

Price list 2008/2009

for rolling and sectional door drives
Mechanical and electrical accessories



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Price list

valid from 01.10. 2008

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New technical words

Caution! New technical words

Old designation		New designation	Unit symbol
Nominal voltage	→	Rated voltage	V
Nominal current	→	Rated current	A
Nominal frequency	→	Rated frequency	Hz
Nominal power	→	Rated power	kW
Driving torque	→	Rated torque	Nm
Power consumption	→	Rated power consumption	W; kW
Thermostat	→	Temperature limiter	°C; °F

Shaft mounted rolling door drives

Shaft mounted drive with safety gear (integrated safety brake).

For rolling doors, roller grilles, high-speed doors, doors without weight balancing systems, that have to be secured against falling down.

Chain wheel rolling door drives

Chain wheel drive without safety brake.

For rolling doors and roller grilles.

(Doors have to be secured against falling down.)

Pole-reversible rolling door drives

Shaft mounted drive with safety gear (integrated safety brake)
for fast opening of doors..

For rolling doors, roller grilles, doors without weight balancing systems, that have to be secured against falling down.

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Technical data

Drive designation:

D							=	Three-phase current switchable 400/230 V 50 Hz
W							=	Single-phase current 230 V
	F						=	Rolling door shaft mounted drive with safety gear (integrated safety brake)
	K						=	chain drive with plug-in shaft (without safety brake)
		M					=	mechanical limit stop
		X					=	mechanical limit stop up to 44 turns
			ZE				=	Potential-free additional limit switch "top and bottom"
				...			=	rated torque in Nm
					...		=	speed in rpm only for special rotation speeds
					NHK		=	emergency crank handle
					SHK		=	haul chain
						...V/...Hz	=	special voltage and/or frequency

Example: **DFM 250 NHK** =
 Emergency crank handle
 Rated torque in Nm
 Mechanical limit stop
 Safety brake (safety gear)
 Three-phase current switchable 400/230 V

Type		W.M 170	D.M 170	D.M 250	D.M 250-27	D.M 350	D.M 500	D.M 500-31	D.M 750-8	D.M 750
Rated voltage*	V	1 x 230	3 x 230/ 400	3 x 230/ 400	3 x 230/ 400	3 x 230/ 400	3 x 230/ 400	3 x 230/ 400	3 x 230/ 400	3 x 230/ 400
Rated frequency	Hz	50	50	50	50	50	50	50	50	50
Rated current	A	6,7	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	0,92	0,58	0,45	0,8	0,60	0,78	0,8	0,60	0,72
Insulation class		H	H	H	H	H	H	H	H	H
Rated power consumption	kW	1,4	0,75	0,80	1,1	1,00	1,70	2,2	1,40	1,90
Rated torque	Nm	170	170	250	250	350	500	500	750	750
Stop torque	Nm	884	884	884	884	884	2302	2302	2302	2302
Electromagnetic brake		Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Protection class**	IP	54	54	54	54	54	54	54	54	54
Duty cycle	S3	KB 4 min.	60%	40%	40%	40%	60%	60%	40%	40%
Max. torque during rolling door operation										
RTB 80%	Nm	–	170	200	200	300	500	500	600	600
RTB 100%	Nm	–	150	170	170	250	400	400	500	500
Door cycles per hour*****		10	50	40	40	40	50	50	40	40
Permitted temperature range***	°C	-10 to 40	-10 to 40	-10 to 40	-10 to 40	-10 to 40	-10 to 40	-10 to 40	-10 to 40	-10 to 40
Continuous sound pressure level	dB(A)	<70	<60	<60	<60	<60	<60	<60	<60	<60
Speed	rpm	14	12,5	12,5	27	13,5	11	31	8	11
Limit switch range****	rev.	18	18	18	18	18	18	18	18	18
TÜV-Süd certified		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
VDE EMC checked		Yes	Yes	Yes		Yes	Yes			Yes
Drive weight	kg	20	18	18	18	20	32	32	35	32

Drive for vertical lift gates:

If the drives are used for vertical lift gates, the specified rated torques must be reduced by 20 %.

- * Other voltages and frequencies on request.
- ** Protection class IP 65 possible
- *** The rated torques of the drives are guaranteed from -20 °C to 60 °C.
- **** Only for three-phase drives:
Special version with limit switch range of 44 turns.
For use on cable applications.
- ***** One door cycle is: 5 rotations OPEN – 30 s pause – CLOSE.

Correction table for three-phase mains power supply with frequency of 60 Hz

Motor designed for 50 Hz and	Operate with 60 Hz mains	Speeds are increased by ...%	Rated torque and door weights are reduced by ...%
3 x 230 V	3 x 230 V	+ 20%	- 23%
3 x 400 V	3 x 400 V	+ 20%	- 20%
	3 x 415 V	+ 20%	- 17%
	3 x 440 V	+ 20%	- 12%
	3 x 460 V	+ 20%	- 7%

Lifting capacity chart for shaft mounted drives

Lifting capacity chart for shaft mounted drives in [kg]

Drives with rated torque	shafts up to \varnothing	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
	mm	kg	kg	kg	kg	kg	kg
170 Nm	108	205	173	153	175	146	127
	133	186	163	146	164	139	122
	168	162	149	136	147	130	118
	193	142	136	128	138	124	112
	219	126	125	120	124	115	107
250 Nm	108	302	254	225	257	214	186
	133	273	240	214	242	204	180
	168	239	219	200	216	191	173
	193	209	200	188	203	182	165
	219	186	185	176	182	169	157
350 Nm	108	430	361	317	364	301	264
	133	382	336	300	338	286	252
	168	334	307	280	303	268	243
	193	293	281	263	284	255	231
	219	260	258	247	254	237	220
500 Nm	133	546	479	429	484	408	360
	168	478	439	401	433	383	347
	193	419	401	375	405	365	330
	219	371	369	352	363	339	315
	244	335	335	326	328	318	301
750 Nm	133	819	719	643	725	613	540
	168	716	658	601	649	574	520
	193	628	601	563	608	547	494
	219	557	554	528	545	508	472
	244	502	502	489	492	477	452

These data relate to the complete door weight 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.

These values are guide values. No liability can be accepted.

Lifting capacity chart for chain wheel drives

Lifting capacity chart for chain wheel mounted drives in [kg]

Drives with rated torque	shafts up to \varnothing mm	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		
		door height up to			door height up to			door height up to			door height up to			door height up to			door height up to		
		3 m	5 m	7 m	3 m	5 m	7 m	3 m	5 m	7 m	3 m	5 m	7 m	3 m	5 m	7 m	3 m	5 m	7 m
170 Nm	108	410	346	306	350	292	254	519	438	387	443	369	321	625	528	467	534	445	387
	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 Nm	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 Nm	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
	273	420	420	420	414	414	392	531	531	531	524	524	496	641	641	641	631	631	598
	298	386	386	386	380	380	372	488	488	488	481	481	471	589	589	589	580	580	567
	323	358	358	358	352	352	352	453	453	453	445	445	445	546	546	546	537	537	537
500 Nm	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
	273	600	600	600	590	590	560	759	759	759	746	746	708	915	915	915	900	900	854
	298	552	552	552	544	544	530	698	698	698	688	688	670	842	842	842	830	830	808
	323	510	510	510	502	502	502	645	645	645	635	635	635	778	778	778	766	766	766
	355	466	466	466	460	460	460	589	589	589	582	582	582	711	711	711	702	702	702
750 Nm	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
	273	902	902	902	886	886	842	1141	1141	1141	1121	1121	1065	1376	1376	1376	1351	1351	1284
	298	828	828	828	814	814	796	1047	1047	1047	1030	1030	1007	1263	1263	1263	1241	1241	1214
	323	766	766	766	754	754	754	969	969	969	954	954	954	1168	1168	1168	1150	1150	1150
	355	698	698	698	690	690	690	883	883	883	873	873	873	1064	1064	1064	1052	1052	1052

For chain wheel reduction 1 : 1 please take the values from the lifting capacity chart for shaft mounted drives

Note: Note the maximum limit switch range of the drive!

These data relate to the complete door weight in kg.

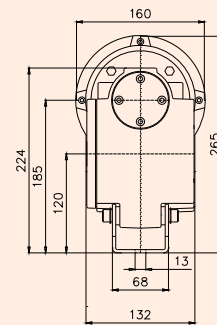
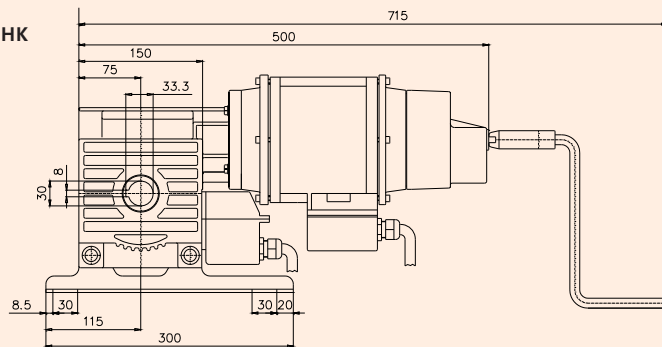
15 % friction is taken into account. The friction can be greater due to additional door seals, wind loads etc. Carry out necessary corrections.

These values are guide values. No liability can be accepted.

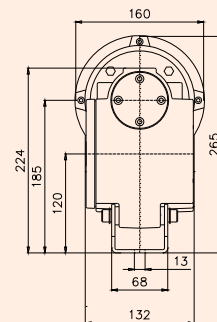
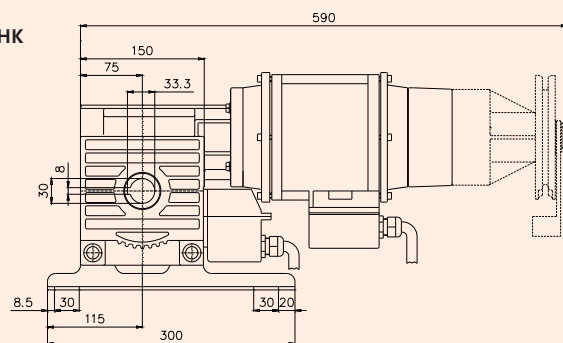
Mounting dimensions of shaft mounted drives

DFM (-ZE) 170-350
WFM (-ZE) 170

NHK

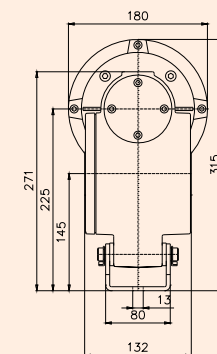
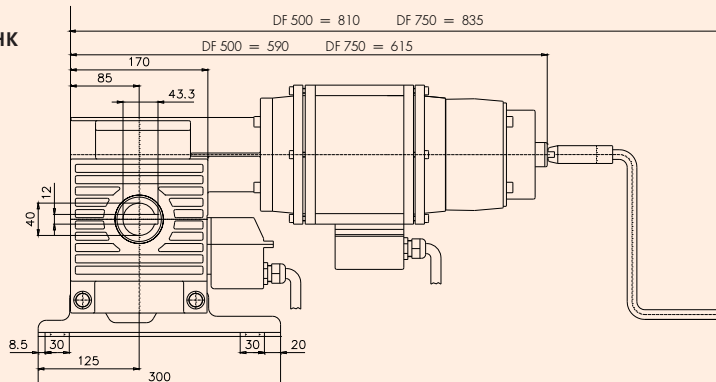


SHK

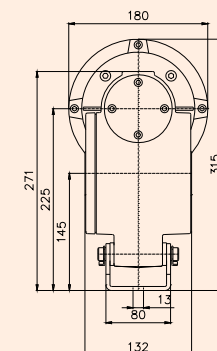
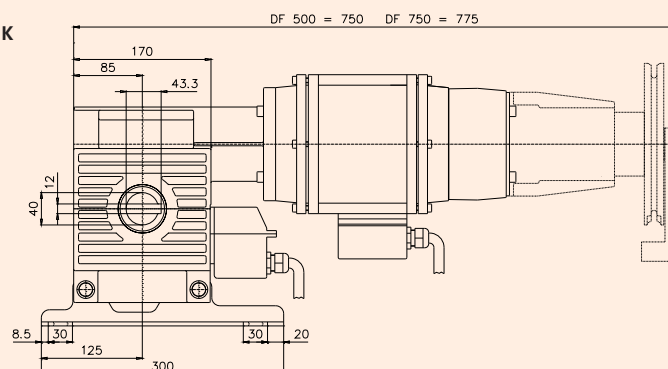


DFM (-ZE) 500-750

NHK

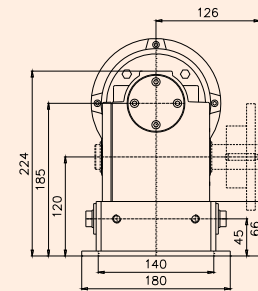
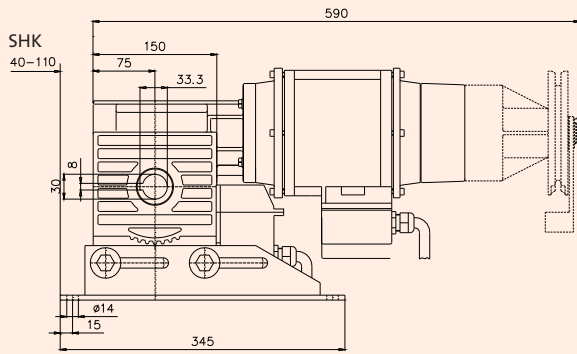
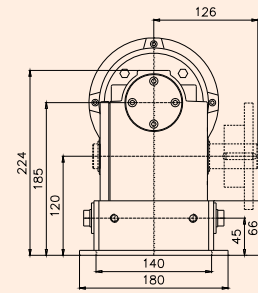
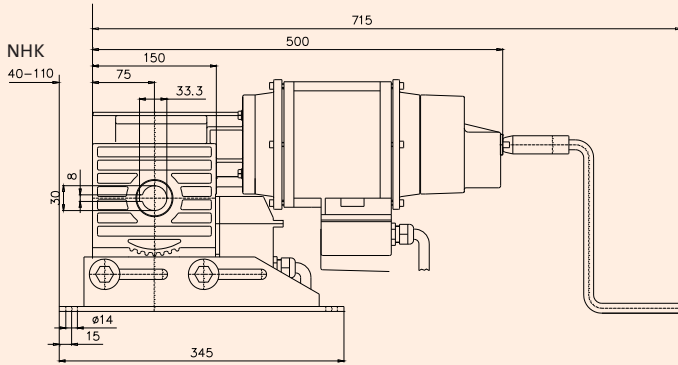


SHK

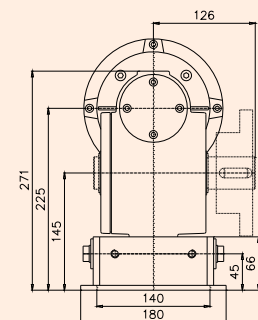
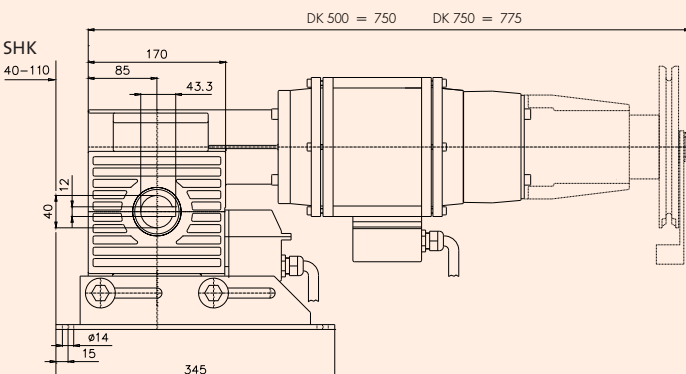
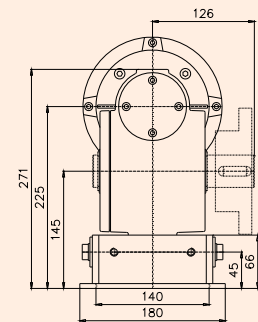
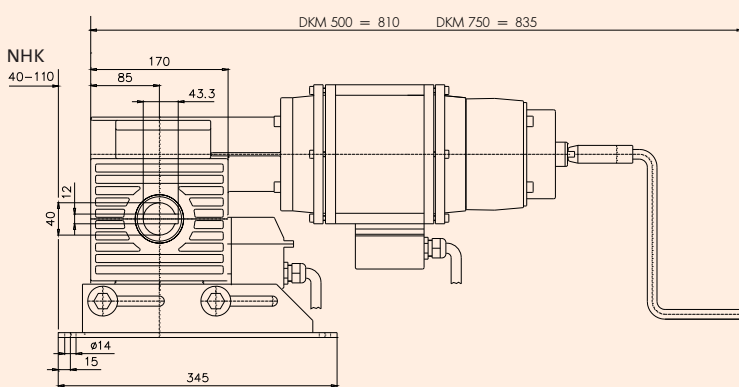


Mounting dimensions of chain wheel drives

DKM (-ZE) 170-350
WKM (-ZE) 170

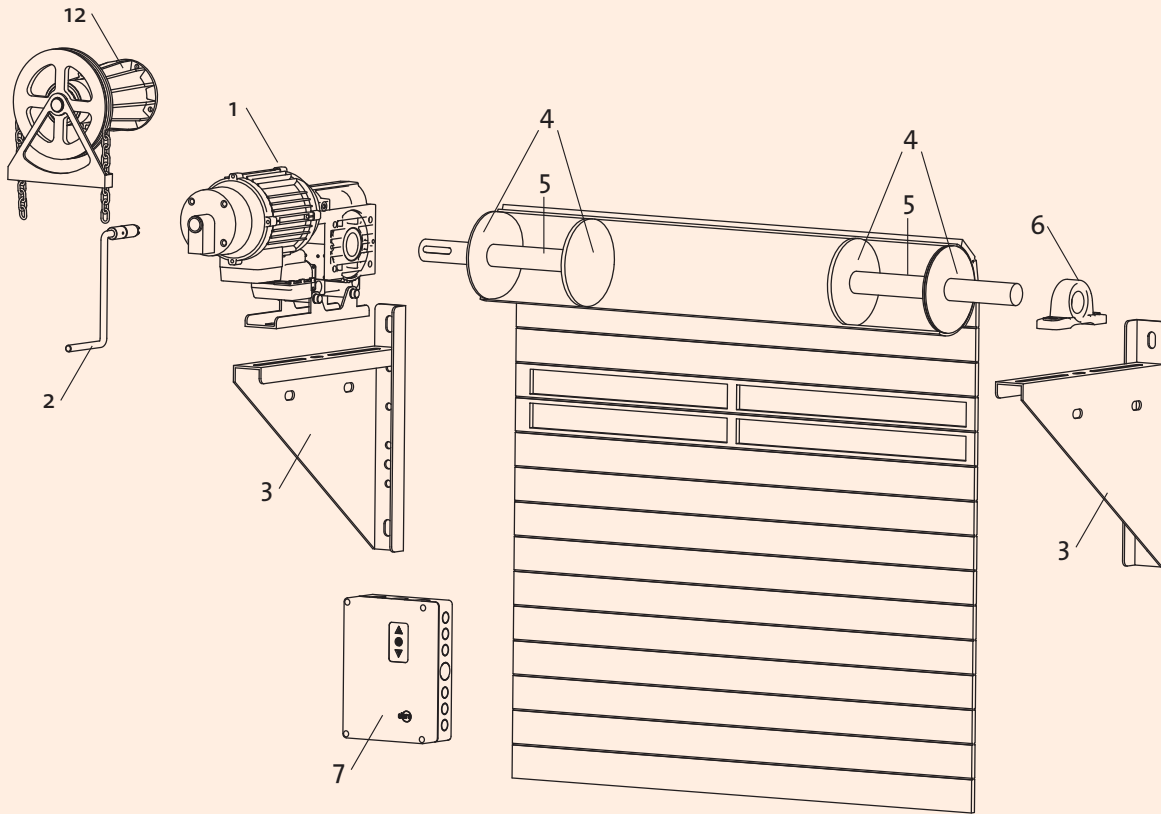


DKM (-ZE) 500-750

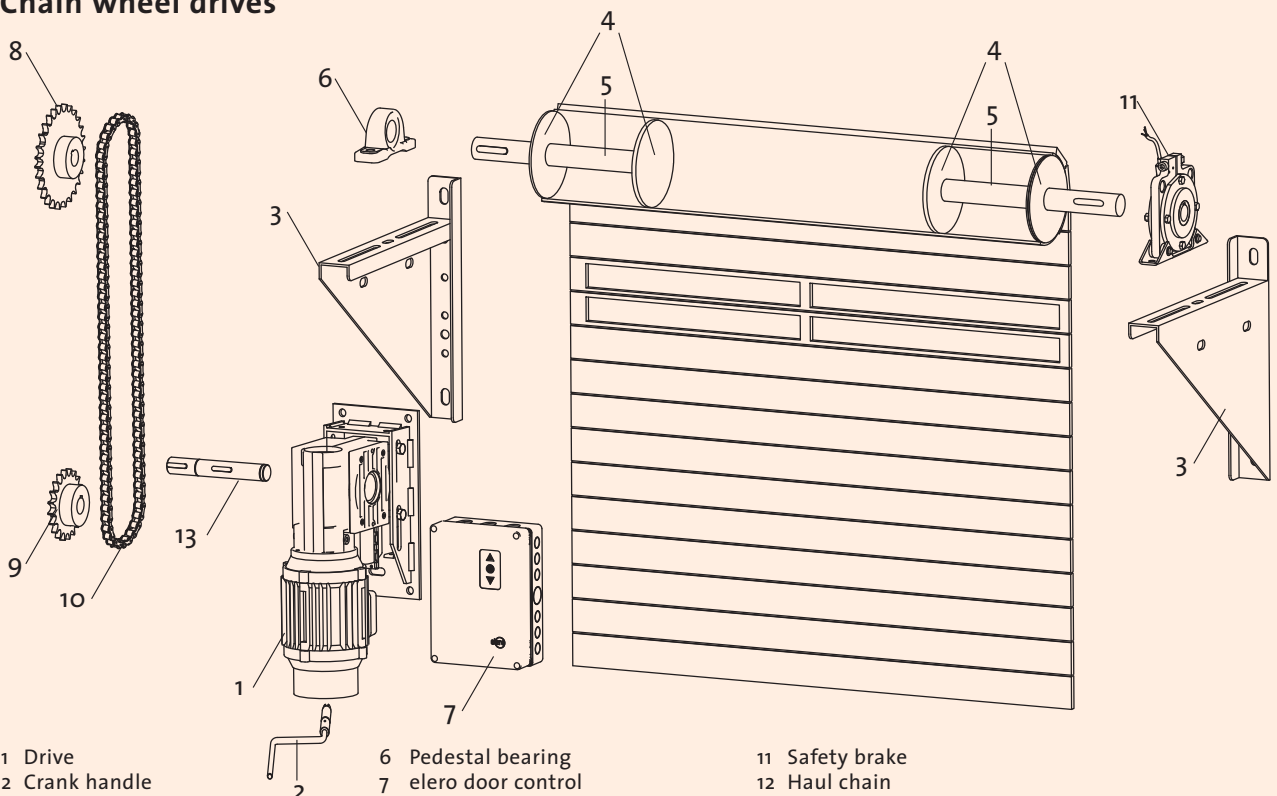


Installation examples

Shaft mounted drives



Chain wheel drives



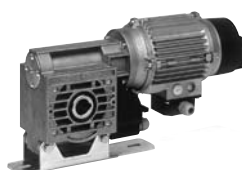
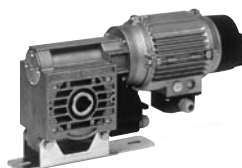
- 1 Drive
- 2 Crank handle
- 3 Bracket
- 4 Blanks
- 5 Welding shaft

- 6 Pedestal bearing
- 7 elero door control
- 8 Chain wheel for winding shaft
- 9 Drive chain wheel
- 10 Chain

- 11 Safety brake
- 12 Haul chain
- 13 Plug-in shaft

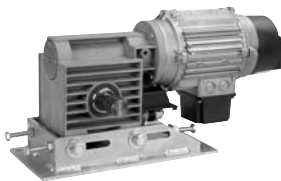
Note: Mechanical accessories from page 39
Electrical accessories from page 47

Three-phase shaft mounted drives



Item Number	Type/Item Description				Price in Euros
	Shaft mounted drive with safety gear (integrated safety brake) and mechanical limit stop 3 x 400/230 V, 50 Hz Protection class IP 54 incl. crank handle				
		Torque Nm	Speed rpm	Hollow shaft Ø mm	
41 021.0002	DFM 170 NHK	170	12,5	30	480,00 €
41 031.0002	DFM 250 NHK	250	12,5	30	495,00 €
41 581.0002	DFM 250/27 NHK	250	27	30	585,00 €
41 051.0002	DFM 350 NHK	350	13,5	30	585,00 €
41 061.0002	DFM 500 NHK	500	11	40	765,00 €
41 621.0002	DFM 500/31 NHK	500	31	40	820,00 €
41 071.0002	DFM 750 NHK	750	11	40	820,00 €
	Version with haul chain (3 m round steel chain)				
		Torque Nm	Speed rpm	Hollow shaft Ø mm	
41 022.0002	DFM 170 SHK	170	12,5	30	542,00 €
41 032.0002	DFM 250 SHK	250	12,5	30	557,00 €
41 582.0002	DFM 250/27 SHK	250	27	30	647,00 €
41 052.0002	DFM 350 SHK	350	13,5	30	647,00 €
41 062.0002	DFM 500 SHK	500	11	40	917,00 €
41 622.0002	DFM 500/31 SHK	500	31	40	972,00 €
41 072.0002	DFM 750 SHK	750	11	40	972,00 €
	Version as above except with 2 potential-free additional limit switches				
		Torque Nm	Speed rpm	Hollow shaft Ø mm	
41 091.0002	DFM-ZE 170 NHK	170	12,5	30	490,00 €
41 101.0002	DFM-ZE 250 NHK	250	12,5	30	505,00 €
41 591.0002	DFM-ZE 250/27 NHK	250	27	30	595,00 €
41 121.0002	DFM-ZE 350 NHK	350	13,5	30	595,00 €
41 131.0002	DFM-ZE 500 NHK	500	11	40	775,00 €
41 631.0002	DFM-ZE 500/31 NHK	500	31	40	830,00 €
41 141.0002	DFM-ZE 750 NHK	750	11	40	830,00 €
	Version with haul chain (3 m round steel chain)				
		Torque Nm	Speed rpm	Hollow shaft Ø mm	
41 092.0002	DFM-ZE 170 SHK	170	12,5	30	552,00 €
41 102.0002	DFM-ZE 250 SHK	250	12,5	30	567,00 €
41 592.0002	DFM-ZE 250/27 SHK	250	27	30	657,00 €
41 122.0002	DFM-ZE 350 SHK	350	13,5	30	657,00 €
41 132.0002	DFM-ZE 500 SHK	500	11	40	927,00 €
41 632.0002	DFM-ZE 500/31 SHK	500	31	40	982,00 €
41 142.0002	DFM-ZE 750 SHK	750	11	40	982,00 €
99 000.2701	Extra price Drives in IP 65 version				45,00 €
	Accessories for manual operation – from page 19 Other voltages and frequencies on request.				

Three-phase chain wheel drives



Item Number	Type/Item Description	Price in Euros
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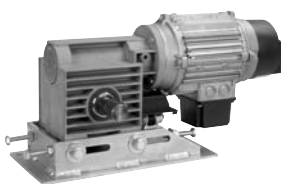
Chain wheel drive with mechanical limit stop without safety brake
 3 x 400/230 V, 50 Hz
 Protection class IP 54
 incl. crank handle without chain wheel, plug-in shaft and bracket with clamping screws

	Torque Nm	Speed rpm	Hollow shaft \varnothing mm		
41 271.0002	DKM 170 NHK	170	12,5	30	500,00 €
41 281.0002	DKM 250 NHK	250	12,5	30	515,00 €
41 301.0002	DKM 350 NHK	350	13,5	30	650,00 €
41 311.0002	DKM 500 NHK	500	11	40	785,00 €
41 321.0002	DKM 750 NHK	750	11	40	840,00 €



Version with haul chain (3 m round steel chain)

	Torque Nm	Speed rpm	Hollow shaft \varnothing mm		
41 272.0002	DKM 170 SHK	170	12,5	30	562,00 €
41 282.0002	DKM 250 SHK	250	12,5	30	577,00 €
41 302.0002	DKM 350 SHK	350	13,5	30	712,00 €
41 312.0002	DKM 500 SHK	500	11	40	937,00 €
41 322.0002	DKM 750 SHK	750	11	40	992,00 €



Version as above except with 2 potential-free additional limit switches

	Torque Nm	Speed rpm	Hollow shaft \varnothing mm		
41 341.0002	DKM-ZE 170 NHK	170	12,5	30	510,00 €
41 351.0002	DKM-ZE 250 NHK	250	12,5	30	525,00 €
41 371.0002	DKM-ZE 350 NHK	350	13,5	30	615,00 €
41 381.0002	DKM-ZE 500 NHK	500	11	40	795,00 €
41 391.0002	DKM-ZE 750 NHK	750	11	40	850,00 €



Version with haul chain (3 m round steel chain)

	Torque Nm	Speed rpm	Hollow shaft \varnothing mm		
41 342.0002	DKM-ZE 170 SHK	170	12,5	30	572,00 €
41 352.0002	DKM-ZE 250 SHK	250	12,5	30	587,00 €
41 372.0002	DKM-ZE 350 SHK	350	13,5	30	677,00 €
41 382.0002	DKM-ZE 500 SHK	500	11	40	947,00 €
41 392.0002	DKM-ZE 750 SHK	750	11	40	1002,00 €

99 000.2701	Extra price Drives in IP 65 version	45,00 €
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Accessories for manual operation – from page 19
 Chain wheels – page 42
 Other voltages and frequencies on request.

Pole-reversible three-phase shaft mounted drives

Technical data and mounting dimensions

Technical data:

Typ		DFM 400/32/16 NHK 3 x 400 V		DFM 400/32/16 NHK 3 x 230 V	
		2-pole (OPEN)	4-pole (CLOSED)	2-pole (OPEN)	4-pole (CLOSED)
Rated voltage	V	3 x 400	3 x 400	3 x 230	3 x 230
Rated current	A	4,3	2,0	7,5	3,5
Rated power consumption	kW	2,3	1,2	2,3	1,2
Rated torque	Nm	400	200	400	200
Drive speed	rpm	32	16	32	16
Duty cycle	S ₃	60%			
Door cycles per hour*		50			
Protection class	IP	54			
Rated frequency	Hz	50			
Insulation class		F			
Y/Δ switching possible		●			
Electromagnetic brake		●			
Limit switch range, mech. (centrally set at 9 revolutions)	rev.	18			
TÜV-Süd certified		●			
Drive weight	kg	35			

* One door cycle is: 5 rotations OPEN – 30 s pause – CLOSE.

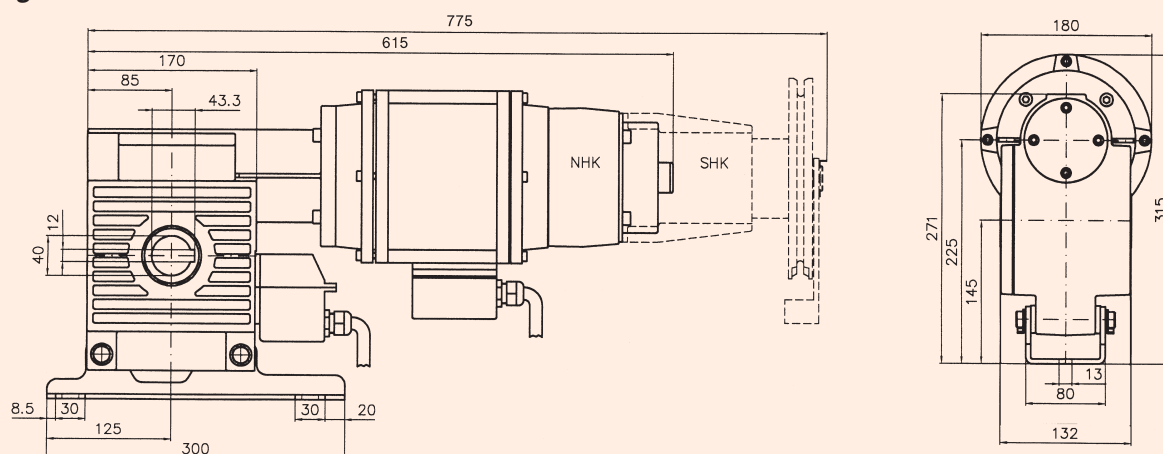
Use of the drives for vertical lift gates etc.:
The given rated torque of the drives is to be reduced by 20%.

Lifting capacity chart for DFM drives in [kg]

Type	Torque Nm	Tube ϕ mm	Nominal bar thickness up to 20 mm door height up to			Nominal bar thickness up to 30 mm door height up to		
			3 m	5 m	7 m	3 m	5 m	7 m
DFM 400/32/16	400	133	436	384	344	386	326	288
	400	159	396	346	328	356	310	280
	400	168	382	350	320	346	306	278
	400	193	334	320	300	324	292	264
	400	219	296	296	282	290	262	252

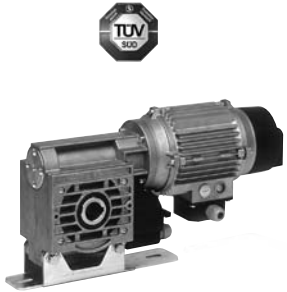
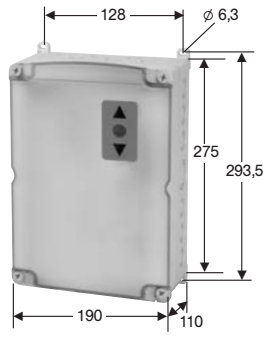
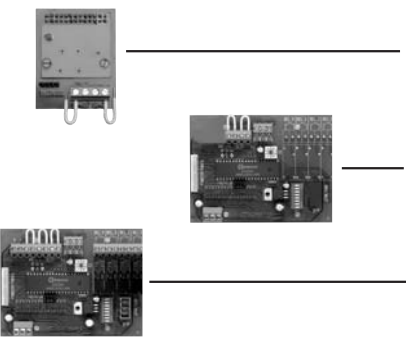
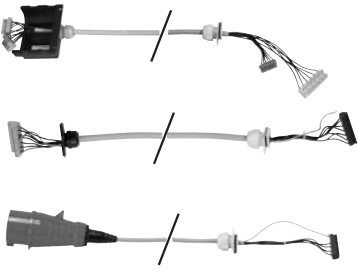
The above data is for the complete door weight in kg, with 15% allowance for friction.
All values are guide values. No liability can be accepted.

Mounting dimensions



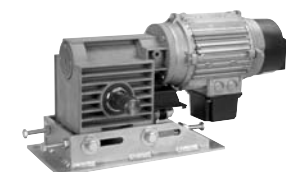
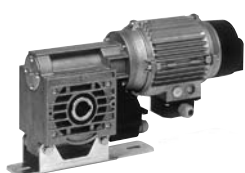
(for ϕ 40 mm welding shaft, min. length of the key 40 mm)

Pole-reversible three-phase shaft mounted drives

	Item Number	Type/Item Description	Price in Euros
	<p>41 781.0002</p> <p>41 791.0002</p>	<p>Shaft mounted drives with safety gear (integrated safety brake) and mechanical limit stop Protection class IP 54 incl. crank handle Rated torque: 400 Nm Speed: OPENING = 32 rpm; CLOSING = 16 rpm¹</p> <p>DFM-ZE 400/32-16 NHK 3 x 400 V 50 Hz with 2 potential-free additional limit switches</p> <p>DFM-ZE 400/32-16 NHK 3 x 230 V 50 Hz with 2 potential-free additional limit switches</p>	<p>900,00 €</p> <p>900,00 €</p>
 <p>Note:</p> <ul style="list-style-type: none"> • see order instructions • Function only with plugged-in BoxCard • without connecting cables • without connection set 	<p>24 196.0001</p>	<p>BoxControl D 400/2 P for pole-reversible drives Operating modes: Jogging mode – Pulse and automatic control</p> <p>3 x 400/230 V 50 Hz Control voltage 24 V DC Plastic housing IP 65</p> <p>BoxControl D 400/2 P with membrane keypad UP-STOP-DOWN in housing cover and free slot for BoxCard without Motor / limit switch cables and mains cable</p>	<p>115,00 €</p>
	<p>24 136.0001</p> <p>24 144.0002</p> <p>24 176.0001</p>	<p>BoxCard basic Jogging mode</p> <p>BoxCard plus Pulse control</p> <p>BoxCard premium Automatic control</p>	<p>10,00 €</p> <p>50,00 €</p> <p>65,00 €</p>
	<p>24 197.0501</p> <p>24 172.0001</p>	<p>Motor and control cables for pole-reversible ZE-drive, 5.00 m with plug-in screws and plug-in terminals on both sides</p> <p>1.5 m mains lead with CEE plug 16 A with plug-in screws and plug-in terminals</p>	<p>54,00 €</p> <p>11,00 €</p>
	<p>99 000.2701</p>	<p>Extra price Drives in IP 65 version</p>	<p>45,00 €</p>
		<p>Accessories for manual operation – from page 19 Chain wheels – page 42</p>	

Single-phase shaft mounted drives

Single-phase chain wheel drives



Item Number Type/Item Description Price in Euros

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

Available from the second quarter 2008

Shaft mounted drive with safety gear (integrated safety brake) and mechanical limit stop
Incl. operating capacitor

1 x 230 V/50 Hz
Protection class IP 54
incl. crank handle

	Torque Nm	Speed rpm	Hollow shaft \varnothing mm	
41 011.0003	170	12,5	30	640,00 €
41 081.0003	170	12,5	30	650,00 €

Version with haul chain (3 m round steel chain)

	Torque Nm	Speed rpm	Hollow shaft \varnothing mm	
41 012.0003	170	12,5	30	702,00 €
41 082.0003	170	12,5	30	712,00 €

Chain wheel drives without safety brake
with mechanical limit stop and
incl. operating capacitor

1 x 230 V/50 Hz
Protection class IP 54
incl. crank handle

	Torque Nm	Speed rpm	Hollow shaft \varnothing mm	
41 261.0003	170	12,5	30	660,00 €
41 251.0003	170	12,5	30	670,00 €

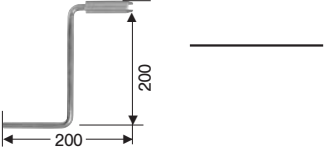
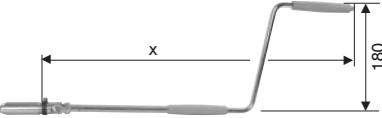

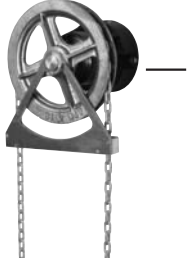


Version with haul chain (3 m round steel chain)

	Torque Nm	Speed rpm	Hollow shaft \varnothing mm	
41 262.0003	170	12,5	30	722,00 €
41 252.0003	170	12,5	30	732,00 €

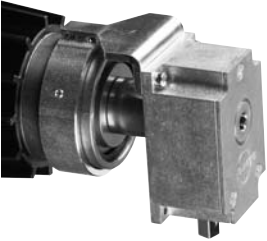

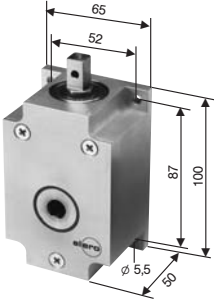

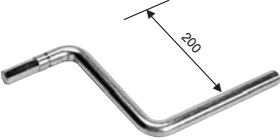
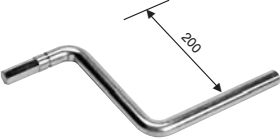
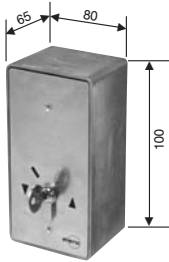
99 000.2701	Extra price Drives in IP 65 version	45,00 €
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Accessories for manual operation – page 20
Chain wheels – page 4

Drive accessories

	Item Number	Type/Item Description	Price in Euros
	14 302.9501	Standard crank handle	8,00 €
	24 334.0501 24 334.0701	Crank handle with universal joint for D.M and W.M drives x = 0,55 m x = 1,00 m Special lengths on request	23,50 € 25,50 €
	24 318.0201	SHK attachment for DFM/WFM/DKM/WKM 170-350 NHK with 3 m round steel chain (approx. 1.4 m. suspended)	70,00 €
	24 376.0201	SHK attachment for DFM/DKM 500-750 NHK with 3 m round steel chain (approx. 1.4 m. suspended)	160,00 €
	14 300.8901	3 m round steel chain DIN 766 A4 x 16 mm	5,71 €
	14 300.9001	Closing link	0,30 €
	24 350.0101	Mounting kit for DFM/DKM-ZE drives (required if supplied without motor and limit switch cables) We only recommend the elero-control systems from page 47	11,30 €

Accessories for manual operation

	Item Number	Type/Item Description	Price in Euros
	24 042.0001	Emergency operation from the ground Adapter set DFM/DKM 500-750 SHK with angle drive Item number 23 030.0001 for drive shaft Item number 23 081.0001	95,00 €
	14 110.2601	Adapter DFM/DKM 500-750 SHK for drive shaft Item number 23 081.0001	8,00 €
	23 030.0001	angle drive	70,00 €
	23 081.0001	Drive shaft Extendable from 1.70 m to 3.00 m	31,00 €
	13 305.8001	Crank handle for angle drive 200 mm	8,00 €
	23 199.9501	Basis-Set NHK/NMA consisting of: Angle drive/drive shaft/ crank handle	109,00 €
	23 080.0001	A.P. KeyBox with integrated crank and 0.50 m length connecting shaft 10 mm hexagonal	48,00 €

BoxLine rolling door drive

Shaft mounted drive with safety gear (integrated safety brake).

For rolling doors, roller grilles, high-speed doors, doors without weight balancing systems, that have to be secured against falling down.

Page 22	Technical data
Page 23	Lifting capacity chart and mounting dimensions
Page 24	Prices of drives
Page 29	Prices for manual operation accessories

BoxLine rolling door drives

Technical data

Drive designation for BoxLine drives:

D						=	Three-phase current switchable 400/230 V 50 Hz
W						=	Single-phase current 230 V
	R					=	Rolling door drive with safety gear (integrated safety brake)
	S					=	Sectional door drive
		M				=	mechanical limit stop
			...			=	rated torque in Nm
				/...		=	speed in rpm
					Z2	=	Potential-free additional limit switch "1xtop and 1xbottom"
					NHK	=	Emergency manual release with crank handle incl. standard crank handle
					NMC	=	Emergency manual release with Manual Chain incl. 3 m round steel chain

Example: DRM 140/15 NHK =

- Emergency crank handle
- speed in rpm
- Rated torque in Nm
- Mechanical limit stop
- Rolling door drive
- Three-phase current 400/230 V

Type	Unit	DR. 140/15
Rated voltage	V	3 x 400/230
Rated frequency	Hz	50
Rated current	A	4,2/2,4
Power factor	cos φ	0,73
Insulation class		F
Rated power consumption	kW	1,2
Control voltage	V	24
Rated torque	Nm	140
Stop torque	Nm	552
Duty cycle	S3	40%
Coil temperature limiter	°C / °F	130 °C / 266 °F
Door cycles per hour*1)		40
Hollow shaft ø*2)	mm	30
Speed n2	rpm	15
Protection class*3)	IP	65
Permitted ambient operating temperature*4)	°C / °F	-10 °C to 40 °C / 14 °F to 104 °F
Continuous sound pressure level	dB (A)	< 67
Mechanical limit switch range normal/switchable	rev.	20/40
Digital limit switch range	rev.	21
TÜV SÜD – tested		●
Drive weight	kg	18

Correction table for three-phase mains power supply with frequency of 60 Hz

Motor designed for 50 Hz and	Operate with 60 Hz mains and	Speeds are increased by ...%	Rated torque and door weights are reduced by ...%
3 x 230 V	3 x 230 V	+ 20%	- 23%
3 x 400 V	3 x 400 V	+ 20%	- 20%
	3 x 415 V	+ 20%	- 17%
	3 x 440 V	+ 20%	- 12%
	3 x 460 V	+ 20%	- 7%

*1) One door cycle is: 5 rotations OPEN – 30 s pause – CLOSE.

*2) Other hollow shaft dimensions on request.

*3) Only in mounting position: Motor horizontal or suspended.

*4) The rated load of the drive is guaranteed from -20°C to 60°C/ -4 °F to 140°F.

These values are guide values. No liability can be accepted!

BoxLine rolling door drives

Lifting capacity chart and mounting dimensions

Lifting capacity chart for BoxLine drives in [kg]

Type	Rated torque	up to shaft \varnothing	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	kg	kg	kg	kg	kg
DR. 140	140	108	169	142	126	144	125	104
	140	133	153	134	120	134	114	101
	140	168	134	123	112	121	107	97
	140	193	117	112	105	114	102	92
	140	219	104	103	99	102	95	88

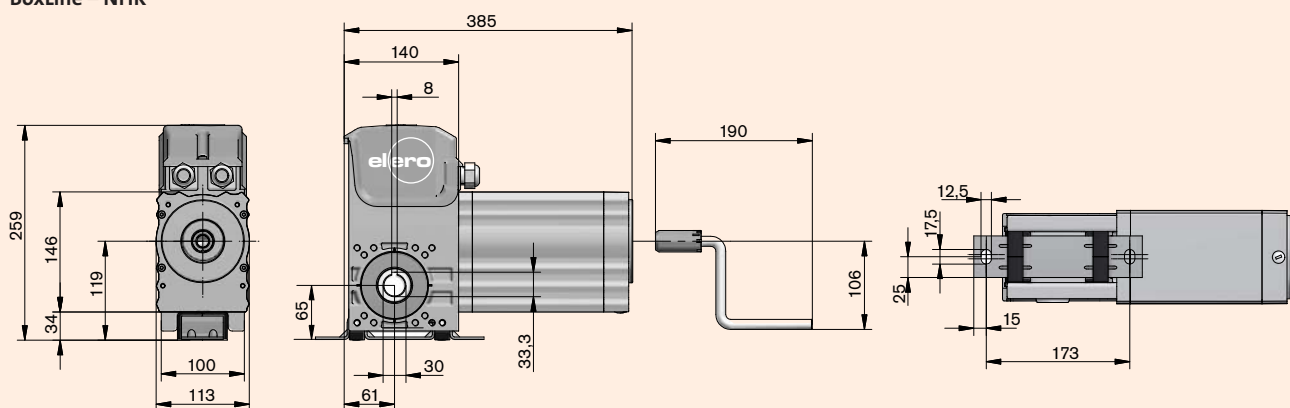
These data relate to the complete rolling door in kg.

15% friction is taken into account. The friction can be greater due to additional door seals, wind loads etc. Carry out necessary corrections.

Drive for vertical lift gates:

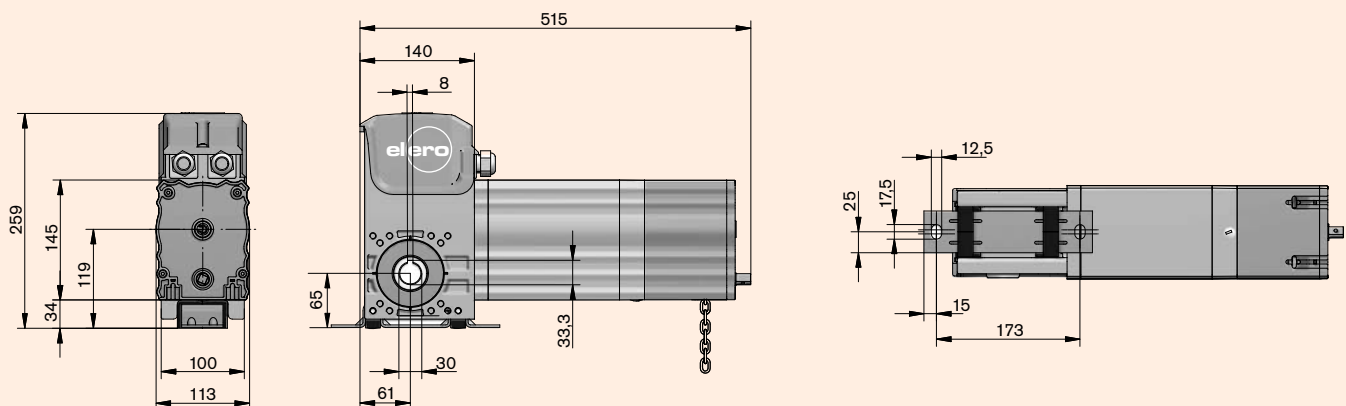
If the drives are used for vertical lift gates, the specified rated torques must be reduced by 20 %.

BoxLine – NHK

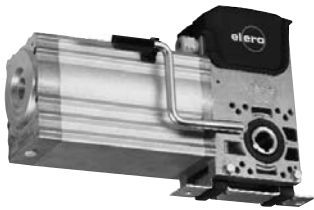


BoxLine – NMC or manual operation NMA

suspended or upright mounting position



BoxLine Rolling door drives



41 026.0001

**BoxLine rolling door drives
with safety gear (integrated safety brake)
and mechanical limit stop**
3 x 400 / 230 V, 50 Hz
self-locking worm gear
Protection class IP 65

Torque Nm	Speed rpm	Hollow shaft Ø mm
140	15	30

DRM 140/15 Z2 NHK
incl. two potential-free
additional limit switches

450,00 €

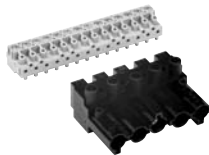


41 126.0001

DRM 140/15 Z2 NMC
incl. two potential-free
additional limit switches

140	15	30
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480,00 €



24 048.0001

Mounting kit for BoxLine drives
(required if supplied without motor and
limit switch cables)

**We only recommend the elero-control systems
from page 47**

8,00 €

Accessories for manual operation – from page 29

Other voltages and frequencies on request.

BoxLine sectional door drives

DSM/WSM 100 and 140 NHK or NMC.

Shaft mounted drives for balanced sectional doors.

DSM/WSM 100 and 140 NME

Shaft mounted drives for balanced sectional doors.

These doors have to be secured external against falling down.

Page 26 **Technical data**

Page 27 **Mounting dimensions**

Page 28 **Prices of drives**

Page 29–30 **Prices for manual operation accessories**

BoxLine sectional door drives

Technical data

Device type	Unit	WS. 100/24	DS. 100/15	DS. 100/24	DS. 100/30	DS. 140/15	DS. 140/20	
Rated voltage	V	1 x 230	3 x 400/230					
Rated frequency	Hz	50	50					
Rated current	A	6,5	3,5/2,0	3,6/2,1	3,6/2,1	4,2/2,4	4,2/2,5	
Power factor	cos φ	0,99	0,55	0,69	0,69	0,73	0,73	
Insulation class		F						
Rated power consumption	kW	1,45	0,75	1,00	1,00	1,20	1,20	
Control voltage	V	24						
Full load / rated torque*1) *4)	Nm	100/20	100/30	100/30	100/20	140/50	140/50	
Static holding torque	Nm	600				750		
max. max. door weight with φ 160/205 mm cable drums (for balanced leaf with one or two compensation springs)	N	7250/5850				9050/7300		
Duty cycle	S4	20%	60%	60%	60%	60%	60%	
Coil temperature limiter	°C / °F	130 °C / 266 °F						
Door cycles per hour*2)		15	25	32	35	25	30	
Hollow shaft φ*3)	mm	25,4				31,75		
Speed n2	rpm	24	15	24	30	15	20	
Protection class*5)	IP	65						
Permitted ambient operating temperatur*4)	°C / °F	-10 °C to 40 °C / 14 °F to 104 °F						
Continuous sound pressure level	dB (A)	<70	<60					
Mechanical limit switch range normal/switchable	rev.	20 / 40						
Digital limit switch range	rev.	21						
TÜV SÜD - Certification No.: 966743		●						
Drive weight	kg	17	14	14	14	16	16	

Various technical details may deviate for special drives.

The details on the type plate are valid.

*1) Operating mode S 4 as per EN 600034-1 / VDE 0530
This operating mode is a sequence made up of identical cycles. The starting-up process is also accounted for.
This represents the behaviour of a weight-independent door panel.
One cycle takes 10 minutes.

*2) One door cycle is:
8 rotations OPEN – 30 s pause – CLOSE.

*3) Other hollow shaft dimensions on request.
The drive with NME release are only available with 25.4 mm hollow shafts.

*4) The full/rated load of the drive is guaranteed from -20°C to 60°C / -4°F to 140°F.

*5) Only in mounting position: Motor horizontal or suspended.

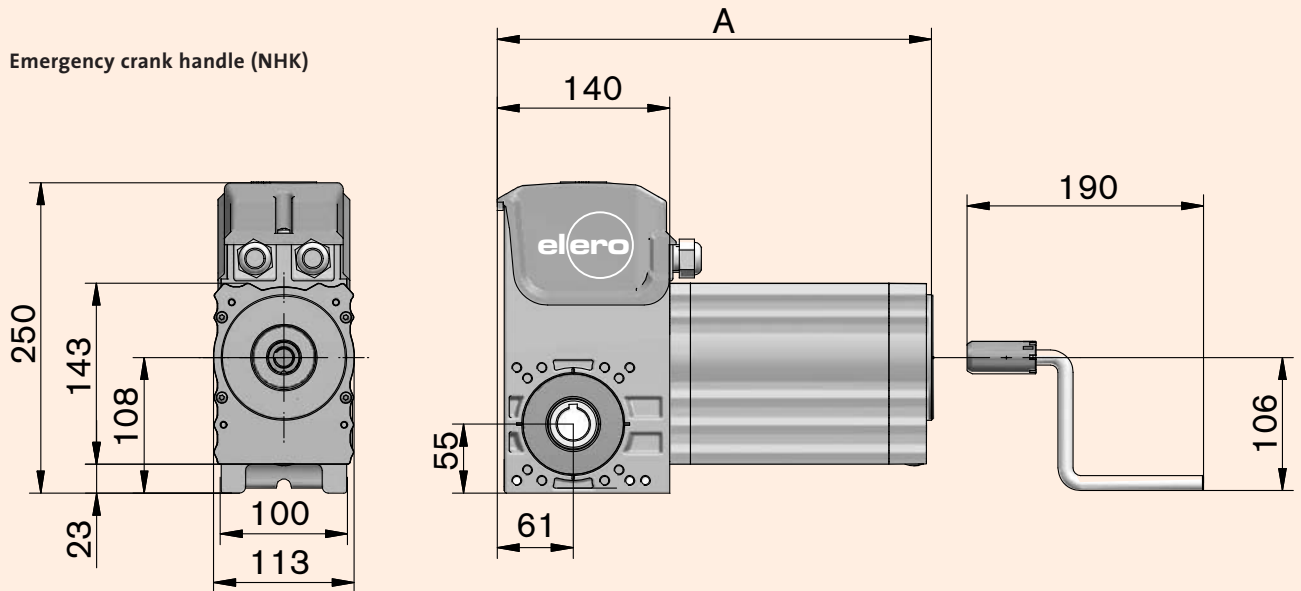
Correction table for three-phase mains power supply with frequency of 60 Hz

Motor designed for 50 Hz and	Operate with 60 Hz mains and	Speeds are increased by ...%	Rated torque and door weights are reduced by%
3 x 230 V	3 x 230 V	+ 20%	- 23%
3 x 400 V	3 x 400 V	+ 20%	- 20%
	3 x 415 V	+ 20%	- 17%
	3 x 440 V	+ 20%	- 12%
	3 x 460 V	+ 20%	- 7%

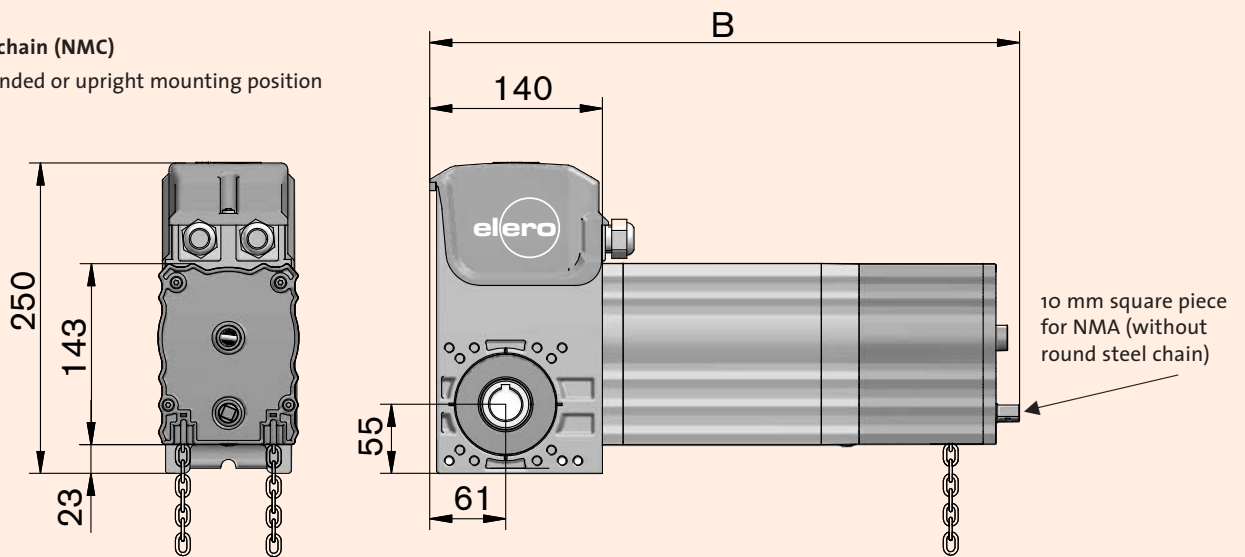
BoxLine sectional door drives

Mounting dimensions

Emergency crank handle (NHK)

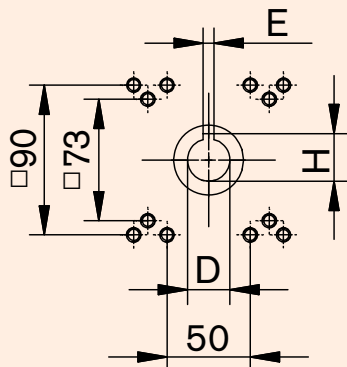


Haul chain (NMC)
suspended or upright mounting position



3 m round steel chain DIN 766 A4 x 16 (approx. 1.4 m suspended)

Hollow shaft for all BoxLine sectional door drives



BoxLine	A	B	D	E	H
DS. 100/	340	470	25,4	6,35	28,5
DS 140/	385	515	31,75	6,35	34,8

*The connected motor capacitor is fixed on the side of the gearbox casing with the M8 screw supplied.

BoxLine sectional door drives



Item Number	Type/Item Description	Static holding torque Nm	Torque Nm,	Speed rpm	Hollow shaft \varnothing mm	Price in Euros
	BoxLine sectional door – drives with NHK and mechanical limit stop 3 x 400 / 230 V, 50 Hz self-locking worm gear Protection class IP 65 incl. two potential-free additional limit switches incl. Key 6.35 x 6.35 x 100 incl. crank handle					
42 146.0001	DSM 100/15 Z2 NHK	600	100/30	15	25,4	380,00 €
42 106.0001	DSM 100/24 Z2 NHK	600	100/30	24	25,4	360,00 €
42 116.0001	DSM 100/30 Z2 NHK	600	100/30	30	25,4	360,00 €
42 156.0001	DSM 140/15 Z2 NHK	750	140/50	15	31,75	425,00 €
42 126.0001	DSM 140/20 Z2 NHK	750	140/50	20	31,75	415,00 €



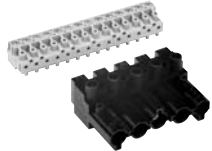

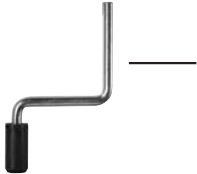
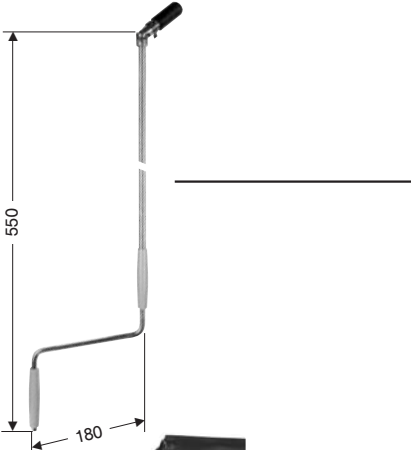
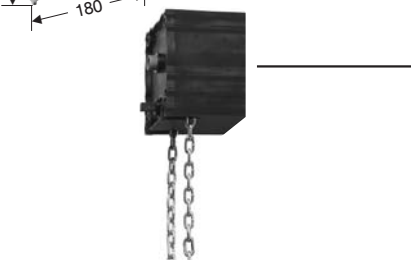
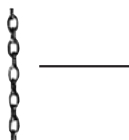
Item Number	Type/Item Description	Static holding torque Nm	Torque Nm,	Speed rpm	Hollow shaft \varnothing mm	Price in Euros
	BoxLine sectional door – drives with NMC and mechanical limit stop 3 x 400 / 230 V, 50 Hz self-locking worm gear Protection class IP 65 incl. two potential-free additional limit switches incl. Key 6.35 x 6.35 x 100 with 3 m round steel chain					
42 346.0001	DSM 100/15 Z2 NMC	600	100/30	15	25,4	410,00 €
42 306.0001	DSM 100/24 Z2 NMC	600	100/30	24	25,4	390,00 €
42 316.0001	DSM 100/30 Z2 NMC	600	100/30	30	25,4	390,00 €
42 356.0001	DSM 140/15 Z2 NMC	750	140/50	15	31,75	455,00 €
42 326.0001	DSM 140/20 Z2 NMC	750	140/50	20	31,75	445,00 €



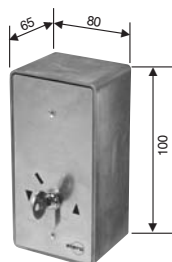
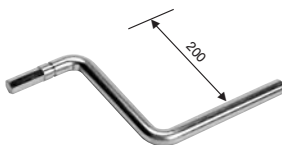
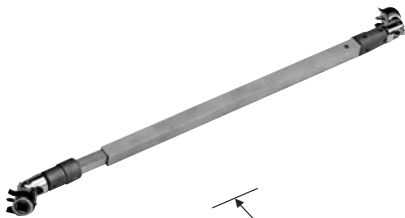
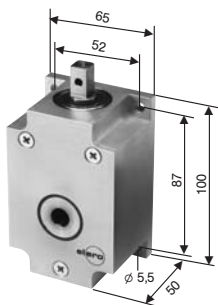
Item Number	Type/Item Description	Static holding torque Nm	Torque Nm,	Speed rpm	Hollow shaft \varnothing mm	Price in Euros
	BoxLine sectional door – drives and mechanical limit stop 1 x 230 V, 50 Hz self-locking worm gear Protection class IP 65 incl. two potential-free additional limit switches incl. Key 6.35 x 6.35 x 100					
42 136.0001	WSM 100/24 Z2 NHK incl. crank handle	600	100/20	24	25,4	410,00 €
42 336.0001	WSM 100/24 Z2 NMC incl. 3 m round steel chain	600	100/20	24	25,4	440,00 €
	Other voltages/ frequencies and hollow shaft diameters on request.					



BoxLine accessories Manual operation

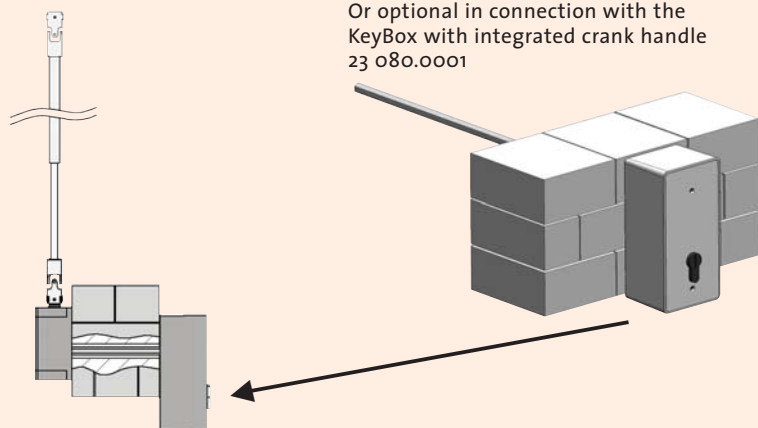
	Item Number	Type/Item Description	Price in Euros
	24 048.0001	Mounting kit for BoxLine drives (required if supplied without motor and limit switch cables) We only recommend the elero-control systems from page 47	8,00 €
	24 046.0001	Reducing sleeve $\varnothing 31,75/\varnothing 25$ mm with 8 mm key	19,00 €
	24 008.0001	Standard crank handle for BoxLine drives	6,00 €
 <p>550</p> <p>180</p>	24 334.6501	Crank handle with universal joint for BoxLine drives 0,55 m long	23,00 €
	24 017.0101	NMC-attachment retrofit kit incl. 3 m round steel chain with closing link	39,00 €
	14 300.8901	3 m round steel chain DIN 766 A4 x 16 mm	5,71 €
	14 300.9001	Closing link	0,16 €

Accessories Manual operation



Note:

The round steel chain has to be removed before installing the drive shaft on the BoxLine ...NMC.



Item Number	Type/Item Description	Price in Euros
23 030.0001	angle drive 70,00 €	
23 081.0001	Drive shaft Extendable from 1.70 m to 3.00 m	31,00 €
13 305.8001	Crank handle for angle drives 200 mm	8,00 €
23 199.9501	Basis-Set NHK/NMA consisting of: Angle drive/drive shaft/ crank handle	109,00 €
23 080.0001	A.P. KeyBox with integrated crank handle and key switch (dead man safety) and 0.50 m length connecting shaft 10 mm hexagonal	48,00 €

Tubular drives type 15 W/15 W NHK and 15 W NMA

Doors have to be secured against falling down.

- Page 32** **Lifting capacity chart and technical data**
- Page 33–34** **Mounting dimensions**
- Page 35** **Installation examples**
- Page 36** **Prices of drives**
- Page 37–38** **Prices of accessories**

Lifting capacity chart [in kg] for type 15/12 W . . . to type 15/30 W . . .

Type	Rated torque Nm	Shafts \varnothing mm	Nominal bar thickness mm	Rolling door / roller shutter height up to						
				2,0 m kg	2,5 m kg	3,0 m kg	3,5 m kg	4,0 m kg	4,5 m kg	5,0 m kg
15/12	120	108	14	174	167	162	155	150	145	140
		108	19	161	154	148	140	134	130	125
		108	23	152	154	137	130	124	120	115
		133	14	146	146	142	139	136	133	129
		133	19	143	138	133	130	125	121	117
		133	23	139	131	126	123	117	113	109
		168	14	117	117	117	117	117	114	113
		168	19	115	115	115	113	110	108	107
15/15	150	108	14	218	208	203	194	187	182	175
		108	19	201	192	185	175	168	163	156
		108	23	190	181	172	162	155	150	144
		133	14	182	182	178	174	171	166	161
		133	19	179	172	166	162	156	151	146
		133	23	173	164	158	154	146	141	137
		168	14	146	146	146	146	146	143	141
		168	19	144	144	144	141	137	135	133
15/18	180	108	14	261	250	243	233	224	218	210
		108	19	241	231	221	209	201	195	187
		108	23	228	218	206	194	186	181	173
		133	14	219	219	213	208	205	199	194
		133	19	215	206	199	194	188	181	176
		133	23	208	196	189	185	176	169	164
		168	14	175	175	175	175	175	172	169
		168	19	172	172	172	169	165	162	160
15/23	230	108	14	334	320	311	298	287	279	269
		108	19	308	295	283	268	257	250	239
		108	23	291	278	263	248	238	231	221
		133	14	279	279	273	266	261	254	247
		133	19	274	264	255	248	240	231	224
		133	23	265	251	242	236	224	216	203
		168	14	223	223	223	223	223	219	216
		168	19	220	220	220	216	211	207	204
15/30	300	108	14	435	417	405	388	374	364	351
		108	19	402	385	369	349	335	326	312
		108	23	379	363	344	324	311	301	288
		133	14	364	364	356	347	341	331	323
		133	19	358	344	332	324	313	301	293
		133	23	346	327	315	308	293	281	273
		168	14	291	291	291	291	291	286	282
		168	19	287	287	287	281	275	270	266
168	23	284	284	278	270	263	259	252		

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.

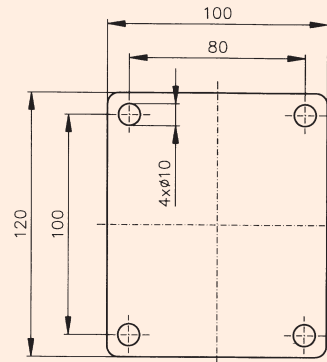
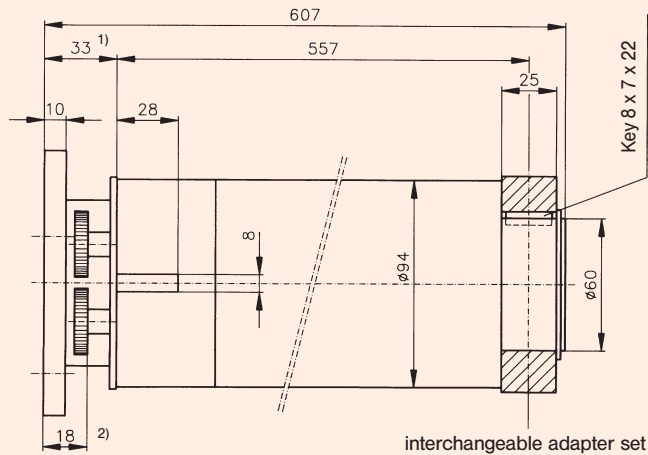
These values are guide values. No liability can be accepted!

Technical data

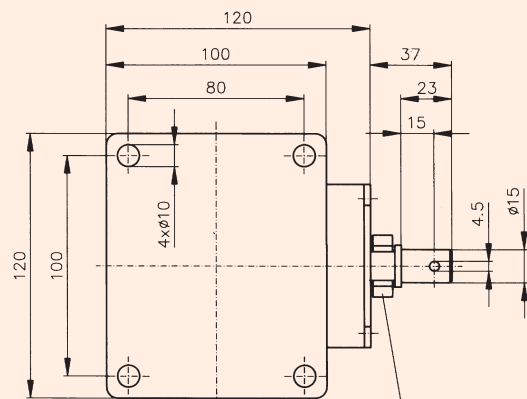
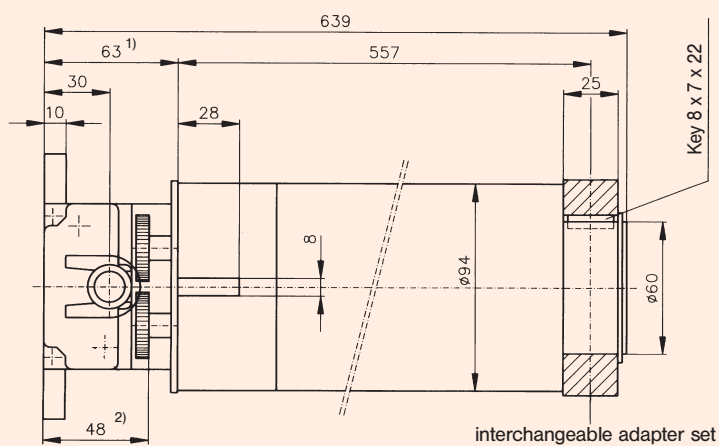
Type	Rated torque	Speed	Limit switch range	Rated voltage	Rated frequency	Rated current	Rated power consumption	Operating mode S2	Protection class	Smallest tube inside \varnothing	TÜV tested to EN 60 335-2-97 EN 60 335-1
	Nm	rpm	revolution	V AC	Hz	A	W	Min.	IP	mm	
15 / 12	120	12	12	230	50	3,4	700	6	44	94	●
15 / 15	150	12	12	230	50	3,5	740	6	44	94	●
15 / 18	180	12	12	230	50	3,7	780	6	44	94	●
15 / 23	230	12	12	230	50	3,9	810	4	44	94	●
15 / 30	300	12	12	230	50	5,4	1250	4	44	94	●

Mounting dimensions for Type 15/12 W to type 15/23 W Type 15/12 W NHK to type 15/23 W NHK

Type 15/12 to 15/23 W



Typ 15/12 bis 15/23 W NHK



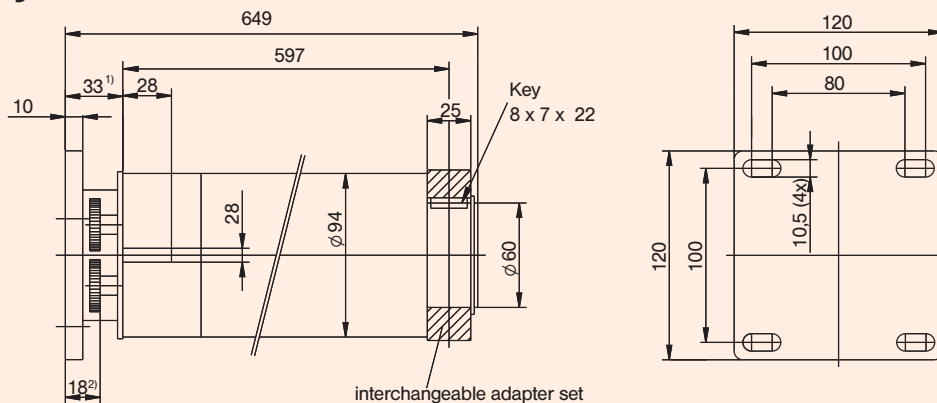
Transport securing device
(Remove after installation)

1) Lateral space requirements

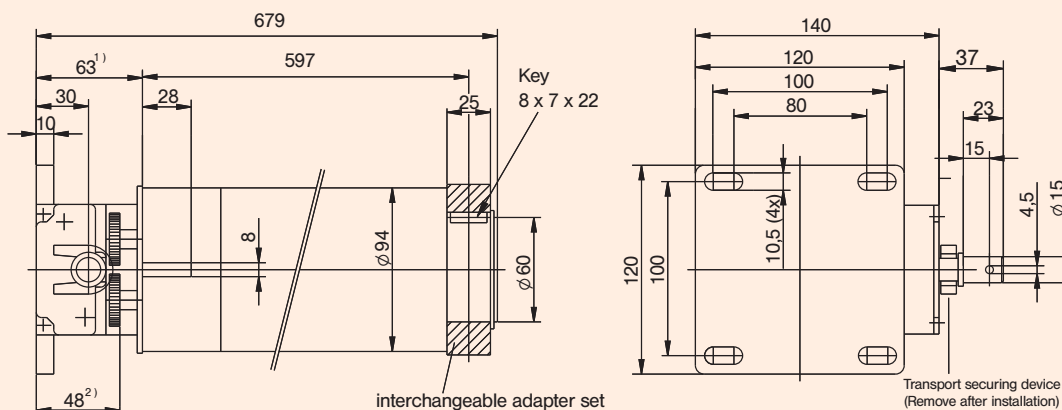
2) lateral space requirements in case of overwinding of the limit switch

Mounting dimensions for Type 15/30 W and type 15/30 W NHK Type 15/12 W NMA to type 15/30 W NMA

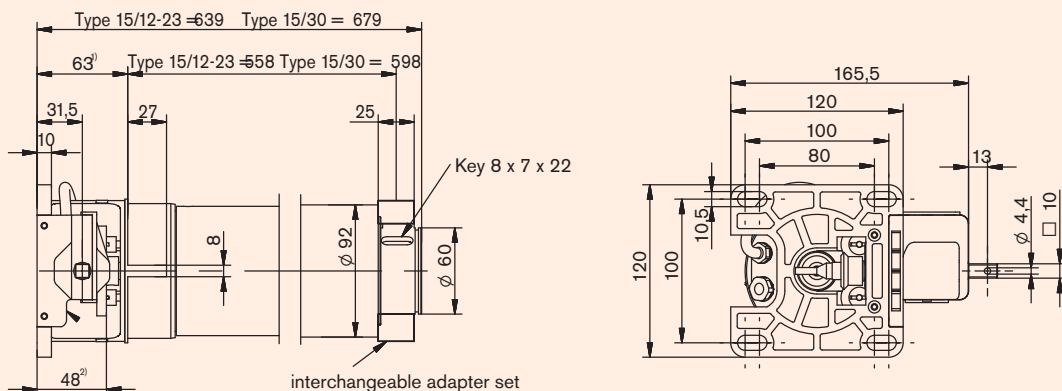
Type 15/30 W



Type 15/30 W NHK



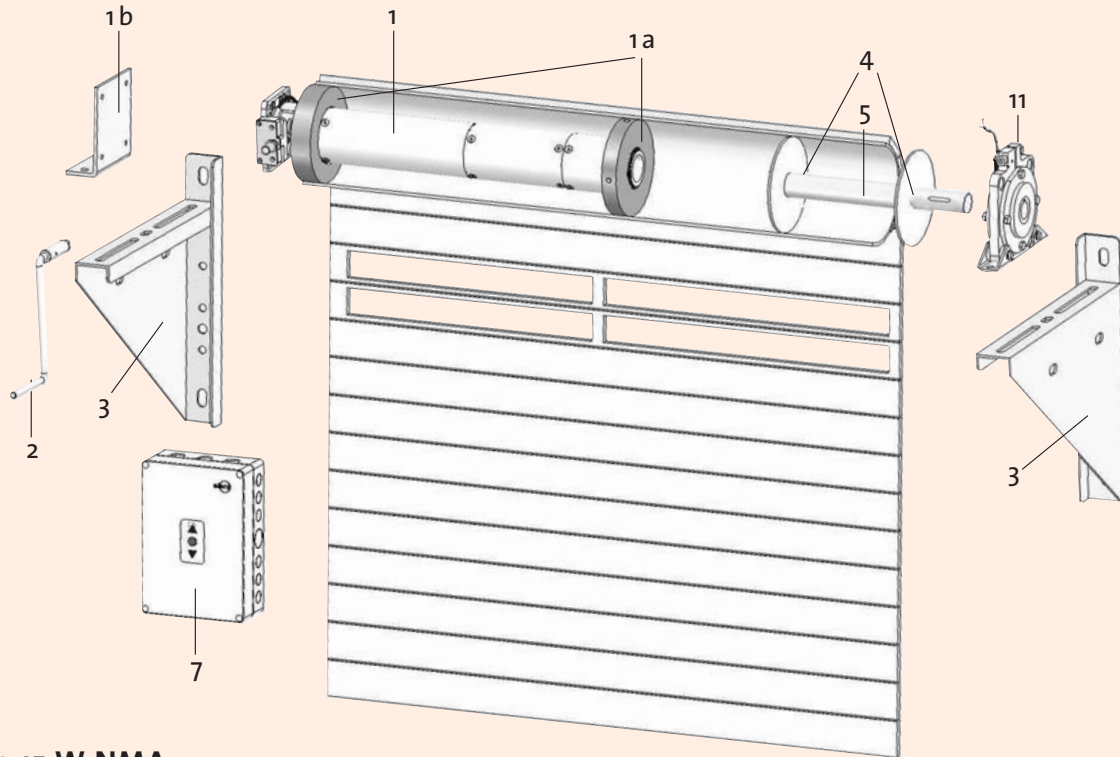
Type 15/12 W NMA to 15/30 W NMA



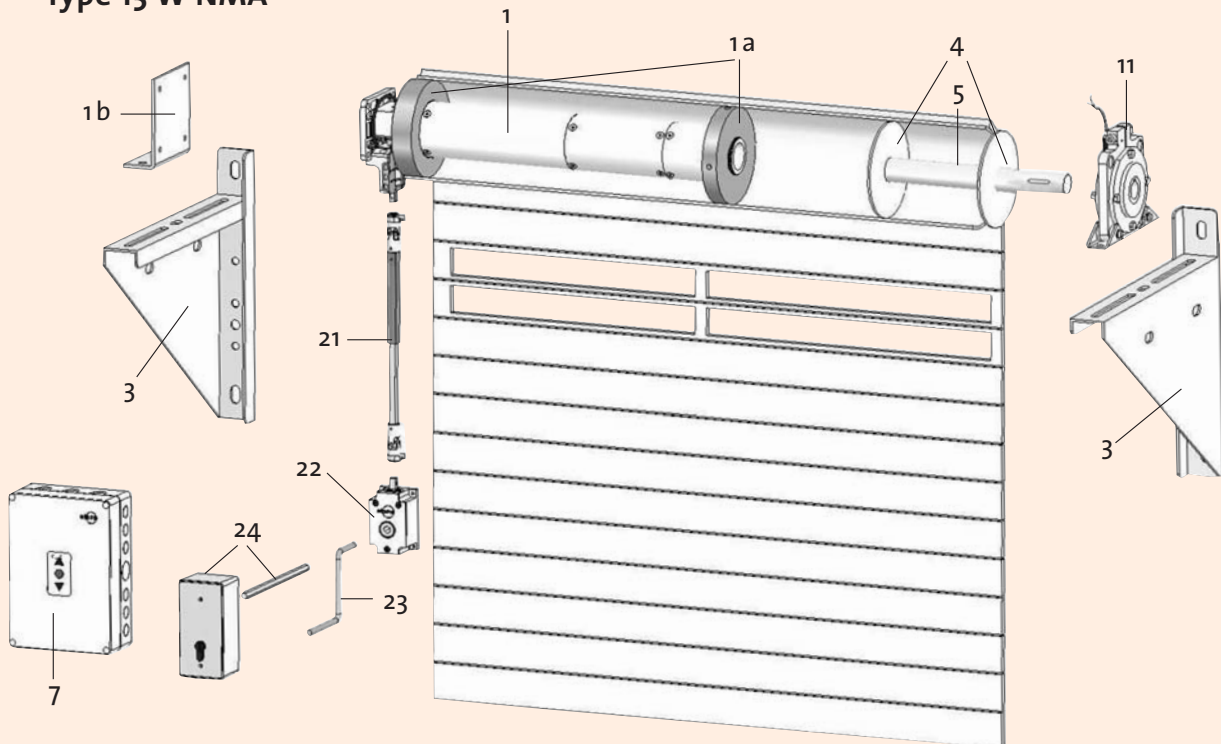
- 1) seitlicher Platzbedarf
- 2) seitlicher Platzbedarf bei Überwickeln des Endschalters

Installation example type 15 W

Type 15 W NHK



Type 15 W NMA



- 1 = tubular motor
- 1a = adapter set
- 1b = angle bracket
- 2 = crank handle
- 3 = brackets
- 4 = blanks

- 5 = welding shafts
- 7 = door control
- 11 = safety brake
- 21 = drive shaft*
- 22 = angle drive*
- 23 = crank handle for angle drive*

- 24 = A. P. KeyBox with integrated crank handle and connecting shaft*

* see page 38

Note: mech. accessories from page 39
electrical accessories from page 47

Type 15 W



Type 15 W



32 301.0001
32 281.0001
32 321.0001
32 361.0001

Tubular motor type 15 W and Type 15 W NHK
1x 230 V/50 Hz, connecting cable 3.0 m long
Suitable for tubes \varnothing 98 x 2

Note: The fixing plates of the type 15 W... drives are not to be suspended and must be installed at right angles to the fixing area.

Torque Speed

15/12 W 120 Nm 12 rpm
15/15 W 150 Nm 12 rpm
15/18 W 180 Nm 12 rpm
15/23 W 230 Nm 12 rpm

295,00 €
315,00 €
335,00 €
360,00 €

Type 15 NHK



32 311.0001
32 291.0001
32 331.0001
32 371.0001

Torque Speed

15/12 W NHK 120 Nm 12 rpm
15/15 W NHK 150 Nm 12 rpm
15/18 W NHK 180 Nm 12 rpm
15/23 W NHK 230 Nm 12 rpm

335,00 €
355,00 €
375,00 €
400,00 €

All prices are exclusive of:

- Adapter set
- Switches
- crank handle

Tubular motor type 15/30 W and 15/30 W NHK
1x 230 V/50 Hz, connecting cable 3.0 m long
Suitable for tubes \varnothing 98 x 2

Note: 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.

Torque Speed

32 381.0001

15/30 W 300 Nm 12 rpm

388,00 €

Torque Speed

32 391.0001

15/30 W NHK 300 Nm 12 rpm

428,00 €

Tubular motor Type 15 W NMA
with crank handle for drive shaft and angle drive*
1x 230 V/50 Hz, connecting cable 3.0 m long
Suitable for tubes \varnothing 98 x 2

Note: The fixing plates of the type 15 W NMA 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.

Torque Speed

32 312.0001
32 292.0001
32 332.0001
32 362.0001
32 382.0001

15/12 W NMA 120 Nm 12 rpm
15/15 W NMA 150 Nm 12 rpm
15/18 W NMA 180 Nm 12 rpm
15/23 W NMA 230 Nm 12 rpm
15/30 W NMA 300 Nm 12 rpm

335,00 €
355,00 €
375,00 €
400,00 €
428,00 €

All prices are exclusive of:

- Adapter set
- Switches
- crank handle
- Wall bracket pocket

Mechanical accessories

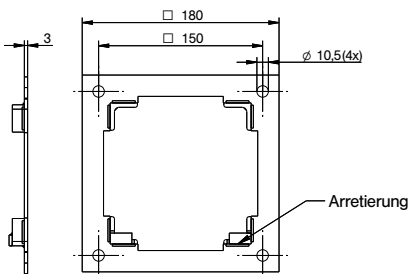
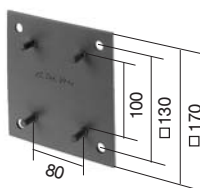
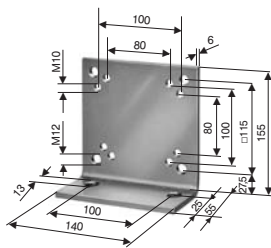
Drive coupling



Limit switch crown



Item Number	Type/Item Description	Price in Euros
	Adapter set for type 15... W	
13 103.5701	∅ 98 x 2 mm round tube, drilled with M8 thread	11,00 €
23 584.0001	∅ 102 x 2 mm round tube, drilled with M8 thread	12,50 €
23 475.0001	∅ 108 x 3,6 mm round tube, not drilled	11,40 €
23 494.0002	∅ 133 x 2 mm round tube, drilled with M8 thread	22,70 €
23 325.0001	∅ 133 x 2,5 mm round tube, drilled with M8 thread	23,00 €
23 495.0002	∅ 133 x 4 mm round tube, not drilled	16,40 €
23 495.0101	∅ 133 x 4 mm round tube, drilled with M8 thread	23,10 €
23 309.0001	∅ 159 x 2,6 mm round tube, drilled with M8 thread	29,50 €
23 310.0001	∅ 159 x 4,5 mm round tube, drilled with M8 thread	31,50 €
23 027.0001	∅ 168,3 x 4,5 mm and ∅ 168 x 4 mm round tube, drilled with M8 thread	33,60 €
23 456.0001	SW 114 mm Heroal octagonal (side-to-side dimension 125 mm)	19,90 €
23 311.0001	∅ 120 mm, Alukon, drilled with M8 thread	30,00 €
13 300.5303	Angle bracket for type 15... W and type 15... W NHK on wall bracket 24 399.0001 + 24 313.0001	18,60 €
13 301.4901	Wall bracket plate for type 15 W; type 15... W NHK and type 15... W NMA	12,88 €
23 100.0001	Wall bracket pocket for type 15/30 W; type 15/30 W NHK and type 15...W NMA with axial securing	7,00 €
13 305.9201	Angle bracket for type 15/30 W; type 15/30 W NHK and type 15...W NMA on wall bracket 24 399.0001 und 24 313.0001 (see page 45)	17,50 €
	Note: The shaft centre 80 mm is the same as for the safety brake TA 1/2 Item number 24 552.0003	



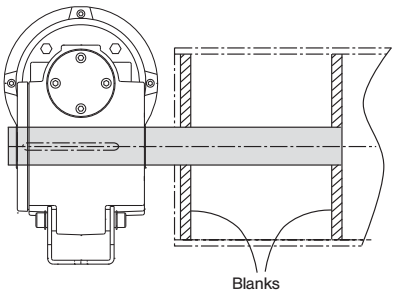
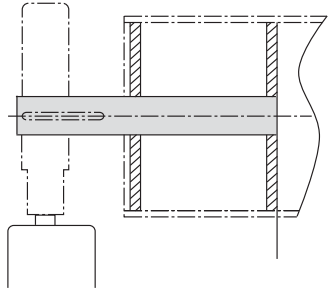
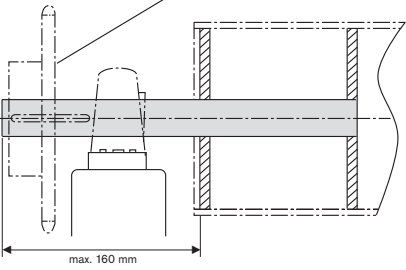
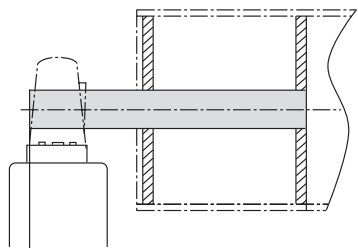
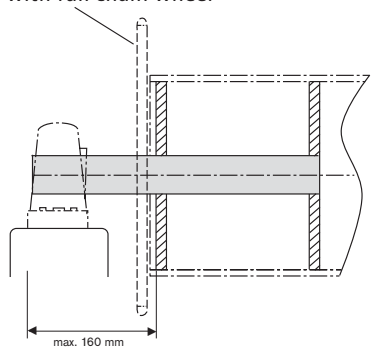
Mechanical accessories

	Item Number	Type/Item Description	Price in Euros
	23 553.0001	Crank handles for type 15/... W NHK Short crank (base version)	5,78 €
	23 404.0002	Long crank (base version)	8,23 €
	24 912.0001	Crank handle with ball joint x = 0,55 m	15,00 €
	24 913.0001	Crank handle with ball joint x = 1,0 m	17,00 €
	24 049.0001	Crank handles for type 15/... W NMA Crank handle with ball joint x = 0,55 m	21,00 €
	24 050.0001	Crank handle with ball joint x = 1,0 m	23,00 €
	23 030.0001	Angle drive	70,00 €
	23 081.0001	Drive shaft Extendable from 1.70 m to 3.00 m	31,00 €
	13 305.8001	Crank handle for angle drives 200 mm	8,00 €
	23 199.9501	Basis-Set NHK/NMA consisting of: Angle drive/drive shaft/ crank handle	109,00 €
	23 080.0001	A.P. KeyBox with integrated crank and 0.50 m length connecting shaft 10 mm hexagonal	48,00 €

**Mechanical accessories for
rolling /sectional door drives DFM, DKM, WFM, WKM, BoxLine and Type 15**

Seite 40	Welding shafts
Seite 41	Welding blanks
Seite 42	Chain wheel and chains
Seite 43	Winding shafts and bearing
Seite 44	Safety brakes
Seite 45-46	Brackets

Welding shafts

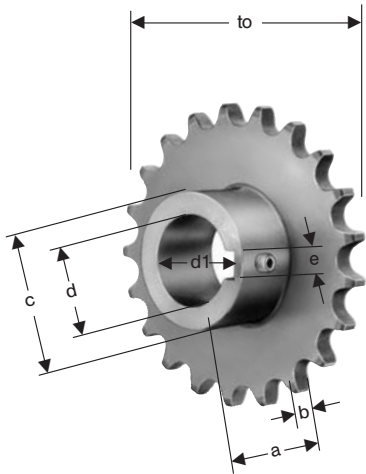
	Item Number	Type/Item Description	Price in Euros															
<p>a) Drive side:</p>  <p>b) Bearing side: with safety brake</p>  <p>c) Drive side: with chain wheel with boss</p> 	<p>24 045.0001</p> <p>24 045.0101</p> <p>24 045.0201</p> <p>24 045.0301</p>	<p>Welding shaft</p> <table border="1"> <thead> <tr> <th>Shaft Ø</th> <th>Key</th> <th>Length</th> </tr> </thead> <tbody> <tr> <td>30 mm</td> <td>8 x 7 x 50</td> <td>500 mm</td> </tr> <tr> <td>40 mm</td> <td>12 x 8 x 60</td> <td>500 mm</td> </tr> <tr> <td>50 mm</td> <td>14 x 9 x 80</td> <td>600 mm</td> </tr> <tr> <td>65 mm</td> <td>18 x 11 x 90</td> <td>600 mm</td> </tr> </tbody> </table> <p>a) for DFM/WFM 170–350 and BoxLine rolling door drives b) Safety brake TA 1/2 c) Chain wheel with boss</p> <p>a) for DFM 400–750 b) Safety brake TA 2/3 c) Chain wheel with boss</p> <p>b) for Safety brake TA 4 c) Chain wheel with boss</p> <p>b) for Safety brake TA 5 c) Chain wheel with boss</p>	Shaft Ø	Key	Length	30 mm	8 x 7 x 50	500 mm	40 mm	12 x 8 x 60	500 mm	50 mm	14 x 9 x 80	600 mm	65 mm	18 x 11 x 90	600 mm	<p>17,00 €</p> <p>23,50 €</p> <p>*</p> <p>*</p>
Shaft Ø	Key	Length																
30 mm	8 x 7 x 50	500 mm																
40 mm	12 x 8 x 60	500 mm																
50 mm	14 x 9 x 80	600 mm																
65 mm	18 x 11 x 90	600 mm																
<p>d) Bearing side:</p>  <p>e) Bearing side: with full chain wheel</p> 	<p>14 110.8001</p> <p>14 110.8101</p> <p>14 110.8201</p> <p>14 110.8301</p>	<p>Welding shaft bearing side</p> <p>d) for pedestal / flange bearing e) Full chain wheel</p> <table border="1"> <thead> <tr> <th>Shaft Ø</th> <th>Length</th> </tr> </thead> <tbody> <tr> <td>30 mm</td> <td>500 mm</td> </tr> <tr> <td>40 mm</td> <td>500 mm</td> </tr> <tr> <td>50 mm</td> <td>600 mm</td> </tr> <tr> <td>65 mm</td> <td>600 mm</td> </tr> </tbody> </table> <p>* Price and delivery time on request</p>	Shaft Ø	Length	30 mm	500 mm	40 mm	500 mm	50 mm	600 mm	65 mm	600 mm	<p>6,00 €</p> <p>11,00 €</p> <p>*</p> <p>*</p>					
Shaft Ø	Length																	
30 mm	500 mm																	
40 mm	500 mm																	
50 mm	600 mm																	
65 mm	600 mm																	

Welding blanks

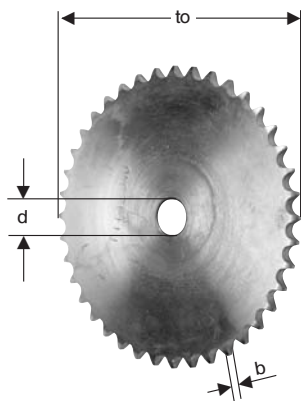


Item Number	Type/Item Description				Price in Euros
	Blanks for the welding shafts and counterpart supports Note: order 2 blanks per welding shaft For shafts Blanks Ø Thickness Hole mm mm mm Ø mm				
13 117.6001	98 x 2. 100 x 3 101.6 x 3.6	93	4	30	2,90 €
14 110.3301	108 x 3.6	99	4	30	3,80 €
14 110.3201	133 x 4	124	6	30	4,70 €
13 117.6101	133 x 2	128.5	6	30	4,90 €
13 117.6201	159 x 4.5	149	6	30	6,20 €
13 119.7601	159 x 2.6	153	6	30	6,70 €
14 110.5401	168.3 x 4.5	158.5	6	30	7,00 €
14 110.6001	168.3 x 3	161.5	6	30	11,50 €
14 110.9501	193.7 x 5.4	181.5	8	30	13,00 €
14 110.9601	193.7 x 3	187	8	30	13,50 €
13 104.6101	133 x 4	124	6	40	6,50 €
14 102.4201	133 x 2	128.5	6	40	6,70 €
13 102.5701	159 x 4.5	149	6	40	8,00 €
13 102.6001	159 x 2.6	153	6	40	8,50 €
13 102.6201	168.3 x 4.5	158.5	6	40	8,80 €
14 102.6701	168.3 x 3	161.5	6	40	13,30 €
14 102.6201	193.7 x 5.4	181.5	8	40	14,80 €
14 101.9401	193.7 x 3	187	8	40	15,30 €
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 x 4	124	6	50	*
14 101.7501	133 x 2	128.5	6	50	*
14 101.8301	159 x 4.5	149	6	50	*
14 110.5801	159 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	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	338	8	65	*
14 110.4301	368 x 8	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	*
	* Price and delivery time on request				

Chain wheel and chains



Note:
For DKM/WFM 170-350 only use the chain wheel 3/4" 20 teeth **24 918.0001**.
For DKM 500-750 only use the chain wheel 1" 19 teeth **24 919.0401**.



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

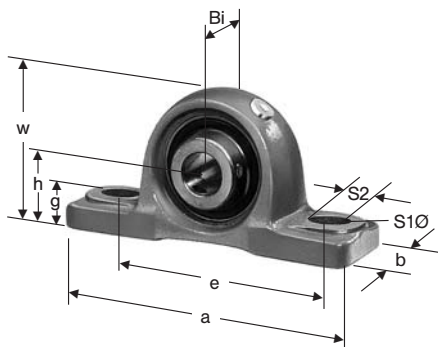
Item Number	Type/Item Description	Price in Euros																																																																								
	Chain wheel with boss 3/4 x 7/16" , with set screw fastening see page 40, example c)																																																																									
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24 920.0301	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	140	65	69,4	18 2:1																																																																		
24 921.0201	48	388,4	68	15,3	140	65	69,4	18 2.53:1																																																																		
24 921.0301	57	461,0	68	15,3	140	65	69,4	18 3:1																																																																		
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14 110.7701	57	461,0	15,3	65 3:1																																																																						
14 300.1801	Chain 3/4 x 7/16" Breaking load 29 000	per m.	10,58 €																																																																							
14 300.1601	Chain joint 3/4 x 7/16"		0,63 €																																																																							
14 300.1901	Chain 1" x 17.02 Breaking load 60,000 N	per m.	17,28 €																																																																							
14 300.1701	Chain joint 1" x 17.02		1,38 €																																																																							
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Winding shafts and bearing



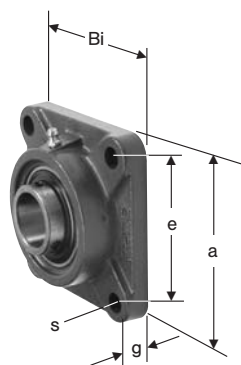
Item Number	Type/Item Description	Price in Euros
Steel tubes ex stock, 6 m long		
18 033.1373	98 x 2 mm, galvanised	per m 21,50 €
18 033.1375	133 x 2 mm, galvanised	per m 25,00 €
18 033.1376	159 x 2,6 mm, galvanised	per m 36,00 €
	plus fixed material surcharge	

Item Number	Type/Item Description	Price in Euros
Cut rolling door shaft to length (incl. cuttings)		
90 001.1003	∅ 98 x 2 mm	9,75 €
90 001.1004	∅ 133 x 2 mm	18,25 €
90 001.1005	∅ 159 x 2,6 mm	23,20 €



Item Number	Type/Item Description	Price in Euros
Pedestal bearing		
13 300.7701	with set screw fastening ∅ 30 mm	15,00 €
13 305.5401	with set screw fastening ∅ 40mm	19,00 €
13 300.3901	with set screw fastening ∅ 50mm	*
13 305.5501	with set screw fastening ∅ 65mm	*

Art. Nr.:	h	a	e	b	S1∅	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

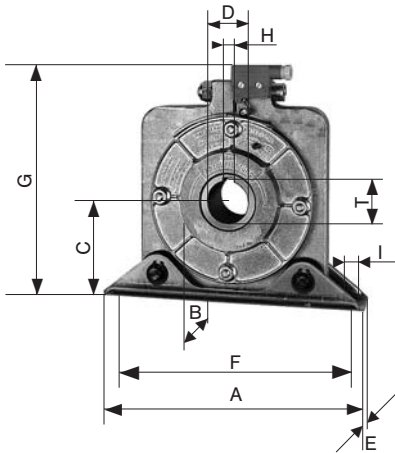
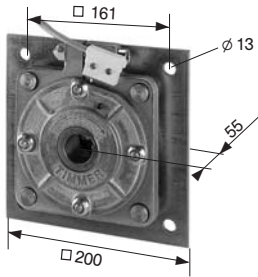


Item Number	Type/Item Description	Price in Euros
Flange bearing		
13 300.3201	∅ 30 mm	15,00 €
13 305.5601	∅ 40 mm	19,00 €
13 300.3401	∅ 50 mm	*
13 305.5701	∅ 65 mm	*

Item no.:	a	e	g	S∅	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

* Price and delivery time on request

Safety brakes



Item no.:	A	B	C	D ^{H7}	E
24 552.0003	210	44	80	30	38
24 553.0003	260	50	100	40	45
24 530.0001	340	78	150	50	75
24 531.0001	390	88	180	65	90

Item no.:	F	G	H ^{I9}	I	T	kg
24 552.0003	180	185	8	12	33,3	4,5
24 553.0003	230	225	12	14	43,3	8
24 530.0001	300	320	14	22	53,8	23
24 531.0001	340	380	18	22	69,4	37

Item Number	Type/Item Description	Price in Euros
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24 541.0002	Safety brake with electrical switch off Protection class IP 65 TÜV-Süd certified TA 1/2 RD with bracket for wall mounting ϕ 30 mm max torque 332 Nm Operating speed max. 22 rpm	143,00 €
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24 552.0003	TA 1/2 RD pedestal bearing ϕ 30 mm max torque 332 Nm Operating speed max. 22 rpm	103,00 €
24 553.0003	TA 2/3 RD pedestal bearing ϕ 40 mm max torque 552 Nm Operating speed max. 22 rpm	149,00 €
24 530.0001	TA 4-RD pedestal bearing ϕ 50mm max torque 1063 Nm Operating speed max. 18 rpm	*
24 531.0001	TA 5-RD pedestal bearing ϕ 65mm max torque 1943 Nm Operating speed max. 12 rpm	*

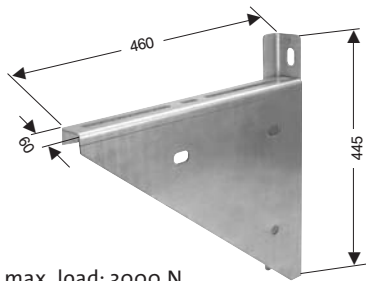
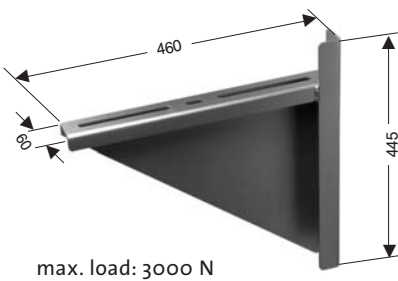
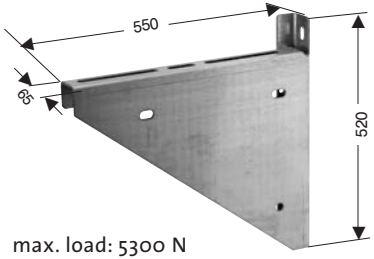
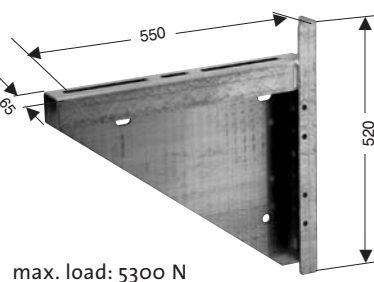
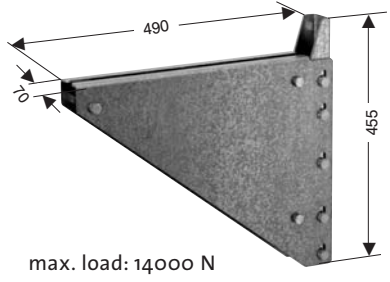
Choice of safety brake

	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	3000 x 3000	3000 x 3000	5000 x 5000	5000 x 4000	5000 x 7000
max. shafts ϕ mm					
108,0 x 4,0	475	475			
133,0 x 4,0	450	450	660		
168,3 x 4,5	370	370	580	980	
193,7 x 5,4	325	325	500	925	
219,1 x 5,9	282	282	470	830	
244,5 x 5,9	246	246	420	720	
298,5 x 8,0	190	190	330	610	1110
323,9 x 8,0			290	560	980
355,6 x 8,0				500	950

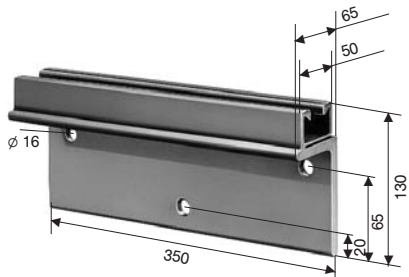
These data relate to the complete door weight in kg.

* Price and delivery time on request

Brackets

	Item Number	Type/Item Description	Price in Euros
 <p>max. load: 3000 N</p>	24 399.0001	Wall brackets 3 kN right with 2 hex bolts M 12 x 50 and nuts for drives DFM/WFM 170–350 BoxLine - Rolling door drives Safety brake TA 1/2 RD	29,00 €
 <p>max. load: 3000 N</p>	24 313.0001	Bracket 3 kN left with 2 hex bolts M 12 x 50 and nuts for drives DFM/WFM 170–350 for BoxLine - Rolling door drives Safety brake TA 1/2 RD	29,00 €
 <p>max. load: 5300 N</p>	24 399.0301	Bracket 5.3 kN right with 2 hex bolts M 12 x 50 and nuts for drives DF M 400–750 Safety brake TA 2/3 RD	52,00 €
 <p>max. load: 5300 N</p>	24 399.0401	Bracket 5.3 kN left with 2 hex bolts M 12 x 50 and nuts for drives DFM 400–750 Safety brake TA 2/3 RD	52,00 €
 <p>max. load: 14000 N</p>	14 306.4601	Bracket 14 kN left or right for drives DFM 400–750 Safety brake TA 4 RD and TA 5 RD * Delivery time on request	95,50 €*

Brackets



max. load: 5300 N



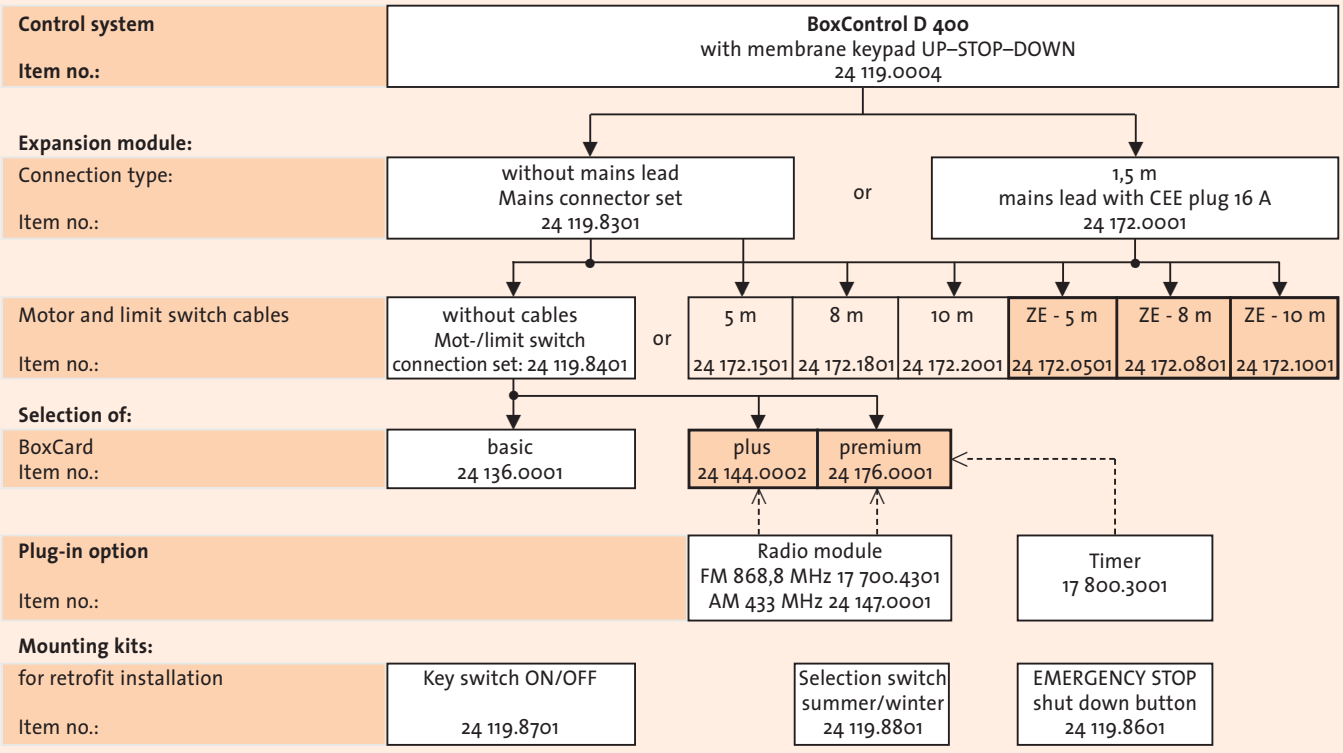
Item Number	Type/Item Description	Price in Euros
24 553.0101	Screw-on angle 5.3 kN for pedestal bearing, safety brake TA 1/2 RD and TA 2/3 RD	25,00 €
14 300.5601	Screws for pedestal bearings and safety brakes T-head screws M 12 x 50 with M 12 nut (for pedestal bearing I 30 and I 40 and safety brake TA 1/2 RD on the screw-on angle item number 24 553.0101)	3,30 €

Electrical accessories for rolling /sectional door drives DFM, DKM, WFM, WKM, BoxLine and Type 15

Page 48–49	Order instructions for BoxControl door controls
Page 50	Control selection for BoxControl, Master, SoftControl
Page 51	Prices of BoxControl compact
Page 52–53	Prices of BoxControl – plug-in and modular
Page 54–55	Price master and SoftControl
Page 56–57	Selection and prices of door control for single-phase tubular motors
Page 58	Prices of radio remote controls
Page 59–60	Prices of safeties for crushing, shearing and ingress points
Page 61	Prices of timers and traffic lights
Page 62–63	Prices of push-button

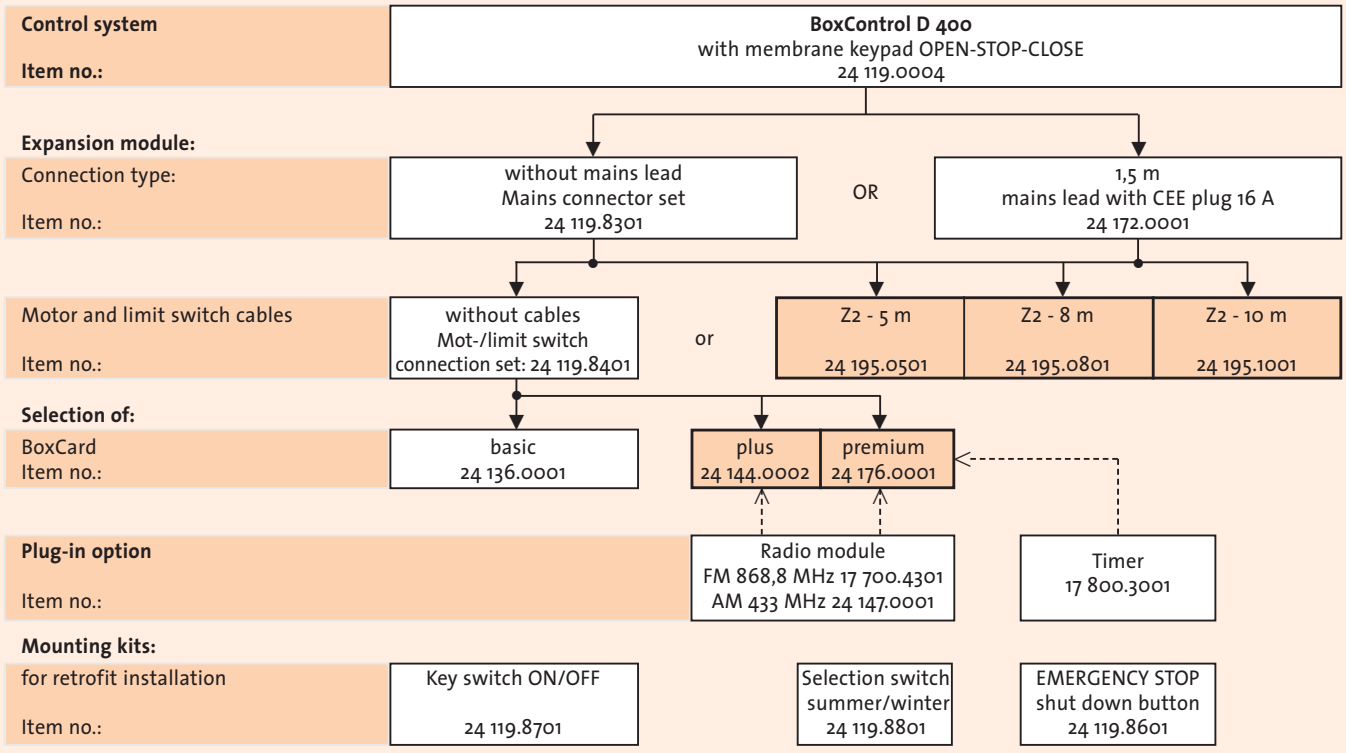
Order instructions

BoxControl for DFM/DKM drives WFM/WKM 170



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

Order instructions BoxControl for BoxLine drives



Recommendation:
In case all functions are used fully for BoxCard plus and premium drives use Z2 additional limit switches.

Control selection for BoxControl, MasterControl and SoftControl

BoxControl xx with plug-in modules				*2) Master- Control	Soft- Control
BoxControl compact	BoxCard				
		basic	plus	*2) premium	
Recommendations for doors shown below *1)					
Doors with occasional use, warehouses etc. (jogging mode / dead SControl system without maintained mode man's safety system)	●	●			
Doors for commercial and industrial halls etc (maintained mode) Pulse control with or without sight of door			●		●
Rolling doors for underground garages etc. Automatic control / single lane traffic with red/green traffic light				●	●
Rolling doors or roller grilles with ingress protection for underground garages etc Automatic control / single lane traffic with red traffic light				●	●
Rolling doors or roller grilles with ingress protection 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 8,2 kΩ resistance evaluation			●	●	●
Testing the ingress protection system external using "Light barriers -test unit" Item. no.:				●	
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			●	●	●
Connection of digital timer item. no.: 14 701.9902				●	●
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			●	●	

Legend:

*1) Please be sure to follow EN 12453 !

§ 5.5. Table 1 - Follow the "Minimum protection levels for security of main closing 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 24 V DC; power consumptio $\leq 1,5$ VA
Standby delay ≤ 250 ms

BoxControl compact

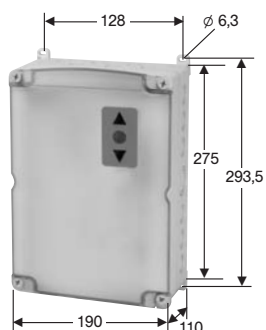
The simple drive control for rolling and sectional doors



Item Number	Type/Item Description	Price in Euros
	BoxControl compact for DFM/DKM drives WFM 170 BoxLine drives Operating mode: Jogging mode (dead man) Control voltage 24 V DC Plastic housing IP 65 without mains lead	
24 199.1101	BoxControl compact D 400 for DFM/DKM drives 3 x 400 V 50/60 Hz with 1.0 m long connected motor and control cables	83,00 €
24 198.1101	BoxControl compact D 230 for DFM/DKM and WFM/WKM 170 drives 3 x 230 V 50/60 Hz (1 x 230 V 50/60 Hz) with 1.0 m long connected motor and control cables	85,00 €
24 121.1101	BoxControl compact D 400 for BoxLine drives 3 x 400 V 50/60 Hz with 1.0 m long, connected motor and control cables	83,00 €
24 122.1101	BoxControl compact D 230 for BoxLine drives 3 x 230 V 50/60 Hz (1~230 V 50/60 Hz) with 1.0 m long, connected motor and control cables	85,00 €
24 177.0001	1.5 m mains lead with CEE plug 16 A, 3 x 400 V	7,00 €
24 600.9101	1.5 m mains lead with earthed plug, 1 x 230 V	6,00 €

BoxControl

The plug-in modular drive control for rolling doors, roller grilles and sectional doors



Note:

- see order instructions
- Function only with plugged-in BoxCard
- without connecting cables
- without connection set



24 119.0004

BoxControl D 400

Operating modes:
Jogging mode – Pulse and automatic control

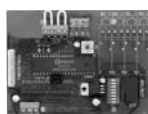
3 x 400/230 V 50/60 Hz (1 x 230 V 50/60 Hz)
Control voltage 24 V DC
Plastic housing IP 65

Price in Euros

BoxControl D 400

with membrane keypad UP-STOP-DOWN in housing cover and free slot for BoxCard without Motor / limit switch cables and mains lead

107,00 €



24 136.0001

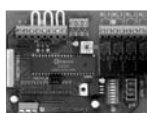
BoxCard basic
Jogging mode

10,00 €

24 144.0002

BoxCard plus
Pulse control

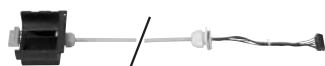
50,00 €



24 176.0001

BoxCard premium
Automatic control

65,00 €



24 172.1501

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

5,00 m long

32,00 €



24 172.1801

8,00 m long

39,00 €



24 172.2001

10,00 m long

43,00 €

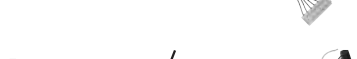


24 172.0501

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

5,00 m long

40,00 €



24 172.0801

8,00 m long

48,00 €



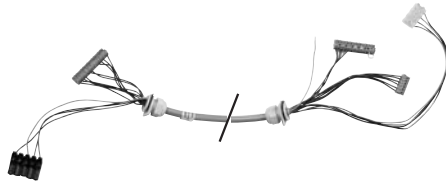
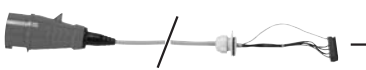

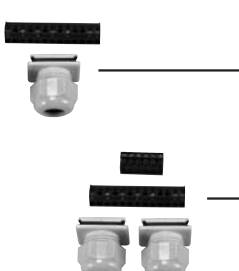

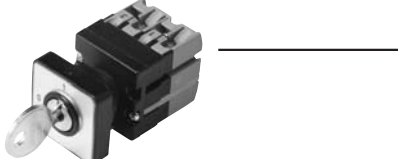
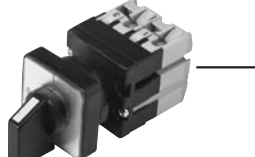
24 172.1001

10,00 m long

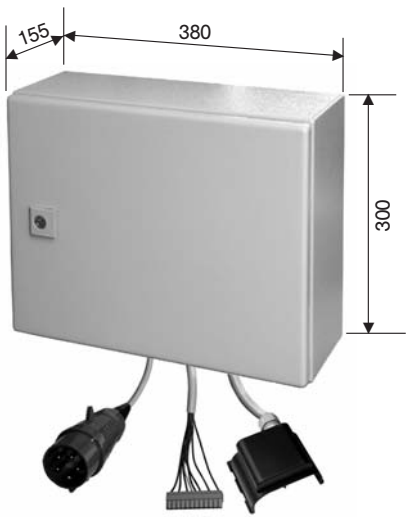
53,00 €

BoxControl

The plug-in modular drive control for rolling doors, roller grilles and sectional doors

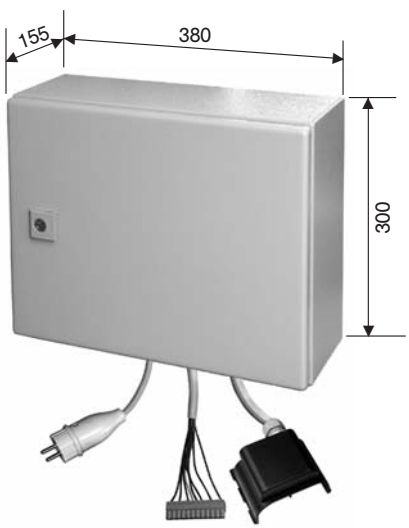
	Item Number	Type/Item Description	Price in Euros
	24 195.0501 24 195.0801 24 195.1001	Motor and control cable for single-phase current and three-phase current motors BoxLine Z2 drives with plug-in screws and plug-in terminals on both sides 5,00 m long 8,00 m long 10,00 m long	36,00 € 44,00 € 49,00 €
	24 172.0001	1.50 m mains lead with CEE plug 16 A, 3 x 400 V with plug-in screws and plug-in terminals	11,00 €
	24 600.9001	1.5 m mains lead with earthed plug, 1 x 230 V with plug-in screws and plug-in terminals	9,00 €
	24 119.8301	Connection set for BoxControl for deliveries without connecting cables Note: Connection to non elero drives is at your own risk Mains connector set: 1 x plug-in terminal with 1 x plug in screw	4,50 €
	24 119.8401	Motor / limit switch connection set: 2 x plug-in terminal with 2 x plug in screw	6,00 €
	24 119.8601	Device switch for retrofit installation in the housing cover EMERGENCY STOP shut down button with connection strands	11,00 €
	24 119.8701	Key switch ON-OFF (Automatic on/off switching) with connection strands	21,00 €
	24 119.8801	Selection switch S/W (half door opening) with connection strands	23,50 €

Electrical control systems for DFM/DKM rolling door drives Master- and SoftControl



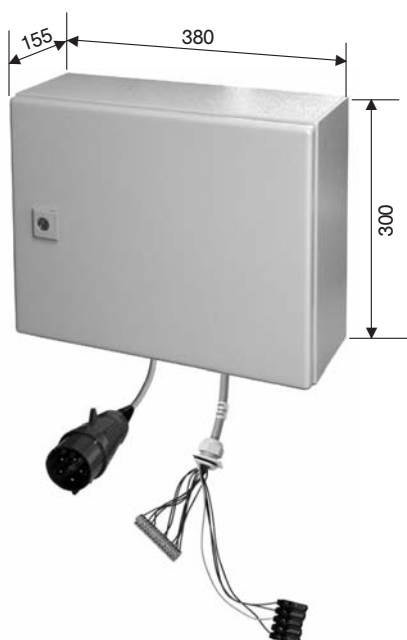
Item Number	Type/Item Description	Price in Euros
24 185.0001	<p>MasterControl RD 400 ZE The versatile door control for DFM/DKM ZE rolling door drives with 5 m plug-in motor and limit switch cables</p> <p>Application:</p> <ul style="list-style-type: none"> • Automatic rolling door systems and roller grilles • 400/230 V 50 Hz three-phase current • Control voltage 24 V DC • 1.5 m mains lead with CEE plug 16 A • optional connection of an opto-electrical door-edge security system OSE Parts no.: 24 275.0001 • or 8;2 kΩ resistance evaluation • Connection of the ingress protection – one-way light barrier Item no. 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 projection class IP 66; colour RAL 7035 (light grey) 	518,00 €

24 186.0001	<p>MasterControl RD 400 ZE as above but with 10 m plug-in motor and limit switch cables</p>	536,00 €
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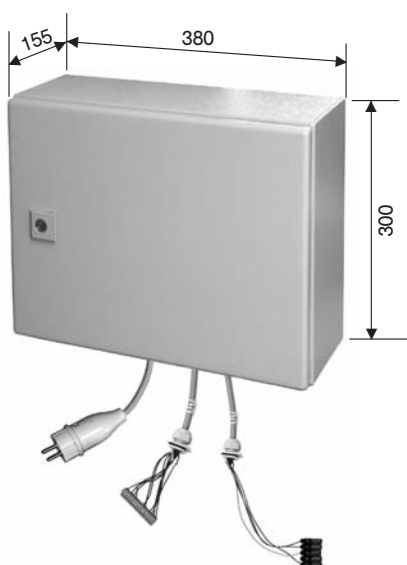


24 166.0001	<p>SoftControl RD 230 ZE The gentle door control with frequency converter for DFM/DKM 170 rolling door drives</p> <p>Caution:</p> <ul style="list-style-type: none"> • Connection to 230 V three-phase current drives only • 150 Nm torque for DFM/DKM 170 • Speed 6.5–25 rpm • For the connecting cables from frequency converter to drive a max length of 2 shielded cable has to be used. <p>Application:</p> <ul style="list-style-type: none"> • Automatic rolling doors for garages etc. • Input: 230 V 50 Hz single-phase current • Output: 230 V three-phase current 1.0 kW 25 to 100 Hz • Control voltage 24 V DC • 1,0 m mains lead with earthed plug • with 2 m shielded, plug-in motor and limit switch cables • optional connection of an opto-electrical door-edge security system OSE Parts no.: 24 275.0001 • or for 8,2 kΩ resistance evaluation • Test of the door-edge security system 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 projection class IP 66; colour RAL 7035 (light grey) 	735,00 €
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Electrical control systems for BoxLine drives Master- and SoftControl



Item Number	Type/Item Description	Price in Euros
24 085.0501	<p>MasterControl SD 400 Z2 The versatile door control for BoxLine rolling door and sectional door drives with 5 m plug-in motor and control cables</p> <p>Application:</p> <ul style="list-style-type: none"> • Automatic rolling door systems and roller grilles • 400/230 V 50 Hz three-phase current • Control voltage 24 V DC • 1.5 m mains lead with CEE plug 16 A • optional connection of an opto-electrica door-edge security system OSE Parts no.: 24 275.0001 • or 8;2 kΩ resistance evaluation • Connection ingress protection - one-way light barriers Item no. 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 projection class IP 66; colour RAL 7035 (light grey) 	518,00 €



24 066.0201	<p>SoftControl SD 230 Z2 The gentle door control with frequency converter only for BoxLine sectional door drives DSM 100–140 Z2</p> <p>Caution:</p> <ul style="list-style-type: none"> • Connection to 230 V three-phase current drives only • For the connecting cables from frequency converter to drive a max length of 2 shielded cable has to be used. <p>Application:</p> <ul style="list-style-type: none"> • Automatic sectional doors etc. • Input: 230 V 50 Hz single-phase current • Output: 230 V three-phase current 1.0 kW 20 to 100 Hz • Control voltage 24 V DC • 1,0 m mains lead with earthed plug • with 2 m shielded, plug-in motor and limit switch cable • optional connection of an opto-electrical door-edge security system OSE Parts no.: 24 275.0001 • or for 8,2 KΩ resistance evaluation • Test of the door-edge security system 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 projection class IP 66; colour RAL 7035 (light grey) 	735,00 €
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Door controls for single-phase tubular motors

Control selection for DoorControl and SafeControl

	DoorControl without radio	DoorControl 868.8 MHz	SafeControl
*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 K Ω resistance evaluation	●	●	●
*2) Test of the ingress protection system			●
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		●	
Slot for radio module parts no.: 17 700.4301 / /24 147.0001	●		●
Connection of timer possible	●	●	●

Legend:

*1) Please be sure to follow EN 12453 !
 § 5.5. Table 1 - Follow the "Minimum protection levels for security of main closing 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 24 V DC; power consumption \leq 1,5 VA
 Standby delay \leq 250 ms

Door controls for single-phase tubular motors



Item Number

Type/Item Description

Price in Euros

DoorControl for rolling doors

for tubular motors type 9–15 W NHK and NMA with mechanical limit stop
1 x 230 V/50 Hz

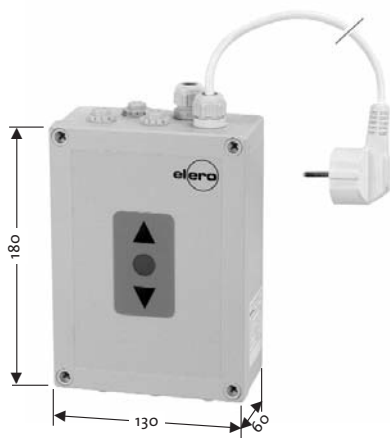
- Automatic closing with traffic light function
- Testing of door-edge security system
- 1.5 m mains lead with earthed plug
- Cover with membrane keypad Open–Stop–Close
- Plastic casing IP 54

24 180.0001

DoorControl 868.8 MHz-Set

Incl. radio receiver
incl. 1 hand-held radio transmitter
item no. 17 700.3701

141,00 €



24 180.0301

DoorControl 868,8 MHz

Incl. radio receiver
– without hand-held transmitter –

120,00 €

24 180.0101

DoorControl

without radio receiver
radio module 17 700.4301 pluggable
further radio control accessories
see page 58

98,00 €



24 178.0101

SafeControl W 230 for rolling doors and roller grilles

for tubular motors type 9–15 W NHK and NMA with mechanical limit stop
1 x 230 V/50 Hz

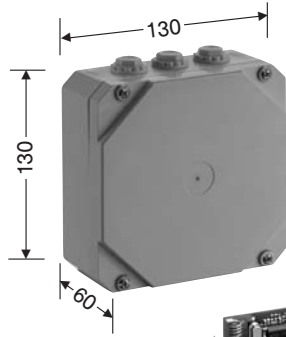

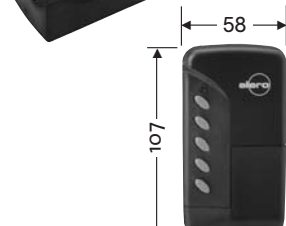

280,00 €

- Automatic closing with various traffic light functions: **Pre-warning, traffic regulation for 1- or 2-way**
- Testing of door-edge security system and ingress protection system
- Cover with membrane keypad
- Connector for the radio module item no. 17 700.4301
- Plastic casing IP 54

* Recommendation:
For the ingress protection use the one-way light barrier item No. 24 961.0001.



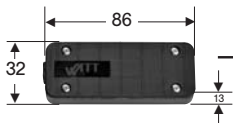

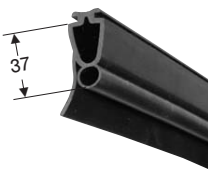


Electrical accessories

Radio remote control 868.8 MHz.

	Item Number	Type/Item Description	Price in Euros
	17 700.4201	Radio receiver in housing 2-command 868.8 MHz – for follow-on control – Power supply, 230 V AC Operating modes: push-button mode Switch mode, on/off Timer mode Switch-off delay up to 250 seconds	75,00 €
	17 700.4301	Radio module FM 868.8 MHz, 2-command Can be plugged into BoxCard plus and premium DoorControl 24 180.01011 MasterControl SafeControl	42,00 €
	17 700.4901	Rod antenna FM 868.8 MHz External antenna for radio receiver 17 700.4201 and for radio module 17 700.4301 50 Ohm – coaxial cable (10 m)	44,00 €
	17 700.3701	Hand-held radio transmitter 4-command FM 868.8 MHz Range up to 50 m, depending on environment extremely safe “SOMLOQ” Rolling code system 3 V Battery, CR 2032 Extensible housing Size: 87 x 24 x 16 mm	27,50 €
	17 700.3901	Wall mount holder for hand-held radio transmitter 17 700.3701	6,00 €
	17 700.5701	Industrial hand-held radio transmitter 5-command FM 868.8 MHz Range up to 50 m, depending on environment extremely safe “SOMLOQ” Rolling code system incl. battery, CR 2032	39,00 €
	17 700.3202	Hand-held transmitter 30 command FM 868.8 MHz, IP 64 Range: approx. 25 m, depending on environment Coding: rolling code “SOMLOQ” Operating mode: serial or specifically OPEN /CLOSE Battery: 3 V, type CR 123 A Dimensions: H 148 x W 44 x D 30 mm	118,00 €
	17 700.3502	Telecodey 2-command FM 868.8 MHz, IP 64 Suitable for operation of a double garage Range: approx. 25 m, depending on environment Coding: rolling code “SOMLOQ” 10 different access codes 2 encoded keys, e.g. for light incl. wall bracket and fastening material Battery: 3 V, type CR 123 A Dimensions: H 148 x W 44 x D 30 mm	85,00 €


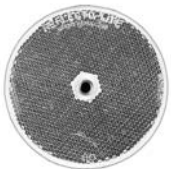

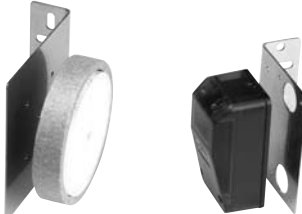



Electrical accessories

Safety for crushing, shearing and ingress points



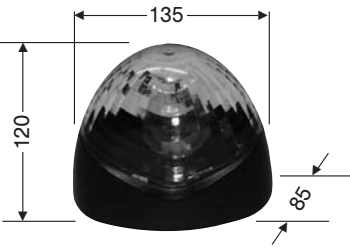
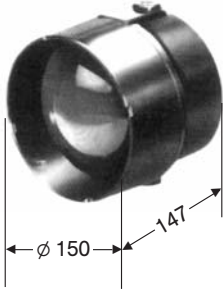
	Item Number	Type/Item Description	Price in Euros
	14 705.9002	Door-edge security system (Opto-electronic safety edge) Evaluation device for mains voltage 230 V/50 Hz Switching contact, potential-free (in plastic housing IP 66) (not needed for Door, Master, Soft, Safe and BoxControl plus und premium)	98,00 €
	24 275.0001	Transmitter – cable length 1.0 m + receiver – cable length 10.5 m Range from 1.0 to 8.0 m max Ø 11 mm	48,- €
	23 173.0002	Connection box (on blind) with strain relief for spiral cable integrated plug on/screw type terminals Incl. screwdriver	9,50 €
	14 705.2801	Spiral cable 3 x 0,5 mm ² extensible from 0.9–3.00 m	23,52 €
	14 706.2601	Safety edge rubber per m. Hollow double profile with seal flap	per m 5,39 €
	14 701.0602	Aluminium C-rail per m for safety edge rubber	per m 1,92 €
	23 255.0002	Stoppers (pair)	4,50 €

Electrical accessories

Safety for crushing, shearing and ingress points

	Item Number	Type/Item Description	Price in Euros
	24 960.0001	<p>Note: The reflectors for the reflection light barrier can fog up outdoors due to weather effects, frost etc, thus drastically reducing their range.</p> <p>Recommendation: One-way light barriers are suitable outdoors even in tough conditions.</p> <p>Reflection light barrier IP 67 with reflector polarised plastic housing Range: max. 15 m Rated voltage: 20–230 V AC/DC Output: Relay Rated power consumption: 1,5 VA</p>	119,00 €
	14 700.7901	Reflector for light barrier (individual)	11,00 €
	17 700.5301	Fastening part for reflection light barrier 24 960.0001	9,00 €
	24 960.0201	<p>Reflection light barrier with polarizer IP 67 Accessories: Reflector, angle bracket, screws and fixing screws on the holding bracket</p> <p>Range: 0,50 ... 15 m Rated voltage: 15-36 V DC Ready to operate: < 100 ms Rated current: max. 30 mA/24 V</p>	71,00 €
	24 961.0001	<p>One-way light barriers IP 67 Set: Transmitter, receiver and fastening part Plastic housing Range: max. 50 m Rated voltage: 20–230 V AC/DC Output: Relay</p>	209,00 €
	24 960.0301	<p>One way "Twin-Safe" light barrier Accessories: angle bracket</p> <p>Range: 1–20 m Rated voltage: 10-30 V DC Opening angle: approx. 4° full angle Rated current: 70 mA</p>	132,00 €
	17 700.5401	<p>Ingress protection Function only with BoxCard premium Light barrier test unit for 2 one-way light barriers Item no. 24 961.0001 or 24 960.0301</p>	102,00 €

Electrical accessories Timers and traffic lights

	Item Number	Type/Item Description	Price in Euros
 	<p>17 800.3001</p> <p>14 701.9902</p>	<p>Rex 2000 plug-in timer in Master, SoftControl and BoxCard premium</p> <p>Digital timer with weekly programme Rated voltage: 230 V 50/60 Hz Rated current consumption: approx. 10 VA Memory locations: 36 Channels: 2 Relay: 2 potential-free changeover contacts Rated current: max. 6 A~ Shortest switching interval: 1 minute Power reserve: >6 years Protection class: IP 20</p>	<p>77,00 €</p> <p>110,00 €</p>
 	<p>17 700.4501</p> <p>14 700.3801</p> <p>14 700.3901</p>	<p>Warning light IP 54 1 x 230 V 50/60 Hz Lamp E14 25 W</p> <p>Traffic light red LED lamp E27 25 mA 1 x 230 V 50/60 Hz</p> <p>Traffic light green LED lamp E27 25 mA 1 x 230 V 50/60 Hz</p>	<p>33,00 €</p> <p>38,00 €</p> <p>38,00 €</p>

Electrical accessories

Operating button/ switch

	Item Number	Type/Item Description	Price in Euros
	14 701.2501	Push button Push button UP-DOWN surface mount water-protected IP 54	16,50 €
	14 701.2901	Push button UP-STOP-DOWN surface mount water-protected IP 54	17,00 €
	14 703.1301	Surface mount pull switch, aluminium housing	32,00 €
	14 703.2601	Lockable main switch 3 pole 400 V 4 kW	19,00 €
	14 703.2701	Emergency shut down button	45,00 €

Electrical accessories Push-button



Item Number	Type/Item Description	Price in Euros
14 701.3301	Surface mount key switch with latched position on both sides and cover lock IP 54	30,00 €
14 701.3601	without latched position, momentary on both sides and cover lock IP 54	30,00 €
14 701.3801	can be pushed on one side and cover lock IP 54	25,00 €



14 701.3901	Flush mount key switch with latched position on both sides and cover lock IP 54	35,00 €
14 701.4201	without latched position, momentary on both sides and cover lock IP 54	35,00 €
14 701.4401	can be pushed on one side and cover lock IP 54	26,00 €



14 701.4501	Surface mount combined key and push button switch. Protection class IP 54 Key switch »UP -DOWN«, momentary and »STOP« push button	39,00 €
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14 701.4801	Flush mount combined key and push button switch Protection class IP 54 Key switch »UP -DOWN«, momentary on both sides and »STOP« push button	39,00 €
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Terms and conditions of sale

1. Contract

All offers, quotes and sales by elero GmbH Beuren, Germany (elero) are subject to these terms and conditions of Sale. No other agreements have been made or will be valid unless expressly confirmed in writing by elero.

2. Acceptance

By taking delivery of products, buyer assents to the terms and conditions stated herein, unless otherwise expressly agreed in writing by elero. elero hereby objects to any different or additional terms and conditions which may be proposed or have been proposed by buyer in any purchase order forms or other documents. Unless written objection is received from buyer within fifteen days of the date of acknowledgement. The terms and conditions stated herein shall prevail over any different or additional terms and conditions proposed by buyer and shall apply to the sale or shipment of any goods in response to buyer's order.

3. Prices and delivery

All quoted prices are valid for a period of 60 days from the date of issue, unless specified by elero in writing. Prices on accepted orders remain firm for a period of four months from the date of order acceptance, provided final delivery occurs within that period. If delivery is to occur more than four months from the order acceptance, prices are subject to change in accordance with any changes in the published elero price list which occur after the date of order acceptance. All prices quoted are ex works Beuren, excluding all freight, packaging and taxes. All delivery dates are approximate.

4. Payment Terms

(a) Payment terms for single or transactions other than open accounts are subject to the payment terms as stated on the order confirmation pertaining to those specific orders and will be strictly adhered to. Terms on open accounts are net 30 days in full from date of invoice.

(b) Amounts past due are subject to a finance charge of 1.5% per month to the legal limit, and the finance charge will apply without further prior notice. In case of purchaser's delinquency in payment or insolvency, elero retains the right to halt or interrupt all further deliveries and service to the purchaser until all past due amounts have been paid, and to require payment in advance for orders not yet delivered, without any liability resulting for elero. Purchaser expressly agrees to indemnify elero and hold elero harmless from all charges and liability from this action from any party whatsoever.

(c) In case of disputes, purchaser agrees to submit such to arbitration by the German Institution for Arbitration (DIS), at elero's option, and to pay all costs incurred by elero, including costs of collection, reasonable attorney's fees, expenses and court costs.

5. Inspection, Acceptance and Claims

All claims by purchaser against elero for shortages or damage must be made in writing to elero within fourteen days from date of shipment or they are waived.

6. Risk of Loss

Full risk of loss, damage or destruction of the goods shall pass to purchaser upon delivery of the goods to the carrier at the point of shipment or upon delivery at storage, whichever applies.

7. Force Majeure

If an order cannot be completed due to causes beyond elero's control, elero retains the right to either cancel the uncompleted portion of the order or complete the order if and when this becomes possible. Purchaser shall not have the right to withhold payment on delivered goods and/or services, nor to unilaterally change the order or cancel same. Force majeure includes, but is not limited to, strikes, lock-outs, storms, floods and the like, wars,

revolutions, major equipment failures of fire damage at production facilities, etc.

8. Warranty

elero GmbH warrants all motors in rolling shutter, awning and interior window covering applications against defects in material and workmanship for a period of 2 years from the date of shipment. elero motors in greenhouse applications and all control devices with electronic components do carry a one-year warranty against defects in material and workmanship. If any part of component does not function as intended or displays any of the defects described above during the warranty period, elero will furnish a replacement part to the purchaser free of charge. This warranty does not apply in case of abuse, misuse, misapplication or any defects due to faulty installation.

9. Return

No goods may be returned in original packaging without express written approval of elero. Goods approved for return must be returned in original packaging, freight prepaid and accompanied by a copy of the original invoice. Final acceptance is subject to elero plant. A restocking charge of 25% of invoice value will apply on all goods accepted for return.

10. Disclaimer

elero disclaims all warranties, express or implied including, without limitation, the warranties or merchantability and fitness, other than the express warranty stated or described above.

11. Limited Liability

elero's liability for any and all claims, charges, expenses, damages, losses and injuries arising out of or relating to its performance or breach of any agreement of sale of goods and the manufacture, sale, delivery, resale, repair or use of any goods shall not exceed the purchase price of such goods. This shall be purchaser's sole and exclusive remedy against elero outside of the remedy provided for under elero warranty. In no event shall elero be liable for incidental, special or consequential damages.

12. Liens and Security Interest

Purchaser will not permit to be created or to remain undisclosed any lien, encumbrance or charge upon the goods supplied by elero until elero has received payment in full for such goods. If any liens encumbrances or charges shall be filed against elero goods prior to payment in full, purchaser shall discharge the liens, encumbrances or charges within ten days and reimburse elero for expenses incurred in defending its security interest. Title to the goods shall remain with elero until payment in full has been received.

13. Statute of Limitations

Any action for elero's breach under the contract shall be commenced within one year after the cause of action has occurred.

14. Choice of Law

The rights and duties of the parties hereunder and the construction and effect of these terms and conditions shall be governed by the laws of Germany.

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Antriebstechnik

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Geschäftsführer:
Rainer Kunz
Dr.-Ing. Wolfgang Günther
Amtsgericht Nürtingen HRB 2367

05/2005

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Technical parameters subject to change. 13 600.0901/008