

# Sectional Door Operators for Springless Doors

## MDF

Three-phase direct mount operators for roller shutters and grilles.

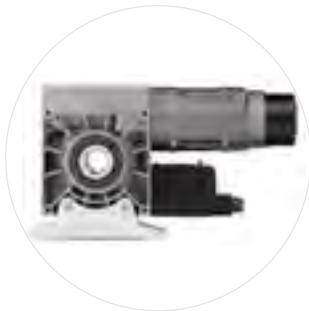
The three-phase direct mount operators of the MDF series are characterized by a compact design, which ensures the best installation options. The maintenance-free safety catch is already integrated and thus offers the safest solution for the gate. With a complete range from 140 to 1650 Nm, the right solution is offered in this area for every on-site situation. In addition, special solutions for individual customer requirements can be realized flexibly and quickly at any time.



MDF 05



MDF 20



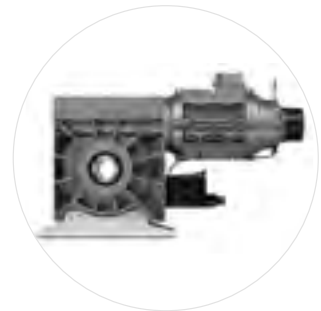
MDF 30



MDF 50



MDF 60



MDF 70

## MDF

Operator type
MDF 05-14-24 KE
MDF 05-14-24 KU
MDF 20-18-24 KE
MDF 20-18-24 KU
MDF 30-40-17 KE
MDF 30-40-17 KU
MDF 30-40-24 KE
MDF 30-40-24 KU
MDF 50-75-16 KE
MDF 50-75-16 KU
MDF 50-75-24 HD KE
MDF 50-75-24 HD KU

Operator type
MDF 60-100-17 HD KE
MDF 60-100-17 HD KU
MDF 60-100-24 HD KE
MDF 60-100-24 HD KU
MDF 70-125-24 HD KE
MDF 70-125-24 HD KU
MDF 70-140-17 HD KE
MDF 70-140-17 HD KU
MDF 70-165-17 HD KE
MDF 70-165-17 HD KU
MDF 70-165-24 HD KE
MDF 70-165-24 HD KU

# Features

## MDF

- Rolled worm shaft
- Emergency operation via emergency hand crank „KU“ (1-side) or „KU-KU“ (2-sides up to 420 Nm & 12 rpm) or emergency hand chain „KE“
- Easy conversion from crank to chain
- Integrated safety gear, independent of position and speed, maintenance- and wear-free, integrated cushioning
- Pendulum foot support
- Supply: 230/400 V/3~/50 Hz
- Thermal protection in the motor winding
- For gate systems with above-average circuits, a operator with an increased motor duty cycle (HD) should be selected
- Pluggable connectors
- End position setting via electronic absolute encoder (AWG) or mechanical limit switches (MEC)
- Version with external control, can be combined with extensive control program. Supply: 230/400 V/3~, frequency: 50/60 Hz and control voltage: 24 V-DC
- When the output speed is increased (operation with frequency inverter), the output torque is reduced. In this case, the following applies: An increase of the output speed by 10 % causes a reduction of the output torque by 5 %.
- Special designs such as different voltages, frequencies, different output speeds, higher degrees of protection and hollow shaft Ø on request
- For temperature ranges below -20 °C there is suitable oil and electric heating on request



Absolute encoder



Mechanical limit switches (MEC)



Emergency hand crank (KU)



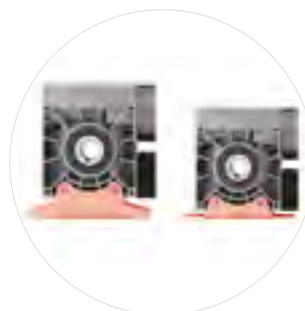
Emergency hand chain (KE)



Higher duty cycle (HD)



External frequency inverter



Various axis dimensions



Rope drums

## Area of use

To select the optimal operator solution, the diameter of the winding shaft in mm and the curtain weight of the door in kg are required. With the help of these parameters, the correct roller shutter operator can be easily and reliably determined via the tables below. In addition, the assignment can also be realized via the free Marantec Calculation app.

### MDF

#### Maximum curtain weights sectional door operators for springless doors in kg

	STR 133 [kg]	STR 159 [kg]	STR 193 [kg]	STR 219 [kg]	STR 244 [kg]
<b>MDF 05-14-24</b>	137	119	102	91	83
<b>MDF 20-18-24</b>	176	153	131	117	107
<b>MDF 30-40-17</b>	391	340	291	261	237
<b>MDF 30-40-24</b>	391	340	291	261	237
<b>MDF 50-75-16</b>	732	637	546	489	445
<b>MDF 50-75-24 HD</b>	732	637	546	489	445
<b>MDF 60-100-17 HD</b>	977	849	728	652	593
<b>MDF 60-100-24 HD</b>	977	849	728	652	593
<b>MDF 70-125-24 HD</b>	1,221	1,062	910	815	741
<b>MDF 70-140-17 HD</b>	1,367	1,189	1,019	913	830
<b>MDF 70-165-17 HD</b>	1,611	1,402	1,201	1,076	979
<b>MDF 70-165-24 HD</b>	1,611	1,402	1,201	1,076	979

## Technical data

### MDF

	05-14-24	20-18-24	30-40-17	30-40-24	50-75-16	50-75-24 HD
Output torque [Nm]	140	180	400		750	
Output speed [1/min]	24		17	24	16	24
Torque of the safety gear (max.) [Nm]	692	784	2,680		4,030	
Test number of the safety gear	Tor FV 6/092/1	Tor FV 9/147/1	24042140-1		Tor FV 9/099/1	
Output revolutions (max.)**	13	18			36	
Cycles per hour (max.)*	20					30
Shaft support [mm]	30		40		50	
Motor power [kW]	0.55	1.1	1.7		2.2	3
Operating voltage [V]	400 V/3~; 230 V/3~					
Nominal frequency [Hz]	50					
Control voltage [V]	24 V-DC					
Rated current in star connection [A]	1.70	2.70	4.80		6.50	7.00
On-site fuse protection (mains operation 400 V/3~) [A]	16					
Rated current in delta connection [A]	3.00	4.70	8.30		11.30	12.10
On-site fuse protection (mains operation 230 V/3~) [A]	16					
Operation with CS 320 FU (frequency converter 230 V/1~)	0,75 kW	1,5 kW	-			
On-site fuse protection (frequency converter operation 230V/1~) [A]	16					
Operation with CS 320 FU (frequency converter 400 V/3~)	0,75 kW	1,5 kW	2.2 kW		3.0 kW	
On-site fuse protection (FI operation 400V/3~) [A]	16					
Power factor cos phi	0.76	0.78	0.8		0.7	0.8
Protection class	IP54					
Brake type	Gr. 1/2 Nm	Gr. 2/4 Nm		Gr. 2/10 Nm	Gr. 2/4 Nm	Gr. 2/20 Nm
Continuous sound pressure level (max.) [dB(A)]	70					
Temperature (min./max.) [°C]	-20/60					
Weight [kg]	19	23	32		43	

\* One cycle corresponds to two travels (opening and closing) of the gate. The values given refer to 10 revolutions of the output shaft per travel and assume an even distribution.

\*\* Alternative limit switch ratios are available on request.

## Technical data

### MDF

	60-100-17 HD	60-100-24 HD	70-125-24 HD	70-140-17 HD	70-165-17 HD	70-165-24 HD
Output torque [Nm]	1,000		1,250	1,400	1,650	
Output speed [1/min]	17	24		17		24
Torque of the safety gear (max.) [Nm]	3,974		7,738			
Test number of the safety gear	11-003601-PR01		10-000808-PR03			
Output revolutions (max.)**	36					
Cycles per hour (max.)*	30					
Shaft support [mm]	50		55			
Motor power [kW]	3	4			4.4	5.5
Operating voltage [V]	400 V/3~; 230 V/3~					
Nominal frequency [Hz]	50					
Control voltage [V]	24 V-DC					
Rated current in star connection [A]	7.00	10.50			11.30	13.20
On-site fuse protection (mains operation 400 V/3~)[A]	16					
Rated current in delta connection [A]	12.10	18.20			19.60	22.80
On-site fuse protection (mains operation 230 V/3~)[A]	16	20				25
Operation with CS 320 FU (frequency converter 230 V/1~)	-					
On-site fuse protection (frequency converter operation 230V/1~)[A]						
Operation with CS 320 FU (frequency converter 400 V/3~)	3.0 kW	5,5 kW				7,5 kW
On-site fuse protection (FI operation 400V/3~)[A]	16				20	
Power factor cos phi	0.8	0.73			0.78	0.76
Protection class	IP54					
Brake type	Gr. 2/10 Nm	Gr. 2/20 Nm				Gr. 2/40 Nm
Continuous sound pressure level (max.) [dB(A)]	70					
Temperature (min./max.) [°C]	-20/60					
Weight [kg]	72					81

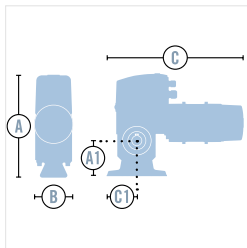
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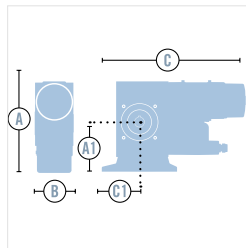
# Technical drawings

## MDF

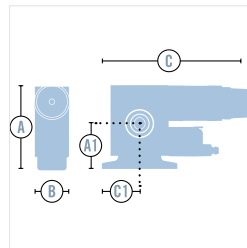
	05-14-24 HD	60-100-9
Dimension A - height KU [mm]	290	405
Dimension A - Height KE [mm]	290	405
Dimension B - width KU [mm]	136	140
Dimension B - width KE [mm]	191	204
Dimension C - length KU [mm]	431	694
Dimension C - length KE [mm]	498	757
Dimension A1 [mm]	100	185
Dimension A1 optional [mm]	120; 145	-
Dimension C1 [mm]	85	200



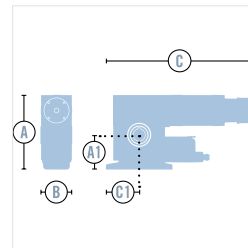
MDF 05



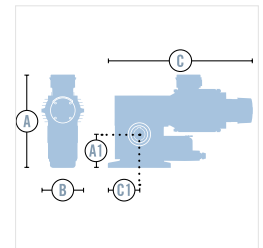
MDF 20



MDF 30

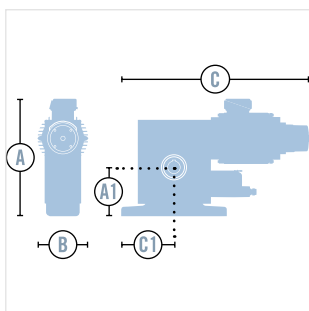


MDF 50

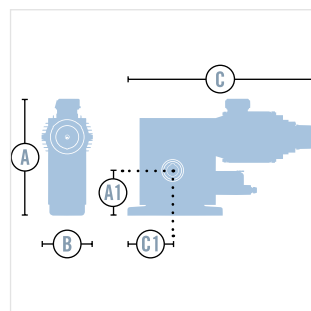


MDF 50 HD

	05-14-24 HD	60-100-9
Dimension A - height KU [mm]	290	405
Dimension A - Height KE [mm]	290	405
Dimension B - width KU [mm]	136	140
Dimension B - width KE [mm]	191	204
Dimension C - length KU [mm]	431	694
Dimension C - length KE [mm]	498	757
Dimension A1 [mm]	100	185
Dimension A1 optional [mm]	120; 145	-
Dimension C1 [mm]	85	200



MDF 60 HD



MDF 70 HD