

STANDARD

UL 2

STANDARD EQUIPMENT

- Voltage 230 V AC
- Terminal board connection
- 2 thrust switches
- 2 position switches
- 2 additional position switches
- Mechanical connection - pillars
- Manual control
- Mechanical position indicator
- Space heater with thermal switch
- Protection code IP 66 / IP 68



Specification table UL 2

Order code

542. X - X X X X X / X X

Climate resistance	Ambient temperature	Corrosivity category ¹⁰⁾	Enclosure	
Standard	-25°C...+55°C	C3	IP 66/68 ¹¹⁾	1
Tropics and Wet	-25°C...+55°C	C4		2
Cold	-50°C...+40°C	C3		3
Tropical dry and Dry	-25°C... +55°C	C3		6
Sea	-50°C...+40°C	C4		7
Arctic	-60°C...+40°C	C3		8

Electric connection	Electric motor supply voltage and frequency		Wiring diagram	
To terminal board	230 V AC	50 Hz	Z404t	0
	220 V AC	50 Hz	Z404t	L
	3x400 V AC	50 Hz	Z78t	1
	3x400 V AC with reversing unit	50 Hz	Z303m	2
	3x380 V AC	50 Hz	Z78t	M
	3x380 V AC with reversing unit	50 Hz	Z303m	N
	24 V AC	50 Hz	Z626f, Z634h	A
	24 V DC	-		
	24 V AC	60 Hz ²⁴⁾		
	110 V AC	60 Hz ²⁴⁾	Z404t	B
	120 V AC	60 Hz ²⁴⁾	Z404t	T

Next page

Order code

542. X - X X X X X / X X

Electric motor 230/220 V AC; 120 V AC			Electric motor 3x400/380 V AC			Operating speed					
Switching-off torque ³¹⁾	Max. zaťaž. sila		Switching-off torque ³¹⁾	Max. load thrust							
	ON - OFF duty ³²⁾	Modulating duty ³³⁾		ON - OFF duty ³²⁾	Modulating duty ³³⁾	50 Hz	60 Hz				
15 - 25 kN	15 kN	10 kN	15 - 25 kN	15 kN	10 kN	14 mm/min	17 mm/min	A			
						25 mm/min	30 mm/min	B			
						40 mm/min	48 mm/min	C			
						60 mm/min	72 mm/min	D			
						80 mm/min	96 mm/min	E			
						100 mm/min	120 mm/min	F			
12 - 20 kN	12 kN	8 kN	15 - 25 kN	15 kN	10 kN	120 mm/min	144 mm/min	G			
9 - 15 kN	9 kN	6 kN									
7 - 12 kN	7 kN	5 kN									
10 - 16 kN	10 kN	6,5 kN				10 - 16 kN	10 kN	6,5 kN	14 mm/min	17 mm/min	H
									25 mm/min	30 mm/min	J
									40 mm/min	48 mm/min	K
			60 mm/min	72 mm/min	L						
			80 mm/min	96 mm/min	M						
			100 mm/min	120 mm/min	N						
-	-	-	10 - 16 kN	10 kN	6,5 kN	120 mm/min	144 mm/min	P			

Control board version	Switches	Operating stroke [mm] ⁴¹⁾		Wiring diagram	
		Without transmitter	With potentiometer		
Mechanická	S1/S2, S3/S4, DUO S5/S6	10 ÷ 80	10; 20; 40; <u>80</u>	Z403b, Z626f	A
		12 ÷ 48	12; 24; 48; <u>96</u>	Z635f, Z634h pre ES s miestnym ovládaním	B
		15 ÷ 60	15; 30; 60; <u>120</u>		C

Transmitter		Connection	Output	Wiring diagram	
Without transmitter		-	-	-	A
Potentiometer	Single	-	1 x 100 Ω	Z5c	B
			1 x 2 000 Ω		F
	Double	-	2 x 100 Ω	Z6c	K
			2 x 2 000 Ω		P
Electronic position transmitter ⁵¹⁾	Passive	2-wire	4 - 20 mA	Z10g	S
		3-wire	0 - 20 mA	Z257j	T
			4 - 20 mA		V
			0 - 5 mA		Y
	Active ⁵⁹⁾	2-wire	0 - 5 mA	Z269r	Q
		3-wire	0 - 20 mA	Z260h	U
			4 - 20 mA		W
			0 - 5 mA		Z
Electronic voltage ⁵¹⁾	Passive	3-wire	0 - 10 V	Z257k	D
	Active ⁵⁹⁾		0 - 10 V	Z260k	R
Current ^{51) 52)} CPT	Passive	2-wire	4 - 20 mA	Z10g	I
	Active ⁵⁹⁾			Z269r	J
Current ^{51) 52)} DCPT 3M	Passive	2-wire	4 - 20 mA	Z10g	2
	Active ⁵⁹⁾			Z269r	3

Next page

Order code

542. X - X X X X X / X X

Mechanical connection		Operating stroke	Connecting height [mm]	Thread of stem ⁶²⁾	Dimensional drawing		
Direct / flange ISO 5210	F07	40 mm	50 / -	M16x1.5-25	P-2146/A	A	
	F10	60 mm	55 / -	M20x1.5-25	P-2146/B	B	
Flange		80 mm	110 / Ø 65 H12	M20x1,5-34	P-2059/A	D	
			112 / Ø 80 H12		P-2059/B	E	
			110 / Ø 85 H12		P-2059/C	3	
			110 / Ø 65 H12		P-2059/D	C	
Flange + 4-pillars		100 mm	110 / Ø 65 H12		P-2145/A	F	
			112 / 4x Ø13		P-2145/B	G	
Pillars			92 / -		M16x1,5-34	P-2147/A	J
			30 / -		M14x2-34	P-2147/B	K
			74 / -		UN 7/8” -9	P-2147/C	L
			126 / -		P-2147/D	M	
Flange + 4-pillars			92 / 2x Ø20.5		P-2144/A	N	
			30 / 2x Ø20.5		P-2144/B	P	
			74 / 2x Ø20.5		P-2144/C	Q	
			126 / 2x Ø20.5		P-2144/D	R	
Custom design						X	

Additional equipment		Wiring diagrams		
	No additional equipment; Set on maximum switching-off thrust. Operating stroke adjusted to max within the range	-		
A	Adjustment of operating stroke for required value	-	0	1
B	Adjustment of switch-off thrust to required value	-	0	3
G	Electric local controls (only till - 60 °C)	Z635f, Z634h	1	5
H	Gold coated contacts of microswitches DB41, details after consultation with the manufacturer		4	0

Allowed combination and code of version: A+B=04; A+G=17; A+H=41; B+G=16; B+H=42; A+B+G=19; A+B+H=44; A+G+H=47; B+G+H=48;

Notes:

10) Climate resistance according to ISO 9223/ EN ISO 12944-2.

11) IP 68-10 m/96 hours

24) At a frequency of 60 Hz, the specified torques must be reduced by a factor of 0.8.

31) Required switch-off thrust must be stated in the order. If not specified it is adjusted to the maximum thrust of the chosen range

32) By this torque is possible to load the actuator under duly cycle S2-10 min, or S4-25 %, 6-90 cycles per hour.

33) By this torque is possible to load the actuator under duly cycle S4-25 %, 90- 1 200 cycles per hour.

41) Position switches S3, S4 are being set to specified operating stroke. If it is no stated in the order, they will be set to maximum value.

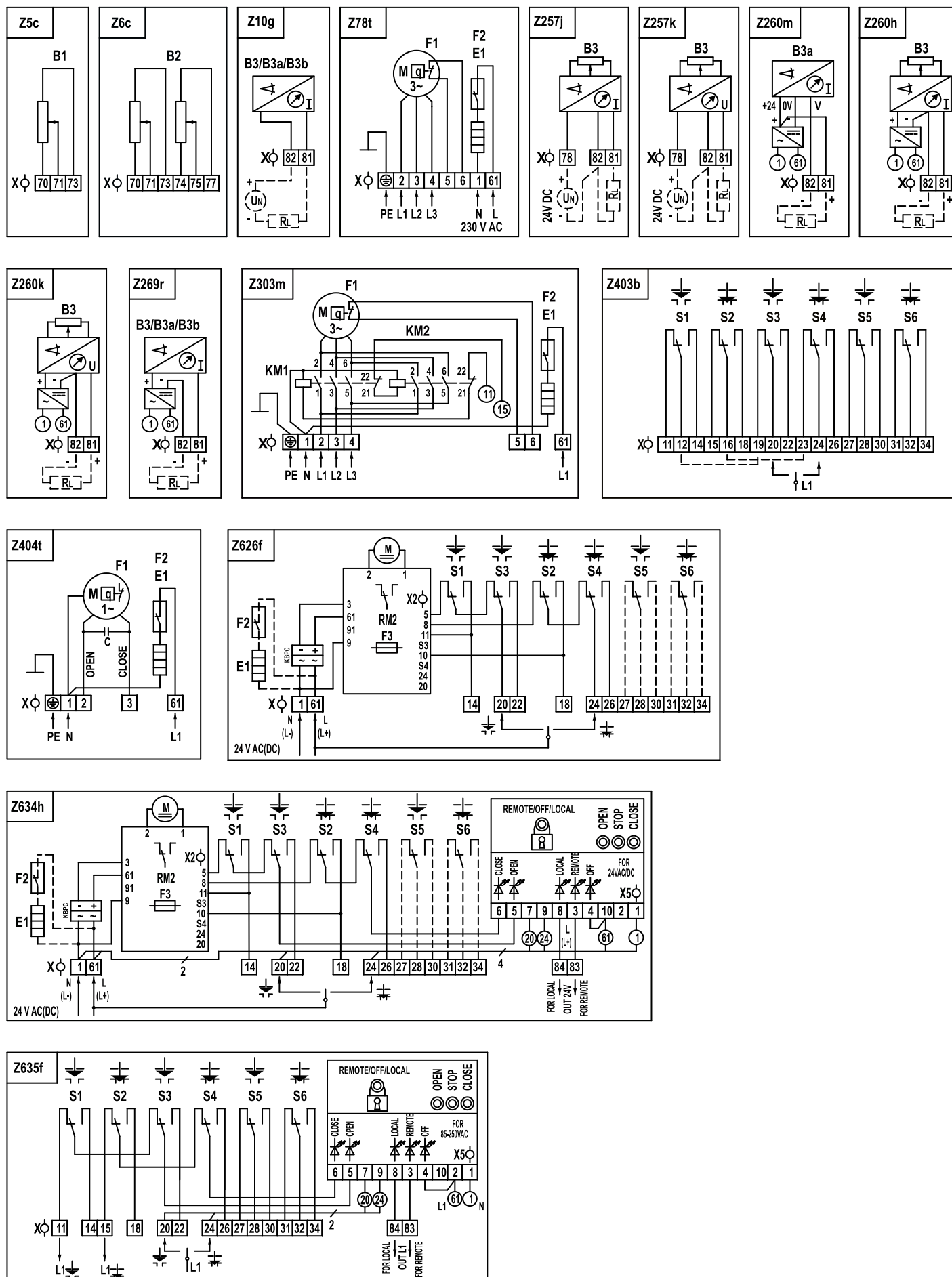
51) Not valid for temperatures of -60°C.

52) CPT - capacitive transmitter, DCPT 3M - electronic contactless transmitter.

62) Thread in the coupling must be specified in the order by words.

Wiring diagrams

Terminal board connection



Electric connection:

to terminal board with 32 terminals, wire cross section max. 2,5 mm². Actuators without local control can be equipped with a maximum of 3 glands, actuators with local control with a maximum of 2 glands.

Notes:

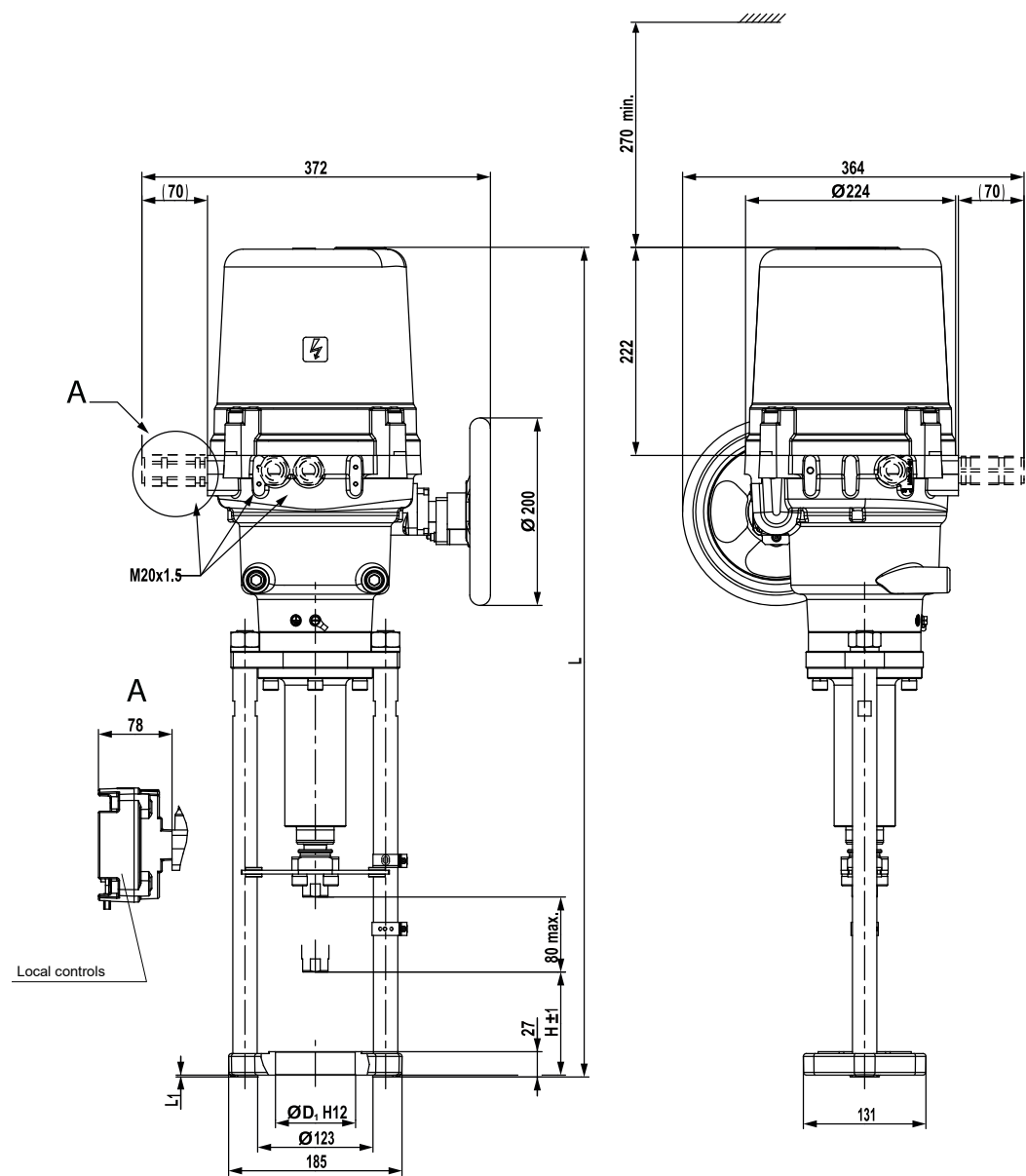
1. Thermal protection of single-phase electric motors (Z404) is standardly built into the electric motor on the neutral cable. electric motors (Z404) is standardly built into the electric motor on the neutral cable. In case of 3-phase electric motor version with thermal protection, it is leaded to the terminals 5 and 6 (Z78t).
2. Torque switching is not fitted with mechanical interlocking device

Legend:

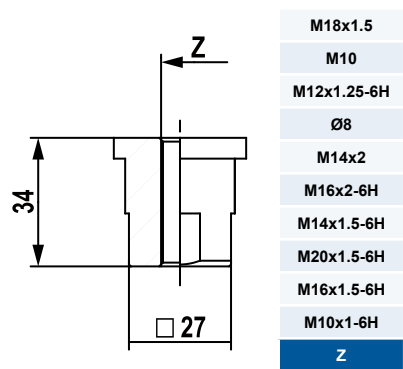
Z5c.....	connection of single potentiometer
Z6c.....	connection of double potentiometer
Z10g.....	connection of CPT or electronic position transmitter - 2 - wire, passive
Z78t.....	connection of 3-phase electric motor, heating resistor and thermal protection output
Z257j.....	connection of electronic position transmitter - 3 - wire, passive
Z257k.....	connection of electronic position transmitter - 3 - wire, passive
Z260k.....	connection of electronic position transmitter - 3 - wire, active
Z260h.....	connection of electronic position transmitter - 3 - wire, active
Z260m.....	position transmitter CPT, 3-wire, activ
Z269r.....	connection of CPT or electronic position transmitter - 2 wire - active
Z303m.....	connection of 3 -phase electric motor with reverse contactor
Z403b.....	connection of torque and position switches
Z404t.....	connection of 1-phase electric moto
Z626f.....	connection of reverse board, torque switches, position switches and additional position switches
Z634h.....	connection of reverse board, torque switches, position switches, additional position switches and local control unit
Z635f.....	connection of torque switches, position switches, additional position switches and local control unit

Legend:

B1.....	single potentiometer
B2.....	double potentiometer
B3.....	CPT or electronic position transmitter
B3a.....	capacitive current transmitter (CPT)
B3b.....	DCPT current transmitter
E1.....	space heater
F1.....	motor's thermal protection
F2.....	space heater's thermal switch
I / U.....	output signals current / voltage
KM1, KM2.....	reversing contactors
M.....	electric motor
R _L	loading resistor
S1.....	power switch „open“
S2.....	power switch „closed“
S3.....	position switch „open“
S4.....	position switch „closed“
S5.....	additional position switch „open“
S6.....	additional position switch „closed“
X.....	terminal board
X2.....	reversing board terminal block
X5.....	local control terminal block
RM2.....	reversing board 24 V
F3.....	reversing board fuse
U _N	supply voltage of the transmitter source
OPEN/STOP/CLOSE.....	local control buttons
REMOTE/OFF/LOCAL.....	local control selection button

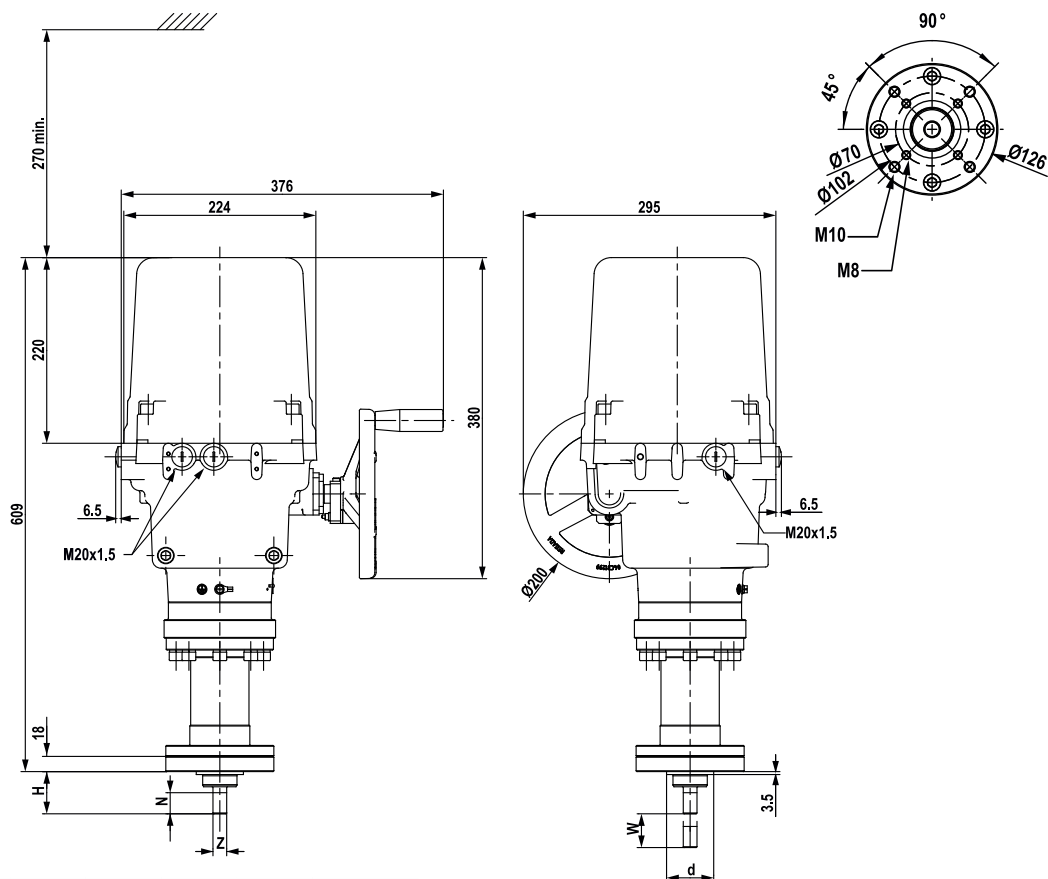


Coupling dimensions



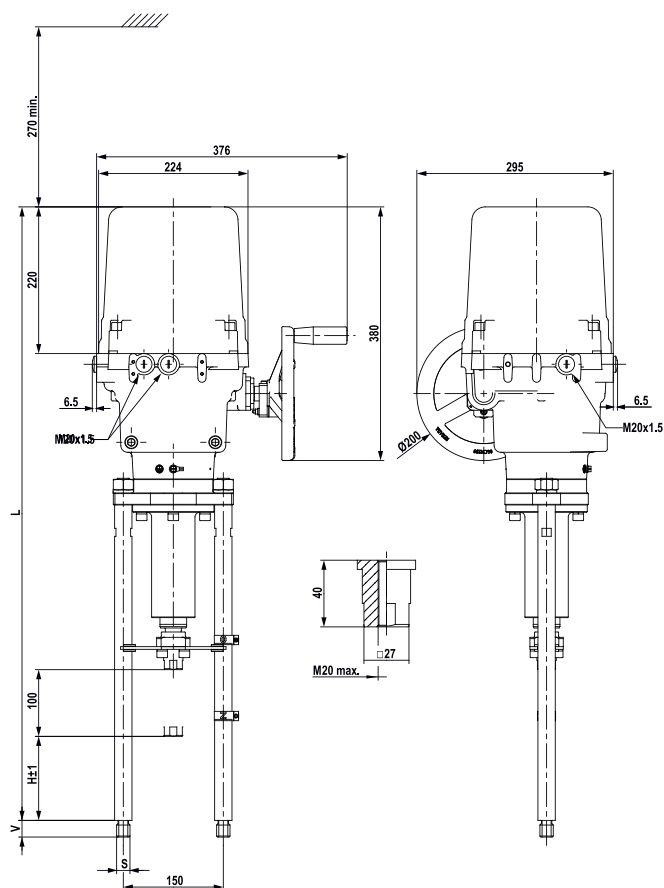
P-2059/D	65	80	856	3
P-2059/C	85	110	885	2
P-2059/B	80	112	887	2
P-2059/A	65	110	886	3
Version	D ₁	H	L	L ₁

Dimensional drawing UL 2



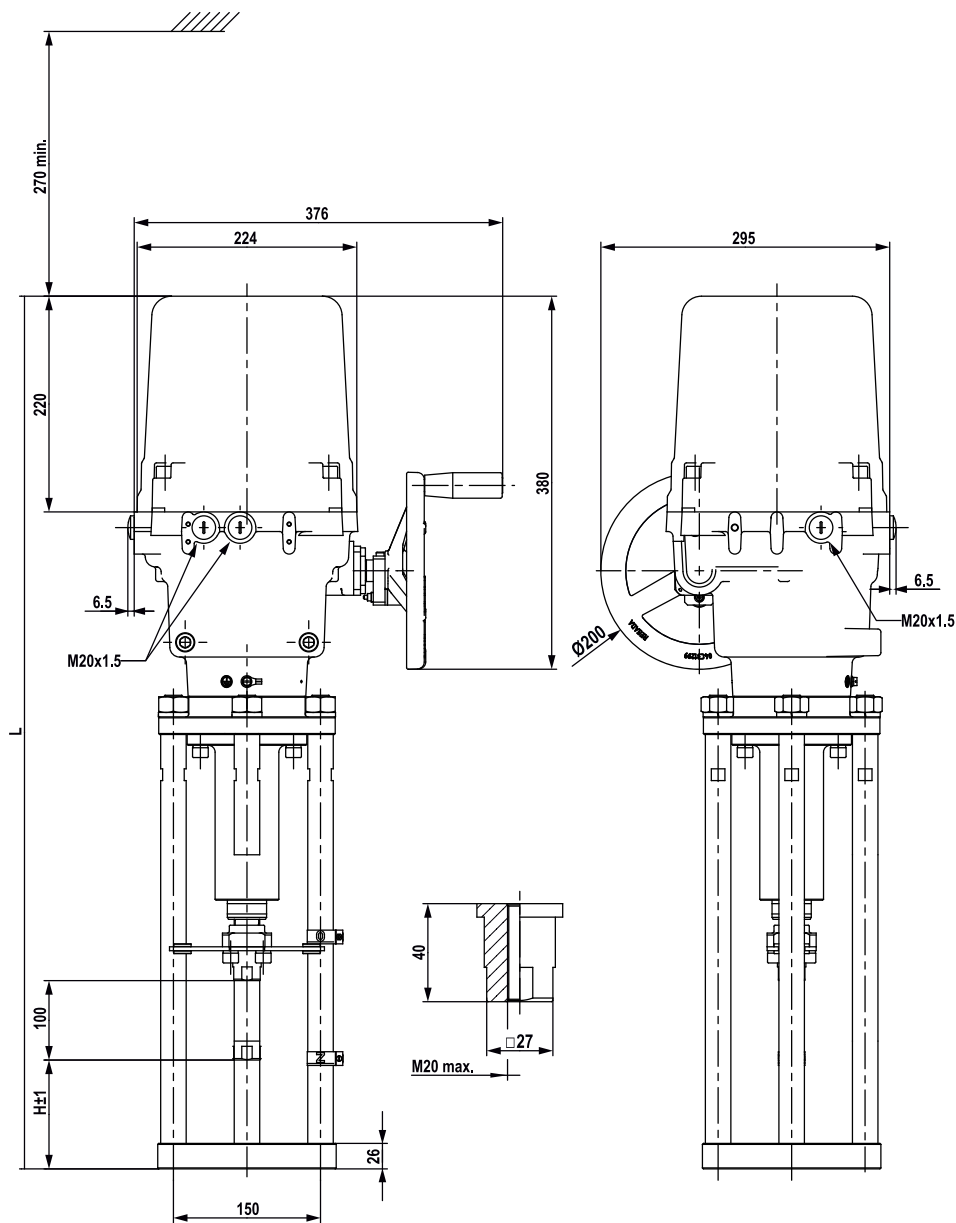
P-2146/B	F10	Ø102	Ø70	55	30	60	M20x1.5
P-2146/A	F07	Ø70	Ø55	50	25	40	M16x1.5
Version	Flange	d	H	N	W	Z	

P-2146



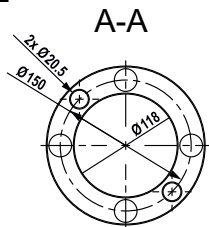
P-2147/D	126	920	M20	25
P-2147/C	74	868	M20	25
P-2147/B	30	824	M20	25
P-2147/A	92	886	M16	40
Version	H	L	S	V

P-2147



P-2144 / P-2145

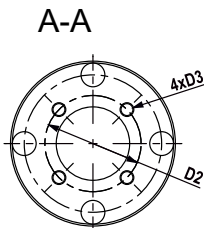
FLANGE



P-2144/D	126	924	26
P-2144/C	74	872	26
P-2144/B	30	828	26
P-2144/A	92	890	26
Version	H	L	M

P-2144

FLANGE



P-2145/B	112	909	Ø80	Ø105	Ø13	27
P-2145/A	110	907	Ø65 H12	-	-	27
Version	H	L	D1	D2	D3	M

P-2145