

# Disconnectors FA range

(0 to 175 Hz) (500 to 8 000Amp)

## Up to 3kV Disconnectors

For more than 100 years, Mersen has been providing the market with safe, reliable and longer life time off-load disconnectors. These devices offer high performances and robustness for heavy duty requirements with very limited maintenance.

Mersen offers one of the largest product ranges on the market and is the global leader. Mersen has a switch solution that will meet your unique needs.

Our standard FA High Power Switches are rigorously engineered to meet your technical specifications.

Operation : They can be operated manually or with an adapted motor (see list) up to 60.000 cycles.

Phase to Phase distance, Signaling, Terminal Box or Locking system can be studied and customized.

Maximum frequency up to 175Hz (above please consult)

Indoor in a currentless state

Ambient air should not exceed +40°C (otherwise please consult)

Altitude should not exceed 1000 m

Relative humidity should not exceed 95%

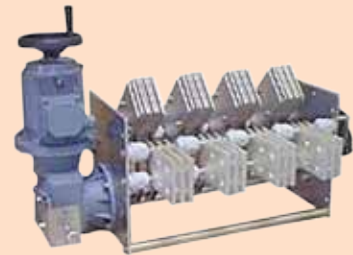
List 1 following IEC 62271-1

### Features Benefits

- No Load operation
- Indoor Type - Non Magnetic and tropicalized equipment which can be installed in vertical or horizontal position
- Change-over or disconnector configuration with 1 to 10 poles
- Mechanical endurance : 60.000 cycles minimum warrantied for a device maintained according to the maintenance recommendations.
- High short-circuit currents withstand
- Electrical contact by connecting plates and movable contacts silvered copper entirely non-magnetic  
Pressure of each rivet ensured by an individual spring in stainless steel.
- Temperature rise at nominal current is less than 70°K (with 40°C max. ambient temperature)
- Visible break by direct seeing of the mobile silver-plated copper contacts.
- Large isolation air and creepage path.
- Easy connections to Copper busbar by bolting and self-supporting (Busbar must be sized to withstand the disconnector additional weight).
- Self-cleaning blade contacts, ideal for polluted environments.
- True opening and visible distance.
- Punctual temperature withstand without equipment damages 140°C.
- Full customisation with :
  - Manual (handle or gear box), motor, pneumatic drives operation
  - Quantity of Auxilary switches, safety blocking magnet, locking devices
  - Dimensions of the disconnector and Fittings/connexions to the busbar.
- Fixing flange in duralinox.

### Applications

- Power conversion with the possible functions to disconnect, or to change-over or to earth the rectifiers or the drives.
- Fix traction sub-stations, isolating steel plants motors, for electrical and for rectifiers
- Isolating of installations needing a high short-circuit currents withstand
- Isolating of installations with polluted environments



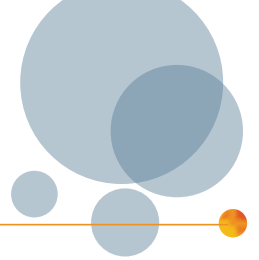
### Standards

IEC 60947-3, IEC 62271-102 and IEC 60694



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## Technical data overview

Size per Standard	Disconnectors FA 500 to 6300 Amp for AC 500 to 8000 Amp for DC
Speed/Characteristic	Around 1 sec with pneumatic operation 3 to 12 seconds with motor operation (depend on the rating)
Number of Poles	up to 10 poles
Working Temperature	-20°C to +40°C

## Product range

### FA

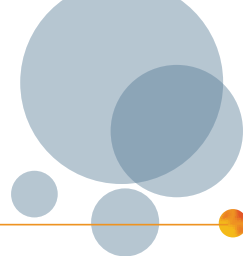
Catalog number	Design	Rated peak current	RMS 1 sec short-time withstand current	Voltage drop
500A AC - 500A DC	1 to 10 poles	75 kA	28 kA	30 mV
1250A AC - 1250A DC	1 to 8 poles	90 kA	35 kA	30 mV
2000A AC - 2000A DC	1 to 6 poles	90 kA	35 kA	30 mV
2500A AC - 2800A DC	1 to 6 poles	150 kA	58 kA	30 mV
3200A AC - 4000A DC	1 to 6 poles	150 kA	58 kA	30 mV
4000A AC - 5000A DC	1 to 4 poles	150 kA	58 kA	30 mV
5000A AC - 6300A DC	1 to 3 poles	150 kA	58 kA	30 mV
6300A AC - 8000A DC	1 to 3 poles	150 kA	58 kA	30 mV

## Technical Data

	FA
Number of poles/phases	Maximum 10 poles
Degree of protection	IP 0
Rated voltage AC	3000 V
Rated impulse withstand voltage BIL Phase to earth and between poles	20 kV
Rated impulse withstand voltage BIL across the insulating distance	20 kV
Dielectric withstand voltage 1min/50Hz Phase to earth and between poles	20 kV
Dielectric withstand voltage 1min/50Hz Across the isolating distance	20 kV
Design	motorized on the right with 2 microswitches
Temperature rise at rated current (°K)	70 ° K
Package	1

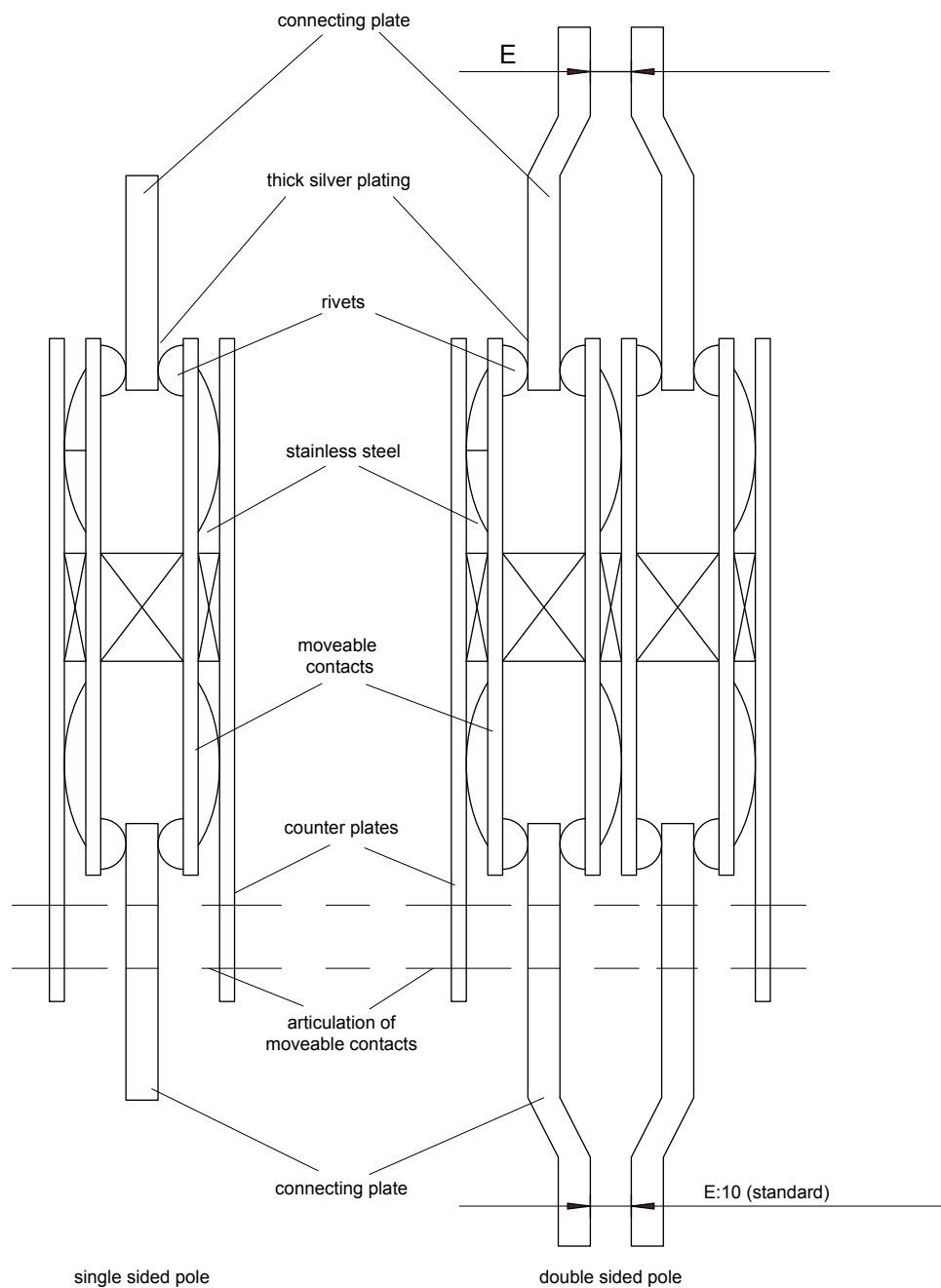
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## Dimensions

### FA : Technology

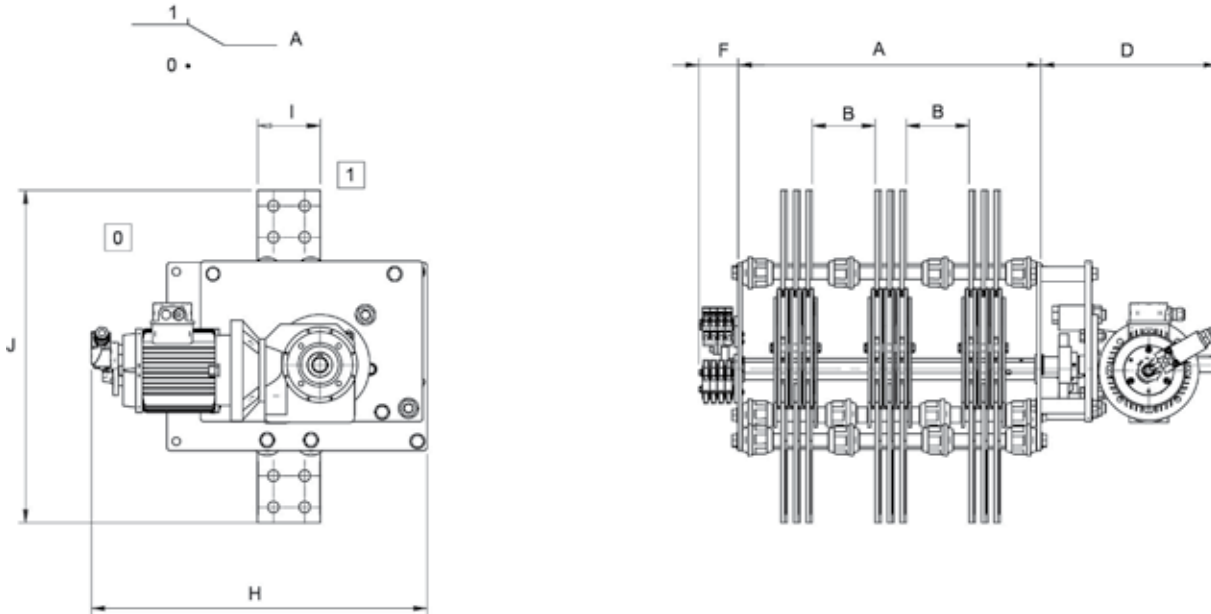


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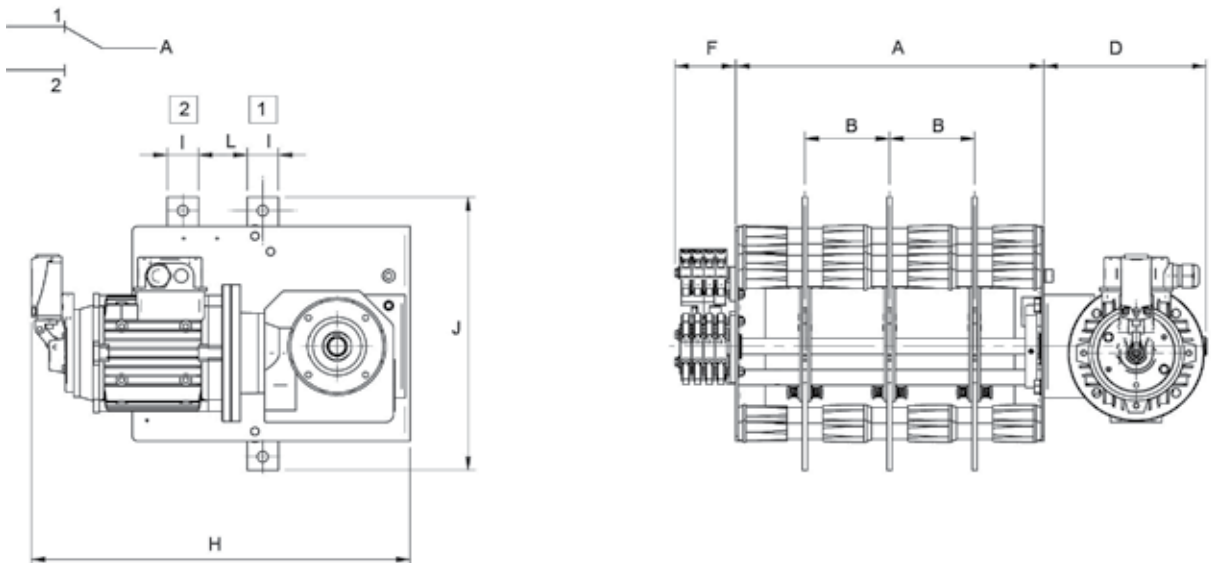
## Dimensions

### FA DISCONNECTOR : 3 POLES - 2 POSITIONS 1-0 (Open - Closed)



Rated current	A	B	D	F	H	I	J
500AC / 500DC	316	82	185	39	285	32	280
1250AC / 1250DC	316	82	185	39	334	80	356
2000AC / 2000DC	379	82	185	39	334	80	356
2500AC / 2800DC	313	75	250	39	410	100	530
3200AC / 4000DC	383	80	250	39	410	100	530
4000AC / 5000DC	483	100	250	39	410	100	530
5000AC / 6300DC	583	120	280	39	410	100	530
6300AC / 8000DC	683	140	280	39	410	100	530

### FA CHANGE-OVER : 2 POLES - 2 POSITIONS 1-2 (Position 1 - Position 2)

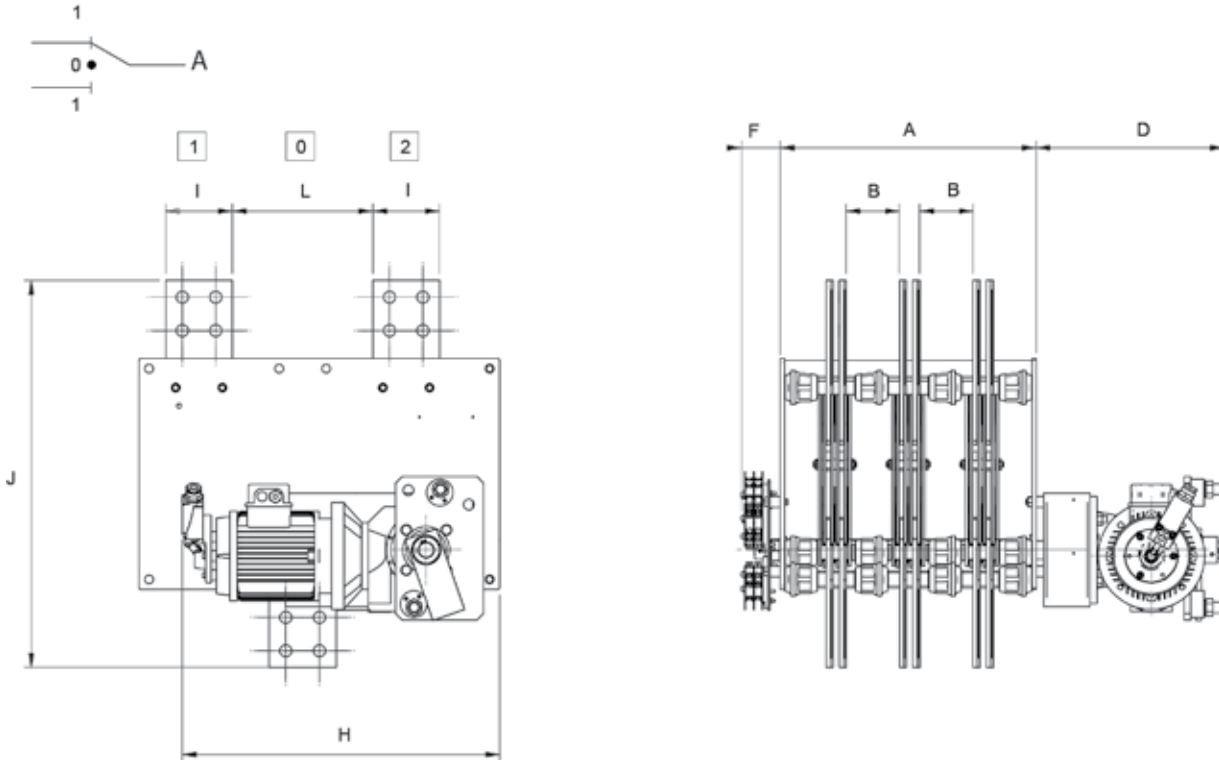


# Disconnectors FA range

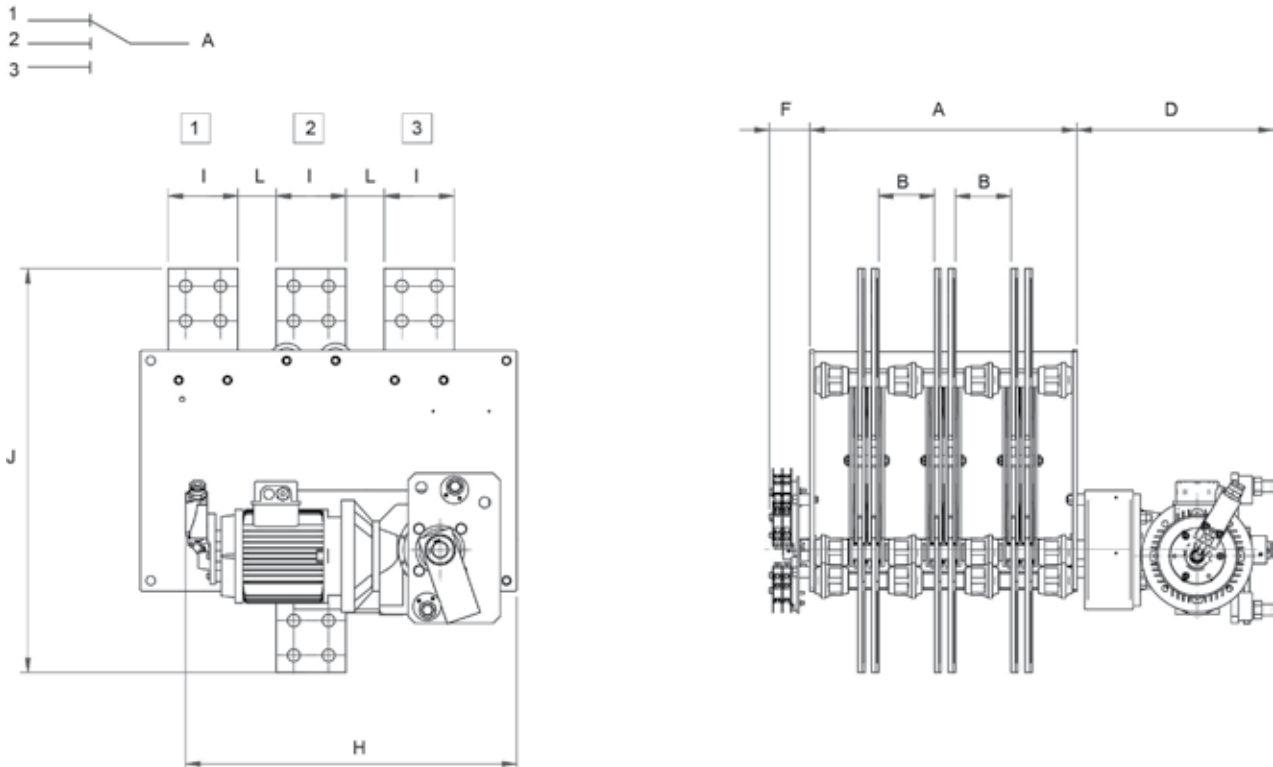
(0 to 175 Hz) (500 to 8 000Amp)

## Dimensions

FA CHANGE-OVER : 3 POLES - 3 POSITIONS 1-0-2 (Position 1 - NEUTRAL - Position 2)

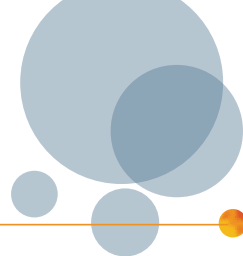


FA CHANGE-OVER : 10 POLES - 3 POSITIONS 1-3-2 (Position 1 - Position 3 - Position 2)



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## Motors

Motor types	Code	Motor voltage rating
AC Mono	Code A 50Hz	230VAC
	Code B 60Hz	220VAC
AC 3 phases	Code C 50Hz	400VAC
	Code D 60Hz	400VAC
DC	Code G	110VDC 220VDC

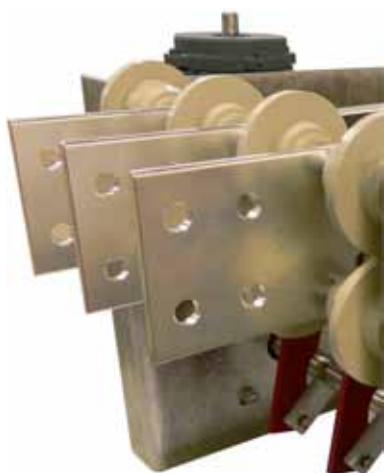
## Functions



### Non-Magnetic and Tropicalized version

All the MF range is Non-magnetic and tropicalized

This range is using stainless steel and a tropicalized version of motor or microswitches and special paints.



### Connection plate adaptation

To adapt the disconnector to the Busbar.



### Customized signaling

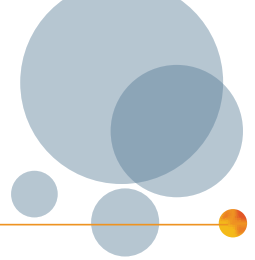
This range can be equipped with micro switches offering 10 Amp under 400VAC (or DC13 110VDC 0,5Amp) and 10 million cycles operation.

These microswitches are used to signal the switch position and also to cut the power of the motor when it arrives at the end of its operation.

The disconnectors can be equipped with 1, 2, 3 microswitches (more under study).

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## Functions



### Manual operation locking

The disconnector in this range have their position secured in Open and Closed (or both) positions using various locking systems for complete security.

- Padlocking (1 padlock diam 6mm)
- Key locking using preferably a Ronis Lock
- Blocking Magnets



### Blocking magnets

Blocking magnets are used to guarantee electromechanically the position of the Disconnector using remote control. This operation can be done for one or both position (open and closed).

Blocking magnet can be used missing Voltage or Voltage can be 24VDC, 48VDC, 110VDC, 230VDC and 230VAC (consumption GE40; TGN15; TGN17 between 20 to 45W)



### Connection box, Connection Terminal

This Disconnector range can be equipped with a wiring connection terminal or connection box.



### Control box

This Disconnector range can be equipped with a control box to operate the disconnector (open and close).

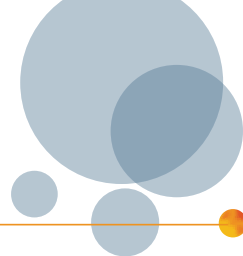


### Mechanical Operation Counter

This Disconnector can be equipped with a mechanical operation counter (one complete cycle (open and close) = 1) to watch maintenance operations

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## Functions



### In a Cubicle

Disconnectors can be protected in made to measure cubicles or under roofs



### Torque Limiting system

Disconnectors can be protected by torque limiting systems to save the mechanism in case of faulty operation. This system is based on a clutch system

## Accessories



W110902

### Indication facilities

Catalog number	Reference number	Length	Weight kg <sup>1)</sup>	Package
MECHANICAL OPERATION COUNTER	W110902	63 mm	0,50	1 piece

### Microswitches

Catalog number	Reference number	Weight kg <sup>1)</sup>	Package
S/E SGN 2 CA SW11	D1030058	0,3	1 piece

### Lubricants

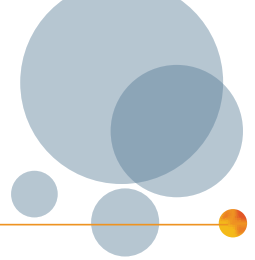
Catalog number	Reference number	Weight kg <sup>1)</sup>	Package
Copper Grease	L108501	1	1 piece

1) weight in kg per piece or set including package

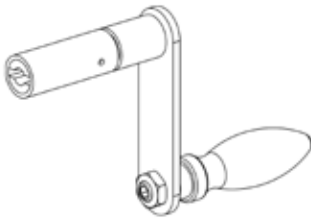


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## Accessories



R817113

### Removable handles for emergency manual operation

Catalog number	Reference number	Length	Weight kg <sup>1)</sup>	Package
ARB FLEX SSB-7 1043	P1013646	1.043 m	0,50	1 piece
LIMITING TORQUE MAN D10 L170	Z819305	0.17 m	0,46	1 piece
S/E MANIVELLE D10.2 170	R817113	0.17 m	0,27	1 piece
S/E MANIVELLE D10.2 170 Tropical	N827782	0.17 m	0,27	1 piece
S/E MANIVELLE D10.2 300	Z817143	0.3 m	0,29	1 piece
S/E MANIVELLE D10.2 480	Q822103	0.48 m	0,33	1 piece
S/E MANIVELLE D10.2 600	E834168	0.6 m	0,60	1 piece
S/E MANIVELLE D10.2 1000	L827688	1 m	0,60	1 piece
S/E SGN CDE SECOURS FLEX 1043	W1013652	1.043 m	0,70	1 piece

### Manual operation handles

Catalog number	Reference number	Description	Length	Weight kg <sup>1)</sup>	Package
S/E EYE LEVER D30/30 L450	H821728	-	450 mm	0,70	1 piece
MANUAL HANDLE MF R300	C913332	UV protected paddlockable red handle	300 mm	3,0	1 piece



H821728



C913332

1) weight in kg per piece or set including package