Ø 85 x 1.2 mm, IMBAC, Griesser	•		
23 053.0001	Ø 90 mm, Le-Profil and Ø 89 mm, DEPRAT	•		
23 058.0001	Ø 90.5 x 1.25 mm MHZ	•		
13 116.2901	Ø 50 x 1.5 mm		•	
13 116.9901	Ø 50 x 1.5 mm, Siral		•	
23 044.0001	Ø 60 x 1.5 mm and Ø 62 x 2.0 mm		•	
23 045.0001	Ø 63 x 1.5 mm		•	
23 046.0001	Ø 70 x 1.5 mm		•	
23 093.0001	Ø 83 x 1.5 mm (with profile)		•	
23 052.0001	Ø 98 x 2.0 mm and Ø 102 x 3.5 mm		•	
23 051.0001	Ø 102 x 1.5 mm and Ø 102 x 2.0 mm		•	
13 117.8501	Ø 50 mm, Soprofen			•
23 012.0001	Octagonal, SW 50 Selve			•
23 091.0001	Ø 53 mm, Deprat			•
13 116.1001	Ø 54 mm, Zurflüh-Feller			•
23 039.0001	Ø 55 mm, elero			•
23 050.0001	Ø 58 mm Alu, Termo Perco			•
23 036.0001	Octagonal, SW 60, IMBAC			•
23 379.0001	Octagonal, SW 60, Selve, Döhner Eckermann			•
23 056.0001	Octagonal, 60 mm, Bonfante			•
23 047.0001	Hexagonal, Ø 60 x 0.7 mm, Butzbach, Mäule			•
23 049.0001	Ø 60 mm Alu-Plast, Kittelberger, Ø 63 x 1.5 mm			•
23 043.0001	Ø 62 mm, Le-Profil, Krülland			•
23 380.0001	Ø 64 mm, Zurflüh-Feller			•
23 032.0001	Ø 65 mm, IMBAC, Eckermann, Metallpress			•
23 033.0001	Ø 65 mm, Hoos			•
23 057.0001	Ø 67 x 1.5 mm, MHZ			•
23 011.0001	70 mm octagonal, Selve, Döhner, Eckermann			•
23 059.0001	75 mm hexagonal, Butzbach, Mäule			•
23 034.0001	Ø 76 x 1.2 mm, Kittelberger, Wiral			•
23 090.0001	78 mm pentagonal, Meimo			•
23 040.0001	78 mm profile tube Döhner, Has.			•
23 382.0001	Ø 80 mm, Zurflüh-Feller			•

Tubular drives RevoLine M – Accessories

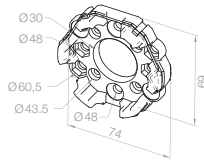
Motor bearings



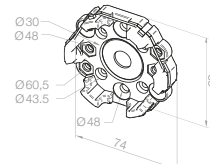
23 004.0001
Universal wall bracket
(plastic) max. 50 Nm



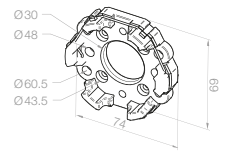
23 615.4401
Disengageable
max. 30 Nm



23 003.0001
48/60 mm centres (Alloy)

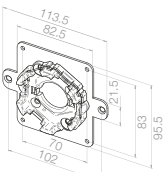


23 003.0201
Motor bearing 48/60 mm
centres (Alloy) with nuts
4 x M6 and 12.5 mm
hole in plastic center ring



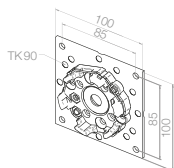
23 003.0301
Motor bearing with
48/60 mm centres (Alloy)
with M6/M8 thread

SKS



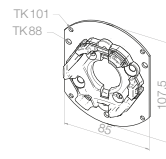
23 004.0101
max. 50 Nm

Base plate

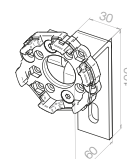


23 615.9901
With motor bearing
(e.g. for VEKA Variant
elements)

Mounting plate with motor bearing

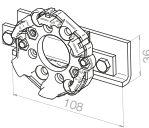


23 615.7101
Plastic max. 30 Nm
(Thyssen, Schüco, Veka, Home)



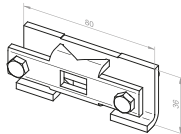
23 615.9101
60 mm offset for replacing
manual roller shutter belt
max. 50 Nm

Clamp bearing



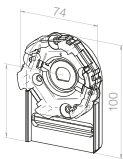
23 615.7201
For roller bearing bracket
max. 30 Nm

Clamp bearing Type 9



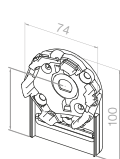
23 965.0003
For roller bearing bracket
up or plaster-in brackets in
conj. with 23 374.1401
max. 30 Nm

screwless left



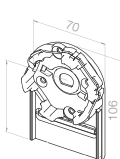
23 615.8201
For built-on roller shutters,
size 137 mm
d = 64 – 65.5 mm,
up to max. 30 Nm

screwless right



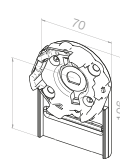
23 615.9201
For built-on roller shutters,
size 137 mm
d = 64 – 65.5 mm,
up to max. 30 Nm

screwless left



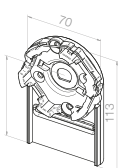
23 615.8301
For built-on roller shutters,
size 150 mm
d = 70.7 mm,
up to max. 30 Nm

screwless right



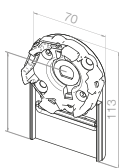
23 615.9301
For built-on roller shutters,
size 150 mm
d = 70.7 mm,
up to max. 30 Nm

screwless left



23 615.8401
For built-on roller shutters,
size 165 mm
d = 78.2 – 79.7 mm,
up to max. 30 Nm

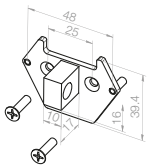
screwless right



23 615.9401
For built-on roller shutters,
size 165 mm
d = 78.2 – 79.7 mm,
up to max. 30 Nm

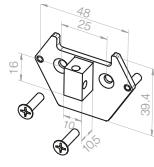
Mounting- and adapter plates

Adapter plates



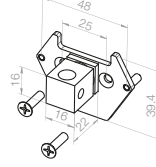
23 374.1501

Motor head add-on with motor bolt 10 x 16 mm, pin 17 mm long (max. 50 Nm)



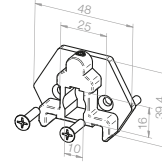
23 374.1401

10 x 16, short pin 10.5 mm (up to 50 Nm)



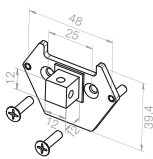
23 374.2501

Motor head add-on with motor bolt 16 x 16 mm, pin 22 mm



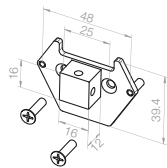
23 374.6801

for Type 9 (up to 50 Nm)



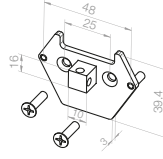
23 374.3301

Motor head add-on with motor bolt 12 x 12 mm, height: 12.0 mm



23 374.2101

Motor head add-on with motor bolt 16 x 16 mm, pin 12 mm



23 374.1601

Motor head add-on with motor bolt 10 x 10 mm, pin 9.5 mm (max. 30 Nm)

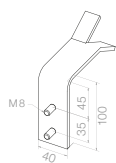


23 374.9401

SH Adapter (max. 50 Nm)

Mounting plates and mounting accessories

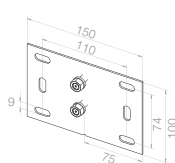
Plaster-in bracket



13 300.9202

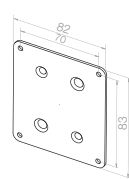
max. 80 Nm

Mounting plates



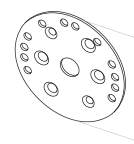
24 554.0001

For wall bracket (23 004.001 and 23 615.4401)



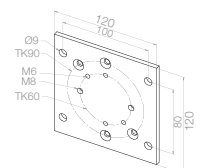
13 302.2601

For Motor bearing (Stakusit)



13 302.7801

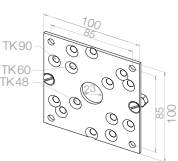
48/60/78 mm centres for Weru



23 457.0001

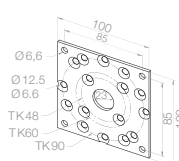
Mounting plate for cover cap

Universal adapter plate sets



23 687.0501

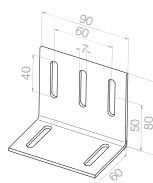
With 2 countersunk screws M6 x 16 and nuts



13 109.2902

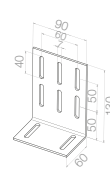
48/60/85/90 mm centres

Angle brackets



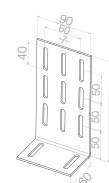
13 110.5001

80 mm high



13 110.5101

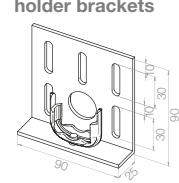
130 mm high



13 110.5201

180 mm high

Roller bearing holder brackets



23 852.0001

90 mm wide

Revoline M

Type 9 + 11

Venetian blind drives

Speciality drives

Hausautomation, radio controls, radio sensors

Hardwired controls sensors

Door drives

Door controls

Adapter profiles Lifting capacity tables

Rigid shaft fastener MiniClick and MaxiClick

Universal for octagonal tubes, 40, 50, 60 and 70 mm



MiniClick, with twist lock

For mini profiles and octagonal shafts size SW 40, 50 (0.6 and 0.8 mm) and SW 60 (0.6 and 0.9 mm)

Item Number	Type/Item Description
13 309.0001	MiniClick, 1 section
13 309.0101	MiniClick, 2 sections
13 309.0201	MiniClick, 3 sections
13 309.0301	MiniClick, 4 sections
13 309.0401	MiniClick profile insert
13 309.0501	MiniClick profile spacer insert

MaxiClick, with twist lock

For standard profiles and octagonal shaft size SW 60 (0.9 mm) and SW 70 (1.0 / 1.2 and 1.5 mm)

Item Number	Type/Item Description
13 309.1001	MaxiClick, 1 section
13 309.1101	MaxiClick, 2 sections
13 309.1201	MaxiClick, 3 sections
13 309.1401	MaxiClick profile insert
13 309.1501	MaxiClick profile spacer insert

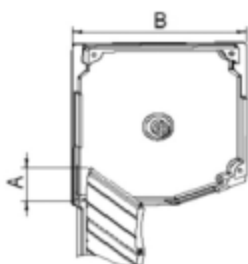
MiniClick selection table

Shaft fastener	By box depth B ¹ (mm)	Number/shutter	Shutter weight (kg)	Application range
1 section	115 – 150	Use minimum 1 fastener every 60 cm or 4 Nm drive torque	max. 8 / shaft fastener	Mini- / maxi profile ¹
2 sections	155 – 180			
3 sections	185 – 210			
4 sections	215 – 240			

MaxiClick selection table

Shaft fastener	By box depth B ¹ (mm)	Number/shutter	Shutter weight (kg)	Application range
1 section	125 – 160	Use minimum 1 fastener every 60 cm or 6 Nm drive torque	max. 12 / shaft fastener	Mini- / maxi profile ¹
2 sections	160 – 200			
3 sections	200 – 250			

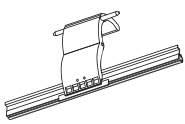
¹Select MiniClick or MaxiClick by Shaft size.



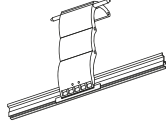
The top most profile slat should not be exposed by more than 1/2 profile height above the guide rails (A). Anti-push up will only work if the slats are compressed and can exert upwards pressure against the Anti-push up device.

Anti push-up devices

Anti push-up device mini profile

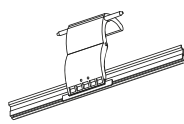


13 301.8901
2 sections

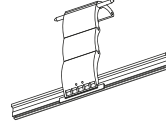


13 301.9101
3 sections

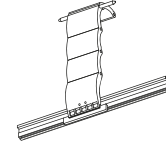
Anti push-up device standard profile



13 301.8801
2 sections

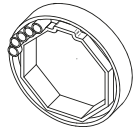


13 301.9001
3 sections

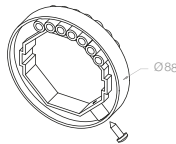


13 301.9201
4 sections

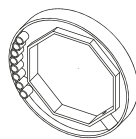
Fixing rings



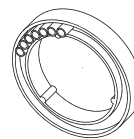
13 302.1501
For 50 mm octagonal shaft



13 301.9501
For 60 mm octagonal shaft

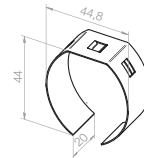


13 301.9601
For 70 mm octagonal shaft



13 301.9701
For 65 mm profile shaft
Hoos, IMBAC, Metalpress, Eckermann

Spring clip



13 301.8501
For 50 mm octagonal tube to support roller shutter fixing spring



RevoLine M with round head

– Powerful drives!



Size M RH is available with torques with 4 Nm, 6 Nm, 7 Nm, 9 Nm, 10 Nm, 12 Nm, 20 Nm, 30 Nm versions. The standard speed of the Revolving Line M drives is 14 rpm. The power output shaft shape is the same with all Revolving Line drives and guarantees high power transmission. All the drives are suited to installation on the left or right side.

All M RH drives with a torque of up to 20 Nm have a noiseless, wear-free "Soft brake".



RolTop M-868 RH



Radio tubular drives for roller shutters, blinds and screens

RolTop M-868 RH (230V/50 Hz)

- Application:** Blinds and screens*
- Limit switch: Electronic limits with Soft Stop on end position approach
- Highlights: Smart force measurement
Application protection in up and down direction and reversion on obstacle
Limits can be adjusted via radio remote control or installation lead
Plug-able cable
- Shaft size: From Ø = 50 mm
- Features: Noiseless soft brake up to 20 Nm
Round head for ZIP systems
- Radio system: Bi-directional 868 MHz radio including routing (alternative 915 MHz available)

* Drive might stop on heavy wind load to protect drive



Possible limit switch modes

Upper limit switch	Lower limit switch
On limit stop	Freely programmable
Freely programmable	On limit stop
On limit stop	On limit stop
Freely programmable	Freely programmable

Technical data and dimensions

Type	RolTop M4/60-868 RH	RolTop M6/35-868 RH	RolTop M7/23-868 RH	RolTop M9/35-868 RH	RolTop M10-868 RH	RolTop M12/23-868 RH	RolTop M20-868 RH	RolTop M30-868 RH
Operating Voltage (V)	1 ~ 230							
Frequency (Hz)	50							
Noiseless soft brake	-	•				-		
Fast-running version			•		-	•		-
Max. torquee (Nm)	4	6	7	9	10	12	20	30
Speed (rpm)	60	35	23	35	14	23	14	
Current (A)	0.9		0.6	0.9	0.6	0.9		
Power (W)	200		140	200	140	200		
Shaft Ø (mm)	50							
Ingress protection (IP)	44							
Max. limit switch range in Revolutions of the shaft	40							
Operating mode (KB in min.)	4		5	4	5	4		
Length A (mm)	540		480	530	480	530	540	530
Length B (mm)	523		462	512	462	513	523	512
Weight (kg)	2.2		1.9	2.3	1.9	2.2		2.3
Temperature range (°C)	-20 to +60							
Conformity								
Connecting cable pluggable (m)	2.0							

Item Number	38 460.0006	38 438.0006	38 226.0006	38 448.0006	38 222.0006	38 236.0006	38 232.0006	38 242.0006
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



Accessories

	Cables Page 108		Drive adapter sets Page 109		Brackets Page 110
	Radio control units from page 176		Radio sensors from page 202		Rigid shaft fastener Page 112

Mounting-variants	up to max. 20 Nm	up to max. 50 Nm
Screws	2*	4**
Max. mounting torque (Nm)	2.0	5.5
Screw holes for mounting (orange)		

* Countersunk bolts 3,5x12 Remform F Torx15 (Item no. 10101.0947)
 ** PT screws K 5,0 x 16 Torx 20 (Item no. 10101.3623)

RolTop M-868-K RH



Tubular drives for roller shutters, blinds and screens – short model

RolTop M-868-K RH (230V/50 Hz)

- Application:** Blinds and screens*
- Limit switch: Electronic limits with Soft Stop on end position approach
- Highlights: Smart force measurement
Application protection in up and down direction and reversion on obstacle
Limits can be adjusted via installation lead
Plug-able cable
- Shaft size: From Ø = 50 mm
- Features: Noiseless soft brake
Round head for ZIP systems
- Radio system: Bi-directional 868 MHz radio including routing (alternative 915 MHz available)

* Drive might stop on heavy wind load to protect drive



Possible limit switch modes

Upper limit switch	Lower limit switch
On limit stop	Freely programmable
Freely programmable	On limit stop
On limit stop	On limit stop
Freely programmable	Freely programmable

Technical data and dimensions







Type	RoI Top M10-868-K RH
Operating Voltage (V)	1 ~ 230
Frequency (Hz)	50
Noiseless soft brake	•
Max. torque (Nm)	10
Speed (rpm)	14
Current (A)	0.6
Power (W)	140
Shaft Ø (mm)	50
Ingress protection (IP)	44
Max. limit switch range in Revolutions of the shaft	40
Operating mode (KB in min.)	5
Length A (mm)	405
Length B (mm)	387
Weight (kg)	1.6
Temperature range (°C)	-20 to +60
Conformity	CE
Connecting cable pluggable (m)	2.0



Item Number	38 112.0006
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All drives are exclusive of:
drive adapter, wall bracket (motor bearing) and switches.



Accessories

	Cables Page 108		Drive adapter sets Page 109		Brackets Page 110
	Radio control units from page 176		Radio sensors from page 202		Rigid shaft fastener Page 112

Mounting-variants	up to max. 20 Nm	up to max. 50 Nm
Screws	2*	4**
Max. mounting torque (Nm)	2.0	5.5
Screw holes for mounting (orange)		

* Countersunk bolts 3,5x12 Remform F Torx15 (Item no. 10101.0947)
** PT screws K 5,0 x 16 Torx 20 (Item no. 10101.3623)

RevolLine M RH

Type 9 + 11

Venetian blind drives

Speciality drives

Hausautomation, radio controls, radio sensors

Hardwired controls sensors

Door drives

Door controls

Adapter profiles
Lifting capacity tables

RolTop M RH

Tubular drives for roller shutters, blinds and screens



RolTop M RH (230V/50 Hz)

- Application:** Blinds and screens*
- Limit switch:** Electronic limits with Soft Stop on end position approach
- Highlights:** Smart force measurement
Application protection in up and down direction and reversion on obstacle
Limits can be adjusted via installation lead
Plug-able cable
- Shaft size:** From $\varnothing = 50$ mm
- Features:** Noiseless soft brake up to 20 Nm
Round head for ZIP systems




* Behangschutzfunktion kann bei Windbelastung ansprechen.



Possible limit switch modes

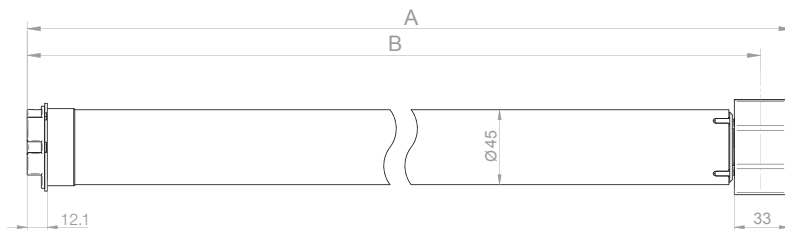
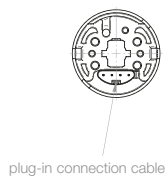
Upper limit switch	Lower limit switch
On limit stop	Freely programmable
Freely programmable	On limit stop
On limit stop	On limit stop
Freely programmable	Freely programmable

Technical data and dimensions

Type	RolTop M4/60 RH	RolTop M7/23 RH	RolTop M10 RH	RolTop M12/23 RH	RolTop M20 RH	RolTop M30 RH
Operating Voltage (V)	1 ~ 230					
Frequency (Hz)	50					
Noiseless soft brake	-					
Fast-running version	•		-	•		-
Max. torque (Nm)	4	7	10	12	20	30
Speed (rpm)	60	23	14	23	14	
Current (A)	0.9	0.6		0.9		
Power (W)	200	140		200		
Shaft Ø (mm)	50					
Ingress protection (IP)	44					
Max. limit switch range in Revolutions of the shaft	40					
Operating mode (KB in min.)	4	5		4		
Length A (mm)	540	480		530	540	530
Length B (mm)	523	462		513	523	512
Weight (kg)	2.2	1.9		2.2		2.3
Temperature range (°C)	-20 to +60					
Conformity	  					
Connecting cable pluggable (m)	2.0					

Item Number	38 469.0001	38 225.0001	38 221.0001	38 235.0001	38 231.0001	38 241.0001
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



Accessories



Cables
Page 108



Drive adapter sets
Page 109



Brackets
Page 110



ProLine control units
from page 216





Sensors
from page 240



Rigid shaft fastener
Page 112



Radio receivers
from page 192

Mounting-variants	up to max. 20 Nm	up to max. 50 Nm
Screws	2*	4**
Max. mounting torque (Nm)	2.0	5.5
Screw holes for mounting (orange)		

* Countersunk bolts 3,5x12 Remform F Torx15 (Item no. 10101.0947)
** PT screws K 5,0 x 16 Torx 20 (Item no. 10101.3623)

RolTop M-K RH



Tubular drives for roller shutters, blinds and screens – short model

RolTop M-K RH (230V/50 Hz)

- Application:** Blinds and screens*
- Limit switch: Electronic limits with Soft Stop on end position approach
- Highlights: Smart force measurement
Application protection in up and down direction and reversion on obstacle
Limits can be adjusted via installation lead
Plug-able cable
- Shaft size: From $\varnothing = 50$ mm
- Features: Noiseless soft brake
Round head for ZIP systems

* Drive might stop on heavy wind load to protect drive



Possible limit switch modes

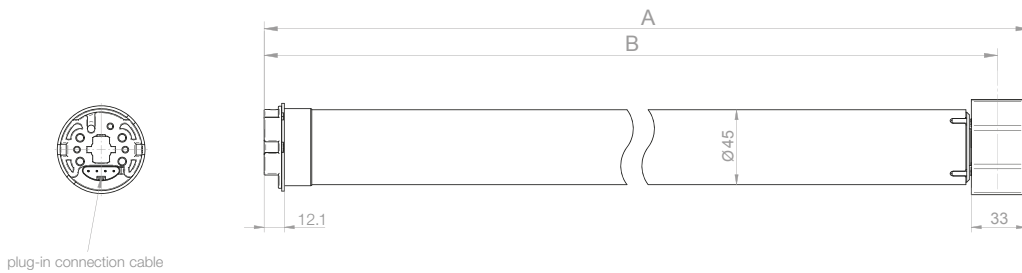
Upper limit switch	Lower limit switch
On limit stop	Freely programmable
Freely programmable	On limit stop
On limit stop	On limit stop
Freely programmable	Freely programmable

Technical data and dimensions

Type	RoI Top M10-K RH
Operating Voltage (V)	1 ~ 230
Frequency (Hz)	50
Noiseless soft brake	•
Max. torque (Nm)	10
Speed (rpm)	14
Current (A)	0.6
Power (W)	140
Shaft Ø (mm)	50
Ingress protection (IP)	44
Max. limit switch range in Revolutions of the shaft	40
Operating mode (KB in min.)	5
Length A (mm)	405
Length B (mm)	387
Weight (kg)	1.6
Temperature range (°C)	-20 to +60
Conformity	CE
Connecting cable pluggable (m)	2.0

Item Number	38 111.0001
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All drives are exclusive of:
drive adapter, wall bracket (motor bearing) and switches.



Accessories



Cables
Page 108



Drive adapter sets
Page 109



Brackets
Page 110



ProLine
control units
from page 216



Sensors
from page 240



Rigid shaft fastener
Page 112



Radio receivers
from page 192

Mounting-variants	up to max. 20 Nm	up to max. 50 Nm
Screws	2*	4**
Max. mounting torque (Nm)	2.0	5.5
Screw holes for mounting (orange)		

* Countersunk bolts 3,5x12 Remform F Torx15 (Item no. 10101.0947)

** PT screws K 5,0 x 16 Torx 20 (Item no. 10101.3623)

RevolLine M RH

Type 9 + 11

Venetian blind drives

Speciality drives

Hausautomation, radio controls, radio sensors

Hardwired controls sensors

Door drives

Door controls

Adapter profiles
Lifting capacity tables

Tubular drives RevoLine M RH – Accessories

Cables and accessories

It is not possible to return connecting cables.



Special cable lengths in combination with the drive (standard 2.0 m), **white**

Item Number	Type/Item Description
99 000.4101	2.0 m plug-in connecting cable (comes with drive as standard)
99 000.4201	3.0 m plug-in connecting cable
99 000.4301	5.0 m plug-in connecting cable
99 000.4401	10.0 m plug-in connecting cable
99 000.4801	20.0 m plug-in connecting cable
99 000.4501	0.4 m plug-in connecting cable with Hirschmann plug
99 000.7001	2.0 m plug-in connecting cable with Hirschmann plug
99 000.4601	3.0 m plug-in connecting cable universal push button (middle) and earthed plug

Special cable lengths in combination with the drive (standard 2.0 m), **black**

Item Number	Type/Item Description
99 000.6001	2.0 m plug-in connecting cable
99 000.5201	3.0 m plug-in connecting cable
99 000.5301	5.0 m plug-in connecting cable
99 000.5401	10.0 m plug-in connecting cable
99 000.5501	0.4 m plug-in connecting cable with Hirschmann plug

Connecting cables without drive, **white**

23 395.0201	2.0 m plug-in connecting cable
23 395.0301	3.0 m plug-in connecting cable
23 395.0401	5.0 m plug-in connecting cable
23 395.0501	10.0 m plug-in connecting cable
23 395.0601	20.0 m plug-in connecting cable
23 395.0101	0.4 m plug-in connecting cable with Hirschmann plug
23 395.0801	2.0 m plug-in connecting cable with Hirschmann plug
23 395.0701	3.0 m plug-in connecting cable with universal push button (centred) and earthed plug
23 615.2401	0.2 m Adapter cable Type 9/RevoLine

Connecting cables without drive, **black**

23 395.2201	2.0 m plug-in connecting cable
23 395.2301	3.0 m plug-in connecting cable
23 395.2401	5.0 m plug-in connecting cable
23 395.2501	10.0 m plug-in connecting cable
23 395.2101	0.4 m Revoline cable with Hirschmann plug

Installation-, connecting cables and accessories

23 243.0002	Installation cable
23 246.0001	Installation cable with Hirschmann plug Stak 3
23 395.2701	QuickConnect, the fast connection system, IP 65
23 395.4701	QuickConnect, set of 10
23 395.2601	QuickConnect with MiniPlug, IP 65
23 846.0001	Stas 3 with clip (motor side)
13 701.5301	Stak 3 (power supply side)
13 308.0001	Flexible adjustment aid



23 243.0002



23 246.0001



13 308.0001



23 395.2701



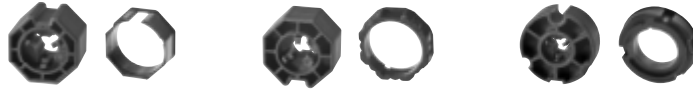
23 395.2601

Assembly and disassembly only in the de-energised state!

The connections to the 230V mains must be made by authorised specialist personnel.

Adapter sets

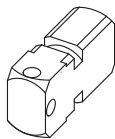
Profiles of the drive adapter sets in 1:1 scale on page 316.



Item Number	Type/Item Description	Notch tubes	Round tubes	Profile tubes
23 041.0001	Ø 57 mm, Ates, MHZ	•		
23 055.0001	Ø 60 mm, AXE, Griesser, Hüppe	•		
23 042.0001	Ø 62 x 0.6 mm, DEPRAT F2000	•		
23 031.0001	Ø 63 x 1.0 mm	•		
23 018.0001	Ø 70 mm, IMBAC, Ahlquist, round notch	•		
23 020.0001	Ø 70 mm, flat notch, Welser, Griesser	•		
23 065.0001	Ø 70 mm	•		
23 054.0001	Ø 71 x 1.5 mm	•		
23 015.0001	Ø 78 x 1.0 mm 78 x 1.25 mm, for flat- and round notch, MHZ	•		
22 088.0001	Ø 80 x 1.0 mm and Ø 80 x 1.25 mm, Welser	•		
23 017.0001	Ø 85 x 1.0 mm	•		
23 048.0001	Ø 85 x 1.2 mm, IMBAC, Griesser	•		
23 053.0001	Ø 90 mm, Le-Profil and Ø 89 mm, DEPRAT	•		
23 058.0001	Ø 90.5 x 1.25 mm MHZ	•		
13 116.2901	Ø 50 x 1.5 mm		•	
13 116.9901	Ø 50 x 1.5 mm, Siral		•	
23 044.0001	Ø 60 x 1.5 mm and Ø 62 x 2.0 mm		•	
23 045.0001	Ø 63 x 1.5 mm		•	
23 046.0001	Ø 70 x 1.5 mm		•	
23 093.0001	Ø 83 x 1.5 mm (with profile)		•	
23 052.0001	Ø 98 x 2.0 mm and Ø 102 x 3.5 mm		•	
23 051.0001	Ø 102 x 1.5 mm and Ø 102 x 2.0 mm		•	
13 117.8501	Ø 50 mm, Soprofen			•
23 012.0001	Octagonal, SW 50 Selve			•
23 091.0001	Ø 53 mm, Deprat			•
13 116.1001	Ø 54 mm, Zurflüh-Feller			•
23 039.0001	Ø 55 mm, elero			•
23 050.0001	Ø 58 mm Alu, Termo Perco			•
23 036.0001	Octagonal, SW 60, IMBAC			•
23 379.0001	Octagonal, SW 60, Selve, Döhner Eckermann			•
23 056.0001	Octagonal, 60 mm, Bonfante			•
23 047.0001	Hexagonal, Ø 60 x 0.7 mm, Butzbach, Mäule			•
23 049.0001	Ø 60 mm Alu-Plast, Kittelberger, Ø 63 x 1.5 mm			•
23 043.0001	Ø 62 mm, Le-Profil, Krülland			•
23 380.0001	Ø 64 mm, Zurflüh-Feller			•
23 032.0001	Ø 65 mm, IMBAC, Eckermann, Metallpress			•
23 033.0001	Ø 65 mm, Hoos			•
23 057.0001	Ø 67 x 1.5 mm, MHZ			•
23 011.0001	70 mm octagonal, Selve, Döhner, Eckermann			•
23 059.0001	75 mm hexagonal, Butzbach, Mäule			•
23 034.0001	Ø 76 x 1.2 mm, Kittelberger, Wiral			•
23 090.0001	78 mm pentagonal, Meimo			•
23 040.0001	78 mm profile tube Döhner, Has.			•
23 382.0001	Ø 80 mm, Zurflüh-Feller			•

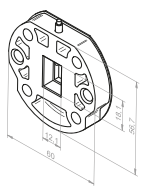
Tubular drives RevoLine M RH – Accessories

Bolt

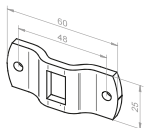


23 374.7901
10 x 16 RH
incl. grub screw

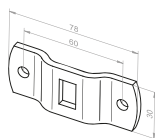
Motor bearings in combination with bolt 23 374.7901



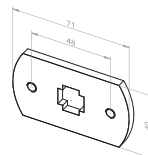
23 986.0001
Wall bracket,
limbus 48 mm



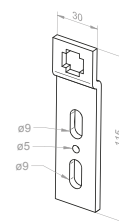
13 300.0801
Wall bracket,
limbus \varnothing 48 mm



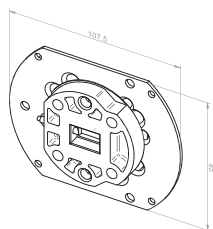
13 106.1701
Wall bracket, limbus
 \varnothing 60 mm M8 thread



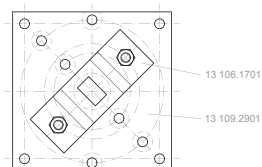
13 301.7001
Flat wall bracket,
limbus \varnothing 48 mm



13 301.4601
Wall bracket cross,
closed

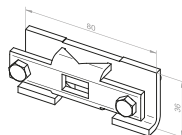


23 276.0001
Mounting plate for motor bearing
(Thyssen, Schüco, Veka, Home)

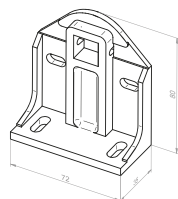


23 832.0001
Base plate with
motor bearing

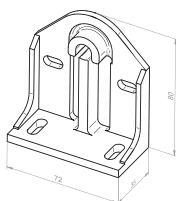
Clamp bearing Type 9



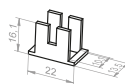
23 965.0003
For roller bearing bracket
or for plaster-in brackets



13 109.1701
Motor side bearing
bracket up to 20 Nm



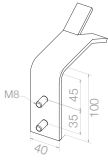
13 109.1801
Bearing bracket opposite
side \varnothing 10 mm to 20 Nm



13 108.0201
Adapter suitable for
13 109.1701

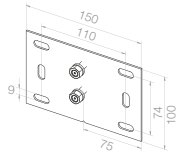
Wall brackets

Plaster-in bracket

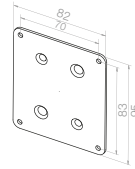


13 300.9202
max. 80 Nm

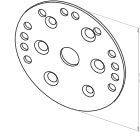
Mounting plates



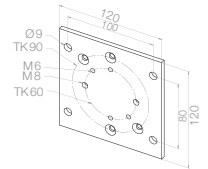
24 554.0001
For wall bracket
(23 004.001 and
23 615.4401)



13 302.2601
For Motor bearing
(Stakusit)

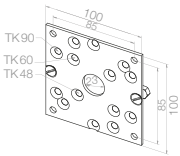


13 302.7801
48/60/78 mm centres
for Weru

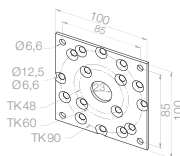


23 457.0001
Mounting plate
for cover cap

Universal adapter plate set

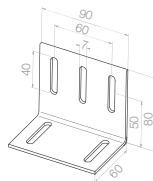


23 687.0501
With 2 countersunk
screws M6 x 16 and nuts

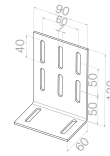


13 109.2902
48/60/85/90 mm centres

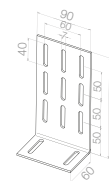
Angle brackets



13 110.5001
80 mm high

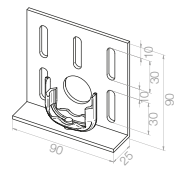


13 110.5101
130 mm high



13 110.5201
180 mm high

Roller bearing holder brackets



23 852.0001
90 mm wide

RevoLine M RH

Type 9 + 11

Venetian blind drives

Speciality drives

Hausautomation, radio
controls, radio sensors

Hardwired controls
sensors

Door drives

Door controls

Adapter profiles
Lifting capacity tables

Rigid shaft fastener MiniClick and MaxiClick

Universal for octagonal tubes, 40, 50, 60 and 70 mm



MiniClick, with twist lock

For mini profiles and octagonal shafts size SW 40, 50 (0.6 and 0.8 mm) and SW 60 (0.6 and 0.9 mm)

Item Number	Type/Item Description
13 309.0001	MiniClick, 1 section
13 309.0101	MiniClick, 2 sections
13 309.0201	MiniClick, 3 sections
13 309.0301	MiniClick, 4 sections
13 309.0401	MiniClick profile insert
13 309.0501	MiniClick profile spacer insert

MaxiClick, with twist lock

For standard profiles and octagonal shaft size SW 60 (0.9 mm) and SW 70 (1.0 / 1.2 and 1.5 mm)

Item Number	Type/Item Description
13 309.1001	MaxiClick, 1 section
13 309.1101	MaxiClick, 2 sections
13 309.1201	MaxiClick, 3 sections
13 309.1401	MaxiClick profile insert
13 309.1501	MaxiClick profile spacer insert

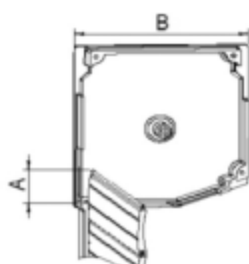
MiniClick selection table

Shaft fastener	By box depth B ¹ (mm)	Number/shutter	Shutter weight (kg)	Application range
1 section	115 – 150	Use minimum 1 fastener every 60 cm or 4 Nm drive torque	max. 8 / shaft fastener	Mini- / maxi profile ¹
2 sections	155 – 180			
3 sections	185 – 210			
4 sections	215 – 240			

MaxiClick selection table

Shaft fastener	By box depth B ¹ (mm)	Number/shutter	Shutter weight (kg)	Application range
1 section	125 – 160	Use minimum 1 fastener every 60 cm or 6 Nm drive torque	max. 12 / shaft fastener	Mini- / maxi profile ¹
2 sections	160 – 200			
3 sections	200 – 250			

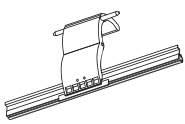
¹Select MiniClick or MaxiClick by Shaft size.



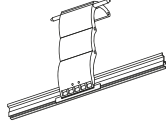
The top most profile slat should not be exposed by more than 1/2 profile height above the guide rails (A). Anti-push up will only work if the slats are compressed and can exert upwards pressure against the Anti-push up device.

Anti push-up devices

Anti push-up device mini profile

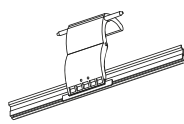


13 301.8901
2 sections

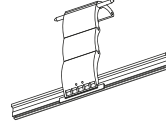


13 301.9101
3 sections

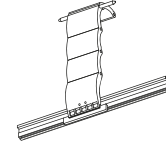
Anti push-up device standard profile



13 301.8801
2 sections

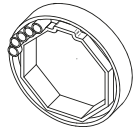


13 301.9001
3 sections

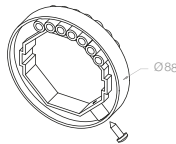


13 301.9201
4 sections

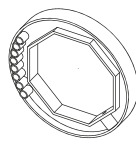
Fixing rings



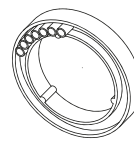
13 302.1501
For 50 mm octagonal shaft



13 301.9501
For 60 mm octagonal shaft

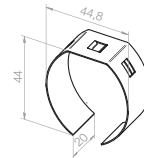


13 301.9601
For 70 mm octagonal shaft



13 301.9701
For 65 mm rofile shaft
Hoos, IMBAC, Metalpress, Eckermann

Spring clip



13 301.8501
For 50 mm octagonal tube to support roller shutter fixing spring



RevoLine L

– Power packs with lots of sensitivity!



The RevoLine drives move roller shutters and awnings with a high degree of precision and sensitiveness. Torque reduction guarantees a gentle “arrival”, thus lowering the applied force and extending the life-cycle of fabrics.

The output shape is the same with all RevoLine drives and guarantees high power transmission.

Size L is available with torques of 40 Nm, 60 Nm and 80 Nm. The output shape is the same with all RevoLine drives and guarantees high power transmission. All the drives are suited to installation on the left or right side.



RolTop L-868

Radio tubular drives for roller shutters



RolTop L-868 (230V/50 Hz)

- Application:** Roller shutter and textile sun protection
- Limit switch:** Electronic limits with Soft Stop on end position approach
- Highlights:** Smart force measurement
Application protection in up and down direction and reversion on obstacle
Limits can be adjusted via radio remote control or installation lead
Plug-able cable
- Shaft size:** From Ø = 58 mm
- Radio system:** Bi-directional 868 MHz radio including routing (alternative 915 MHz available)



Possible limit switch modes

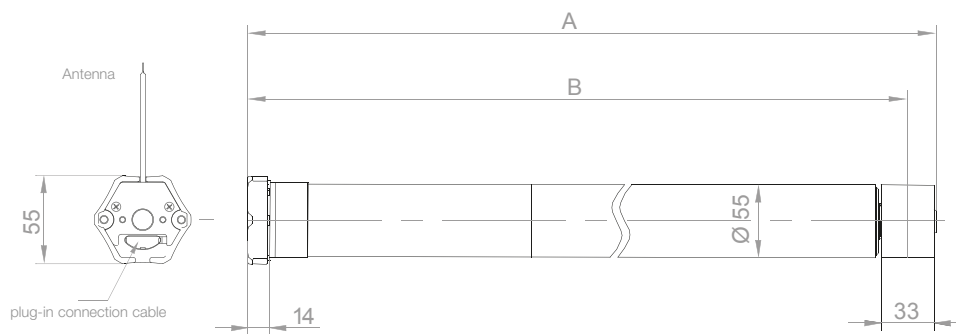
Upper limit switch	Lower limit switch
On limit stop	Freely programmable
Freely programmable	On limit stop
On limit stop	On limit stop
Freely programmable	Freely programmable

Technical data and dimensions

Type	RoITop L60-868		RoITop L80-868	
Operating Voltage (V)	1 ~ 230			
Frequency (Hz)	50			
Application protection up and down and reversion on obstacle	•	-	•	-
Max. torque (Nm)	60		80	
Speed (rpm)	14			
Current (A)	1.9		2.0	
Power (W)	430		470	
Shaft Ø (mm)	63			
Ingress protection (IP)	44			
Max. limit switch range in Revolutions of the shaft	40			
Operating mode (KB in min.)	4			
Length A (mm)	589.4			
Length B (mm)	572.4			
Weight (kg)	3.3		3.6	
Temperature range (°C)	-20 to +60			
Conformity	CE			
Connecting cable pluggable (m)	2.0			

Item Number	36 732.0006	36 732.0076	36 742.0006	36 742.0076
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



Accessories



RevolLine L
Type 9 + 11
Venetian blind drives
Speciality drives
Hausautomation, radio controls, radio sensors
Hardwired controls sensors
Door drives
Door controls
Adapter profiles
Lifting capacity tables

RolTop L

Tubular drives for roller shutters



RolTop L (230V/50 Hz)

- Application:** Roller shutter and textile sun protection
- Limit switch:** Electronic limits with Soft Stop on end position approach
- Highlights:** Smart force measurement
Application protection in up and down direction and reversion on obstacle
Limits can be adjusted
installation lead
Plug-able cable
- Shaft size:** From $\varnothing = 63$ mm



Possible limit switch modes

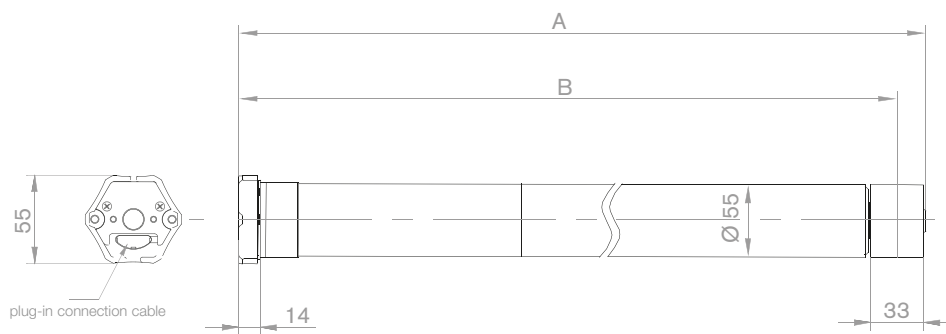
Upper limit switch	Lower limit switch
On limit stop	Freely programmable
Freely programmable	On limit stop
On limit stop	On limit stop
Freely programmable	Freely programmable

Technical data and dimensions

Type	RolTop L60	RolTop L80
Operating Voltage (V)	1 ~ 230	
Frequency (Hz)	50	
Application protection up and down and reversion on obstacle	•	
Max. torque (Nm)	60	80
Speed (rpm)	14	
Current (A)	1.9	2.0
Power (W)	430	470
Shaft Ø (mm)	63	
Ingress protection (IP)	44	
Max. limit switch range in Revolutions of the shaft	40	
Operating mode (KB in min.)	4	
Length A (mm)	589.4	
Length B (mm)	572.4	
Weight (kg)	3.3	3.6
Temperature range (°C)	-20 to +60	
Conformity	CE	
Connecting cable pluggable (m)	2.0	

Item Number	36 731.0001	36 741.0001
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



Accessories

- Cables Page 128
- Drive adapter sets Page 129
- Brackets Page 130
- Radio control units from page 176
- Radio sensors from page 204
- Rigid shaft fastener Page 131
- Radio receivers from page 192
- ProLine control units from page 216

SunTop L-868

Radio tubular drives for sun protections systems



SunTop L-868 (230V/50 Hz)

- Application:** Textile sun protection
- Limit switch: Electronic limits with Soft Stop on end position approach
- Highlights: Smart force measurement
Blockage detection Up/Down
Limits can be adjusted via radio remote control or installation lead
Plug-able cable
- Shaft size: From $\varnothing = 63$ mm
- Radio system: Bi-directional 868 MHz radio including routing (alternative 915 MHz available)



Possible limit switch modes

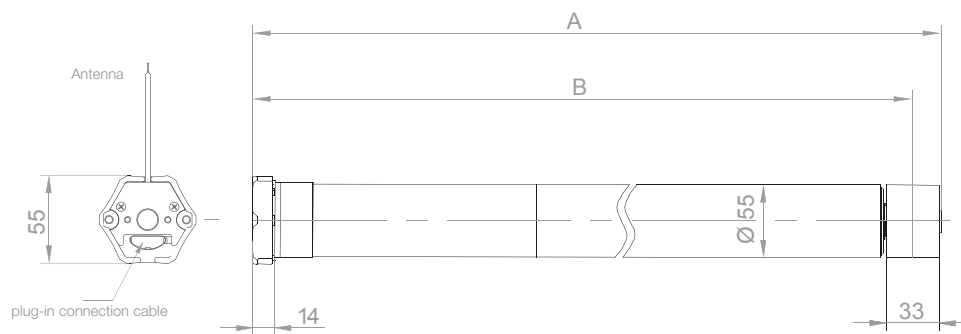
Upper limit switch	Lower limit switch
On limit stop	Freely programmable
Freely programmable	On limit stop
On limit stop	On limit stop
Freely programmable	Freely programmable

Technical data and dimensions

Type	SunTop L40-868	SunTop L60-868	SunTop L80-868
Operating Voltage (V)	1 ~ 230		
Frequency (Hz)	50		
Max. torque (Nm)	40	60	80
Speed (rpm)	14		
Current (A)	1.2	1.9	2.0
Power (W)	280	430	470
Shaft Ø (mm)	63		
Ingress protection (IP)	44		
Max. limit switch range in Revolutions of the shaft	40		
Operating mode (KB in min.)	4		
Length A (mm)	529.4	589.4	
Length B (mm)	512.4	572.4	
Weight (kg)	3.0	3.3	3.6
Temperature range (°C)	-20 to +60		
Conformity	CE		
Connecting cable pluggable (m)	2.0		

Item Number	36 222.0006	36 232.0006	36 242.0006
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



Accessories



RevLine L
Type 9 + 11
Venetian blind drives
Speciality drives
Hausautomation, radio controls, radio sensors
Hardwired controls sensors
Door drives
Door controls
Adapter profiles
Lifting capacity tables

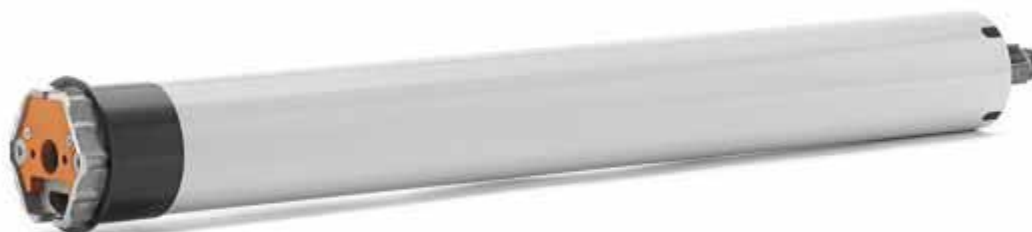
SunTop L

Tubular drives for sun protections systems



SunTop L (230V/50 Hz)

Application:	Textile sun protection
Limit switch:	Electronic limits with Soft Stop on end position approach
Highlights:	Smart force measurement Blockage detection Up/Down Limits can be adjusted via installation lead Plug-able cable
Shaft size:	From Ø = 63 mm



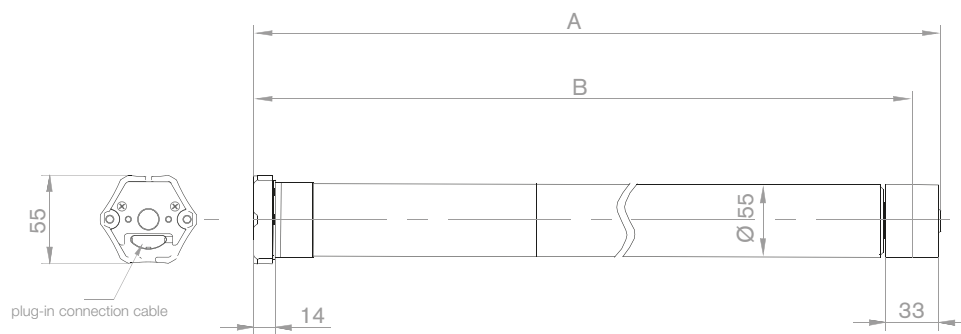
Possible limit switch modes	
Upper limit switch	Lower limit switch
On limit stop	Freely programmable
Freely programmable	On limit stop
On limit stop	On limit stop
Freely programmable	Freely programmable

Technical data and dimensions

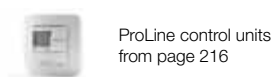
Type	SunTop L40	SunTop L60	SunTop L80
Operating Voltage (V)	1 ~ 230		
Frequency (Hz)	50		
Max. torque (Nm)	40	60	80
Speed (rpm)	14		
Current (A)	1.2	1.9	2.0
Power (W)	280	430	470
Shaft Ø (mm)	63		
Ingress protection (IP)	44		
Max. limit switch range in Revolutions of the shaft	40		
Operating mode (KB in min.)	4		
Length A (mm)	529.4	589.4	
Length B (mm)	512.4	572.4	
Weight (kg)	3.0	3.3	3.6
Temperature range (°C)	-20 to +60		
Conformity	CE		
Connecting cable pluggable (m)	2.0		

Item Number	36 221.0001	36 231.0001	36 241.0001
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



Accessories



VariEco L-868

Radio tubular drives for roller shutters
and sun protection systems



VariEco L-868 (230 V/50 Hz)

Application:	Roller shutter and textile sun protection
Limit switch:	Mechanical limit switches
Shaft size:	From $\varnothing = 63$ mm
Highlights:	Plug-able cable
Radio system:	Bi-directional 868 MHz radio including routing (alternative 915 MHz available)



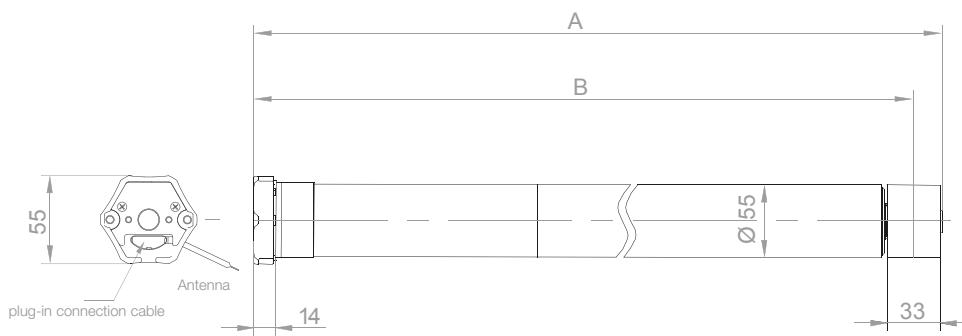
Possible limit switch modes	
Upper limit switch	Lower limit switch
Freely programmable	Freely programmable

Technical data and dimensions

Type	VariEco L40-868	VariEco L60-868	VariEco L80-868
Operating Voltage (V)	1 ~ 230		
Frequency (Hz)	50		
Max. torque (Nm)	40	60	80
Speed (rpm)	14		
Current (A)	1.2	1.9	2.0
Power (W)	280	430	470
Shaft Ø (mm)	63		
Ingress protection (IP)	44		
Max. limit switch range in Revolutions of the shaft	35		
Operating mode (KB in min.)	4		
Length A (mm)	541.3	601.3	
Length B (mm)	524.3	584.3	
Weight (kg)	3.3	4.2	
Temperature range (°C)	-20 to +60		
Conformity	CE		
Connecting cable pluggable (m)	2.0		

Item Number	36 922.0106	36 932.0106	36 942.0106
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



Accessories



RevLine L
Type 9 + 11
Venetian blind drives
Speciality drives
Hausautomation, radio controls, radio sensors
Hardwired controls sensors
Door drives
Door controls
Adapter profiles
Lifting capacity tables

VariEco L

**Tubular drives for roller shutters
and sun protection systems**



VariEco L (230V/50 Hz)

Application: Roller shutter
and textile sun protection

Limit switch: Mechanical limit switches

Shaft size: From $\varnothing = 63$ mm

Highlights: Plug-able cable



Possible limit switch modes

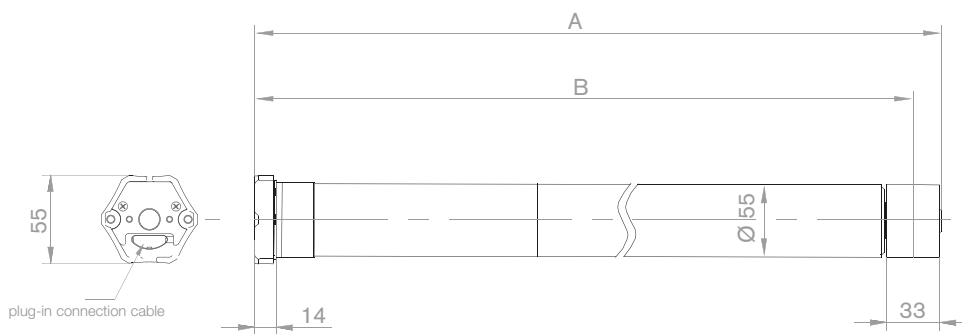
Upper limit switch	Lower limit switch
Freely programmable	Freely programmable

Technical data and dimensions

Type	VariEco L40	VariEco L60	VariEco L80
Operating Voltage (V)	1 ~ 230		
Frequency (Hz)	50		
Max. torque (Nm)	40	60	80
Speed (rpm)	14		
Current (A)	1.2	1.9	2.0
Power (W)	280	430	470
Shaft Ø (mm)	63		
Ingress protection (IP)	44		
Max. limit switch range in Revolutions of the shaft	35		
Operating mode (KB in min.)	4		
Length A (mm)	541.3	601.3	
Length B (mm)	524.3	584.3	
Weight (kg)	3.3	4.2	
Temperature range (°C)	-20 to +60		
Conformity	CE		
Connecting cable pluggable (m)	2.0		

Item Number	36 921.0101	36 931.0101	36 941.0101
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



Accessories

-  Cables
Page 128
-  Drive adapter sets
Page 129
-  Brackets
Page 130
-  Radio control units
from page 176
-  Radio sensors
from page 204
-  Adjustment aid
Page 128
-  Radio receivers
from page 192
-  ProLine control units
from page 216

Tubular drives RevoLine L – Accessories

Cables and accessories

It is not possible to return connecting cables.



Special cable lengths in combination with the drive (standard 2.0 m), **white**

Item Number	Type/Item Description
99 000.4101	2.0 m plug-in connecting cable (comes with drive as standard)
99 000.4201	3.0 m plug-in connecting cable
99 000.4301	5.0 m plug-in connecting cable
99 000.4401	10.0 m plug-in connecting cable
99 000.4801	20.0 m plug-in connecting cable
99 000.4501	0.4 m plug-in connecting cable with Hirschmann plug
99 000.7001	2.0 m plug-in connecting cable with Hirschmann plug
99 000.4601	3.0 m plug-in connecting cable universal push button (middle) and earthed plug

Special cable lengths in combination with the drive (standard 2.0 m), **black**

Item Number	Type/Item Description
99 000.6001	2.0 m plug-in connecting cable
99 000.5201	3.0 m plug-in connecting cable
99 000.5301	5.0 m plug-in connecting cable
99 000.5401	10.0 m plug-in connecting cable
99 000.5501	0.4 m plug-in connecting cable with Hirschmann plug

Connecting cables without drive, **white**

23 395.0201	2.0 m plug-in connecting cable
23 395.0301	3.0 m plug-in connecting cable
23 395.0401	5.0 m plug-in connecting cable
23 395.0501	10.0 m plug-in connecting cable
23 395.0601	20.0 m plug-in connecting cable
23 395.0101	0.4 m plug-in connecting cable with Hirschmann plug
23 395.0801	2.0 m plug-in connecting cable with Hirschmann plug
23 395.0701	3.0 m plug-in connecting cable with universal push button (centred) and earthed plug
23 615.2401	0.2 m Adapter cable Type 9/RevoLine

Connecting cables without drive, **black**

23 395.2201	2.0 m plug-in connecting cable
23 395.2301	3.0 m plug-in connecting cable
23 395.2401	5.0 m plug-in connecting cable
23 395.2501	10.0 m plug-in connecting cable
23 395.2101	0.4 m RevoLine cable with Hirschmann plug

Installation-, connecting cables and Accessories

23 243.0002	Installation cable
23 246.0001	Installation cable with Hirschmann plug Stak 3
23 395.2701	QuickConnect, the fast connection system, IP 65
23 395.4701	QuickConnect, set of 10
23 395.2601	QuickConnect with MiniPlug, IP 65
23 846.0001	Stas 3 with clip (motor side)
13 701.5301	Stak 3 (power supply side)
13 308.0001	Flexible adjustment aid



23 243.0002



23 246.0001



13 308.0001



23 395.2701



23 395.2601

Assembly and disassembly only in the de-energised state!

The connections to the 230V mains must be made by authorised specialist personnel.

Drive adapter sets

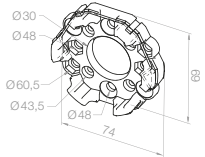
Profile Profiles of the drive adapter sets in 1:1 scale on page 325.



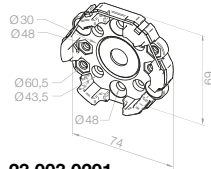
Item Number	Type/Item Description	Notch tubes	Round tubes	Profile tubes
23 383.0101	Ø 78 x 1.0 mm, MHZ Ø 78 x 1.0 mm, flat notch	•		
23 070.0001	Ø 78 x 1.0 mm, round notch, Döhner Ø 78 x 1.25 mm	•		
23 070.0101	Ø 78 x 1.25 mm, round notch, Röchling	•		
23 377.0001	Ø 95 x 1.2 mm, Schmitz	•		
23 378.0001	Ø 85 x 1.0 mm	•		
23 061.0001	Ø 90 mm, Le-Profil, Ø 89 mm, Deprat	•		
22 092.0001	Ø 90 x 1.25 mm, MHZ	•		
23 064.0001	Ø 63 x 1.5 mm		•	
23 064.0101	Ø 63 x 1.5 mm, with 4 x M6 thread		•	
23 067.0001	Ø 70 x 1.5 mm		•	
23 067.0101	Ø 70 x 1.5 mm, with 4 x M6 thread		•	
23 066.0001	Ø 70 x 2.0 mm		•	
23 066.0101	Ø 70 x 2.0 mm, with 4 x M6 thread		•	
23 073.0001	83 x 1.5 mm		•	
23 073.0101	Ø 83 x 1.5 mm with 4 x M6 thread		•	
23 063.0001	Ø 98 x 2.0 mm, Ø 100 x 3.0 mm, Ø 101.6 x 3.6 mm		•	
23 063.0101	Ø 98 x 2.0 mm, Ø 100 x 3.0 mm, Ø 101.6 x 3.6 mm with 4 x M6 thread		•	
23 062.0001	Ø 102 x 2.0 mm		•	
23 062.0101	Ø 102 x 2.0 mm, with 4 x M6 thread		•	
23 079.0001	Ø 133 x 2.5 mm/Ø 133 x 2.0 mm		•	
23 079.0101	Ø 133 x 2,5 mm/Ø 133 x 2.0 mm, with 4 x M6 thread		•	
23 068.0001	Ø 67 x 1.5 mm, MHZ			•
23 060.0001	Octagonal, SW 70, Selve, Eckermann, Roma			•
23 060.0001	Octagonal, SW 70 x 1.25, Roma			•
23 071.0001	Hexagonal, Ø 75, Butzbach, Mäule			•
23 075.0001	Ø 76 x 1.2 mm, Kittelberger, Wiral			•
23 074.0001	80, Zurflüh-Feller			•
23 077.0001	Ø 85 x 1.2 mm, Imbac, Griesser			•
23 092.0001	Hexagonal, Ø 85 mm, Butzbach			•
23 078.0001	Octagonal, 102 x 2.0 mm, Alulux			•
23 069.0001	Octagonal, 102 x 2.5 mm, Roma			•
23 072.0001	Octagonal, 114, Heroal			•
23 076.0001	Ø 128 x 1.5 mm, Alukon			•

Tubular drives RevoLine L – Accessories

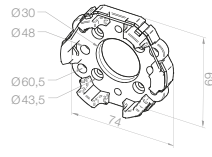
Motor bearings



23 003.0001
48/60 mm centres (Alloy)

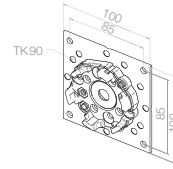


23 003.0201
Motor bearing 48/60 mm centres (Alloy) with nuts 4 x M6 and 12.5 mm hole in plastic center ring



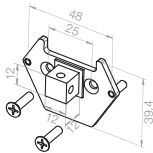
23 003.0301
Motor bearing with 48/60 mm centres (Alloy) with M6/M8 thread

with universal base plate

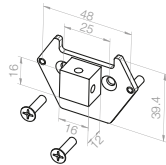


23 615.9901
With motor bearing (e.g. for VEKA Variant elements)

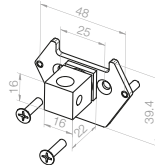
Adapter plates



23 374.3301
Motor head add-on with motor bolt 12 x 12 mm, height: 12.0 mm



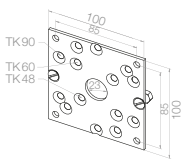
23 374.2101
Motor head add-on with motor bolt 16 x 16 mm, pin 12 mm



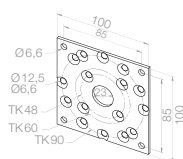
23 374.2501
Motor head add-on with motor bolt 16 x 16 mm, pin 22 mm

Mounting plates and mounting accessories

Universal adapter plate sets



23 687.0501
With 2 countersunk screws M6 x 16 and nuts



13 109.2902
48/60/85/90 mm centres

Rigid shaft fastener MaxiClick



MaxiClick, with twist lock

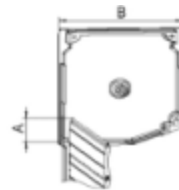
For mini profiles and octagonal shafts size SW 60 (0.9 mm) and SW 70 (1.0 / 1.2 and 1.5 mm)

Artikel-Nummer	Type/Item Description
13 309.1001	MaxiClick, 1 section
13 309.1101	MaxiClick, 2 sections
13 309.1201	MaxiClick, 3 sections
13 309.1401	MiniClick profile insert
13 309.1501	MiniClick profile spacer insert

MaxiClick selection table

Shaft fastener	By box depth B ¹ (mm)	Number/shutter	Shutter weight (kg)	Application range
1 section	125 – 160	Use minimum 1 fastener every 60 cm or 6 Nm drive torque	max. 12 per shaft fastener	Maxi-Profil ¹
2 sections	160 – 200			
3 sections	200 – 250			

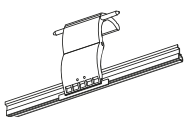
¹ Select MaxiClick by Shaft size..



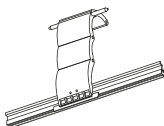
The top most profile slat should not be exposed by more than 1/2 profile height above the guide rails (A). Anti-push up will only work if the slats are compressed and can exert upwards pressure against the Anti-push up device.

Anti push-up devices

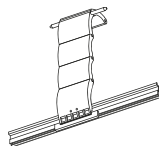
Anti push-up device standard profile



13 301.8801
2 sections

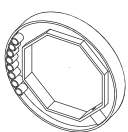


13 301.9001
3 sections



13 301.9201
4 sections

Fixing ring



13 301.9601
For 70 mm octagonal shaft



Type 11 CSM-868 / CSM-F-868 Type 11 CSM-E Type 11 (100–120 Nm) for tubes from 63 x 1.5 mm



The Type 11 drives are available in 100 Nm and 120 Nm. The high precision mechanical limit switches are easily accessible and ensure a very high repetitive accuracy. The drive features a plug-able cable which is 2.0 m long.

The Type 11 CSM-E is an awning drive with electronic regulation and an integrated release function at the upper end point. Programming is conducted very simply using the installation cable, with visible and audible feedback from the drive. Important: CSM-E drives may not be connected in parallel with conventional limit switch drives. Please note that with this drive the smallest tube interior diameter is 60 mm.

The connection cable has a length of 2.0 m and is pluggable. Thanks to its RevoLine output the drive can also be used with the RevoLine adapters.

The radio-controlled CSM-868 drives are available in various strengths and for all customary shafts with an internal diameter of at least 60 mm.

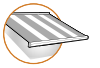
The drives have a release function to protect the awning fabric and the mechanical parts. One major advantage is seen during installation: With radio-controlled drives there is no need to wire the operating switch.

This saves on-site time when installing the drive and ensures that no dirt or dust is produced. This is an important argument with refurbishment work above all.

The CSM-F-868 type drive unit series were developed especially for open awning systems. The drives are suited to awning systems without a mechanical stop as during installation the engineer sets both the end positions with the aid of the elero installation cable or a selectively trained ProLine-868 radio transmitter: Firstly the roller blind or awning is moved to its upper limit, and this end position is then stored by simultaneously pressing the "Up" and "Down" keys. The lower limit is set in the same manner. Therefore the sun protection systems is ready for operation within a matter of seconds.

Type 11 CSM-868

Radio awning drives with electronic control and freely programmable end positions



Type 11 CSM-868 (230V/50 Hz)

Application: Textile sun protection
Cassette box awning
(awnings systems with torque stop)

Limit switch: Electronic limits

Highlights: Blockage detection Up/Down
Limits can be adjusted via radio remote control or installation lead, plug-able cable

Shaft size: From Ø = 63 mm

Radio system: Uni-directional 868 MHz radio

Type 11 CSM-F-868 (230V/50 Hz)

Application: Textile sun protection
(awning systems without torque stop)

Limit switch: Electronic limits

Highlights: Blockage detection Up/Down
Limits can be adjusted via radio remote control or installation lead, plug-able cable

Shaft size: From Ø = 63 mm




Radio system: Uni-directional 868 MHz radio



Type 11 CSM-868 Possible limit switch modes	
Upper limit switch	Lower limit switch
On limit stop	Freely programmable
Freely programmable	On limit stop

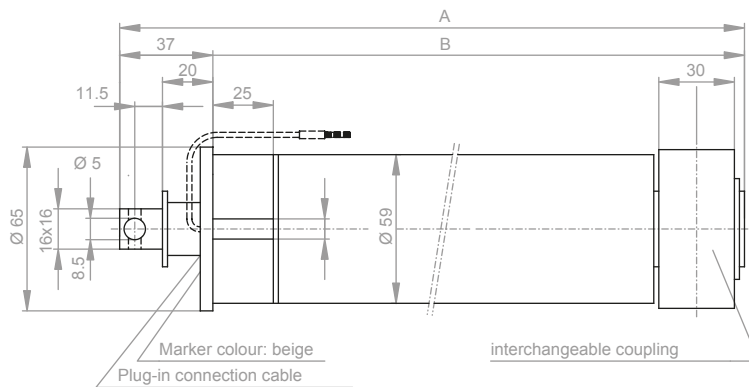
Type 11 CSM-F-868 Possible limit switch modes	
Upper limit switch	Lower limit switch
Freely programmable	Freely programmable

Technical data and dimensions

Type	Type 11/10 CSM-868	Type 11/12 CSM-868	Type 11/10 CSM-F-868	Type 11/12 CSM-F-868
Operating Voltage (V)	1 ~ 230			
Frequency (Hz)	50			
Max. torque (Nm)	100	120	100	120
Speed (rpm)	12			
Current (A)	1.9			
Power (W)	430			
Shaft Ø (mm)	63			
Ingress protection (IP)	44			
Max. limit switch range in Revolutions of the shaft	21			
Operating mode (KB in min.)	4			
Length A (mm)	694			
Length B (mm)	618			
Weight (kg)	4.9			
Temperature range (°C)	-20 to +60			
Conformity	  			
Connecting cable pluggable (m)	2.0			

Item Number	31 407.0002	31 427.0002	31 707.0002	31 437.0002
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



Accessories



Cables
Page 140



Drive adapter sets
Page 141



Brackets
Page 140



Radio control units
from page 176



Radio sensors
from page 204

Type 11 CSM-E

Tubular motors for awnings with electronic limits






Type 11 CSM-E (230V/50 Hz)

Application: Textile sun protection
Limit switch: Electronic limits
Highlights: Smart force measurement
Blockage detection Up/Down
Parallel connection possible
Limits can be adjusted via installation lead
Plug-able cable
Shaft size: From $\varnothing = 63$ mm



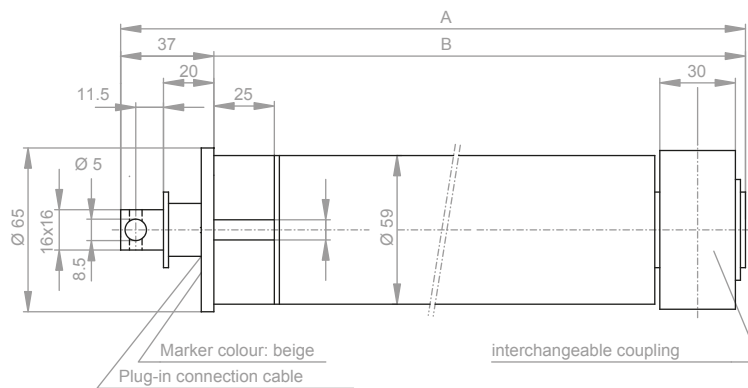
Type 11 CSM-E Possible limit switch modes	
Upper limit switch	Lower limit switch
On limit stop	Freely programmable
Freely programmable	On limit stop

Technical data and dimensions









Type	Type 11/10 CSM-E	Type 11/12 CSM-E
Operating Voltage (V)	1 ~ 230	
Frequency (Hz)	50	
Max. torque (Nm)	100	120
Speed (rpm)	12	
Current (A)	1.9	
Power (W)	430	
Shaft Ø (mm)	63	
Ingress protection (IP)	44	
Max. limit switch range in Revolutions of the shaft	21	
Operating mode (KB in min.)	4	
Length A (mm)	694	
Length B (mm)	618	
Weight (kg)	4.9	
Temperature range (°C)	-20 to +60	
Conformity	  	
Connecting cable pluggable (m)	2.0	

Item Number	31 534.0002	31 555.0002
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



Accessories

	Cables Page 140		Drive adapter sets Page 141		Brackets Page 140
	Radio control units from Page 176		Radio sensors from page 204		ProLine control units from Page 216
	Radio receivers from Page 192		Sensors from Page 240		

Type 11

Tubular drives with mechanical limit switches for roller shutters and sun protection systems






Type 11 (230V/50 Hz)

Application:	Roller shutter and textile sun protection
Limit switch:	Mechanical limit switches
Shaft size:	From $\varnothing = 63$ mm
Features:	Plug-able cable



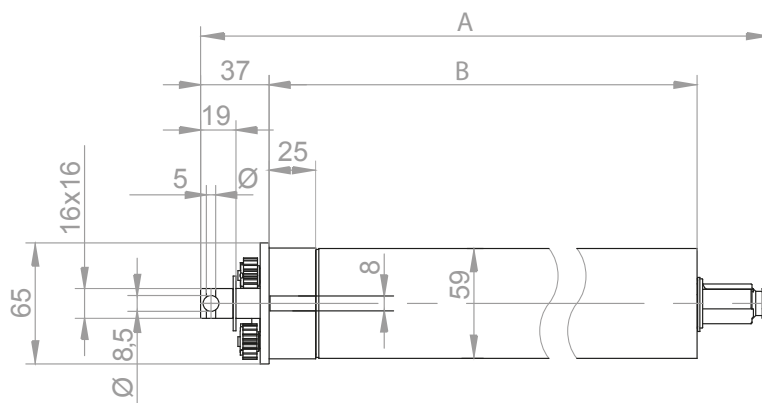
Possible limit switch modes	
Upper limit switch	Lower limit switch
Freely programmable	Freely programmable

Technical data and dimensions









Type	Type 11/10	Type 11/12
Operating Voltage (V)	1 ~ 230	
Frequency (Hz)	50	
Max. torque (Nm)	100	120
Speed (rpm)	12	
Current (A)	1.9	
Power (W)	430	
Shaft Ø (mm)	63	
Ingress protection (IP)	44	
Max. limit switch range in Revolutions of the shaft	21	
Operating mode (KB in min.)	4	
Length A (mm)	694	
Length B (mm)	618	
Weight (kg)	4.9	
Temperature range (°C)	-20 to +60	
Conformity	  	
Connecting cable pluggable (m)	2.0	

Item Number	31 332.0002	31 352.0002
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All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



Accessories

	Cables Page 140		Drive adapter sets Page 141		Brackets Page 140
	Radio control units from page 176		Radio sensors from page 204		ProLine control units from Page 216
	Radio receivers from Page 192		Sensors from Page 240		

Tubular drives Type 11 – Accessories

Cables and accessories

It is not possible to return connecting cables.



23 243.0002

23 395.2701

Special cable lengths in combination with the drive (standard 2.0 m), **white**

Installation-, connecting cables and accessories

Item Number	Type/Item Description
99 000.0001	2.0 m plug-in connecting cable (standard)
99 000.0201	3.0 m plug-in connecting cable
99 000.0301	5.0 m plug-in connecting cable
99 000.0401	10.0 m plug-in connecting cable
99 000.0501	0.4 m plug-in connecting cable with Hirschmann plug

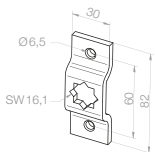
Item Number	Type/Item Description
23 243.0002	Installation cable
23 246.0001	Installation cable with Hirschmann plug
23 395.2701	QuickConnect, the fast connection system, IP 65
23 395.4701	QuickConnect, set of 10
23 846.0001	Stas 3 with clip (motor side)
13 701.5301	Stak 3 (power supply side)

Connecting cables without drive, **white**

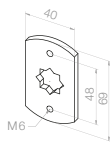
23 615.0201	2.0 m plug-in connecting cable
23 615.0301	3.0 m plug-in connecting cable
23 615.0401	5.0 m plug-in connecting cable
23 615.0501	10.0 m plug-in connecting cable
23 615.0601	20.0 m plug-in connecting cable
23 615.0101	0.4 m plug-in connecting cable with Hirschmann plug

Motor bearings

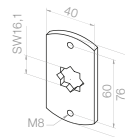
Star motor bearings



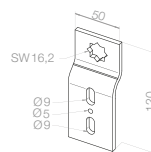
13 106.3501
60 mm centres, offset



13 103.3901
48 mm centres, flat

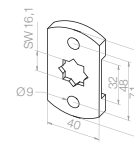


13 103.4001
60 mm centres, flat



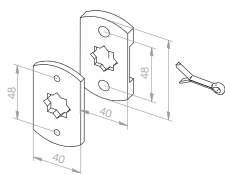
13 301.0801
Star

Distance plate



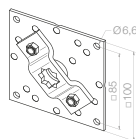
13 110.5601
for 13 103.3901

Flat motor bearing



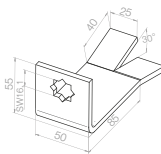
23 109.0001
48 mm centres with plastic distance plate (contains no. 13 103.3901 and 13 110.5601)

Base plate with motor bearing



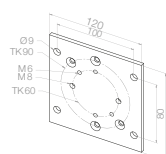
23 833.0001
48/60/85/90 mm centres

Plaster-in bracket



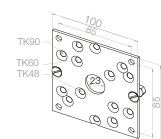
13 300.8501

Mounting plate



23 457.0001

Universal adapter plate set



23 687.0501
With 2 countersunk screws M6 x 16 and nuts

Drive adapter sets

Profiles of the drive adapter sets in 1:1 scale on page 341.



Item Number	Type/Item Description	Notch tubes	Round tubes	Profile tubes
22 024.0001	Ø 78 x 1.0 mm, MHZ	•		
22 049.0001	Ø 78 x 1.0/1.25 mm, Döhner round	•		
22 055.0001	Ø 78 x 1,25 mm, round notch Röchling	•		
22 057.0001	Ø 78 x 1,0 mm, flat notch	•		
22 038.0001	Ø 85 x 1,0 mm	•		
22 023.0001	Ø 90 mm, Le-Profil, Ø 89 mm, Deprat	•		
22 085.0001	Ø 90.5 x 1.25 mm, MHZ	•		
13 116.9601	Ø 63 x 1.5 mm without thread		•	
22 025.0001	Ø 63 x 1.5 mm with 4 x M6 thread		•	
22 044.0001	Ø 70 x 1.5 mm without thread		•	
22 026.0001	Ø 70 x 1.5 mm with 4 x M6 thread		•	
22 045.0001	Ø 70 x 2.0 mm without thread		•	
22 027.0001	Ø 70 x 2.0 mm with 4 x M6 thread		•	
22 058.0001	Ø 83 x 1.5 mm without thread		•	
22 031.0001	Ø 83 x 1.5 mm with 4 x M6 thread		•	
22 046.0001	Ø 98 x 2.0 mm without thread		•	
22 022.0001	Ø 98 x 2.0 mm with 4 x M6 thread		•	
22 047.0001	Ø 102 x 2.0 mm without thread		•	
22 021.0001	Ø 102 x 2.0 mm with 4 x M6 thread		•	
22 048.0001	Ø 133 x 2.5 mm/Ø 133 x 2.0 mm without thread		•	
22 036.0001	Ø 133 x 2.5 mm/ Ø 133 x 2.0 mm with 4 x M6 thread		•	
13 117.0901	Ø 67 x 1.5 mm, MHZ			•
22 020.0001	Octagonal, 70, Selve, Eckermann, Roma			•
22 029.0001	Hexagonal, Ø 75, Butzbach, Mäule			•
22 033.0001	Ø 76 x 1.2 mm, Kittelberger, Wiral			•
22 032.0001	ZF 80, Zurflüh-Feller			•
22 037.0001	Hexagonal, Ø 85 mm, Butzbach			•
22 035.0001	Octagonal, 102 x 2.0 mm, Alulux			•
22 028.0001	Octagonal, 102 x 2.5 mm, Roma			•
22 030.0001	Octagonal, 114, Heroal			•
22 034.0001	Ø 128 x 1.5 mm, Alukon			•
22 039.0001	Ø 85 x 1.2 mm, Imbac			•
22 043.0001	Ø 85 x 1.2 mm, Griesser			•



Type 9 NHK Type 11 NHK



These drives allow for the optimum operation of gates and doors, roller shutters and awnings. The characteristic features are the well-balanced torques of 8 to 50 Nm. Even in the event of a power failure the system may be operated quite simply with an emergency crank handle. The mechanical limit stop is simple to adjust, regardless of whether it is installed on the left or right side. The compact design of the tubular drives is excellently suited to installation in confined spaces and can also be used for roll-down systems. The end position setting is not changed when using the manual override.

The safety gear box will not allow any feedback on the crank handle in case power returns to the motor while operating the motor manually.



Type 9 NHK

Tubular drives with manual override (NHK)



Type 9 NHK (230V/50 Hz)

Application: Door, roller shutter and textile sun protection

Limit switch: Mechanical limit switches

Shaft size: From $\varnothing = 50$ mm

Features: Plug-able cable
Manual override





Possible limit switch modes

Upper limit switch **Lower limit switch**

freely programmable

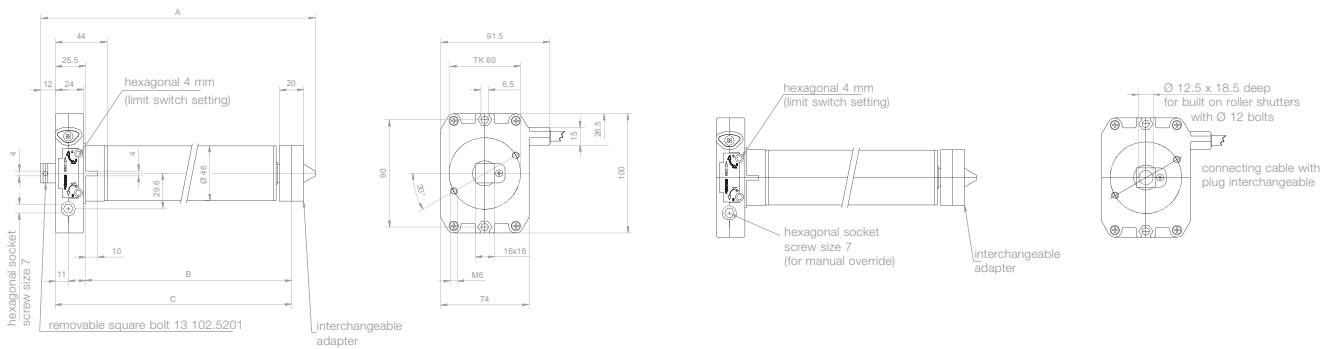
freely programmable

Technical data and dimensions












Type	Type 9/08 NHK	Type 9/1.3 NHK	Type 9/2 NHK	Type 9/2.5 NHK	Type 9/3 NHK	Type 9/4 NHK	Type 9/5 NHK
Operating Voltage (V)	1 ~ 230						
Frequency (Hz)	50						
Max. torque (Nm)	8	13	20	25	30	40	50
Speed (Nm)	14						
Current (A)	0.64		0.85	0.92	1.1	1.22	
Power (W)	145		190	210	260	280	
Shaft Ø (mm)	50						
Ingress protection (IP)	44						
Max. limit switch range in Revolutions of the shaft	29						
Operating mode (KB in min.)	4						
Length A (mm)	617			651		671	
Length B (mm)	559			593		613	
Length C (mm)	585			619		639	
Weight (kg)	2.75		2.63	2.74	3.1	3.25	
Temperature range (°C)	-20 to +60						
Conformity	CE				CE  		
Connecting cable pluggable (m)	2.0						

Item Number	31 171.0004	31 181.0004	31 191.0003	31 211.0003	31 221.0004	31 925.0001	31 453.0001
-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------

All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.

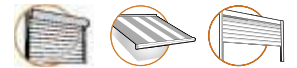


Accessories

 Cables Page 148	 Drive adapter sets Page 150	 Mounting plates and brackets Page 151	 NHK accessories Page 151	 Safety brakes Page 154
 Radio control units from page 176	 Radio sensors from page 204	 ProLine control units from page 216	 Door controls from page 294	
 Radio receivers from page 192	 Sensors from page 240			

Type 11 NHK

Tubular drives with manual override (NHK)



Type 11 NHK (230V/50 Hz)

Application: Door, roller shutter
and textile sun protection

Limit switch: Mechanical limit switches

Shaft size: From $\varnothing = 63$ mm





Possible limit switch modes

Upper limit switch **Lower limit switch**

freely programmable

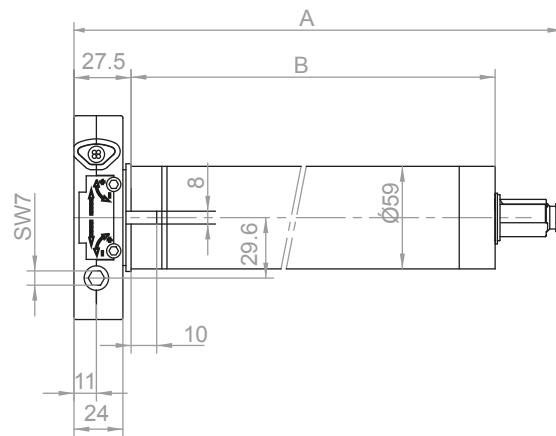
freely programmable

Technical data and dimensions












Type	Type 11/4 NHK	Type 11/6 NHK	Type 11/8 NHK	Type 11/10 NHK	Type 11/12 NHK	
Operating Voltage (V)	1 ~ 230					
Frequency (Hz)	50					
Max. torque (Nm)	40	60	80	100	120	
Speed (rpm)	15	12	15	12		
Current (A)	1.5		1.9			
Power (W)	330		430			
Shaft Ø (mm)	63					
Ingress protection (IP)	44					
Max. limit switch range in Revolutions of the shaft	29					
Operating mode (KB in min.)	5		4			
Length A (mm)	673					
Length B (mm)	639					
Weight (kg)	4.35	4.42	5.53	5.54		
Temperature range (°C)	-20 to +60					
Conformity	CE		CE	 	CE	
Connecting cable pluggable (m)	2.0					

Item Number	31 081.0004	31 061.0005	31 131.0003	31 342.0003	31 362.0002
-------------	-------------	-------------	-------------	-------------	-------------

Drives with larger limit switch range or for 100 V – 250 V/50 or 60 Hz are available on request.
All drives are exclusive of: drive adapter, wall bracket (motor bearing) and switches.



Accessories

	Cables Page 148		Drive adapter sets Page 149		Mounting plates and brackets Page 151		NHK accessories Page 151		Safety brakes Page 154
	Radio control units from page 176		Radio sensors from page 204		ProLine control units from page 216		Door controls from page 294		
	Radio receivers from page 192		Sensors from page 240						

RevoLine
Type 11 NHK
Venetian blind drives
Speciality drives
Hausautomation, radio controls, radio sensors
Hardwired controls sensors
Door drives
Door controls
Adapter profiles
Lifting capacity tables

Cables and accessories

It is not possible to return connecting cables.

Special cable lengths in combination with the drive (standard 2.0 m), **white**

Item Number	Type/Item Description
99 000.0001	2.0 m plug-in connecting cable (standard)
99 000.0201	3.0 m plug-in connecting cable
99 000.0301	5.0 m plug-in connecting cable
99 000.0401	10.0 m plug-in connecting cable
99 000.0501	0.4 m plug-in connecting cable with Hirschmann plug



Connecting cables without drive, **white**

23 615.0201	2.0 m plug-in connecting cable
23 615.0301	3.0 m plug-in connecting cable
23 615.0401	5.0 m plug-in connecting cable
23 615.0501	10.0 m plug-in connecting cable
23 615.0601	20.0 m plug-in connecting cable
23 615.0101	0.4 m plug-in connecting cable with Hirschmann plug



Installation-, connecting cables and accessories

23 243.0002	Installation cable
23 246.0001	Installation cable with Hirschmann plug Stak 3
23 395.2701	QuickConnect, the fast connection system, IP 65
23 395.4701	QuickConnect, set of 10
23 846.0001	Stas 3 with clip (motor side)
13 701.5301	Stak 3 (power supply side)
13 308.0001	Flexible adjustment aid



23 395.2701



13 308.0001



23 246.0001



23 243.0002

Drive adapter sets for Type 9 NHK

Profiles of the drive adapter sets in 1:1 scale on page 332.



Item Number	Type/Item Description	Notch tubes	Round tubes	Profile tubes
23 510.0001	Ø 62 mm	•		
23 583.0001	Ø 63 mm	•		
23 547.0001	Ø 70 mm (round notch)	•		
23 559.0001	Ø 70 mm	•		
23 563.0001	Ø 70 mm, Imbac, Ahlquist	•		
23 581.0002	Ø 70 x 0.7 mm, Perma, decagonal	•		
23 641.0001	Ø 70 mm, Griesser	•		
23 700.0001	Ø 70 mm, Welser	•		
23 560.0001	Ø 74 mm	•		
23 580.0001	Ø 78 mm	•		
23 538.0001	Ø 78 mm, Döhner	•		
23 540.0001	Ø 78 x 1.0 mm, crown 23 mm wide	•		
23 600.0001	Ø 78 mm, MHZ	•		
23 681.0001	Ø 85 mm	•		
23 643.0001	Ø 85 mm, Griesser	•		
13 105.5701	Ø 50 x 1.5 mm		•	
13 110.7401	Ø 50 mm, Siral		•	
23 578.0002	Ø 62 x 2.0 mm und Ø 60 x 1.5 mm		•	
23 585.0001	Ø 63 x 1.5 mm		•	
23 546.0001	Ø 70 x 1.5 mm		•	
23 301.0001	50 mm, Selve, octagonal			•
23 873.0001	50 x 1.5 mm, Rau, octagonal			•
23 586.0001	Ø 55 mm, elero			•
23 870.0002	Ø 57 mm, Alu, Ates, MHZ			•
23 834.0001	Ø 58 mm, Termo, Perco			•
23 555.0001	60 mm, Selve, Döhner, Eckermann, Heinzmann, octagonal			•
23 874.0001	Ø 60 mm, Alu-Plastik, Kittelberger			•
23 906.0001	Ø 60 mm, Bonfante, octagonal			•
23 554.0001	Ø 60 mm, Butzbach, Mäule, hexagonal			•
23 534.0001	60 mm, IMBAC, octagonal			•
23 557.0001	60 mm, Martin, octagonal			•
23 562.0001	Ø 62 mm, LeProfil und Krülland			•
23 558.0001	Ø 64 mm, Zurflüh-Feller			•
23 522.0001	Ø 65 mm, HOOS			•
23 556.0001	Ø 65 mm, IMBAC, Metalpress, Eckermann			•
23 529.0001	70 mm, Selve, Döhner, Eckermann, octagonal			•
23 320.0001	Ø 71 x 1.5 mm			•
23 548.0001	Ø 75 mm, Butzbach, Mäule hexagonal			•
23 336.0001	Ø 76 x 1.2 mm, Kittelberger			•
23 528.0001	Ø 80 mm, Zurflüh-Feller			•
23 622.0001	Ø 83 x 1.5 mm			•
23 542.0001	Ø 85 mm, LeProfil			•

Drive adapter sets for Type 11 NHK

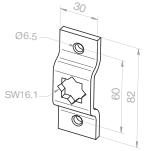
Profiles of the drive adapter sets in 1:1 scale on page 341.



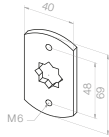
Item Number	Type/Item Description	Notch tubes	Round tubes	Profile tubes
22 024.0001	Ø 78 x 1.0 mm, MHZ	•		
22 049.0001	Ø 78 x 1.0/1.25 mm, Döhner round	•		
22 055.0001	Ø 78 x 1.25 mm, round notch Röchling	•		
22 057.0001	Ø 78 x 1.0 mm, flat notch	•		
22 038.0001	Ø 85 x 1.0 mm	•		
22 023.0001	Ø 90 mm, Le-Profil, Ø 89 mm, Deprat	•		
22 085.0001	Ø 90,5 x 1,25 mm, MHZ	•		
13 116.9601	Ø 63 x 1.5 mm without thread		•	
22 025.0001	Ø 63 x 1.5 mm with 4 x M6 thread		•	
22 044.0001	Ø 70 x 1.5 mm without thread		•	
22 026.0001	Ø 70 x 1.5 mm with 4 x M6 thread		•	
22 045.0001	Ø 70 x 2.0 mm without thread		•	
22 027.0001	Ø 70 x 2.0 mm with 4 x M6 thread		•	
22 058.0001	Ø 83 x 1.5 mm without thread		•	
22 031.0001	Ø 83 x 1.5 mm with 4 x M6 thread		•	
22 046.0001	Ø 98 x 2.0 mm without thread		•	
22 022.0001	Ø 98 x 2.0 mm with 4 x M6 thread		•	
22 047.0001	Ø 102 x 2.0 mm without thread		•	
22 021.0001	Ø 102 x 2.0 mm with 4 x M6 thread		•	
22 048.0001	Ø 133 x 2.5 mm/Ø 133 x 2 mm without thread		•	
22 036.0001	Ø 133 x 2.5 mm/Ø 133 x 2.0 mm with 4 x M6 thread		•	
13 117.0901	Ø 67 x 1.5 mm, MHZ			•
22 020.0001	Octagonal, 70, Selve, Eckermann, Roma			•
22 029.0001	Hexagonal, 75, Butzbach, Mäule			•
22 033.0001	Ø 76 x 1.2 mm, Kittelberger, Wiral			•
22 032.0001	ZF 80, Zurflüh-Feller			•
22 037.0001	Hexagonal, 85 mm, Butzbach			•
22 035.0001	Octagonal, 102 x 2.0 mm, Alulux			•
22 028.0001	Octagonal, 102 x 2.5 mm, Roma			•
22 030.0001	Octagonal, 114, Heroal			•
22 034.0001	Ø 128 x 1.5 mm, Alukon			•
22 039.0001	Ø 85 x 1.2 mm, Imbac			•
22 043.0001	Ø 85 x 1.2 mm, Griesser			•

Motor bearings

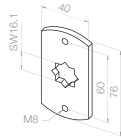
Star motor bearings



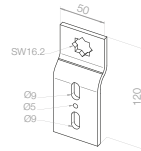
13 106.3501
60 mm centres,
offset



13 103.3901
48 mm centres,
flat

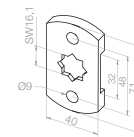


13 103.4001
60 mm centres,
flat



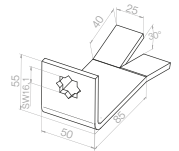
13 301.0801
Star

Distance plate



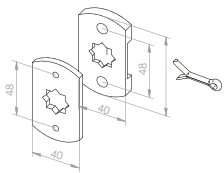
13 110.5601
for 13 103.3901

Plaster-in bracket



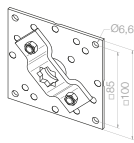
13 300.8501

Flat motor bearing



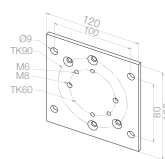
23 109.0001
48 mm centres with plastic
distance plate (contains no.
13 103.3901 and
13 110.5601)

Base plate with motor bearing

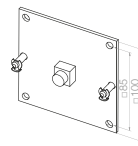


23 833.0001
48/60/85/90 mm
centres

Mounting plate

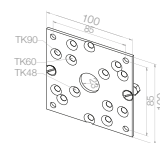


23 457.0001



23 800.0001

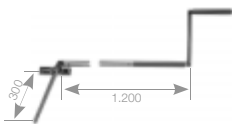
Universal adapter plate set



23 687.0501
With 2 countersunk
screws M6 x 16
and nuts

Hand control

Crank handles



23 764.0002
Hinged crank handle
with link bearing (45°)
and 7.0 mm hexagonal



23 731.0002
Link bearing with
awning eyelet



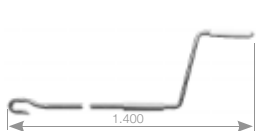
23 771.0002
7.0 mm hexagonal
with awning eyelet
Length: 180 mm



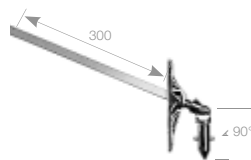
23 771.0102
7.0 mm hexagonal
with awning eyelet
Length: 460 mm



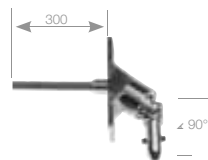
23 771.0301
7.0 mm hexagonal
with awning eyelet
Length: 600 mm



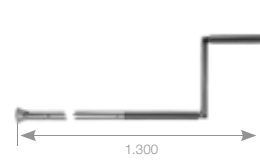
12 300.0901
Crank handle
with awning hook
Length: 1.4 m



23 772.0002
Link bearing (45°) for crank
handle with adapter cone



23 342.0001
Link bearing (90°)
for crank handle
with adapter cone



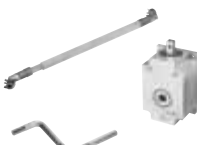
23 773.0001
Hinged crank handle
with adapter cone

NMA adapter set



23 199.5701
for Type 9/Type 11 NHK

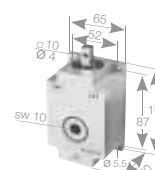
Base set NMA



23 199.9501
Consisting of: angle drive/
drive shaft/crank handle



23 081.0001
Drive shaft extendable
from 1.7 to 3.0 m



23 030.0001
Angle drive



13 305.8001
Crank handle for angle drive

Rigid shaft fastener MiniClick and MaxiClick

Universal for octagonal tubes, 40, 50, 60 and 70 mm



MiniClick, with twist lock

Item Number	Type/Item Description
13 309.0001	MiniClick, 1 section
13 309.0101	MiniClick, 2 sections
13 309.0201	MiniClick, 3 sections
13 309.0301	MiniClick, 4 sections
13 309.0401	MiniClick profile insert
13 309.0501	MiniClick profile spacer insert

MaxiClick, with twist lock

Item Number	Type/Item Description
13 309.1001	MaxiClick, 1 section
13 309.1101	MaxiClick, 2 sections
13 309.1201	MaxiClick, 3 sections
13 309.1401	MaxiClick profile insert
13 309.1501	MaxiClick profile spacer insert

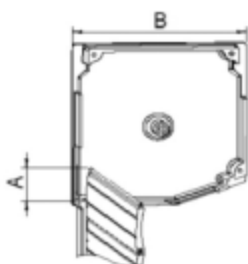
MiniClick selection table

Shaft fastener	By box depth B ¹ (mm)	Number/shutter	Shutter weight (kg)	Application range
1 section	115 – 150	Use minimum 1 fastener every 60 cm or 4 Nm drive torque	max. 8 / shaft fastener	Mini- / maxi profile ¹
2 sections	155 – 180			
3 sections	185 – 210			
4 sections	215 – 240			

MaxiClick selection table

Shaft fastener	By box depth B ¹ (mm)	Number/shutter	Shutter weight (kg)	Application range
1 section	125 – 160	Use minimum 1 fastener every 60 cm or 6 Nm drive torque	max. 12 / shaft fastener	Mini- / maxi profile ¹
2 sections	160 – 200			
3 sections	200 – 250			

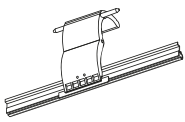
¹ Select MiniClick or MaxiClick by Shaft size.



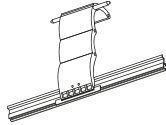
The top most profile slat should not be exposed by more than 1/2 profile height above the guide rails (A). Anti-push up will only work if the slats are compressed and can exert upwards pressure against the Anti-push up device.

Anti push-up devices

Anti push-up device mini profile

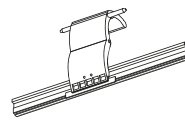


13 301.8901
2 sections

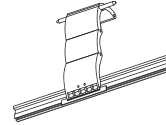


13 301.9101
3 sections

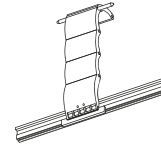
Anti push-up device standard profile



13 301.8801
2 sections

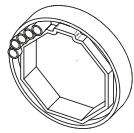


13 301.9001
3 sections

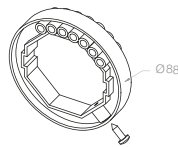


13 301.9201
4 sections

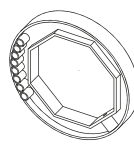
Fixing rings



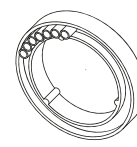
13 302.1501
For 50 mm
octagonal shaft



13 301.9501
For 60 mm
octagonal shaft



13 301.9601
For 70 mm
octagonal shaft



13 301.9701
For 65 mm rofile shaft
Hoos, IMBAC, Metalpress,
Eckermann

RevoLine

Type 9 + 11 NHK

Venetian blind drives

Speciality drives

Hausautomation, radio
controls, radio sensors

Hardwired controls
sensors

Door drives

Door controls

Adapter profiles
Lifting capacity tables

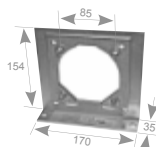
Safety brakes TA0-RD/X

for left or right hand installation
suitable for built-on roller shutters



24 031.0001

TA0-RD/X
max. torque: 147 Nm
max. operating speed: 22 rpm
with damping and electrical cut-off



24 040.0001

Pedestal bearing console
complete for TA0-RD/X

Drive adapter sets for Ta0-RD/X (2 pieces required)



Item Number	Type/Item Description	Notch tubes	Round tubes	Profile tubes
13 116.9201	Ø 57 mm, Ates	•		
13 117.0701	Ø 60 mm, AXE, Griesser, Hüppe	•		
13 116.9301	Ø 62 x 0.6 mm, DEPRAT F 2000	•		
13 116.7101	Ø 63 x 1.0 mm	•		
13 116.4502	Ø 70 mm, IMBAC, Ahlquist	•		
13 116.4602	Ø 70 mm, Griesser	•		
13 117.2701	Ø 70 mm	•		
13 117.0601	Ø 71 x 1.5 mm	•		
13 114.8701	Ø 78 x 1.0 mm/78 x 1.25 mm, flat notch, MHZ	•		
13 116.9101	Ø 78 x 1.0 mm, Döhner	•		
13 117.5301	Ø 78 x 1.0 mm/1,25 mm	•		
13 114.7601	Ø 85 x 1.0 mm	•		
13 117.0001	Ø 85 x 1.2 mm, IMBAC-Neu, Griesser	•		
13 117.0501	Ø 90 mm, Le Profil and Ø 89 mm, DEPRAT	•		
13 116.2901	Ø 50 x 1.5 mm		•	
13 116.9901	Ø 50 x 1.5 mm, Siral		•	
13 116.9501	Ø 60 x 1.5 mm and Ø 62 x 2.0 mm		•	
13 116.9601	Ø 63 x 1.5 mm		•	
13 116.9701	Ø 70 x 1.5 mm		•	
13 117.2801	Ø 70 x 2.0 mm		•	
13 117.7101	Ø 83 x 1.5 mm (with profile)		•	
13 117.0301	Ø 102 x 1.5 mm and Ø 102 x 2.0 mm		•	
13 117.0401	Ø 102 x 3.5 mm and Ø 98 x 2.0 mm		•	
13 117.7901	Ø 133 x 2.5 mm and Ø 133 x 2.0 mm		•	
13 117.8501	Ø 50 mm, Soprofen			•
13 115.9501	Octagonal, 50, Selve			•
13 117.8301	Ø 53 mm, Deprat			•
13 116.1001	Ø 54 mm, Zurflüh-Feller			•
13 116.9001	Ø 55 mm, elero			•
13 117.0201	Ø 58 x 1.5 mm Alu, Termo Perco			•
13 116.8301	Octagonal, 60, IMBAC			•
13 117.0801	Octagonal, 60 mm, Bonfante			•
13 116.9801	Hexagonal, 60 x 0.7 mm, Butzbach, Mäule			•
13 117.0101	Ø 60 mm, Alu-Plast, Kittelberger, Ø 63 x 1.5 EHAGE			•
13 116.9401	Ø 62 mm Le-Profil, Krülland			•
13 114.8301	Ø 64 mm, Zurflüh-Feller			•
13 116.7401	Ø 65 mm, IMBAC, Eckermann, Metallpress			•
13 116.7501	Ø 65 mm, Hoos			•
13 117.0901	Ø 67 x 1.5 mm, MHZ			•
13 115.9301	Octagonal, 70 Selve, Döhner, Eckermann			•
13 117.1101	Hexagonal, 75 mm, Butzbach, Mäule			•
13 116.7601	Ø 76 x 1.2 mm, Kittelberger, Wiral			•
13 117.8001	Pentagonal, 78 mm, Meimo			•
13 114.8501	Ø 80 mm, Zurflüh-Feller			•
13 117.8601	Hexagonal, Ø 80 mm, Butzbach			•
13 117.7701	Octagonal, 102 x 2.0 mm, Alulux			•
13 117.5101	Octagonal, 102 x 2.5 mm, Roma			•
13 117.5501	Octagonal, 114 mm, Heroal			•
13 117.7401	Ø 128 x 1.5 mm, Alukon			•

RevolLine

Type 9 + 11 NHK

Venetian blind drives

Speciality drives

Hausautomation, radio controls, radio sensors

Hardwired controls sensors

Door drives

Door controls

Adapter profiles Lifting capacity tables



Venetian blind drives

JA/JA Soft

JAR/JAR Soft

JA NHK



JA drives are tailored in an optimum manner to the specific requirements of venetian blinds. Their reliability and precision make them maintenance-free "assistants". They are fitted with thermal overload protection and easy-to-set limit switches. The limit switches for the upper and lower switching points are separate and accessible from outside. An indestructible planetary gear, the splash-proof motor housing, and the use of extremely precise individual components ensure the highest quality and a long service life. JA drives with a "Soft" brake guarantee a gentle arrival – without any disturbing clicking noise, something which is a particularly major advantage for the indoor area and in the event of frequent adjustment by building automation systems.



JA/JA Soft

Venetian blind drive JA



JA drives (230V/50 Hz)

Application: Venetian blind/Roman shades/
speciality applications

Limit switch: Mechanical limit switches

Features : Noiseless soft brake
(only JA Soft versions)

Soft = Noiseless soft brake, drive shaft
output on both sides

e = Standard brake system, drive shaft
output on one side only

dk = Standard brake system, drive shaft
output on both sides



JA Soft, JAe, JAdk



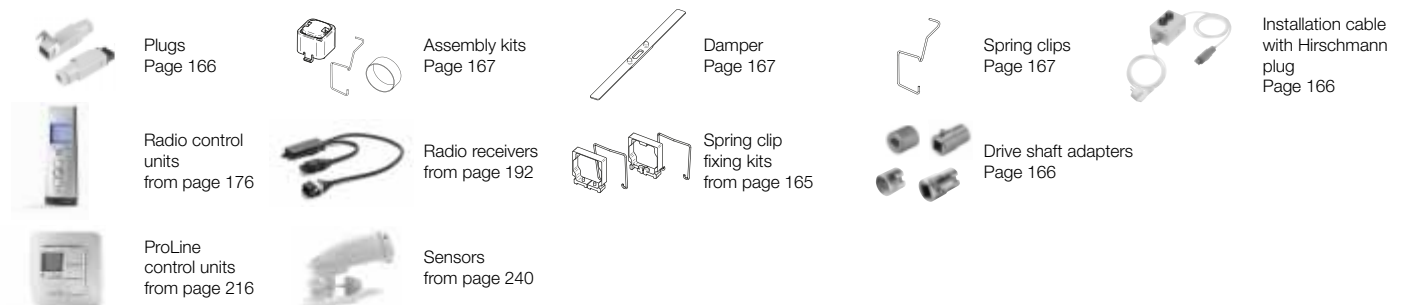
Technical data and dimensions

Type	JA 06 Soft	JA 09 Soft	JA 06e	JA 06dk	JA 10dk	JA 20dk
Operating Voltage (V)	1 ~ 230					
Frequency (Hz)	50					
Noiseless soft brake	•					
Max. torque (Nm)	6	9	6	10	2 x 10	
Speed (rpm)	26					
Current (A)	0.5	0.6	0.5	0.55	1.0	
Power (W)	115	140	115	125	230	
Shaft (mm)	-					
Ingress protection (IP)	44					
Max. limit switch range in Revolutions of the shaft	85					
Operating mode (KB in min.)	5	4	5	5	4	
Length A (mm)	229	260	202	228	259	284
Weight (kg)	1.52	1.95	1.53	1.63	1.81	2.23
Temperature range (°C)	-20 to +60					
Conformity						
Connecting cable (m)	0.8 (with Hirschmann plug Stas 3, with clip)					

Item Number	35 204.0002	35 224.0002	35 022.0002	35 052.0002	35 062.0002	35 072.0002
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Installation cable with Hirschmann plug Stak 3	•					
Item Number	23 246.0001					

Accessories



JAR/JAR Soft



Venetian blind drives with additional limit switch JAR

JAR drives (230V/50 Hz)




Application:	Venetian blind/ speciality applications
Limit switch:	Mechanical limit switches
Features:	secondary lower end limit Noiseless soft brake (only JAR Soft versions)
Soft =	Noiseless soft brake, drive shaft output on both sides
dk =	Standard brake system, drive shaft output on both sides



JAR Soft, JARdk




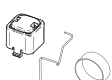






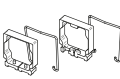
Technical data and dimensions

Type	JAR 06 Soft	JAR 09 Soft	JAR 06dk	JAR 10dk	JAR 20dk
Operating Voltage (V)	1 ~ 230				
Frequency (Hz)	50				
Noiseless soft brake	•				
Max. torque (Nm)	6	9	6	10	20
Speed (rpm)	26				
Current (A)	0.45	0.75	0.45	0.53	1.05
Power (W)	100	170	100	120	190
Shaft (mm)	-				
Ingress protection (IP)	44				
Max. limit switch range in Revolutions of the shaft	85				
Operating mode (KB in min.)	5	4	6	5	4
Length (mm)	273	304	273	304	329
Weight (kg)	1.87		1.59	1.87	2.31
Temperature range (°C)	-20 to +60				
Conformity	  				
Accessories included	Connecting cable 0.8 m with Hirschmann plug Stas 4 (with clip)				

Item Number	35 084.0002	35 094.0002	35 082.0002	35 092.0002	35 102.0002
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Installation cable for JAR drives	•				
Item Number 26 843.0001					
WKS-JAR (Individual motor control unit for JAR motors)	•				
Item Number 24 640.0001					
Cover white for WKS-JAR	•				
Item Number 14 303.4001					
Cover ivory for WKS-JAR	•				
Item Number 14 303.4101					

Accessories

 Plugs Page 166	 Assembly kits Page 167	 Damper Page 167
 Individual control unit for JAR motors from page 161	 Covers Page 161	 Spring clips Page 167
 Drive shaft adapters Page 166	 Installation cable with Hirschmann plug Page 166	 Spring clip fixing kits from page 167

RevoLine
Type 9 + 11
JAR/JAR Soft
Speciality drives
Hausautomation, radio controls, radio sensors
Hardwired controls sensors
Door drives
Door controls
Adapter profiles Lifting capacity tables

JA NHK

Venetian blind drive JA NHK



JA NHK drives (230V/50 Hz)

Application: Venetian blind/Roman shades/
speciality applications

Limit switch: Mechanical limit switches

Features: Manual operation



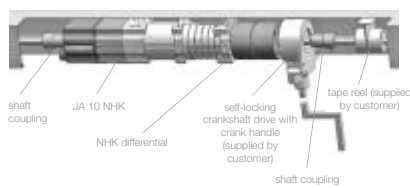
Technical data and dimensions

Type	JA 10 NHK			
	In the window for SW 11 mm/hexagonal	Outwith the window for SW 11 mm/hexagonal	In the window for SW 12 mm/4-side	Outwith the window for SW 12 mm/4-side
Operating Voltage (V)	1 ~ 230			
Frequency (Hz)	50			
Suitable for	SW 11 mm hexagonal		SW 12 mm 4-side	
In the window	•	–	•	–
Outwith the window	–	•	–	•
Max. torque (Nm)	10			
Speed (rpm)	26			
Current (A)	0.55			
Power (W)	125			
Ingress protection (IP)	44			
Max. limit switch range in Revolutions of the shaft	85			
Operating mode (KB in min.)	5			
Length A (mm)	327			
Weight (kg)	2.1			
Temperature range (°C)	-20 to +60			
Conformity	CE			
Accessories included	Installation cable with Hirschmann plug Stas 3			

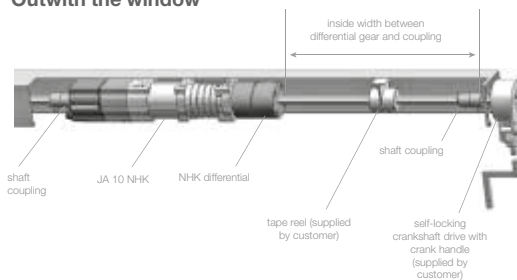
Item Number	35 417.0401	35 418.0401	35 417.2401	35 418.2401
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Installation cable with Hirschmann plug Stak 3	•
Item Number	23 246.0001








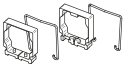



In the window



Outwith the window



Accessories

 Plugs Page 166	 Assembly kits Page 167	 Damper Page 167	 Spring clips Page 167	 Installation cable with Hirschmann plug Page 166
 Radio control units from page 176	 Radio receivers from page 192	 Spring clip fixing kits from page 167	 Drive shaft adapters Page 166	
 ProLine control units from page 216	 Sensors from page 240			

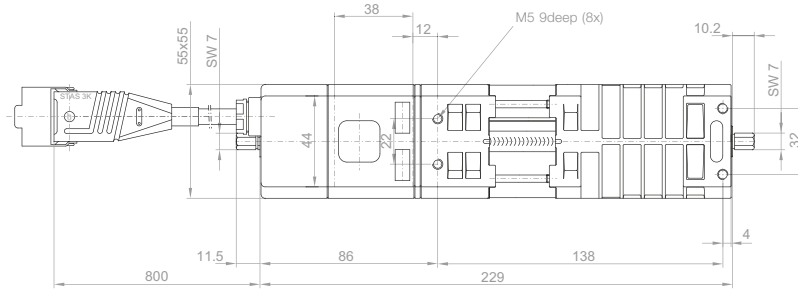
Mounting dimensions

JA drives

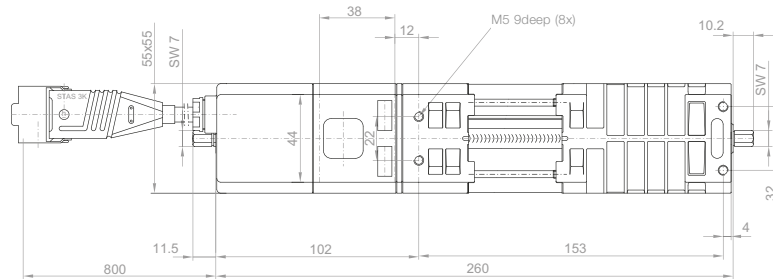
Dimension sheets for Venetian blind drives JAe and JAdk on request.



JA 06 Soft

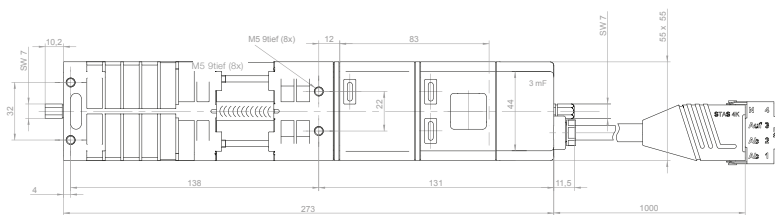


JA 09 Soft



Dimension sheets for Venetian blind drives JARdk on request.

JAR 06 Soft



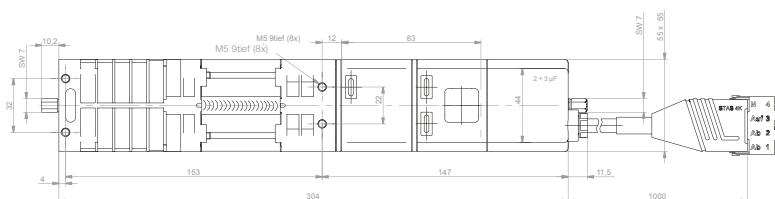
WKS-JAR



No. Function

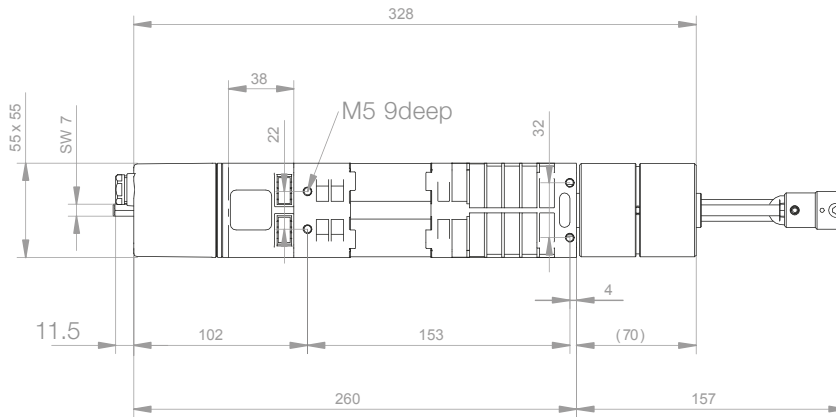
- 1 UP command button
- 2 CLOSE command button (down2/close)
- 3 Awning button (down1)
- 4 Indicator (green)
- 5 Indicator (red)
- 6 Operation mode selector, maintained mode
left > 0.4s; right < 1.0s (factory setting)

JAR 09 Soft

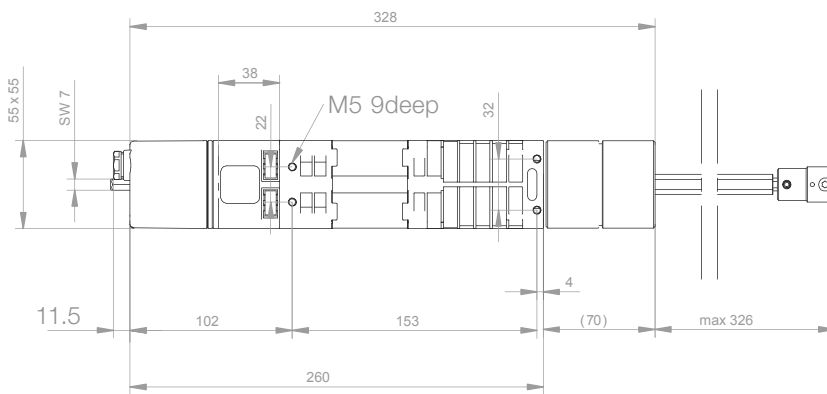


JA drives

JA 10 NHK in the window



JA 10 NHK outwith the window



Drive shaft adapters



1 piece

Item Number	Type/Item Description
16 300.3501	Hexagonal 6.0 mm
16 300.1301	Hexagonal 8.0 mm
16 300.1401	Hexagonal 9.0 mm
16 300.2801	Hexagonal 11.0 mm
16 300.8901	Square 6.0 mm
16 300.1001	Square 8.0 mm
16 300.1101	Square 9.0 mm
16 300.1501	Notch tube Ø 12.0 mm



1 piece, QuickSnap

Item Number	Type/Item Description
16 300.1202	Hexagonal 7.0 mm, short
16 300.8502	Square 7.0 mm, short with M4 thread
16 300.0702	Square 12.0 mm, short
16 300.2402	Square 10.0 mm, short
16 300.1602	Notch tube Ø 14.0 mm, short



Adapter set

– 2 adapters; Taptite screws; Set screws, micro-encapsulated

26 512.1001	Hexagonal 9.0 mm
26 506.1001	Hexagonal 13.0 mm



Adapter set, QuickSnap

– 2 adapters; 2 set screws, micro-encapsulated

26 514.0002	6-kant 11.0 mm
26 500.1002	Nutrohr 14.0 mm, lang
26 504.1002	Square 12.0 mm, lang
26 513.1002	Square 10.0 mm, lang
26 522.0002	Square 7.0 mm, kurz
26 517.0001	Square 6.0 mm

Electrical assembly accessories

Hirschmann plugs male



23 846.0001
Stas 3 with clip
(motor side)



13 708.6601
Stas 4 for JAR and SMI
motors (motor side)



13 701.5301
Stak 3
(power supply side)



13 704.9801
Stak 4 for JAR and SMI
motors (power supply
side)

Installation cables



16 101.0101
Rubber insert to close hole in head
rail to allow Hirschmann plug and
cable trough



13 707.5701
Cable clip for head rail



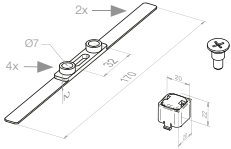
23 246.0001
with Hirschmann plug
Stak 3



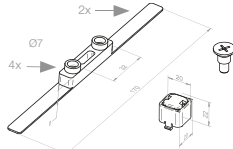
26.843.0001
for JAR drives with
Hirschmann plug Stak 4

Mechanical assembly accessories

JA/JAR assembly kit with 2 dampers, 4 screws, safety cut-out right (orange) and assembly instruction

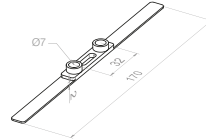


26 520.0002
for 29.5 mm shaft height

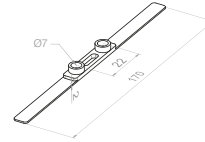


26 521.0002
for 35.5 mm shaft height
(Faber)

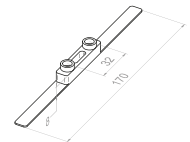
Dampers



16 101.6001
Height: 2.0 mm
hole distance: 32.0 mm

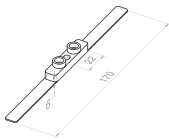


16 101.6101
Height: 2.0 mm
hole distance: 22.0 mm



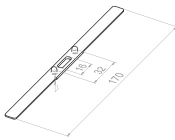
16 101.6201
Height: 8.0 mm
hole distance: 32.0 mm

Damper

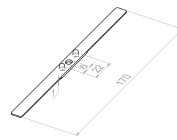


16 101.6301
Height: 8.0 mm
hole distance: 22.0 mm

Dampers with fixing knobs



16 103.1801
Height: 2.0 mm
knobs distance: 32.0 mm



16 103.1901
Height: 2.0 mm
knobs distance: 22.0 mm

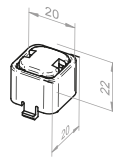
Screws



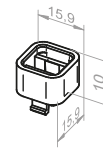
16 300.7301
Screws for 2.0 mm
damper height



16 300.7401
Screws for 8.0 mm
damper height

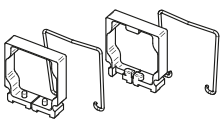


26 200.1101
Safety cut-out left (white)

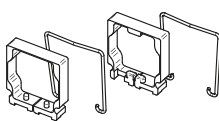


16 101.4501
Safety cut-out extension,
10.0 mm

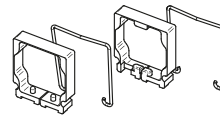
Spring clip fixing kits for venetian blind drives



26 611.0001
for head box 68 x 66 mm;
shaft height: 35 mm
(Griesser)

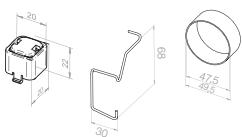


26 612.0001
for head box 58 x 56 mm;
shaft height: 29 mm



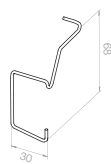
26 613.0002
Set of 10
for head box 58 x 56 mm;
shaft height: 29 mm

Assembly kit JA complete



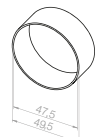
26 527.0001
Containing: 2 x spring clip wire
(16 302.3201), 2 x rubber
damper (16 302.8301),
1 x safety cut-out orange

Spring clip, wire



16 302.3201
Clamping spring for head box
55 x 50 mm; Shaft height 29,5 mm
(2 pieces are required per drive)

Hose piece



16 302.8301
Rubber damper tape for
Venetian blind drives (2 pieces
are required per drive)



Speciality drives

Box 5 shaft-mounted drive

Folding shutter drive



Retrofit installations in awnings, adjusting automatically ventilating shutters in the conservatory, moving antiglare devices operating glass screens in green houses – there are many applications, where you can simply apply our box 5 drive.

As a decorative and stylish element for façades, folding shutters are particularly suitable for the restoration of old and listed buildings, as well as for new buildings.

The folding shutter drives from elero can be turned easily into complete folding shutter systems through the addition of ProLine controls. Whether these are hand-held or wall transmitters, timers with weekly switching times or weather sensors.



Box 5

Shaft-mounted drive with NHK (Crank handle)



Box 5

Features: Easy to mount, compact,
powerful and robust
Integrated crank handle



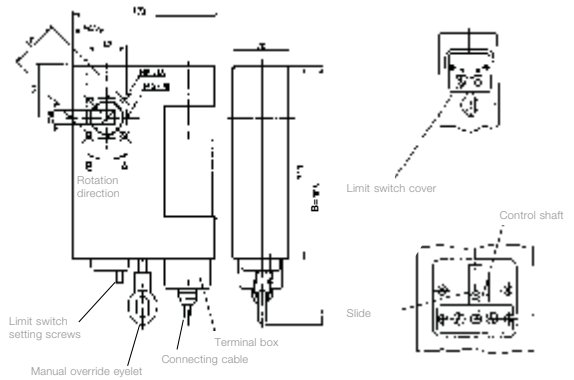
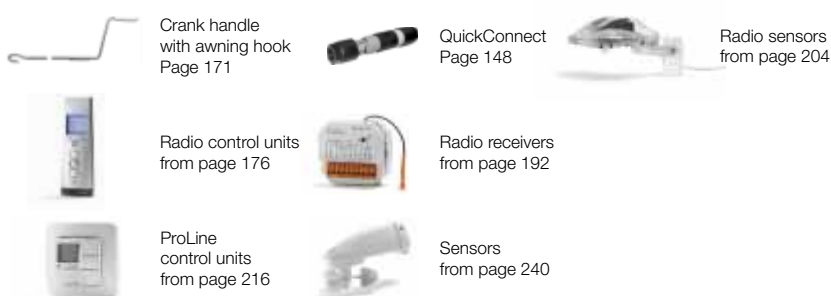
Technical data and dimensions

Type	Box 5	
Operating Voltage (V)	1 ~ 230	
Frequency (Hz)	50	
Max. torque (Nm)	60	
Speed (rpm)	11.5	
Current (A)	2.2	
Power (W)	500	
Lateral space requirement (mm)	70	
Ingress protection (IP)	54	
Max. limit switch range in Revolutions of the shaft	21	
Rating (min)	5	
Lifting capacity on the barrel (N): Barrel-Ø x wall thickness (mm)	2,500	48 x 1.5
	2,000	60 x 1.5
	1,900	63 x 1.5
	1,700	70 x 1.5
	1,440	83 x 1.5
Length A (mm)	170	
Length B (mm)	305	
Weight (kg)	4.83	
Temperature range (°C)	-20 to +60	
Conformity	CE	
Including hardwired connection cable 1.5 (m)	1.5 (Cross section 4 x 0.75)	

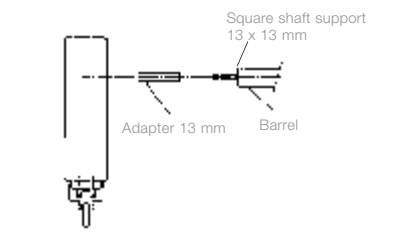
Item Number	41 014.0001
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Adapter 13 x 13 mm for BOX 5 (reducing bushes)	•
Item Number 14 100.8101	
Crank handle with awning hook, Length 1.40 m	•
Item Number 12 300.0901	

Accessories



Installation of the adapter



Folding shutter drive

with adjustable torque limiting



Folding shutter drive

Application: Folding shutter drive
Limit switch: Electronic torque limits
Features: Obstacle detection
Suitable for KINI gear for flush or partial surface mounting, 230 V/50 Hz, Torque up to 20 Nm, KB: 4 min.



Technical data and dimensions

Type	Folding shutter drive
Operating Voltage (V)	1 ~ 230
Frequency (Hz)	50
Max. torque (Nm)	20
Speed (Upm)	26
Current (A)	0.7
Power (W)	160
Ingress protection (IP)	20
Operating mode (KB in min.)	4
Weight (kg)	3.9
Temperature range (°C)	-20 to +60
Conformity	CE
Accessory included	Cover included Other required shutter hardware is not included!

Item Number	35 741.0002
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Suitable shutter hardware available exclusively from:	
Kini Beschläge GmbH Mettmannerstraße 10 A 42551 Velbert Germany	Phone: +49 2051 8089801 Fax: +49 2051 8089803 E-Mail: info@kini.de Web: www.kini.de

Accessories



VarioTec-868
Page 192



AstroTec
Page 218

RevoLine

Type 9 + 11

Venetian blind drives

Speciality drives

Hausautomation, radio controls, radio sensors

Hardwired controls sensors

Door drives

Door controls

Adapter profiles Lifting capacity tables



elero

Radio control units for roller shutters and sun protection systems



The name "ProLine" stands for a range of control devices that can be used for a variety of applications in the home. Radio control hand-held transmitters, as well as wall-mounted transmitters, sensors and external radio receivers. With devices which are to be deployed in the "visible" living area great significance was attached to a modern, yet timeless design.

Roller shutters, awnings, roller blinds and Venetian blinds may be controlled more reliably, more capably and in a more transparent manner with ProLine 2, the bidirectional radio control system from elero. At the heart of the technology (868 MHz) are bidirectional transceivers which not only receive signals but can also confirm and transmit these. In addition, radio commands are forwarded to radio receivers which otherwise might be out of range (routing functionality). Another decisive advantage over other radio control systems is the fact that the user can directly see the status of signal processing on the hand-held transmitter. As soon as a command has been performed, it receives a feedback signal and thus always knows what's happening.

Centero

Centralized building automation from elero



Simple and intuitive operation of building technologies

Advantages:

- Taught-in devices automatically appear in the app, may be renamed, grouped or assigned icons.
- Even more living comfort thanks to individual scene modes and automatic controls
- Various users can access the Centero at the same time with their smartphones or tablets



Centero Server, Centero Transmitter Stick

The set includes a transmitter stick with 15 channels. Up to 10 transmitter sticks can be operated on one Centero server for extension purposes.

Technical data and dimensions

Type	Centero Server	Centero Transmitter Stick
Operating Voltage (V)	100 – 240	n.a.
Frequency (Hz)	50 – 60	n.a.
Power (W)	5 (20 max.)	n.a.
Transmission power (mW)	n.a.	10
Ingress protection (IP)	20	
Temperature range (°C)	0 to +55	
Radio frequency (MHz)	868	
Dimensions (mm)	L 95 x B 65 x H 49	n.a.
Weight	200	7
Number of channels	n.a.	15
Unidirectional	-	
Bidirectional	•	
Interface	USB 2.0, LAN, WLAN	USB 2.0
There are different regulations for the USA, Canada, Australia and some countries in South America	915	
Content	Centero Server, Centero Transmitter Stick, Adapter, Cable, Manual	

Item Number	28 795.0001
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Centero Transmitter Stick	•
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Item Number	22 125.0001
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Centero Power Pack	•
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Item Number	28 799.0001
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Functional principle



TempoTel 2

ProLine 2 radio hand-held transmitter



Hand-held transmitter for maximum user comfort

- 10+1-channel hand-held transmitter
- Uni- and bidirectional
- Integrated timer (bidi per channel)
- Astro and holiday program
- Large UP, STOP and DOWN keys
- Visualisation of the transmission and feedback commands
- 10 individual channels, 2 group channels and 1 one master channel
- 3 colours: white, silver, titanium grey
- Transmission-secure radio frequency 868 MHz

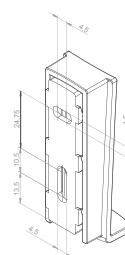


TempoTel 2 silver

Colours



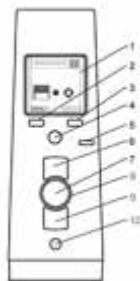
Wall bracket



Technical data and dimensions

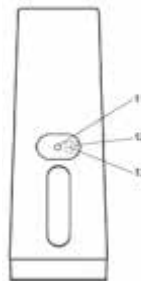
Type	TempoTel 2		
Operating Voltage (V DC)	3		
Battery type	2 x LR06 (AA Mignon)		
Ingress protection (IP)	20		
Temperature range (°C)	0 to +50		
Radio frequency (MHz)	868		
Dimensions (mm) (hand-held transmitter)	L 150 x W 51 x H 26		
Weight (g) including batteries	140		
Individual channels	10		
Group channels	2		
Master channel	1		
Manual/automatic switch	•		
Unidirectional	•		
Bidirectional	•		
There are different regulations for the USA, Canada, Australia and some countries in South America.	915		
Accessories included	Magnetic wall bracket, batteries and mounting material (packed ready to mount in display package)		
Colours	white	silver	titanium grey
Item Number	28 265.0001	28 266.0001	28 267.0001

Front of view TempoTel 2



- 1 Display
- 2 Left menu button
- 3 Right menu button
- 4 Joystick
- 5 Operating mode indicator
- 6 UP button
- 7 STOP button
- 8 Status indicator
- 9 DOWN button
- 10 Select button

Back of view TempoTel 2



- 11 Learn button P
- 12 DIP switch 1 (for experts)
- 13 DIP switch 2 (for experts)

RevoLine
Type 9 + 11
Venetian blind drives
Speciality drives
Hand-held transmitters
Hardwired controls sensors
Door drives
Door controls
Adapter profiles
Lifting capacity tables

MultiTel 2/VarioTel 2

ProLine 2 radio hand-held transmitters



MultiTel 2 – the Comfortable

- 15+1-channel hand-held transmitter
- Only bidirectional
- Large UP, STOP and DOWN keys
- Display of position and commands via multi-line display
- 15 individual channels, 5 group channels and 1 master channel
- 3 colours: white, silver, titanium grey
- Transmission-secure radio frequency 868 MHz

VarioTel 2 – the Versatile

- 5+1-channel hand-held transmitter
- Uni- and bidirectional
- Large UP, STOP and DOWN keys
- 5 individual channels, 1 master channel
- 3 colours: white, silver, titanium grey
- Transmission-secure radio frequency 868 MHz

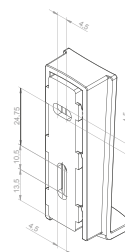


MultiTel 2, VarioTel 2

Colours



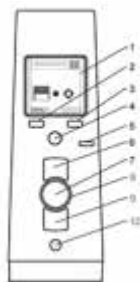
Wall bracket



Technical data and dimensions

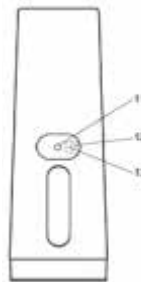
Type	MultiTel 2			VarioTel 2		
Operating Voltage (V DC)				3		
Battery type				2 x LR06 (AA Mignon)		
Ingress protection (IP)				20		
Temperature range (°C)				0 to +50		
Radio frequency (MHz)				868		
Dimensions (mm) (hand-held transmitter)	L 150 x W 51 x H 26			L 120 x W 51 x H 26		
Weight (g) including batteries	140			120		
Individual channels	15			5		
Group channels	5 (each max. 5 individual channels)			-		
Master channel				1		
Manual/automatic switch				•		
Unidirectional	-			•		
Bidirectional				•		
There are different regulations for the USA, Canada, Australia and some countries in South America.				915		
Accessories included	Magnetic wall bracket, batteries and mounting material (packed ready to mount in display package)					
Colours	white	silver	titanium grey	white	silver	titanium grey
Item Number	28 255.0001	28 256.0001	28 257.0001	28 245.0001	28 246.0001	28 247.0001

Front of view MultiTel 2



- 1 Display
- 2 Left menu button
- 3 Right menu button
- 4 Joystick
- 5 Operating mode indicator
- 6 UP button
- 7 STOP button
- 8 Status indicator
- 9 DOWN button
- 10 Select button

Back of view MultiTel 2



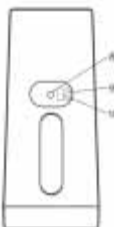
- 11 Learn button P
- 12 DIP switch 1 (for experts)
- 13 DIP switch 2 (for experts)

Front of view VarioTel 2



- 1 Channels
- 2 Operating mode indicator
- 3 UP button
- 4 STOP button
- 5 Status indicator
- 6 DOWN button
- 7 Select button

Back of view VarioTel 2



- 8 Learn button P
- 9 DIP switch 1 (for experts)
- 10 DIP switch 2 (for experts)

RevoLine
Type 9 + 11
Venetian blind drives
Speciality drives
Hand-held transmitters
Hardwired controls sensors
Door drives
Door controls
Adapter profiles
Lifting capacity tables

LumeroTel 2/MonoTel 2/SoloTel 2

ProLine 2 radio hand-held transmitters



LumeroTel 2 – the Comfortable

- Single-channel hand-held transmitter
- Single-, group- or central unit
- Uni- and bidirectional
- Large UP, STOP and DOWN keys
- Manual/automatic switch
- 3 colours: white, silver, titanium grey
- Transmission-secure radio frequency 868 MHz

MonoTel 2 – the Simple

- Single-channel hand-held transmitter
- Single-, group- or central unit
- Uni- and bidirectional
- Large UP, STOP and DOWN keys
- 3 colours: white, silver, titanium grey
- Transmission-secure radio frequency 868 MHz

SoloTel 2 – the Combined

- Single-channel hand-held/
wall mounted transmitter
- Uni- and bidirectional
- 3 colours: white, silver, black
- Transmission-secure radio frequency 868 MHz



LumeroTel 2, MonoTel 2 and SoloTel 2

Colours

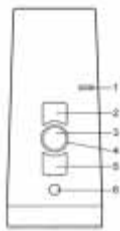


Technical data and dimensions

Type	LumeroTel 2			MonoTel 2			SoloTel 2		
Operating Voltage (V DC)				3					
Battery type	2 x LR06 (AA Mignon)						1 x CR 2032		
Ingress protection (IP)				20					
Temperature range (°C)				0 to +50					
Radio frequency (MHz)				868					
Dimensions (mm) (hand-held transmitter)	L 150 x W 51 x H 26			L 120 x W 51 x H 26			L 85 x W 85 x H 18		
Weight (g) including batteries	140			120			45		
Channels				1					
Manual/automatic switch	•						-		
Unidirectional				•					
Bidirectional				•					
There are different regulations for the USA, Canada, Australia and some countries in South America.				915					
Accessories included	Magnetic wall bracket, batteries and mounting material (packed ready to mount in display package)						Magnetic wall bracket, batteries and mounting material (packed ready to mount in display package)		
Colours	white	silver	titanium grey	white	silver	titanium grey	white	silver	black

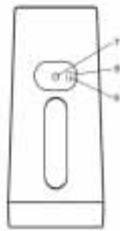
Item Number	28 225.0001	28 226.0001	28 227.0001	28 205.0001	28 206.0001	28 207.0001	28 600.0006	28 620.0006	28 640.0006
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Front of view LumeroTel 2



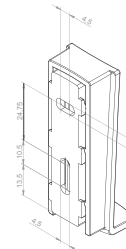
- 1 Operating mode indicator
- 2 UP button
- 3 STOP button
- 4 Status indicator
- 5 DOWN button
- 6 Select button

Back of view LumeroTel 2

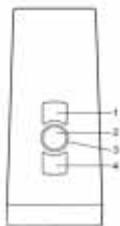


- 7 Learn button P
- 8 DIP switch 1 (for experts)
- 9 DIP switch 2 (for experts)

Wall bracket

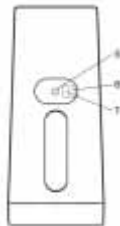


Front of view MonoTel 2



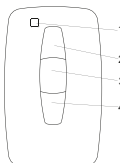
- 1 UP button
- 2 STOP button
- 3 Status indicator
- 4 DOWN button

Back of view MonoTel 2



- 5 Learn button P
- 6 DIP switch 1 (for experts)
- 7 DIP switch 2 (for experts)

Front of view SoloTel 2

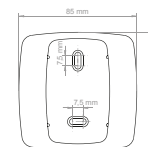


- 1 Status indicator
- 2 UP button
- 3 STOP button
- 4 DOWN button

Back of view SoloTel 2



- 5 Learn button P



AstroTec-868/AstroTec-868 bidi



Timer as comfort wall transmitter

Comfortable 1-channel-timer with astro program

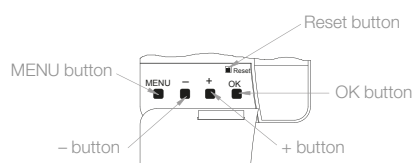
- Integrated timer
- Single-, group- or central unit
- Uni- or bidirectional
- Astro function
- Manual/automatic switch
- ext. Light sensor usable
- Transmission-secure radio frequency 868 MHz

Note:

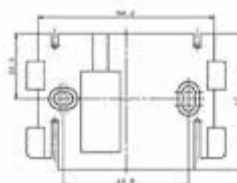
The AstroTec-868 bidi is a radio wall transmitter for exclusive use with bidirectional receivers (use of the AstroTec-868 bidi with unidirectional transmitters and receivers is not possible – in this use please use the unidirectional AstroTec-868 (item no. 28 320.0001).



Buttons under the cover



Mounting plate



Technical data and dimensions

Type	AstroTec-868	AstroTec-868 bidi
Operating Voltage (V DC)	3	
Battery type	2 x LR 03 (AAA)	
Ingress protection (IP)	20	
Temperature range (°C)	0 to +55	
Radio frequency (MHz)	868	
Dimensions (mm)	L 85 x W 85 x T 28	
Type of installation	Wall-mounted	
Unidirectional	•	-
Bidirectional	-	•
There are different regulations for the USA, Canada, Australia and some countries in South America.	915	
Accessories included	Batteries, wall bracket, 2 wall plugs (Ø 6 mm), 2 screws (Spax 4 x 35)	
Colours	white	

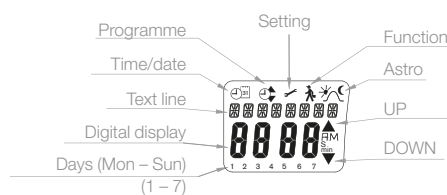
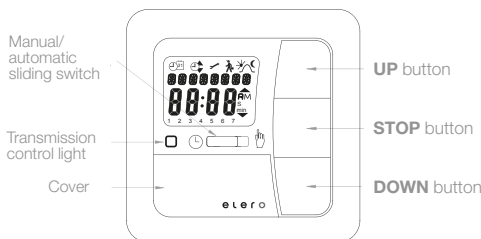
Item Number	28 320.0001	28 320.0006
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Lumo 2.0 m (P. 240)	•	•
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Item Number
28 080.0001

Lumo 10.0 m (P. 240)	•	•
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Item Number
28 090.0001



Accessories



Lumo
Light and
twilight sensor
Page 240

RevoLine
Type 9 + 11
Venetian blind drives
Speciality drives
Radio transmitters
Hardwired controls sensors
Door drives
Door controls
Adapter profiles
Lifting capacity tables

MemoTec-868

Intelligent comfort wall transmitter

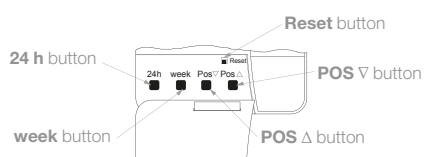


Intelligent comfort transmitter with daily or weekly switching time

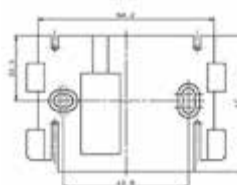
- Fixed daily or weekly switching times programmable
- Large keys
- Unidirectional only
- Manual/automatic switch
- Transmission-secure radio frequency 868 MHz



Buttons under the cover

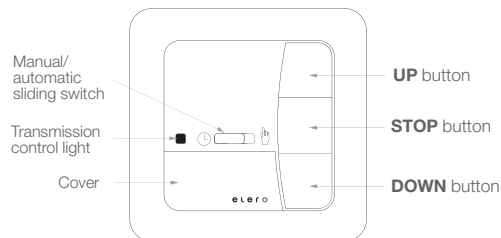


Mounting plate



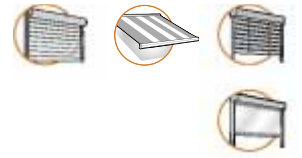
Technical data and dimensions

Type	MemoTec-868
Operating Voltage (V DC)	3
Battery type	2 x LR 03 (AAA)
Ingress protection (IP)	20
Temperature range (°C)	0 to +55
Radio frequency (MHz)	868
Dimensions (mm)	L 85 x W 85 x T 28
Type of installation	Wall-mounted
Unidirectional	•
Bidirectional	-
There are different regulations for the USA, Canada, Australia and some countries in South America.	915
Accessories included	Batteries, Wall bracket, 2 wall plugs (Ø 6 mm), 2 screws (Spax 4 x 36)
Colours	white
Item Number	28 300.0001



UniTec-868/UniClic-868

Wall transmitter with manual/automatic switching



UniTec-868

- 1-channel wall-mounted transmitter
- Uni- and bidirectional
- Suitable for controlling one or several receivers
- Large UP, STOP and DOWN keys
- Manual/automatic switch
- Transmission-secure radio frequency 868 MHz

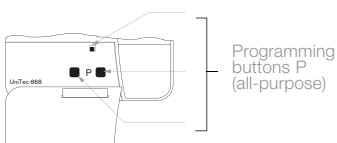
UniClic-868

- 1-channel wall-mounted transmitter
- Uni- and bidirectional
- Suitable for controlling one or several receivers
- Large UP, STOP and DOWN keys
- Manual/automatic switch
- Suitable for existing strap coiler boxes
- Transmission-secure radio frequency 868 MHz



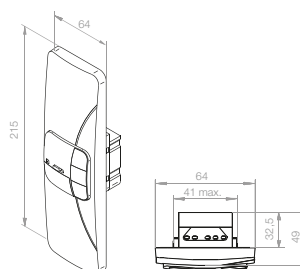
UniTec-868, UniClic-868

Buttons under the cover



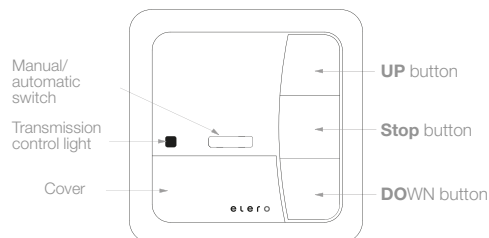
Programming buttons P (all-purpose)

UniClic-868



Technical data and dimensions

Type	UniTec-868	UniClic-868
Operating Voltage (V DC)	3	
Battery type	CR 2032	
Ingress protection (IP)	20	
Temperature range (°C)	0 to +50	
Radio frequency (MHz)	868	
Dimensions (mm)	L 54 x W 54 x T 22 (without frame) L 81 x W 81 x T 22 (with frame)	L 215 x W 64 x T 49 (with frame)
Type of installation	Wall mounted	Strap coiler box
Channels	1	
Manual/automatic switch	•	
Unidirectional	•	
Bidirectional	•	
There are different regulations for the USA, Canada, Australia and some countries in South America.	915	
Accessories included	ProLine frame, battery, wall bracket, 2 wall plugs (Ø 6 mm), 2 screws (4 x 35)	UniClic frame and battery
Colours	white	
Item Number	28 330.0006	28 882.0006



Accessories



Adapter frames
Page 228



Flash mount frames
Page 229

RevoLine
Type 9 + 11
Venetian blind drives
Speciality drives
Radio transmitters
Hardwired controls sensors
Door drives
Door controls
Adapter profiles
Lifting capacity tables

Invio-868

Flush mount radio transmitter

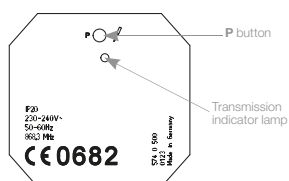


Flush mount radio transmitter for all elero ProLine radio receivers

- Suitable for the automation of already radio controlled shutters or blinds
- Suitable for all elero ProLine radio receivers
- Possible to use to interface to a higher-level controller
- Can be combined with switches for blinds from all common lines
- Transmission-secure radio frequency 868 MHz

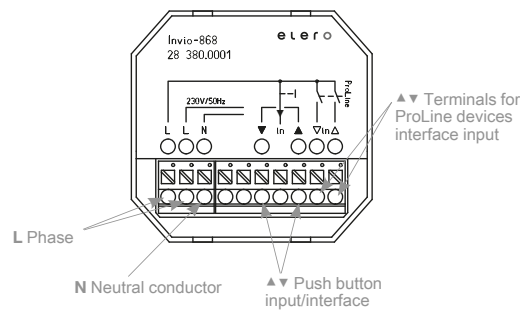


Back



Technical data and dimensions

Type	Invio-868
Operating Voltage (V)	1 ~ 230 – 240
Frequency (Hz)	50 – 60
Ingress protection (IP)	20
Temperature range (°C)	0 to +55
Radio frequency (MHz)	868
Dimensions (mm)	L 50 x W 48 x H 22
Weight (g)	52
Type of installation	Flush mount: Requires at least Ø 58 mm flush mount box, 23 mm deep Surface mount: possible in suitable surface mount box
Unidirectional	•
Bidirectional	–
There are different regulations for the USA, Canada, Australia and some countries in South America.	915
Accessories included	Battery, wall bracket, 2 wall plugs (Ø 6 mm), 2 screws (4 x 36)
Item Number	28 380.0001



Accessories



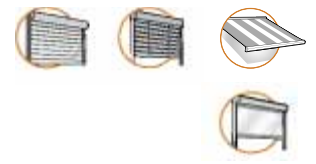
Interlocked blind/shutter switches
Page 252



Flush mount housings
Page 229

VarioTec-868

Motor or master/group control unit



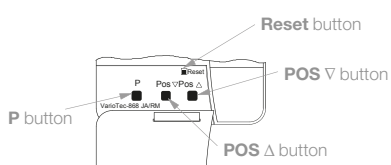
The All-in-one solution

- Integrated radio receiver
- Can be used as master, group or motor controller
- Manual/automatic switch
- Available as a JA and a RM version
- Unidirectional only
- Large UP, STOP and DOWN keys
- Transmission-secure radio frequency 868 MHz
- Not compatible with the Sensero-868

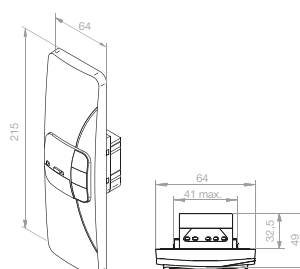


VarioTec-868, UniClic frame

Buttons under the cover



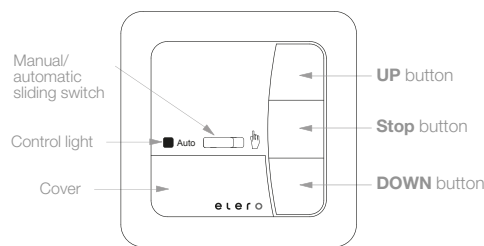
UniClic-868








Technical data and dimensions

Type	VarioTec-868 RM			VarioTec-868 JA		
Operating Voltage (V)	1 ~ 230 – 240					
Frequency (Hz)	50 – 60					
Maximum switching current (A) (250V AC at cos φ =1)	5					
Ingress protection (IP)	20					
Protection class (only after correct installation)	II					
Temperature range (°C)	0 to +55					
Radio frequency (MHz)	868					
Unidirectional	•					
Bidirectional	–					
ProLine frame included	–	–	•	–	–	•
Type of installation	Flush mount: requires at least Ø 58 mm flush mount box, 35 mm deep Surface mount: possible in suitable surface mount box Strap coiler box: use UniClic version					
Colours	white	ivory	Set white	white	ivory	Set white
Item Number	28 341.0002	28 341.0012	28 340.0002	28 351.0001	28 351.0011	28 350.0001

- VarioTec-868 RM operating unit white (for UniClic frame)**
Item Number 28 341.2002
- VarioTec-868 JA operating unit white (for UniClic frame)**
Item Number 28 351.2001
- UniClic frame (with integrated mains unit)**
Item Number 28 880.0001



Accessories

-  Frame adapters
Page 228
-  Flash mount frames
Page 229
-  Venetian blind switches
Page 252
-  Flash mount frames
Page 229
-  Radio control units
from page 176

RevoLine
Type 9 + 11
Venetian blind drives
Speciality drives
Radio receivers
Hardwired controls sensors
Door drives
Door controls
Adapter profiles
Lifting capacity tables

AeroControl-868

Control unit for awnings and venetian blinds



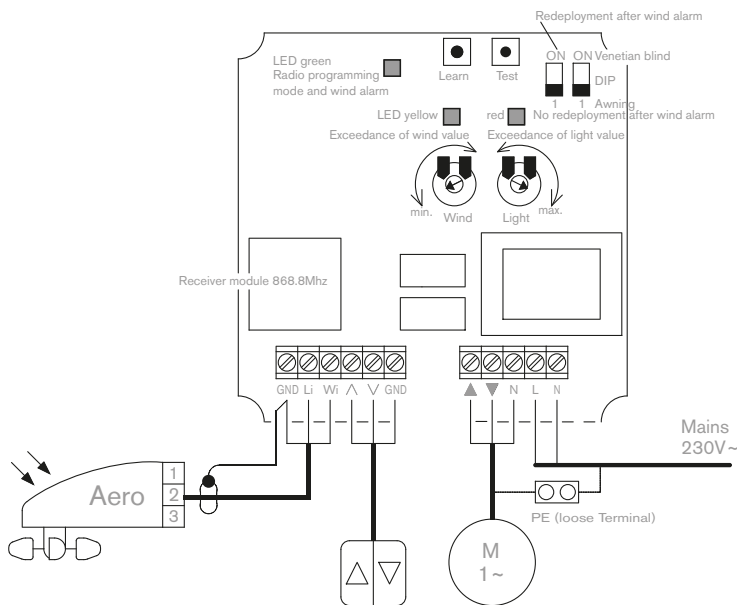
Surface mount control unit for sun protections systems, with integrated radio receiver

- Radio receiver module 868 MHz
- Robust and simple construction for problem-free retrofitting
- Transmission-secure radio frequency 868 MHz
- Operation is through a optionally connected push button or a hand-held transmitter
- Connection options:
Aero, Ventero, Lumero, mains lead,
1 alternating current drive, momentary contact switch



Technical data and dimensions

Type	AeroControl-868
Operating Voltage (V)	1 ~ 230
Frequency (Hz)	50 – 60
Maximum switching current (A) (250V AC at cos φ =1)	5
Ingress protection (IP)	55
Temperature range (°C)	-25 to +55
Radio frequency (MHz)	868
Unidirectional	•
Bidirectional	–
Dimensions (mm)	L 108 x W 108 x H 58
Weight (g)	272
Operating time (min.)	2
Item Number	28 370.0001



Accessories



Interlocked push-buttons
Page 252



Aero, Ventero
Page 242



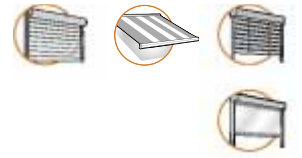
Radio control units
from Page 176



Lumero
Page 240

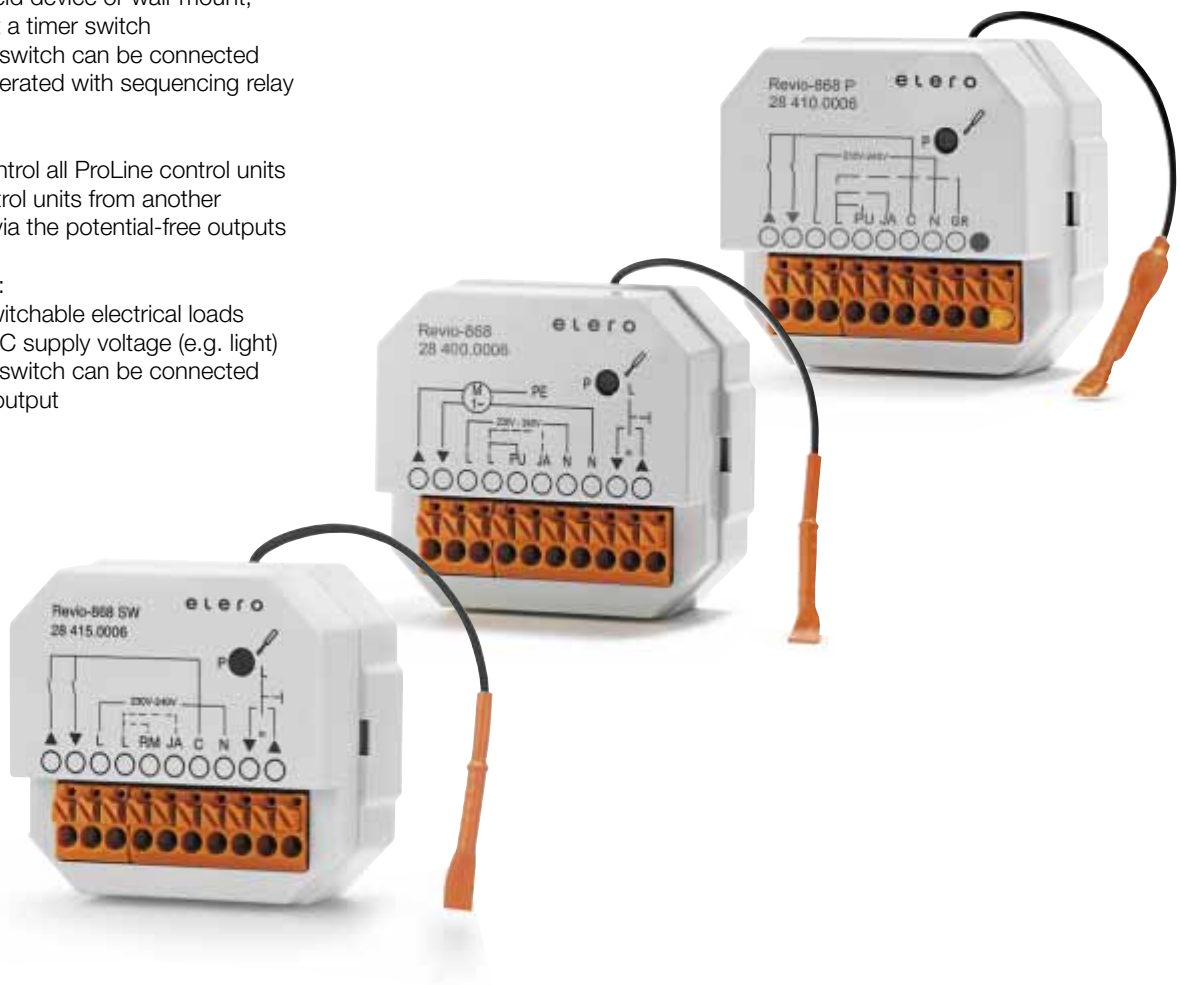
Revio-868 /P /SW

Flush mount radio receiver for roller shutters,
roller blinds and Venetian blinds drives



Flush mount receiver für uni- and bidirectional radio control units

- Revio-868
Control of single-phase motors
Suitable for every ProLine transmitter –
be it a hand-held device or wall-mount,
with or without a timer switch
Venetian blind switch can be connected
May not be operated with sequencing relay
- Revio-868 P:
Possible to control all ProLine control units
as well as control units from another
manufacturer via the potential-free outputs
- Revio-868 SW:
Usable with switchable electrical loads
with a 230 V AC supply voltage (e.g. light)
Venetian blind switch can be connected
Potential-free output

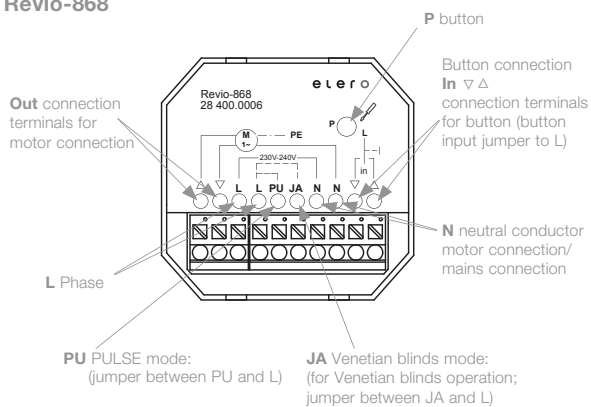


Revio-868 SW, Revio-868, Revio-868 P

Technical data and dimensions

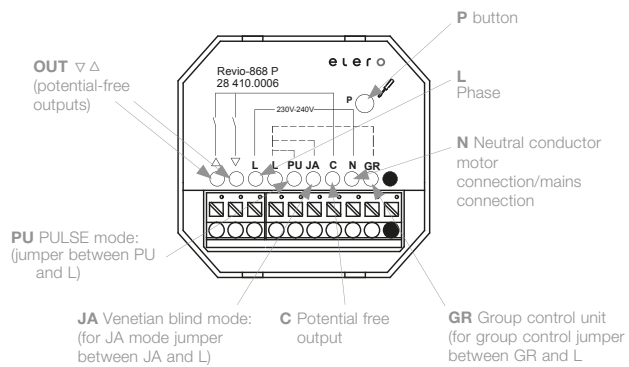
Type	Revio-868	Revio-868 P	Revio-868 SW
Operating Voltage (V)		1 ~ 230 – 240	
Frequency (Hz)		50 – 60	
Maximum switching current (A)		3	
Term duration (Min.)		3 (JA) / 2 (RM)	∞ (SW) / 5 (JA) / 5 (RM)
Ingress protection (IP)		20	
Temperature range (°C)		0 to +55	
Radio frequency (MHz)		868	
Dimensions (mm)		L 50 x W 48 x H 27	
Weight (g)		52	
Type of installation		Flush mount: Requires at least Ø 58 mm flush mount box, 28 mm deep Exposed: in appropriate exposed casing	
Potential-free output	-		•
Unidirectional		•	
Bidirectional		•	
Group controller	-	•	-
Limit switch detection	•		-
Item Number	28 400.0006	28 410.0006	28 415.0006

Revio-868

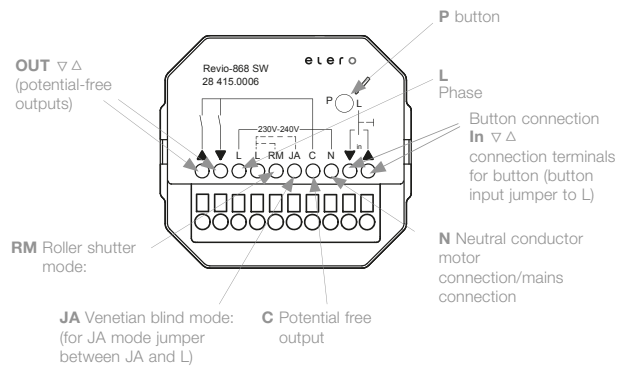


Roller shutter mode:
No jumpers

Revio-868 P



Revio-868 SW



Accessories



Radio control units
from page 176



Radio sensors
from page 204

Unio-868

Radio power socket



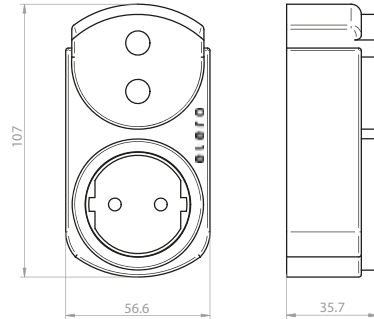
Convenient operation of electrical appliances by radio command

- Visual indication of the current switching status
- Manual operation possible
- Simple to integrate into existing ProLine radio systems
- Timers and light sensors enable automated control



Technical data and dimensions

Type	Unio-868
Operating Voltage (V)	198 – 253
Frequency (Hz)	50 – 60
Switching capacity (VA)	2,300
Ingress protection (IP)	20
Temperature range (°C)	0 to +55
Radio frequency (MHz)	868
Dimensions without plug (mm)	L 110 x W 60 x H 40
Weight (g)	160
Unidirectional	•
Bidirectional	•
Item Number	28 980.0006



Accessories



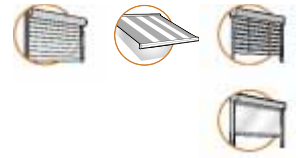
Radio control units from page 176



Radio sensors from page 204

Combio-868 JA /Pulse /RM

Radio receiver for venetian blind drives and roller shutters



Radio receivers for tubular and venetian blind drives

- Combio-868 JA:
For venetian blind drives
Tip operation mode
Intermediate position and
a tilting position
- Combio-868 JA Pulse:
For venetian blind drives
Precise tilting of the slats via pulse mode
Pulse duration adjustable
Intermediate- and tilting position adjustable
- Combio-868 RM:
Suitable for the use with tubular
motors Receiver goes immediately
into maintained mode
Intermediate position
For roller shutters it is possible
to programme a ventilation position

**All variants of the Combio-868 are
suitable for the use with uni- and
bidirectional radio systems.**



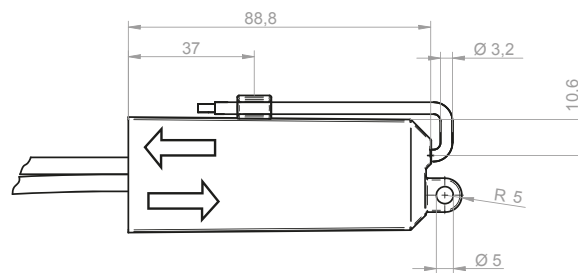
Combio-868 JA, Combio-868 RM

Technical data and dimensions

Type	Combio-868 JA	Combio-868 JA Pulse	Combio-868 RM (for Type 9-11)	Combio-868 RevoLine	Combio-868 RM/STAK3
Operating Voltage (V)	230				
Frequency (Hz)	50				
Max. connected power (W)	450				
Ingress protection (IP)	56				
Temperature range (°C)	-20 to +70				
Radio frequency (MHz)	868				
Power supply cable (m)	0.5 with Hirschmann plug Stas 3		3		
Motor side cable (m)	0.25 with Hirschmann coupling Stak3		0.25 with NHK motor plug	0.25 with RevoLine motor plug	0.25 with Hirschmann plug Stak3
Dimensions (mm)	L 100 x W 40 x H 15				
Installation space (mm)	L 104 X W 44 x H 19				
Weight (g)	260		306	302	
Standard pulse duration (ms)	-		87.5	-	

Item Number	28 500.0006	28 505.0006	28 520.0006	28 525.0006	28 580.0006
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Mounting clamp 	•
Item Number 16 302.3701	
Cable bushing for plug guiding 	•
Item Number 16 101.0101	
Cable clip 	•
Item Number 13 707.5701	



Accessories



Radio control units from page 176



Radio sensors from page 204

RevoLine
Type 9 + 11
Venetian blind drives
Speciality drives
Radio receivers
Hardwired controls sensors
Door drives
Door controls
Adapter profiles
Lifting capacity tables

Combio-868 HE /LI /SW

Radio receiver for heating and light systems



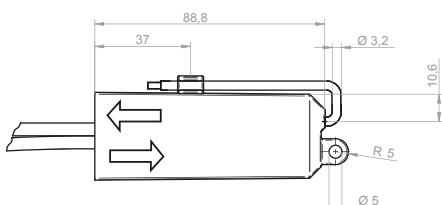
Radio receiver for heating and light systems

- Combio-868 HE:
Radiant heaters with rated powers of up to 2.0 kW can be switched on and off
Possibility to switch the radiant heater to 66% of its rated power
- Combio-868 LI/ET and LI/MT:
Lights can be switched on and off by radio remote control
Possible to dim the lights
Storing two brightness levels
- Combio-868 SW:
Switching on and off via radio control



Combio-868 HE, Combio-868 LI

Combio-868 LI/ET LI/MT SW



Technical data and dimensions

Type	Combio-868 HE	Combio-868 LI/ET	Combio-868 LI/MT	Combio-868 SW
Operating Voltage (V)	230			
Frequency (Hz)	50			
Max. connected power (W)	2,000	250		
Ingress protection (IP)	56 (plug connection IP 54)		56	
Temperature range (°C)	-20 to +45		-20 to +65	
Radio frequency (MHz)	868			
Unidirectional	•			
Bidirectional	•			
Mains cable (m)	0.49 with Hirschmann plug Stas 3		3	
Motor cable (m)	0.235 with Hirschmann coupling Stak3		0.9	
Dimensions (mm)	L 147 x W 48 x H 29		L 100 x W 40 x H 15	
Installation space (mm)	L 151 x W 52 x H 33		L 104 X W 44 x H 19	
Weight (g)	363		356	
There are different regulations for the USA, Canada, Australia and some countries in South America.	915			

Item Number	28 594.0006	28 563.0005	28 564.0005	28 566.0005
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Connecting cable set for Combio-868 HE (6.5 m connect. cable with plug)	•	-		
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Item Number
23 285.0901

Application table	Lamp voltage (V)	Combio-868 LI/ET	Combio-868 LI/MT	Combio-868 SW
Incandescent lamps	230V/50 Hz	•	•	•
Fluorescent lamps, energy-saving lamps	230V/50 Hz	-	-	•
Halogen lamps	230V/50 Hz	•	•	•
Low voltage lamps with electronic transformer	e.g. 12V	•	-	•
Low voltage lamps with toroidal or block transformer	e.g. 12V	-	•	•
Reverse phase control		•	-	-
Reverse phase control		-	•	-

Accessories



Radio control units
from page 176

RevoLine

Type 9 + 11

Venetian blind drives

Speciality drives

Radio receivers

Hardwired controls
sensors

Door drives

Door controls

Adapter profiles
Lifting capacity tables

Sensero-868 AC /Plus

Radio sensors for light, wind and rain



The innovative radio weather sensors

- Sensero AC:
Weather sensor has light, twilight and wind functions
Tiltable wallbracket or facade mounting possible
- Sensero AC Plus:
With additional rain sensor
- 230V/50Hz power supply required
- Only in connection with compatible radio receivers from the range of the elero radio system
- Manual operation of the system is carried out with a hand-held/wall transmitter

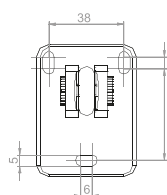


Sensero-868 AC Plus, Sensero-868 AC

Mounting options

	<p><i>Wall bracket</i> The device can be fastened to the upper side of the roof or to the façade using the tilting wall bracket.</p>
	<p><i>Pole support</i> As an alternative, mount the device to a pole of 27 mm diameter.</p>
	<p><i>Pole or corner support</i> Use the corner or pole support to attach the device to the corner of the façade or to the pole.</p>

Wall bracket



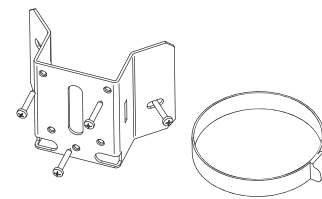
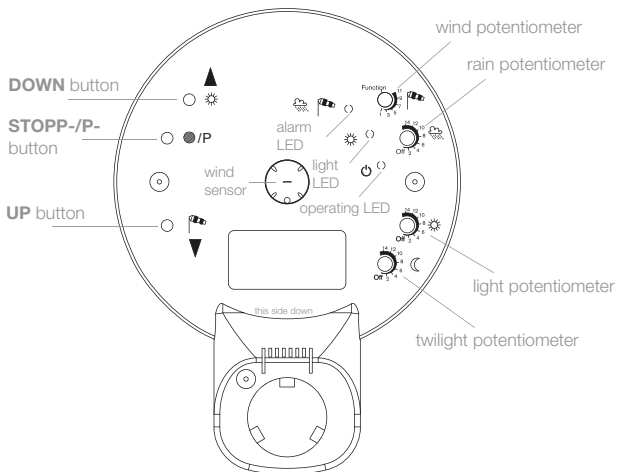
Technical data and dimensions

Type	Sensero-868 AC	Sensero-868 AC Plus
Operating Voltage (V)	1 – 230	
Frequency (Hz)	50 – 60	
Ingress protection (IP)	44	
Temperature range (°C)	-20 to +60	
Radio frequency (MHz)	868	
Detection angle (°) (Light/twilight sensor)	150	
Dimensions (mm)	L 205 x W 125 x H 105	
Weight (g)	600	610
Wind-, light sensor		•
Rain sensor	–	•
Unidirectional		•
Bidirectional		•
There are different regulations for the USA, Canada, Australia and some countries in South America.	915	

Item Number	28 890.0006	28 900.0006
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Pole and corner adapter (Ø 60 – 80 mm)	•
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Item Number	24 269.0202
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Pole and corner adapter

RevoLine

Type 9 + 11

Venetian blind drives

Speciality drives

Radio sensors

Hardwired controls sensors

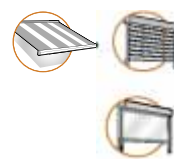
Door drives

Door controls

Adapter profiles
Lifting capacity tables

Aero-868 /Plus /Ventero-868

Solar powered light and wind sensor for awnings and venetian blinds



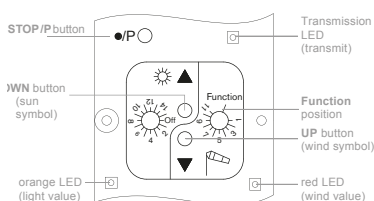
Radio sensors for all situations

- Aero-868:
Light- and wind sensor
For venetian blinds
- Aero-868 Plus:
Light- and wind sensor
For venetian blinds, awnings and blinds
Integrated solar cells provide the power to run the unit
- Ventero-868:
Wind sensor
For venetian blinds
- Integrated solar cells
- In combination with radio receivers from the elero ProLine-868 radio system only
- The awning can be operated manually via a manual/wall transmitter
- Transmission-secure radio frequency 868 MHz

Aero-868 and Ventero-868 are not suitable for applications which require view protection during night time due to the limited power reserves!



Aero-868 Plus, Aero-868/Ventero-868



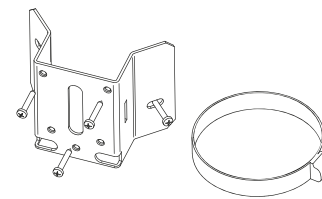
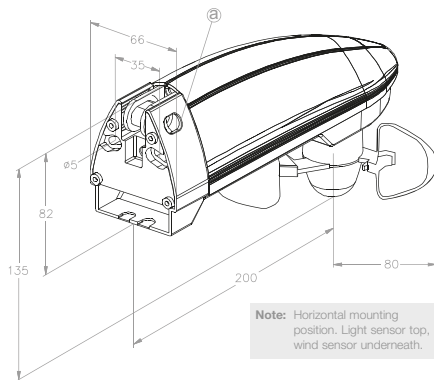
Technical data and dimensions

Type	Aero-868 Plus	Aero-868	Ventero-868
Power supply		solar	
Ingress protection (IP)		43	
Temperature range (°C)		-20 to +60	
Radio frequency (MHz)		868	
Unidirectional		•	
Bidirectional		•	
Detection angle (°) (Light/wind sensor)		150	
Standby (h)	~24		~12
Dimensions (mm)		L 280 x W 130 x H 130	
Weight (g)		380	360
There are different regulations for the USA, Canada, Australia and some countries in South America.		915	

Item Number	28 480.0006	28 440.0006	28 190.0006
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Pole and corner adapter (Ø 60 – 80 mm)	•
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Item Number
24 269.0202



Pole and corner adapter

Accessories



Radio receivers
from page 192

RevoLine
Type 9 + 11
Venetian blind drives
Speciality drives
Radio sensors
Hardwired controls sensors
Door drives
Door controls
Adapter profiles
Lifting capacity tables

Protero-868

Wireless vibration sensor



Vibration sensor

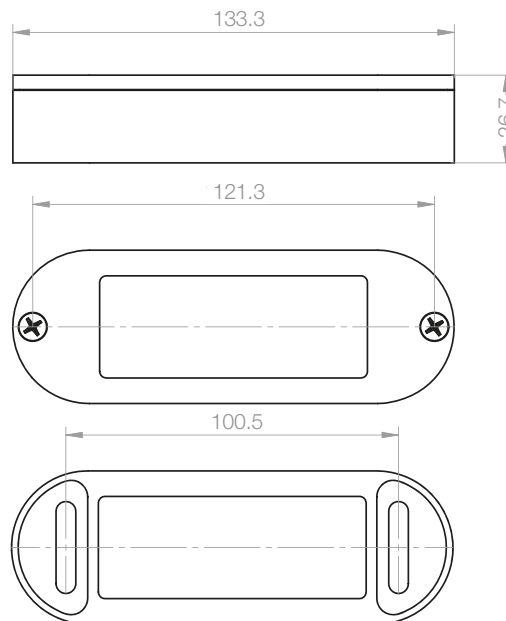
- For retractable arm awnings
- Wind sensitivity is adjustable
- Manual operation of the awning with a hand-held/wall transmitter
- May be programmed for the receiver on the same awning only
- Uni- and bidirectional
- In bidirectional radio mode compatible with:
 - SunTop-868 radio tubular motor from Vers. V25
 - VariEco-868 radio tubular motor from Vers. V20
 - Combio-868 RM external radio receiver from Vers. V79
 - Revio-868 external radio receiver ab Vers. V12



Technical data and dimensions

Type	Protero-868	
Operating Voltage (V)	3	
Battery type	2 x LR03 (AAA)	
Ingress protection (IP)	54	
Temperature range (°C)	-20 to +60	
Radio frequency (MHz)	868	
Dimensions (mm)	L 133.3 x W 46.5 x H 26.7	
Weight incl. battery (g)	186	
There are different regulations for the USA, Canada, Australia and some countries in South America.	915	
Colours	traffic white	traffic grey

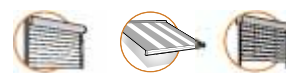
Item Number	28 960.0006	28 961.0006



- RevoLine
- Type 9 + 11
- Venetian blind drives
- Speciality drives
- Radio sensors
- Hardwired controls sensors
- Door drives
- Door controls
- Adapter profiles
- Lifting capacity tables

Lumero-868

**Solar powered, radio operated light sensor
for awnings and venetian blinds**



Lightsensor for shading systems

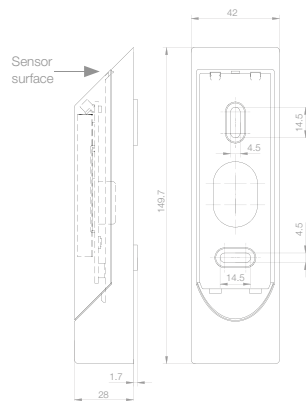
- Wireless sun sensor
- Uni- and bidirectional
- Integrated solar cells
- Manual operation with a hand-held/wall transmitter
- Only in combination with radio receivers from the elero ProLine and ProLine 2 radio system
- Bidi operation only with receivers from Version 75 (Combio-868) or from Version 21 (RoTop-868, SunTop-868) or with min. date 05/2012.



Technical data and dimensions

Type	Lumero-868
Power supply	solar
Ingress protection (IP)	54
Temperature range (°C)	-20 to +60
Radio frequency (MHz)	868
Detection angle (°)	190
Dimensions (mm)	L 149.7 x W 42 x H 28
Weight incl. battery (g)	75
Standby	~1
Unidirectional	•
Bidirectional	•
There are different regulations for the USA, Canada, Australia and some countries in South America.	915
Item Number	28 680.0006

Vertical installation position



Horizontal installation position



RevoLine

Type 9 + 11

Venetian blind drives

Speciality drives

Radio sensors

Hardwired controls sensors

Door drives

Door controls

Adapter profiles
Lifting capacity tables

Lumo-868

Light, twilight and glass breakage sensor



Sensor for light, twilight and glass breakage

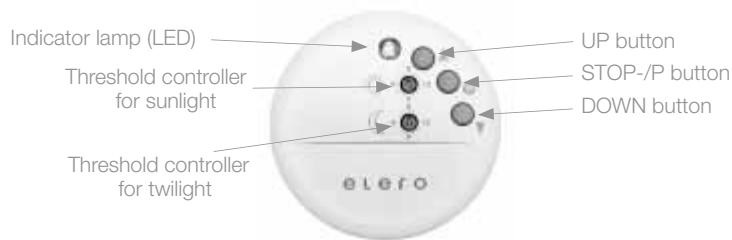
- Wireless light- and glass breakage sensor
- Sticks to glass using suction cup
- Uni- and bidirectional
- Manual operation with a hand-held/wall transmitter
- UP-, STOP-/P, DOWN keys
- Control according to adjusted threshold values
- Bidi operation only with receivers from Version 75 (Combio-868) or from Version 21 (RoTop-868, SunTop-868) or with min. date 05/2012



Technical data and dimensions

Type	Lumo-868
Operating Voltage (V DC)	3
Battery type	CR 2032
Ingress protection (IP)	20
Temperature range (°C)	0 to +55
Dimensions (mm)	Ø 48 x 15
Weight (g)	22
Radio frequency (MHz)	868
Unidirectional	•
Bidirectional	•
Accessories included	Battery, miniature screw driver for adjusting trigger levels
Item Number	28 420.0006

Explanation of front buttons



RevoLine

Type 9 + 11

Venetian blind drives

Speciality drives

Radio sensors

Hardwired controls sensors

Door drives

Door controls

Adapter profiles
Lifting capacity tables





Hardwired control units for roller shutters and sun protection systems



Control systems should be smart, reliable and offer combination flexibility. In addition the smart devices should be as user friendly as possible.

Whether roller shutters, Venetian blinds or awnings, control via button, automation via sensors or with a smart timer: One of the elero hardwired controllers will surely offer a suitable solution.



AeroTec

Control unit for sun protection systems

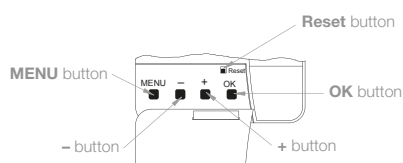


The perfect weather station for each sun protection system

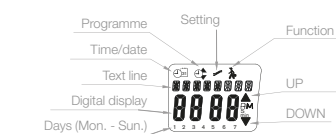
- Pre-programmed ex works with current date and time (CET) settings
- Usable as Master, group or motor control unit
- Operating dependent on sun intensity, wind value and rain
- Can be operated manually at any time
- Can even be programmed if the operating device has been removed or is not powered up via integrated battery
- Possible to integrate into existing switch design of a number of manufacturers



Buttons under the cover

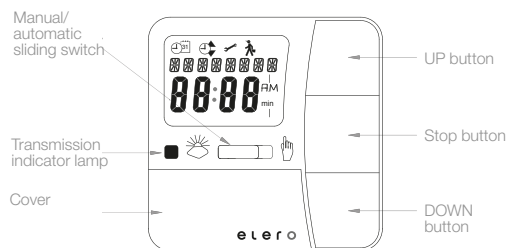


Explanation of displays and symbols



Technical data and dimensions

Type	AeroTec		
Operating Voltage (V)	1 ~ 230 – 240		
Frequency (Hz)	50 – 60		
Maximum switching current (250V AC at cos φ =1)	5		
Battery type	1 x CR 2032		
Ingress protection (IP)	20		
Protection class (only after correct installation)	II		
Type of installation	Flush mount: Requires at least Ø 58 mm flush mount box, 35 mm deep Surface mount: possible in suitable surface mount box		
ProLine frame included	–	–	• (set)
Colours	white	ivory	white
Item Number	28 141.0001	28 141.0011	28 140.0001



Accessories



AstroTec/TempoTec/AstroClic



Timer

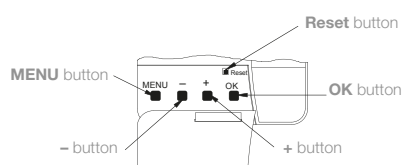
Timer with and without astro program

- AstroTec:
Usable as a master, group or motor control unit
Integrated timer
Together with the Lumo (p. 238), roller shutters are turned into the perfect sun protection
Suitable for a large range of switch programmes
- TempoTec:
Simple timer
Fixed switching times or closing automatically at sundown
- AstroClic:
Comfortable timer
UniClic frame
Astro program (like AstroTec)
Connection of the Lumo (p. 238) light and twilight sensor is also possible.

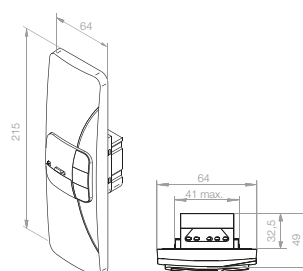


AstroTec/TempoTec, AstroClic

Buttons under the cover



AstroClic



Technical data and dimensions

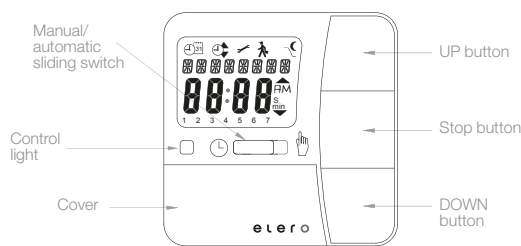
Type	AstroTec			TempoTec			AstroClic
Operating Voltage (V)	1 ~ 230 – 240						
Frequency (Hz)	50 – 60						
Maximum switching current (A) (250V AC at cos φ =1)	5						
Ingress protection (IP)	20						
Protection class (only after correct installation)	II						
Temperature range (°C)	0 to +55						
Radio frequency (MHz)	868						
ProLine frame included	-	-	• (set)	-	-	• (set)	-
Type of installation	Flush mount: Requires at least Ø 58 mm flush mount box, 35 mm deep Surface mount: possible in suitable surface mount box						Strap coiler box
Colours	white	ivory	white	white	ivory	white	white

Item Number	28 061.0001	28 061.0011	28 060.0001	28 041.0001	28 041.0011	28 040.0001	28 881.0001
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- TempoTec operating unit white**
- Item Number
28 041.2001
- UniClic-frame white
(with integrated mains unit)**
- Item Number
28 880.0001



TempoTec operating unit UniClic frame



Accessories

- Frame adapters Page 228
- Flash mount frames Page 229
- Lumo Light and twilight sensor Page 240
- Flash mount housings Page 229
- Surface mount housings Page 229

MemoTec

Intelligent switch



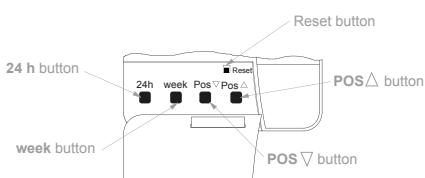
Suitable for large range of switch programmes.

- Operates at programmed switching times
- Large keys
- Manual/automatic switch
- Suitable for a large range of switch programmes

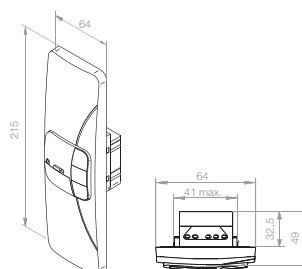


MemoTec, UniClic frame

Buttons under the cover



UniClic



Technical data and dimensions

Type	MemoTec		
Operating Voltage (V)	1 ~ 230 – 240		
Frequency (Hz)	50 – 60		
Maximum switching current (A) (250V AC at cos φ =1)	5		
Battery type	1 x CR 2032		
Ingress protection (IP)	20		
Protection class (only after correct installation)	II		
Temperature range (°)	0 to +55		
Type of installation	Flush mount: Requires at least Ø 58 mm flush mount box, 35 mm deep Surface mount: possible in suitable surface mount box Strap coiler box: Use UniClic version		
ProLine frame included	-	-	• (set)
Colours	white	ivory	white

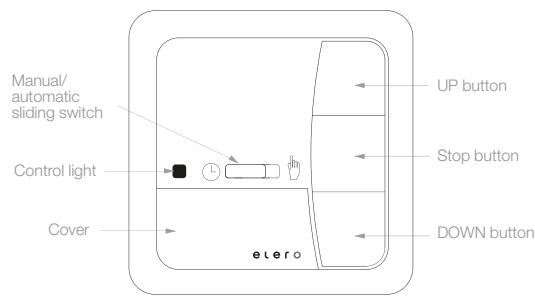
Item Number	28 021.0001	28 021.0011	28 020.0001
-------------	-------------	-------------	-------------

- MemoTec operating unit white
(for UniClic frame)**
- Item Number
28 021.2001
- UniClic frame white
(with integrated mains unit)**
- Item Number
28 880.0001





MemoTec operating unit


UniClic frame




Accessories

- 

Frame adapters
Page 228
- 

Flash mount frames
Page 229
- 

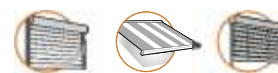
Flash mount housings
Page 229
- 

Surface mount housings
Page 229

RevolLine
 Type 9 + 11
 Venetian blind drives
 Speciality drives
 Hausautomation, radio controls, radio sensors
 Hardwired control units
 Door drives
 Door controls
 Adapter profiles
 Lifting capacity tables

VarioTec

Motor or central/group control unit



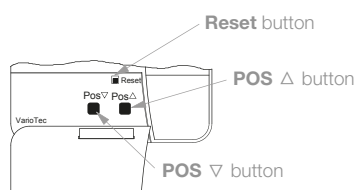
The variable control unit

- It may be used as a central-, group- or as an end device
- Manual/automatic switch
- Large UP, STOP and DOWN keys
- Suitable for a large range of switch programmes

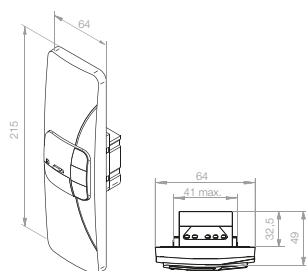


VarioTec, UniClic frame

Buttons under the cover



UniClic



Technical data and dimensions

Type	VarioTec		
Operating Voltage (V)	1 ~ 230 – 240		
Frequency (Hz)	50 – 60		
Maximum switching current (A) (250V AC at cos φ =1)	5		
Ingress protection (IP)	20		
Protection class (only after correct installation)	II		
Temperature range (°)	0 to +55		
Type of installation	Flush mount: Requires at least Ø 58 mm flush mount box, 35 mm deep Surface mount: Possible in suitable surface mount box Strap coiler box: Use UniClic version		
ProLine frame included	-	-	• (set)
Colours	white	ivory	white
Item Number	28 121.0001	28 121.0011	28 120.0001

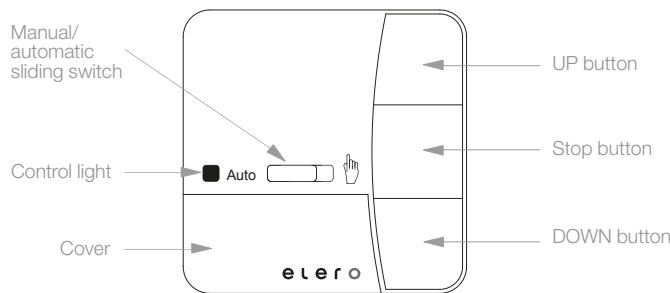
VarioTec operating unit white (for UniClic frame)
Item Number 28 121.2001
UniClic frame white (with integrated mains unit)
Item Number 28 880.0001



VarioTec operating unit



UniClic-frame



Accessories



Frame adapters
Page 228



Flash mount
frames
Page 229



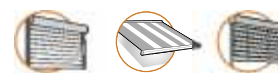
Flash mount
housings
Page 229



Surface mount
housings
Page 229

MonoTec

Comfort control switch

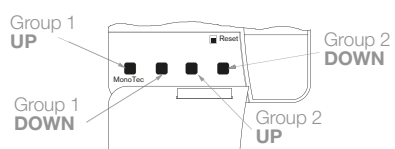


The intelligent switch

- Central- and group pushbutton
- Suitable for roller shutters, venetian blinds and awnings
- Must not be used for connecting a motor directly!
- Suitable for a large range of switch programmes

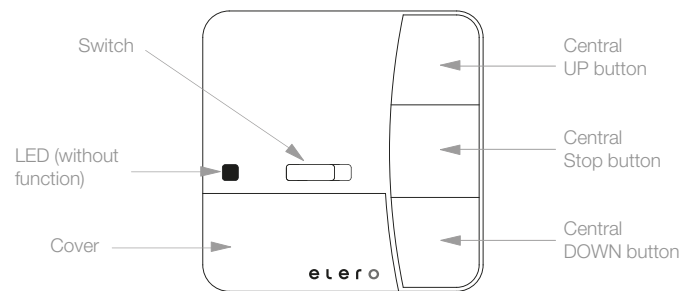


Buttons under the cover



Technical data and dimensions

Type	MonoTec		
Ingress protection (IP)	20		
Protection class (only after correct installation)	II		
Temperature range (°)	0 to +55		
Type of installation	Flush mount: Requires at least Ø 58 mm flush mount box, 35 mm deep Surface mount: Possible in suitable surface mount box		
ProLine frame included	-	-	• (set)
Colours	white	ivory	white
Item Number	28 101.0001	28 101.0011	28 100.0001



Accessories



Frame adapters
Page 228



Flash mount frames
Page 229



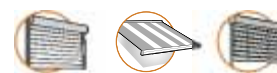
Flash mount housings
Page 229



Surface mount housings
Page 229

TimeTec

Day and week time switch



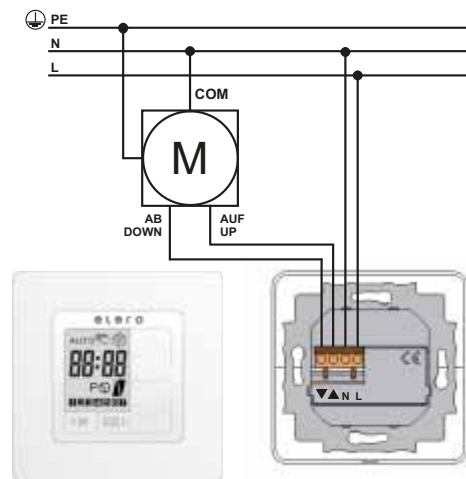
Electronic roller shutter control

- Single control unit
- Weekly time switch
- Automatic, manual and random mode
- No adapter frames available



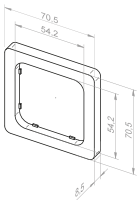
Technical data and dimensions

Type	TimeTec
Operating Voltage (V)	230, ±10%
Frequency (Hz)	50
Outputs	2 NO relays (NOT potential-free)
Maximum switching current (A)	5 (by $\cos \varphi = 1$)
Running time (s)	150
Temperature range (°)	-5 to +45
Switching delay (s)	mind. 0.5
Betriebsmodi	automatic, manual, random
Standby (h)	ca. 24 (by 20 °C)
Memory places	7 x UP / 7 x DOWN
Colours	white
Item Number	28 670.0001

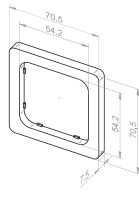


Adapter frames and housings

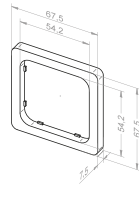
Adapter frames for ProLine control units



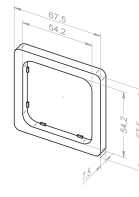
14 303.0501
White, suitable for:
Jung-topline



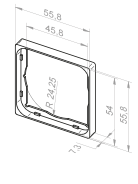
14 303.0601
Ivory, suitable for:
Jung-topline



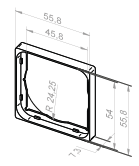
14 303.0101
White, suitable for:
Jung CD 500
Jung ST 550



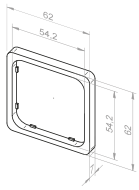
14 303.0201
Ivory, suitable for:
Jung CD 500
Jung ST 550



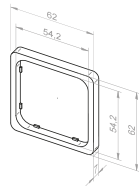
14 303.7601
White, suitable for*:
Jung A 500 and AS 500
AS Universal, and Jung A Plus



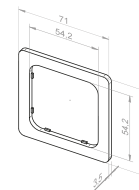
14 303.8601
Ivory, suitable for:
Jung A 500 and AS 500



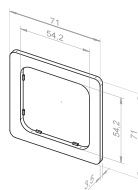
14 303.1101
White, suitable for:
Gira F100 (before 2007)



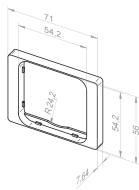
14 303.1201
Ivory, suitable for:
Gira F100 (before 2007)



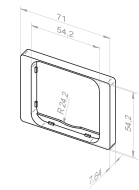
14 303.1301
White, suitable for:
Gira Standard, Gira S-Color
Gira F100 (after 2007)



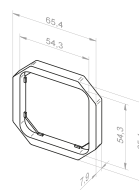
14 303.1401
Ivory, suitable for:
Gira Standard
Gira F100 (after 2007)



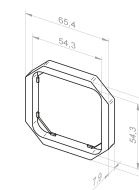
14 303.1501
White, suitable for:
Berker Arsys



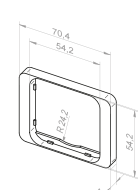
14 303.1601
Ivory, suitable for:
Berker Arsys



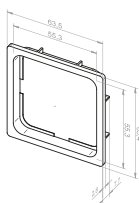
14 303.0701
White, suitable for:
Merten Octocolor



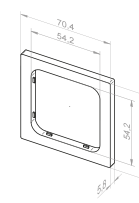
14 303.0801
Ivory, suitable for:
Merten Octocolor



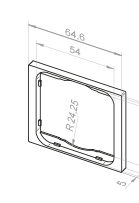
14 303.0901
White, suitable for:
Busch-Jaeger alpha-nea



14 306.7601
Frame adapter
BJ Solo, Future, Davos



14 303.1701
White, suitable for:
Peha Tangenta
Peha Dialog



14 303.7401
White, suitable for:
Legrand Sagane

No adapter frame is required for the following switch ranges:

- Busch-Jaeger Duro 2000 SI
- Busch-Jaeger Reflex SI

With system-inherent variations concerning the fit:

- Merten M1
- Merten Atelier

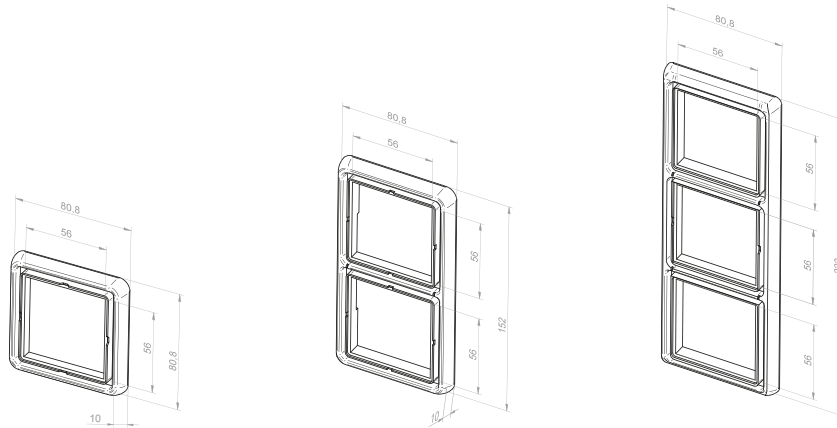
Slight variations of the colour and surface structure are possible.

* also suitable for:

- Gira Standard 55
- Gira E2
- Gira Event
- Gira Esprit
- Berker S1 and B1
- Merten M-Plan
- Merten M-Smart
- Merten M

Adapter frames for ProLine control units

Adapter frames for Jung CD 500



Item Number	1-gang	2-gang	3-gang	white	ivory
14 803.3901	•			•	
14 803.4001	•				•
14 803.4201		•		•	
14 803.4301		•			•
14 803.4501			•	•	
14 803.4601			•		•

ProLine frame

18 100.0001	•			•	
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Surface and flush mount housings

Item Number	Type
24 752.0002	Surface mount housings white, Jung LS 990 can be combined with Jung-topline adapter frame (14 303.0501)
24 752.1301	Base for surface mount housing, white incl. 4 cable feedtroughs for more depth
24 843.0104	Surface mount housing ivory, Jung LS 990 can be combined with Jung-topline adapter frame (14 303.0601)
24 843.1301	Base for surface mount housing, ivory incl. 4 cable feedtroughs for more depth
13 701.5101	Flush mount housing, deep version
14 305.7401	Round flush mount housing for hollow walls and panel mount with attachment clamps. Suitable for all flush mount ProLine controllers
14 305.7501	Round flush mount housing for hollow walls and panel mount with attachment clamps. Deep version for more wiring space. Suitable for all flush mount ProLine controllers
13 702.6201	Flush mount box for 1-way and 2-way controller, dimensions: 100 x 100 mm
13 302.5601	Surface mount housing (85 x 85 x 37 mm) for sequencing relay or central control unit for 2 single-phase motor
13 702.6301	Surface mount box for 1-way and 2-way controller (can fit up to 4) and other controllers, dimensions: 104 x 120 x 40 mm



24 752.0002
24 843.0104



13 701.5101



14 305.7401
14 305.7501



13 702.6201

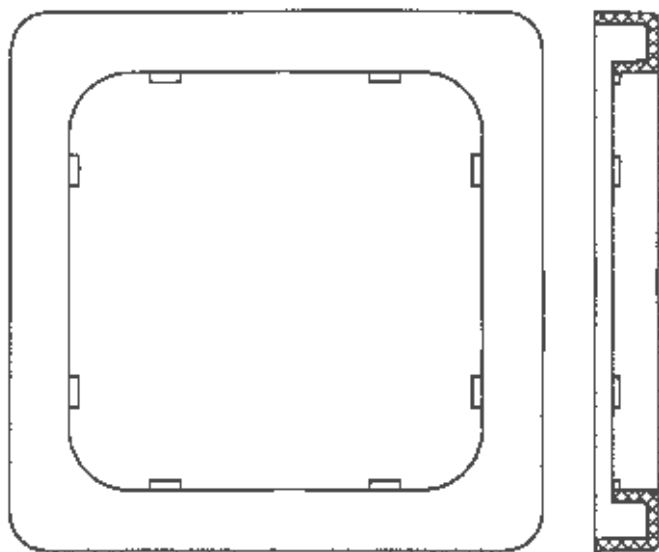


13 302.5601

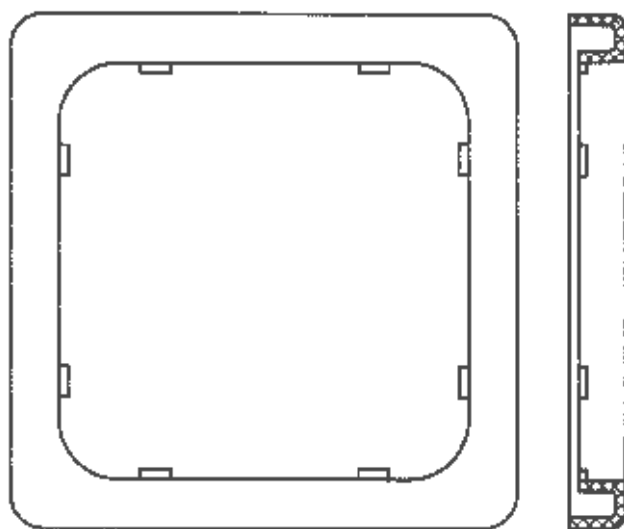


13 702.6301

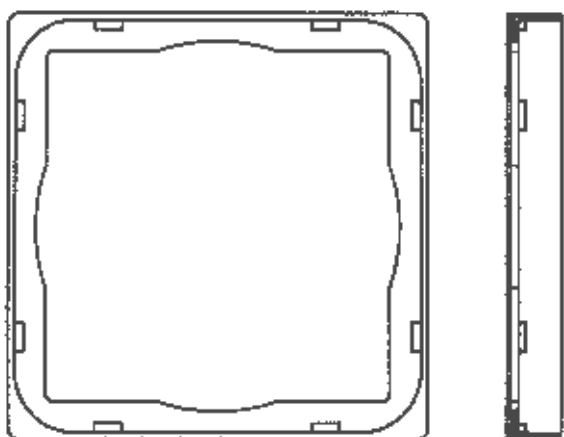
1:1 scale



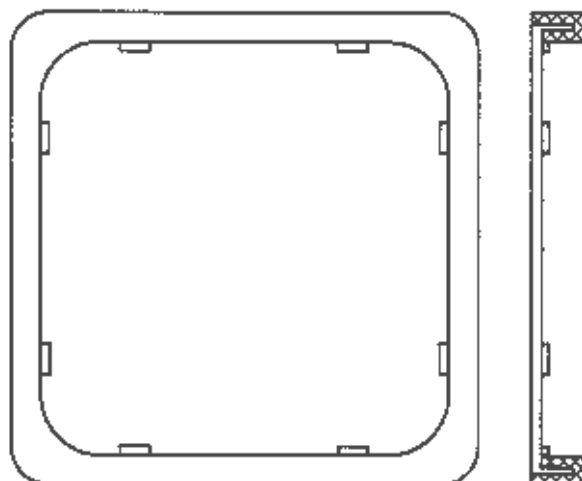
14 303.0501 alpine white
14 303.0601 white



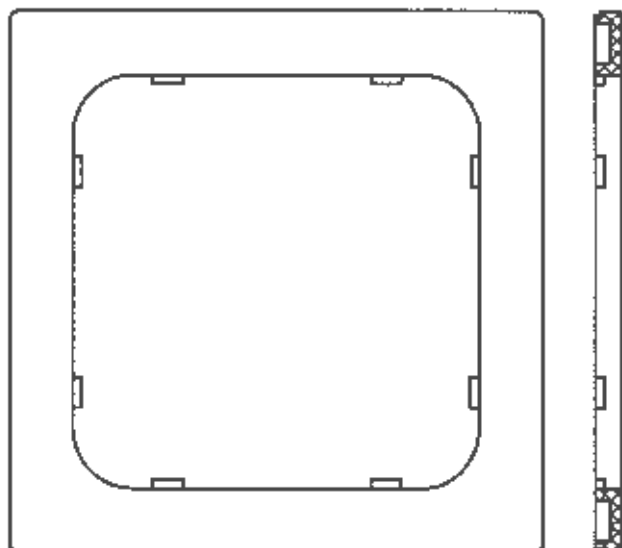
14 303.0101 alpine white
14 303.0201 white



14 303.7601 alpine white
14 303.8601 white

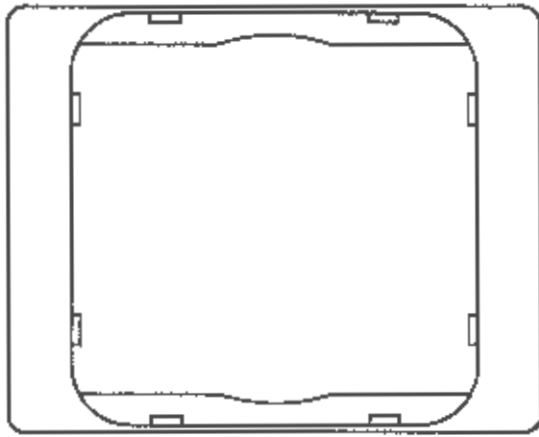


14 303.1101 alpine white
14 303.1201 white

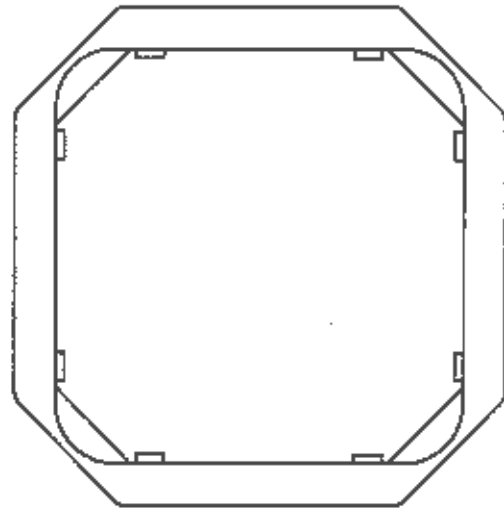


14 303.1301 alpine white
14 303.1401 white

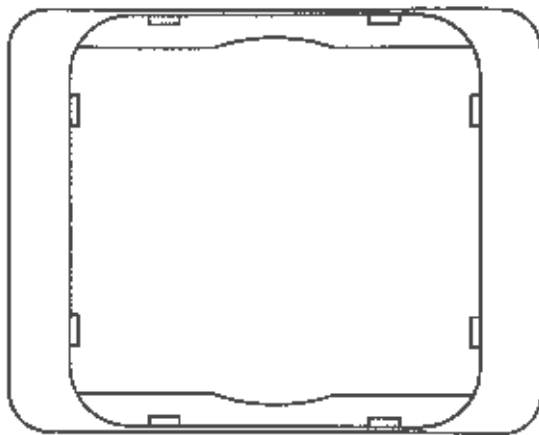
1:1 scale



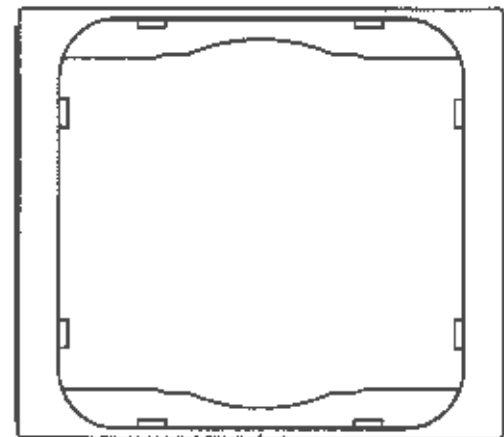
14 303.1501 alpine white
14 303.1601 white



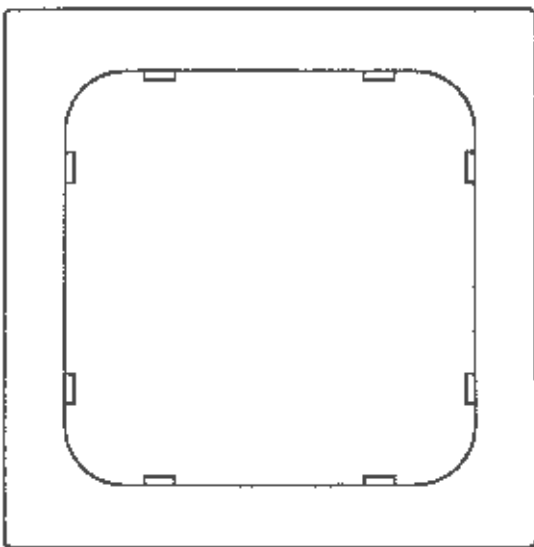
14 303.0701 alpine white
14 303.0801 white



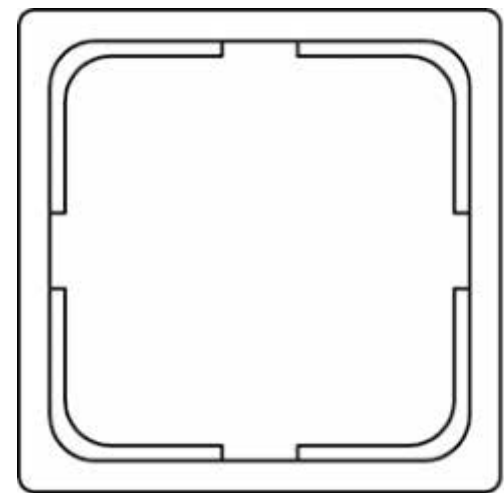
14 303.0901 alpine white



14 303.7401 alpine white



14 303.1701 alpine white



14 306.7601 alpine white



Adapter profiles Lifting capacity tables	Door controls	Door drives	Adapter frames and housings	Hausautomation, radio controls, radio sensors	Speciality drives	Venetian blind drives	Type 9 + 11	RevoLine
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Project control units for roller shutters and sun protection systems



Something that is increasingly becoming popular in single-family homes has long since been standard in large buildings: electrical roller shutters and automated venetian blinds and awnings that move automatically in line with commands from timer switches or weather sensors. But in large buildings it is generally much more difficult to design the best-possible control network. If the entire building technology is to be networked as well as the sun protection, the first idea is usually that of installing a BUS network. For planners, however, it may be worth taking a look at the range of classical sun protection control units – for modern building controls can cover a wide range of control requirements.



Objecta

ProLine comfort control



Control center for large-scale objects

- Master control unit for 4 facades
- For controlling ProLine group or motor control devices
- Sensor data analysing via 4 integrated AeroTec operating devices
- Modular concept:
 - Every facade/floor can be controlled individually
 - 4 channels (1 channel per façade)
 - Individual light and wind detection per sub-group
 - Expandable up to 64 sub-groups per channel/facade
 - Can be used and extended with ProLine controllers



Technical data and dimensions

Type	Objecta
Operating Voltage (V)	1 ~ 230
Frequency (Hz)	50
Maximum switching current (A)	4 x max. 5 (potential free)
Ingress protection (IP)	54
Power consumption (VA)	max. 10
Temperature range (°)	0 to +55
Power supply for external devices	24V DC max. 150 mA
Incl. operating units	-
Dimensions (mm)	H 230 x W 300 x T 90

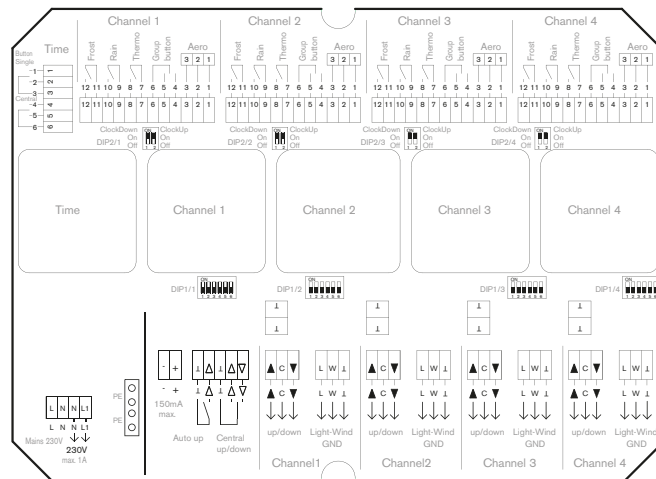
Item Number	28 700.0001
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Operating unit AstroTec white (functional description on page 218)	•
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Item Number	28 061.2001
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Operating unit AeroTec white (functional description on page 216)	•
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Item Number	28 141.2001
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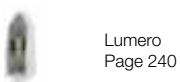
Accessories



Aero, Ventero
Page 242



Aquero
Page 244



Lumero
Page 240

REG

DIN-rail mount control unit

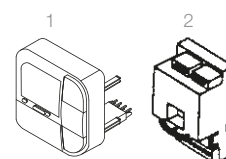


DIN-rail mounted control units for mounting in control cabinets (for TS 35 DIN rail)

- For the ProLine control units AeroTec, AstroTec und VarioTec
- Either as higher-level master and group control unit or as a motor control unit
- Connected to each other with a plug-in bus cable
- Possible to install the complete roller shutter, venetian blinds and awning controller of a building in a central control cabinet
- With Objecta or a ProLine control unit combinable



Imagery compilation (type independent representation)



- 1 Operating unit (AeroTec, AstroTec, VarioTec)
- 2 Mains unit (ProLine REG)

Technical data and dimensions

Type	ProLine DIN-rail mount control unit			Mains unit for ProLine REG devices	Motor REG 2M	Splitter REG
	AstroTec	VarioTec	AeroTec			
Operating Voltage (V)	1 ~ 230 – 240					-
Frequency (Hz)	50 – 60					-
Ingress protection (IP)	20					
Protection class (after correct installation)	II					-
Type of installation	Control cabinet (TS-35)					
Temperature range (°)	0 to +55					-5 to +50
Dimensions (mm)	H 90 x W 54 x T 45			H 90 x W 54 x T 32		H 90 x W 54 x T 60
Weight (g)	142			105	137	72
Item Number	28 861.0001	28 863.0001	28 862.0001	28 860.0001	28 870.0001	23 331.0001

Each of the above mentioned control units are supplied completed with one bus cable, 60 mm, 5-pole.
The connection accessory can – if necessary – be ordered separately with the following item numbers:

60 mm 5-pole bus cable	•
Item Number 13 707.6001	
200 mm 5-pole bus cable	•
Item Number 13 707.6101	
5-pole bus cable connector for connecting two bus cables (as extension)	•
Item Number 13 707.6201	

Accessories



Aero, Ventero
Page 242

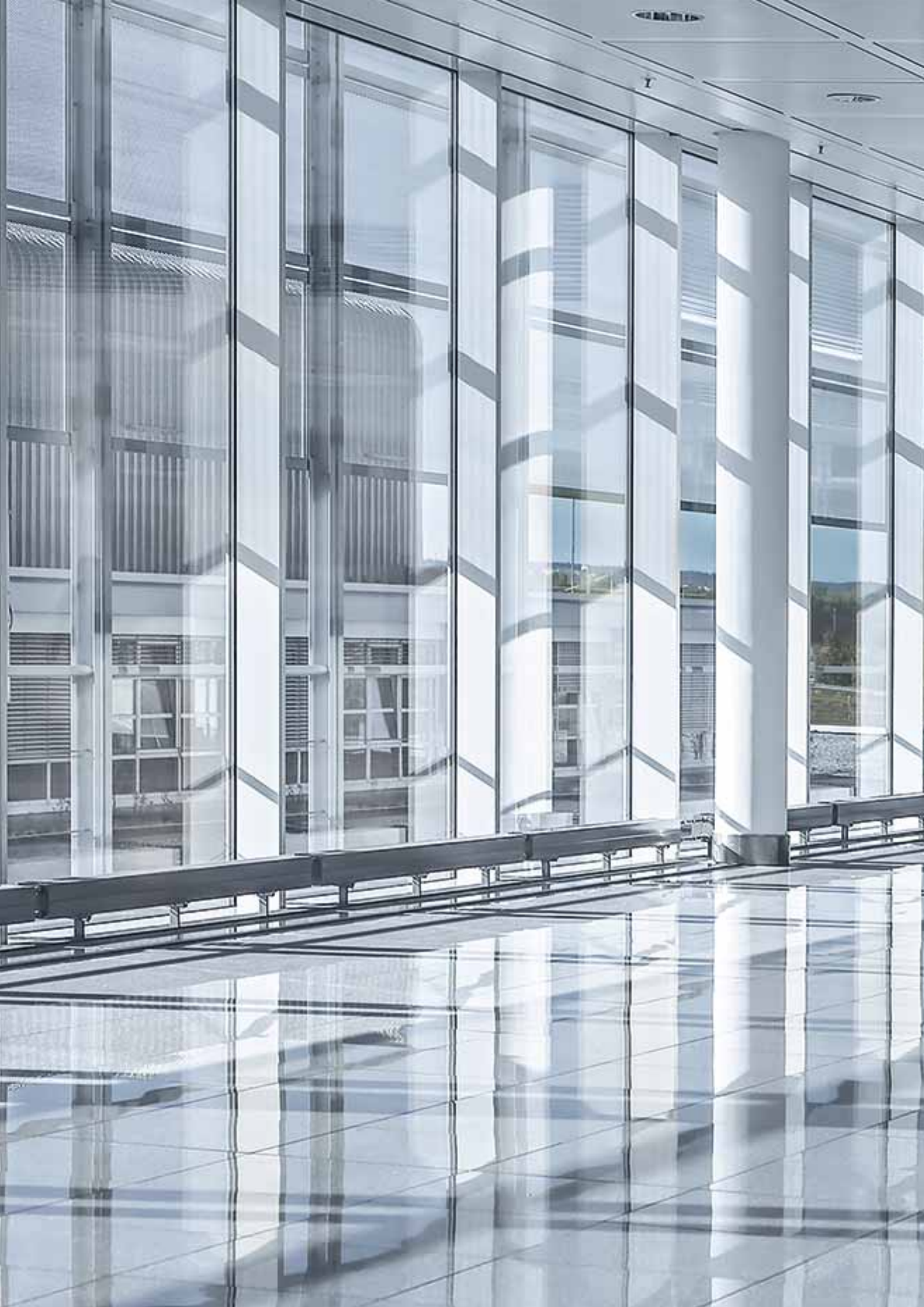


Aguero
Page 244



Lumero
Page 240

RevoLine
Type 9 + 11
Venetian blind drives
Speciality drives
Hausautomation, radio controls, radio sensors
Project control units
Door drives
Door controls
Adapter profiles
Lifting capacity tables



Sensor technology for hardwired controls



The roller shutters, venetian blinds or awnings can be easily automated with sensors: They register the actual weather conditions, of sunlight, rain, temperature and wind velocity, and then activate the drive accordingly.

This enables you to protect yourself from damp and frost, avoid damage from storm gusts and offers patios, conservatory or homes the ideal sun protection.



Lumo/Lumero/Thermostat

Sensors for light, twilight and temperature



Sensors for light, twilight and temperature

- Lumo:
Light sensor
Recommended for use with:
AstroTec, AstroTec REG and
AstroTec-868 controller
- Lumero:
Light and twilight sensor
for the outdoor installation
Recommended for use with:
AeroTec and AeroTec REG controller
- Room thermostat:
for external connection

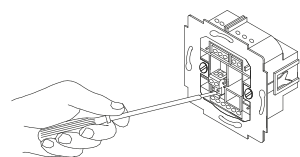


Lumo, Lumero, Room thermostat

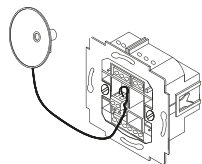
Technical data and dimensions

Type	Lumo	Lumero	Thermostat	
Ingress protection (IP)	20	43	20	
Temperature range (°)	0 to +55	-25 to +60	0 to +55	
Dimensions (mm)	Ø 46 x 22	L 82 x W 27 x H 38	L 75 x W 75 x H 25	
Weight (g)	17	58	76	
Cable length (m)	2	10	-	
Item Number	28 080.0001	28 090.0001	28 180.0001	13 803.4801

Connecting the Lumo to the AstroTec

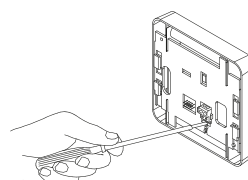


1. Cut the wire to the desired length. Bare approx. 5 mm of the wire.
2. Remove the connecting terminal using a screwdriver.

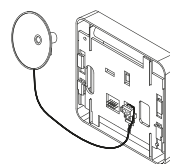


3. Insert the wire into the terminal.
4. Insert the connecting terminal into the receptacle.
5. Secure the Lumo onto the window using the suction cap.

Fitting the Lumo into the AstroTec-868



1. Cut the wire to the desired length. Bare approx. 5 mm of the wire.
2. Remove the connecting terminal using a screwdriver.



3. Insert the wire into the terminal.
4. Insert the connecting terminal into the receptacle.
5. Secure the Lumo onto the window using the suction cap.

Aero/Ventero

Solar powered light and wind sensors



Comfortable living inside and outside

- Aero:
Light- and wind sensor
Continuous measurement
of wind and light values
In combination with AeroTec (p. 216)
and AeroControl (p. 194)
- Ventero-868:
Wind sensor
In combination with AeroTec (p. 216)
and AeroControl (p. 194)
Continuous measurement
of wind values



Aero, Ventero

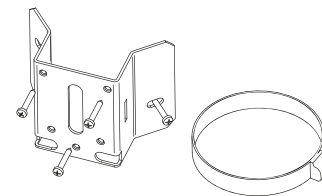
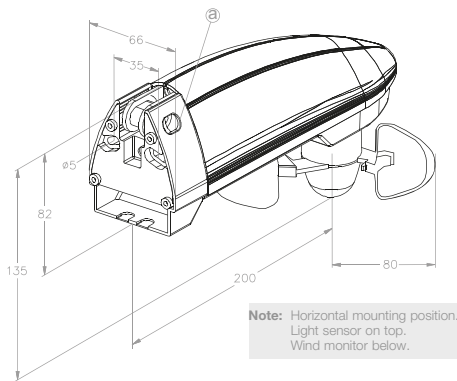
Technical data and dimensions

Type	Aero	Ventero
Ingress protection (IP)	43	
Temperature range (°C)	-25 to +60	
Pole support	Ø 60 – 80 mm (optional accessory)	
Detection angle (°)	150	
Dimensions (mm)	L 280 x W 130 x H 130	
Weight (g)	286	
Wind sensor	•	
Light sensor	•	-
Colours	white	

Item Number	28 160.0001	28 170.0001
-------------	-------------	-------------

Pole and corner adapter (Ø 60 – 80 mm)	•
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Item Number
24 269.0202



Pole and corner adapter

Aquero

Rain sensor

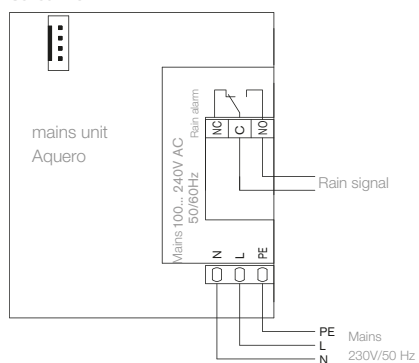


Our elegant sensor with claim

- In combination with AeroTec (p. 216)
- Precipitation measuring at intervals via the sensor surfaces
- Response threshold preset
- Potential-free changeover contact

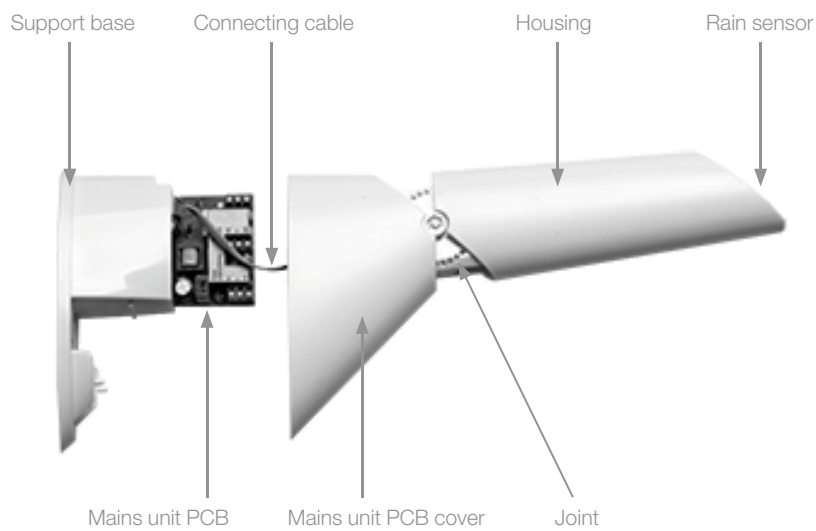


Multipoint connector/supply voltage
Sensor PCB



Technical data and dimensions

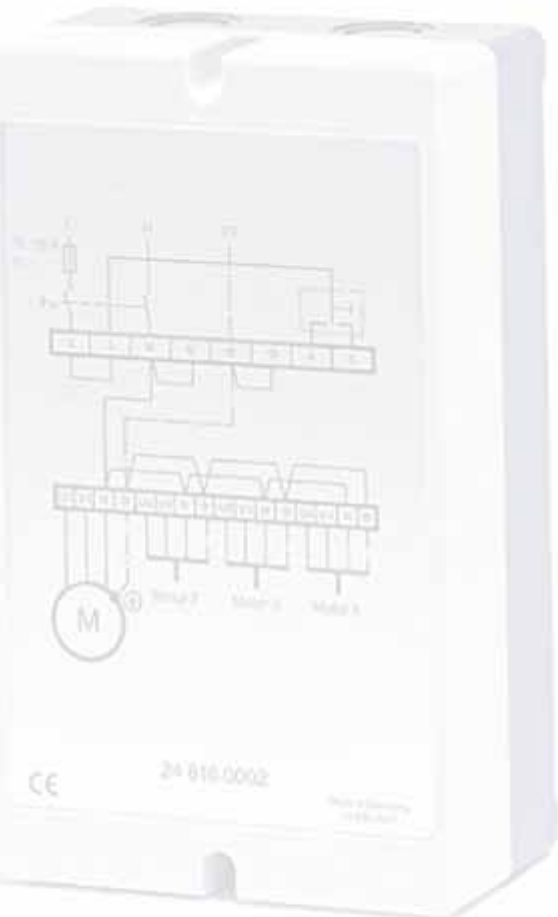
Type	Aquero
Operating Voltage (V)	1 ~ 110 – 230
Supply voltage (Hz)	50 – 60
Ingress protection (IP)	44
Temperature range (°)	-20 to +50
Output	1 potential-free changeover contact 5 A/250V
Dimensions (mm)	L 300 x W 170 x H 65
Weight (g)	408
Item Number	28 690.0001





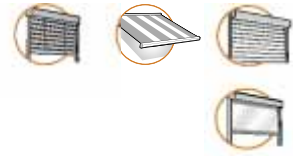
Relay and DC controllers

The common control of several drives via one switching point is required for some applications. This is simple to implement with suitable relays or controllers.



Central control units/ Multi-point control relay

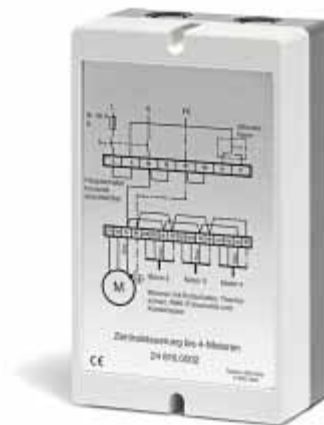
Relay controllers



Central control units to switch alternating current motors

- Operation of multiple drives with one control unit using an interlocked venetian blinds push button or switch,
- Automatic switching with ProLine control units and individual operation with interlocked venetian blinds push button

Follow the overall phase load when designing the complete system. The number of sequencing relays that can be connected in series depends on the current consumption of the motors employed. The back-up fuse may not exceed a maximum value of 10 A.

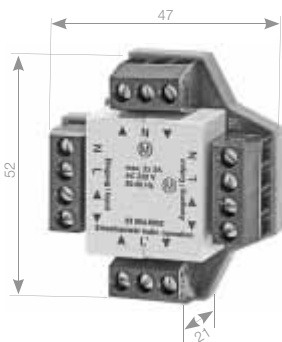


2-way motor control unit, 4-way motor control unit and multi point motor control unit

Technical data and dimensions

Type	Central control unit (sequencing relay) for 1 or 2 single-phase motors	Central control unit for up to 4 single-phase motors without individual control.	Multi-point control relay
Operating Voltage (V)	1 ~ 230 – 240		
Frequency (Hz)	50 – 60		
Current consumption (mA)	10 in relay mode	–	
Switching current	max. 2 x 3 A, 250V AC, motor load max. 2 x 690VA, for 230V motors only with limit switches	max. 4 x 3 A, 250VAC	3 A, 690VA
Ingress protection (IP)	20		
Temperature range (°C)	0 to +60	-10 to +40	-40 to +40
Fuse protection (A)	max. 10	10 slow-blow	–
Dimensions (mm)	L 47 x W 52 x H 21	L 115 x W 65 x H 190	L 45 x W 47 x H 23
Max. number of drives	2	4	1
Weight (g)	57	863	54
Item Number	23 994.0002	24 816.0002	23 845.0001

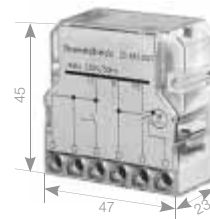
Central control unit (sequencing relay) for 1 or 2 single-phase motors



Central control unit for up to 4 single-phase motors without individual control



Multi-point control relay



Accessories



Switches and push-buttons
Page 252



Switches and push-buttons
Page 311



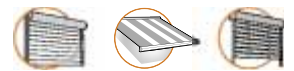
Surface mount housings for sequencing relay
Page 229



Switches and push-buttons
Page 311

Control Unit DC

DC controller



Control of 24V DC drives

- The Control Unit DC can be controlled by the following controllers

- AstroTec (p. 218)
- AeroTec (p. 216)
- VarioTec-868 JA (p. 192)
- VarioTec-868 RM (p. 192)
- VarioTec (p. 222)
- Revio-868 P (p. 196)

These devices have a potential-free relay output

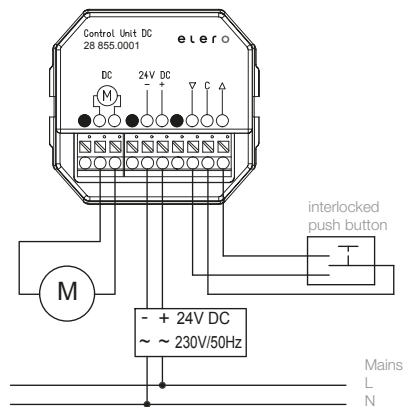
- You can also connect an interlocked push button (p. 252) instead of a ProLine device for controlling the Control Unit DC



Technical data and dimensions

Type	Control Unit DC
Operating Voltage (V)	24V DC, ± 10%
Control voltage	24V DC, ± 10%
Current consumption (mA)	25
Switching capacity (A)	3
Ingress protection (IP)	20
Temperature range (°C)	0 to +55
Dimensions (mm)	L 52 x W 49 x H 29
Type of installation	Suitable for flush mount housings Ø 60 mm or suitable boxes
Item Number	28 855.0001

Connection example



Accessories



ProLine control units
from page 216

- RevoLine
- Type 9 + 11
- Venetian blind drives
- Speciality drives
- Hausautomation, radio controls, radio sensors
- Relais and DC controllers
- Door drives
- Door controls
- Adapter profiles Lifting capacity tables

Switches and push-buttons



Venetian blind switch
flush mount



Rotary switch



Interlocked switches



Venetian blind switch
surface mount

Interlocked switches/push buttons for single-phase motors, flush mount

Item Number	Type
24 051.0001	Venetian blind switch Jung CD 500 alpine white
24 222.0001	Interlocked venetian blind push-button Jung CD 500 alpine white

Rotary switch 2-pole

Item Number	Type
13 701.3401	Flash mount for connecting 2 motors (can be used as switch or push-button)

Interlocked switches/push buttons for single-phase motors

Item Number	Type
23 250.0001	Cord push-button alpine white
23 251.0001	Cord switch alpine white
23 252.0001	Universal push-button alpine white
23 253.0001	Universal switch alpine white

Switch/push-button, water protected, surface mount

Item Number	Type
14 701.1701	Venetian blind switch surface mount, water-protected
14 701.2101	Venetian blind push-button surface mount, water-protected

RevoLine

Type 9 + 11

Venetian blind drives

Speciality drives

Hausautomation, radio controls, radio sensors

Switches and push-buttons

Door drives

Door controls

Adapter profiles
Lifting capacity tables



elero door drives have a lot of advantages

Power operated doors offer many advantages, but at the same time conceals some risks. Therefore elero has developed the door drives and associated smart controls.



Informations



Gears and operating modes

The shaft mounted rolling door drives are maintenance-free alternating current/ three-phase current drives with self-locking safety gear. The integrated safety brake in the worm gear is wear-free and testing is not necessary. If a gear component fails, the safety brake is applied automatically and the load is brought to a standstill almost completely smoothly. The drive is subsequently no longer operational and must be completely exchanged. The safety gear was tested by the TÜV - SÜD and certified with certificate no. TorFV 5/061 and TorFV 5/062.

Operating modes

All elero door drives are equipped with an automatically resetting protection temperature limiter in the motor windings. Testing of the modes of operation took place with the maximum rated torque (static load) according to EN 60034-1.

S1 continuous operation – drives not suitable for doors

Operation with constant load (rated torque), which continues so that the machine can achieve the thermal steady-state condition.

S2 short-time operation – drives for infrequently used doors

Maximum period of operation with constant load in minutes; the temperature of the temperature limiter may not be reached

during this period. Switch off the drive until the ambient temperature (approx. 20 °C) is reached. Period of operation for door drives ≥ 4 minutes.

S3 periodic intermittent duty – drives suitable for underground car parks and doors for commercial and industrial use

An operation that consists of a sequence of identical operations, each of which encompasses an operating period with constant load and a standstill period with dead windings, whereby the starting current does not noticeably affect the overtemperature. The operating duration amounts to 10 minutes and the relative duty cycle has the following values: 15, 25, 40 and 60 percent. Period of operation for door drives ≥ 4 minutes.

S4 periodic intermittent duty with start-up phase – drives for underground car parks and doors for commercial and industrial use, e.g. sectional doors

An operation that consists of a sequence of identical operations, each of which encompasses a noticeable start-up time, an operating period with constant load and a standstill period without power to the motor.

Practical modes of operation

The duty cycle of the drives is tested with a rolling door; as a result, the drive is loaded dynamically in both the opening and closing directions. The power consumption varies and heating up is less than with S3.

Rolling door operation RTB

The rolling door drive is operated with a rolling door (dynamic load) until the thermal steady-state condition is reached. The RTB mode of operation is a periodic intermittent mode of operation similar to S 3. One door cycle is 5 revolutions OPEN, 30 seconds pause, 5 revolutions CLOSE, 30 seconds pause and so on. The operating duration amounts to 10 minutes and the relative duty cycle has the following values: 60, 80 and 100 percent.

Door cycles per hour

The rolling door drive is operated with a rolling door (dynamic load) until the thermal steady-state condition is reached. One door cycle is 5 revolutions OPEN, 30 seconds pause, 5 revolutions CLOSE, constant pause and so on. The operating duration amounts to one hour and has the following values: No. of door cycles per hour.

IP codes:

elero door drives are tested with IP4X, IP5X, IP6X and IPX4, IPX5 according to BS EN 60529. The test duration is 3 – 10 min for each degree of protection. Due to this test, an additional protective measure is necessary in the case of continuous sprinkling, e.g. outdoors. Aggressive water, (cleaning water, alkalis, solutions etc.) or aggressive dust (gypsum and cement etc.) are harmful to the drives and controllers; they must be shielded.

Do not hose down the drives and controllers with high pressure/steam jet cleaners!

Degrees of protection		against solid foreign bodies (1 st number)	against water (2 nd number)
IP0X	IPX0	No protection	
IP1X	IPX2	Protected against solid foreign bodies with a diameter of 50 mm and larger. Protected against access to dangerous parts with the back of the hand.	Vertically falling droplets may not have any harmful effect.
IP2X	IPX3	Protected against solid foreign bodies with a diameter of 12.5 mm and larger. Protected against access to dangerous parts with the finger.	Vertically falling droplets may not have any harmful effect if the housing is inclined by an angle of up to 15° from the perpendicular on both sides.
IP3X	IPX4	Protected against solid foreign bodies with a diameter of 2.5 mm and larger. Protected against access to dangerous parts with a tool.	Water that is sprayed at an angle of up to 60° from the perpendicular on both sides may not have any harmful effect.
IP4X	IPX5	Protected against solid foreign bodies with a diameter of 1 mm and larger. Protected against access to dangerous parts with a wire.	Water that splashes from any direction against the housing may not have any harmful effect.
IP5X	IPX6	Protected against dust; penetration of dust is not completely prevented, but dust may not penetrate in such a quantity that the satisfactory operation of the device or safety is impaired.	Water that is directed as a jet from any direction against the housing may not have any harmful effect.
IP6X	IPX7	Dustproof, no penetration of dust.	Water that is directed as a strong jet from any direction against the housing may not have any harmful effect.
	IPX8	–	Water may not enter in a quantity that would cause harmful effects if the housing is temporarily immersed in water under standardised pressure and time conditions.
	IPX9	–	Water may not enter in a quantity that would cause harmful effects if the housing is continuously immersed in water under conditions that must be agreed upon between the manufacturer and the user. The conditions must be more difficult than those listed in number 7.

Drive designation:

D									=	Three-phase current switchable 400/230V 50 Hz
	W								=	AC current 230V
		F							=	Shaft mounted rolling door drive with safety brake
		K							=	Chain drive with plug-in shaft
			M						=	Mechanical limit stop
				ZE					=	Potential-free additional limit switch 'top and bottom'
					...				=	Rated torque in Nm
						...			=	Speed in rpm only for special rotation speeds
							NHK		=	Manual override for crank handle
							NMA		=	Manual override, engaging automatically for various systems
							SHK		=	Haul chain, engaging automatically
								...V/...Hz	=	Special voltage and/or frequency

Certificates



Shaft mounted drives D.M 170 to 750



Shaft mounted drives DFM 100 to 350



Type 15/... and Type 15/... W NMA



BoxControl



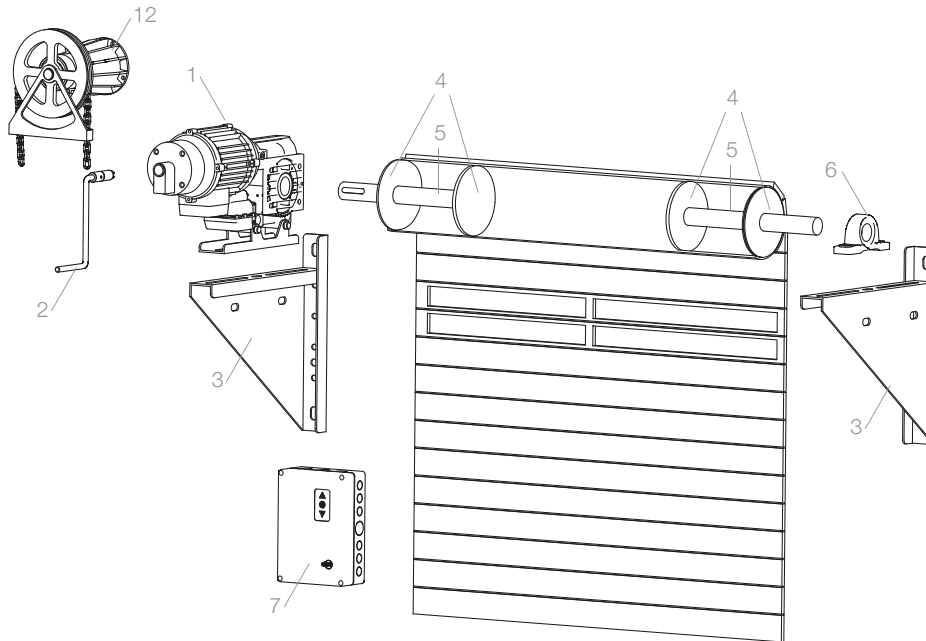
Shaft mounted drives D.M 170 to 750



Shaft mounted drives DFM 400 to 750

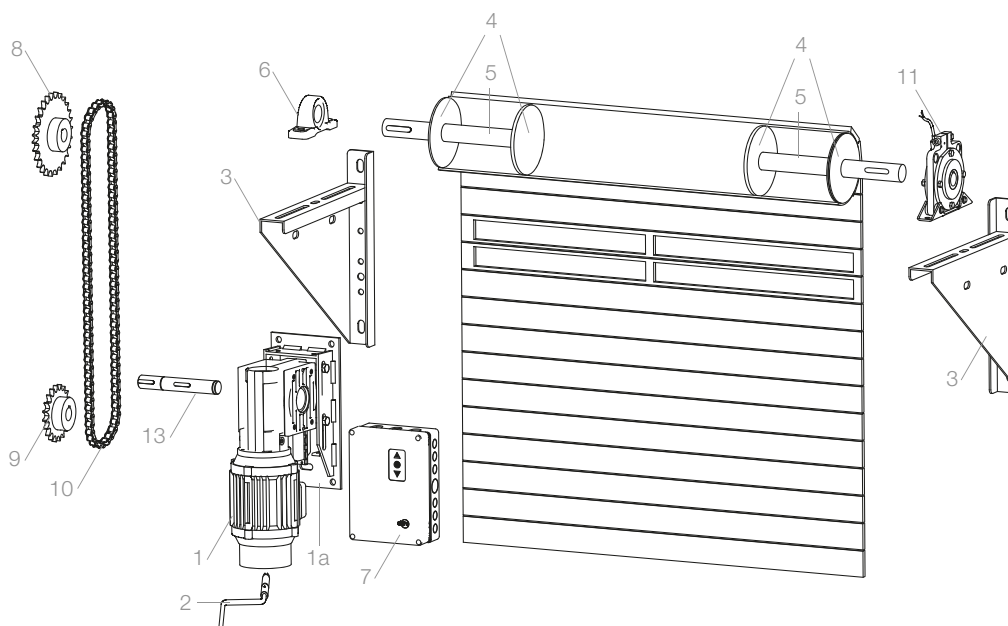
Installation examples

Shaft mounted drives

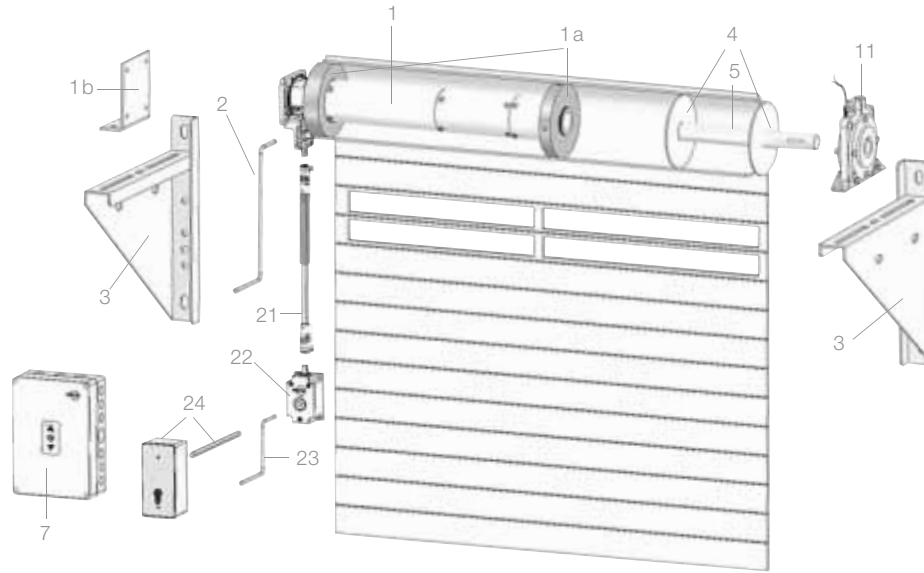


- | | | | | | |
|----|---|----|-------------------------------|----|---------------|
| 1 | Drive | 5 | Welding shafts | 11 | Safety brake |
| 1a | Bracket with tensioning rail and clamping bolts | 6 | Pedestal bearing | 12 | Haul chain |
| 2 | Crank handle | 7 | elero door control | 13 | Plug-in shaft |
| 3 | Bracket | 8 | Chain wheel for winding shaft | | |
| 4 | Blanks | 9 | Drive chain wheel | | |
| | | 10 | Chain | | |

Chain wheel drives



Type 15 W NMA



- | | | | | | |
|----|---------------|----|------------------------------|----|--|
| 1 | Tubular motor | 5 | Welding shafts | 24 | A. P. KeyBox with integrated crank handle and connecting shaft |
| 1a | Adapter set | 7 | Door control | | |
| 1b | Angle bracket | 11 | Safety brake | | |
| 2 | Crank handle | 21 | Drive shaft | | |
| 3 | Brackets | 22 | Angle drive | | |
| 4 | Blanks | 23 | Crank handle for angle drive | | |



Type 15

– the tubular door drive!

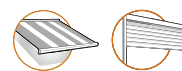


Type 15 is the ideal drive for heavy roller shutters, small rolling gates and roller grilles. These are characterized by the well-balanced torques, 120 Nm, 150 Nm, 180 Nm, 230 Nm and 300 Nm, each with 230V/50 Hz.



Type 15 W

Tubular drive for doors



Tubular drive Type 15 W

- Changeable couplings (adapters) for tubes of $\varnothing 98 \times 2.0$ to 168×4.0 mm or SW 114 (octagonal)
- Long service life
- Optimum gearing guarantees quiet operations
- The fixing plates of the Type 15 W... drives must be installed at right angles to the fixing area.
It is imperative to use the wall bracket pocket item no. 23 100.0001 in case of unevenness



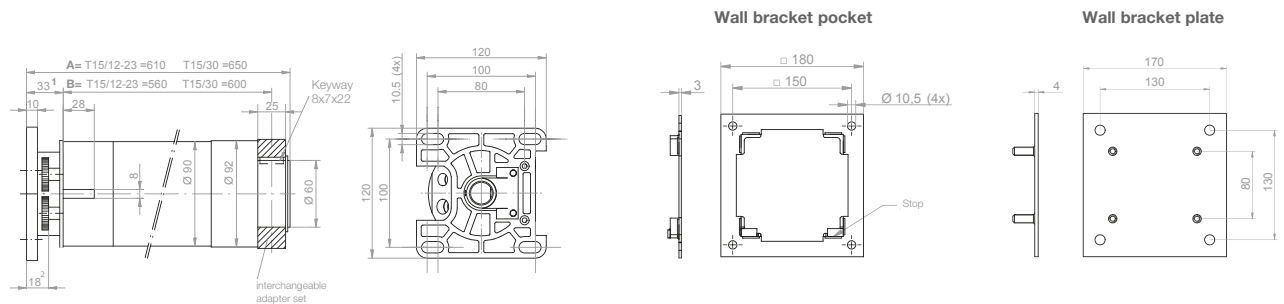
Technical data and dimensions

Type	Type 15/12 W	Type 15/15 W	Type 15/18 W	Type 15/23 W	Type 15/30 W
Operating Voltage (V)	1 – 230				
Rated frequency (Hz)	50				
Max. torque (Nm)	120	150	180	230	300
Speed (rpm)	12				
Current (A)	3.4	3.5	3.7	3.9	5.4
Power (W)	700	740	780	810	1,250
Shaft Ø (mm)	98				
Ingress protection (IP)	44				
Max. limit switch range in Revolutions of the shaft	36				
Operating mode (KB in min.)	6			5	
Door cycles per hour \pm h ⁻¹ *	6				
Length A (mm)	610			650	
Length B (mm)	560			600	
Weight (kg)	11.4			13	
Temperature range (°C)	-20 to +60				
Conformity					
Connecting cable (m)	3.0				

* One door cycle is: 5 revolutions OPEN – 30 sec. pause – CLOSE

Item Number	32 301.0002	32 281.0002	32 321.0002	32 361.0002	32 381.0002
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Wall bracket pocket	•				
Item Number 23 100.0001					
Wall bracket plate	•				
Item Number 13 301.4901					



- 1) Lateral space requirements
- 2) Lateral space requirements in case of overwinding of the limit switch

Accessories



Drive adapter sets
Page 266



Wall bracket pocket
Page 266



Wall bracket plate
Page 266



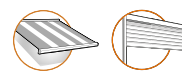
Door controls
from page 294



Angle bracket 13 305.9201
Page 266

Type 15 W NMA

Tubular drives for doors with NMA



Tubular drive Type 15 W NMA

- Manual gearbox in the event of a power failure
- Changeable couplings (adapters) for tubes of $\varnothing 98 \times 2.0$ to 168×4.0 mm or SW 114 (octagonal)
- Long service life
- Optimum gearing guarantees quiet operations
- The fixing plates of the Type 15 W... drives must be installed at right angles to the fixing area.
It is imperative to use the wall bracket pocket item no. 23 100.0001 in case of unevenness



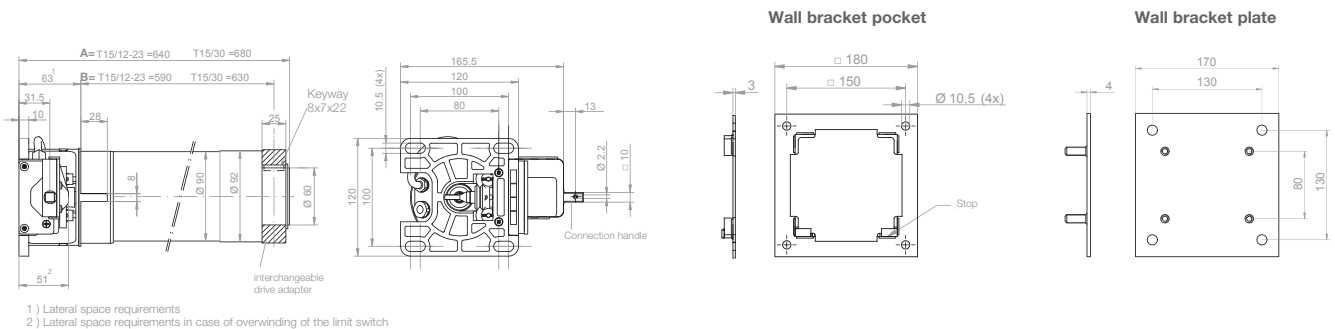
Technical data and dimensions

Type	Type 15/12 W NMA	Type 15/15 W NMA	Type 15/18 W NMA	Type 15/23 W NMA	Type 15/30 W NMA
Operating Voltage (V)	1 – 230				
Rated frequency (Hz)	50				
Max. torque (Nm)	120	150	180	230	300
Speed (rpm)	12				
Current (A)	3.4	3.5	3.7	3.9	5.4
Power (W)	700	740	780	810	1,250
Shaft Ø (mm)	98				
Ingress protection (IP)	44				
Max. limit switch range in Revolutions of the shaft	36				
Operating mode (KB in min.)	6			5	
Door cycles per hour $\pm h^{-1}$ *	6				
Length A (mm)	640			680	
Length B (mm)	590			630	
Weight (kg)	12.1			13.8	
Temperature range (°C)	-20 to +60				
Conformity					
Connecting cable (m)	3.0				

* One door cycle is: 5 revolutions OPEN – 30 sec. pause – CLOSE

Item Number	32 312.0002	32 292.0002	32 332.0002	32 362.0002	32 382.0002
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Wall bracket pocket	•
Item Number 23 100.0001	
Wall bracket plate	•
Item Number 13 301.4901	



Accessories



Drive adapter sets
Page 266



Wall bracket pocket
Page 266



Wall bracket plate
Page 266



Door controls
from page 294



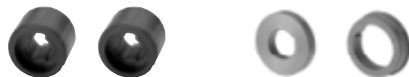
Angle bracket
13 305.9201
Page 266



Crank handle
Page 267

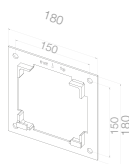
Drive adapter sets for Type 15 W ...

Profiles of the drive adapter sets in 1:1 scale on page 348.

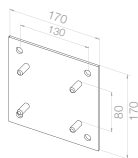


Item Number	Type	Round tubes	Drilled	M8 thread
13 103.5701	Ø 98 x 2.0 mm	•	•	•
23 584.0001	Ø 102 x 2.0 mm	•	•	•
23 475.0001	Ø 108 x 3.6 mm	•		
23 494.0002	Ø 133 x 2.0 mm	•	•	•
23 325.0001	Ø 133 x 2.5 mm	•	•	•
23 495.0002	Ø 133 x 4.0 mm	•		
23 495.0101	Ø 133 x 4.0 mm	•	•	•
23 309.0001	Ø 159 x 2.6 mm	•	•	•
23 310.0001	Ø 159 x 4.5 mm	•	•	•
23 027.0001	Ø 168.3 x 4.5 mm and Ø 168 x 4.0 mm	•	•	•
23 456.0001	SW 114 mm octagonal (side-to-side dimension 125 mm)	•		
23 311.0001	Ø 120 mm, Alukon	•	•	•

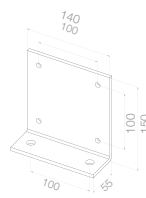
Installation accessories



23 100.0001



13 301.4901



13 305.9201

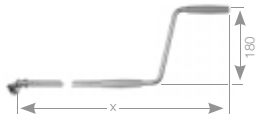
Item Number	Type
23 100.0001	Wall bracket pocket (with axial securing)
13 301.4901	Angle bracket
13 305.9201	Mounting bracket

Manual override accessories

Crank handles



24 049.0001
Crank handle with ball joint x = 0.55 m



24 050.0001
Crank handle with ball joint x = 1.35 m



12 300.0901
Crank handle with awning hook x = 1.4 m



23 398.9801
Awning eyelet for Type 15/... NMA

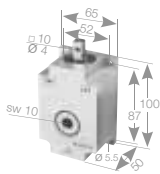
Base set NMA



23 199.9501
Consisting of: Angle drive/drive shaft/crank handle



23 081.0001
Drive shaft extendable from 1.7 to 3.0 m

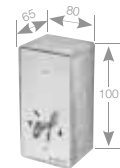


23 030.0001
Angle drive



13 305.8001
Crank handle for angle drive Length 0.2 m

A.P. KeyBox



23 080.0001
With integrated crank handle, key switch (dead man safety) and 0.50 m long connecting shaft 10 mm hexagonal. To operate NMA motors from outside manually and electrically. Requires NMA Base kit 23 199.9501

Cables and accessories



23 243.0002

Installation-/connecting cables and accessories

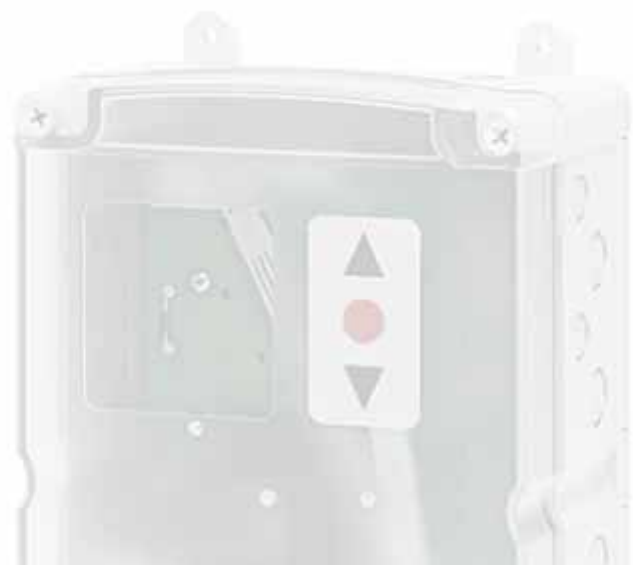
Item Number	Type
23 243.0002	Installation cable



Door drives to the highest safety level **DFM DKM WFM WKM**



Power operated doors offer many advantages, but at the same time conceals some risks. Therefore elero has developed the door drives and associated smart controls.



Three-phase shaft mounted drives with NHK



Shaft mounted drives with safety brake and mechanical limit stop

DFM ... NHK and DFM-ZE ... NHK

Highlights: Safety limit switch
Safety gear
Manual override crank



Dimension drawings on page 282

Accessories



Welding shafts and blanks from page 287



Brackets Page 289



Connection kit Page 302



BoxControl from page 300

Technical data and dimensions

Type	DFM NHK								
	100/90	170/12.5	250/12.5	250/27	350/13.5	500/11	500/31	750/8	750/11
Rated Voltage (V)	3 ~ 230/400								
Rated frequency (Hz)	50								
Max. torque (Nm) ⁵⁾	100	170	250		350	500		750	
Speed n ² (min ⁻¹)	90	12.5		27	13.5	11	31	8	11
Rated current (A)	5.5/3.2	3.2/1.85	4.5/2.6	5.2/3.0	4.2/2.4	5.7/3.3	10.0/6.0	5.9/3.4	6.9/4.0
Power factor (cos φ)	0.8	0.58	0.45	0.8	0.6	0.74	0.8	0.6	0.68
Insulation class	H								
Power consumption (kW)	1.25	0.75	0.8	1.1	1.0	1.7	2.2	1.4	1.9
Ingress protection (IP)	54 (optional 65)								
Max. limit switch range mech. (centrally set at 9 revs.)	18								
Rated operating time (S3)	40%	60%		40%				60%	
Max. torque for rolling door operation (Nm) ³⁾									
RTB 80%	80	170		200	300		500	600	650
RTB 100%	60	150		170	250		400	500	550
Coil temperature limiter (°C)	130								
Door cycles per hour $\frac{1}{h}$ ⁴⁾	60	35	30	45	34	28	50	20	24
Temperature range (°C)	-10 to +40								
Contin. sound pressure level db (A)	< 60								
Electromagnetic brake	•	–							•
Shaft Ø (mm)	30				40				
Key width (mm)	8				12				
Integrated safety brake (Type)	F 40				F 80				
Max torque on safety gear (Nm)	884				2,302				
Deceleration (g)	< 1.5				< 2.0				
Length A (mm)	715				810			835	
Length B (mm)	500				590			615	
Drive weight (kg)	22		21		22		31	34	31
TÜV-Süd certificate no.	5/061				5/062				
VDE checked	–	•		–	•		–		•
VDE EMC checked			•				–		•
Incl. crank handle	•								

Type	100/90	170/12.5	250/12.5	250/27	350/13.5	500/11	500/31	750/8	750/11
DFM xxx NHK									
Item Number	–	41 021.0002	41 031.0002	41 581.0002	41 051.0002	41 061.0002	41 621.0002	–	41 071.0002
DFM-ZE xxx NHK									
Item Number	41 501.0002	41 091.0002	41 101.0002	41 591.0002	41 121.0002	41 131.0002	41 631.0002	41 831.0002	41 141.0002

Drives in IP 65 version (surcharge)	•
Item Number 99 000.2701	
Connection kit for WFM/DKM, DFM/DKM drives	•
Item Number 24 350.0101	

Note: If the drive is to be painted subsequently, then the shaft gaskets must remain free of paint. Other voltages and frequencies upon request. Drive for vertical lift gates: If the drives are used for vertical lift gates, the specified rated torques must be reduced by 20 %. 3) Rolling door operation RTB: Rolling door drives with rolling doors are operated dynamically with load change. The S3 operating mode with periodic intermittent duty in accordance with BS EN is tested at the rated torque related to 10 minutes operating time with the defined duty cycle in %. 4) One door cycle is: 5 revolutions OPEN – 30 sec. pause – CLOSE. 5) The rated torques of the drives are guaranteed from -20 °C to 60 °C / -4 °F to 140 °F.

Three-phase shaft mounted drives with SHK



Shaft mounted drives with safety brake and mechanical limit stop

DFM ... SHK and DFM-ZE ... SHK

Highlights: Safety limit switch
Safety gear
Manual haul chain



Dimension drawings on page 278

Accessories



Welding shafts and blanks from page 287



Brackets Page 289



Connection kit Page 302



Door controls from page 294

Technical data and dimensions

Type	DFM SHK						
	170/12.5	250/12.5	250/27	350/13.5	500/11	500/31	750/11
Rated Voltage (V)	3 ~ 230/400						
Rated frequency (Hz)	50						
Max. torque (Nm) ⁵⁾	170	250	250	350	500	500	750
Speed n ² (min ⁻¹)	12.5		27	13.5	11	31	1
Rated current (A)	3.2/1.85	4.5/2.6	5.2/3.0	4.2/2.4	5.7/3.3	10.0/6.0	6.9/4.0
Power factor (cos φ)	0.58	0.45	0.8	0.6	0.74	0.8	0.68
Insulation class	H						
Power consumption (kW)	0.75	0.8	1.1	1.0	1.7	2.2	1.9
Ingress protection (IP)	54 (optional 65)						
Max. limit switch range mech. (centrally set at 9 revs.)	18						
Rated operating time (S3)	60 %	40 %			60 %		
Max. torque for rolling door operation (Nm) ³⁾							
RTB 80 %	170	200		300		500	650
RTB 100 %	150	170		250		400	550
Coil temperature limiter (°C)	130						
Door cycles per hour \ddot{f} h ⁻¹ ⁴⁾	35	30	45	34	28	50	24
Temperature range (°C)	-10 to +40						
Contin. sound pressure level db (A)	< 60						
Electromagnetic brake	-			•			
Shaft Ø (mm)	30			40			
Key width (mm)	8			12			
Integrated safety brake (Type)	F 40			F 80			
Max torque on safety gear (Nm)	884			2,302			
Deceleration (g)	< 1.5			< 2.0			
Length A (mm)	590			750		775	
Drive weight (kg)	21			22	31		31
TÜV-Sued certificate no.	5/061			5/062			
VDE checked	•		-		•	-	•
VDE EMC checked			•			-	•
Haul chain	•						

Type	170/12.5	250/12.5	250/27	350/13.5	500/11	500/31	750/11
DFM xxx SHK							
Item Number	41 022.0002	41 032.0002	41 582.0002	41 052.0002	41 062.0002	41 622.0002	41 072.0002
DFM-ZE xxx SHK							
Item Number	41 092.0002	41 102.0002	41 592.0002	41 122.0002	41 132.0002	41 632.0002	-

Drives in IP 65 version (surcharge)	•
Item Number 99 000.2701	
Connection kit	•
Item Number 24 350.0101	

Note: If the drive is to be painted subsequently, then the shaft gaskets must remain free of paint. Other voltages and frequencies upon request. Drive for vertical lift gates: If the drives are used for vertical lift gates, the specified rated torques must be reduced by 20 %. 3) Rolling door operation RTB: Rolling door drives with rolling doors are operated dynamically with load change. The S3 operating mode with periodic intermittent duty in accordance with BS EN is tested at the rated torque related to 10 minutes operating time with the defined duty cycle in %. 4) One door cycle is: 5 revolutions OPEN – 30 sec. pause – CLOSE. 5) The rated torques of the drives are guaranteed from -20 °C to 60 °C / -4 °F to 140 °F.

Three-phase chain wheel drives with NHK



Chain wheel drives with mechanical limit stop

DKM ... NHK

Highlights: Safety limit switch
Safety gear
Manual override crank



Dimension drawings on page 282

Assessories



Connection kit
Page 302



Pedestal bearings
Page 285



Chain wheels
Page 286



Door controls
from page 300

Technical data and dimensions

Type	DKM NHK				
	170/12.5	250/12.5	350/13.5	500/11	750/11
Rated Voltage (V)	3 - 230/400				
Rated frequency (Hz)	50				
Max. torque (Nm) ⁵⁾	170	250	350	500	750
Speed n ² (min ⁻¹)	12.5		13.5	11	
Rated current (A)	3.2/1.85	4.5/2.6	4.2/2.4	5.7/3.3	6.9/4.0
Power factor (cos φ)	0.58	0.45	0.6	0.74	0.68
Insulation class	H				
Power consumption (kW)	0.75	0.8	1.0	1.7	1.9
Ingress protection (IP)	54 (optional 65)				
Max. limit switch range mech. (centrally set at 9 revs.)	18				
Rated operating time (S3)	60%	40%		60%	
Max. torque for rolling door operation (Nm) ³⁾					
RTB 80%	170	200	300	500	650
RTB 100%	150	170	250	400	550
Coil temperature limiter (°C)	130				
Door cycles per hour $\frac{1}{h} h^{-1}$ ⁴⁾	35	30	34	28	24
Temperature range (°C)	-10 to +40				
Contin. sound pressure level db (A)	< 60				
Electromagnetic brake	-		•		
Shaft Ø (mm)	30		40		
Key width (mm)	8		12		
Length A (mm)	715		810	835	
Length B (mm)	500		590	615	
Drive weight (kg)	21	22		31	
TÜV-Sued certificate no.	5/061		5/062		
VDE checked			•		
VDE EMC checked			•		

Type	170/12.5	250/12.5	350/13.5	500/11	750/11
DKM xxx NHK					
Item Number	41 271.0002	41 281.0002	41 301.0002	41 311.0002	41 321.0002
DKM-ZE xxx NHK					
Item Number	41 341.0002	41 351.0002	41 371.0002	41 381.0002	41 391.0002

Drives in IP 65 version (surcharge)	•
Item Number	99 000.2701
Connection kit	•
Item Number	24 350.0101

Note: If the drive is to be painted subsequently, then the shaft gaskets must remain free of paint. Other voltages and frequencies upon request. Drive for vertical lift gates: If the drives are used for vertical lift gates, the specified rated torques must be reduced by 20 %. 3) Rolling door operation RTB: Rolling door drives with rolling doors are operated dynamically with load change. The S3 operating mode with periodic intermittent duty in accordance with BS EN is tested at the rated torque related to 10 minutes operating time with the defined duty cycle in %. 4) One door cycle is: 5 revolutions OPEN – 30 sec. pause – CLOSE. 5) The rated torques of the drives are guaranteed from -20 °C to 60 °C/-4 °F to 140 °F.

 RevLine
 Type 9 + 11
 Venetian blind drives
 Speciality drives
 Hausautomation, radio controls, radio sensors
 Hardwired controls sensors
 DKM NHK
 Door controls
 Adapter profiles
 Lifting capacity tables

Three-phase chain wheel drives with SHK



Chain wheel drives with mechanical limit stop

DKM ... SHK

Highlights: Safety limit switch
Chain tensioning bracket
Manual haul chain



Dimension drawings on page 282

Accessories



Connection kit
Page 302



Pedestal bearings
Page 285



Chain wheels
Page 286



Door controls
from page 300

Technical data and dimensions

Type	DKM SHK				
	170/12.5	250/12.5	350/13.5	500/11	750/11
Rated Voltage (V)	3 - 230/400				
Rated frequency (Hz)	50				
Max. torque (Nm) ⁵⁾	170	250	350	500	750
Speed n ² (min ⁻¹)	12.5		13.5	11	
Rated current (A)	3.2/1.85	4.5/2.6	4.2/2.4	5.7/3.3	6.9/4.0
Power factor (cos φ)	0.58	0.45	0.6	0.74	0.68
Insulation class	H				
Power consumption (kW)	0.75	0.8	1.0	1.7	1.9
Ingress protection (IP)	54 (optional 65)				
Max. limit switch range mech. (centrally set at 9 revs.)	18				
Rated operating time (S3)	60%	40%		60%	
Max. torque for rolling door operation (Nm) ³⁾					
RTB 80%	170	200	300	500	650
RTB 100%	150	170	250	400	550
Coil temperature limiter (°C)	130				
Door cycles per hour $\frac{1}{h}$ ⁴⁾	35	30	34	28	24
Temperature range (°C)	-10 to +40				
Contin. sound pressure level db (A)	< 60				
Electromagnetic brake	-		•		
Shaft Ø (mm)	30			40	
Key width (mm)	8			12	
Length A (mm)	590		750		775
Drive weight (kg)	21		22	31	
TÜV-Sued certificate no.	5/061		5/062		
VDE checked			•		
VDE EMC checked			•		

Type	170/12.5	250/12.5	350/13.5	500/11	750/11
DKM xxx SHK					
Item Number	41 272.0002	41 282.0002	41 302.0002	41 312.0002	41 322.0002
DKM-ZE xxx NHK					
Item Number	41 342.0002	41 352.0002	41 372.0002	41 382.0002	41 392.0002

Drives in IP 65 version (surcharge)	•
Item Number 99 000.2701	
Connection kit	•
Item Number 24 350.0101	

Note: If the drive is to be painted subsequently, then the shaft gaskets must remain free of paint. Other voltages and frequencies upon request. Drive for vertical lift gates: If the drives are used for vertical lift gates, the specified rated torques must be reduced by 20 %. 3) Rolling door operation RTB: Rolling door drives with rolling doors are operated dynamically with load change. The S3 operating mode with periodic intermittent duty in accordance with BS EN is tested at the rated torque related to 10 minutes operating time with the defined duty cycle in %. 4) One door cycle is: 5 revolutions OPEN – 30 sec. pause – CLOSE. 5) The rated torques of the drives are guaranteed from -20 °C to 60 °C/-4 °F to 140 °F.

Pole-reversible three-phase shaft mounted drives



Pole-reversible shaft mounted drives with safety brake and mechanical limit stop

DFM-ZE 400/32-16 NHK 3 x 400V 50 Hz

- Highlights:
- Safety limit switch
 - Safety gear
 - Manual override crank



Dimension drawings on page 282

Accessories



Welding shafts and blanks from page 287



Brackets Page 289



Door controls from page 300

Technical data and dimensions

Type	DFM-ZE 400/32-16 NHK 3 x 400V		DFM-ZE 400/32-16 NHK 3 x 230V	
	2 pole (opening)	4 pole (closing)	2 pole (opening)	4 pole (closing)
Rated Voltage (V)	3 ~ 400		3 ~ 230	
Rated frequency (Hz)	50			
Max. torque (Nm)	400	200	400	200
Speed (Upm)	32	16	32	16
Rated current (A)	4.3	2.0	7.5	3.5
Power consumption (kW)	2.3	1.2	2.3	1.2
Ingress protection (IP)	54			
Insulation class	H			
Max. limit switch range mech. (centrally set at 9 revs.)	18			
Duty cycle (S3)	60 %			
Door cycles per hour *	40			
2 additional limit switches	•			
Electromagnetic brake	•			
Shaft Ø (mm)	40			
Integrated safety brake (Type)	F 80			
Max torque on safety gear (Nm)	2,302			
Deceleration (g)	< 2.0			
Length A (mm)	775			
Length B (mm)	615			
Drive weight (kg)	35			
Temperature range (°C)	-10 to +40			
Conformity				
Crank handle	•			

* One door cycle is: 5 revolutions OPEN – 30 sec. pause – CLOSE.

Use of the drives for vertical lift gates etc.: The given rated torque of the drives is to be reduced by 20 %.

Type	2 pole (opening)	4 pole (closing)	2 pole (opening)	4 pole (closing)
Item Number	41 781.0002		41 791.0002	

Drives in IP 65 version (surcharge)	•
Item Number 99 000.2701	
Connection kit	•
Item Number 24 350.0101	

RevoLine

Type 9 + 11

Venetian blind drives

Speciality drives

Hausautomation, radio controls, radio sensors

Hardwired controls sensors

DFM-ZE

Door controls

Adapter profiles
Lifting capacity tables

Single-phase shaft mounted drives/chain wheel drives



Shaft mounted drives with safety brake
Chain wheel drives without safety brake

WFM SHK, WKM SHK
WFM NHK, WKM NHK

WFM ... SHK und WFM ... NHK

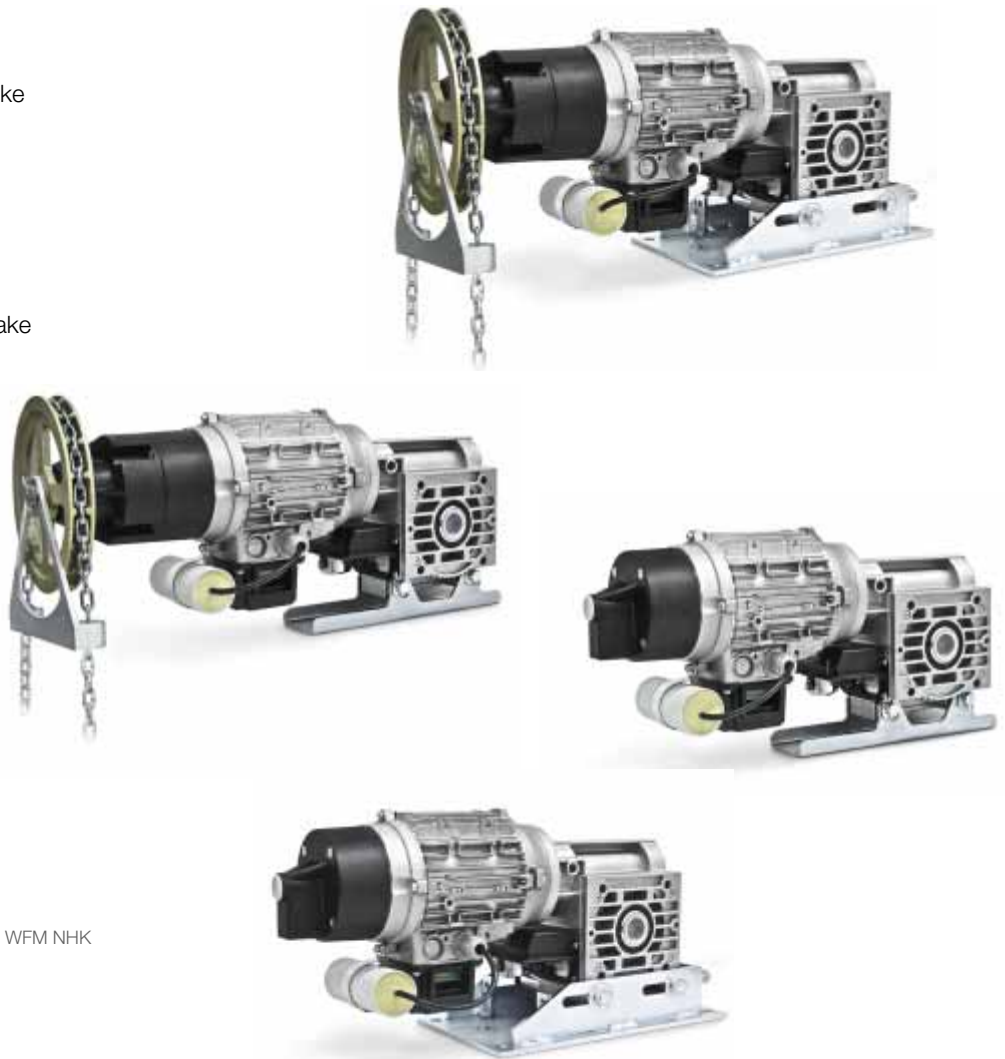
- Shaft mounted drives with safety brake (integrated safety brake)
- Mechanical limit stop incl. operating capacitor
- With haul chain (SHK)
- Incl. crank handle (NHK)

WKM ... SHK und WKM ... NHK

- Chain wheel drives without safety brake
- Mechanical limit stop
- Incl. operating capacitor
- With haul chain (SHK)
- Incl. crank handle (NHK)

Note:

The shaft mounted drives W.M 170 ... can only be operated with the BoxControl D 400 and BoxControl compact 3~230V.



from left: WKM SHK, WFM SHK, WKM NHK and WFM NHK

Dimension drawings on page 282

Accessories



Connection kit
Page 302



Pedestal bearings
Page 285



Door controls
from page 300



Chain wheels
Page 286

Technical data and dimensions

Type	WFM 170/14		WKM 170/14	
	NHK	SHK	NHK	SHK
Rated Voltage (V)	230			
Rated frequency (Hz)	50			
Max. torque (Nm) ⁵⁾	170			
Speed n ² (min ⁻¹)	14			
Rated current (A)	6.7			
Power factor (cos φ)	0.92			
Insulation class	H			
Power consumption (kW)	1.4			
Ingress protection (IP)	54 (optional 65)			
Max. limit switch range mech. (centrally set at 9 revs.)	18			
Rated operating time (S3)	4 min.			
Max. torque for rolling door operation (Nm) ³⁾				
RTB 80 %	-			
RTB 100 %	-			
Coil temperature limiter (°C)	130			
Door cycles per hour $\frac{1}{h}$ ⁴⁾	10			
Temperature range (°C)	-10 to +40			
Contin. sound pressure level db (A)	< 70			
Electromagnetic brake	•			
Shaft Ø (mm)	30			
Key width (mm)	8			
Integrated safety brake (Type)	F 40		-	
Max torque on safety gear (Nm)	884		-	
Deceleration (g)	< 1.5		-	
Length A (mm)	715	590	715	590
Length B (mm)	500	-	500	-
Drive weight (kg)	19			
TÜV-Sued certificate no.	5/061			
VDE checked	-			
VDE EMC checked	-			
Haul chain	•		•	
Crank handle	•		•	

Type	NHK	SHK	NHK	SHK
Item Number	41 011.0003	41 261.0003	41 012.0003	41 262.0003

With 2 potential-free additional limit switches (-ZE)

Item Number	41 081.0003	41 251.0003	41 082.0003	41 252.0003
-------------	-------------	-------------	-------------	-------------

Drives in IP 65 version (surcharge)	•			
Item Number	99 000.2701			
Connecting kit	•			
Item Number	24 350.0101			

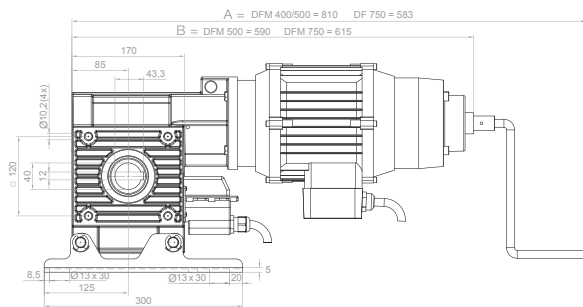
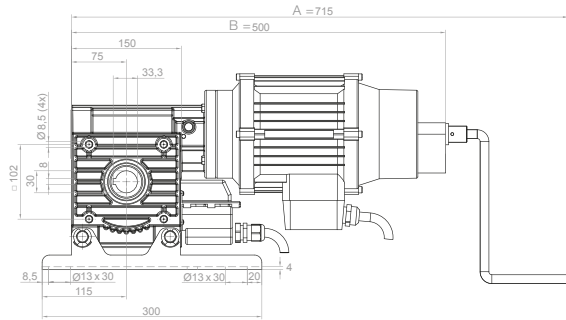
Note: If the drive is to be painted subsequently, then the shaft gaskets must remain free of paint. Other voltages and frequencies upon request. Drive for vertical lift gates: If the drives are used for vertical lift gates, the specified rated torques must be reduced by 20 %. 3) Rolling door operation RTB: Rolling door drives with rolling doors are operated dynamically with load change. The S3 operating mode with periodic intermittent duty in accordance with BS EN is tested at the rated torque related to 10 minutes operating time with the defined duty cycle in %. 4) One door cycle is: 5 revolutions OPEN – 30 sec. pause – CLOSE. 5) The rated torques of the drives are guaranteed from -20 °C to 60 °C / -4 °F to 140 °F.

Mounting dimensions

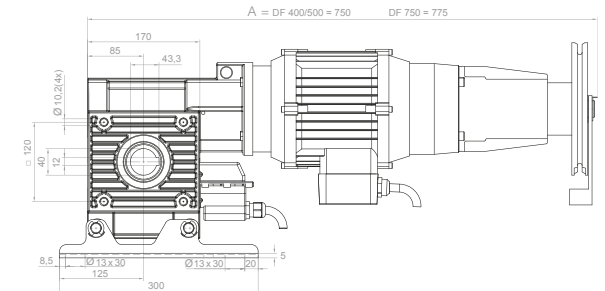
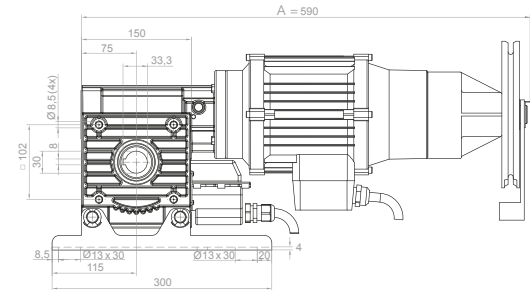
Shaft mounted drives



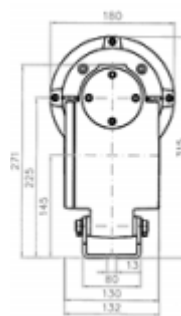
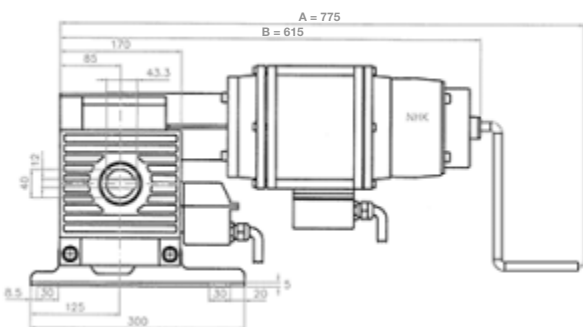
DFM NHK



DFM SHK



DFM ZE (pole-reversible)



(for Ø 40 mm welding shaft, min. length of the key 40 mm)

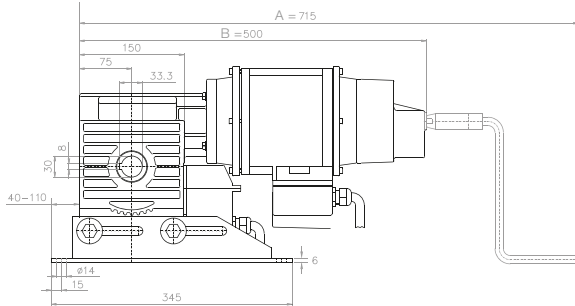
Calculation of the mean lifting speed in cm/second:

$$V_m = \frac{D + d \cdot 3.14 \cdot n}{2 \cdot 60}$$

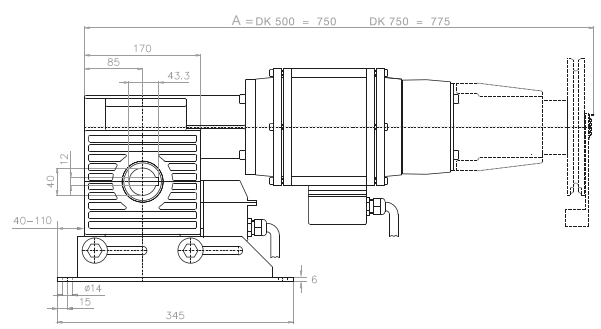
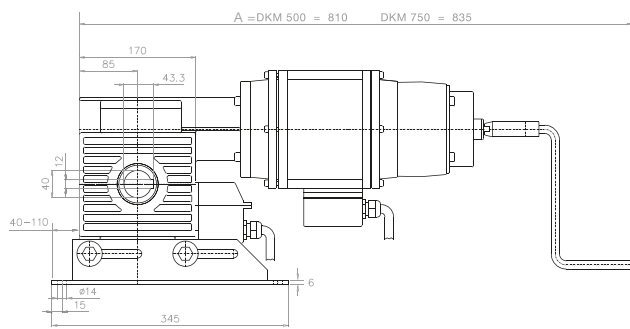
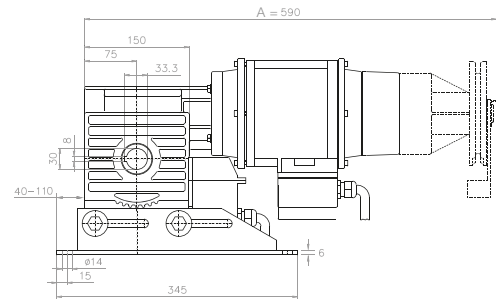
- V_m = Mean lifting speed in cm/second
- D = Roll diameter in cm
- d = Tube diameter in cm
- n = Revolutions per min.

Chain wheel drives

DKM NHK

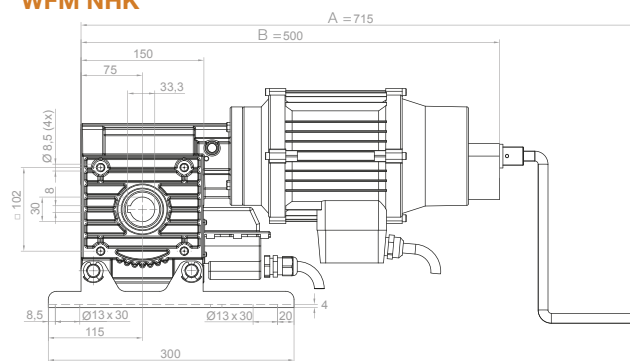


DKM SHK

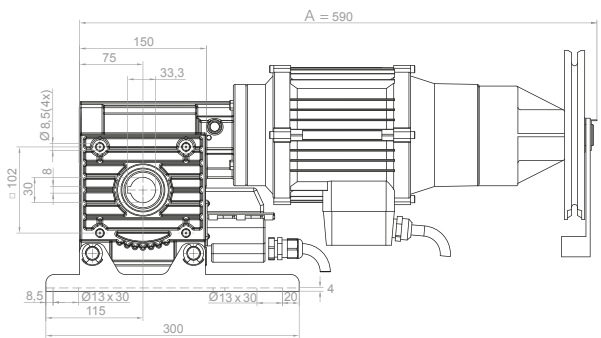


Single-phase shaft mounted drives/chain wheel drives

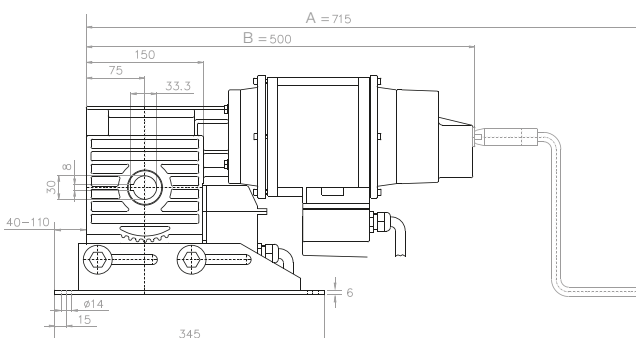
WFM NHK



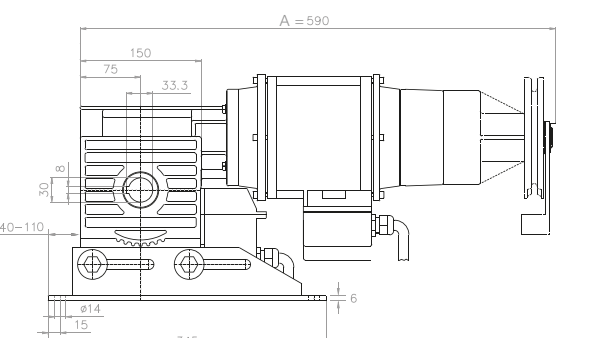
WFM SHK



WKM NHK



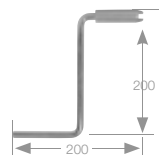
WKM SHK



Manual override accessories for DFM/DKM drives



Crank handle



14 302.9501
Standard



24 334.0501
Crank handle with universal joint for D.M and W.M drives
 $x = 0.55 \text{ m}$



24 334.0701
Crank handle with universal joint for D.M and W.M drives
 $x = 1.35 \text{ m}$

Haul chain (SHK) attachment



24 318.0201
For DFM/WFM/DKM/WKM 100–350 NHK with 3.0 m round steel chain (approx. 1.4 m suspended)



24 376.0201
For DFM/DKM 500–750 NHK with 3.0 m round steel chain (approx. 1.4 m suspended)



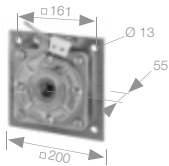
14 300.8901
3.0 m round steel chain
DIN 766 A4 x 16 mm



14 300.9001
Closing link

Safety brakes

with electrical switch off, IP 65, TÜV-Süd certified



24 541.0002

TA 1/2 RD with bracket for wall mounting Ø 30 mm
max. torque : 332 Nm
max. operating speed: 22 rpm
test number: 02165

Pedestal bearing



24 552.0003

TA 1/2 RD Ø 30 mm
max. torque: 332 Nm
max. operating speed: 22 rpm
test number: 02165



24 553.0003

TA 2/3 RD Ø 40 mm
max. torque: 552 Nm
max. operating speed: 22 rpm
test number: 02166



24 530.0001

TA 4 RD Ø 50 mm
max. torque: 1063 Nm
max. operating speed: 18 rpm
test number: 02168

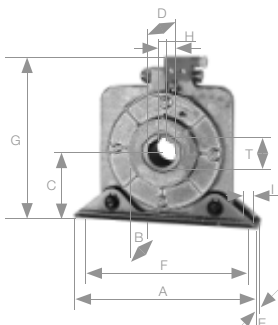


24 531.0001

TA 5 RD Ø 50 mm
max. torque: 1943 Nm
max. operating speed: 12 rpm
test number: 02169

Item number	A	B	C	D ^{H7}	E	F	G	H ⁹	I	T	kg
24 552.0003	210	44	80	30	38	180	185	8	12	33.3	4.5
24 553.0003	260	50	100	40	45	230	225	12	14	43.3	8
24 530.0001	340	78	150	50	75	300	320	14	22	53.8	23
24 531.0001	390	88	180	65	90	340	380	18	22	69.4	37

Choice of safety brake



	24 541.0002 TA 1/2 RD	24 552.0003 TA 1/2 RD	24 553.0003 TA 2/3 RD	24 530.0001 TA 4 RD	24 531.0001 TA 5 RD
Door size h x w mm	3,000 x 3,000		5,000 x 5,000	5,000 x 4,000	5,000 x 7,000
108.0 x 4.0	475				
133.0 x 4.0	450		660		
168.3 x 4.5	370		580	980	
193.7 x 5.4	325		500	925	
219.1 x 5.9	282		470	830	
244.5 x 5.9	246		420	720	
298.5 x 8.0	190		330	610	1,110
323.9 x 8.0			290	560	980
355.6 x 8.0				500	950

These data relate to the complete door weight in kg.

Sprocket with hub

For DKM/WFM 170-350 only use the chain wheel $\frac{3}{4}$ " 20 teeth 24 918.0001.

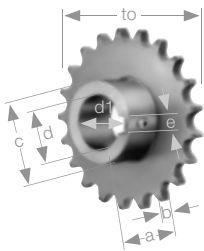
For DKM 500-750 only use the chain wheel 1" 19 teeth 24 919.0401.



$\frac{3}{4}$ x $\frac{7}{16}$ "

Item Number	Tooth count	to	a	b	c	d	d1	e	For reduction
24 918.0001	20	121.8	35	11.1	80	30	33.3	8	1:1
24 919.0101	40	242.8	40	11.1	100	40	43.3	12	2:1
24 919.0201	50	303.4	61	11.1	110	40	43.3	12	2.5:1
24 919.0301	60	364.0	61	11.1	110	50	43.3	12	3:1
24 920.0101	50	303.4	61	11.1	110	50	53.8	14	2.5:1
24 920.0201	60	364.0	61	11.1	110	50	53.8	14	3:1

with set screw fastening see page 287, example c)



1" x 17.02

Item Number	Tooth count	to	a	b	c	d	d1	e	For reduction
24 919.0401	19	154.4	45	15.3	128	40	43.3	12	1:1
24 920.0301	19	154.4	45	15.3	128	50	53.8	14	1:1
24 920.0401	38	307.6	50	15.3	140	50	53.8	14	2:1
24 920.0501	48	388.4	68	15.3	140	50	53.8	14	2.53:1
24 921.0101	38	307.6	50	15.3	110	65	69.4	18	2:1
24 921.0201	48	388.4	68	15.3	110	65	69.4	18	2.53:1
24 921.0301	57	461.0	68	15.3	110	65	69.4	18	3:1

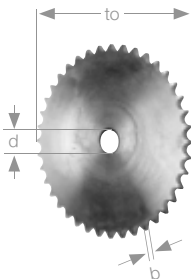
with set screw fastening see page 287, example c)

Sprocket

$\frac{3}{4}$ x $\frac{7}{16}$ "

Item Number	Tooth count	to	b	d	For reduction
14 110.4401	20	121.8	11.1	30	1:1
14 110.4501	40	242.8	11.1	40	2:1
14 110.4601	50	303.4	11.1	40	2.5:1
14 110.4701	60	364.0	11.1	50	3:1
14 110.4801	50	303.4	11.1	50	2.5:1
14 110.4901	60	364.0	11.1	50	3:1

for welding to the winding shaft see page 287, example e)



1" x 17.02 chain

Item Number	Tooth count	to	b	d	For reduction
14 110.5001	19	154.4	15.3	40	1:1
14 110.5101	19	154.4	15.3	50	1:1
14 110.5201	38	307.6	15.3	50	2:1
14 110.5301	48	388.4	15.3	50	2.53:1
14 110.5401	38	307.6	15.3	65	2:1
14 110.5501	48	388.4	15.3	65	2.53:1
14 110.7701	57	461.0	15.3	65	3:1

Chains and chain joints

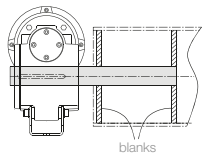
Note: EN 12604 requires drive chains to have a safety factor of at least 6.



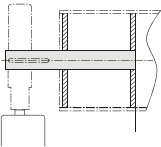
Item Number	Type
14 300.1801	Chain 3/4 x 7/16", breaking load 29,000 N
14 300.1601	Chain joint 3/4 x 7/16"
14 300.1901	Chain 1" x 17.02, breaking load 60,000 N
14 300.1701	Chain joint 1" x 17.02

Welding shafts

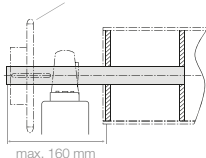
a) Drive side:



b) Bearing side:
with safety brake



c) Drive side:
with chain wheel with hub



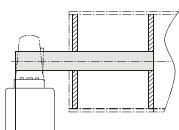
Item Number	Shaft Ø (mm)	Key (mm)	Length (mm)
24 045.0001	30	8 x 7 x 50	500
	a) for DFM/WFM 100 – 350 and BoxLine rolling door drives		
	b) Safety brake TA ½		
	c) Chain wheel with hub		
24 045.0101	40	12 x 8 x 60	500
	a) for DFM/WFM 400 – 750		
	b) Safety brake TA ¾		
	c) Chain wheel with hub		
24 045.0201	50	14 x 9 x 60	600
	b) Safety brake TA 4		
	b) Chain wheel with hub		
24 045.0301	65	18 x 11 x 90	600
	b) Safety brake TA 5		
	b) Chain wheel with hub		

Welding shaft for DKM drives

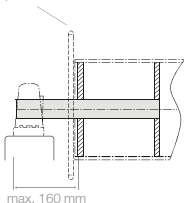
Item Number	
24 334.0201	Short version (also suitable for DKM drives 170 – 350)
24 348.0201	Short version (also suitable for DKM drives 500 – 750)

Welding shaft bearing side

d) Bearing side:



e) Drive side: with full chain wheel



Item Number	Shaft Ø (mm)	Length (mm)
14 110.8001	30	500
14 110.8101	40	500
14 110.8201	50	600
14 110.8301	60	600
	d) For pedestal/flange bearing	
	e) Full chain wheel	

Blanks

Note: 2 blanks required per welding shaft.



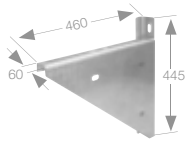
For welding shafts and counterpart supports



Item Number	For shaft Ø (mm)	Blanks Ø (mm)	Thickness (mm)	Hole Ø (mm)
13 117.6001	98 x 2.0; 100 x 3.0; 101.6 x 3.6	93	4	30
14 110.3301	108.0 x 3.6	99	4	30
14 110.3201	133.0 x 4.0	124	6	30
13 117.6101	133.0 x 2.0	128.5	6	30
13 117.6201	159.0 x 4.5	149	6	30
13 119.7601	159.0 x 2.6	153	6	30
14 110.5401	168.3 x 4.5	158.5	6	30
14 110.6001	168.3 x 3.0	161.5	6	30
14 110.9501	193.7 x 5.4	181.5	6	30
14 110.9601	193.7 x 3.0	187	6	30
13 104.6101	133.0 x 4.0	124	6	40
14 102.4201	133.0 x 2.0	128.5	6	40
13 117.6201	159.0 x 4.5	149	6	40
13 102.6001	159.0 x 2.6	153	6	40
13 102.6201	168.3 x 4.5	158.5	6	40
14 102.6701	168.3 x 3.0	161.5	6	40
14 102.6201	193.7 x 5.4	181.5	8	40
14 101.9401	193.7 x 3.0	187	8	40
14 110.6101	219.1 x 5.9	206	8	40
14 110.6201	244.5 x 6.3	231	8	40
14 101.7701	133.0 x 4.0	124	6	50
14 101.7501	133.0 x 2.0	128.5	6	50
14 101.8301	159.0 x 4.5	149	6	50
14 110.5801	159.0 x 2.6	153	6	50
14 101.8701	168.3 x 4.5	158.5	6	50
14 100.5701	168.3 x 3.0	161.5	6	50
14 101.8901	193.7 x 5.4	181.5	8	50
14 110.3401	219.1 x 5.9	206	8	50
14 110.3501	244.5 x 6.3	231	8	50
14 110.3601	273.0 x 6.3	259	8	50
14 110.3701	298.5 x 7.1	283	8	50
14 110.3801	273.0 x 6.3	259	8	65
14 110.3901	298.5 x 7.1	283	8	65
14 110.4001	318.0 x 7.5	302	8	65
14 110.4101	323.9 x 7.1	308	8	65
14 110.4201	355.6 x 8.0	338	8	65
14 110.4301	368.0 x 8.0	351	8	65
14 110.7101	193.9 x 5.4	181.5	8	65
14 110.7201	219.6 x 5.9	206	8	65
14 110.7301	244.5 x 6.3	231	8	65

Brackets

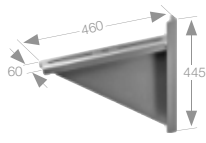
Wallbrackets



max. load: 3,000 N

24 399.0001

With 2 hex bolts M 12 x 50 and nuts for drives DFM/WFM 100 – 350 safety brake TA 1/2 RD

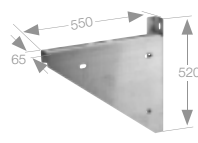


max. load: 3,000 N

24 313.0001

With 2 hex bolts M 12 x 50 and nuts for drives DFM/WFM 100 – 350 safety brake TA 1/2 RD

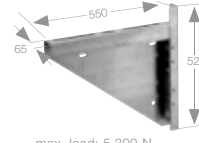
Brackets



max. load: 5,300 N

24 399.0301

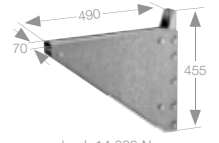
With 2 hex bolts M 12 x 50 and nuts for drives DFM 400 – 750 safety brake TA 2/3 RD



max. load: 5,300 N

24 399.0401

With 2 hex bolts M 12 x 50 and nuts for drives DFM 400 – 750 safety brake TA 2/3 RD

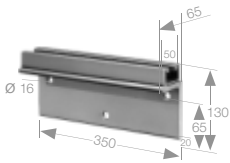


max. load: 14,000 N

14 306.4601

For drives DFM 400 – 750 safety brake TA 4 RD and TA 5 RD

Screw-on angle



max. load: 5,300 N

24 553.0101

For pedestal bearing, safety brake TA 1/2 RD and TA 2/3 RD

Bracket adapter



24 393.0001

For replace Box 15 – 40 to DF 170 – 350



24 394.0001

For replace Box 50 – 75 to DF 500 – 700

Bracket adapter for Riexinger brackets



14 302.8501

For replace Box 15 – 40 to DF 170 – 350



14 302.8601

For replace Box 50 – 75 to DF 500 – 700

RevoLine

Type 9 + 11

Venetian blind drives

Speciality drives

Hausautomation, radio controls, radio sensors

Hardwired controls sensors

DFM/WFM/DKM/WKM

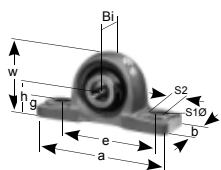
Door controls

Adapter profiles Lifting capacity tables

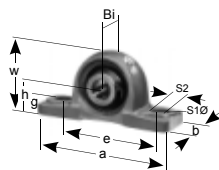
Pedestal bearings and flange bearings



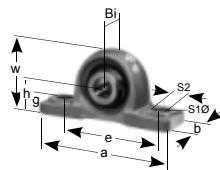
Pedestal bearings



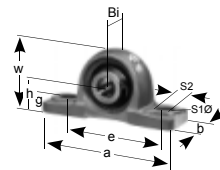
13 300.7701
With set screw fastening
Ø 30 mm



13 305.5401
With set screw fastening
Ø 40 mm



13 300.3901
With set screw fastening
Ø 50 mm



13 305.5501
With set screw fastening
Ø 65 mm

Plate bearings



13 300.3601
Ø 17 mm



13 300.3701
Ø 20 mm

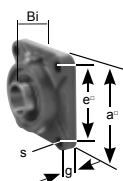


13 300.3001
Ø 17 mm

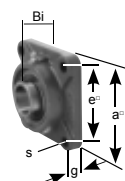


13 300.3101
Ø 20 mm

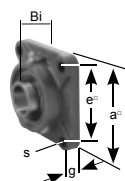
Flange bearings



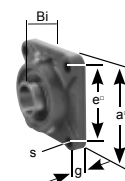
13 300.3201
Ø 30 mm



13 305.5601
Ø 40 mm



13 300.3401
Ø 50 mm



13 305.5701
Ø 65 mm

Item Number	h	a	e	b	S1Ø	S2	g	w	Bi	kg
13 300.7701	42.9	165	121	48	17	21	15	84	38.1	1.3
13 305.5401	49.2	184	137	54	17	21	17	100	49.2	2.0
13 300.3901	57.2	206	159	60	20	22	19	114	51.6	2.7
13 305.5501	76.2	265	203	70	25	29	25	150	65.11	5.6

Item Number	a	e	g	SØ	Bi	kg
13 300.3201	108	83	13	12	38.1	1.1
13 305.5601	130	102	15	16	49.2	2.0
13 300.3401	143	111	16	16	51.6	2.5
13 305.5701	187	149	20	19	65.1	5.5

Screws for pedestal bearings and safety brakes



14 300.5501

T-head screw M 10 x 40 with M 10 nut for fixing the pedestal bearing to the screw-on angle (2 pieces required)



14 300.5601

T-head screw M 12 x 50 with M 12 nut (for pedestal bearings Ø 30 and Ø 40 and safety brake TA 1/2 RD / TA 2/3 RD on the screw-on angle, item no. 24 553.0101)



23 431.0001

Notch arrests for tape fixing (block = 6 pieces)

RevoLine

Type 9 + 11

Venetian blind drives

Speciality drives

Hausautomation, radio controls, radio sensors

Hardwired controls sensors

DFM/WFM/DKM/WKM

Door controls

Adapter profiles Lifting capacity tables



2



Door controls and BoxControl – safety first!



A push of a button is sufficient to operate motorised rolling garage doors, roller grilles or smaller industrial doors reliably and quietly. The DoorControl and SafeControl door controllers have been specially developed for single-phase shaft tube drives with mechanical limit stop and conform to the European standards EN 12453 and EN 12445 "Safety in use of power operated doors". Of course, both controllers are CE compliant and certified by the TÜV.



Control selection table



Safe- and DoorControl

Control selection	SafeControl		DoorControl			
	for rolling doors and roller grilles		for rolling doors		for rolling doors and roller grilles	
			without radio	868.8 MHz	without radio	868.8 MHz
*1) Recommendations for doors shown below						
Doors for commercial and industrial use etc. Pulse control with or without sight of door (maintained mode) Automatic control with traffic lights				•		
Rolling doors or roller grilles for underground garages etc. Automatic control/two-way traffic with red/green traffic light	•			–		•
Features						
Menu-guided parameterisation in German, French and English	•				–	
Two-way traffic control system with request store	•				–	
Automatic closing with traffic light function				•		
Test of the opto-electronic door-edge security system for 8.2 KΩ resistance evaluation				•		
*2) Test of the ingress protection system integrated	•			–		•
Automatic drives switch-off at the end positions				•		
Connection of 'CLOSE' light barrier				•		
Connection of pre-end switch				•		
Garage light connection		•				–
Integrated radio receiver FM 868.8 MHz Integrated radio receiver FM 868.8 MHz		–		•	–	•
Slot for radio module item. no.: 17 700.4301 / 24 147.0001	•			–	•	–
Connection of timer possible				•		

*1) Be sure to follow EN 12453! § 5.5. Table 1 – Follow the „Minimum protection levels for security of main door-edge“! Maintained mode only if this represents no risk of injury or damage. Connection of protection systems is essential.

*2) Ingress protection with testing for roller grille can be connected. Item no.: 17 700.5401 light barriers test unit for 2 one-way light barriers item no.: 24 961.0001 or light barrier requirements: Voltage 24V DC; power consumption $\leq 1.5VA$. Standby delay ≤ 250 ms

Control selection table

Box-, Master- and SoftControl

Control selection	BoxControl-M D 400 with plug-in modules					
	BoxControl-M compact	basic	BoxCard-M plus	premium	*2) MasterControl	SoftControl
*1) Recommendations for doors shown below						
Doors with occasional use, warehouses etc. Control without maintained mode (dead-man)	•	•				
Doors for commercial and industrial halls etc. Pulse signal control with or without sight of door (maintained mode)			•	•	•	•
Rolling doors for underground garages etc. Automatic control/single lane traffic with red/green traffic light				•	•	•
Rolling doors or roller grilles with ingr. prot. for underground garages etc. Automatic control/single lane traffic with red traffic light				•	•	•
Rolling doors or roller grilles with ingr. prot. for underground garages etc. Automatic control/two-way traffic with red/green traffic light					•	•
Features						
Menu-guided parameterisation					•	•
Two-way traffic control system with request store					•	
Automatic closing with traffic light function				•	•	•
Testing the opto-electrical door edge security system. Item no.: 24 275.0001 or door-edge security system with 8.2 kΩ resistance evaluation			•	•	•	•
Testing of the ingress protection external via 'Light barrier test unit', item no.: 17 700.5401				•		
Test of the ingress protection system integrated					•	
Soft starting and stopping Frequency 15 – 100 Hz; for D.M 170 ZE, max. torque 150 Nm						•
Connection of 'CLOSE' light barrier			•	•	•	•
Garage light connection				•	•	•
Slot for radio module item no.: 17 700.4301/24 147.0001			•	•	•	
Slot for Rex 2000 timer item no.: 17 800.3001				•	•	•
Door cycle counter			•	•	•	•
Maintenance interval counter			•	•		
Slot for emergency key switch (dead-man's safety system)			•	•		
Fault or error message				•		
Inspection control system			•	•		

*1) Be sure to follow EN 12453! § 5.5. Table 1 – Follow the „Minimum protection levels for security of main door-edge“! Maintained mode only if this represents no risk of injury or damage. Connection of protection systems is essential.

*2) Ingress protection with testing for roller griller can be connected. Item no.: 17 700.5401 light barriers test unit for 2 one-way light barriers item no.: 24 961.0001 or light barrier requirements: Voltage 24V DC; Power consumption ≤ 1,5VA. Standby delay ≤ 250 ms

RevoLine

Type 9 + 11

Venetian blind drives

Speciality drives

Hausautomation, radio controls, radio sensors

Hardwired controls sensors

Door drives

Door controls

Adapter profiles Lifting capacity tables

DoorControl

Convenient door controllers



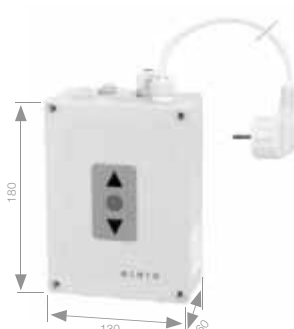
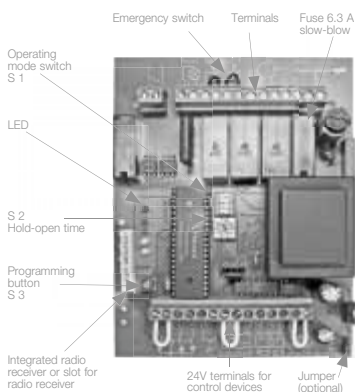
DoorControl
for tubular drives Type 9-15 W NHK
and NMA with mechanical limit stop
1 x 230V/50 Hz

- Door edge detection
- Dynamic motor runtime monitoring
- Output for interior light or warning light
- Automatic operation of door systems with 230V single-phase motors
- DoorControl RG:
Suitable for roller grilles



DoorControl with hand-held radio transmitter

DoorControl



Technical data and dimensions

Type	DoorControl			
	for rolling doors	for roller grilles		
Supply voltage (V)	230			
Rated frequency (Hz)	50 – 60			
Power consumption (W)	max. 6			
On-site fuse protection (A)	max. 10			
Switched current (A)	max. 6			
Switching capacity (VA)	max. 1,300			
Ingress protection (IP)	54			
Internal fuse (A)	6.3 slow-blow			
Temperature range (°C)	-10 to +50			
Dimensions (mm)	L 180 x W 130 x H 60			
Weight (g)	1,000			
TÜV-certified	EN 12453			
Radio version	PL c/Cat. 2 as per EN ISO 13849-1:2008 for the safe function of the door-edge security system			
Incl. radio receiver	•	–		
Incl. hand-held transmitter	•	–		
Incl. slot for radio module	–	•		
Accessories included	The controller is delivered with a 1.5 m long connecting cable with an earthed plug and a membrane keypad (Up-Stop-Down) built into the housing cover.			
Item Number	24 180.0001	24 180.0301	24 180.0101	24 080.0101

Radio receiver in housing 2-command 868.8 MHz for follow-on control	–	•
Item Number 17 700.4201		
Radio module FM 868.8 MHz, 2-command, pluggable	–	•
Item Number 17 700.4301		
Rod antenna FM 868 MHz, 50 Ohm (external antenna for 17 700.4201 and 17 700.4301)		•
Item Number 17 700.4901		
Hand-held radio transmitter 4-command, 868 MHz, range up to 50 m, extremely safe “SOMLOQ” Rolling code system		•
Item Number 17 700.3701		
Wall mount holder for hand-held radio transmitter 17 700.3701		•
Item Number 17 700.3901		

Accessories



Door-edge
security system
Seite 310



Light barrier test unit
Seite 310



Reflection
light barrier
Seite 310



One way “Twin-Safe”
light barrier
Seite 310

SafeControl

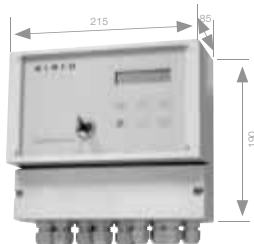
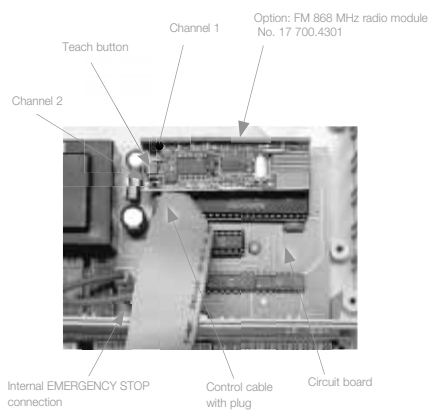
Convenient door controllers for tubular drives



All-rounder for rolling doors and roller grilles

for tubular drives Type 9-15 W NHK and NMA with mechanical limit stop
1 x 230 V/50 Hz

- Automatic closing with one- or two-way traffic control
- Direct connection of the entanglement protection
- Automatic operation of rolling doors and roller grilles with AC tubular motors



Technical data and dimensions

Type	SafeControl
Supply voltage (V)	230
Rated frequency (Hz)	50
Power consumption (W)	max. 13
On-site fuse protection (A)	max. 10
Switched current AC1 (A)	max. 6
Switching capacity (VA)	max. 1,300
Ingress protection (IP)	54
Internal fuse (A)	6.3 slow blow
Temperature range (°C)	-10 to +55
Dimensions (mm)	L 215 x W 190 x H 85
Weight (g)	1,400
TÜV certified	DIN EN 12453
Item Number	24 178.0101

Radio receiver in housing, 2-command 868 MHz for follow-on control	•
Item Number 17 700.4201	
Radio module FM 868 MHz, 2-command, pluggable	•
Item Number 17 700.4301	
Rod antenna FM 868 MHz, 50 Ohm (external antenna for 17 700.4201 and 17 700.4301)	•
Item Number 17 700.4901	
Hand-held radio transmitter 4-command, 868 MHz, range up to 50 m, „SOMLOQ“ Rolling code system	•
Item Number 17 700.3701	
Wall mount holder for hand-held radio transmitter 17 700.3701	•
Item Number 17 700.3901	

Accessories



Door-edge security system
Seite 310

BoxControl



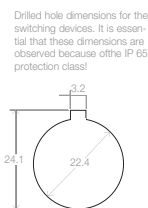
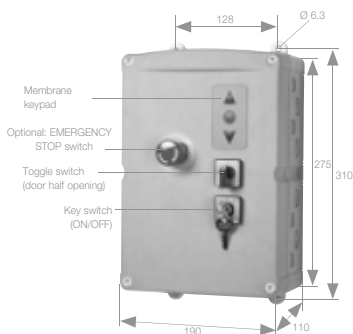
BoxControl-M D 400 and BoxControl-M compact

The modular drive control system for sectional doors, rolling doors and roller grilles

- BoxControl-M D 400:
Only for controlling rolling doors, sectional doors and vertical lift gates equipped with elero three-phase drives
- Must be extended with the following:
BoxCard-M basic, BoxCard-M plus or BoxCard-M premium and plug-in control cable and plug-in motor cable
- BoxControl-M compact D 230:
For DFM/DKM-, WFM/WKM 170 drives with dead man mode
- BoxControl-M compact D 400:
For DFM/DKM drives, with dead man mode

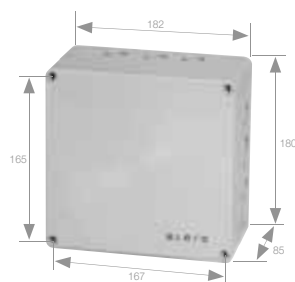


BoxControl-M



The switching devices shown above can be retrofitted at these positions. On the inner face of the cover these positions are marked. Please observe the drilled hole dimensions.

BoxControl-M compact



Housing fastening below the cover screws
Hole diameter = 5 mm

Technical data and dimensions

Type	BoxControl-M		BoxControl-M compact	
	D 400	D 230	D 400	
Rated voltage	3 x 400V/N /PE; 3 x 400V/PE; 3 x 230V/N /PE; 3 x 230V/PE (1 x 230V/PE only M D 400)	3 x 230V (1x230 V/PE)	3 x 400V/PE	
Rated frequency (Hz)	50/60			
On-site fuse protection (A)	10 (3-pole) (CEE-type connector, 16A, clockwise rotating field)		8	
Control voltage	24V DC			
Fuse for external units (AT)	2		-	
Power supply for external units max.	24V DC/250 mA		-	
Max. motor power AC 3	400V 2 kW/230V 2 kW	230V 4 kW	400V 3 kW	
Contactors	Mechanically locked			
Contactors status display	LED "OPEN" and "CLOSE"		-	
Integrated brake relay	Yes		-	
Ingress protection (IP)	65 (cable glands installed vertically downwards)		65	
Temperature range (°C)	-10 to +40			
Dimensions (mm)	H 275 x W 190 x T 110 (HB 310 with screwed connections)	H 180 x W 182 x T 85		
Weight (g)	4,200		-	
VDE checked	DIN EN 50178; DIN EN 60204-1; DIN EN 12453		-	
Accessories included	incl. 3 cable entry diaphragms, without mains lead	with 1.0 m long connected motor and control cables		
Item Number	24 119.0004	24 198.1101	24 199.1101	

BoxCard-M basic (dead man mode)	•	-
Item Number 24 136.0001		
BoxCard-M plus (pulse control)	•	-
Item Number 24 144.0002		
BoxCard-M premium (automatic control)	•	-
Item Number 24 176.0001		



BoxCard-M basic



BoxCard-M plus



BoxCard-M premium

Accessories



Motor and control cables
Page 302



Mains lead
Page 302



Connection sets
Page 302



One way light barrier
Page 310



Device switches
Page 302



Hand-held radio transmitter
Page 310



Door-edge security system
Page 310



Push button
Page 311



Radio module
Page 310

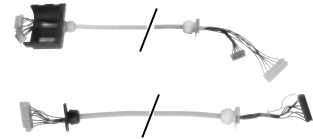


Rod antenna
Page 310

Motor and control cables for BoxControl-M D 400

for DFM/DKM and WFM/WKM 170
with plug-in screws and plug-in terminals on both sides

Item Number	Length 5.0 m	Length 8.0 m	Length 10.0 m
24 172.1501	•		
24 172.1801		•	
24 172.2001			•



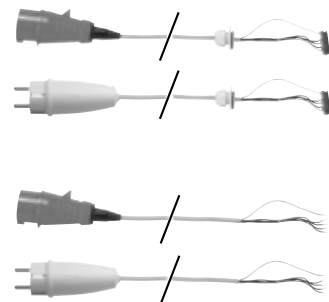
for DFM/DKM and WFM/WKM 170 ZE
with plug-in screws and plug-in terminals on both sides

24 172.0501	•		
24 172.0801		•	
24 172.1001			•

Mains

for BoxControl-M D 400
with plug-in screws and plug-in terminals

Item Number	Length 1.5 m with CEE-Stecker, 16 A	Length 1.5 m with earthed plug, 1 x 230V
24 172.0001	•	
24 600.9001		•



for BoxControl-M compact
with plug-in screws and plug-in terminals

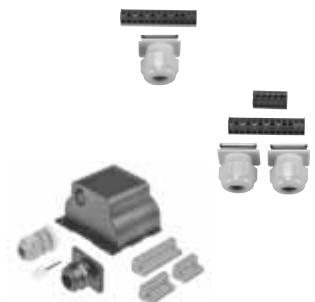
24 177.0001	•	
24 600.9101		•

Connection sets

for BoxControl for deliveries without connecting cables

Item Number	1 x plug-in terminal with 1 x plug in screw	2 x plug-in terminal with 2 x plug in screw
Mains connection set		
24 119.8301	•	
Motor and limit switch connection set		
24 119.8401		•

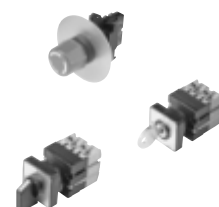
24 350.0101 Connection kit for drives without motor- und control cables



Device switches

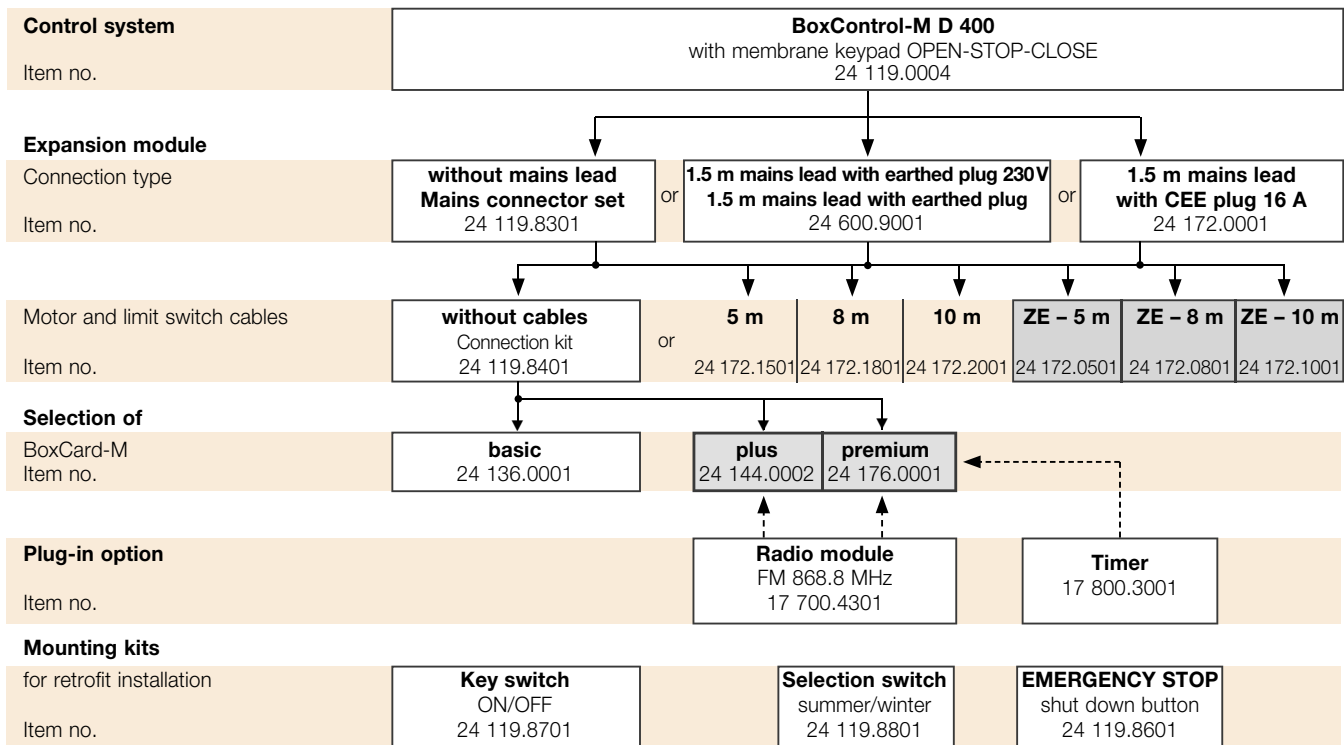
for retrofit installation in the housing cover

Item Number	EMERGENCY STOP (shut down button) with connection strands	Key switch ON-OFF (Automatic on/off switching) with connection strands	Selection switch S/W (half door opening) with connection strands
24 119.8601	•		
24 119.8701		•	
24 119.8801			•



Order instructions

BoxControl for WFM/WKM 170 and DFM/DKM 100–750



Recommendation:
In case all functions are used fully for BoxCard-M plus and premium drives use ZE additional limit switches.

BoxControl for pole-reversible drives



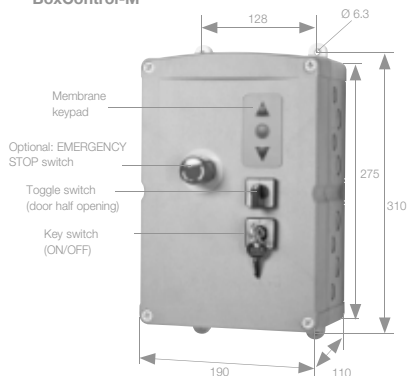
BoxControl-M D 400/2 P

The modular drive control system for sectional doors, rolling doors and roller grilles

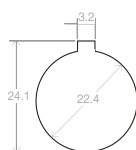
- Only for controlling rolling doors with elero DFM 400/32–16 drives and original elero control cable and motor cable
- Must be extended with BoxCard-M basic, BoxCard-M plus or BoxCard-M premium, and plug-in control cable and plug-in motor cable



BoxControl-M



Drilled hole dimensions for the switching devices. It is essential that these dimensions are observed because of the IP 65 protection class!



The switching devices shown above can be retrofitted at these positions. On the inner face of the cover these positions are marked. Please observe the drilled hole dimensions.

Technical data and dimensions

Type	BoxControl-M 400/2 P
Rated voltage	3 x 400V/N /PE; 3 x 400V/PE; 3 x 230V/N /PE; 3 x 230V/PE
Rated frequency (Hz)	50/60
On-site fuse protection (A)	10 (3-pole) (CEE-type connector, 16 A, clockwise rotating field)
Control voltage	24V DC
Fuse for external units (AT)	2
Power supply for external units max.	24V DC/250 mA
Max. motor power AC 3	400V 2,3 kW/230V 2,3 kW
Contactor	Mechanically locked
Contactor status display	LED "OPEN" and "CLOSE"
Integrated brake relay	Yes
Ingress protection (IP)	65 (cable glands installed vertically downwards)
Temperature range (°C)	-10 to +40
Dimensions (mm)	H 275 x W 190 x T 110 (HB 310 with screwed connections)
Weight (g)	4,200
VDE checked	DIN EN 50178; DIN EN 60204-1; DIN EN 12453
Accessories included	BoxControl-M D 400/BoxControl-M D 400/2 P: incl. 3 cable entry diaphragms, without mains lead BoxControl-M Compact: with 1.0 m long connected motor and control cables, without mains unit

Item Number	24 196.0001
-------------	-------------

BoxCard-M basic (dead man mode)	•
Item Number 24 136.0001	
BoxCard-M plus (pulse control)	•
Item Number 24 144.0002	
BoxCard-M premium (automatic control)	•
Item Number 24 176.0001	



BoxCard-M basic



BoxCard-M plus



BoxCard-M premium

Accessories



Motor and control cables
Page 306



Mains lead
Page 306



Connection sets
Page 306



One way light barrier
Page 310



Device switches
Page 306



Hand-held radio transmitter
Page 310



Door-edge security system
Page 310



Rod antenna
Page 310



Push button
Page 311



Radio module
Page 310

RevoLine

Type 9 + 11

Venetian blind drives

Speciality drives

Hausautomation, radio controls, radio sensors

Hardwired controls sensors

Door drives

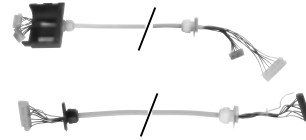
Door controls

Adapter profiles Lifting capacity tables

Motor and control cables for BoxControl-M D 400/2 P

for pole-reversible drives with plug-in screws and plug-in terminals on both sides

Item Number	Length 5.0 m
24 197.0501	•



Mains

for BoxControl-M D 400 and D 400/2P with plug-in screws and plug-in terminals on both sides

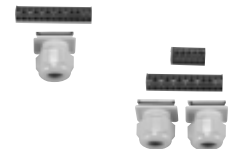
Item Number	Length 1.5 m with CEE-Stecker, 16 A	Length 1.5 m with earthed plug, 1 x 230V	Length 8.0 m
24 172.0001	•		



Connection sets

for BoxControl for deliveries without connecting cables

Item Number	1 x plug-in terminal with 1 x plug in screw	2 x plug-in terminal with 2 x plug in screw
Mains connection set		
24 119.8301	•	
Motor and limit switch connection set		
24 119.8401		•

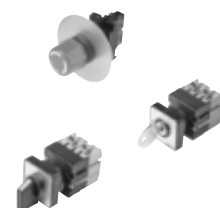


24 350.0101	Connection kit for drives without motor- und control cables
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Device switches

for retrofit installation in the housing cover

Item Number	EMERGENCY STOP (shut down button) with connection strands	Key switch ON-OFF (Automatic on/off switching) with connection strands	Selection switch S/W (half door opening) with connection strands
24 119.8601	•		
24 119.8701		•	
24 119.8801			•



MasterControl/SoftControl

MasterControl RD 400 ZE/SoftControl RD 230 ZE



Versatile door control for DFM/DKM roller shutter drives

- *MasterControl RD 400 ZE:*
 - Automatic rolling door systems and roller grilles
 - Automatic operation of door systems
 - System state displayed via LCD display
 - In the event of a fault or during setup, the drive can be moved manually in dead man's mode via the UP/DOWN PCB keys
- *SoftControl RD 230 ZE:*
 - For DFM/DKM 170 ZE rolling doors
 - Test of the door-edge security system as per category 2
 - System state displayed via LCD display
 - In the event of a fault or during setup, the drive can be moved manually in dead man's mode via the UP/DOWN PCB keys
- *Control voltage 24V DC*
- *Connection to 230V three-phase current drives only*



MasterControl, SoftControl

Technical data and dimensions

Type	MasterControl RD 400 ZE	SoftControl RD 230 ZE	
Power supply	3 x 400V/N/PE; 3 x 230V/PE, 50 Hz +/- 10%	230V, 50 Hz +/- 10%	
Power consumption (VA)	Standby max. 13VA		
Control voltage (V DC)	24		
Switching power (kW)	2.2	1.1; 3 x 230V	
Frequenz (Hz)	-	10 to 100	
Ingress protection (IP)	65		
On-site fuse protection (A)	max. 10 Switching current of the lamp outputs: max. 2		
Controller fuse (A)	2 x A slow-blow	F1: 8 A slow-blow or AH for converter F2: 2 A slow-blow for brake chopper	
Temperature range (°C)	-10 to +55		
Storage temperature (°C)	-20 to +70		
Dimensions (mm)	H 380 x W 300 x T 155		
Weight (g)	11,500	9,900	
VDE checked			
Plug-in motor and limit switch cable (m)	5.0	2.0	
Mains lead (m)	1.5 with CEE plug 16 A		
		1.0 with earthed plug	
Item Number	24 185.0001	24 186.0001	24 166.0001

MasterControl

Application:

- Automatic rolling door systems and roller grilles
- 400/230V 50 Hz three-phase current
- Control voltage 24V DC
- 1.5 m mains lead with CEE plug 16 A
- optional connection of an opto-electrical door-edge security system OSE
- or 8,2 kΩ resistance evaluation
- Connection of the ingress protection – one-way light barrier, item no. 24 960.0301 or 24 961.0001
- Test of the door-edge security system and ingress protection as per category 2
- Automatic closing with various traffic light functions: Pre-warning, traffic regulation for 1- or 2-way
- Menus in German, English or French
- Sheet metal housing degree of protection IP 66; colour RAL 7035 (light grey)

SoftControl

Application:

- Automatic rolling doors for garages etc.
- Input: 230V 50 Hz single-phase current
- Output: 230V three-phase current 1.0 kW 25 to 100 Hz
- Control voltage 24V DC
- 1.0 m mains lead with earthed plug
- 2.0 m shielded, plug-in motor and limit switch cables
- optional connection of an opto-electrical door-edge security system OSE
- or for 8.2 KΩ resistance evaluation
- Test of the door-edge security system as per category 2

Note:

- Connection to 230V three-phase current drives only
- 150 Nm torque for DFM/DKM 170
- Speed 6.5 – 25 rpm
- Screened cable with a max. length of 2.0 m must be used for the connecting cables from the frequency converter to the drive

Accessories



Door-edge security system
Page 310



One way light barrier
Page 310



Push button
Page 311



Radio module
Page 310

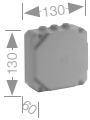


Rod antenna
Page 310

Door controls – electrical accessories

Radio remote control 868.8 MHz

Radio receiver in housing
2-command 868.8 MHz



17 700.4201
For follow-on control power supply, 230V AC op. modes: Push-button mode switch mode, on/off timer mode switch-off delay up to 250 sec.

Radio module FM 868.8 MHz, 2-command



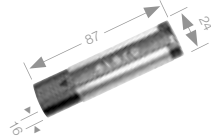
17 700.4301
Can be plugged into BoxCard plus and premium DoorControl 24 180.0101, usable in SafeControl, MasterControl, SoftControl

Rod antenna FM 868.8 MHz



17 700.4901
External antenna for radio receiver 17 700.4201 and for the radio module 17 700.4301
50 Ohm – coaxial cable (10.0 m)

Hand-held radio transmitter
4-command 868.8 MHz



17 700.3701
Range up to 50 m, depending on environment, safe "SOMLOQ" Rolling code system, 3V Battery, CR 2032
Size: 87 x 24 x 16 mm

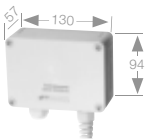
Wall mount holder



17 700.3901
For hand-held radio transmitter 17 700.3701

Safety for crushing, shearing and ingress points

Door-edge security system
(Opto-electronic safety edge)

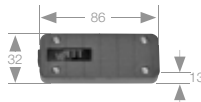


14 705.9002
Evaluation device for mains voltage 230V/50 Hz, switching contact, potential-free (in plastic housing IP 66)



24 275.0001
Transmitter, cable length 1.0 m receiver, cable length 10.5 m range from 1.0 – 8.0 m max, Ø 11 mm

Connection box (on blind)



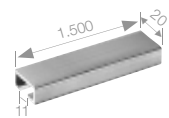
23 173.0002
With strain relief for spiral cable integrated plug on/screw type terminals incl. screwdriver



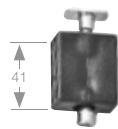
14 705.2801
Spiral cable 3 x 0.5 mm² extendable from 0.9 – 3.0 m



14 706.2601
Safety edge rubber hollow double profile with seal flap



14 701.0602
Aluminium C-rail for safety edge rubber 1.5 mm long



23 255.0002
Stoppers (pair)

Reflection light barrier with polarizer IP 67



24 960.0201
Accessories: Reflector, angle bracket, screw connections and fixing screws for the support brackets. Range: 0.50 ... 15.0 m; Rated voltage: 15 – 45V DC or 24V AC; Ready to operate: < 100 ms; Rated current: max. 30 mA/24V

Note: The reflectors for the reflection light barriers can fog up outdoors due to weather effects, frost etc, thus drastically reducing their range. Recommendation: One-way light barriers are suitable outdoors even in tough conditions

One way light barrier IP 67



24 961.0001
Set: Transmitter, receiver and fastening part. Plastic. Range: max. 50.0 m; rated voltage: 20–230V AC/DC Exit: relais

Weather protection hoods



14 306.8501
for reflection light barriers or one-way light barriers



14 306.8601
for reflectors

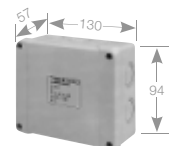
One way "Twin-Safe" light barrier



24 960.0301
Accessories: Angle bracket

Range: 1.0 – 20.0 m,
Rated voltage:
10 – 30V DC
Opening angle: < 4°,
Rated current: 70 mA

Light barrier test unit for pull up protection



17 700.5401
Functions only with BoxCard Premium for 2 one-way light barriers item no. 24 961.0002 or 24 960.0301

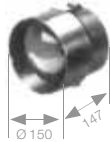
Timers and traffic lights

Rex 2000 plug-in weekly timer

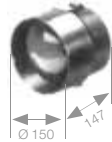


17 800.3001
for Master-, SoftControl and BoxCard premium

LED lamp E27 25 mA;
1 x 230V 50/60 Hz



14 700.3801
Lamp red



14 700.3901
Lamp green

Switches and push-buttons

Venetian blind switches/push-buttons
for single-phase motors, surface mount



14 701.1701
Switch surface mount,
water-protected



14 701.2101
Push-button surface mount,
water-protected



Surface mount key switch
IP 54

14 701.3301
with latched position on
both sides and cover
lock



14 701.3601
momentary on one side
latching on the other,
and cover lock



14 701.3801
momentary on one
side single pole, and
cover lock

Flush mount key switch
IP 54



14 701.3901
with latched position on both
sides and cover lock



14 701.4201
momentary on both sides
and cover lock



14 701.4401
momentary on one side
and latching on the other,
cover lock

Surface mount
push-button



14 701.2401
Single pole,
Push-button

Push-button surface mount,
water-protected
IP 54



14 701.2501
UP-DOWN



14 701.2901
UP-STOP-DOWN

Surface mount combined
key and pushbutton switch
IP55



14 701.4501
Key switch UP-DOWN,
momentary on both sides
and pushbutton STOP

Flush mount combined
key and pushbutton
switch, IP 55



14 701.4801
Key switch UP-DOWN,
momentary on both sides
and push-button STOP



14 703.1301
Pull switch (momentary
contact), surface mount,
aluminium housing



14 703.2601
Lockable main switch,
surface mount,
3-pole 400V 4 kW



14 703.2701
Emergency shut down
button, surface mount

RevoLine

Type 9 + 11

Venetian blind drives

Speciality drives

Hausautomation, radio
controls, radio sensors

Hardwired controls
sensors

Door drives

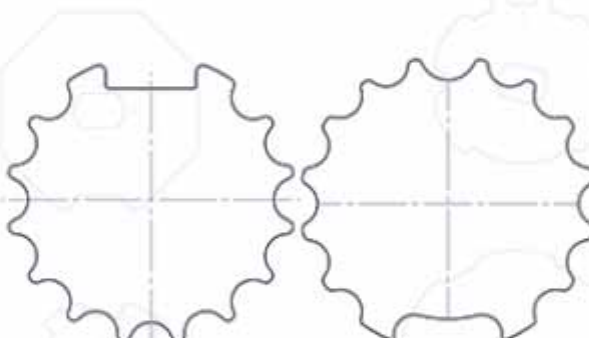
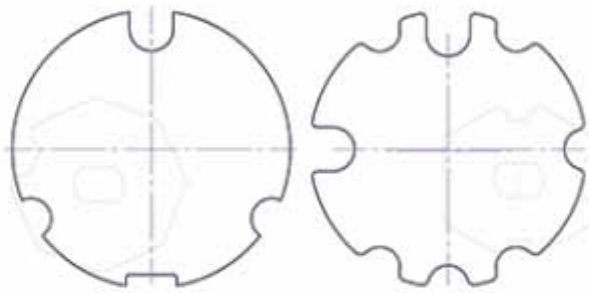
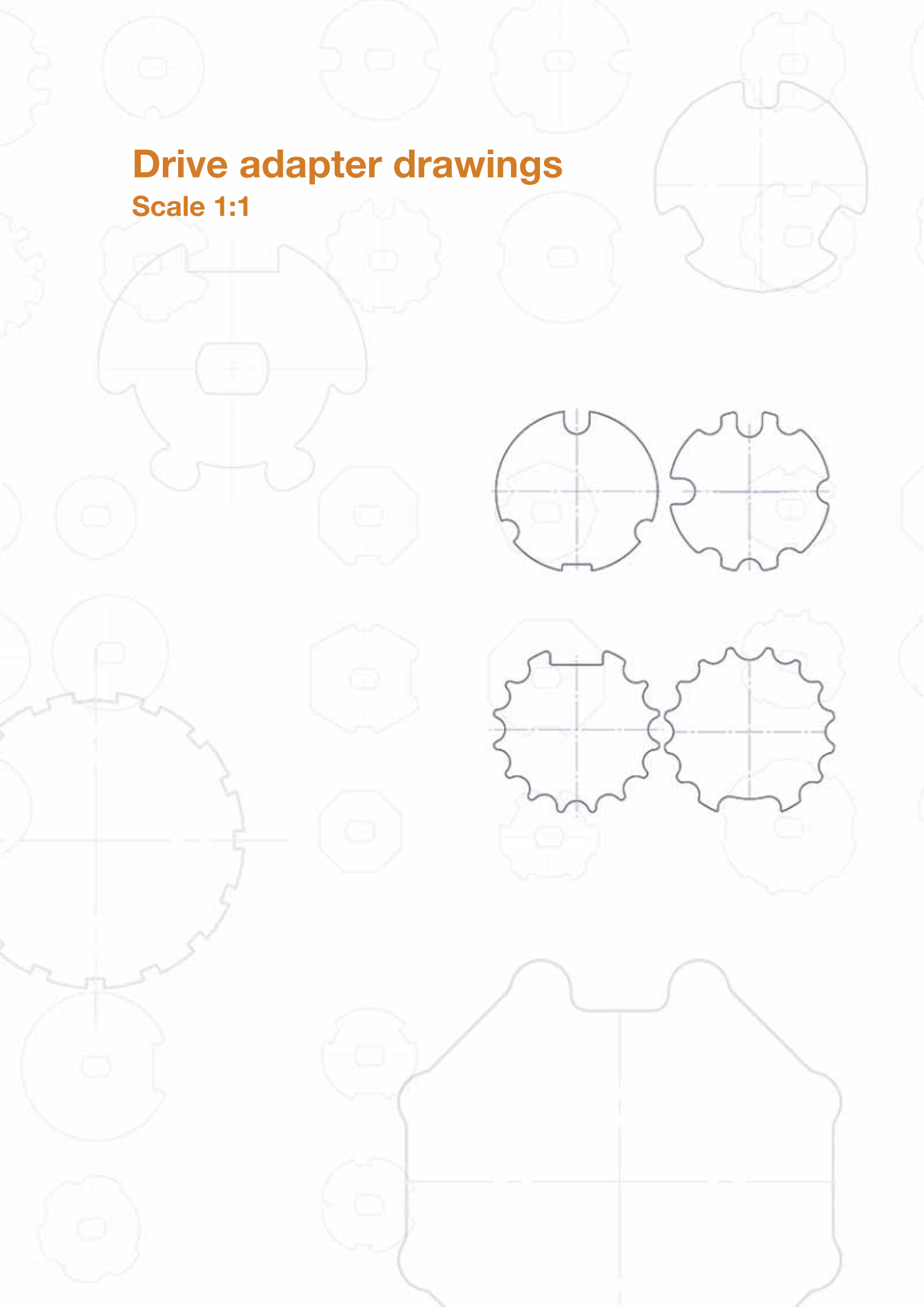
Door controls

Adapter profiles
Lifting capacity tables



Drive adapter drawings

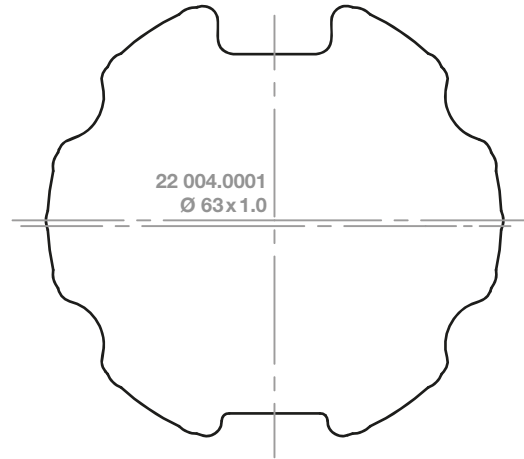
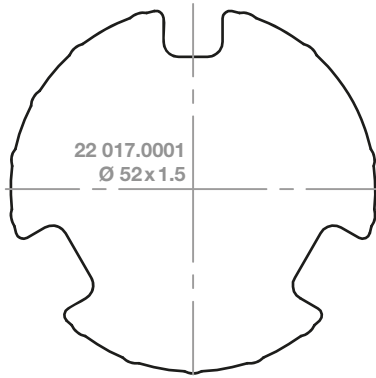
Scale 1:1



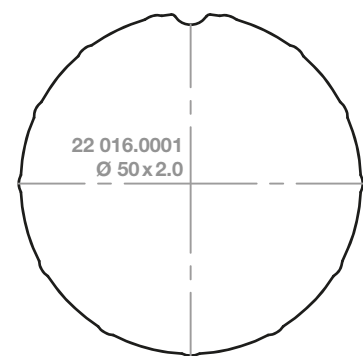
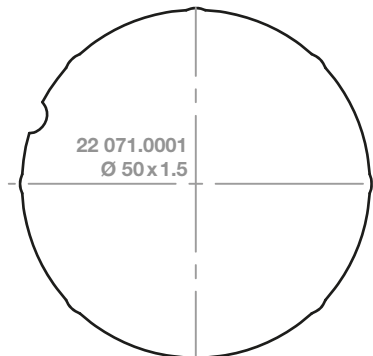
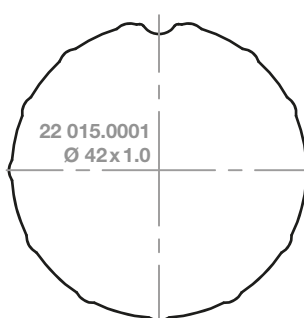
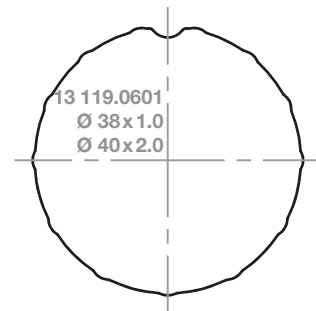
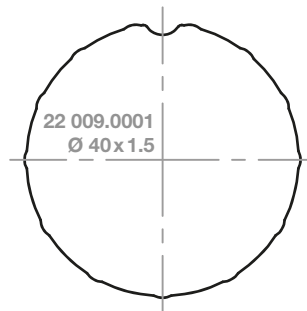
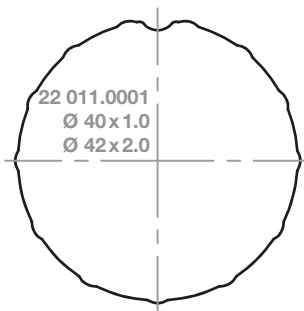
RevoLine S

1:1 scale / Dimensions in millimeters

Notch tubes

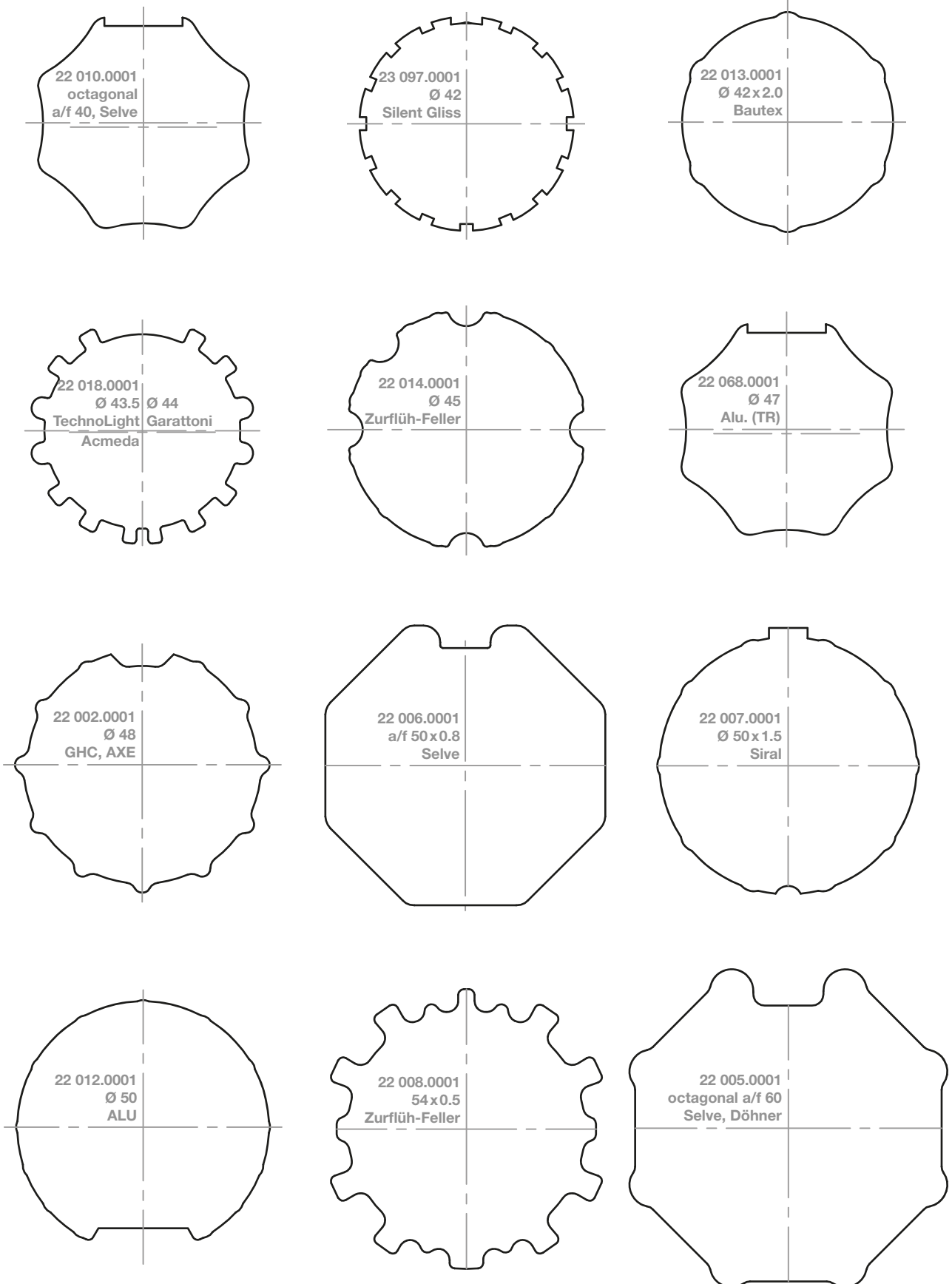


Round tubes



1:1 scale / Dimensions in millimeters

RevoLine S
Profile tubes

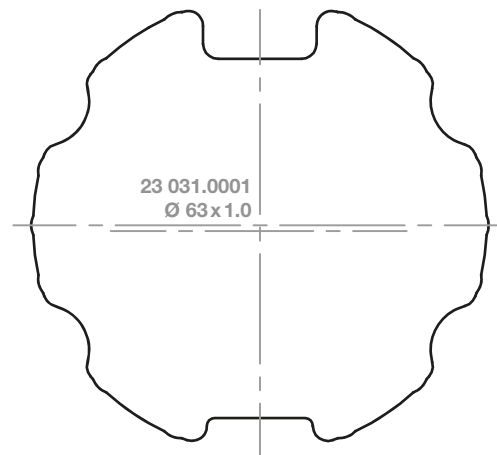
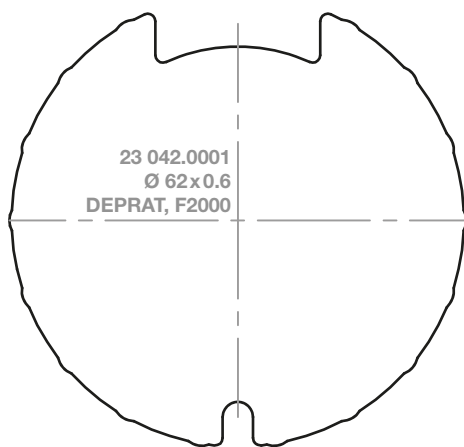
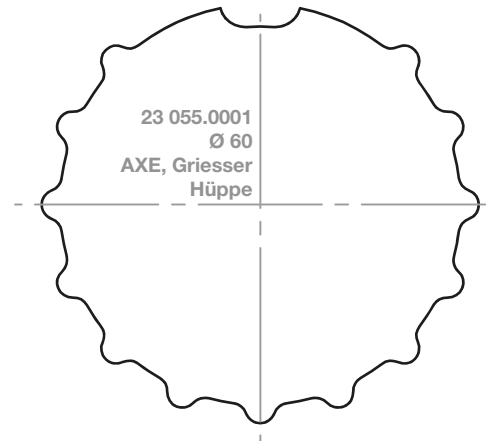
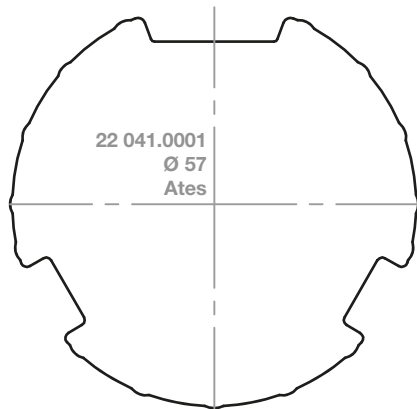


RevoLine
Type 9 + 11
Venetian blind drives
Speciality drives
Hausautomation, radio controls, radio sensors
Hardwired controls sensors
Door drives
Door controls
Adapter profiles

RevoLine M

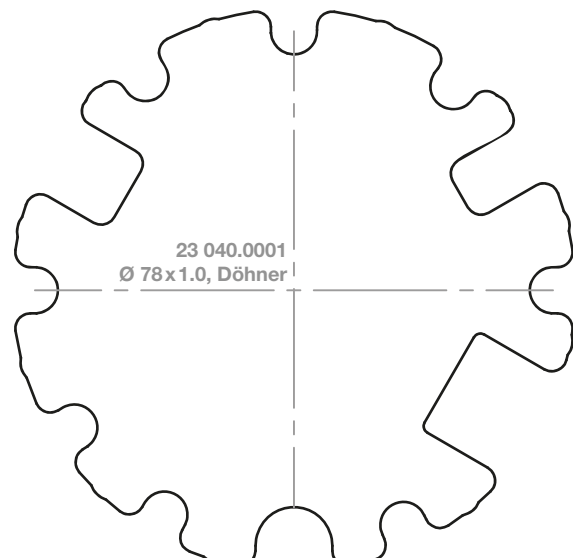
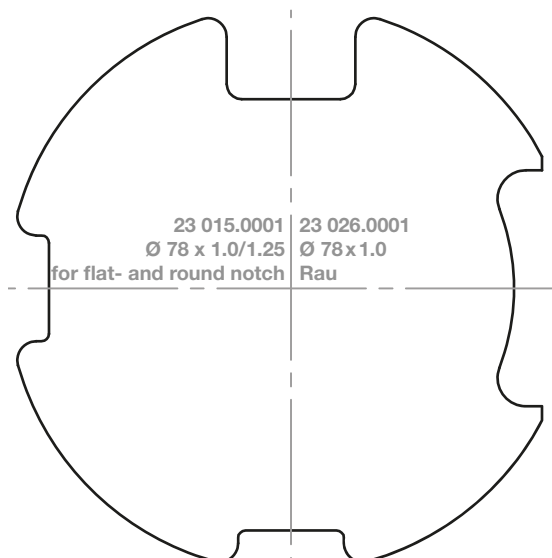
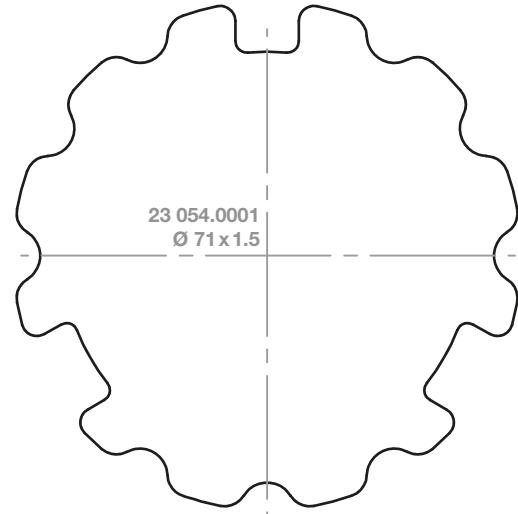
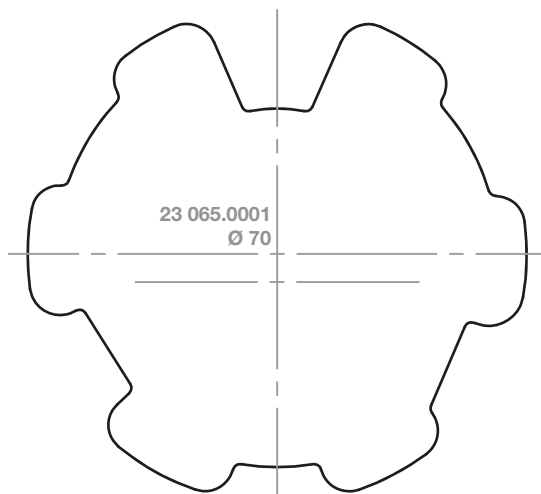
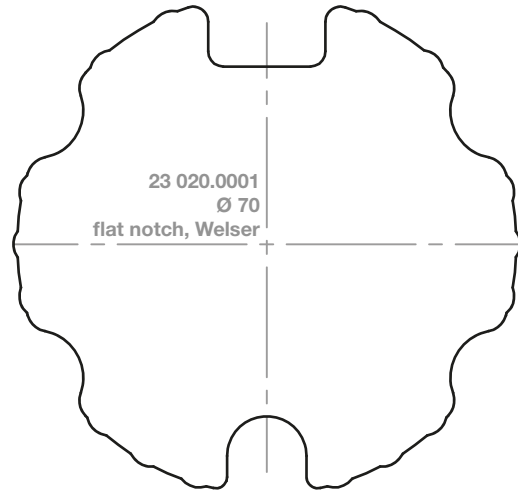
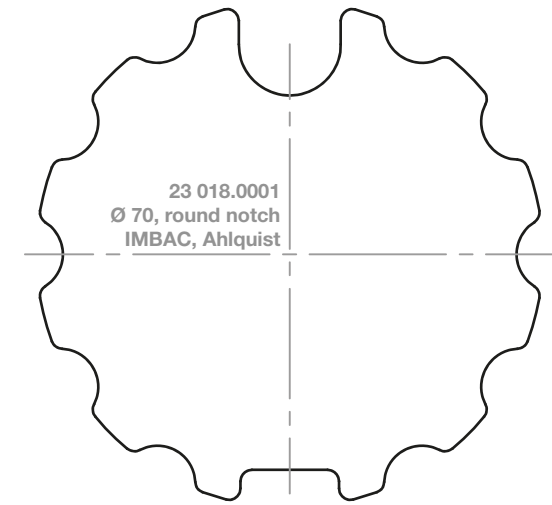
1:1 scale / Dimensions in millimeters

Notch tubes



1:1 scale / Dimensions in millimeters

RevoLine M
Notch tubes



RevoLine

Type 9 + 11

Venetian blind drives

Speciality drives

Hausautomation, radio controls, radio sensors

Hardwired controls sensors

Door drives

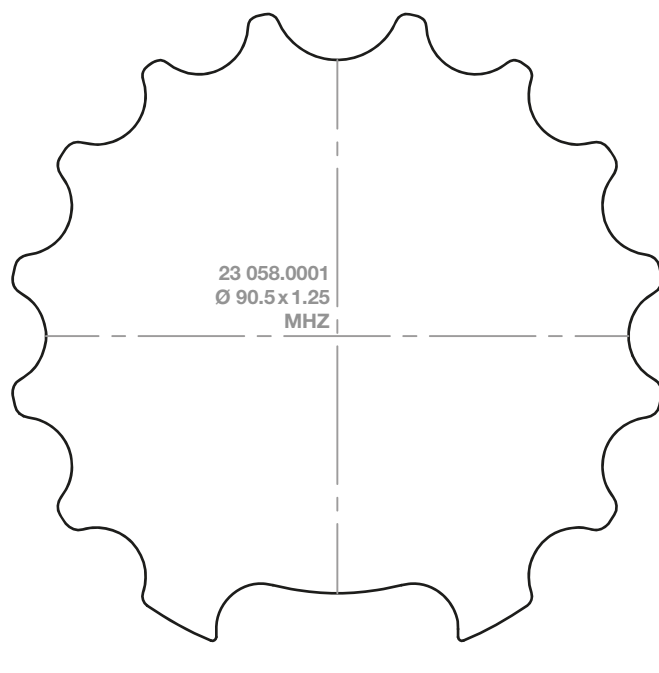
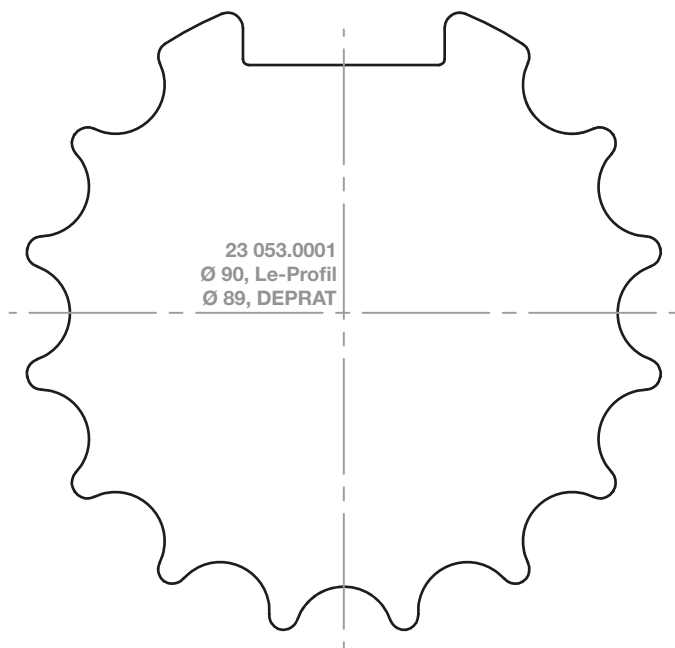
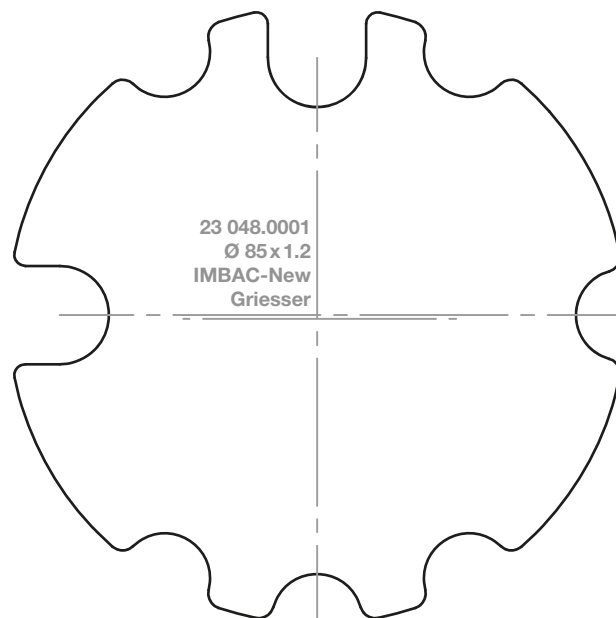
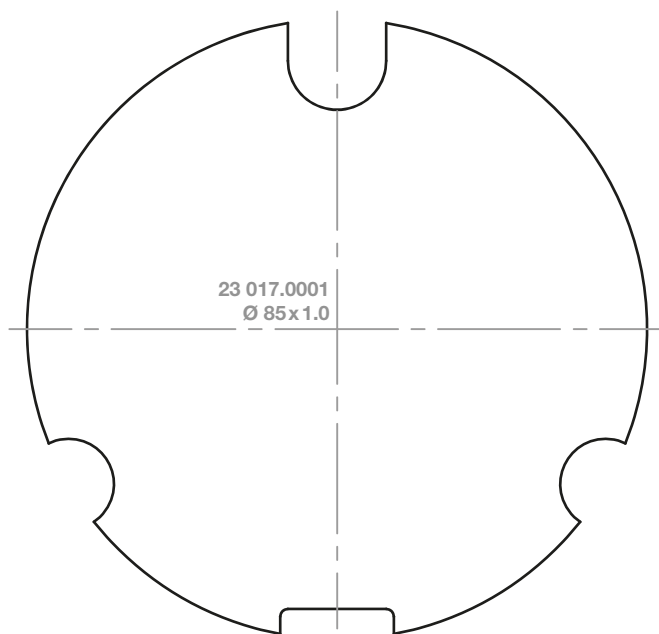
Door controls

Adapter profiles

RevoLine M

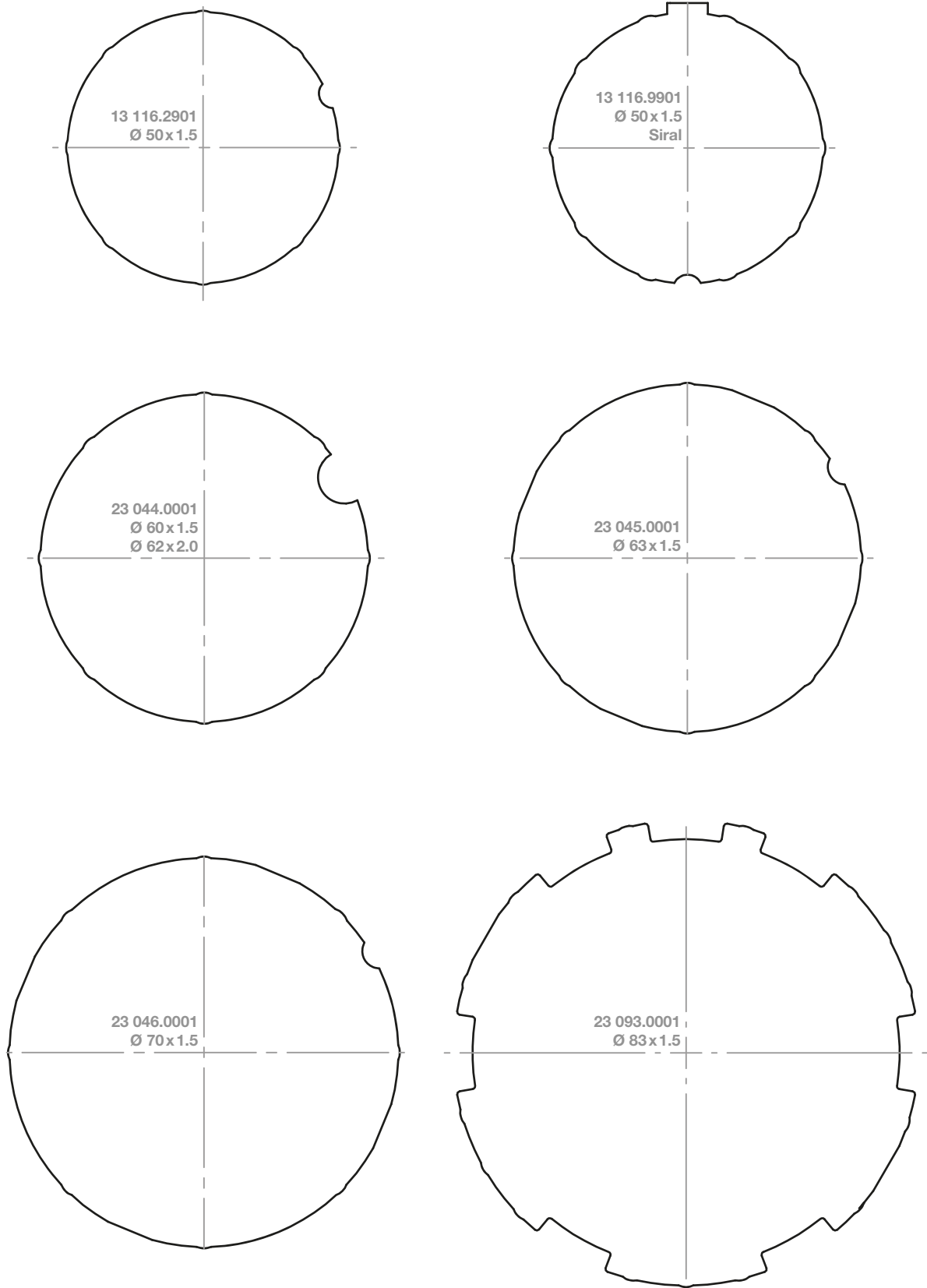
1:1 scale / Dimensions in millimeters

Notch tubes



1:1 scale / Dimensions in millimeters

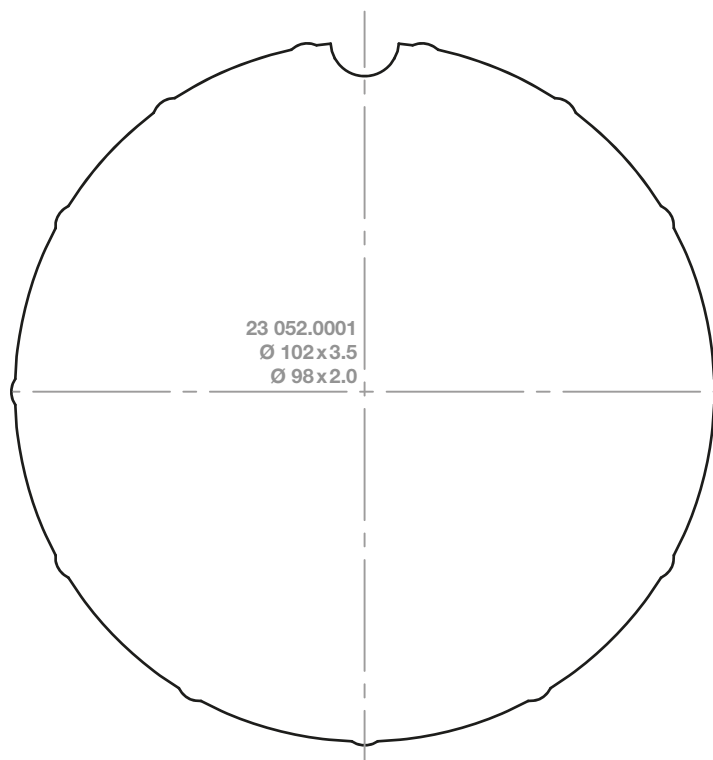
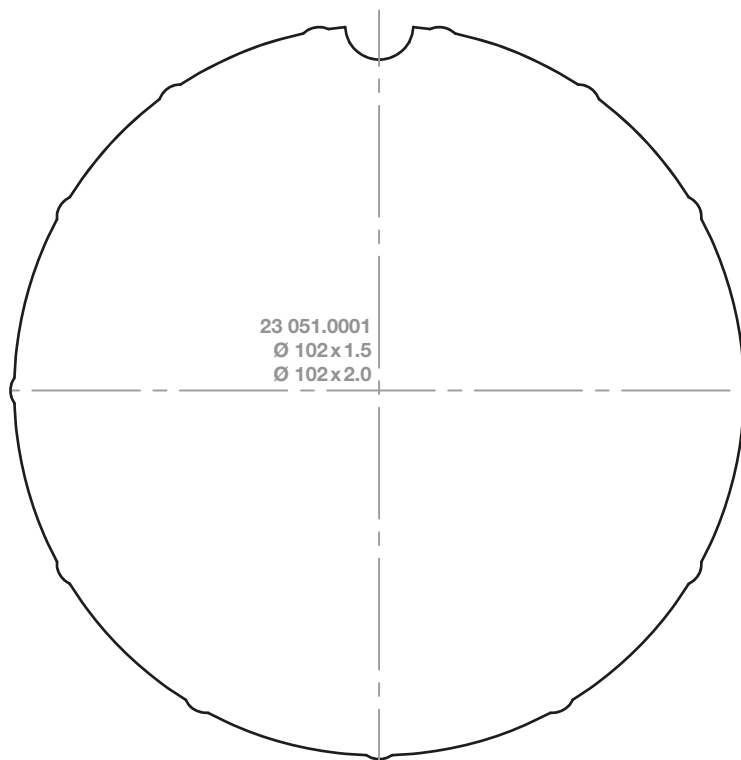
RevoLine M
Round tubes



RevoLine
Type 9 + 11
Venetian blind drives
Speciality drives
Hausautomation, radio controls, radio sensors
Hardwired controls sensors
Door drives
Door controls
Adapter profiles

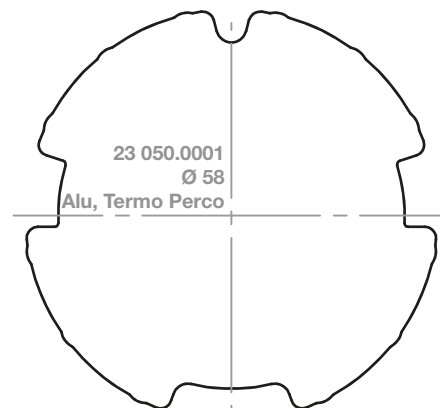
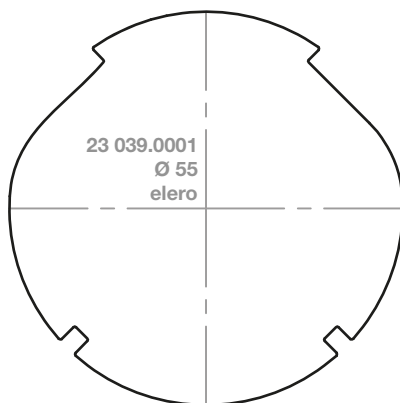
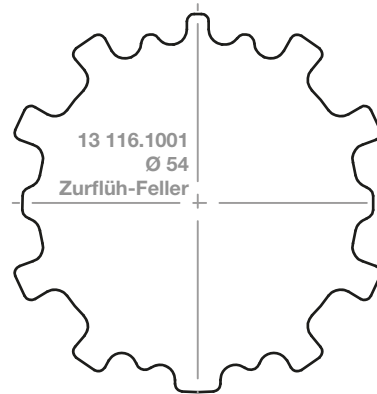
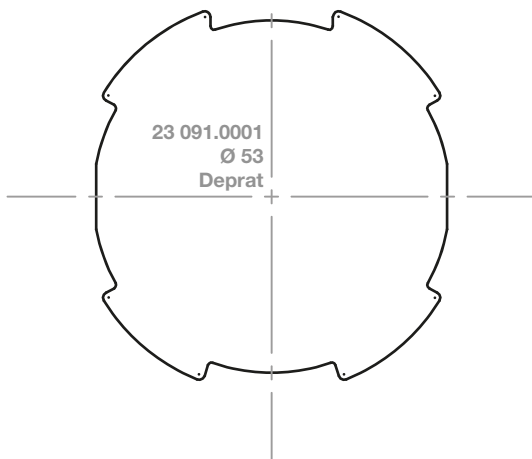
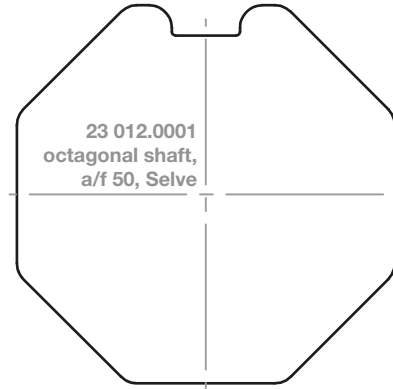
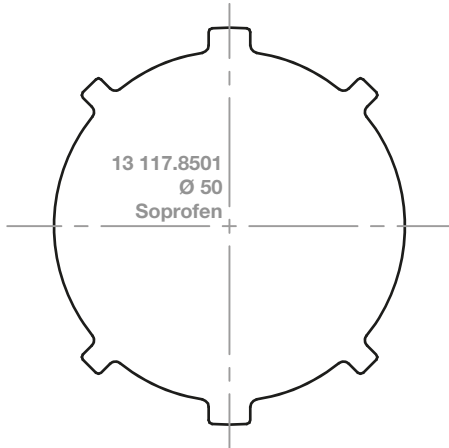
RevoLine M Round tubes

1:1 scale / Dimensions in millimeters



1:1 scale / Dimensions in millimeters

RevoLine M
Profile tubes



RevoLine

Type 9 + 11

Venetian blind drives

Speciality drives

Hausautomation, radio controls, radio sensors

Hardwired controls sensors

Door drives

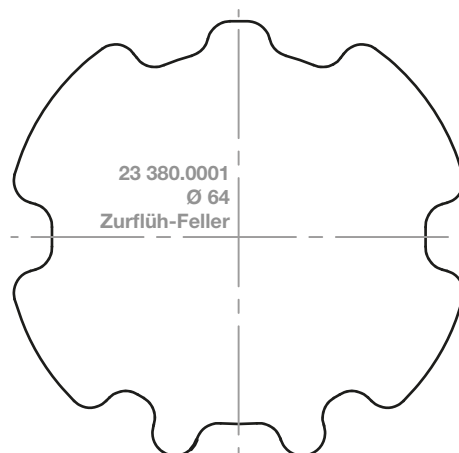
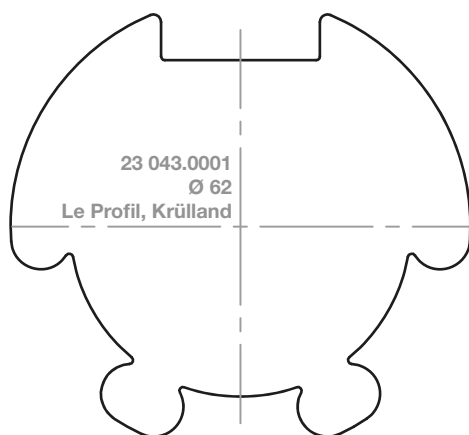
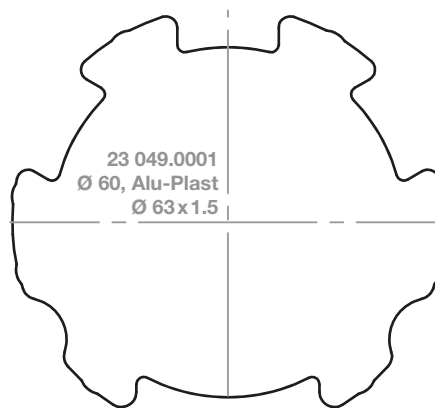
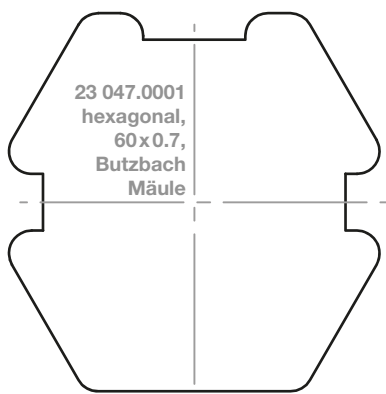
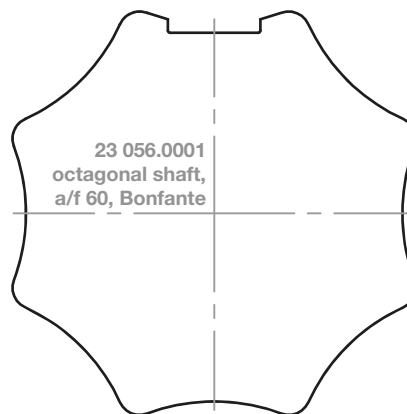
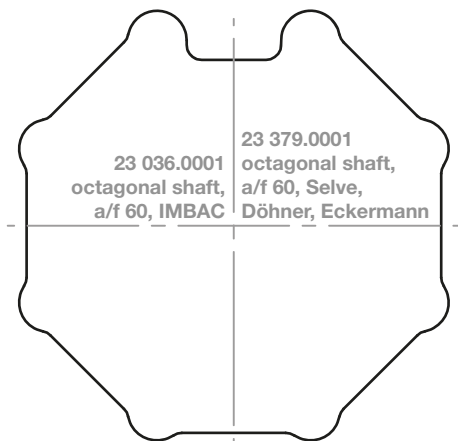
Door controls

Adapter profiles

RevoLine M

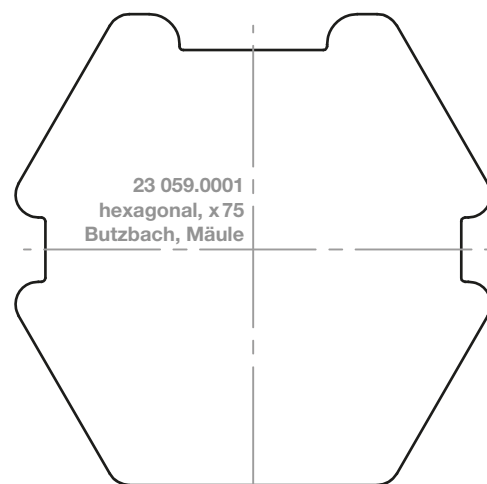
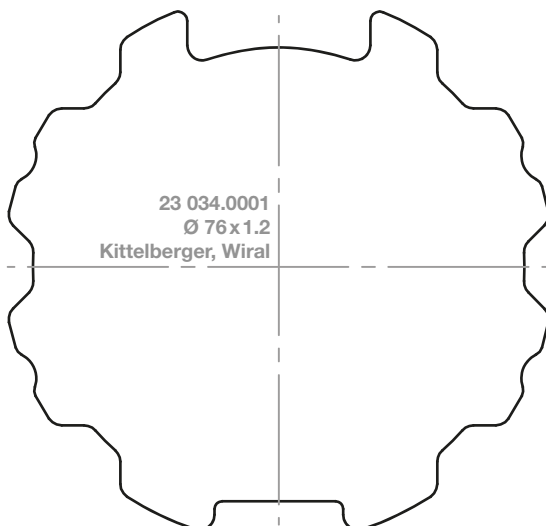
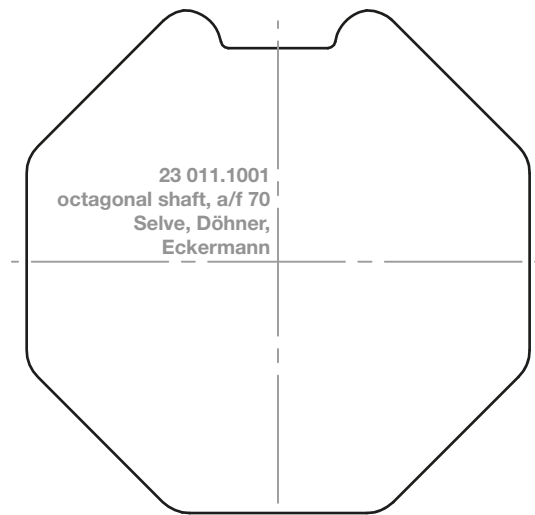
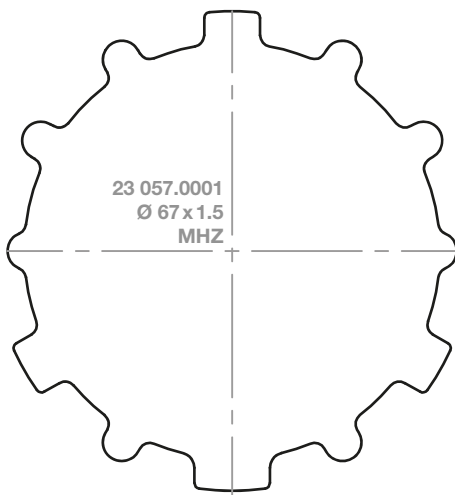
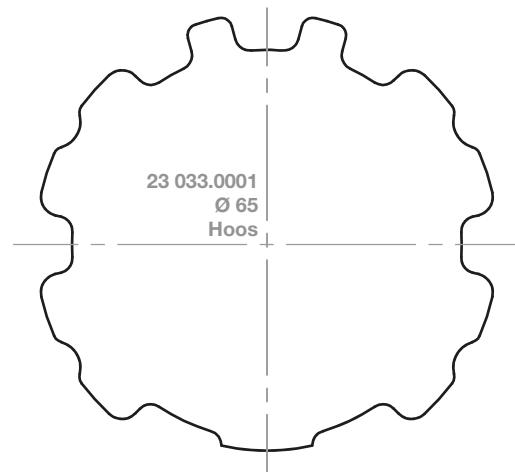
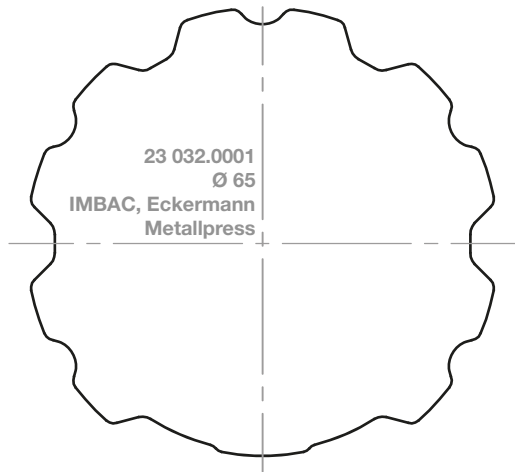
1:1 scale / Dimensions in millimeters

Profile tubes



1:1 scale / Dimensions in millimeters

RevoLine M
Profile tubes



RevoLine

Type 9 + 11

Venetian blind drives

Speciality drives

Hausautomation, radio controls, radio sensors

Hardwired controls sensors

Door drives

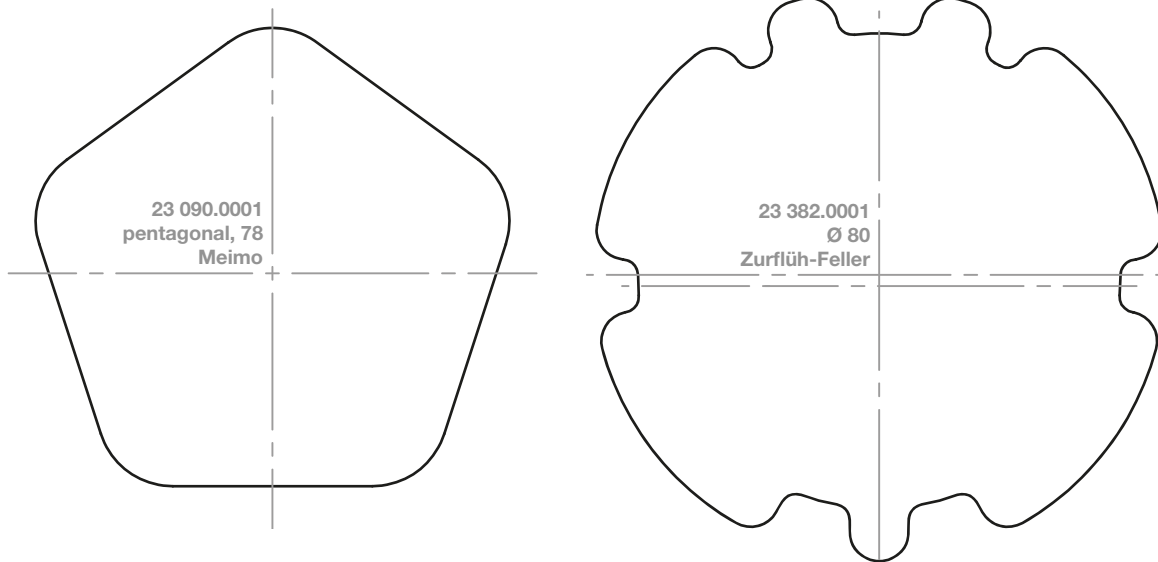
Door controls

Adapter profiles

RevoLine M

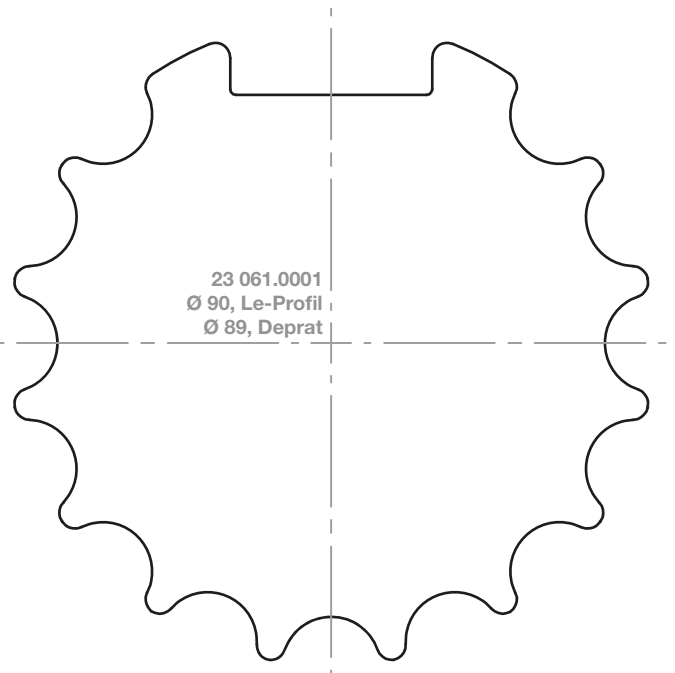
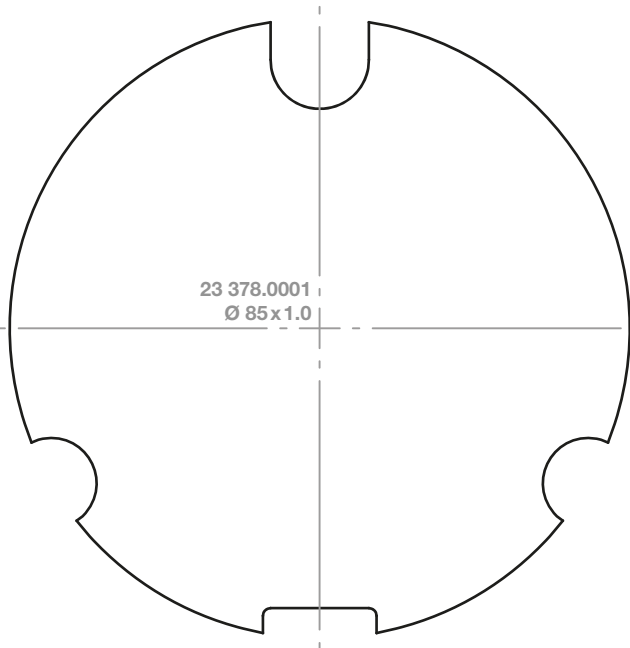
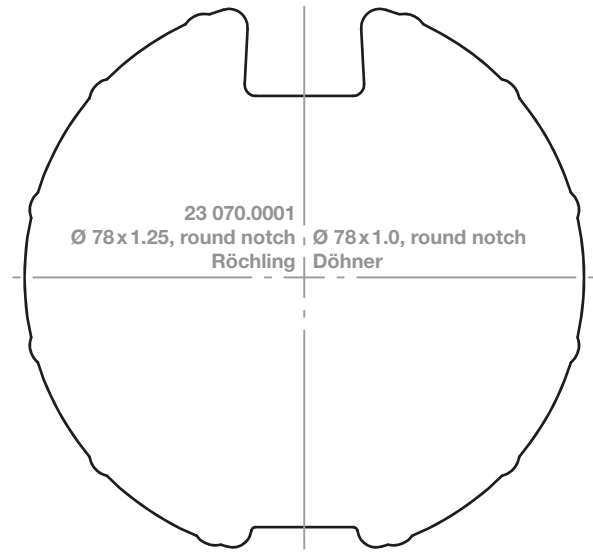
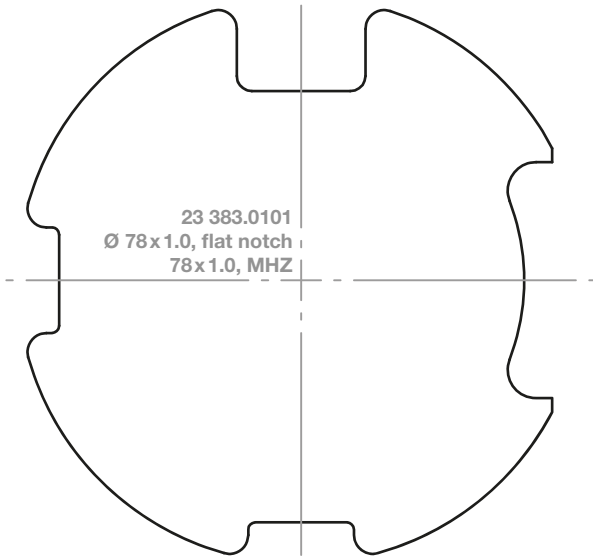
1:1 scale / Dimensions in millimeters

Profile tubes



1:1 scale / Dimensions in millimeters

RevoLine L
Notch tubes



RevoLine

Type 9 + 11

Venetian blind drives

Speciality drives

Hausautomation, radio controls, radio sensors

Hardwired controls sensors

Door drives

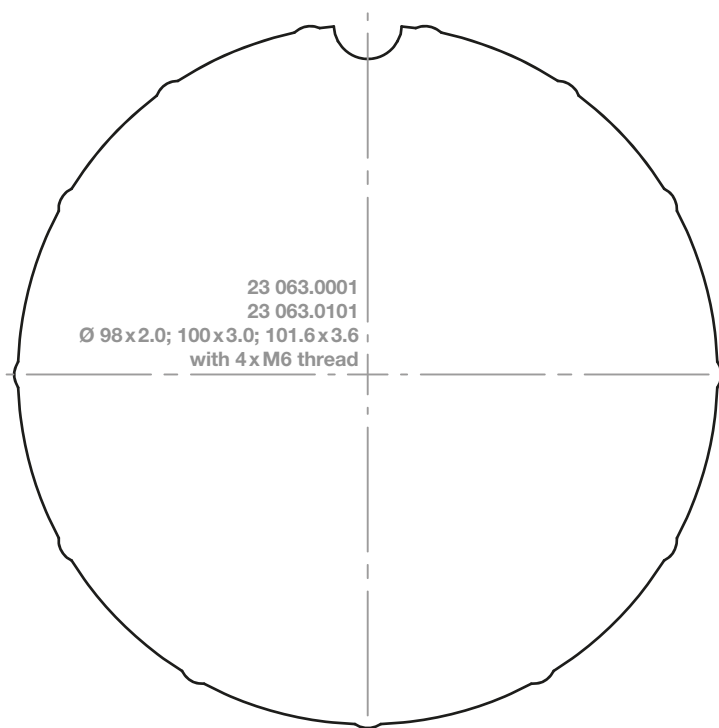
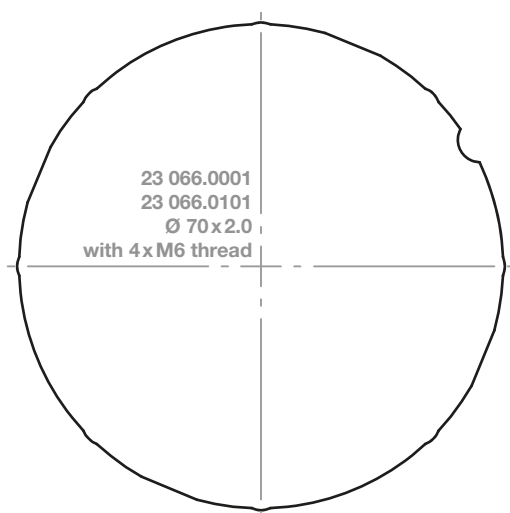
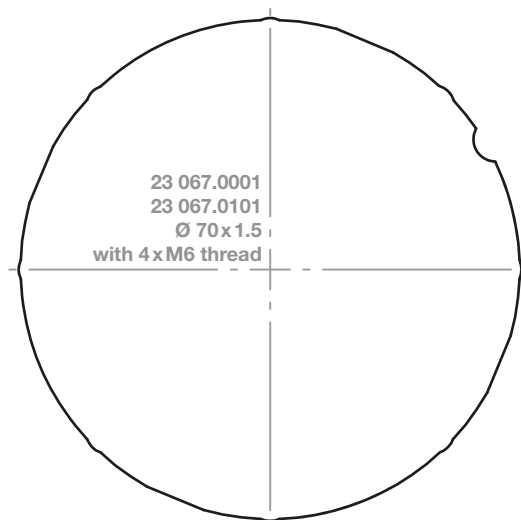
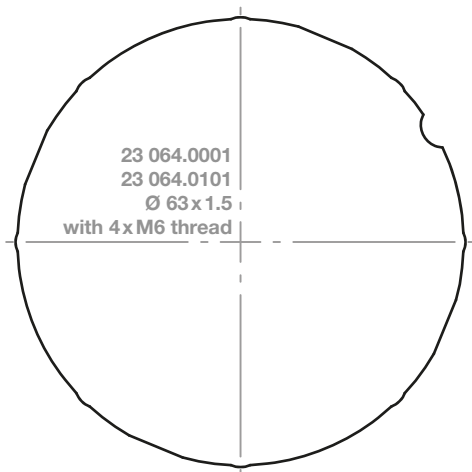
Door controls

Adapter profiles

RevoLine L

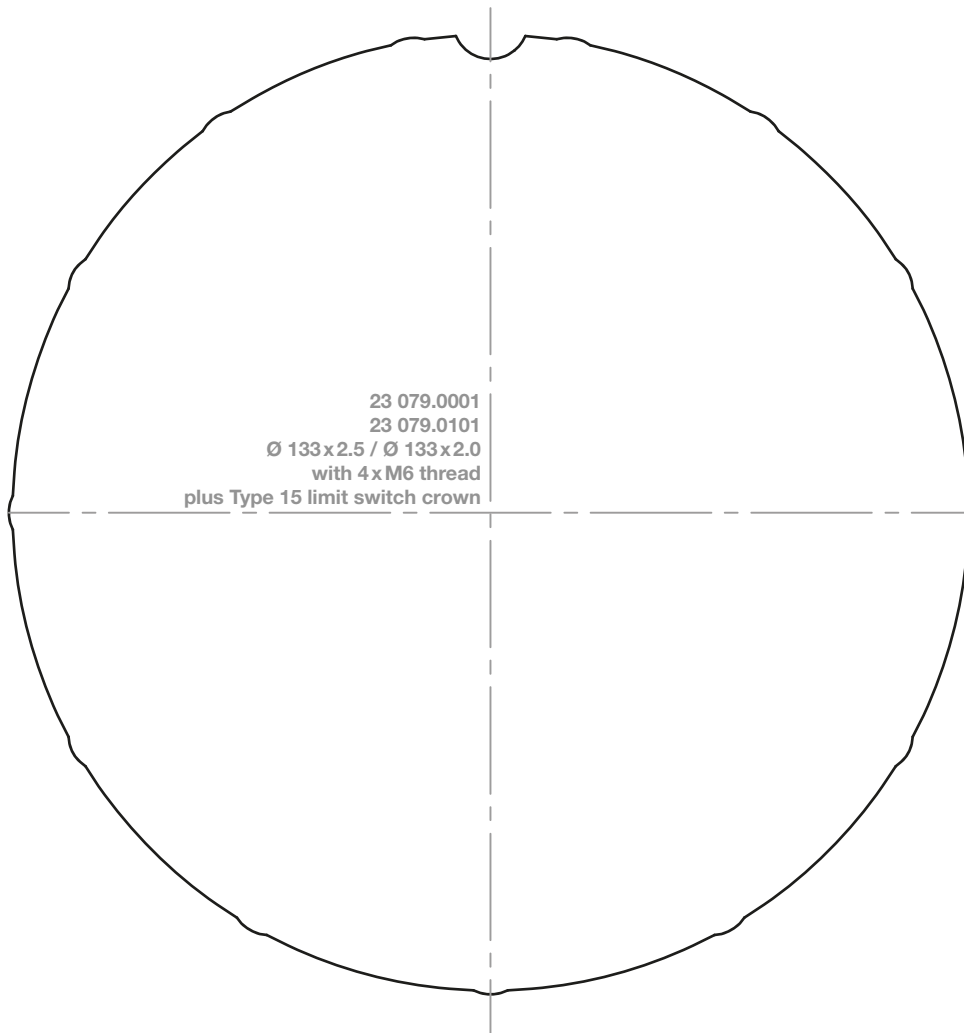
1:1 scale / Dimensions in millimeters

Round tubes



1:1 scale / Dimensions in millimeters

RevoLine L
Round tubes



RevoLine

Type 9 + 11

Venetian blind drives

Speciality drives

Hausautomation, radio controls, radio sensors

Hardwired controls sensors

Door drives

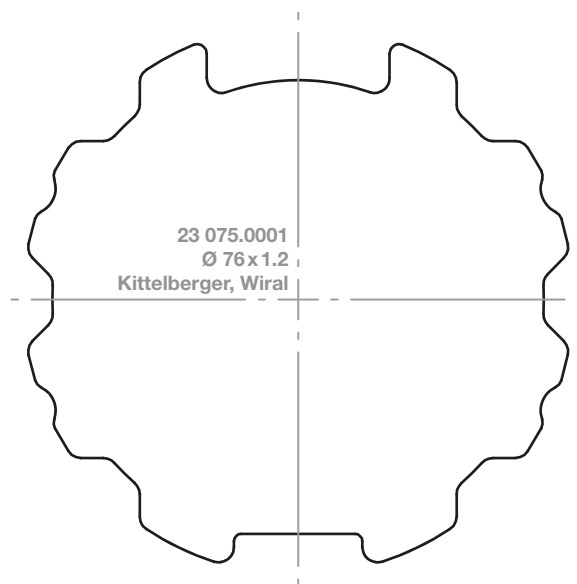
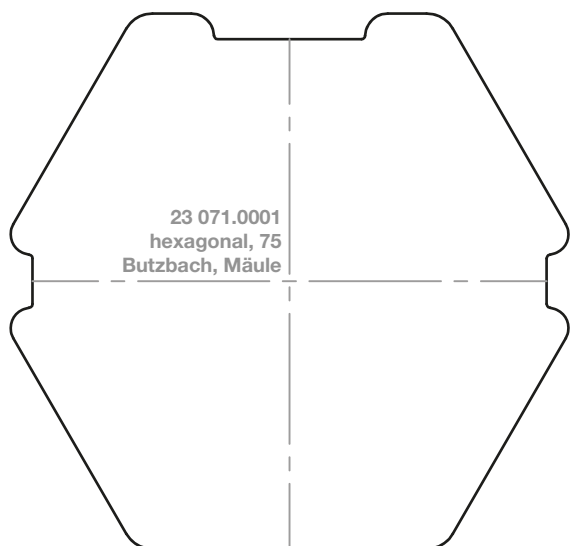
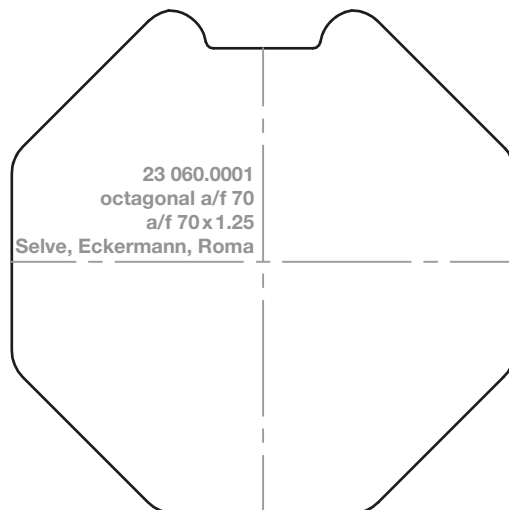
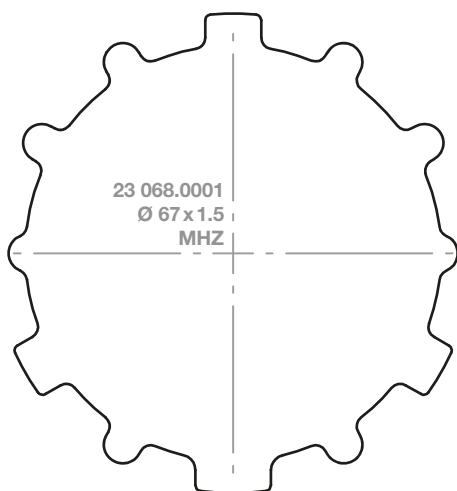
Door controls

Adapter profiles

RevoLine L

1:1 scale / Dimensions in millimeters

Profile tubes



1:1 scale / Dimensions in millimeters

RevoLine L
Profile tubes

RevoLine

Type 9 + 11

Venetian blind drives

Speciality drives

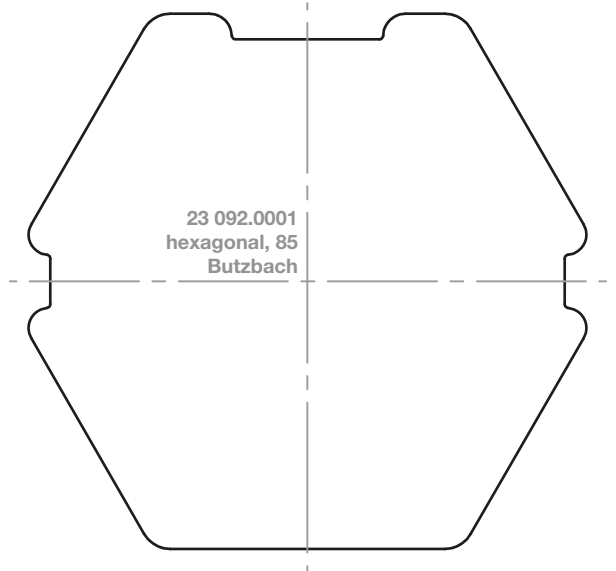
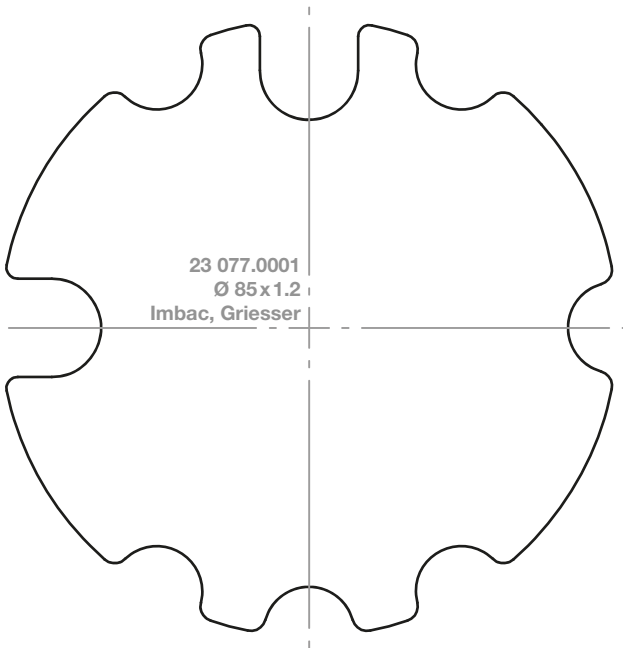
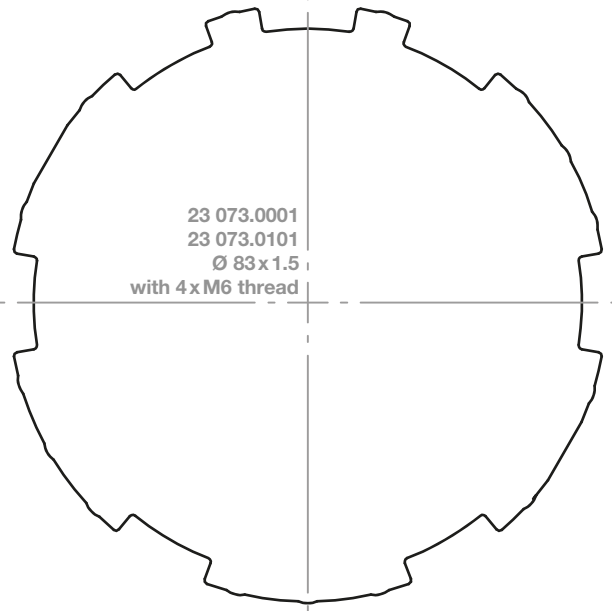
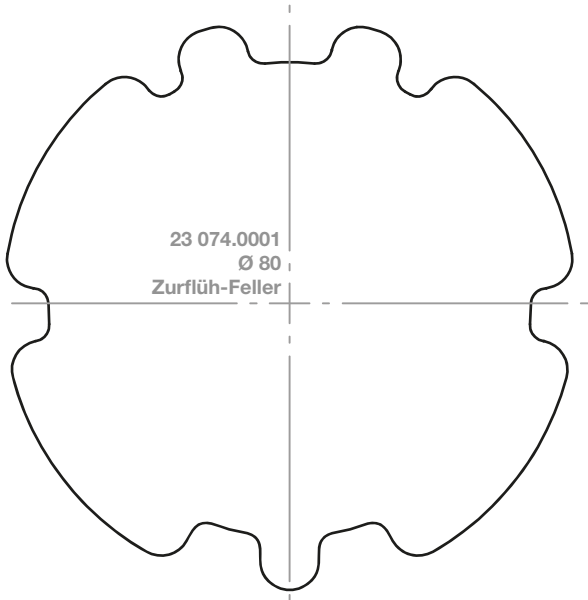
Hausautomation, radio controls, radio sensors

Hardwired controls sensors

Door drives

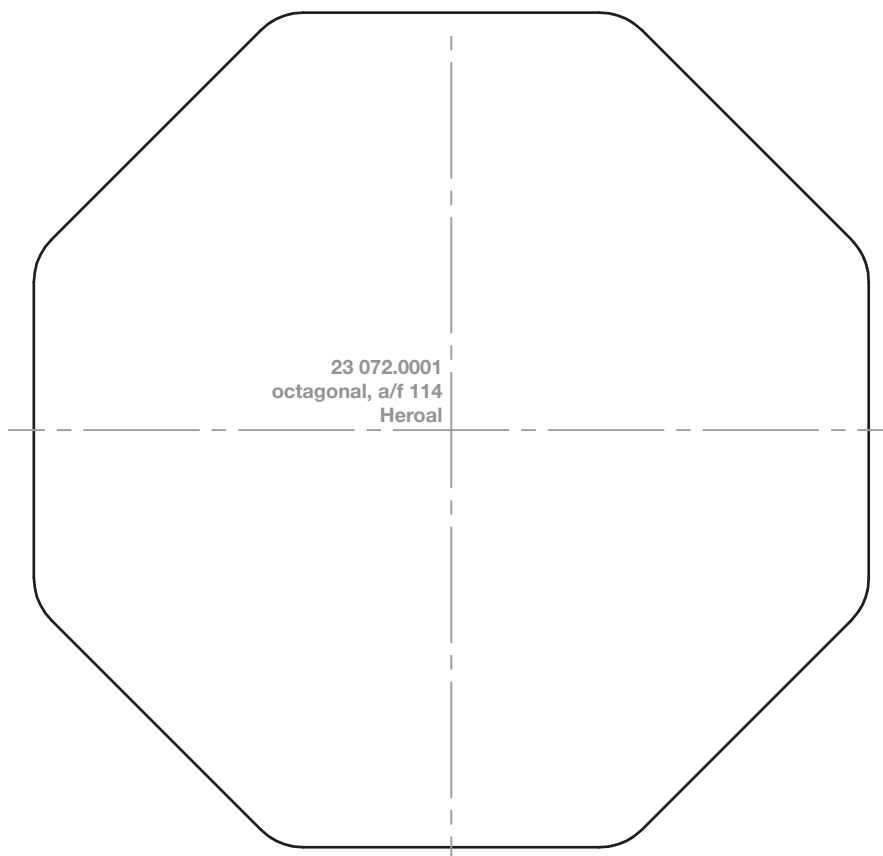
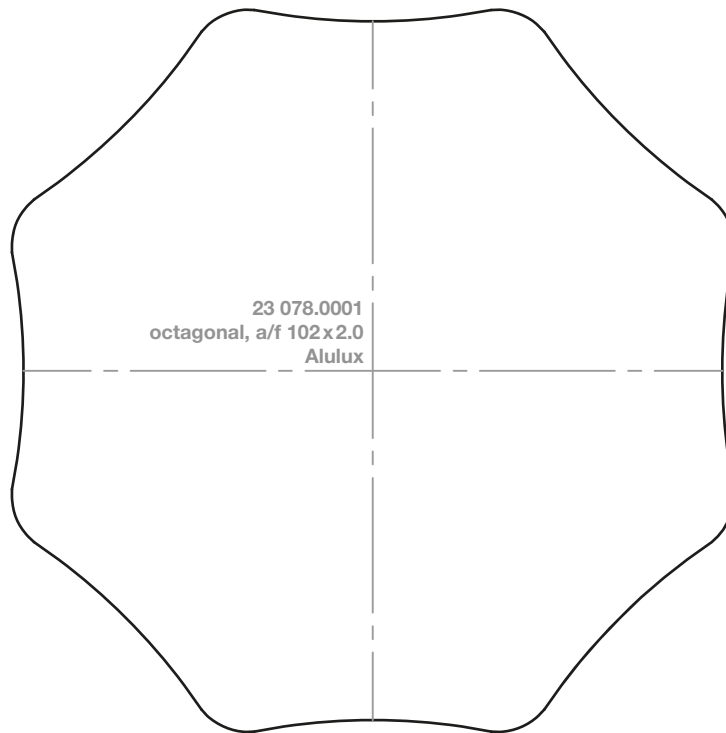
Door controls

Adapter profiles



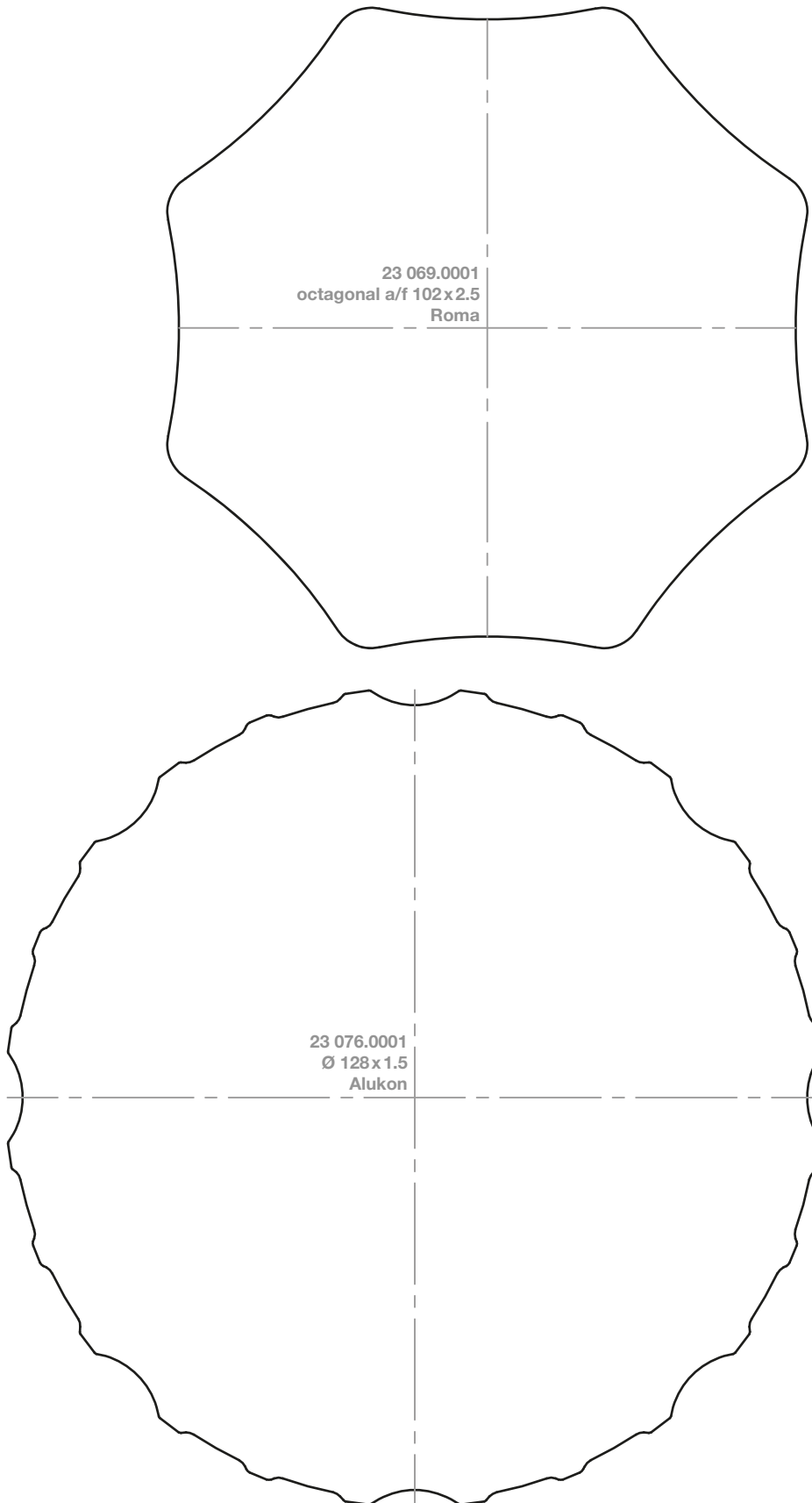
RevoLine L Profile tubes

1:1 scale / Dimensions in millimeters



1:1 scale / Dimensions in millimeters

RevoLine L
Profile tubes



RevoLine

Type 9 + 11

Venetian blind drives

Speciality drives

Hausautomation, radio controls, radio sensors

Hardwired controls sensors

Door drives

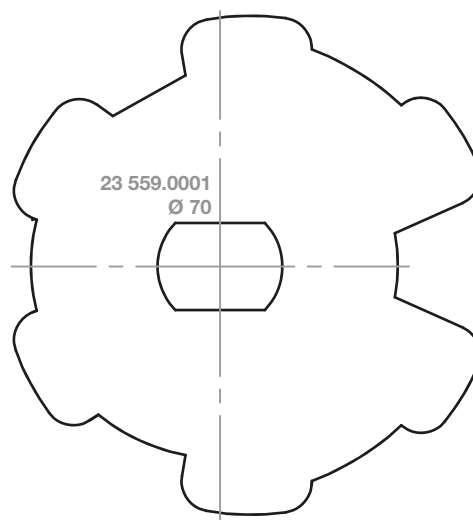
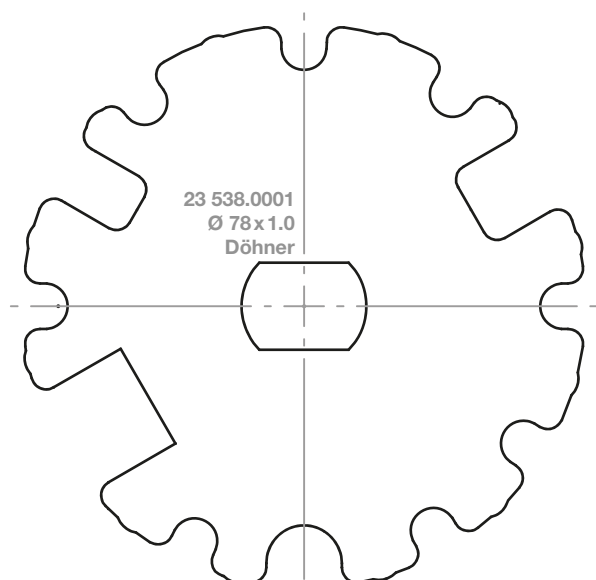
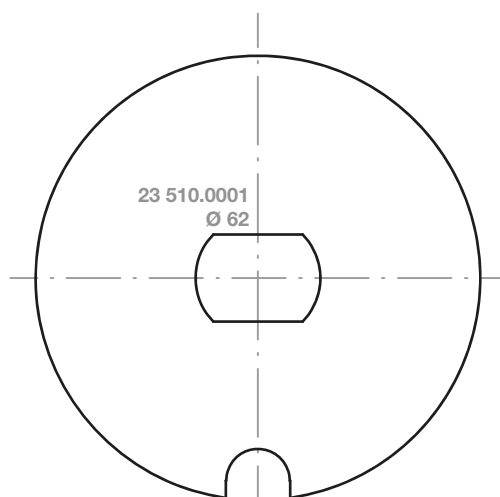
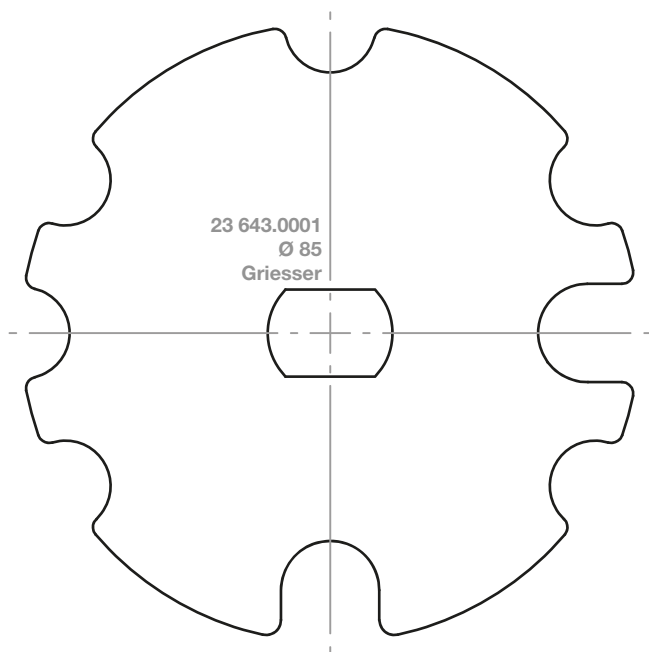
Door controls

Adapter profiles

Type 9 NHK

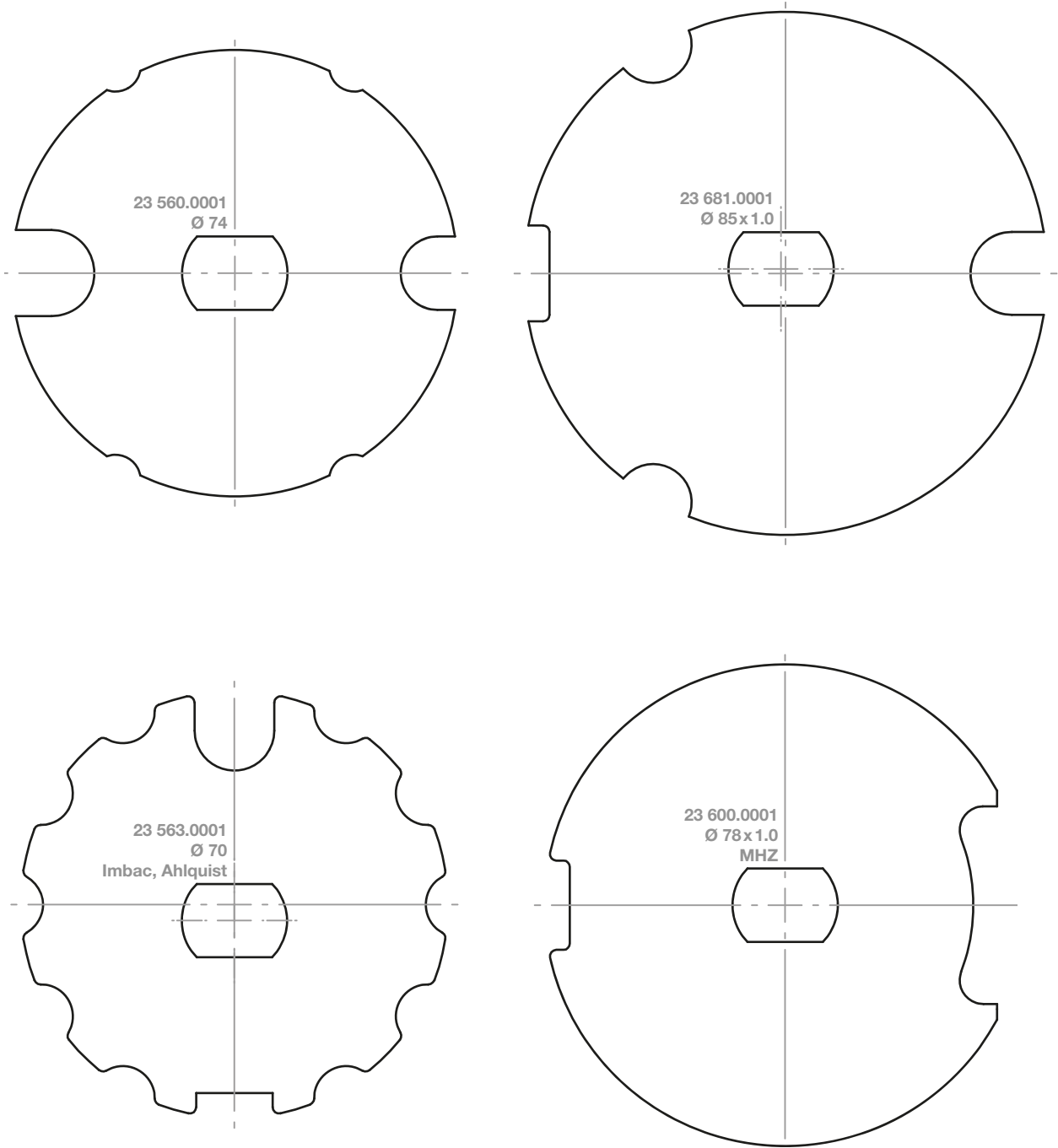
Notch tubes

1:1 scale / Dimensions in millimeters



1:1 scale / Dimensions in millimeters

Type 9 NHK
Notch tubes



RevoLine

Type 9 + 11

Venetian blind drives

Speciality drives

Hausautomation, radio controls, radio sensors

Hardwired controls sensors

Door drives

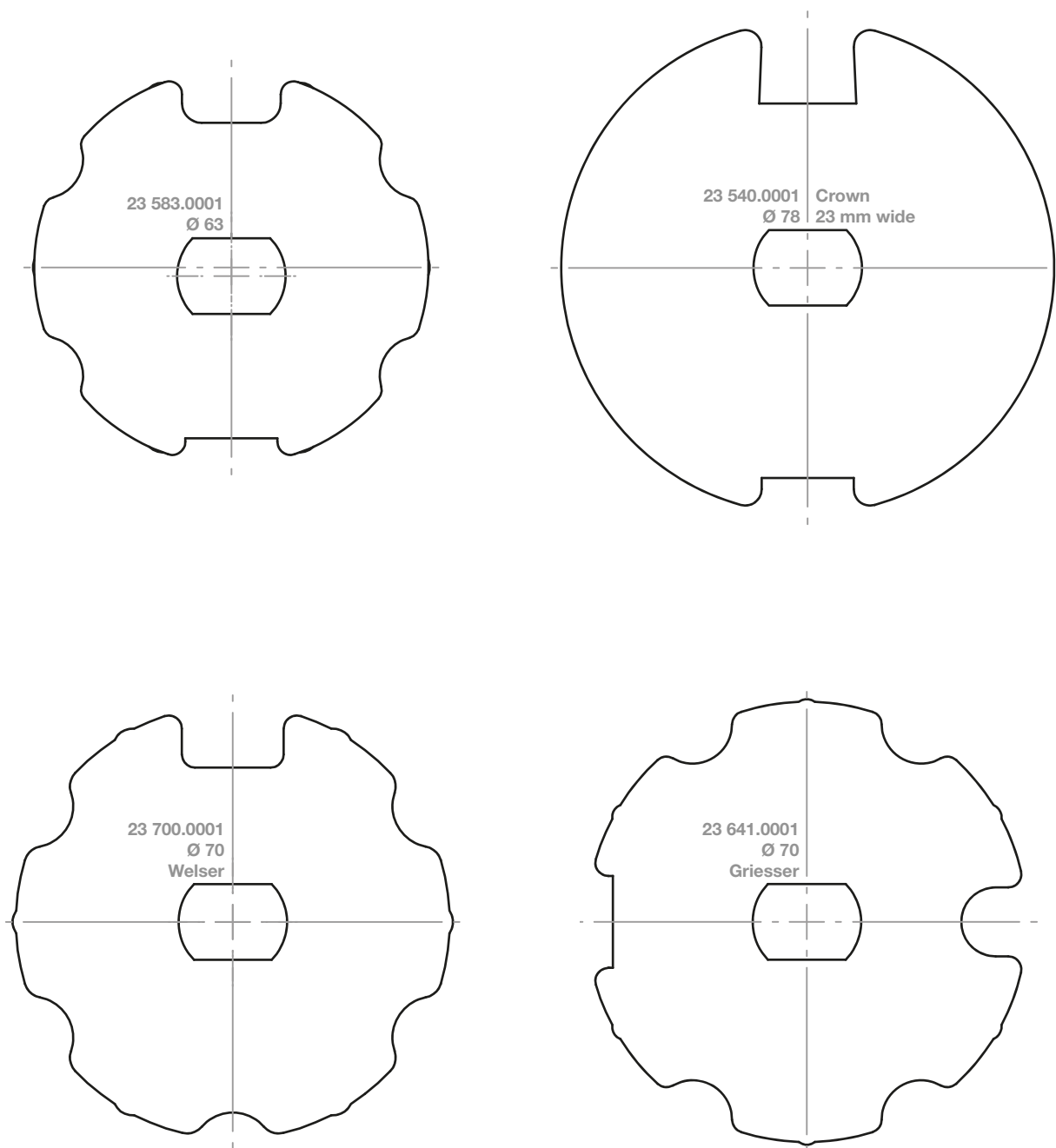
Door controls

Adapter profiles

Type 9 NHK

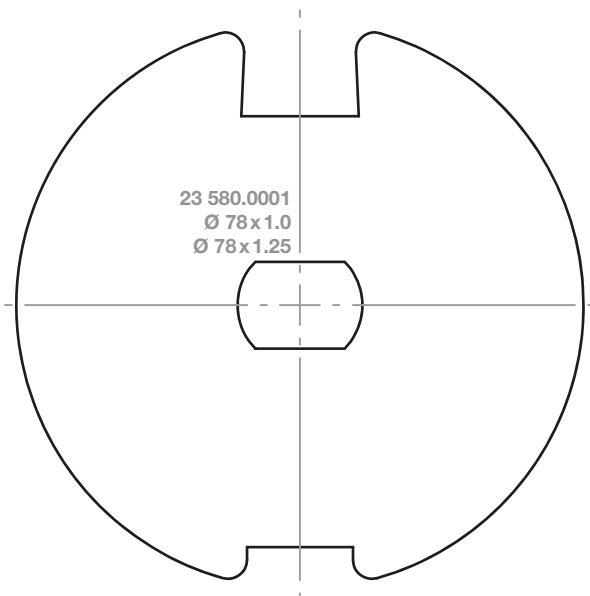
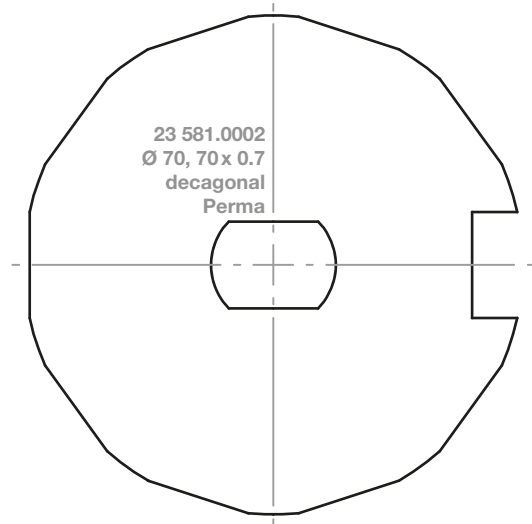
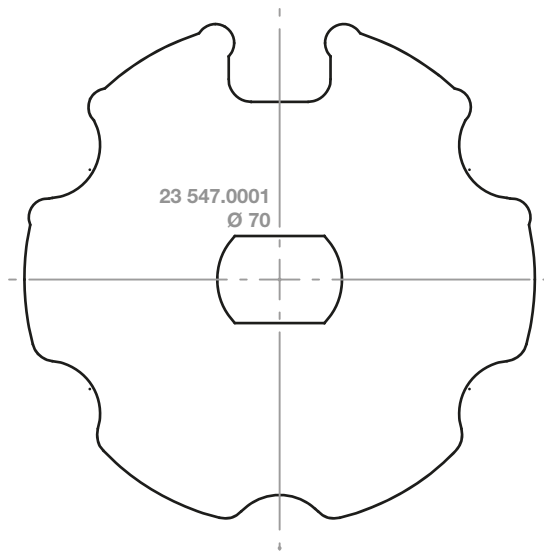
1:1 scale / Dimensions in millimeters

Notch tubes



1:1 scale / Dimensions in millimeters

Type 9 NHK
Notch tubes



RevoLine

Type 9 + 11

Venetian blind drives

Speciality drives

Hausautomation, radio controls, radio sensors

Hardwired controls sensors

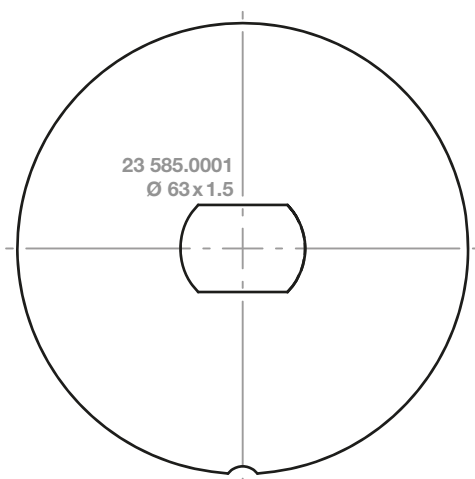
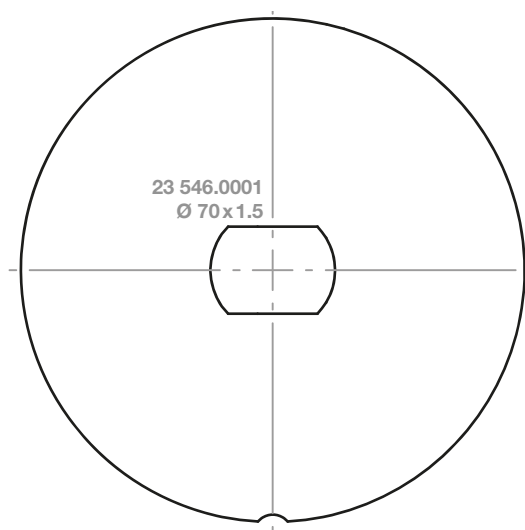
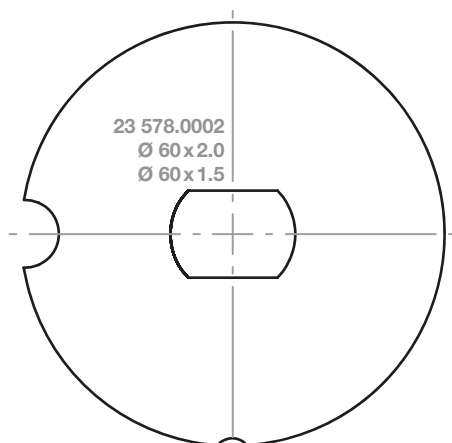
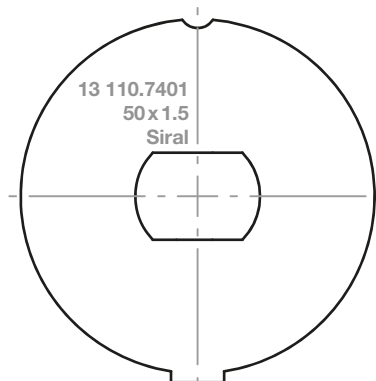
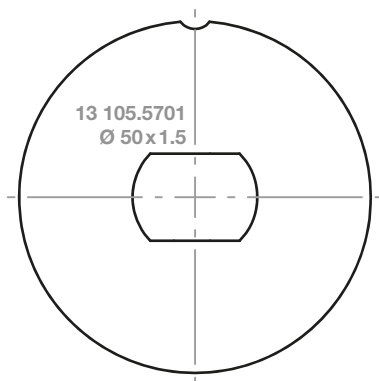
Door drives

Door controls

Adapter profiles

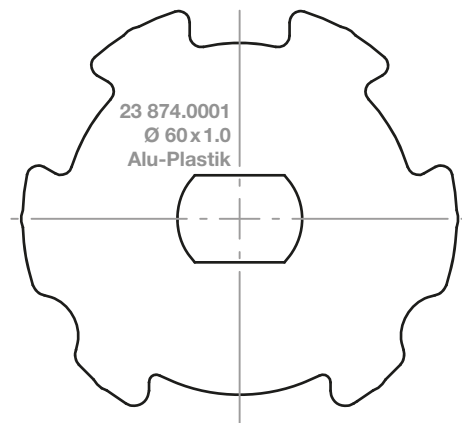
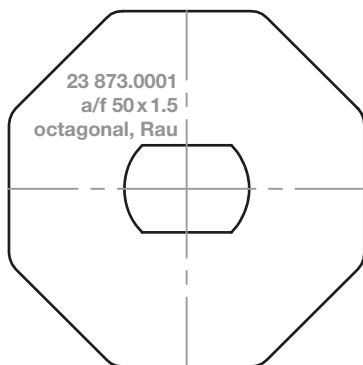
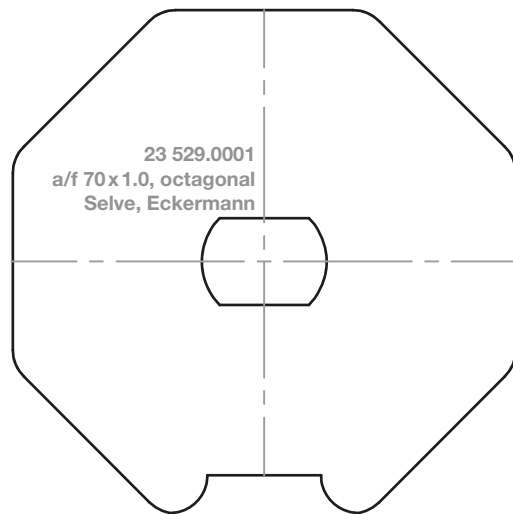
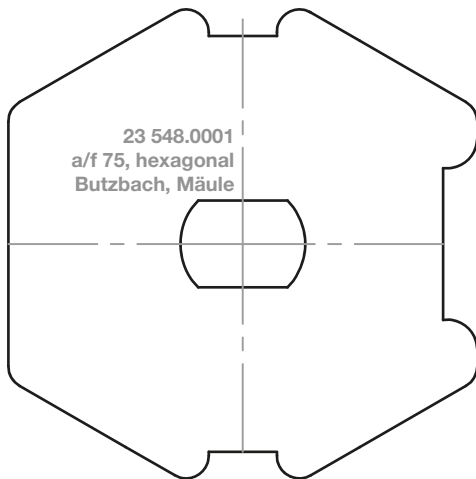
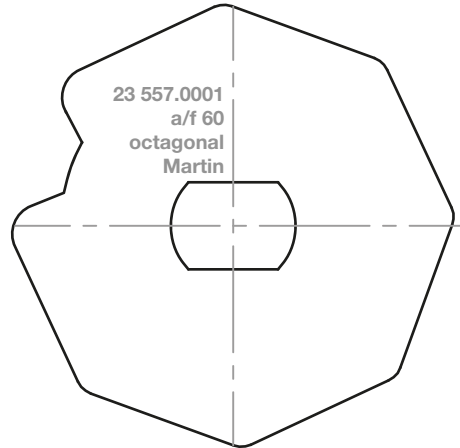
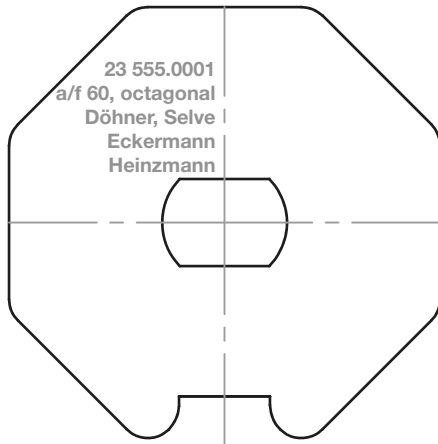
Type 9 NHK Round tubes

1:1 scale / Dimensions in millimeters



1:1 scale / Dimensions in millimeters

Type 9 NHK
Profile tubes



RevoLine

Type 9 + 11

Venetian blind drives

Speciality drives

Hausautomation, radio
controls, radio sensors

Hardwired controls
sensors

Door drives

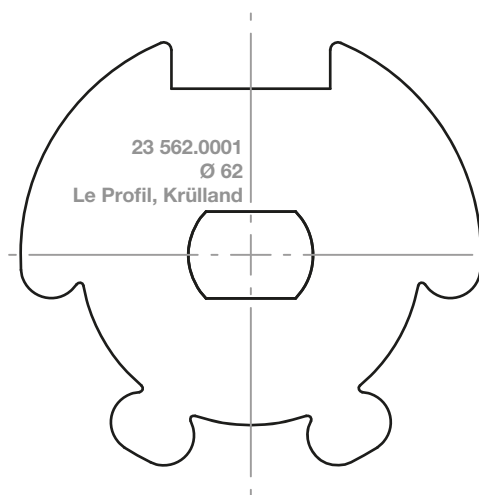
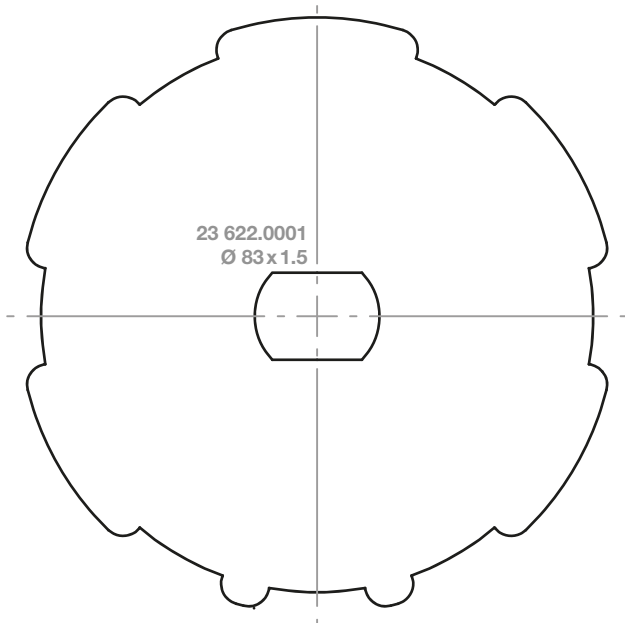
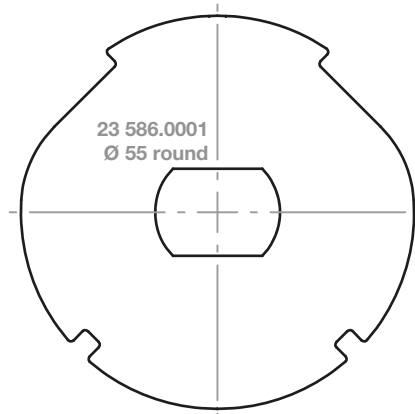
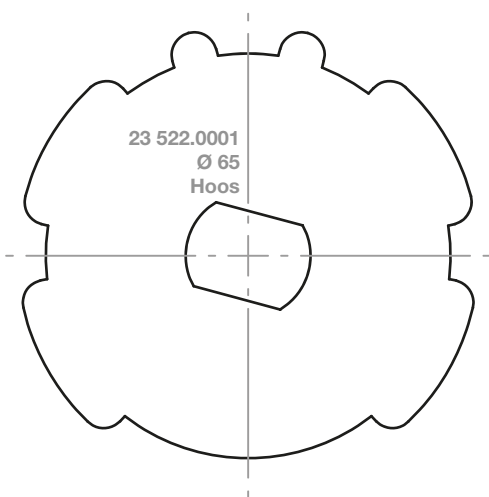
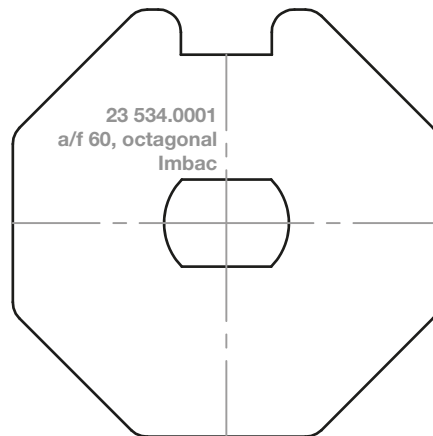
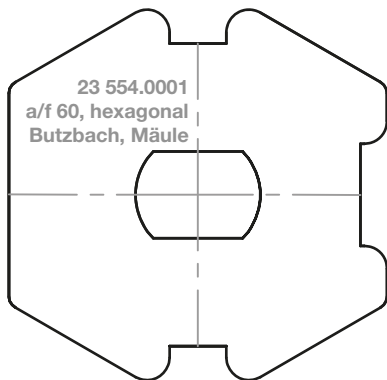
Door controls

Adapter profiles

Type 9 NHK

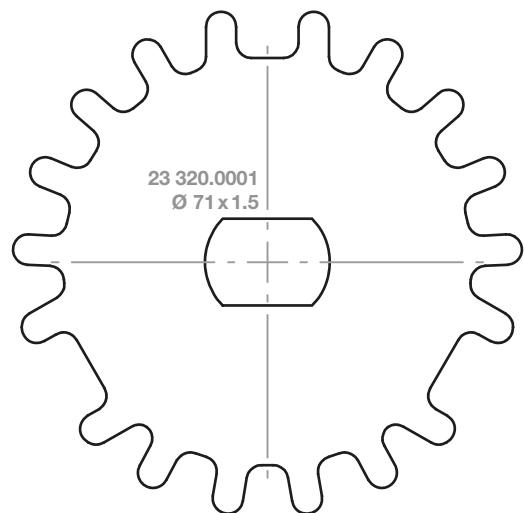
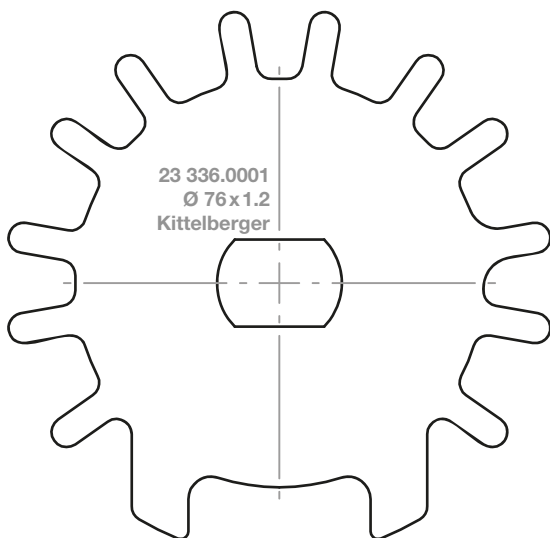
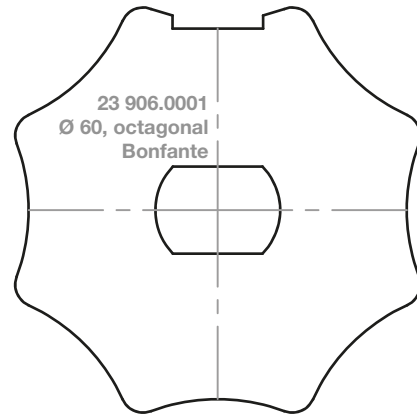
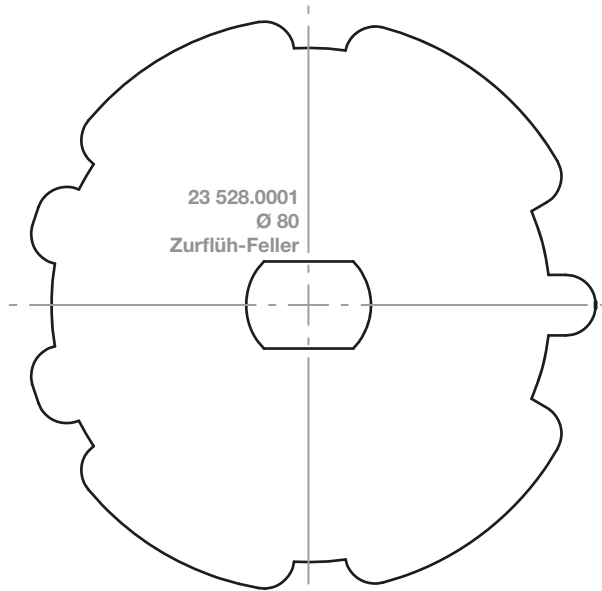
1:1 scale / Dimensions in millimeters

Profile tubes



1:1 scale / Dimensions in millimeters

Type 9 NHK
Profile tubes



RevolLine

Type 9 + 11

Venetian blind drives

Speciality drives

Hausautomation, radio controls, radio sensors

Hardwired controls sensors

Door drives

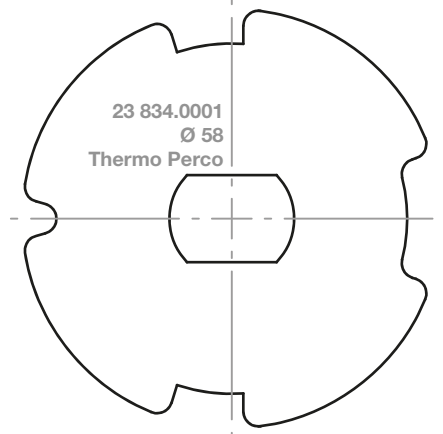
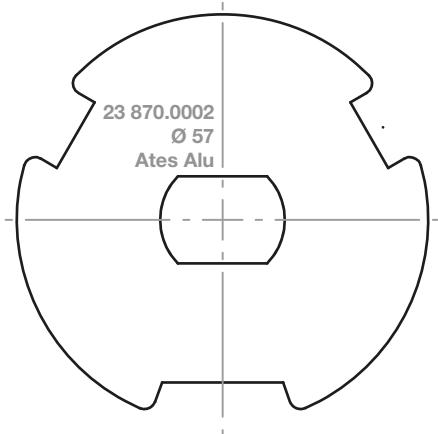
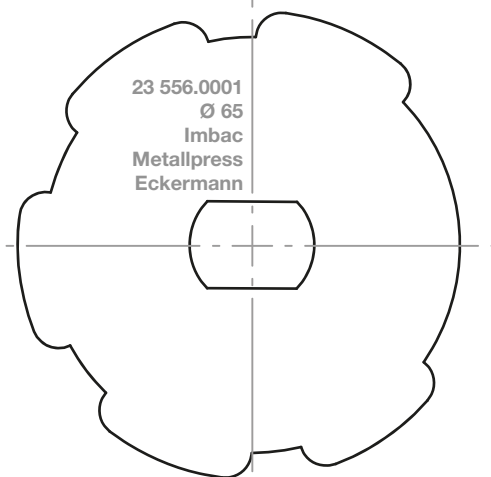
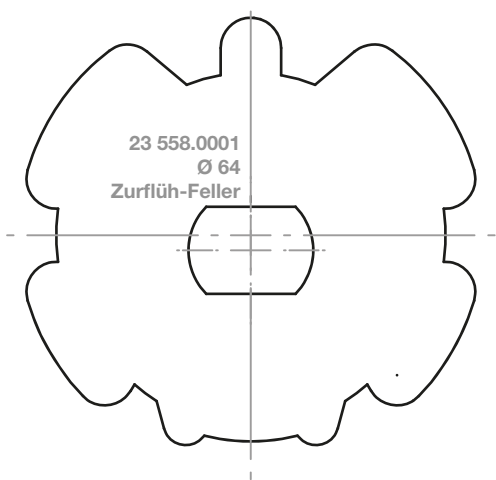
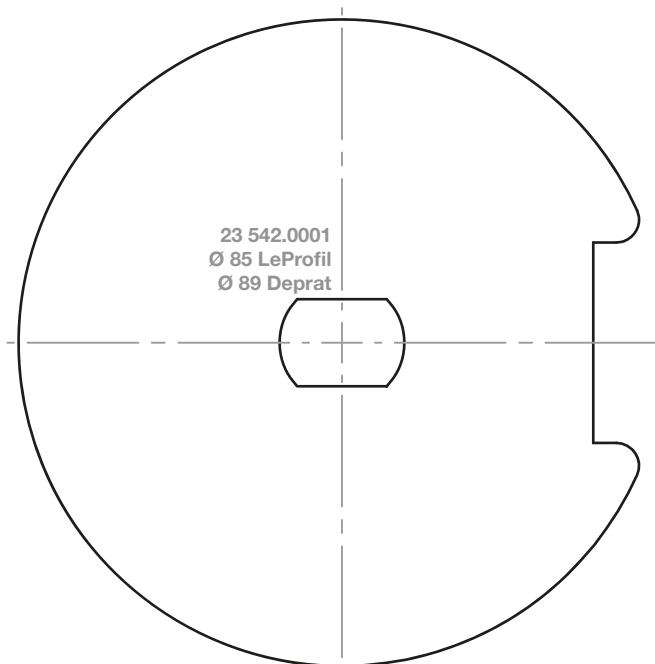
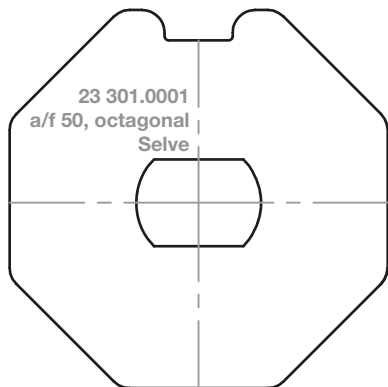
Door controls

Adapter profiles

Type 9 NHK

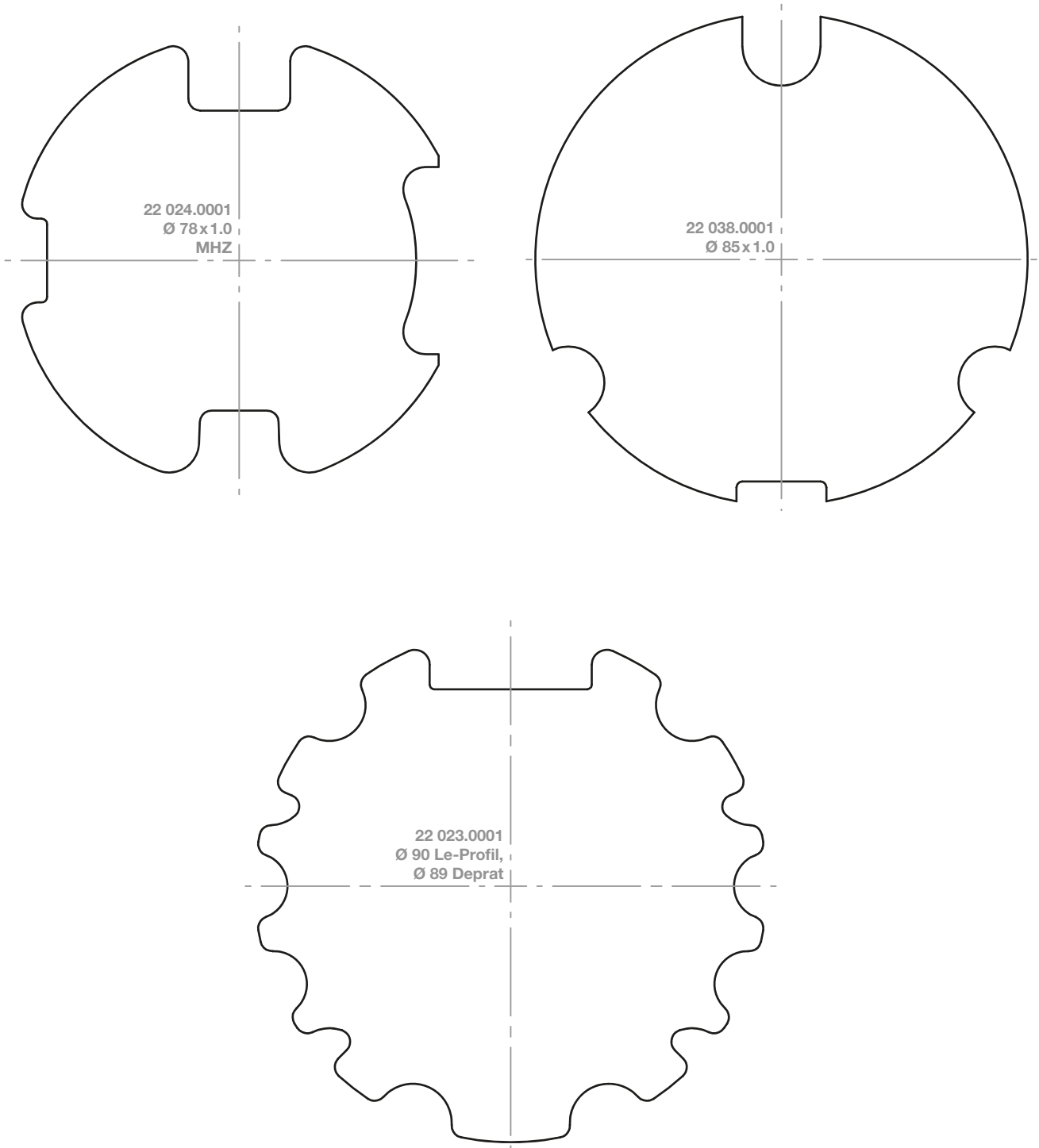
Profile tubes

1:1 scale / Dimensions in millimeters



1:1 scale / Dimensions in millimeters

Type 11 /NHK
Notch tubes



RevolLine

Type 9 + 11

Venetian blind drives

Speciality drives

Hausautomation, radio controls, radio sensors

Hardwired controls sensors

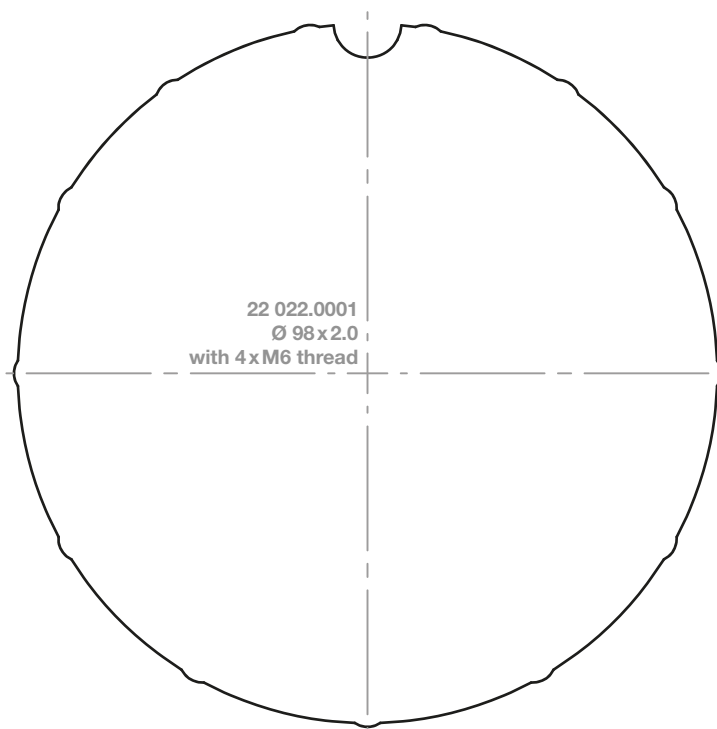
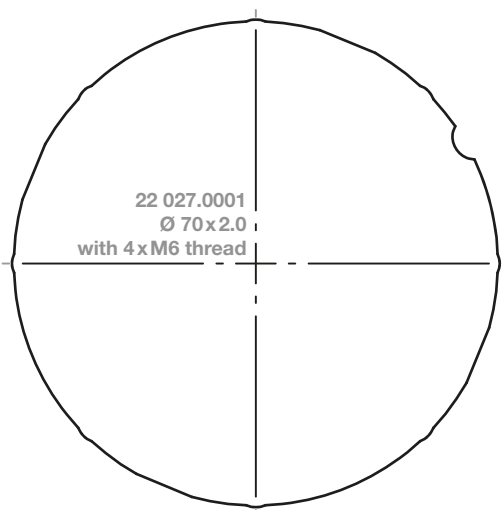
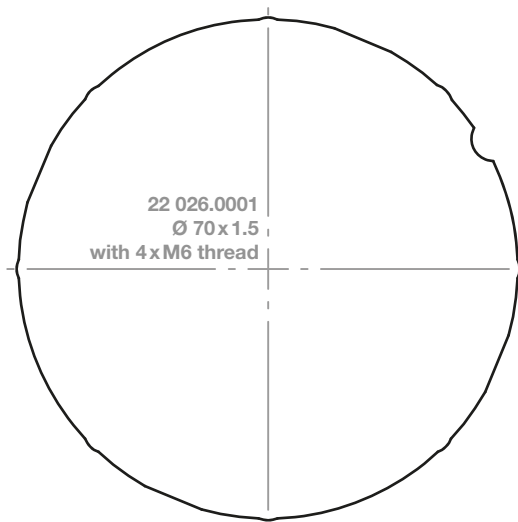
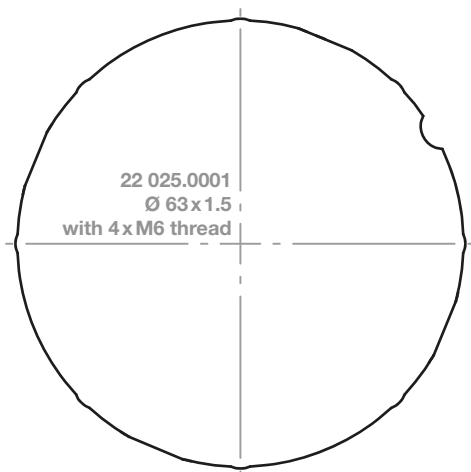
Door drives

Door controls

Adapter profiles

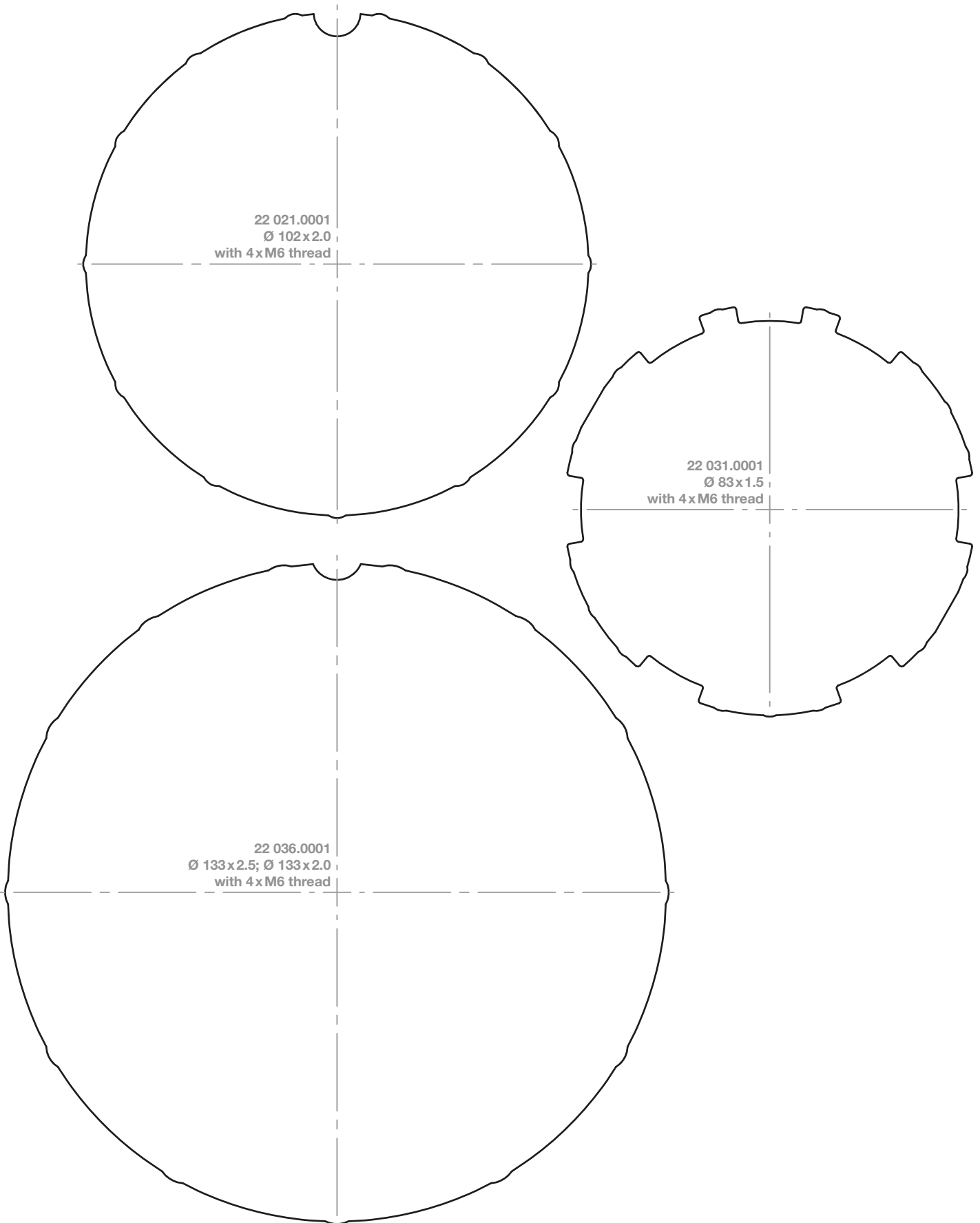
Type 11 /NHK

Round tubes



1:1 scale / Dimensions in millimeters

Type 11 /NHK
Round tubes



RevoLine

Type 9 + 11

Venetian blind drives

Speciality drives

Hausautomation, radio controls, radio sensors

Hardwired controls sensors

Door drives

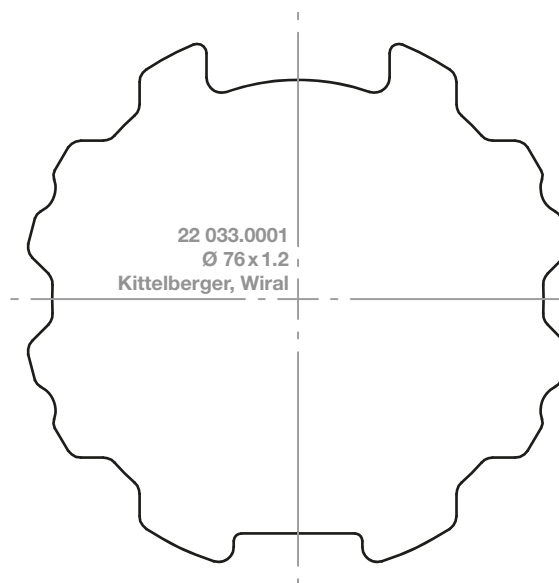
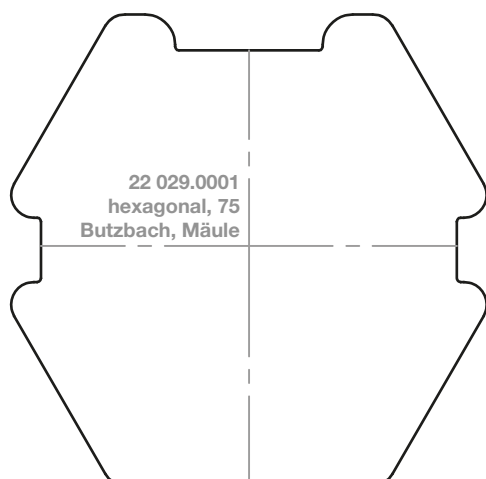
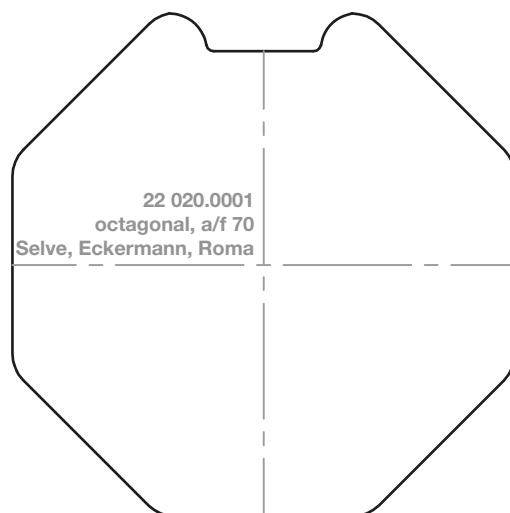
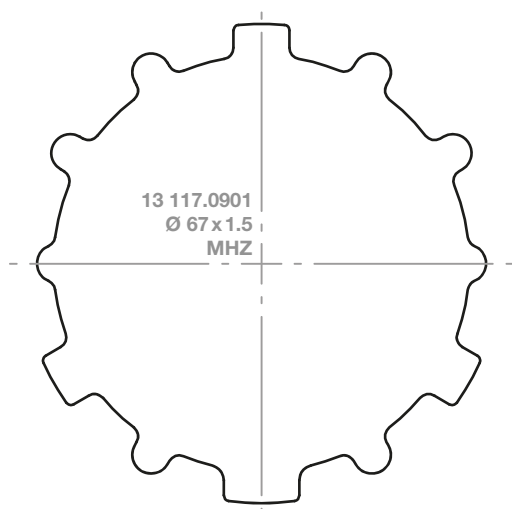
Door controls

Adapter profiles

Type 11 /NHK

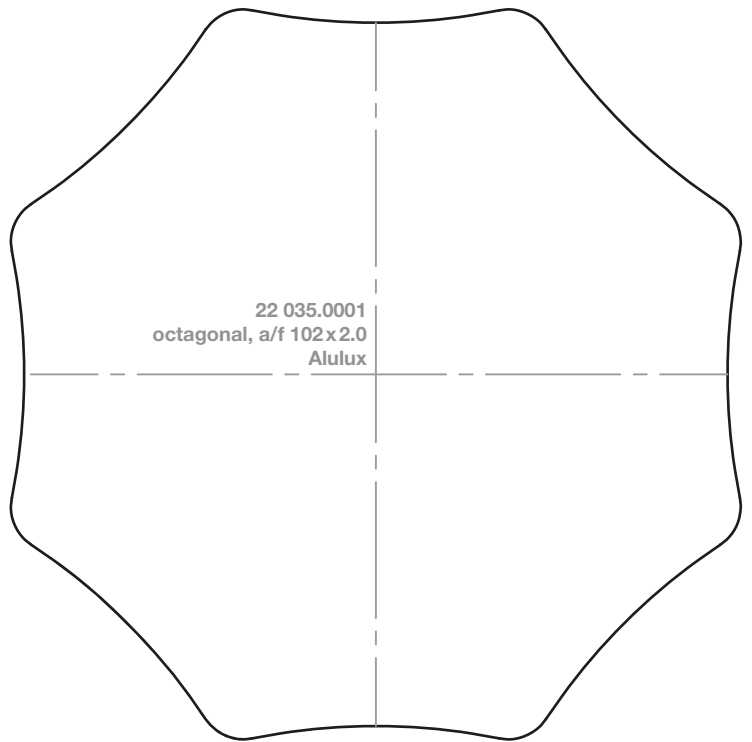
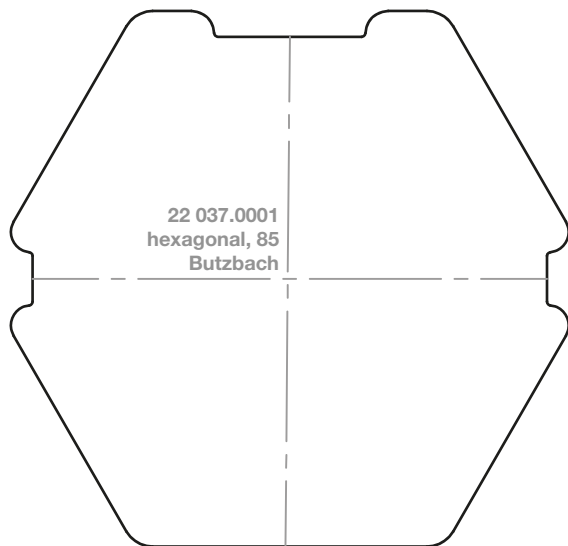
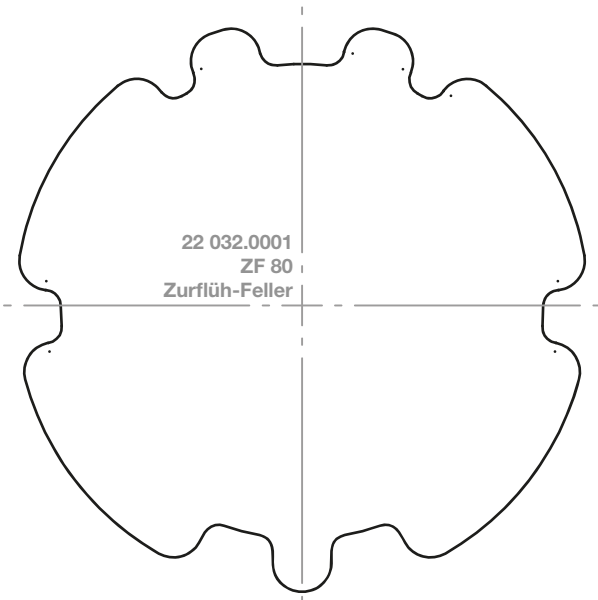
1:1 scale / Dimensions in millimeters

Profile tubes



1:1 scale / Dimensions in millimeters

Type 11 /NHK
Profile tubes



RevoLine

Type 9 + 11

Venetian blind drives

Speciality drives

Hausautomation, radio controls, radio sensors

Hardwired controls sensors

Door drives

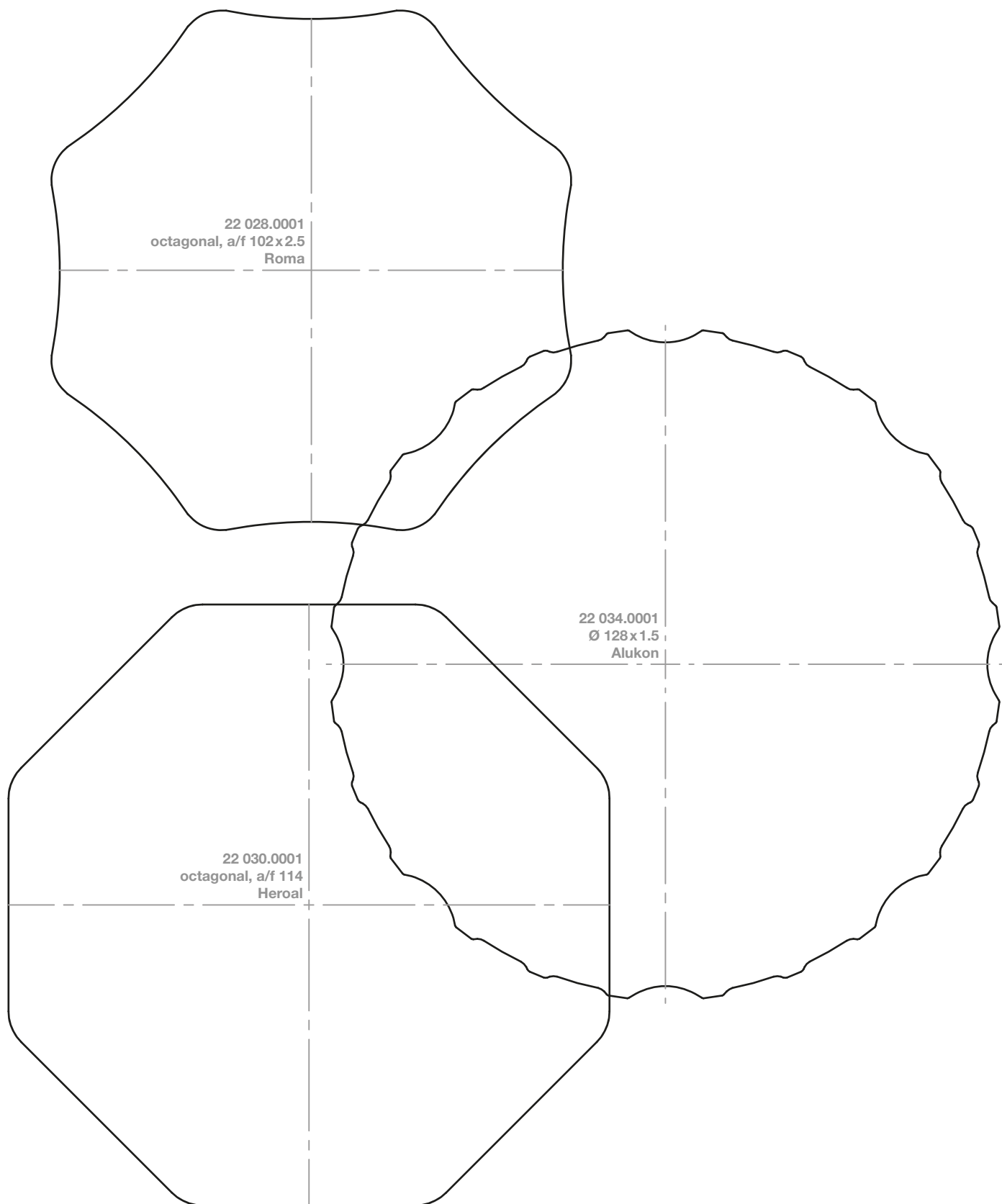
Door controls

Adapter profiles

Type 11 /NHK

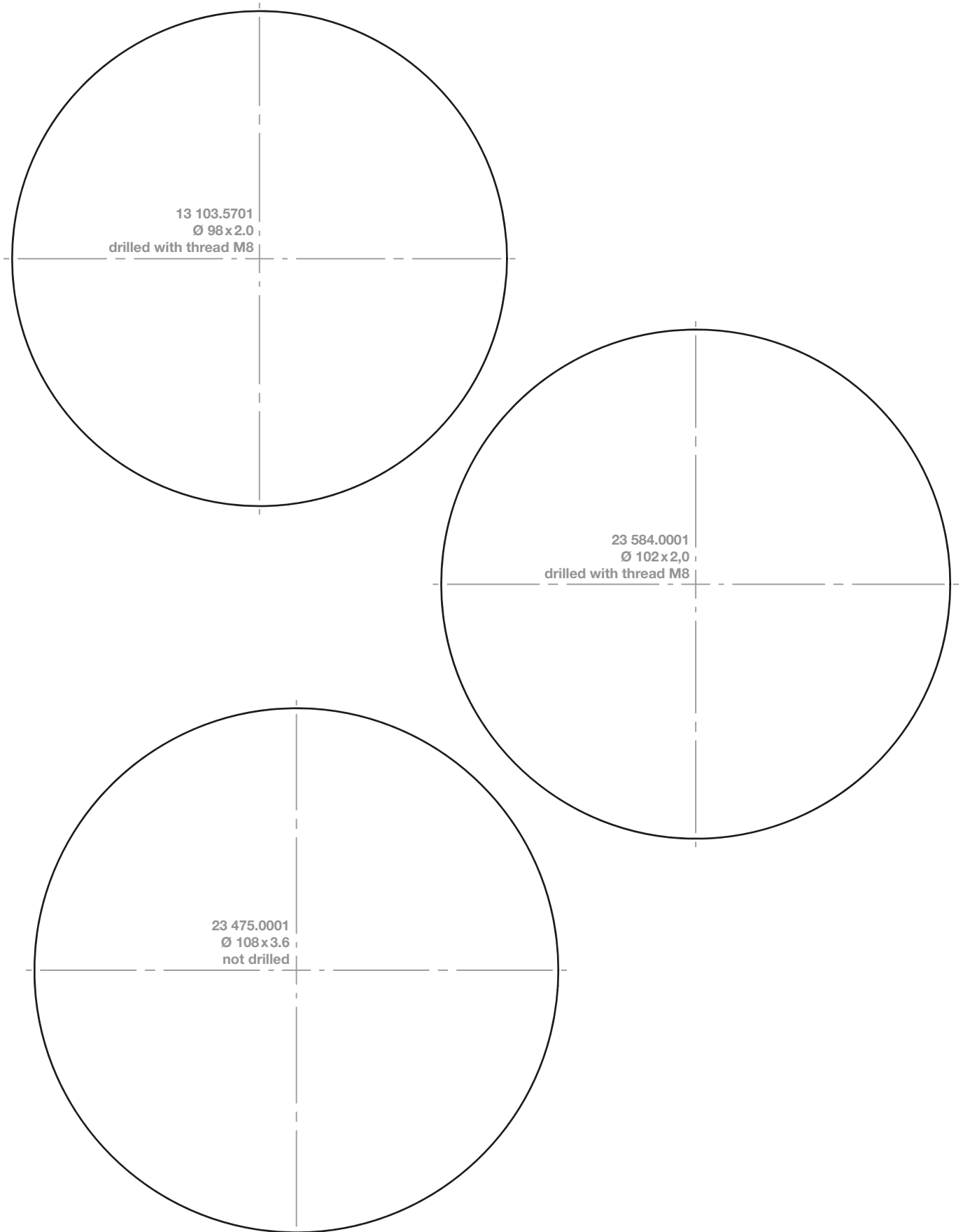
1:1 scale / Dimensions in millimeters

Profile tubes



1:1 scale / Dimensions in millimeters

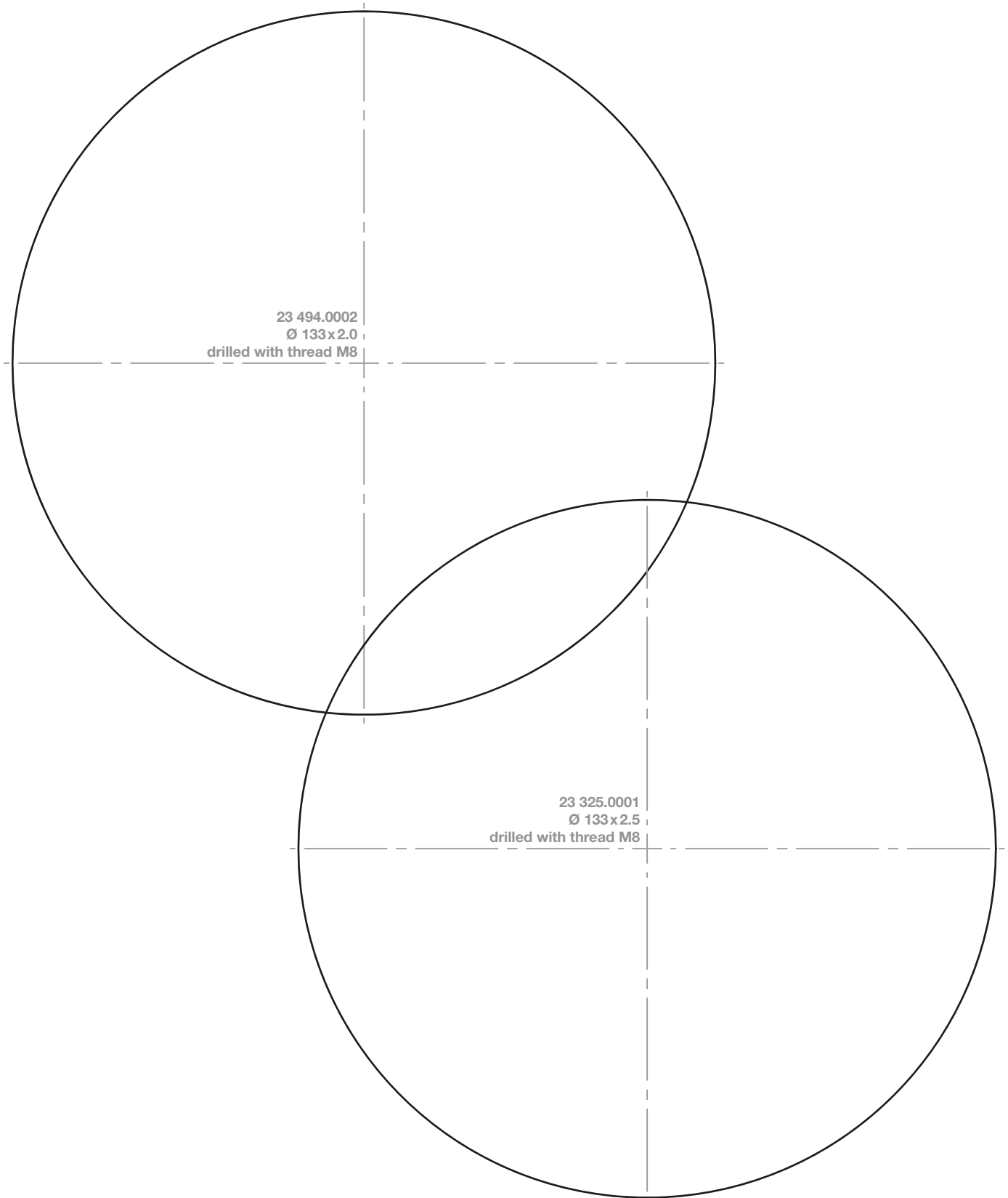
Type 15 W ...
Round tubes



Adapter profiles
Door controls
Door drives
Hardwired controls sensors
Hausautomation, radio controls, radio sensors
Speciality drives
Venetian blind drives
Type 9 + 11
RevoLine

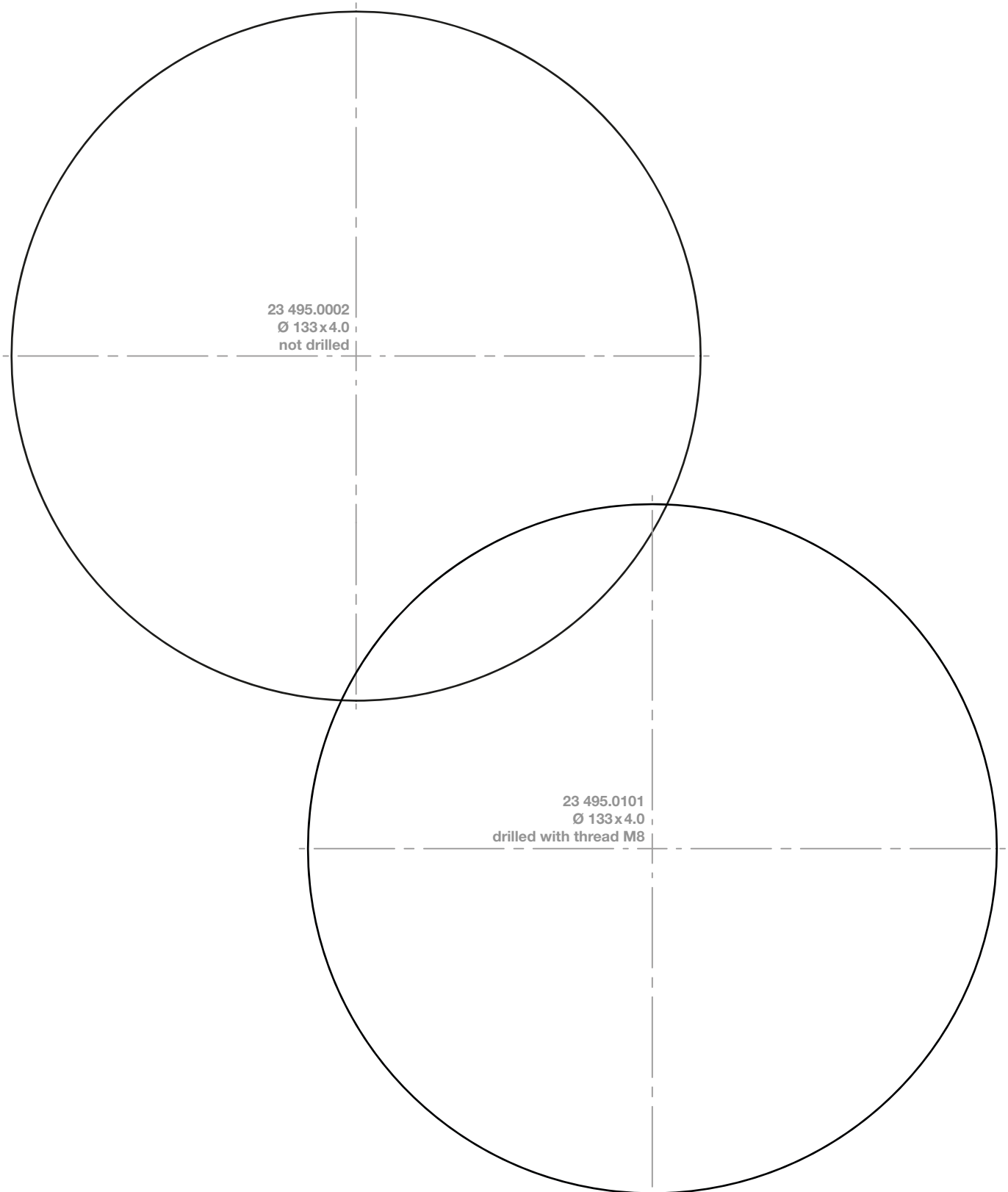
Type 15 W ... Round tubes

1:1 scale / Dimensions in millimeters



1:1 scale / Dimensions in millimeters

Type 15 W ...
Round tubes



RevoLine

Type 9 + 11

Venetian blind drives

Speciality drives

Hausautomation, radio controls, radio sensors

Hardwired controls sensors

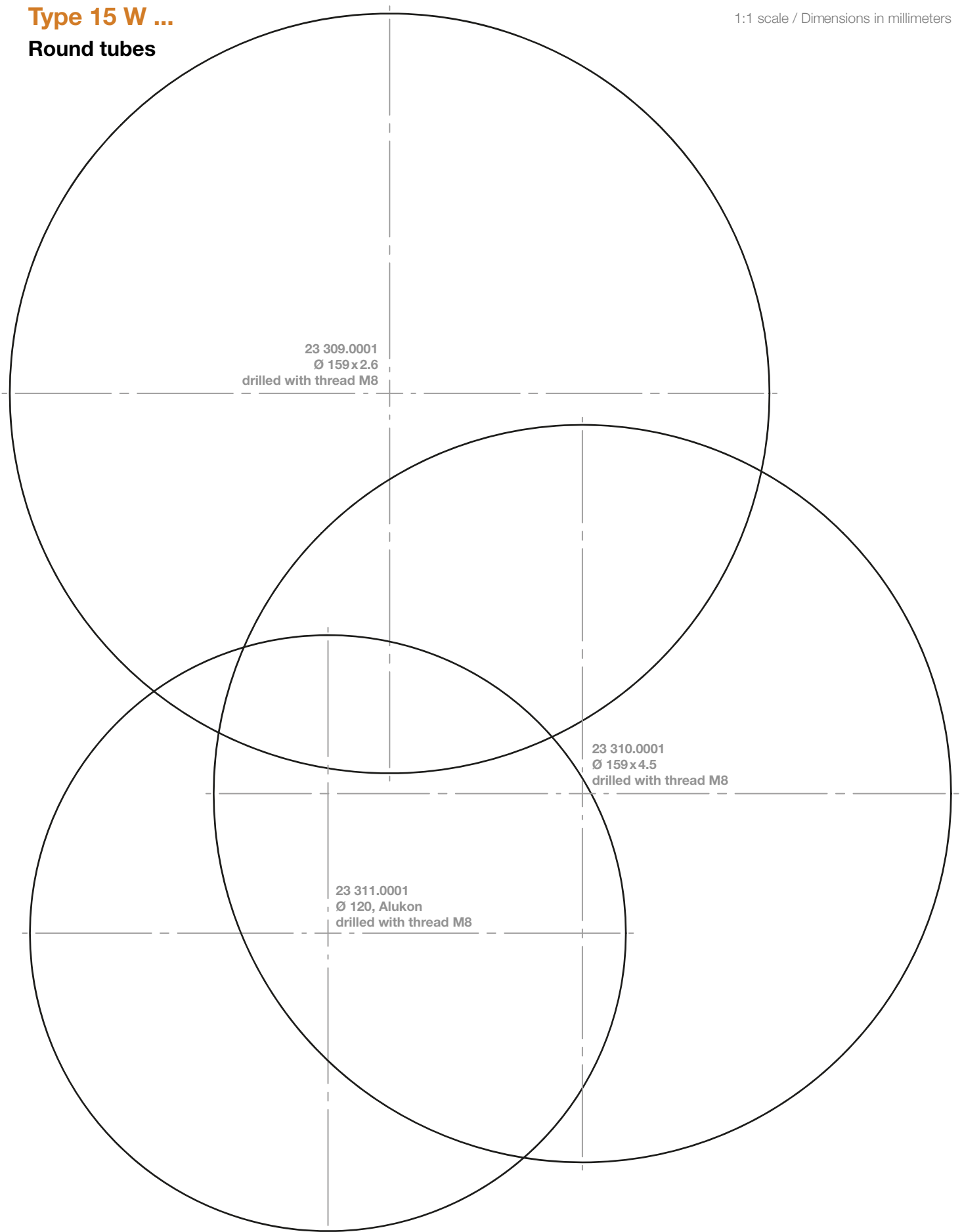
Door drives

Door controls

Adapter profiles

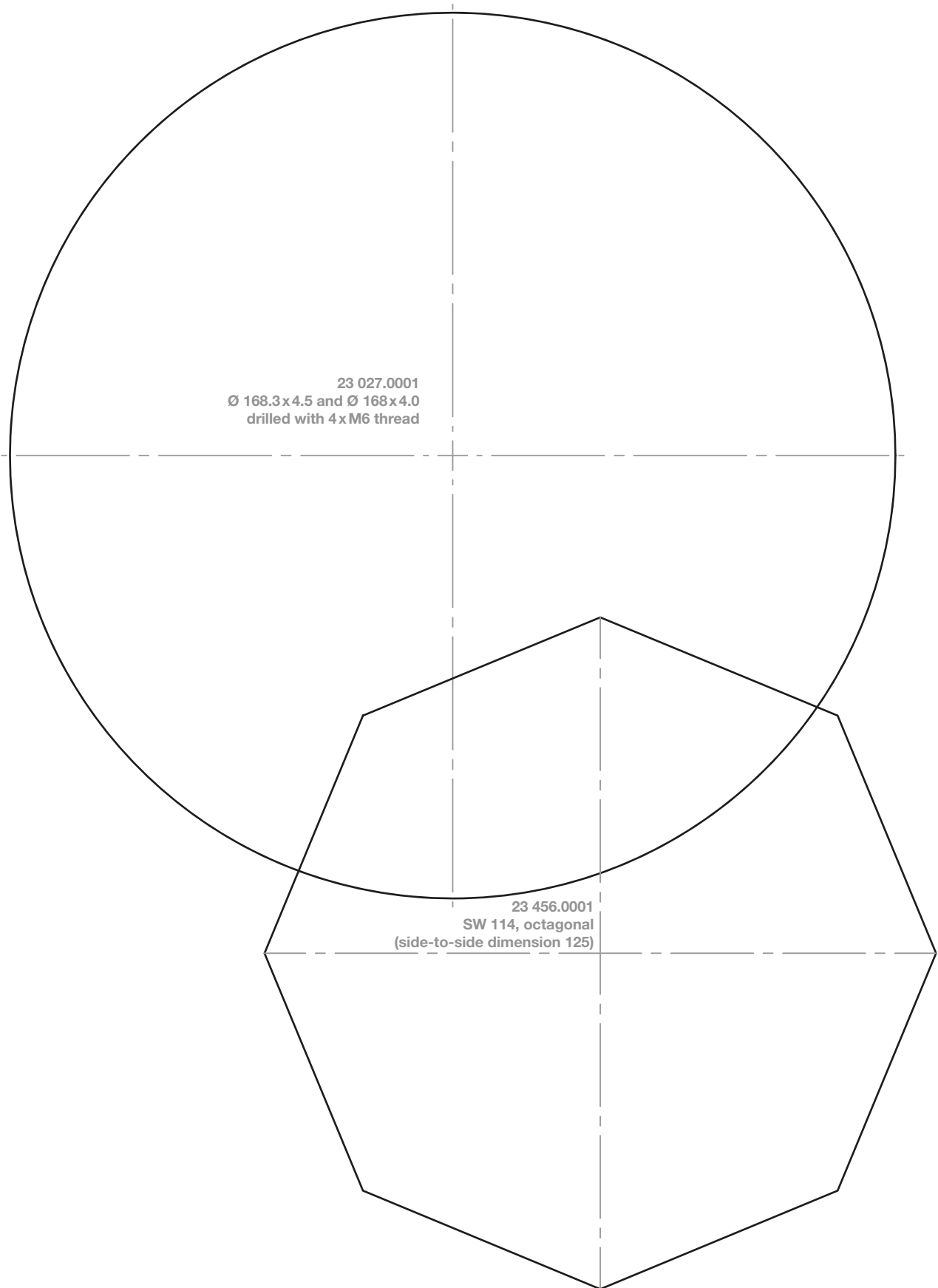
Type 15 W ... Round tubes

1:1 scale / Dimensions in millimeters



1:1 scale / Dimensions in millimeters

Type 15 W ...
Round tubes



Adapter profiles
Door controls
Door drives
Hardwired controls sensors
Hausautomation, radio controls, radio sensors
Speciality drives
Venetian blind drives
Type 9 + 11
RevolLine

Status LED display of the ProLine 2 transmitter

Colour and frequency	Meaning
Flashing orange (2 Hz)	Channel is empty or not yet programmed
Flickering orange (20 Hz)	Channel is in bidirectional programming mode (at least one bidirectional receiver is also in programming mode)
Orange and then green	Channel is bidirectionally programmed and the receiver has received the signal
Orange and then red	Channel is bidirectionally programmed and one of the receivers has not received the signal
Red and then green	Channel is bidirectionally programmed and the receiver has received the signal. Batteries are low!
Red and then red	Channel is bidirectionally programmed and one of the receivers has not received the signal. Batteries are low!
Green	Channel is in unidirectional mode
Orange and green alternating, then red	Channel (transmitter) is deleted
Red flashing	Batteries are low!



Wissen was läuft!
Knowing what's up!



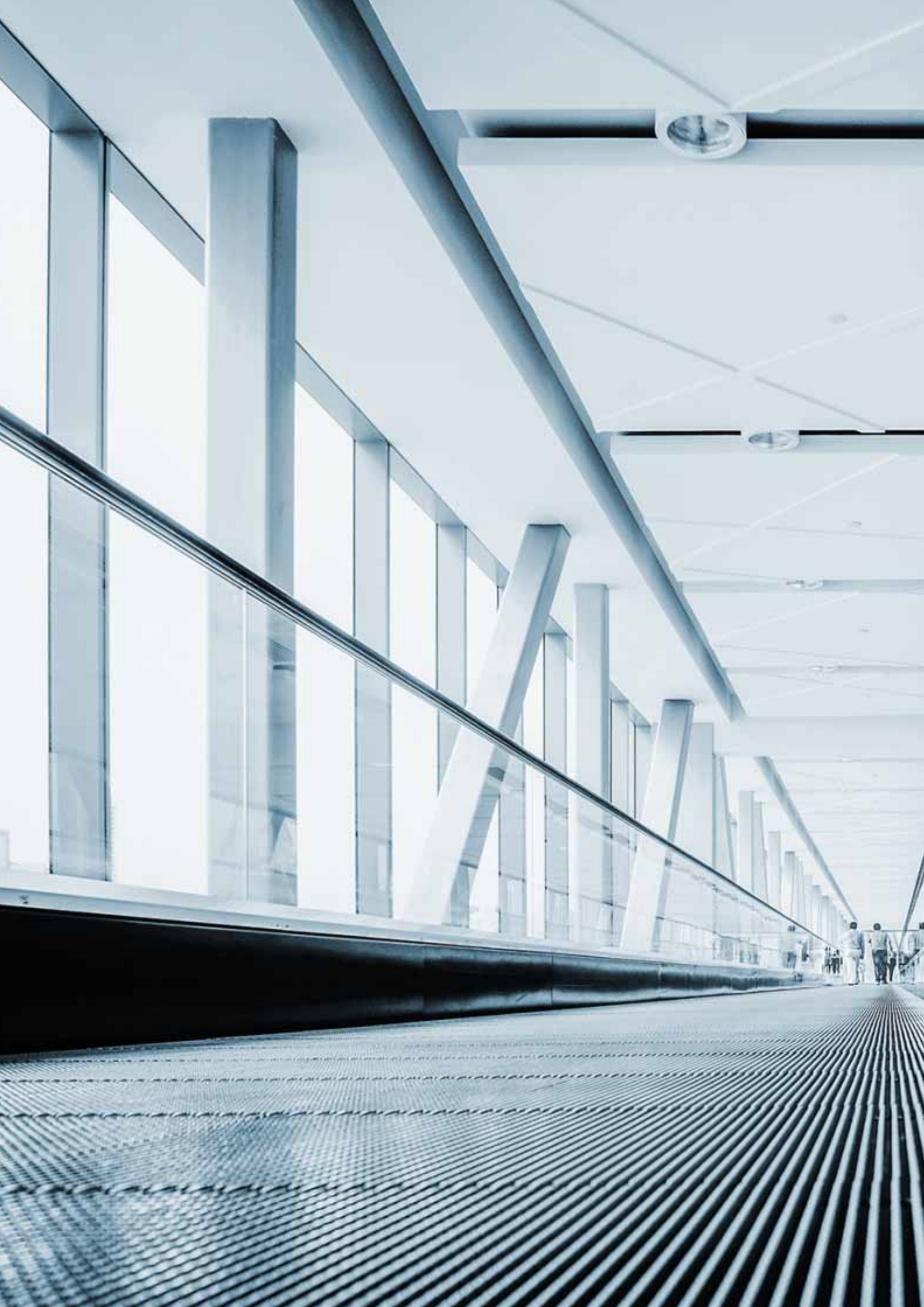
Explanation of the push buttons on the example of the LumeroTel 2 hand-held transmitter



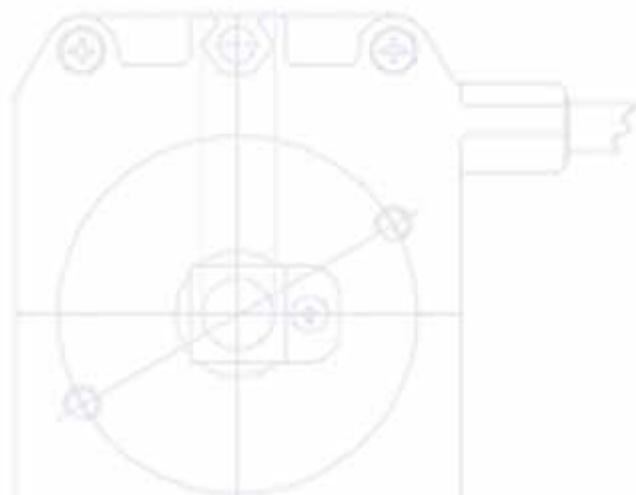
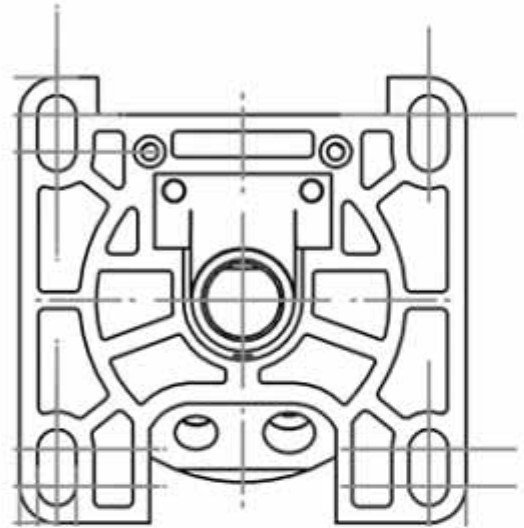
ProLine 2 – bidirectional transmitter programming

Function	Buttons to press	Procedure	Condition/prerequisite
Interrupt supply voltage: Switch circuit breaker off/on			
Start preparation to programming mode (time: 5 min.)		Press for approx. 3 sec.	Transmitter already programmed
		Press for approx. 6 sec. → until LED lights up red	Transmitter already programmed (all receivers that know the transmitter are now deleted)
Start preparation to synchronous programming mode (time: 5 min.)		Press for approx. 3 sec. → until LED lights up orange	Transmitter already programmed
Start (synchronous*) programming mode (progr. time: 2 min.)		Press for approx 1 sec. → until LED lights up orange	Receiver in (synchronous) programming mode
Stop programming mode (in transmitter + receiver)		Press for approx. 6 sec. → until LED flashes orange	Programming mode was started with this transmitter
Stop programming mode		Tap	Transmitter already programmed
Programme transmitter	1. 2.	Briefly press the UP button immediately (< 1 sec.) after the start of any 'upward movement' and briefly press the DOWN button after the start of any 'downward movement'. This is acknowledged by the drive briefly stopping	The drive is in programming mode and the blind constantly drives UP and DOWN for a short distance for 3 min!
Delete an individual transmitter/channel from the receiver		Press for approx. 6 sec. → until LED lights up red	Transmitter already programmed
Delete EVERYTHING from the receiver		Press for approx. 6 sec. → until LED lights up red	Transmitter already programmed
Programme intermediate position	1. 2.	Press and hold the DOWN button until the desired position is reached, then <u>additionally</u> press the STOP button briefly	Transmitter already programmed
Delete intermediate position		Press for approx. 3 sec. → until LED goes off briefly	Transmitter already programmed
Drive to intermediate position	2x	Quickly push DOWN button 2x	Intermediate position already programmed
Programme ventilation or tilting position	1. 2.	Press and hold the UP button until the desired position is reached, then <u>additionally</u> press the STOP button briefly	Transmitter already programmed
Delete ventilation or tilting position		Press for approx. 3 sec. → until LED goes off briefly	Transmitter already programmed
Drive to tilting position	2x	Quickly push UP button 2x	Tilting position already programmed

* The UP and DOWN drives of the receiver (from date of manufacture 06/05) start synchronously. The simultaneous programming of a transmitter on several blinds is thus possible.



Lifting capacity tables



Selection table for the determination of the suitable drive on the basis of the rated torque

Determine the necessary rated torque of the drive from the system data.

Roller shutter RoITop / RoITop-868 / RoISmart-K VariEco / Type 11

Torque (Nm)	Octagonal shaft (mm)	Roller shutter height/Bar thickness (mm)					
		1.5 m			2.5 m		
		8	11	14	8	11	14
(kg)							
5	40	14	-	-	12	-	-
8	40	22	-	-	19	-	-
12	40	33	-	-	28	-	-
6	60	-	13	12	-	11	10
7	60	-	16	14	-	13	12
10	60	-	22	20	-	19	17
12	60	-	25	24	-	22	20
20	60	-	43	40	-	37	34
30	60	-	65	60	-	56	51
40	60	-	86	80	-	75	68
50	60	-	108	100	-	93	85
40	70	-	-	74	-	-	64
60	70	-	-	110	-	-	97
80	70	-	-	147	-	-	129
100	70	-	-	184	-	-	161
120	70	-	-	221	-	-	193

The specified values include a 15% allowance for friction

Textile sun protection SunTop / SunTop-868 VariEco / Type 11/-CSM-E

Torque (Nm)	Round-/Notch-shaft Ø		Lifting capacity at the shaft			
	(mm)		(kg)			
1.5	42		7			
3	42		14			
5	42		24			
8	42		38			
12	42		57			
6	50	78	85	24	15	14
7	50	78	85	28	18	16
10	50	78	85	40	26	24
12	50	78	85	48	30	28
20	50	78	85	80	51	47
30	-	78	85	-	77	71
40	-	78	85	-	103	94
50	-	78	85	-	128	118
40	-	78	85	-	103	94
60	-	78	85	-	154	141
80	-	78	85	-	205	188
100	-	78	85	-	256	235
120	-	78	85	-	308	282

Note:

Please make sure that you check and comply with the maximum winding shaft load. These details are guideline values only and are given without any liability! You can obtain the data from the respective manufacturer.

For the determination of an individual drive we recommend our drive calculation program. You can download the software at www.elero.com or simply order the program by phoning +49 (0)7025/13-367.

Example of the determination of the rated torque and drive for a roller shutter:

1. Determine the roller shutter data. (e.g.)

- Winding shaft 60 octagonal
- Rod thickness 14 mm
- Curtain data: h 2.20 m x w 2.00 m = 4.4 m²
- Curtain weight: 5 kg/m² x 4.4 m² = 22 kg

2. Determine the rated torque of the drive

A rated torque of 20 Nm is determined from the table column 2.50 m/14 mm.

3. Select the drive

Now select a suitable drive type with the determined torque. e.g. RoITop M20-868

These details are guideline values only and are given without any liability!

Roller shutter

Type 9 NHK / Type 11 NHK

Torque	Octagonal shaft	Roller shutter height/Bar thickness (mm)			
		1.5 m		2.5 m	
		11	14	11	14
(Nm)	(mm)	(kg)			
8	60	17	16	15	14
13	60	28	26	24	22
20	60	43	40	37	34
25	60	54	50	47	42
30	60	65	60	56	51
40	60	86	80	75	68
50	60	108	100	93	85
40	70	-	73	-	64
60	70	-	110	-	97
80	70	-	147	-	129
100	70	-	184	-	161
120	70	-	221	-	193

The specified values include a 15% allowance for friction.

Note:

Please make sure that you check and comply with the maximum winding shaft load.

You can obtain the data from the respective manufacturer.

For the determination of an individual drive we recommend our drive calculation program. You can download the software at www.elero.com or simply order the program by phoning +49 (0)7025/13-367.

The drives for markisolettes, conservatory shading, fabric tension system etc. will need to be determined separately for your system.

Notes:

The permissible load of the winding shaft must not be exceeded! These details are guideline values only and are given without any liability!

Awnings and blinds

Type 9 NHK

Torque	Speed	Shaft Ø	Lifting capacity at the shaft
(Nm)	(Upm)	(mm)	(kg)
8	14	50	32
		78	21
13	14	50	52
		78	33
20	14	78	51
		85	47
25	14	78	64
		85	59
30	14	78	77
		85	71
40	14	78	103
		85	94
50	14	78	128
		85	118

Type 11 /-CSM-E /-NHK

Torque	Speed	Shaft Ø	Lifting capacity at the shaft
(Nm)	(Upm)	(mm)	(kg)
40	15	78	103
		85	94
60	12	78	154
		85	141
80	15	78	205
		85	188
100	12	78	256
		85	235
120	12	78	308
		85	282

Selection table for the determination of the suitable drive on the basis of the rated torque

Determine the necessary rated torque of the drive from the system data.

Roller shutter and door Type 15 / Type 15 NMA

Torque	Shaft Ø	Nominal bar thickness	Max. blind weight with a rolling door/roller shutter height up to		
			2.5 m	3.5 m	5.0 m
(Nm)	(mm)	(mm)	(kg)	(kg)	(kg)
120	133	19	138	130	117
	133	23	131	123	109
	168	19	115	113	117
	168	23	114	108	101
150	133	19	172	162	146
	133	23	164	154	137
	168	19	144	141	133
	168	23	142	135	126
180	133	19	206	194	176
	133	23	196	185	164
	168	19	172	169	160
	168	23	170	162	151
230	133	19	264	248	224
	133	23	251	236	203
	168	19	220	216	204
	168	23	218	207	193
300	133	19	344	324	293
	133	23	327	308	273
	168	19	287	281	266
	168	23	284	270	252

Note:

This values are in relation to the complete roller shutter/rolling door in kg. 15% friction is taken into account. The friction can be greater due to additional door seals, wind loads etc. Carry out necessary corrections.

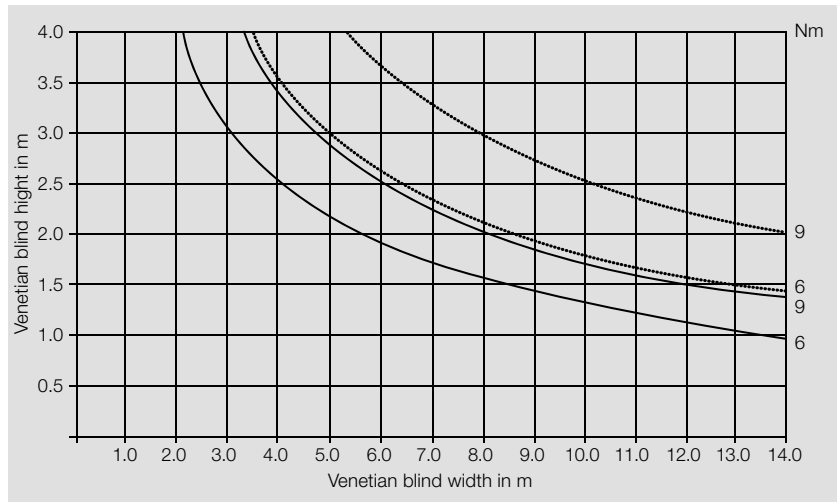
Calculation of the mean lifting speed in cm/second.

$$V_m = \frac{D + d \cdot 3,14 \cdot n}{2 \cdot 60}$$

- V_m = Mean lifting speed in cm/second.
- D = Roll diameter in cm.
- d = Tube diameter in cm.
- n = Revolutions per min.

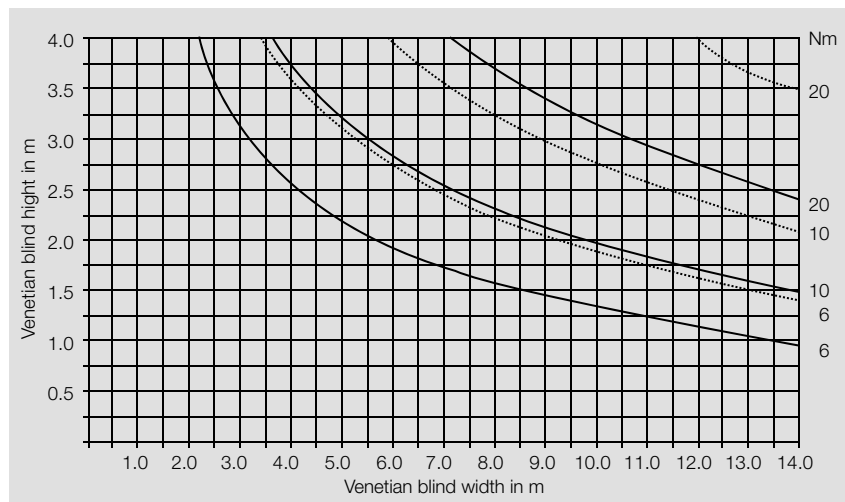
These values are guide values. No liability can be accepted!

Venetian blind drive JA Soft/JAR Soft



— Flanged slats; Unflanged slats

JAe/JAdk/JA NHK/JARdk



— Flanged slats; Unflanged slats

Chart calculations based on	Flanged slats	Unflanged slats
Slat width (mm)	60 – 90	50
Winding pulley diameter (mm)	22	
Ribbon thickness (mm)	0,34	
Weight (incl. drop bar) (kg/m ²)	2,0	1,2

These values are guide values. No liability can be accepted!

Selection table for the determination of the suitable drive on the basis of the rated torque

Determine the necessary rated torque of the drive from the system data.

Shaft mounted drives

DFM

Drives with rated torque	up to shaft Ø	Nominal bar thickness up to 20 mm door height up to			Nominal bar thickness up to 30 mm door height up to		
		3.0 m	5.0 m	7.0 m	3.0 m	5.0 m	7.0 m
(Nm)	(mm)	(kg)					
170	108	205	173	153	175	146	127
	133	186	163	146	164	139	122
	168	162	149	136	147	130	118
	219	126	125	120	124	115	107
250	133	273	240	214	242	204	180
	168	239	219	200	216	191	173
	219	186	185	176	182	169	157
350	133	382	336	300	338	286	252
	168	334	307	280	303	268	243
	219	260	258	247	254	237	220
500	133	546	479	429	484	408	360
	168	478	439	401	433	383	347
	219	371	369	352	363	339	315
	244	335	335	326	328	318	301
750	133	819	719	643	725	613	540
	168	716	658	601	649	574	520
	219	557	554	528	545	508	472
	244	502	502	489	492	477	452

Note:

These data relate to the complete door weight in kg (1 kg ~ 9.81 N).
15 % friction is taken into account. The friction can be greater due to additional door seals, wind loads etc. Carry out necessary corrections.

Pole-reversible three-phase shaft mounted drives

DFM 400/32-16

Size	Shaft Ø	Nominal bar thickness up to 20 mm, door height up to			Nominal bar thickness up to 30 mm, door height up to		
		3.0 m	5.0 m	7.0 m	3.0 m	5.0 m	7.0 m
(Nm)	(mm)	(kg)					
400	133	436	384	344	386	326	288
	159	396	346	328	356	310	280
	168	382	350	320	346	306	278
	193	334	320	300	324	292	264
	219	296	296	282	290	262	252

Note:

The above data is for the complete door weight in kg, with 15 % allowance for friction.
These values are guide values. No liability can be accepted!

Chain wheel mounted drives

DKM

Drives with rated torque	up to shaft Ø	Chain wheel reduction 2 : 1						Chain wheel reduction 2.53 : 1						Chain wheel reduction 3.05 : 1					
		Nominal bar thickness up to 20 mm			Nominal bar thickness up to 30 mm			Nominal bar thickness up to 20 mm			Nominal bar thickness up to 30 mm			Nominal bar thickness up to 20 mm			Nominal bar thickness up to 30 mm		
		3.0 m	5.0 m	7.0 m	3.0 m	5.0 m	7.0 m	3.0 m	5.0 m	7.0 m	3.0 m	5.0 m	7.0 m	3.0 m	5.0 m	7.0 m	3.0 m	5.0 m	7.0 m
(Nm)	(mm)	(kg)																	
170	133	372	326	292	328	278	244	471	412	369	415	352	309	567	497	445	500	424	372
	168	324	298	272	294	260	236	410	377	344	372	329	299	494	454	415	448	397	360
	193	284	272	256	276	248	224	359	344	324	349	314	283	433	415	390	421	378	342
	219	252	250	240	248	230	214	319	316	304	314	291	271	384	381	366	378	351	326
250	133	546	480	428	484	408	360	691	607	541	612	516	455	833	732	653	738	622	549
	168	478	438	400	432	382	346	605	554	506	546	483	438	729	668	610	659	583	528
	193	418	400	376	406	364	330	529	506	476	514	460	417	637	610	573	619	555	503
	219	372	370	352	364	338	314	471	468	445	460	428	397	567	564	537	555	515	479
350	133	764	672	600	676	572	504	966	850	759	855	724	638	1165	1025	915	1031	872	769
	168	668	614	560	606	536	486	845	777	708	767	678	615	1019	936	854	924	817	741
	193	586	562	526	568	510	462	741	711	665	719	645	584	894	857	802	866	778	705
	219	520	516	494	508	474	440	658	653	625	643	600	557	793	787	753	775	723	671
	298	386	386	386	380	380	372	488	488	488	481	481	471	589	589	589	580	580	567
500	168	956	878	802	866	766	694	1209	1111	1015	1095	969	878	1458	1339	1223	1321	1168	1058
	193	838	802	750	810	730	660	1060	1015	949	1025	923	835	1278	1223	1144	1235	1113	1007
	219	742	738	704	726	678	630	939	934	891	918	858	797	1132	1125	1074	1107	1034	961
	244	670	670	652	656	636	602	848	848	825	830	805	762	1022	1022	994	1000	970	918
	298	552	552	552	544	544	530	698	698	698	688	688	670	842	842	842	830	830	808
	355	466	466	466	460	460	460	589	589	589	582	582	582	711	711	711	702	702	702
750	168	1432	1316	1202	1298	1148	1040	1811	1665	1521	1642	1452	1316	2184	2007	1833	1979	1751	1586
	193	1256	1202	1126	1216	1094	988	1589	1521	1424	1538	1384	1250	1915	1833	1717	1854	1668	1507
	219	1114	1108	1056	1090	1016	944	1409	1402	1336	1379	1285	1194	1699	1690	1610	1662	1549	1440
	244	1004	1004	978	984	954	904	1270	1270	1237	1245	1207	1144	1531	1531	1491	1501	1455	1379
	298	828	828	828	814	814	796	1047	1047	1047	1030	1030	1007	1263	1263	1263	1241	1241	1241
	355	698	698	698	690	690	690	883	883	883	873	873	873	1064	1064	1064	1052	1052	1052

Note:

Note the maximum limit switch range of the drive!
 These data relate to the complete door weight in kg (1 kg ~ 9.81 N).
 15 % friction is taken into account. The friction can be greater due to additional door seals, wind loads etc. Carry out necessary corrections.
 These values are guide values. No liability can be accepted!

Calculation of the mean lifting speed in cm/second.

$$V_m = \frac{D + d \cdot 3,14 \cdot n}{2 \cdot 60}$$

V_m = Mean lifting speed in cm/sec.
 D = Roll diameter in cm.
 d = Tube diameter in cm.
 n = Revolutions per min.



Your direct line





1

Europe

- Germany
- Italy
- France
- Spain
- Poland
- Sweden

2

Asia

- Singapore
- India
- China

3

Australia

- Australia

4

United States

- USA

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3

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4

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Order acceptance and delivery times

During business hours you can reach us on the following number:

Phone	+49 7025 13-599
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Outside business hours you can send us a fax or leave a message on our answering machine:

Fax:

Export sales	+49 7025 13-290
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Reception	+49 7025 13-212
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Phone:

Reception (mailbox)	+49 7025 13-01
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E-Mail:

info@elero.de

You can reach our technical service staff during business hours on the following number:

English	+49 7025 13-550
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German	+49 7025 13-555
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Visit our website at www.elero.com for further information.

Information:

All product information in the catalogue is based on products available on the 01.11.2014. We reserve the right to change technical specifications, documentation and design of the products.

Our products are only to be installed/commissioned by authorized and qualified persons. There are high risks to objects and persons if the products are installed or commissioned incorrectly.



Linear actuator technology/ louvre system drives



50 years experience in constructing motors

Decades of experience



elero building in Poesneck/Thuringia

elero Linear Drive Technology is a business unit of elero GmbH, one of the most important manufacturers of electric drives and controls for roller shutters, sun protection systems and doors. elero Linearantriebstechnik is well-known for customer dialogue, innovation and highest quality standards.

The company offers

- A wide range of electric push-rod actuators (linear actuators)
- The linear actuator solution for individual requirements – also in small quantities
- Short delivery times
- Highest quality and an optimum price/performance ratio

With 50 years experience in constructing motors, elero develops and manufactures reliable actuators with extremely compact design meeting the requirements especially in the mechanical engineering and plant manufacturing sectors.

elero actuators for permanent outside use combine extreme robustness with elegance and are therefore ideally suitable for actuator solutions in the modern facade architecture.

elero, the name which stands for high-quality electric precision linear actuators. Our products are based on 50 years of experience in the construction of electric motors. Manufacturing high-quality products is part of our philosophy. We achieve this level of quality by applying a sophisticated quality control system complying with the requirements of the international DIN ISO EN 9001 standard.

Compared to their pneumatic and hydraulic „colleagues“ electric linear actuators have many assets:

- constant stroke speed
- no loss of oil
- mechanical self-locking
- almost maintenance free
- many speed variants
- exact positioning capability

If you are looking to combine energy efficiency, reliability and a long life expectancy, elero drives are the one to look for.

We regard ourselves as being not just a supplier of linear actuators, but also a partner for the successful implementation of your ideas. Your requirements of our products are the measure of our quality

Following an overview of our most common drives. More drives in more details can be found on: www.elero-linear.com

Overview

Piccolo (Industry/Facade)

The linear actuator for louvre adjustments in commercial architecture

Features:

- with its particularly slim construction, Piccolo can easily be integrated into a variety of modern facade styles
- space-saving linear actuator with innovative design for the adjustment of photovoltaic louvres and large louvres made of glass, aluminium or stainless steel
- thanks to the weather-resistant construction, the mounting position is flexible
- integrated, easily adjustable limit switches



	Piccolo 0	Piccolo XL	
Load (N)	100 – 1,800	1,200	
Stroke speed (mm/s)	approx. 2 – 16	approx. 6	approx. 5
Stroke length (mm)¹	75 – 800	max. 600	
Operating voltage	12 V DC/ 24 V DC	230 V 1 AC 50 Hz ²	24 V DC
Rating (min)	5 min	S2/5 min	S3/15 %
Temperature range (°C)	–20 to +80		
Connecting cable length (m)	2		
Protection type	IP 67	IP 65	
Mounting position	flexible		
Housing diameter (mm)	35	48	
Housing + fasteners	stainl. steel 1.4571 / anodised aluminium	stainless steel 1.4301	

Veco (Industry/Facade)

The economic solution for modern facade architecture

Features:

- the aluminium housing, electronic limit switches for individual stroke adjustment and the flexible mounting position highlight the efficiency and the economical characteristics of this actuator
- integration into building facades, for the adjustment of sun protection louvres, photovoltaic panels, daylighting systems
- slim and cylindrical actuator design



	Veco
Load (N)	1,600
Stroke speed (mm/s)	approx. 5
Stroke length (mm)¹	max. 300
Operating voltage	230 V 1 AC, 50 Hz ²
Rating (min)	S2/5 min
Temperature range (°C)	–20 to +60
Connecting cable length (m)	2
Protection type	IP 65
Limit switches	electronic limit switches
Mounting position	flexible
Fixing on piston and housing end	articulated lug
Housing diameter (mm)	50
Housing + fasteners	anodised aluminium

¹ Stroke lengths available in steps of 100 mm.

² All AC data (Stroke speed and power) based on 50Hz.

Drives can be operated on 60Hz as well, however Power is about 20% less and speed about 20% higher. Please contact us for detailed technical data.

Linear actuator technology

Overview


Econom (Industry/Facade)

The linear actuators of the Econom series have the following outstanding features

Features:

- can be used for lifting platforms, locking devices, tilting devices, slat adjustment, points switching and many other applications
- steel or stainless steel versions
- high static and dynamic load capacity
- almost maintenance-free, low-noise operation, robust



	Econom 0 UL	Econom 0	Econom 01	Econom 1	Econom 2
Load (N)	100 – 3,000	100 – 3,000	500 – 5,000	900 – 10,000	5,000 – 20,000
Stroke speed (mm/s)	0.6 – 70 (6 mm/sec on facade model)	0.6 – 70	0.7 – 90	0.5 – 70	1.0 – 45
Stroke length (mm)	50 – 400	max. 400	max. 750		
Operating voltage	120V/60 Hz	24 V DC/230 V 1 AC ¹ /400 V 3 AC ¹			400 V 3 AC ¹
Rating (min)	S3/15%; S1/100%				S3/15%; S3/60%
Temperature range (°C)	–20 to +80				
Connecting cable length (m)	1.50				
Protection type	IP 65s	IP 54 or IP 65		IP 54 or IP 65s	
Mounting position	flexible		vertical, piston rod downwards		
Limit switches	adjustable, with status signal				
Housing	black primer coating, alternatively in stainless steel				
Certification		–	–	–	–

Agron (Agricultural)

Electromechanical linear actuator for electrically operated positioning

Features:

- Compact design
- Maintenance-free
- Ingress protection IP69K
- Precise distance measurement
- High reliability
- Multiple mounting possibilities
- Integrated absolute encoder, LIN-Bus control



	Agron
Load (N)	200 / 400
Stroke speed (mm/s)	approx. 10 / approx. 20
Stroke length (mm)	100 / 150
Operating voltage	12 V DC
Rating (min)	S3/15%
Temperature range (°C)	–20 to +60
Connecting cable length (m)	1.5
Protection type	69K
Mounting position	flexible
Housing diameter (mm)	35 x 57
Housing + fasteners	Aluminium anodised/Plastics PA

¹ All AC data (Stroke speed and power) based on 50Hz. Drives can be operated on 60Hz as well, however Power is about 20% less and speed about 20% higher. Please contact us for detailed technical data.

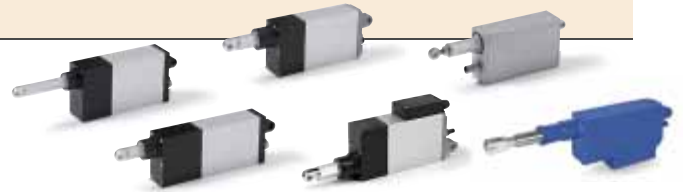
Overview

Junior (Industry)

Some outstanding features of this linear actuator

Features:

- versatile push rod drive with compact design for easy mounting
- reliable use for gas adjustment, etering equipment, points switching, tilting devices, hatch actuation and valve and slider operation
- Easy control, Start up ramp



	Junior 0E	Junior 1E-VA	Junior 1	Junior 1S	Junior 2 (PLDC)	Junior 2 (24 V)	Junior 2 (230 V)	Junior 2 MSP
Load (N)	150 – 550		50 – 2,000	150 – 4,000	5,000	200 – 10,000	50 – 5,000	1,000 – 10,000
Stroke speed (mm/s)	1.6 – 30		1.3 – 70	0.9 – 57	3.0	1.2 – 85	2.5 – 70	1.2 – 19
Stroke length (mm)	max. 200				100–350	max. 350		
Operating voltage	24 V DC				12 V DC	24 V DC	230 V AC ¹	24 V DC
Voltage of the digital inputs and outputs	24 V DC		–		–	–		24 V DC
Rating (min)	S3/15%; S3/40%; S1/100%		S3/40%; S3/60%; S1/100%		S3/15%;	S3/40%; S3/60%; S1/100%	S2/5 min	S3/15%
Temperature range (°C)	–20 to +50		–10 to +50		–10 to +60	–10 to +50		
Connecting cable length (m)	plug contact		1.50		1.50	1.50		
Protection type	IP 54	IP 65	IP 54		69 K/IP 54	IP 54		
Limit switches	electronic limit switches		mechanical limit switches		internal, adjustable	mechanical limit switches		
Housing	aluminium	stainless steel 1.4301	alu/plastic					
Overcurrent protection	yes		no		yes	no		

Kompakt (Industry)

The compact push-rod actuator

Features:

- tailor-made and extremely compact design thanks to special elero technology
- versatile push rod drive for locking devices (rolling doors), tilting devices, operable windows, lifting platforms and many other applications
- adjustable limit switches with status signal
- torsion-lock piston rod



	Kompakt	
Load (N)	400 – 15,000	
Stroke speed (mm/s)	1.5 – 65	
Stroke length (mm)	max. 500	max. 1,000
Operating voltage	400 V 3 AC ¹ or 24 V DC	
Control voltage	–	24 V DC
Rating (min)	S3/15%; S1/100%	
Temperature range (°C)	–10 to +50	
Connecting cable length (m)	1.50	
Protection type	IP 54	
Limit switches	mechanical limit switches	electronic limit switches
Housing	aluminium/plastic	

¹ All AC data (Stroke speed and power) based on 50Hz. Drives can be operated on 60Hz as well, however Power is about 20% less and speed about 20% higher. Please contact us for detailed technical data.

Linear actuator technology

Overview

LIMAline (Facade)

The louvre actuator system for maximum architectural freedom

Features:

- makes top technology invisible in the facade architecture
- operates vertically and horizontally facade louvres of different materials
- shading, darkening, light deflection and sun position tracking are possible
- rotary movements of up to 360° allow for many design possibilities on the facade
- fits into fixed structures starting from 50 mm width
- all the actuator components are maintenance-free and resistant to corrosion
- For more information:
www.elero-linear.com / Service / Downloads / Products for facade construction/LIMAline / Facade Catalog LIMAline



	LIMAline
Rotation angle (°)	up to 360
Weight (kg)	0.33
Operation time (sec.)	65
Pause time (sec.)	180
Temperature range (°C)	-20 to +60
Speed profile shaft (min⁻¹)	max. 30
Transmission ratio	i = 28
Mounting position	flexible
Housing	plastic
Profile bush	anodised aluminium
Profile shaft	stainless steel
Lifetime	10,000 × 180° cycles (right and left)

Lockmaster (Industry/Facade)

The electromechanical linear actuator for locking mechanisms

Features:

- applications under extreme ambient conditions (outdoors),
in underground sewer systems, underwater
- for simple locking functions: locking of manhole covers, for access systems and doors,
for increased security in buildings through the integration into centralised building management systems, locking of machine and plant components
- maintenance-free operation allows the use under extreme ambient conditions and in areas with limited accessibility



	Lockmaster
Load (N)	50
Stroke speed (mm/s)	30
Stroke length (mm)	50
Operating voltage	230 V 1 AC; 50 Hz ¹
Rating (min)	S2/ 1.0
Temperature range (°C)	-20 to +80
Protection type	IP 67 at 0.1 bar (equivalent to a water depth of 1.0 m)
Limit switches	preset, no adjustment necessary
Mounting position	flexible
Fixing on piston end	clevis end
Housing diameter (mm)	61.5
Housing length	168
Housing + fasteners	stainless steel 1.4301

Overview

Herkules (Industry)

The linear actuators of the Herkules series have the following outstanding features



Features:

- suitable for heavy-duty applications
- protection against dirt, dust and other environmental influences
- combination of high pushing/pulling forces and low space requirement
- for lifting platforms, locking devices, tilting devices, slat adjustment, points switching and many other applications
- low maintenance lubrication system

	Herkules 01	Herkules 1
Load (N)	14,000 – 30,000	28,000 – 50,000
Stroke speed (mm/s)	1 – 9	
Stroke length (mm)	up to 275	up to 320
Operating voltage	400 V 3 AC 50 Hz ¹	
Rating (min)	S3/15 %	
Temperature range (°C)	–20 to +50	
Connecting cable length (m)	1.50	
Protection type	IP 54	
Housing	galvanised, chromed	

Insolis (Solar/Photovoltaic systems)

The actuator series for solar photovoltaic systems

Features:

- extremely high static loads compared to required dynamic loads
- corrosion resistance against environmental influences over long periods
- modular system, flexible integration into existing and new systems
- option for Insolis 3: electronically programmable limit switches with integrated overload protection



	Insolis 2	Insolis 3
Dynamic load peak (N)	5,000	10,000
Static load peak (N)	15,000	up to 60,000
Stroke speed (mm/s)	2.5 DC/4.5 AC	1.5
Stroke lengths (mm)	500–1,000	600/800/1,000
Operating voltage	24 V DC/230 V AC ¹	
Rated current	3.3 A DC/ 1.3 A AC	4.5 A DC/ 0.8 A AC
Power	79 W/290 VA	108 W/185 VA
Rating (min)	KB ² 12/KB ² 8	KB ² 12
Fixing on piston end	joint rod head	
Fixing on housing end	pivot	
Temperature range (°C)	–20 to +60	
Connecting cable length (m)	1.50	
Protection type	IP 65	
Mounting position	cable glands always facing downwards	
Housing	anodised aluminium	
Special features	self-locking ability	

Vario (Industry)

The linear actuators of the Vario series have the following outstanding features

Features:

- combination of high performance and low space requirement
- flexible concept thanks to a versatile modular system
- optimum protection against dirt, dust and other environmental influences
- robust construction, for special machine construction, materials handling technology, overhead catenary construction, shipbuilding or communications engineering



	Vario 1	Vario 2
Load (kN)	4 – 50	10 – 100
Stroke speed (mm/s)	1 – 70	
Stroke length (mm)	max. 800	max. 1,000
Operating voltage	400 V 3 AC, 50 Hz	400 V 3 AC, 50 Hz
Control voltage electronic limit switches	24 V DC or 230 V AC ¹ (to be selected depending on the contactors or PLC)	
Voltage supply analogue output	24 V DC/20 mA	
Rating (min)	S3/15 %	
Temperature range (°C)	–10 to +50	
Connecting cable length (m)	1.50	
Protection type	IP 54	
Housing	black primer coating	

¹ All AC data (Stroke speed and power) based on 50 Hz. Drives can be operated on 60 Hz as well, however Power is about 20 % less and speed about 20 % higher. Please contact us for detailed technical data.

² short-time rating



Terms and conditions of sale



Terms and conditions of sale

§ 1 Scope of validity

1. Our terms and conditions of sales apply exclusively. They apply for this and all future transactions with the ordering party unless otherwise expressly agreed between the parties. We do not recognise conflicting or differing terms and conditions of the customer. The business terms and conditions of the ordering party or of third parties have no validity irrespective of whether this validity is specifically rejected or is taken into account in correspondence, or correspondence contains or refers to the terms and conditions of the ordering party or a third party. Exceptions must be agreed in writing between the parties.
2. Unless otherwise stated in the contract terms, the terminology and definitions of INCOTERMS 2000 apply.

§ 2 Contract signing

1. Our quotations are non-binding. Technical descriptions and other details in brochures and other information are non-binding unless they are expressly identified as binding
2. We reserve our copyrights and title rights to samples and brochures, technical descriptions, calculations and other documents. These may not be made accessible to third parties without written approval.
3. The acceptance declaration and all confirmations require the written form to be valid.
4. If the order is to qualify as an offer according to § 145 of the German Civil Code (BGB) we can accept this within 12 working days.
5. Details in samples, brochures, technical descriptions and in public announcements on our part, by manufacturers and their agents (§ 434 para. 1 p. 3 BGB) are an inherent part of the performance description when expressly taken into account in the contract.
6. With the exception of the managing director and sales manager our (sales) employees are not authorised to make verbal side agreements which differ from these terms and conditions or to give verbal assurances which transcend the content of the written contract.

§ 3 Prices and sales conditions

1. The agreed prices apply. These are understood to be "ex works" plus packaging, statutory VAT, duty in the case of exports plus fees and other public levies and additional payments, e.g. for insurance. The statutory VAT is itemised separately in the invoice at the valid rate at the time of billing.
2. If substantial cost elements vary before the day of the delivery, a price increase is possible if the delivery or performance is more than four months after the contract signing. The price increase shall take place taking into account the mutual interests of the contract parties.
3. Invoice amounts are within eight days – 3 % discount, within 14 days – 2 % discount and within 30 days net of receipt of the goods. The invoice shall be paid in cash or by bank transfer. It is considered as having been paid once we have received the amount without extra cost.
4. Other payment methods require our written consent. The costs arising on either side shall be paid by the ordering party. Payment by exchange is not admissible. Checks are valid only after payment has been transferred.
5. The ordering party has a right to offsetting or retention only in the case of undisputed or legally verified debts or accounts.

§ 4 Delivery and duties of cooperation

1. The scope of our duty to deliver is exclusively defined by the respective contract. We reserve the right to make changes to construction, form and colour as a result of technical improvement or legal requirements, provided such changes are not substantial or otherwise unreasonable for the ordering party.
2. We are entitled to partial delivery if – the partial delivery can be used by the ordering party within the context of the contractually designated purpose, – the delivery of the remainder of the goods ordered is guaranteed and – the ordering party is not faced with considerable secondary or additional costs as a result.
3. Deliveries shall be carried out "ex works" unless otherwise agreed in writing between the parties.
4. The delivery dates are agreed in principle subject to the cooperation of the ordering party in accordance with the contract. Dates and deadlines set for deliveries and performances always apply as approximate unless agreed as "final". Compliance with our delivery duty assumes that the ordering party fulfils its obligations promptly and properly.
5. If our suppliers deliver incorrectly or fail to deliver on time, even though we have issued orders to reliable suppliers which cover the demand at least, we shall be exempt from our performance obligation and may withdraw from the contract unless the delivery delay is only temporary.
6. If it transpires after the signing of the contract that the ordering party has no guarantee of creditworthiness and our payments are threatened we are entitled to refuse delivery until the ordering party makes payment or provides assurance thereof. If the payment or security provision is not provided within 12 working days after a request has been made, we are entitled to withdraw from the contract.
7. If the ordering party falls behind with acceptance or collection or is responsible for a delay in dispatch or delivery we are entitled, without prejudice to further

claims, to demand a fixed cost amounting to the standard local costs of storage, irrespective of whether the goods are stored by us or a third party. The burden of proof that less or no damage was caused lies with the ordering party.

§ 5 Delay in delivery

1. If the date for the delivery agreed with the ordering party cannot be complied with for reasons beyond our control, particularly operating interruptions of any kind, difficulties in the procurement of materials or energy, transport delays, strikes, legal lockouts, shortages of workforce, shortages of energy or raw materials, difficulties in the procurement of the required official approvals and/or official measures within our sphere or in the sphere of our supplier, the delivery period shall be extended by the duration of the obstacle plus an appropriate lead time.
2. If the circumstances delaying the delivery last for a month after the agreed delivery deadline, either party may withdraw from the contract. Further claims due to delivery times being exceeded for reasons which are not unintentional or are due to gross negligence on our part are excluded. Damage claims are limited to the contract-typical foreseeable damage.

§ 6 Place of fulfilment and transfer of risk

The place of fulfilment for all obligations from the contract relationship in the case of orders in the field of drive technology is our registered office in 72660 Beuren, and for orders in linear technology it is our registered office in 07381 Pößneck.

§ 7 Packing

We pack all goods appropriately. The costs for the disposal of transport and sales packaging shall be borne by the ordering party.

§ 8 Dispatch

1. If dispatch is agreed between the parties the risk of the loss of the subject of the delivery transfers to the ordering party at the latest with hand-over of the subject of the delivery to the shipper, freight carrier or other third party appointed for the delivery. This applies equally if we have made part-deliveries and have also taken on other performances.
2. If the delivery or hand-over is delayed due to circumstances for which the ordering party is responsible, the risk transfers to the ordering party from the day on which the subject of the delivery is ready for dispatch and we have indicated this to the ordering party.
3. Storage costs after the transfer of the risk shall be paid for by the ordering party. If stored by us, the storage costs are 0.5% of the invoice amount for the subjects of the delivery being stored per week of delay. We reserve the right of assertion and proof of greater or lesser storage costs.
4. The shipment is insured against theft, breakage, transport, fire and water damage or other risks by us only at the express preference and cost of the ordering party.

§ 9 Material defect

1. The ordering party is subject with reference to material defect to the legal obligation to inspect and report defects according to § 377 HGB.
2. Wear and tear on batteries, battery packs and other consumables is not included as material defect. The legal warranty for the normal, generally-expected quality and as-intended usability of these articles is not affected hereby. If we provide a guarantee for certain products which transcends the legal liability for defects, particularly an extended period for defect-related cost-free replacement of materials, these do not count as wear or tear articles.
3. The ordering party cannot derive rights from material defects which do not or do not substantially affect the value and fitness for use as intended
4. If the items exhibit a material defect at the time of the transfer of risk, we are entitled and obliged to offer supplementary performance. Supplementary performance shall, at our discretion, be in the form of repair or replacement.
5. If the supplementary performance fails, does not take place within a suitable period set by the ordering party or is refused, the ordering party is entitled at its discretion to withdraw from the contract, to demand a lowering (reduction) of the purchase price appropriate to the defect and value or, within the limits of the following conditions, compensation in place of performance.
6. Should a material defect lead to damage according to the legal provisions, we are liable insofar as this relates to personal damage, for damage under the product liability law or damage caused by intent or gross neglect.
7. If the damage is based on a culpable violation of a substantial contractual duty or a "cardinal duty" we are liable, with exception of the cases in section 3, only for foreseeable, contract-typical damage.
7. Beruht der Schaden auf einer schuldhaften Verletzung einer wesentlichen Vertragspflicht oder einer „Kardinalpflicht“, haften wir, mit Ausnahme der in Abs. 3 benannten Fälle, nur für den vorhersehbaren, vertragstypischen Schaden.
8. Further contract- and tort-related claims of the ordering party are excluded. We are particularly not liable for the cases named in para. 6, for damage which has not resulted from the subject of the delivery itself or for lost profit or other damage to the assets of the ordering party.

§ 10 Other damage liability

1. The provisions in § 9 para. 6-8 also apply for damage claims due to other obligatory duties. In the event of the violation of a contractual duty or a performance obstacle existing at the time of the contract signing (§§ 311 para. 2, 311a BGB) our compensatory duty is limited to the negative interest.
2. Our tort liability is subject to the provisions in § 9 para. 6-8.
3. Insofar as our liability is excluded or limited, this also applies for personal liability of our employees, staff, colleagues, agents and vicarious agents.

§ 11 Retention of title

1. The title of the goods supplied is retained until our total accounts against the ordering party from the business relationship including future accounts arising from contracts signed at the same time or later have been settled. The same applies when accounts are made in a running invoice and the balance is brought forward and acknowledged. Title transfers to the ordering party when the total liabilities for whatever reason have been settled. We are obliged to release our securities insofar as their value exceeds our accounts by more than 10 %.
2. The ordering party is entitled to sell or process the goods in a proper business transaction. This right is cancelled on cessation of payment or application for or commencement of an insolvency process. Any processing is carried out by the ordering party on our behalf without our being obligated in any way. In the event of processing, joining or mixing the reserved products with other products we automatically receive shared ownership of the new item at a value in the event of processing, in relation of the value (= gross invoice value including side costs and taxes) of the reserved products to the value of the new item, and in the event of processing, joining or mixing the reserved products with other products, in relation of the value of reserved products to the value of the other products.
3. The ordering party herewith cedes to us all accounts derived from the resale of the goods. The ordering party is also authorised to collect these accounts after cessation. Our authorisation to collect the accounts ourselves is unaffected by this. However we shall make no use of this right, provided the ordering party meets its payment and other obligations. On request the ordering party shall disclose to us the ceded accounts and their debtors plus all details required for collections, provide us with the related documents and instruct the debtors of the cessation.

4. In the event of contract-infringing behaviour on the part of the ordering party, particularly payment arrears, we are entitled to withdraw from the contract and take back the goods. For the purpose of taking back the goods the ordering party herewith irrevocably consents to our entering its business and storage premises and taking the goods away.
5. While we still have title, the ordering party may neither offer for security nor pledge the goods or items manufactured from said goods without our consent.
6. In the case of pledging and other third party interventions the ordering party shall notify us in writing. The ordering party is not permitted to make any agreements with its receivers which might affect our rights.
7. We are obliged to release the security due us at the request of the ordering party and at our discretion insofar as the realisable value of the security exceeds the claim to be secured by more than 10 % or its nominal value by more than 50 %.

§ 12 Final provisions

1. The invalidity of individual provisions shall not affect the validity of the remainder.
2. If the ordering party is a merchant, the legal venue for all disputes is the registered office of elero GmbH in 72660 Beuren. The legal venue is not exclusive.
3. German law applies to the exclusion of the UN purchasing law (CISG).
4. We refer to the fact, in accordance with the provisions of the German data protection act, that we store personal data about the ordering party (name, address) by EDP for internal purposes only.

elero GmbH

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