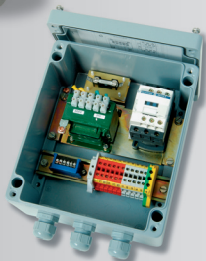


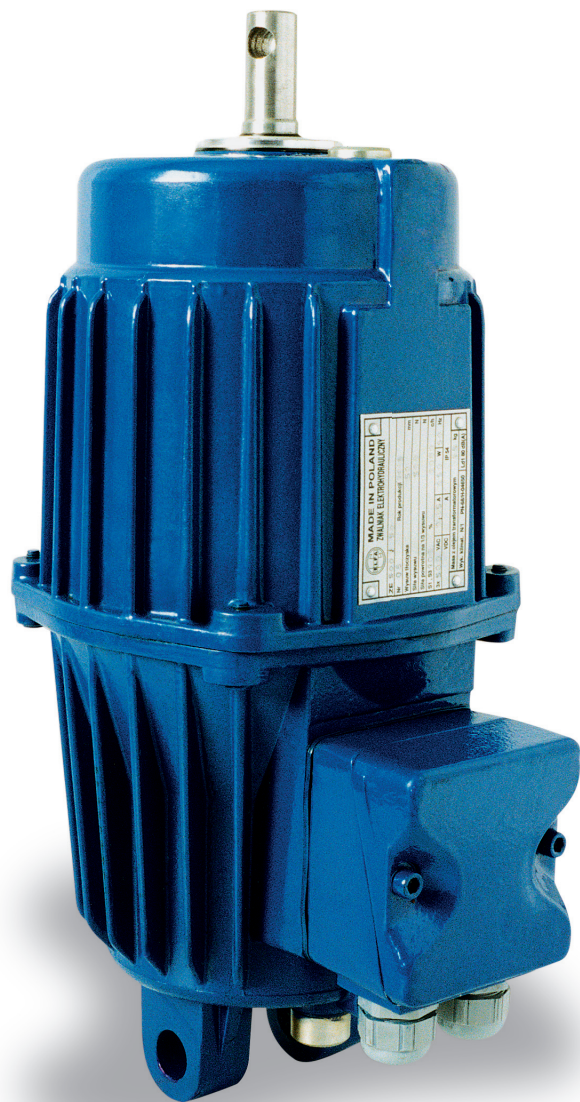
Cantoni[®]

GROUP



Electrohydraulic release

Electrohydraulic Release type ZE



Application

Operation of the release consists in advance of the piston rod with appropriate force and to specific stroke. The release finds application mainly in brakes for releasing (opening) shoe and also disk brakes. With built-in spring, it not only releases the brake but also generates braking torque. The release can be used for all applications requiring to-and-fro movement, e.g. to actuate gates and valves, to open and close flaps and doors, to raise and lower barriers and also to move levers and pull-rods.

Version

Normal (standard) N/1 – for utilization in open air in temperate climate.

Protection rating IP 65.

Ambient temperature:

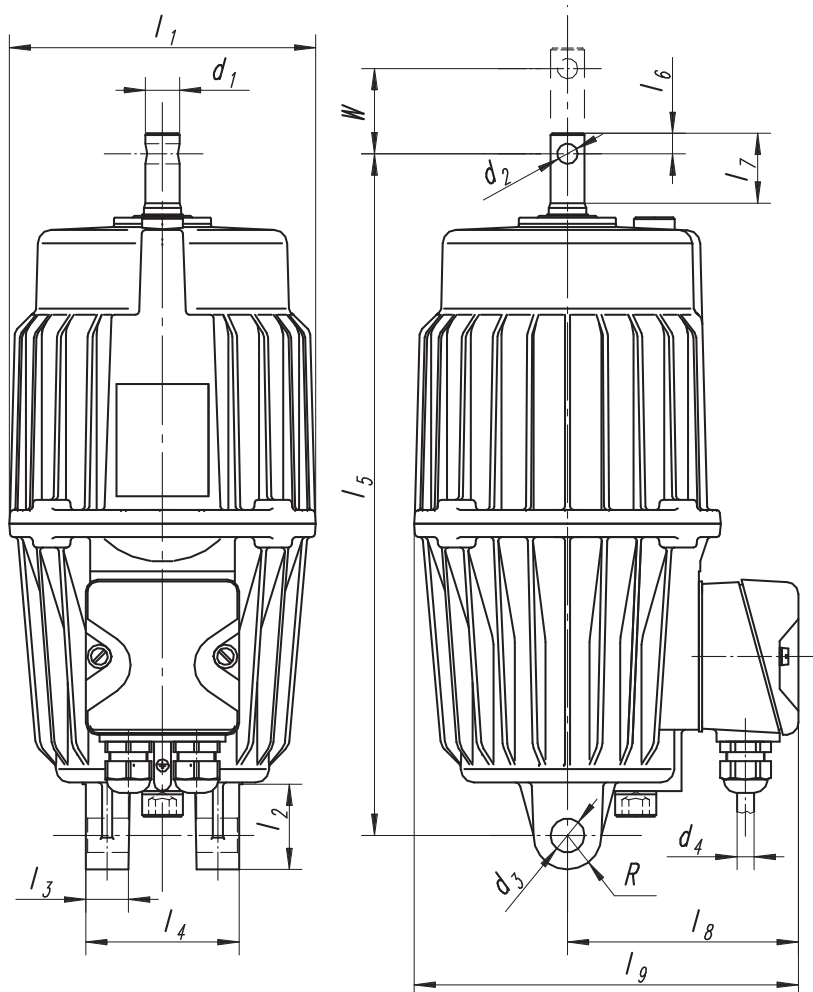
-25 °C to +40 °C (electro-insulating transformer oil)

-40 °C to +50 °C (silicone oil – DOW CORNING Fluid 200 10 cSt).

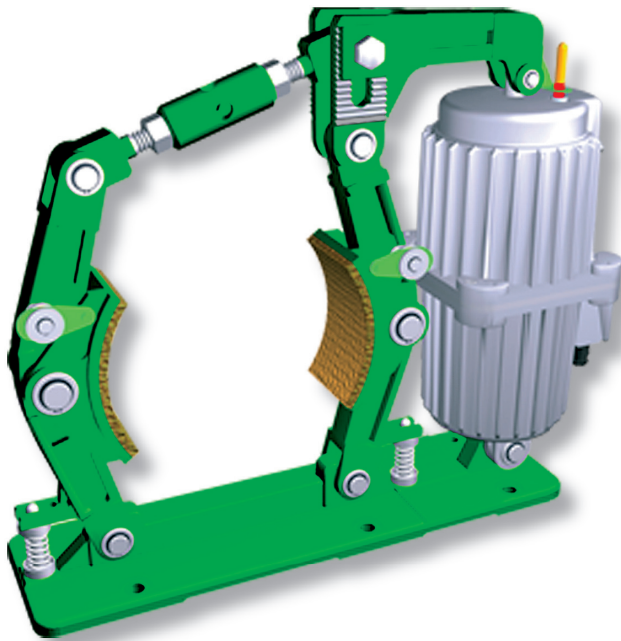
Overall dimensions

| Dimensions [mm] | ZE 500 / 50 | ZE 800 / 60 ZE 1250 / 60 ZE 1500 / 60 | ZE 800 / 75 ZE 1250 / 75 ZE 1500 / 75 | ZE 800 / 120 ZE 1250 / 120 ZE 1500 / 120 | ZE 800 / 160 ZE 1250 / 160 ZE 1500 / 160 | ZE 2000 / 80 | ZE 2000 / 120 | ZE 2500 / 60 | ZE 2500 / 120 | ZE 2500 / 160 | ZE 3200 / 60 | ZE 3200 / 80 | ZE 3200 / 100 | ZE 3200 / 120 |
|-----------------|-------------|---|---|--|--|--------------|---------------|--------------|---------------|---------------|--------------|--------------|---------------|---------------|
| l_1 | 180 | 210 | | | | | | 254 | | | | | | |
| l_2 | 50 | 55 | | | | | | | | | | | | |
| l_3 | 25 | | | | | | | | | | | | | |
| $l_4 \pm 0,3$ | 90 | | | | | | | | | | | | | |
| l_5 | 400 | 458 | 485 | 530 | 573 | 530 | 573 | 549 | 620 | 660 | 620 | | 660 | |
| l_6 | 12 | 16 | | | | | | 20 | | | | | | |
| l_7 | 41 | 48,5 | | | | | | 58 | | | | | | |
| l_8 | 135 | 143 | | | | | | 152 | | | | | | |
| l_9 | 225 | 248 | | | | | | 279 | | | | | | |
| d_1 e8 | 20 | 26 | | | | | | 34 | | | | | | |
| d_2 F9 | 12 | 16 | | | | | | 20 | | | | | | |
| d_3 D11 | 20 | | | | | | | | | | | | | |
| d_4 | 9÷14 | | | | | | | | | | | | | |
| R | 20 | 25 | | | | | | | | | | | | |
| W | 50 | 60 | 75 | 120 | 160 | 80 | 120 | 60 | 120 | 160 | 60 | 80 | 100 | 120 |

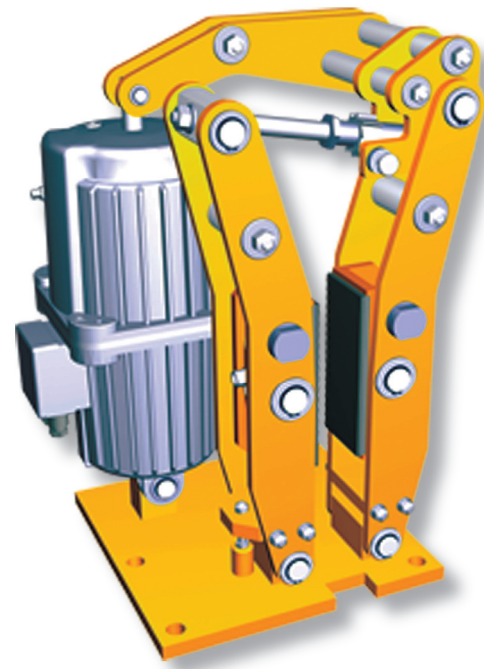
Overall dimensions



Application examples



Shoe brakes type AHH
produced by Fena Katowice
(with release type ZE)



Disk brakes type ATZ
produced by Fena Katowice
(with release type ZE)

Technical data of ZE 500/50

| Type | Size | Version | | Version with spring | Rated force of piston rod advance ** | Piston rod stroke | Denotation | Kind of work | Return force of piston rod to 1/3 stroke ± 10 % | Motor | | | Electromagnet | | Weight without oil (basic version) | Weight of oil |
|------|--------------------|-------------|--------|---------------------|--------------------------------------|-------------------|------------|---------------------------|---|-----------------|----------------------------|-------------|----------------|-------------------|------------------------------------|---------------|
| | | Name | Symbol | | | | | | | Supply voltage* | Current intensity at 50 Hz | Rated power | Supply voltage | Current intensity | | |
| | | | | | Fz [N] | W [mm] | | | Fs [N] | U [V] | I [A] | P [W] | Ue [V DC] | Ie [A] | m [kg] | mo [kg] |
| ZE | 500 | basic | — | — | 500 | 50 | ZE 500/50 | S1 S3 do 100% 2000 c/h | — | 3x230 | 1,2 | 250 | — | — | 11 | 3 |
| | | | | S 180 | | | 180 | | | | | | | | | |
| | | | | S 320 | | | 320 | | | | | | | | | |
| | | | | S 500 | | | 500 | | | | | | | | | |
| | | with switch | W | — | | | ZEW 500/50 | | — | | | | | | | |
| | | | | S 180 | | | 180 | | | | | | | | | |
| | | | | S 320 | | | 320 | | | | | | | | | |
| | | | | S 500 | | | 500 | | | | | | | | | |
| | with electromagnet | M | — | ZEM 500/50 | — | 3x500 | 0,52 | — | — | 38 | 0,4 | | | | | |
| | | | S 180 | 180 | | | | | | | | | | | | |
| | | | S 320 | 320 | | | | | | | | | | | | |
| | | | S 500 | 500 | | | | | | | | | | | | |

* - possibility of other voltage variations
** - for release with built-in return spring required advance force is taken as 10% of rated force

Technical data of ZE 800/60, ZE 1250/60, ZE 1500/60

| Type | Size | Version | | Version with spring | Rated force of piston rod advance ** | Piston rod stroke | Denotation | Kind of work | Return force of piston rod to 1/3 stroke ± 10 % | Motor | | | Electromagnet | | Weight without oil (basic version) | Weight of oil | | | | | | | | | | | | |
|--------------------|--------------------|--------------------|-------------------|---------------------|--------------------------------------|-------------------|------------------|---------------------------|---|------------------|----------------------------|-------------|----------------|-------------------|------------------------------------|---------------|---|------------------|---------------------------|-----|-----|-------|-----|-----|---|---|----|---|
| | | Name | Symbol | | | | | | | Supply voltage* | Current intensity at 50 Hz | Rated power | Supply voltage | Current intensity | | | | | | | | | | | | | | |
| | | | | | Fz [N] | W [mm] | | | Fs [N] | U [V] | I [A] | P [W] | Ue [V DC] | Ie [A] | m [kg] | mo [kg] | | | | | | | | | | | | |
| ZE | 800 | basic | — | — | 800 | 60 | ZE 800/60 | S1 S3 do 100% 2000 c/h | — | 450 | 3x230 | 2,1 | 450 | — | — | 18 | 4 | | | | | | | | | | | |
| | | | | S 450 | | | ZE 800/60 S 450 | | 450 | | | | | | | | | | | | | | | | | | | |
| | | | | S 800 | | | ZE 800/60 S 800 | | 800 | | | | | | | | | | | | | | | | | | | |
| | | with switch | W | — | | | ZEW 800/60 | | — | | | | | | | | | | | | | | | | | | | |
| | | | | S 450 | | | ZEW 800/60 S 450 | | 450 | | | | | | | | | | | | | | | | | | | |
| | | | | S 800 | | | ZEW 800/60 S 800 | | 800 | | | | | | | | | | | | | | | | | | | |
| | | with electromagnet | M | — | | | ZEM 800/60 | — | | | | | | | | | | | | | | | | | | | | |
| | | | | S 450 | | | ZEM 800/60 S 450 | 450 | | | | | | | | | | | | | | | | | | | | |
| | | | | S 800 | | | ZEM 800/60 S 800 | 800 | | | | | | | | | | | | | | | | | | | | |
| | | 1250 | basic | — | | | — | 1250 | 60 | | | | | | | | | ZE 1250/60 | S1 S3 do 100% 2000 c/h | — | 450 | 3x230 | 2,1 | 450 | — | — | 18 | 4 |
| | | | | | | | S 450 | | | | | | | | | | | ZE 1250/60 S 450 | | 450 | | | | | | | | |
| | | | | | | | S 800 | | | | | | | | | | | ZE 1250/60 S 800 | | 800 | | | | | | | | |
| | with switch | | W | — | ZEW 1250/60 | — | | | | | | | | | | | | | | | | | | | | | | |
| | | | | S 450 | ZEW 1250/60 S 450 | 450 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | S 800 | ZEW 1250/60 S 800 | 800 | | | | | | | | | | | | | | | | | | | | | | |
| | with electromagnet | | M | — | ZEM 1250/60 | — | | | | | | | | | | | | | | | | | | | | | | |
| | | | | S 450 | ZEM 1250/60 S 450 | 450 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | S 800 | ZEM 1250/60 S 800 | 800 | | | | | | | | | | | | | | | | | | | | | | |
| | 1500 | | basic | — | — | 1500 | 60 | | | ZE 1500/60 | S1 S3 do 100% 2000 c/h | — | 450 | 3x230 | 2,1 | 450 | — | — | 18 | 4 | | | | | | | | |
| | | | | | S 450 | | | | | ZE 1500/60 S 450 | | 450 | | | | | | | | | | | | | | | | |
| | | | | | S 800 | | | | | ZE 1500/60 S 800 | | 800 | | | | | | | | | | | | | | | | |
| | | S 1250 | | | ZE 1500/60 S 1250 | | | 1250 | | | | | | | | | | | | | | | | | | | | |
| | | with switch | | | W | | | — | ZEW 1500/60 | --- | | | | | | | | | | | | | | | | | | |
| | | | | | | | | S 450 | ZEW 1500/60 S 450 | 450 | | | | | | | | | | | | | | | | | | |
| S 800 | | | ZEW 1500/60 S 800 | 800 | | | | | | | | | | | | | | | | | | | | | | | | |
| with electromagnet | | M | — | ZEM 1500/60 | — | | | | | | | | | | | | | | | | | | | | | | | |
| | | | S 450 | ZEM 1500/60 S 450 | 450 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | S 800 | ZEM 1500/60 S 800 | 800 | | | | | | | | | | | | | | | | | | | | | | | |

* - possibility of other voltage variations

** - for release with built-in return spring required advance force is taken as 10% of rated force

Technical data of ZE 800/75, ZE 1250/75, ZE 1500/75

| Type | Size | Version | | Version with spring | Rated force of piston rod advance ** | Piston rod stroke | Denotation | Kind of work | Return force of piston rod to 1/3 stroke ± 10 % | Motor | | | Electromagnet | | Weight without oil (basic version) | Weight of oil | | | | | | | | | | | |
|--------------------|--------------------|--------------------|--------|---------------------|--------------------------------------|-------------------|------------------|---------------------------|---|---------------------------|----------------------------|-------------------------|-------------------|-------------------|------------------------------------|---------------|----|------------------|---------------------------|-----|-------------------------|-------------------|-----|---|---|----|---|
| | | Name | Symbol | | | | | | | Supply voltage* | Current intensity at 50 Hz | Rated power | Supply voltage | Current intensity | | | | | | | | | | | | | |
| | | | | | Fz [N] | W [mm] | | | Fs [N] | U [V] | I [A] | P [W] | Ue [V DC] | Ie [A] | m [kg] | mo [kg] | | | | | | | | | | | |
| ZE | 800 | basic | — | — | 800 | 75 | ZE 800/75 | S1 S3 do 100% 2000 c/h | — | 3x230 3x400 3x500 | 2,1 1,2 0,9 | 450 | — | — | 20 | 6 | | | | | | | | | | | |
| | | | | S 450 | | | ZE 800/75 S 450 | | 450 | | | | | | | | | | | | | | | | | | |
| | | | | S 800 | | | ZE 800/75 S 800 | | 800 | | | | | | | | | | | | | | | | | | |
| | | with switch | W | — | | | ZEW 800/75 | | — | | | | | | | | | | | | | | | | | | |
| | | | | S 450 | | | ZEW 800/75 S 450 | | 450 | | | | | | | | | | | | | | | | | | |
| | | | | S 800 | | | ZEW 800/75 S 800 | | 800 | | | | | | | | | | | | | | | | | | |
| | | with electromagnet | M | — | | | ZEM 800/75 | | v | | | | | | | | | | | | | | | | | | |
| | | | | S 450 | | | ZEM 800/75 S 450 | | 450 | | | | | | | | | | | | | | | | | | |
| | | | | S 800 | | | ZEM 800/75 S 800 | | 800 | | | | | | | | | | | | | | | | | | |
| | | 1250 | basic | — | | | — | | 1250 | | | | | | | | 75 | ZE 1250/75 | S1 S3 do 100% 2000 c/h | — | 3x230 3x400 3x500 | 2,1 1,2 0,9 | 450 | — | — | 20 | 6 |
| | | | | | | | S 450 | | | | | | | | | | | ZE 1250/75 S 450 | | 450 | | | | | | | |
| | | | | | | | S 800 | | | | | | | | | | | ZE 1250/75 S 800 | | 800 | | | | | | | |
| | with switch | | W | — | ZEW 1250/75 | — | | | | | | | | | | | | | | | | | | | | | |
| | | | | S 450 | ZEW 1250/75 S 450 | 450 | | | | | | | | | | | | | | | | | | | | | |
| | | | | S 800 | ZEW 1250/75 S 800 | 800 | | | | | | | | | | | | | | | | | | | | | |
| | with electromagnet | | M | — | ZEM 1250/75 | — | | | | | | | | | | | | | | | | | | | | | |
| | | | | S 450 | ZEM 1250/75 S 450 | 450 | | | | | | | | | | | | | | | | | | | | | |
| | | | | S 800 | ZEM 1250/75 S 800 | 800 | | | | | | | | | | | | | | | | | | | | | |
| | 1500 | | basic | — | — | 1500 | 75 | ZE 1500/75 | | S1 S3 do 100% 2000 c/h | — | 3x230 3x400 3x500 | 2,1 1,2 0,9 | 450 | — | — | | 20 | | 6 | | | | | | | |
| | | | | | S 450 | | | ZE 1500/75 S 450 | | | 450 | | | | | | | | | | | | | | | | |
| | | | | | S 800 | | | ZE 1500/75 S 800 | | | 800 | | | | | | | | | | | | | | | | |
| | | with switch | W | — | ZEW 1500/75 | | | — | | | | | | | | | | | | | | | | | | | |
| | | | | S 450 | ZEW 1500/75 S 450 | | | 450 | | | | | | | | | | | | | | | | | | | |
| | | | | S 800 | ZEW 1500/75 S 800 | | | 800 | | | | | | | | | | | | | | | | | | | |
| with electromagnet | | M | — | ZEM 1500/75 | — | | | | | | | | | | | | | | | | | | | | | | |
| | | | S 450 | ZEM 1500/75 S 450 | 450 | | | | | | | | | | | | | | | | | | | | | | |
| | | | S 800 | ZEM 1500/75 S 800 | 800 | | | | | | | | | | | | | | | | | | | | | | |

* - possibility of other voltage variations

** - for release with built-in return spring required advance force is taken as 10% of rated force

Technical data of ZE 800/120, ZE 1250/120, ZE 1500/120

| Type | Size | Version | | Version with spring | Rated force of piston rod advance ** | Piston rod stroke | Denotation | Kind of work | Return force of piston rod to 1/3 stroke ± 10 % | Motor | | | Electromagnet | | Weight without oil (basic version) | Weight of oil | |
|------|--------------------|--------------------|--------------------|---------------------|--------------------------------------|---------------------|--------------------|----------------------|---|-----------------|----------------------------|-------------|----------------|-------------------|------------------------------------|---------------|---|
| | | Name | Symbol | | | | | | | Supply voltage* | Current intensity at 50 Hz | Rated power | Supply voltage | Current intensity | | | |
| | | | | | Fz [N] | W [mm] | | | Fs [N] | U [V] | I [A] | P [W] | Ue [V DC] | Ie [A] | m [kg] | mo [kg] | |
| ZE | 800 | basic | — | — | 800 | 120 | ZE 800/120 | S1 | — | 3x230 | 2,1 | 450 | 38 | 0,4 | 20 | 6 | |
| | | | | S 450 | | | ZE 800/120 S 450 | | 450 | | | | | | | | |
| | | with switch | W | — | | | ZEW 800/120 | | S3 do 100% 2000 c/h | | | | | | | | — |
| | | | | S 450 | | | ZEW 800/120 S 450 | 450 | | | | | | | | | |
| | | with electromagnet | M | — | | | ZEM 800/120 | S1 S3 40% 600 c/h | | | | | | | | | — |
| | | | | S 450 | | | ZEM 800/120 S 450 | | 450 | | | | | | | | |
| | 1250 | basic | — | — | 1250 | | ZE 1250/120 | | S1 | — | 3x400 | 1,2 | 450 | 38 | 0,4 | 20 | 6 |
| | | | | S 450 | | | ZE 1250/120 S 450 | 450 | | | | | | | | | |
| | | S 800 | ZE 1250/120 S 800 | 800 | | | | | | | | | | | | | |
| | | with switch | W | — | | | ZEW 1250/120 | S3 do 100% 2000 c/h | — | | | | | | | | |
| | | | | S 450 | | | ZEW 1250/120 S 450 | | 450 | | | | | | | | |
| | | S 800 | ZEW 1250/120 S 800 | 800 | | | | | | | | | | | | | |
| | with electromagnet | M | — | ZEM 1250/120 | S1 S3 40% 600 c/h | — | | | | | | | | | | | |
| | | | S 450 | ZEM 1250/120 S 450 | | 450 | | | | | | | | | | | |
| | | | S 800 | ZEM 1250/120 S 800 | | 800 | | | | | | | | | | | |
| | | | 1500 | basic | — | — | 1500 | ZE 1500/120 | S1 | — | 3x500 | 0,9 | 450 | — | — | 20 | 6 |
| | | | | | | S 450 | | ZE 1500/120 S 450 | | 450 | | | | | | | |
| | | | | S 800 | ZE 1500/120 S 800 | 800 | | | | | | | | | | | |
| | with switch | W | | — | ZEW 1500/120 | S3 do 100% 2000 c/h | | — | | | | | | | | | |
| | | | | S 450 | ZEW 1500/120 S 450 | | | 450 | | | | | | | | | |
| | S 800 | ZEW 1500/120 S 800 | | 800 | | | | | | | | | | | | | |
| | with electromagnet | M | — | ZEM 1500/120 | S1 S3 40% 600 c/h | — | | | | | | | | | | | |
| | | | S 450 | ZEM 1500/120 S 450 | | 450 | | | | | | | | | | | |
| | | | S 800 | ZEM 1500/120 S 800 | | 800 | | | | | | | | | | | |

* - possibility of other voltage variations

** - for release with built-in return spring required advance force is taken as 10% of rated force

Technical data of ZE 800/160, ZE 1250/160, ZE 1500/160

| Type | Size | Version | | Version with spring | Rated force of piston rod advance ** | Piston rod stroke | Denotation | Kind of work | Return force of piston rod to 1/3 stroke ± 10 % | Motor | | | Electromagnet | | Weight without oil (basic version) | Weight of oil |
|--------------------|------|--------------------|--------|---------------------|--------------------------------------|-------------------|--------------------|---------------------------|---|-------------------------|----------------------------|-------------|----------------|-------------------|------------------------------------|---------------|
| | | Name | Symbol | | | | | | | Supply voltage* | Current intensity at 50 Hz | Rated power | Supply voltage | Current intensity | | |
| | | | | | Fz [N] | W [mm] | | | Fs [N] | U [V] | I [A] | P [W] | Ue [V DC] | Ie [A] | m [kg] | mo [kg] |
| ZE | 800 | basic | — | — | 800 | 120 | ZE 800/160 | S1 S3 do 100% 2000 c/h | — | 3x230 3x400 3x500 | 2,1 1,2 0,9 | 450 | — | — | 21 | 7 |
| | | | | S 450 | | | ZE 800/160 S 450 | | 450 | | | | | | | |
| | | | | S 800 | | | ZE 800/160 S 800 | | 800 | | | | | | | |
| | | with switch | W | — | | | ZEW 800/160 | — | | | | | | | | |
| | | | | S 450 | | | ZEW 800/160 S 450 | 450 | | | | | | | | |
| | | | | S 800 | | | ZEW 800/160 S 800 | 800 | | | | | | | | |
| | | with electromagnet | M | — | | | ZEM 800/160 | — | | | | | | | | |
| | | | | S 450 | | | ZEM 800/160 S 450 | 450 | | | | | | | | |
| | | | | S 800 | | | ZEM 800/160 S 800 | 800 | | | | | | | | |
| | 1250 | basic | — | — | 1250 | 120 | ZE 1250/160 | S1 S3 do 100% 2000 c/h | — | 3x230 3x400 3x500 | 2,1 1,2 0,9 | 450 | — | — | 21 | 7 |
| | | | | S 450 | | | ZE 1250/160 S 450 | | 450 | | | | | | | |
| | | | | S 800 | | | ZE 1250/160 S 800 | | 800 | | | | | | | |
| | | with switch | W | — | | | ZEW 1250/160 | — | | | | | | | | |
| | | | | S 450 | | | ZEW 1250/160 S 450 | 450 | | | | | | | | |
| | | | | S 800 | | | ZEW 1250/160 S 800 | 800 | | | | | | | | |
| | | with electromagnet | M | — | | | ZEM 1250/160 | — | | | | | | | | |
| | | | | S 450 | | | ZEM 1250/160 S 450 | 450 | | | | | | | | |
| | | | | S 800 | | | ZEM 1250/160 S 800 | 800 | | | | | | | | |
| | 1500 | basic | — | — | 1500 | 120 | ZE 1500/160 | S1 S3 do 100% 2000 c/h | — | 3x230 3x400 3x500 | 2,1 1,2 0,9 | 450 | — | — | 21 | 7 |
| | | | | S 450 | | | ZE 1500/160 S 450 | | 450 | | | | | | | |
| | | | | S 800 | | | ZE 1500/160 S 800 | | 800 | | | | | | | |
| | | with switch | W | — | | | ZEW 1500/160 | — | | | | | | | | |
| | | | | S 450 | | | ZEW 1500/160 S 450 | 450 | | | | | | | | |
| | | | | S 800 | | | ZEW 1500/160 S 800 | 800 | | | | | | | | |
| with electromagnet | | M | — | ZEM 1500/160 | | | — | | | | | | | | | |
| | | | S 450 | ZEM 1500/160 S 450 | | | 450 | | | | | | | | | |
| | | | S 800 | ZEM 1500/160 S 800 | | | 800 | | | | | | | | | |

* - possibility of other voltage variations

** - for release with built-in return spring required advance force is taken as 10% of rated force

Technical data of ZE 2000/80, ZE 2000/120

| Type | Size | Version | | Version with spring | Rated force of piston rod advance ** | Piston rod stroke | Denotation | Kind of work | Return force of piston rod to 1/3 stroke ± 10 % | Motor | | | Electromagnet | | Weight without oil (basic version) | Weight of oil | | | | | | | | | | | |
|------|--------------------|--------------------|--------|---------------------|--------------------------------------|-------------------|-------------|---------------------------|---|-------------------------|----------------------------|-------------|----------------|-------------------|------------------------------------|---------------|-----|-------------|---------------------------|---|-------------------------|-------------------|-----|---|---|----|---|
| | | Name | Symbol | | | | | | | Supply voltage* | Current intensity at 50 Hz | Rated power | Supply voltage | Current intensity | | | | | | | | | | | | | |
| | | | | | Fz [N] | W [mm] | | | Fs [N] | U [V] | I [A] | P [W] | Ue [V DC] | Ie [A] | m [kg] | mo [kg] | | | | | | | | | | | |
| ZE | 2000 | basic | — | — | 2000 | 80 | ZE 2000/80 | S1 S3 do 100% 2000 c/h | — | 3x230 3x400 3x500 | 2,1 1,2 0,9 | 450 | — | — | 21 | 5 | | | | | | | | | | | |
| | | | | S 800 | | | 800 | | | | | | | | | | | | | | | | | | | | |
| | | | | S 1250 | | | 1250 | | | | | | | | | | | | | | | | | | | | |
| | | with switch | W | — | | | ZEW 2000/80 | | — | | | | | | | | | | | | | | | | | | |
| | | | | S 800 | | | 800 | | | | | | | | | | | | | | | | | | | | |
| | | | | S 1250 | | | 1250 | | | | | | | | | | | | | | | | | | | | |
| | | with electromagnet | M | — | | | ZEM 2000/80 | | — | | | | | | | | | | | | | | | | | | |
| | | | | S 800 | | | 800 | | | | | | | | | | | | | | | | | | | | |
| | | | | S 1250 | | | 1250 | | | | | | | | | | | | | | | | | | | | |
| | | 2000 | basic | — | | | — | | 2000 | | | | | | | | 120 | ZE 2000/120 | S1 S3 do 100% 2000 c/h | — | 3x230 3x400 3x500 | 2,1 1,2 0,9 | 450 | — | — | 22 | 6 |
| | | | | | | | S 800 | | | | | | | | | | | 800 | | | | | | | | | |
| | | | | | | | S 1250 | | | | | | | | | | | 1250 | | | | | | | | | |
| | with switch | | W | — | ZEW 2000/120 | — | | | | | | | | | | | | | | | | | | | | | |
| | | | | S 800 | 800 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | S 1250 | 1250 | | | | | | | | | | | | | | | | | | | | | | |
| | with electromagnet | | M | — | ZEM 2000/120 | — | | | | | | | | | | | | | | | | | | | | | |
| | | | | S 800 | 800 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | S 1250 | 1250 | | | | | | | | | | | | | | | | | | | | | | |

* - possibility of other voltage variations

** - for release with built-in return spring required advance force is taken as 10% of rated force

Technical data of ZE 2500/60, ZE 2500/120, ZE 2500/160

| Type | Size | Version | | Version with spring | Rated force of piston rod advance ** | Piston rod stroke | Denotation | Kind of work | Return force of piston rod to 1/3 stroke ± 10 % | Motor | | | Electromagnet | | Weight without oil (basic version) | Weight of oil |
|------|--------------------|--------------------|--------|---------------------|--------------------------------------|---------------------|---------------------------|---------------------------|---|-------------------------|----------------------------|-------------|----------------|-------------------|------------------------------------|---------------|
| | | Name | Symbol | | | | | | | Supply voltage* | Current intensity at 50 Hz | Rated power | Supply voltage | Current intensity | | |
| | | | | | Fz [N] | W [mm] | | | Fs [N] | U [V] | I [A] | P [W] | Ue [V DC] | Ie [A] | m [kg] | mo [kg] |
| ZE | 2500 | basic | — | — | 2500 | 60 | ZE 2500/60 | S1 S3 do 100% 2000 c/h | — | 3x230 3x400 3x500 | 2,35 1,45 1,05 | 550 | — | — | 28 | 8 |
| | | | | S 700 | | | ZE 2500/60 S 700 | | 700 | | | | | | | |
| | | | | S 1300 | | | ZE 2500/60 S 1300 | | 1300 | | | | | | | |
| | | | | S 2000 | | | ZE 2500/60 S 2000 | | 2000 | | | | | | | |
| | | with switch | W | — | | | ZEW 2500/60 | | — | | | | | | | |
| | | | | S 700 | | | ZEW 2500/60 S 700 | | 700 | | | | | | | |
| | | | | S 1300 | | | ZEW 2500/60 S 1300 | | 1300 | | | | | | | |
| | | | | S 2000 | | | ZEW 2500/60 S 2000 | | 2000 | | | | | | | |
| | | with electromagnet | M | — | | | ZEM 2500/60 | | — | | | | | | | |
| | | | | S 700 | | | ZEM 2500/60 S 700 | | 700 | | | | | | | |
| | | | | S 1300 | | | ZEM 2500/60 S 1300 | | 1300 | | | | | | | |
| | | | | S 2000 | | | ZEM 2500/60 S 2000 | | 2000 | | | | | | | |
| | 2500 | basic | — | — | 2500 | 120 | ZE 2500/120 | S1 S3 do 100% 2000 c/h | — | 3x230 3x400 3x500 | 2,35 1,45 1,05 | 550 | — | — | 30 | 10 |
| | | | | S 700 | | | ZE 2500/120 S 700 | | 700 | | | | | | | |
| | | | | S 1300 | | | ZE 2500/120 S 1300 | | 1300 | | | | | | | |
| | | | | S 2000 | | | ZE 2500/120 S 2000 | | 2000 | | | | | | | |
| | | with switch | W | — | | | ZEW 2500/120 | | — | | | | | | | |
| | | | | S 700 | | | ZEW 2500/120 S 700 | | 700 | | | | | | | |
| | | | | S 1300 | | | ZEW 2500/120 S 1300 | | 1300 | | | | | | | |
| | | | | S 2000 | | | ZEW 2500/120 S 2000 | | 2000 | | | | | | | |
| | | with electromagnet | M | — | | | ZEM 2500/120 | | — | | | | | | | |
| | | | | S 700 | | | ZEM 2500/120 S 700 | | 700 | | | | | | | |
| | | | | S 1300 | | | ZEM 2500/120 S 1300 | | 1300 | | | | | | | |
| | | | | S 2000 | | | ZEM 2500/120 S 2000 | | 2000 | | | | | | | |
| 2500 | basic | — | — | 2500 | 160 | ZE 2500/160 | S1 S3 do 100% 2000 c/h | — | 3x230 3x400 3x500 | 2,35 1,45 1,05 | 550 | — | — | 32 | 11 | |
| | | | S 700 | | | ZE 2500/160 S 700 | | 700 | | | | | | | | |
| | | | S 1300 | | | ZE 2500/160 S 1300 | | 1300 | | | | | | | | |
| | | | S 2000 | | | ZE 2500/160 S 2000 | | 2000 | | | | | | | | |
| | with switch | W | — | | | ZEW 2500/160 | | — | | | | | | | | |
| | | | S 700 | | | ZEW 2500/160 S 700 | | 700 | | | | | | | | |
| | | | S 1300 | | | ZEW 2500/160 S 1300 | | 1300 | | | | | | | | |
| | | | S 2000 | | | ZEW 2500/160 S 2000 | | 2000 | | | | | | | | |
| | with electromagnet | M | — | | | ZEM 2500/160 | | — | | | | | | | | |
| | | | S 700 | | | ZEM 2500/160 S 700 | | 700 | | | | | | | | |
| | | | S 1300 | | | ZEM 2500/160 S 1300 | | 1300 | | | | | | | | |
| | | | S 2000 | | | ZEM 2500/160 S 2000 | | 2000 | | | | | | | | |

* - possibility of other voltage variations

** - for release with built-in return spring required advance force is taken as 10% of rated force

Technical data of ZE 3200/60, ZE 3200/80

| Type | Size | Version | | Version with spring | Rated force of piston rod advance ** | Piston rod stroke | Denotation | Kind of work | Return force of piston rod to 1/3 stroke ± 10 % | Motor | | | Electromagnet | | Weight without oil (basic version) | Weight of oil | | |
|--------------------|------|-------------|--------|---------------------|--------------------------------------|-------------------|-------------------------|---------------------------|---|-------------------------|----------------------------|-------------|----------------|-------------------|------------------------------------|---------------|----|---|
| | | Name | Symbol | | | | | | | Supply voltage* | Current intensity at 50 Hz | Rated power | Supply voltage | Current intensity | | | | |
| | | | | | Fz [N] | W [mm] | | | Fs [N] | U [V] | I [A] | P [W] | Ue [V DC] | Ie [A] | m [kg] | mo [kg] | | |
| ZE | 3200 | basic | — | — | 3200 | 60 | ZE 3200/60 | S1 S3 do 100% 2000 c/h | — | 3x230 3x400 3x500 | 2,35 | 550 | — | — | 31 | 9 | | |
| | | | | S 1300 | | | 1300 | | | | | | | | | | | |
| | | | | S 2000 | | | 2000 | | | | | | | | | | | |
| | | | | S 2500 | | | 2500 | | | | | | | | | | | |
| | | | | — | | | — | | | | | | | | | | | |
| | | | | S 1300 | | | 1300 | | | | | | | | | | | |
| | | | | S 2000 | | | 2000 | | | | | | | | | | | |
| | | | | S 2500 | | | 2500 | | | | | | | | | | | |
| | | | | — | | | — | | | | | | | | | | | |
| | | | | S 1300 | | | 1300 | | | | | | | | | | | |
| | | | | S 2000 | | | 2000 | | | | | | | | | | | |
| | | | | S 2500 | | | 2500 | | | | | | | | | | | |
| | | with switch | W | — | | 60 | ZEW 3200/60 | S1 S3 do 100% 2000 c/h | — | 3x230 3x400 3x500 | 2,35 | 550 | — | — | — | — | 31 | 9 |
| | | | | S 1300 | | | 1300 | | | | | | | | | | | |
| | | | | S 2000 | | | 2000 | | | | | | | | | | | |
| | | | | S 2500 | | | 2500 | | | | | | | | | | | |
| | | | | — | | | — | | | | | | | | | | | |
| | | | | S 1300 | | | 1300 | | | | | | | | | | | |
| | | | | S 2000 | | | 2000 | | | | | | | | | | | |
| | | | | S 2500 | | | 2500 | | | | | | | | | | | |
| | | | | — | | | — | | | | | | | | | | | |
| | | | | S 1300 | | | 1300 | | | | | | | | | | | |
| | | | | S 2000 | | | 2000 | | | | | | | | | | | |
| | | | | S 2500 | | | 2500 | | | | | | | | | | | |
| with electromagnet | M | — | 60 | ZEM 3200/60 | S1 S3 40% 600 c/h | — | 3x230 3x400 3x500 | 2,35 | 550 | 38 | 0,8 | — | — | 31 | 9 | | | |
| | | S 1300 | | 1300 | | | | | | | | | | | | | | |
| | | S 2000 | | 2000 | | | | | | | | | | | | | | |
| | | S 2500 | | 2500 | | | | | | | | | | | | | | |
| | | — | | — | | | | | | | | | | | | | | |
| | | S 1300 | | 1300 | | | | | | | | | | | | | | |
| | | S 2000 | | 2000 | | | | | | | | | | | | | | |
| | | S 2500 | | 2500 | | | | | | | | | | | | | | |
| | | — | | — | | | | | | | | | | | | | | |
| | | S 1300 | | 1300 | | | | | | | | | | | | | | |
| | | S 2000 | | 2000 | | | | | | | | | | | | | | |
| | | S 2500 | | 2500 | | | | | | | | | | | | | | |
| basic | — | — | 80 | ZE 3200/80 | S1 S3 do 100% 2000 c/h | — | 3x230 3x400 3x500 | 1,45 | 550 | — | — | — | — | 31 | 9 | | | |
| | | S 1300 | | 1300 | | | | | | | | | | | | | | |
| | | S 2000 | | 2000 | | | | | | | | | | | | | | |
| | | S 2500 | | 2500 | | | | | | | | | | | | | | |
| | | — | | — | | | | | | | | | | | | | | |
| | | S 1300 | | 1300 | | | | | | | | | | | | | | |
| | | S 2000 | | 2000 | | | | | | | | | | | | | | |
| | | S 2500 | | 2500 | | | | | | | | | | | | | | |
| | | — | | — | | | | | | | | | | | | | | |
| | | S 1300 | | 1300 | | | | | | | | | | | | | | |
| | | S 2000 | | 2000 | | | | | | | | | | | | | | |
| | | S 2500 | | 2500 | | | | | | | | | | | | | | |
| with switch | W | — | 80 | ZEW 3200/80 | S1 S3 do 100% 2000 c/h | — | 3x230 3x400 3x500 | 1,45 | 550 | — | — | — | — | 31 | 9 | | | |
| | | S 1300 | | 1300 | | | | | | | | | | | | | | |
| | | S 2000 | | 2000 | | | | | | | | | | | | | | |
| | | S 2500 | | 2500 | | | | | | | | | | | | | | |
| | | — | | — | | | | | | | | | | | | | | |
| | | S 1300 | | 1300 | | | | | | | | | | | | | | |
| | | S 2000 | | 2000 | | | | | | | | | | | | | | |
| | | S 2500 | | 2500 | | | | | | | | | | | | | | |
| | | — | | — | | | | | | | | | | | | | | |
| | | S 1300 | | 1300 | | | | | | | | | | | | | | |
| | | S 2000 | | 2000 | | | | | | | | | | | | | | |
| | | S 2500 | | 2500 | | | | | | | | | | | | | | |
| with electromagnet | M | — | 80 | ZEM 3200/80 | S1 S3 40% 600 c/h | — | 3x230 3x400 3x500 | 1,45 | 550 | 38 | 0,8 | — | — | 31 | 9 | | | |
| | | S 1300 | | 1300 | | | | | | | | | | | | | | |
| | | S 2000 | | 2000 | | | | | | | | | | | | | | |
| | | S 2500 | | 2500 | | | | | | | | | | | | | | |
| | | — | | — | | | | | | | | | | | | | | |
| | | S 1300 | | 1300 | | | | | | | | | | | | | | |
| | | S 2000 | | 2000 | | | | | | | | | | | | | | |
| | | S 2500 | | 2500 | | | | | | | | | | | | | | |
| | | — | | — | | | | | | | | | | | | | | |
| | | S 1300 | | 1300 | | | | | | | | | | | | | | |
| | | S 2000 | | 2000 | | | | | | | | | | | | | | |
| | | S 2500 | | 2500 | | | | | | | | | | | | | | |

* - possibility of other voltage variations

** - for release with built-in return spring required advance force is taken as 10% of rated force

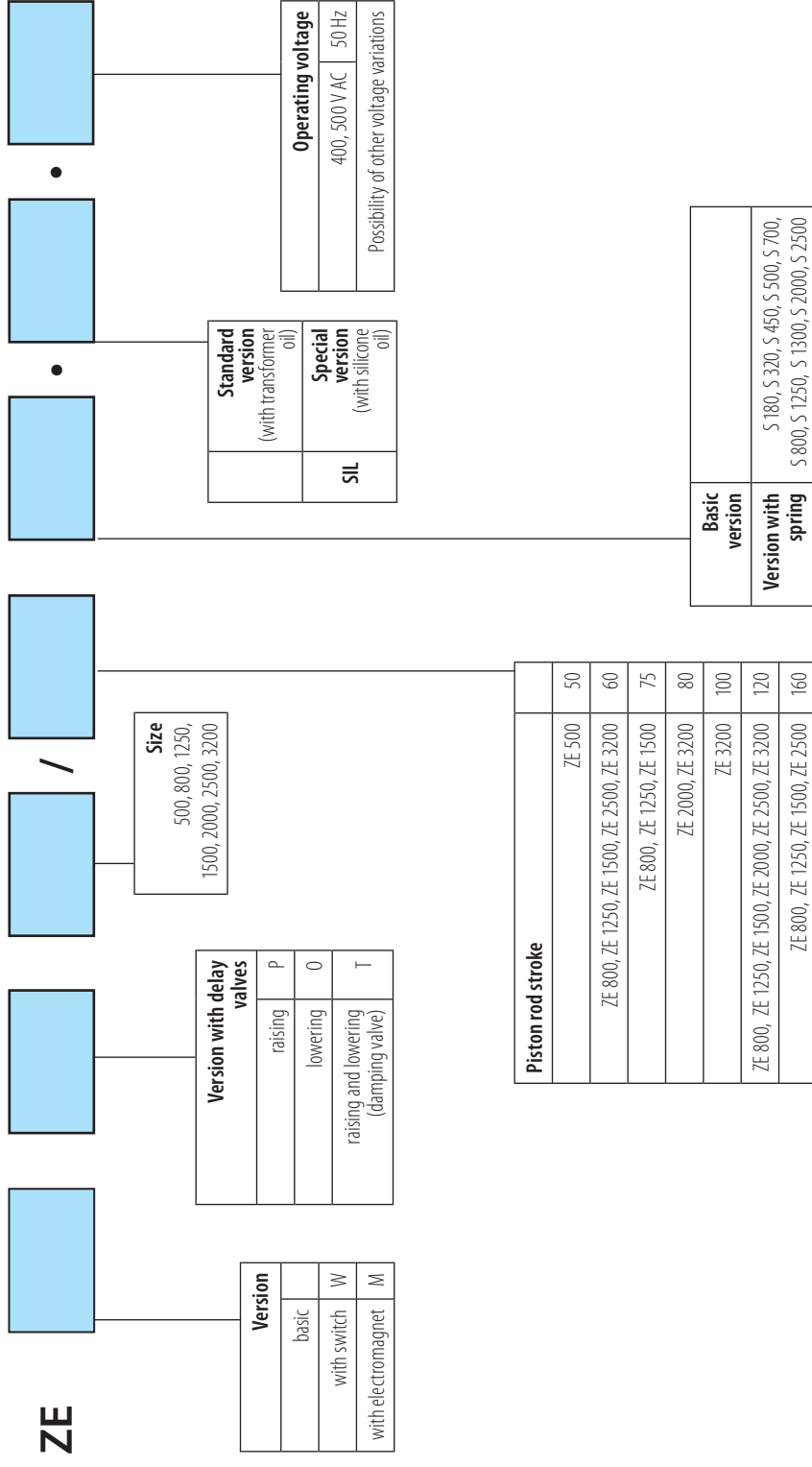
Technical data of ZE 3200/100, ZE 3200/120

| Type | Size | Version | | Version with spring | Rated force of piston rod advance ** | Piston rod stroke | Denotation | Kind of work | Return force of piston rod to 1/3 stroke ± 10 % | Motor | | | Electromagnet | | Weight without oil (basic version) | Weight of oil |
|------|------|--------------------|--------|---------------------|--------------------------------------|-------------------|----------------------|---------------------------|---|-------------------------|----------------------------|-------------|----------------|-------------------|------------------------------------|---------------|
| | | Name | Symbol | | | | | | | Supply voltage* | Current intensity at 50 Hz | Rated power | Supply voltage | Current intensity | | |
| | | | | | Fz [N] | W [mm] | | | Fs [N] | U [V] | I [A] | P [W] | Ue [V DC] | Ie [A] | m [kg] | mo [kg] |
| ZE | 3200 | basic | — | — | 3200 | 100 | ZE 3200/100 | S1 S3 do 100% 2000 c/h | — | 3x230 3x400 3x500 | 2,35 | 550 | 38 | 0,8 | 33 | 10 |
| | | | | ZE 3200/100 S 1300 | | | 1300 | | | | | | | | | |
| | | | | ZE 3200/100 S 2000 | | | 2000 | | | | | | | | | |
| | | | | ZEW 3200/100 | | | — | | | | | | | | | |
| | | | | ZEW 3200/100 S 1300 | | | 1300 | | | | | | | | | |
| | | | | ZEW 3200/100 S 2000 | | | 2000 | | | | | | | | | |
| | | with electromagnet | M | — | | | S1 S3 40% 600 c/h | — | | | | | | | | |
| | | | | S 1300 | | | | 1300 | | | | | | | | |
| | | | | S 2000 | | | | 2000 | | | | | | | | |
| | | | | ZEM 3200/100 | | | | — | | | | | | | | |
| | | | | ZEM 3200/100 S 1300 | | | | 1300 | | | | | | | | |
| | | | | ZEM 3200/100 S 2000 | | | | 2000 | | | | | | | | |
| | | basic | — | — | | 120 | ZE 3200/120 | S1 S3 do 100% 2000 c/h | — | 3x230 3x400 3x500 | 1,45 1,05 | 550 | 38 | 0,8 | | |
| | | | | ZE 3200/120 S 1300 | | | 1300 | | | | | | | | | |
| | | | | ZE 3200/120 S 2000 | | | 2000 | | | | | | | | | |
| | | | | ZEW 3200/120 | | | — | | | | | | | | | |
| | | | | ZEW 3200/120 S 1300 | | | 1300 | | | | | | | | | |
| | | | | ZEW 3200/120 S 2000 | | | 2000 | | | | | | | | | |
| | | with electromagnet | M | — | | | S1 S3 40% 600 c/h | — | | | | | | | | |
| | | | | S 1300 | | | | 1300 | | | | | | | | |
| | | | | S 2000 | | | | 2000 | | | | | | | | |
| | | | | ZEM 3200/120 | | | | — | | | | | | | | |
| | | | | ZEM 3200/120 S 1300 | | | | 1300 | | | | | | | | |
| | | | | ZEM 3200/120 S 2000 | | | | 2000 | | | | | | | | |

* - possibility of other voltage variations

** - for release with built-in return spring required advance force is taken as 10% of rated force

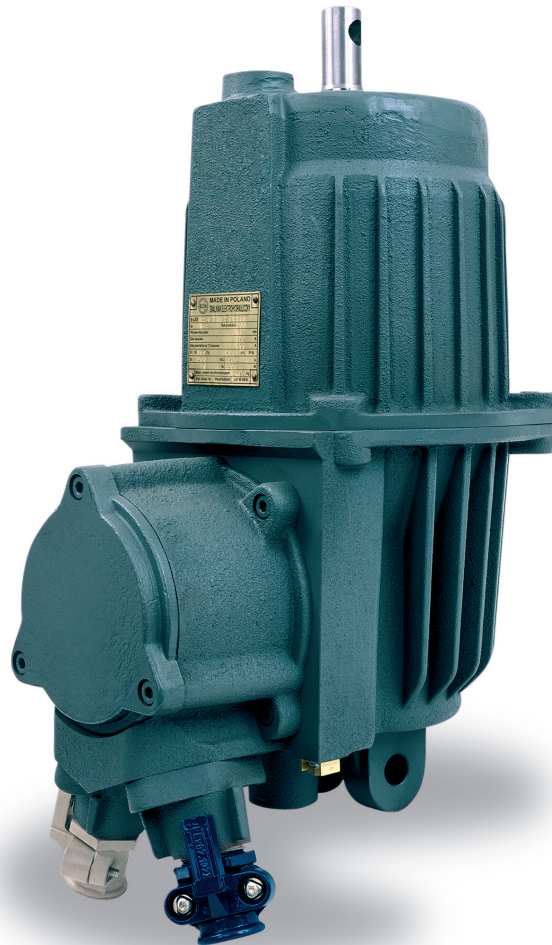
Order denotation



Ordering example:

ZEM 500/50 S 180 • 500 V AC/50 Hz
 ZE 2000/120 S 1250 • 400 V AC/50 Hz
 ZEW 1250/60 • 400 V AC/50 Hz

Explosion- proof Electro- hydraulic Release type Ex ZE



Application

Operation of the release consists in advance of the piston rod with appropriate force and to specific stroke. With built-in return spring, return of the piston rod also occurs with appropriate force.

Electrohydraulic release finds application mainly in brakes for releasing (opening) shoe brakes. With built-in spring, it not only releases the brake but also generates braking torque. The release can be used for all applications requiring to-and-fro movement, e.g. to actuate gates and valves, to open and close flaps and doors, to raise and lower barriers, to move levers and pull-rods as well as to execute operations of to-and-fro movement in various machines and equipment.

The release can be used both for continuous operation S1 as well as for periodically interrupted operation S3 with relative loading time up to 100% and number of actuations up to 2000 c/h.

Operating conditions

Electrohydraulic release is designed for operation in mining plants in which methane hazard or coal-dust explosion hazard occurs (equipment group I – category M2) as well as in places other than those mentioned above which are endangered with occurrence of explosive atmosphere (equipment group II – category 2 GD)

⊕ IM2/II 2 GD.

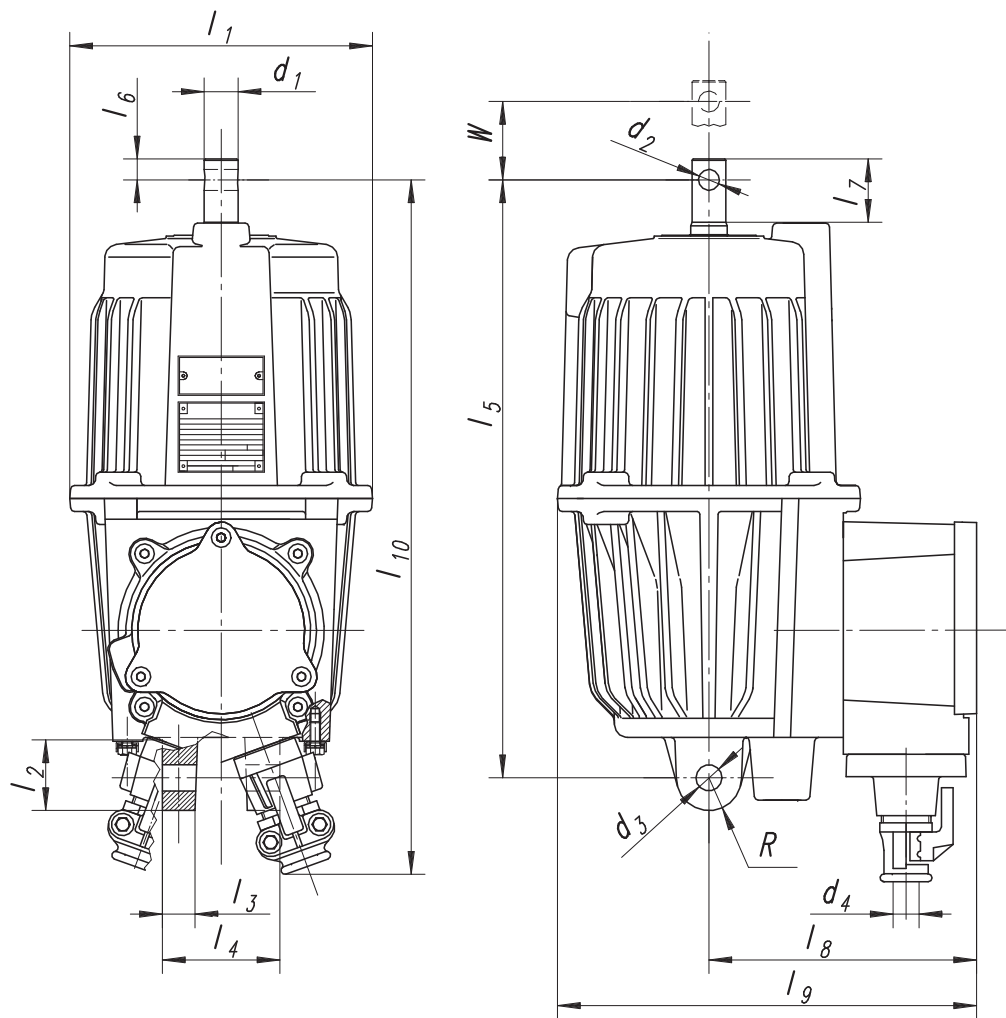
This release is an explosion-proof device with flame-proof enclosure group I and IIB of temperature class 125°C (T4), with signaling circuits of spark-proof version: Exd[ia] I/IIB 125°C (T4). As a device protected by its enclosure "tD", the release can be used in the presence of inflammable dust in zone 21 and 22: Ex tD A21 IP65 T125°C.

Bimetal sensor or posistor sensor can be connected in the spark-proof circuit according to PN-EN 60079-11 of maximum voltage 30V. A limit switch can be connected in the spark-proof circuit according to PN-EN 60079-11. Limit switch parameters: $U_i=60V$, $I_i=3A$, $L_i=0$, $C_i=0$.

The release can be used in ambient temperature range from -20°C to +40 °C and relative humidity of air up to 5%.

The release meets the requirements of directive ATEX (94/9/WE) and possesses test certificate type WE: KDB 04ATEX152X.

Overall dimensions



| Dimensions [mm] | Ex ZE 800/60 Ex ZE 1250/60 Ex ZE 1500/60 | Ex ZE 800/75 Ex ZE 1250/75 Ex ZE 1500/75 | Ex ZE 800/120 Ex ZE 1250/120 Ex ZE 1500/120 | Ex ZE 800/160 Ex ZE 1250/160 Ex ZE 1500/160 | Ex ZE 2000/80 | Ex ZE 2000/120 | Ex ZE 2500/60 | Ex ZE 2500/120 | Ex ZE 2500/160 | Ex ZE 3200/60 | Ex ZE 3200/80 | Ex ZE 3200/100 | Ex ZE 3200/120 |
|-----------------|--|--|---|---|---------------|----------------|---------------|----------------|----------------|---------------|---------------|----------------|----------------|
| l_1 | 232 | | | | | | 270 | | | | | | |
| l_2 | 54 | | | | | | | | | | | | |
| l_3 | 25 | | | | | | | | | | | | |
| $l_4 \pm 0,3$ | 90 | | | | | | | | | | | | |
| l_5 | 458 | 485 | 530 | 573 | 530 | 573 | 549 | 620 | 660 | 620 | | 660 | |
| l_6 | 16 | | | | | | 20 | | | | | | |
| l_7 | 48,5 | | | | | | 58 | | | | | | |
| l_8 | 206 | | | | | | 220 | | | | | | |
| l_9 | 322 | | | | | | 355 | | | | | | |
| l_{10} | 533 | 560 | 605 | 648 | 605 | 648 | 624 | 695 | 735 | 695 | | 735 | |
| d_1 e8 | 26 | | | | | | 34 | | | | | | |
| d_2 F9 | 16 | | | | | | 20 | | | | | | |
| d_3 D11 | 20 | | | | | | | | | | | | |
| d_4 | 10÷20 | | | | | | | | | | | | |
| R | 25 | | | | | | | | | | | | |
| W | 60 | 75 | 120 | 160 | 80 | 120 | 60 | 120 | 160 | 60 | 80 | 100 | 120 |

Technical data of ExZE 800/60, ExZE 1250/60, ExZE 1500/60

| Type | Size | Piston rod stroke W [mm] | Limit switch | | Version with spring | Rated force of piston rod advance * | Thermal protection | | Release denotation | Kind of work | Return force of piston rod to 1/3 stroke Fs [N] | Advance time ± 15 % tw [s] | Return time ±15% tp [s] | Supply voltage U [V] | Current intensity at 50 or 60 Hz I [A] | Rated power of motor P [W] | Weight without oil m [kg] | Weight of oil mo [kg] | |
|----------|---------|--------------------------------|-----------------------|----------|-----------------------|-------------------------------------|----------------------|----------------------|---------------------|-------------------------|--|-------------------------------|----------------------------|-------------------------|---|-------------------------------|------------------------------|--------------------------|-----|
| | | | Kind of contact | Symbol | | | Kind of sensor | Denotation | | | | | | | | | | | |
| ExZE | 800 | 60 | Break | r | — | 800 | bimetal | 1 | ExZE 800/60r1 | SI, S3 do 100% 2000 c/h | — | — | — | 3x230 | 2,1 | 450 | 50 | 4,5 | |
| | | | | | posistor | | 2 | ExZE 800/60r2 | | | | | | | | | | | |
| | | | | | S 450 | | bimetal | 1 | ExZE 800/60r1 S 450 | | | | | | | | | | 450 |
| | | | | | posistor | | 2 | ExZE 800/60r2 S 450 | | | | | | | | | | | |
| | | | | | S 800 | | bimetal | 1 | ExZE 800/60r1 S 800 | | | | | | | | | | 800 |
| | | | | | posistor | | 2 | ExZE 800/60r2 S 800 | | | | | | | | | | | |
| | | | Make | z | — | | bimetal | 1 | ExZE 800/60z1 | | — | — | — | | | | | | |
| | | | | | posistor | | 2 | ExZE 800/60z2 | | | | | | | | | | | |
| | | | | | S 450 | | bimetal | 1 | ExZE 800/60z1 S 450 | | 450 | | | | | | | | |
| | | | | | posistor | | 2 | ExZE 800/60z2 S 450 | | | | | | | | | | | |
| | | | | | S 800 | | bimetal | 1 | ExZE 800/60z1 S 800 | | 800 | | | | | | | | |
| | | | | | posistor | | 2 | ExZE 800/60z2 S 800 | | | | | | | | | | | |
| | 1250 | | Break | r | — | bimetal | 1 | ExZE 1250/60r1 | — | | — | — | | | | | | | |
| | | | | | posistor | 2 | ExZE 1250/60r2 | | | | | | | | | | | | |
| | | | | | S 450 | bimetal | 1 | ExZE 1250/60r1 S 450 | 450 | | 0,35 | 0,8 | | | | | | | |
| | | | | | posistor | 2 | ExZE 1250/60r2 S 450 | | | | | | | | | | | | |
| | | | | | S 800 | bimetal | 1 | ExZE 1250/60r1 S 800 | 800 | | 0,4 | 0,5 | | | | | | | |
| | | | | | posistor | 2 | ExZE 1250/60r2 S 800 | | | | | | | | | | | | |
| | | | Make | z | — | bimetal | 1 | ExZE 1250/60z1 | — | | — | — | | | | | | | |
| | | | | | posistor | 2 | ExZE 1250/60z2 | | | | | | | | | | | | |
| | | | | | S 450 | bimetal | 1 | ExZE 1250/60z1 S 450 | 450 | | 0,35 | 0,8 | | | | | | | |
| | | | | | posistor | 2 | ExZE 1250/60z2 S 450 | | | | | | | | | | | | |
| | | | | | S 800 | bimetal | 1 | ExZE 1250/60z1 S 800 | 800 | | 0,4 | 0,5 | | | | | | | |
| | | | | | posistor | 2 | ExZE 1250/60z2 S 800 | | | | | | | | | | | | |
| | 1500 | Break | r | — | bimetal | 1 | ExZE 1500/60r1 | — | — | — | | | | | | | | | |
| | | | | posistor | 2 | ExZE 1500/60r2 | | | | | | | | | | | | | |
| | | | | S 450 | bimetal | 1 | ExZE 1500/60r1 S 450 | 450 | | | | | | | | | | | |
| | | | | posistor | 2 | ExZE 1500/60r2 S 450 | | | | | | | | | | | | | |
| | | | | S 800 | bimetal | 1 | ExZE 1500/60r1 S 800 | 800 | | | | | | | | | | | |
| | | | | posistor | 2 | ExZE 1500/60r2 S 800 | | | | | | | | | | | | | |
| | | Make | z | — | bimetal | 1 | ExZE 1500/60z1 | — | — | — | | | | | | | | | |
| | | | | posistor | 2 | ExZE 1500/60z2 | | | | | | | | | | | | | |
| | | | | S 450 | bimetal | 1 | ExZE 1500/60z1 S 450 | 450 | | | | | | | | | | | |
| | | | | posistor | 2 | ExZE 1500/60z2 S 450 | | | | | | | | | | | | | |
| | | | | S 800 | bimetal | 1 | ExZE 1500/60z1 S 800 | 800 | | | | | | | | | | | |
| | | | | posistor | 2 | ExZE 1500/60z2 S 800 | | | | | | | | | | | | | |
| 1500 | Break | r | S 1250 | bimetal | 1 | ExZE 1500/60r1 S 1250 | 1250 | | | | | | | | | | | | |
| | | | posistor | 2 | ExZE 1500/60r2 S 1250 | | | | | | | | | | | | | | |
| | | | — | bimetal | 1 | ExZE 1500/60z1 | — | — | — | | | | | | | | | | |
| | | | posistor | 2 | ExZE 1500/60z2 | | | | | | | | | | | | | | |
| | | | S 450 | bimetal | 1 | ExZE 1500/60z1 S 450 | 450 | | | | | | | | | | | | |
| | | | posistor | 2 | ExZE 1500/60z2 S 450 | | | | | | | | | | | | | | |
| S 800 | bimetal | 1 | ExZE 1500/60z1 S 800 | 800 | | | | | | | | | | | | | | | |
| posistor | 2 | ExZE 1500/60z2 S 800 | | | | | | | | | | | | | | | | | |
| S 1250 | bimetal | 1 | ExZE 1500/60z1 S 1250 | 1250 | | | | | | | | | | | | | | | |
| posistor | 2 | ExZE 1500/60z2 S 1250 | | | | | | | | | | | | | | | | | |

* - for release with built-in return spring required advance force is taken as 10% of rated force

Technical data of ExZE 800/75, ExZE 1250/75, ExZE 1500/75

| Type | Size | Piston rod stroke | Limit switch | | Version with spring | Rated force of piston rod advance * | Thermal protection | | Release denotation | Kind of work | Return force of piston rod to 1/3 stroke | | | Supply voltage | Current intensity at 50 or 60 Hz | Rated power of motor | Weight without oil | Weight of oil | | | | | | | | | | |
|------|------|-------------------|-----------------|----------|---------------------|-------------------------------------|----------------------|---------------------|---------------------|-------------------------|--|--------|--------|----------------|----------------------------------|----------------------|--------------------|---------------|------|-----|-------|-----|-----|----|---|--------|------|---|
| | | | Kind of contact | Symbol | | | Kind of sensor | Denotation | | | F _s [N] | tw [s] | tp [s] | | | | | | | | | | | | | | | |
| ExZE | 800 | W [mm] | Break | r | — | 800 | bimetal | 1 | ExZE 800/75r1 | S1, S3 do 100% 2000 c/h | 450 | — | — | U [V] | I [A] | P [W] | m [kg] | mo [kg] | | | | | | | | | | |
| | | | | | posistor | | 2 | ExZE 800/75r2 | | | | | | | | | | | | | | | | | | | | |
| | | | | | bimetal | | 1 | ExZE 800/75r1 S 450 | | | | | | | | | | | | | | | | | | | | |
| | | | | | posistor | | 2 | ExZE 800/75r2 S 450 | | | | | | | | | | | | | | | | | | | | |
| | | | | | bimetal | | 1 | ExZE 800/75r1 S 800 | | | | | | | | | | | | | | | | | | | | |
| | | | | | posistor | | 2 | ExZE 800/75r2 S 800 | | | | | | | | | | | | | | | | | | | | |
| | | | Make | z | — | | bimetal | 1 | ExZE 800/75z1 | | | | | | | | | | — | — | — | | | | | | | |
| | | | | | posistor | | 2 | ExZE 800/75z2 | | | | | | | | | | | | | | | | | | | | |
| | | | | | S 450 | | bimetal | 1 | ExZE 800/75z1 S 450 | | | | | | | | | | 450 | — | — | | | | | | | |
| | | | | | posistor | | 2 | ExZE 800/75z2 S 450 | | | | | | | | | | | | | | | | | | | | |
| | | | | | S 800 | | bimetal | 1 | ExZE 800/75z1 S 800 | | | | | | | | | | 800 | — | — | | | | | | | |
| | | | | | posistor | | 2 | ExZE 800/75z2 S 800 | | | | | | | | | | | | | | | | | | | | |
| | 1250 | Break | r | — | bimetal | 1 | ExZE 1250/75r1 | 1250 | — | | — | — | 450 | | | | | | 0,35 | 0,8 | 3x230 | 2,1 | 450 | 50 | 6 | | | |
| | | | | posistor | 2 | ExZE 1250/75r2 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | S 450 | bimetal | 1 | ExZE 1250/75r1 S 450 | | 800 | | 0,4 | 0,5 | | | | | | | | | | | | | | 3x400 | 1,2 | |
| | | | | posistor | 2 | ExZE 1250/75r2 S 450 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | S 800 | bimetal | 1 | ExZE 1250/75r1 S 800 | | — | | — | — | | | | | | | | | | | | | | 3x500 | 0,9 | |
| | | | | posistor | 2 | ExZE 1250/75r2 S 800 | | | | | | | | | | | | | | | | | | | | | | |
| | | Make | z | — | bimetal | 1 | ExZE 1250/75z1 | | — | | — | — | | | | | | | | | | | | | | 3x690 | 0,7 | |
| | | | | posistor | 2 | ExZE 1250/75z2 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | S 450 | bimetal | 1 | ExZE 1250/75z1 S 450 | | 450 | | 0,35 | 0,8 | | | | | | | | | | | | | | 3x1000 | 0,45 | |
| | | | | posistor | 2 | ExZE 1250/75z2 S 450 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | S 800 | bimetal | 1 | ExZE 1250/75z1 S 800 | | 800 | | 0,4 | 0,5 | | | | | | | | | | | | | | — | — | |
| | | | | posistor | 2 | ExZE 1250/75z2 S 800 | | | | | | | | | | | | | | | | | | | | | | |
| | 1500 | Break | r | — | bimetal | 1 | ExZE 1500/75r1 | 1500 | — | | — | — | 450 | | | | | | — | — | — | — | — | — | — | | | |
| | | | | posistor | 2 | ExZE 1500/75r2 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | S 450 | bimetal | 1 | ExZE 1500/75r1 S 450 | | 800 | | — | — | | | | | | | | | | | | | | | | |
| | | | | posistor | 2 | ExZE 1500/75r2 S 450 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | S 800 | bimetal | 1 | ExZE 1500/75r1 S 800 | | — | | — | — | | | | | | | | | | | | | | | | |
| | | | | posistor | 2 | ExZE 1500/75r2 S 800 | | | | | | | | | | | | | | | | | | | | | | |
| | | Make | z | — | bimetal | 1 | ExZE 1500/75z1 | | — | | — | — | | | | | | | | | | | | | | 450 | — | — |
| | | | | posistor | 2 | ExZE 1500/75z2 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | S 450 | bimetal | 1 | ExZE 1500/75z1 S 450 | | 800 | | — | — | | | | | | | | | | | | | | | | |
| | | | | posistor | 2 | ExZE 1500/75z2 S 450 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | S 800 | bimetal | 1 | ExZE 1500/75z1 S 800 | | — | | — | — | | | | | | | | | | | | | | | | |
| | | | | posistor | 2 | ExZE 1500/75z2 S 800 | | | | | | | | | | | | | | | | | | | | | | |

* - for release with built-in return spring required advance force is taken as 10% of rated force

Technical data of ExZE 800/120, ExZE 1250/120, ExZE 1500/120

| Type | Size | Piston rod stroke W [mm] | Limit switch | | Version with spring | Rated force of piston rod advance * | Thermal protection | | Release denotation | Kind of work | Return force of piston rod to 1/3 stroke Fs [N] | Advance time ± 15 % tw [s] | Return time ±15% tp [s] | Supply voltage U [V] | Current intensity at 50 or 60 Hz I [A] | Rated power of motor P [W] | Weight without oil m [kg] | Weight of oil mo [kg] | |
|-------|-------|--------------------------------|-----------------|----------|-----------------------|-------------------------------------|-----------------------|-----------------------|----------------------|-------------------------|--|-------------------------------|----------------------------|-------------------------|---|-------------------------------|------------------------------|--------------------------|----------------|
| | | | Kind of contact | Symbol | | | Kind of sensor | Denotation | | | | | | | | | | | |
| ExZE | 800 | 120 | Break | r | — | 800 | bimetal | 1 | ExZE 800/120r1 | SI, S3 do 100% 2000 c/h | — | — | — | — | — | — | — | — | |
| | | | | | S 450 | | posistor | 2 | ExZE 800/120r2 | | | | | | | | | | |
| | | | | | — | | bimetal | 1 | ExZE 800/120r1 S 450 | | | | | | | | | | |
| | | | | S 450 | posistor | | 2 | ExZE 800/120r2 S 450 | | | | | | | | | | | |
| | | | | Make | z | | — | bimetal | 1 | | | | | | | | | | ExZE 800/120z1 |
| | | | | | | | S 450 | posistor | 2 | | | | | | | | | | ExZE 800/120z2 |
| | — | | bimetal | | | 1 | ExZE 800/120z1 S 450 | | | | | | | | | | | | |
| | S 450 | | posistor | 2 | ExZE 800/120z2 S 450 | | | | | | | | | | | | | | |
| | 1250 | | Break | r | — | bimetal | 1 | ExZE 1250/120r1 | | | | | | | | | | | |
| | | | | | S 450 | posistor | 2 | ExZE 1250/120r2 | | | | | | | | | | | |
| | | | | | S 800 | bimetal | 1 | ExZE 1250/120r1 S 450 | | | | | | | | | | | |
| | | | | S 450 | posistor | 2 | ExZE 1250/120r2 S 450 | | | | | | | | | | | | |
| | | S 800 | | bimetal | 1 | ExZE 1250/120r1 S 800 | | | | | | | | | | | | | |
| | | S 800 | | posistor | 2 | ExZE 1250/120r2 S 800 | | | | | | | | | | | | | |
| | | Make | z | — | bimetal | 1 | ExZE 1250/120z1 | | | | | | | | | | | | |
| | | | | S 450 | posistor | 2 | ExZE 1250/120z2 | | | | | | | | | | | | |
| | | | | S 800 | bimetal | 1 | ExZE 1250/120z1 S 450 | | | | | | | | | | | | |
| | | | S 450 | posistor | 2 | ExZE 1250/120z2 S 450 | | | | | | | | | | | | | |
| | | | S 800 | bimetal | 1 | ExZE 1250/120z1 S 800 | | | | | | | | | | | | | |
| | | | S 800 | posistor | 2 | ExZE 1250/120z2 S 800 | | | | | | | | | | | | | |
| | 1500 | Break | r | — | bimetal | 1 | ExZE 1500/120r1 | | | | | | | | | | | | |
| | | | | S 450 | posistor | 2 | ExZE 1500/120r2 | | | | | | | | | | | | |
| | | | | S 800 | bimetal | 1 | ExZE 1500/120r1 S 450 | | | | | | | | | | | | |
| | | | S 450 | posistor | 2 | ExZE 1500/120r2 S 450 | | | | | | | | | | | | | |
| S 800 | | | bimetal | 1 | ExZE 1500/120r1 S 800 | | | | | | | | | | | | | | |
| S 800 | | | posistor | 2 | ExZE 1500/120r2 S 800 | | | | | | | | | | | | | | |
| Make | | z | — | bimetal | 1 | ExZE 1500/120z1 | | | | | | | | | | | | | |
| | | | S 450 | posistor | 2 | ExZE 1500/120z2 | | | | | | | | | | | | | |
| | | | S 800 | bimetal | 1 | ExZE 1500/120z1 S 450 | | | | | | | | | | | | | |
| | | S 450 | posistor | 2 | ExZE 1500/120z2 S 450 | | | | | | | | | | | | | | |
| | | S 800 | bimetal | 1 | ExZE 1500/120z1 S 800 | | | | | | | | | | | | | | |
| | | S 800 | posistor | 2 | ExZE 1500/120z2 S 800 | | | | | | | | | | | | | | |

* - for release with built-in return spring required advance force is taken as 10% of rated force

Technical data of ExZE 800/160, ExZE 1250/160, ExZE 1500/160

| Type | Size | Piston rod stroke | Limit switch | | Version with spring | Rated force of piston rod advance * | Thermal protection | | Release denotation | Kind of work | Return force of piston rod to 1/3 stroke | | | Supply voltage | Current intensity at 50 or 60 Hz | Rated power of motor | Weight without oil | Weight of oil | | | | | | | | | | | | | |
|----------|----------|-----------------------|-----------------------|-----------------------|-----------------------|-------------------------------------|-----------------------|----------------------|-----------------------|-------------------------|--|--------|--------|----------------|----------------------------------|----------------------|--------------------|---------------|-----|-----|---|---|---|---|---|---|---|---|-----|------|-----|
| | | | Kind of contact | Symbol | | | Kind of sensor | Denotation | | | Fs [N] | tw [s] | tp [s] | | | | | | | | | | | | | | | | | | |
| ExZE | 800 | 160 | Break | r | — | 800 | bimetal | 1 | ExZE 800/160r1 | S1, S3 do 100% 2000 c/h | — | — | — | U [V] | I [A] | P [W] | m [kg] | mo [kg] | | | | | | | | | | | | | |
| | | | | | posistor | | 2 | ExZE 800/160r2 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | S 450 | | bimetal | 1 | ExZE 800/160r1 S 450 | | | | | | | | | | 450 | | | | | | | | | | | | |
| | | | | | posistor | | 2 | ExZE 800/160r2 S 450 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | — | | bimetal | 1 | ExZE 800/160z1 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | posistor | | 2 | ExZE 800/160z2 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | S 450 | bimetal | 1 | | ExZE 800/160z1 S 450 | 450 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | posistor | 2 | ExZE 800/160z2 S 450 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Make | z | — | | bimetal | | 1 | | ExZE 1250/160r1 | 1250 | — | | | | | | — | — | — | — | — | — | — | — | — | — | | | |
| | | | | | posistor | | 2 | | ExZE 1250/160r2 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | S 450 | | bimetal | | 1 | | ExZE 1250/160r1 S 450 | | | | | | | | | | | | | | | | | | 450 | 0,35 | 0,8 |
| | | | | | posistor | | 2 | | ExZE 1250/160r2 S 450 | | | | | | | | | | | | | | | | | | | | | | |
| | — | | | | bimetal | 1 | ExZE 1250/160r1 S 800 | 800 | 0,4 | | 0,5 | | | | | | | | | | | | | | | | | | | | |
| | posistor | | | | 2 | ExZE 1250/160r2 S 800 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | S 800 | | bimetal | 1 | ExZE 1250/160z1 | 450 | 0,35 | | | | | 0,8 | | | | | | | | | | | | | | | | | | | |
| | posistor | | 2 | ExZE 1250/160z2 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | — | | bimetal | 1 | ExZE 1250/160z1 S 450 | | | | | | | | 800 | | | | | | 0,4 | 0,5 | | | | | | | | | | | |
| | posistor | | 2 | ExZE 1250/160z2 S 450 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | S 800 | | bimetal | 1 | ExZE 1250/160z1 S 800 | | | 3x230 | 2,1 | | — | | | | | | | | | | | | | | | | | | | | |
| | posistor | | 2 | ExZE 1250/160z2 S 800 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | — | | bimetal | 1 | ExZE 1250/160z1 | 3x400 | 1,2 | | | | | — | | | | | | | | | | | | | | | | | | | |
| | posistor | | 2 | ExZE 1250/160z2 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | S 450 | | bimetal | 1 | ExZE 1250/160z1 S 450 | | | | | | | | 3x500 | | | | | | 0,9 | 450 | | | | | | | | | | | |
| | posistor | | 2 | ExZE 1250/160z2 S 450 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| S 800 | bimetal | 1 | ExZE 1250/160z1 S 800 | 3x690 | 0,7 | | | — | | | | | | | | | | | | | | | | | | | | | | | |
| posistor | 2 | ExZE 1250/160z2 S 800 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| — | bimetal | 1 | ExZE 1500/160r1 | | | 3x1000 | 0,45 | | — | | | | | | | | | | | | | | | | | | | | | | |
| posistor | 2 | ExZE 1500/160r2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| S 450 | bimetal | 1 | ExZE 1500/160r1 S 450 | | | | | | | 450 | — | — | | | | | | | | | | | | | | | | | | | |
| posistor | 2 | ExZE 1500/160r2 S 450 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| S 800 | bimetal | 1 | ExZE 1500/160r1 S 800 | 800 | — | | | — | | | | | | | | | | | | | | | | | | | | | | | |
| posistor | 2 | ExZE 1500/160r2 S 800 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| — | bimetal | 1 | ExZE 1500/160z1 | | | — | — | | — | | | | | | | | | | | | | | | | | | | | | | |
| posistor | 2 | ExZE 1500/160z2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| S 450 | bimetal | 1 | ExZE 1500/160z1 S 450 | | | | | | | 450 | — | — | | | | | | | | | | | | | | | | | | | |
| posistor | 2 | ExZE 1500/160z2 S 450 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| S 800 | bimetal | 1 | ExZE 1500/160z1 S 800 | 800 | — | | | — | | | | | | | | | | | | | | | | | | | | | | | |
| posistor | 2 | ExZE 1500/160z2 S 800 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

* - for release with built-in return spring required advance force is taken as 10% of rated force

Technical data of ExZE 2000/80, ExZE 2000/120

| Type | Size | Piston rod stroke | Limit switch | | Version with spring | Rated force of piston rod advance * | Thermal protection | | Release denotation | Kind of work | Return force of piston rod to 1/3 stroke | Advance time ± 15 % | Return time ±15% | Supply voltage | Current intensity at 50 or 60 Hz | Rated power of motor | Weight without oil | Weight of oil | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------|------|-------------------|-----------------|----------|---------------------|-------------------------------------|------------------------|------------|--------------------|-------------------------|--|---------------------|------------------|----------------|----------------------------------|----------------------|--------------------|---------------|-----|---|---|---|---|---|---|---|---|---|---|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Kind of contact | Symbol | | | Kind of sensor | Denotation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | W [mm] | | | | Fz [N] | | | | Fs [N] | tw [s] | tp [s] | U [V] | I [A] | P [W] | m [kg] | mo [kg] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ExZE 2000 | 80 | Break | r | S 800 | — | 2000 | bimetal | 1 | ExZE 2000/80r1 | S1, S3 do 100% 2000 c/h | — | — | — | — | — | — | — | — | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | posistor | 2 | ExZE 2000/80r2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | bimetal | 1 | | ExZE 2000/80r1 S 800 | 800 | 0,35 | | | | | | | | | | 0,8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | posistor | 2 | | ExZE 2000/80r2 S 800 | 1250 | 0,4 | | | | | | | | | | 0,5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | bimetal | 1 | | ExZE 2000/80r1 S 1250 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | posistor | 2 | | ExZE 2000/80r2 S 1250 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Make | z | S 800 | — | | bimetal | 1 | ExZE 2000/80z1 | | | | | | | | | | — | — | — | — | — | — | — | — | — | — | — | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | posistor | 2 | ExZE 2000/80z2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | bimetal | 1 | | ExZE 2000/80z1 S 800 | 800 | 0,35 | | | | | | | | | | | | | | | | | | | | | 0,8 | | | | | | | | | | | | | | | | | | | | |
| | | | | posistor | 2 | | ExZE 2000/80z2 S 800 | 1250 | 0,4 | | | | | | | | | | | | | | | | | | | | | 0,5 | | | | | | | | | | | | | | | | | | | | |
| | | | | bimetal | 1 | | ExZE 2000/80z1 S 1250 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | posistor | 2 | | ExZE 2000/80z2 S 1250 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 120 | Break | r | S 800 | — | | bimetal | 1 | ExZE 2000/120r1 | | | | | | | | | | | | | | | | | | | | | — | — | — | — | — | — | — | — | — | — | | | | | | | | | | | |
| | | | | | | | posistor | 2 | ExZE 2000/120r2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | bimetal | 1 | | ExZE 2000/120r1 S 800 | 800 | — | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | — | | | | | | | | | | |
| | | | | posistor | 2 | | ExZE 2000/120r2 S 800 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | bimetal | 1 | | ExZE 2000/120r1 S 1250 | 1250 | — | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | — | | | | | | | | | | |
| | | | | posistor | 2 | | ExZE 2000/120r2 S 1250 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Make | z | S 800 | — | | bimetal | 1 | ExZE 2000/120z1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | — | — | — | — | — | — | — | — | — | — | |
| | | | | | | | posistor | 2 | ExZE 2000/120z2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | bimetal | 1 | | ExZE 2000/120z1 S 800 | 800 | — | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | — |
| | | | | posistor | 2 | | ExZE 2000/120z2 S 800 | 1250 | — | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | — |
| | | | | bimetal | 1 | | ExZE 2000/120z1 S 1250 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | posistor | 2 | | ExZE 2000/120z2 S 1250 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

* - for release with built-in return spring required advance force is taken as 10% of rated force

Technical data of ExZE 2500/60, ExZE 2500/120, ExZE 2500/160

| Type | Size | Piston rod stroke | Limit switch | | Version with spring | Rated force of piston rod advance * | Thermal protection | | Release denotation | Kind of work | Return force of piston rod to 1/3 stroke | Advance time ± 15 % | Return time ±15% | Supply voltage | Current intensity at 50 or 60 Hz | Rated power of motor | Weight without oil | Weight of oil | | | |
|------|------|-------------------|-----------------|-----------------------|------------------------|-------------------------------------|------------------------|-----------------------|--------------------|-------------------------|--|---------------------|------------------|----------------|----------------------------------|----------------------|--------------------|---------------|-----|------|-----|
| | | | Kind of contact | Symbol | | | Kind of sensor | Denotation | | | | | | | | | | | | | |
| | | W [mm] | | | | Fz [N] | | | | | Fs [N] | tw [s] | tp [s] | U [V] | I [A] | P [W] | m [kg] | mo [kg] | | | |
| ExZE | 2500 | 60 | Break | r | — | 2500 | bimetal | 1 | ExZE 2500/60r1 | S1, S3 do 100% 2000 c/h | — | — | — | 3x230 | 2,35 | 550 | 64 | 8 | | | |
| | | | | | posistor | | 2 | ExZE 2500/60r2 | 700 | | 0,35 | 1,0 | | | | | | | | | |
| | | | | | bimetal | | 1 | ExZE 2500/60r1 S 700 | 700 | | 0,35 | 1,0 | | | | | | | | | |
| | | | | | posistor | | 2 | ExZE 2500/60r1 S 700 | | | | | | | | | | | | | |
| | | | | | bimetal | | 1 | ExZE 2500/60r1 S 1300 | 1300 | | 0,4 | 0,8 | | | | | | | | | |
| | | | | | posistor | | 2 | ExZE 2500/60r2 S 1300 | | | | | | | | | | | | | |
| | | | bimetal | 1 | ExZE 2500/60r1 S 2000 | | 2000 | 0,55 | 0,7 | | | | | | | | | | | | |
| | | | posistor | 2 | ExZE 2500/60r2 S 2000 | | | | | | | | | | | | | | | | |
| | | | Make | z | — | | bimetal | 1 | ExZE 2500/60z1 | | — | — | — | | | | | | 700 | 0,35 | 1,0 |
| | | | | | posistor | | 2 | ExZE 2500/60z2 | | | | | | | | | | | | | |
| | | | | | bimetal | | 1 | ExZE 2500/60z1 S 700 | 700 | | 0,35 | 1,0 | | | | | | | | | |
| | | | | | posistor | | 2 | ExZE 2500/60z1 S 700 | | | | | | | | | | | | | |
| | | bimetal | | | 1 | ExZE 2500/60z1 S 1300 | 1300 | 0,4 | 0,8 | | | | | | | | | | | | |
| | | posistor | | | 2 | ExZE 2500/60z2 S 1300 | | | | | | | | | | | | | | | |
| | | bimetal | 1 | ExZE 2500/60z1 S 2000 | 2000 | 0,55 | 0,7 | | | | | | | | | | | | | | |
| | | posistor | 2 | ExZE 2500/60z2 S 2000 | | | | | | | | | | | | | | | | | |
| | | 120 | Break | r | — | bimetal | 1 | ExZE 2500/120r1 | — | | — | — | 700 | 0,7 | 2,0 | 3x400 | 1,45 | 67 | 9 | | |
| | | | | | posistor | 2 | ExZE 2500/120r2 | 700 | 0,7 | | 2,0 | | | | | | | | | | |
| | | | | | bimetal | 1 | ExZE 2500/120r1 S 700 | | | | | 1300 | | | | | | | | 0,85 | 1,5 |
| | | | | | posistor | 2 | ExZE 2500/120r2 S 700 | | | | | | | | | | | | | | |
| | | | | | bimetal | 1 | ExZE 2500/120r1 S 1300 | 1300 | 0,85 | | 1,5 | | | | | | | | | | |
| | | | | | posistor | 2 | ExZE 2500/120r2 S 1300 | | | | | | | | | | | | | | |
| | | | bimetal | 1 | ExZE 2500/120z1 | 700 | 0,7 | 2,0 | | | | | | | | | | | | | |
| | | | posistor | 2 | ExZE 2500/120z2 | | | | | | | | | | | | | | | | |
| | | | bimetal | 1 | ExZE 2500/120z1 S 700 | | | | 700 | | 0,7 | 2,0 | | | | | | | | | |
| | | | posistor | 2 | ExZE 2500/120z2 S 700 | | | | | | | | | | | | | | | | |
| | | | bimetal | 1 | ExZE 2500/120z1 S 1300 | | | | 1300 | | 0,85 | 1,5 | | | | | | | | | |
| | | | posistor | 2 | ExZE 2500/120z2 S 1300 | | | | | | | | | | | | | | | | |
| | | 160 | Break | r | — | bimetal | 1 | ExZE 1500/160r1 | — | | — | — | 700 | 0,9 | 2,7 | 3x1000 | 0,5 | 75 | 10 | | |
| | | | | | posistor | 2 | ExZE 1500/160r2 | 700 | 0,9 | | 2,7 | | | | | | | | | | |
| | | | | | bimetal | 1 | ExZE 1500/160r1 S 700 | | | | | 1300 | | | | | | | | 1,1 | 2,0 |
| | | | | | posistor | 2 | ExZE 1500/160r2 S 700 | | | | | | | | | | | | | | |
| | | | | | bimetal | 1 | ExZE 1500/160r1 S 1300 | 1300 | 1,1 | | 2,0 | | | | | | | | | | |
| | | | | | posistor | 2 | ExZE 1500/160r2 S 1300 | | | | | | | | | | | | | | |
| | | | Make | z | — | bimetal | 1 | ExZE 1500/160z1 | — | | — | — | | | | 700 | 0,9 | | | 2,7 | |
| | | | | | posistor | 2 | ExZE 1500/160z2 | | | | | | | | | | | | | | |
| | | | | | bimetal | 1 | ExZE 1500/160z1 S 700 | 700 | 0,9 | | 2,7 | | | | | | | | | | |
| | | | | | posistor | 2 | ExZE 1500/160z2 S 700 | | | | | | | | | | | | | | |
| | | | | | bimetal | 1 | ExZE 1500/160z1 S 1300 | 1300 | 1,1 | | 2,0 | | | | | | | | | | |
| | | | | | posistor | 2 | ExZE 1500/160z2 S 1300 | | | | | | | | | | | | | | |

* - for release with built-in return spring required advance force is taken as 10% of rated force

Technical data of ExZE 3200/60, ExZE 3200/80

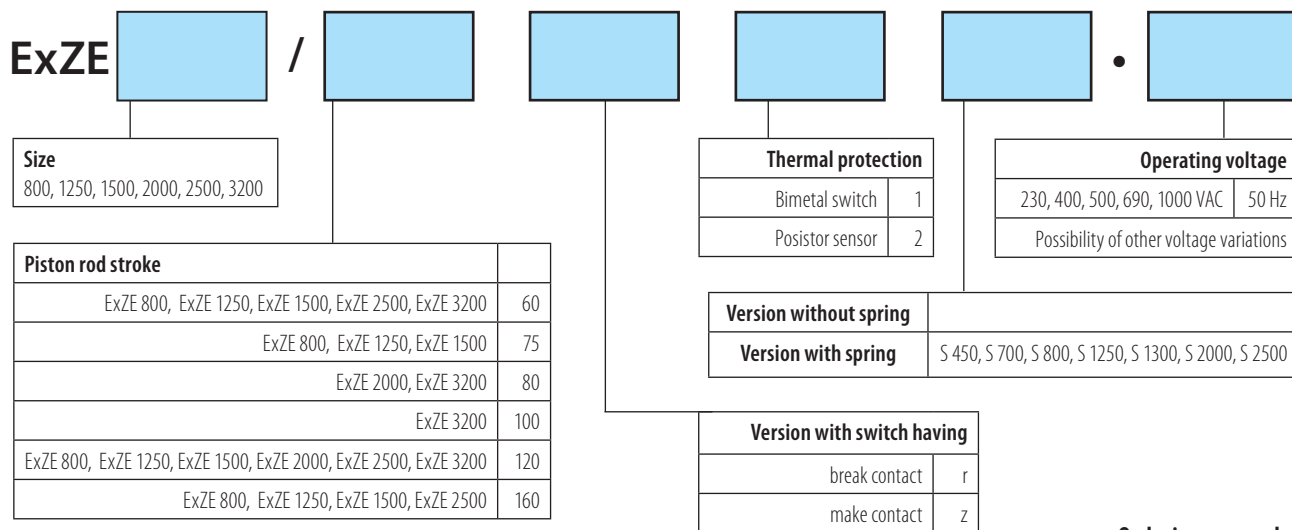
| Type | Size | Piston rod stroke | Limit switch | | Version with spring | Rated force of piston rod advance * | Thermal protection | | Release denotation | Kind of work | Return force of piston rod to 1/3 stroke | Advance time ± 15 % | Return time ±15% | Supply voltage | Current intensity at 50 or 60 Hz | Rated power of motor | Weight without oil | Weight of oil | | | | | | | |
|------|------|-------------------|-----------------|----------|---------------------|-------------------------------------|-----------------------|------------|-----------------------|-------------------------|--|-------------------------|------------------|----------------|----------------------------------|----------------------|--------------------|---------------|------|------|--------|-----|------|------|-----|
| | | | Kind of contact | Symbol | | | Kind of sensor | Denotation | | | | | | | | | | | | | | | | | |
| ExZE | 3200 | 60 | Break | r | — | 3200 | bimetal | 1 | ExZE 3200/60r1 | S1, S3 do 100% 2000 c/h | — | — | — | 3x230 | 2,35 | 550 | 68 | 8 | | | | | | | |
| | | | | | S 1300 | | bimetal | 1 | ExZE 3200/60r1 S 1300 | | | | | | | | | | 1300 | 0,5 | 0,9 | | | | |
| | | | | | S 2000 | | bimetal | 1 | ExZE 3200/60r1 S 2000 | | | | | | | | | | 2000 | 0,65 | 0,8 | | | | |
| | | | | | S 2500 | | bimetal | 1 | ExZE 3200/60r1 S 2500 | | | | | | | | | | 2500 | 0,75 | 0,7 | | | | |
| | | | | | — | | bimetal | 1 | ExZE 3200/60z1 | | | | | | | | | | — | — | — | | | | |
| | | | | | S 1300 | | bimetal | 1 | ExZE 3200/60z1 S 1300 | | | | | | | | | | 1300 | 0,5 | 0,9 | | | | |
| | | | | | S 2000 | | bimetal | 1 | ExZE 3200/60z1 S 2000 | | | | | | | | | | 2000 | 0,65 | 0,8 | | | | |
| | | | | | S 2500 | | bimetal | 1 | ExZE 3200/60z1 S 2500 | | | | | | | | | | 2500 | 0,7 | 0,7 | | | | |
| | | | | | — | | posistor | 2 | ExZE 3200/60z2 | | | | | | | | | | — | — | — | | | | |
| | | | | | S 1300 | | posistor | 2 | ExZE 3200/60z2 S 1300 | | | | | | | | | | 1300 | 0,65 | 1,2 | | | | |
| | | | | | S 2000 | | posistor | 2 | ExZE 3200/60z2 S 2000 | | | | | | | | | | 2000 | 0,85 | 1,0 | | | | |
| | | | | | S 2500 | | posistor | 2 | ExZE 3200/60z2 S 2500 | | | | | | | | | | 2500 | 1,0 | 0,9 | | | | |
| | | | 80 | Break | r | | — | bimetal | 1 | | ExZE 3200/80r1 | S1, S3 do 100% 2000 c/h | — | | | | | | — | — | 3x1000 | 0,5 | | | |
| | | | | | | | S 1300 | bimetal | 1 | | ExZE 3200/80r1 S 1300 | | | | | | | | | | | | 1300 | 0,65 | 1,2 |
| | | | | | | | S 2000 | bimetal | 1 | | ExZE 3200/80r1 S 2000 | | | | | | | | | | | | 2000 | 0,85 | 1,0 |
| | | | | | | | S 2500 | bimetal | 1 | | ExZE 3200/80r1 S 2500 | | | | | | | | | | | | 2500 | 1,0 | 0,9 |
| | | | | | | | — | posistor | 2 | | ExZE 3200/80r2 | | | | | | | | | | | | — | — | — |
| | | | | | | | S 1300 | posistor | 2 | | ExZE 3200/80r2 S 1300 | | | | | | | | | | | | 1300 | 0,65 | 1,2 |
| | | | | | | | S 2000 | posistor | 2 | | ExZE 3200/80r2 S 2000 | | | | | | | | | | | | 2000 | 0,85 | 1,0 |
| | | | | | | | S 2500 | posistor | 2 | | ExZE 3200/80r2 S 2500 | | | | | | | | | | | | 2500 | 1,0 | 0,9 |
| | | | | | | | — | bimetal | 1 | | ExZE 3200/80z1 | | | | | | | | | | | | — | — | — |
| | | | | | | | S 1300 | bimetal | 1 | | ExZE 3200/80z1 S 1300 | | | | | | | | | | | | 1300 | 0,65 | 1,2 |
| | | | | | | | S 2000 | bimetal | 1 | | ExZE 3200/80z1 S 2000 | | | | | | | | | | | | 2000 | 0,85 | 1,0 |
| | | | | | | | S 2500 | bimetal | 1 | | ExZE 3200/80z1 S 2500 | | | | | | | | | | | | 2500 | 1,0 | 0,9 |
| | | — | | posistor | 2 | | ExZE 3200/80z2 | — | — | | — | | | | | | | | | | | | | | |
| | | S 1300 | | posistor | 2 | | ExZE 3200/80z2 S 1300 | 1300 | 0,65 | | 1,2 | | | | | | | | | | | | | | |
| | | S 2000 | | posistor | 2 | | ExZE 3200/80z2 S 2000 | 2000 | 0,85 | | 1,0 | | | | | | | | | | | | | | |
| | | S 2500 | | posistor | 2 | | ExZE 3200/80z2 S 2500 | 2500 | 1,0 | | 0,9 | | | | | | | | | | | | | | |

* - for release with built-in return spring required advance force is taken as 10% of rated force

Technical data of ExZE 3200/100, ExZE 3200/120

| Type | Size | Piston rod stroke | Limit switch | | Version with spring | Rated force of piston rod advance * | Thermal protection | | Release denotation | Kind of work | Return force of piston rod to 1/3 stroke | | | Supply voltage | Current intensity at 50 or 60 Hz | Rated power of motor | Weight without oil | Weight of oil | | | | | | | | | |
|------|------|-------------------|-----------------|--------|---------------------|-------------------------------------|------------------------|------------------------|--------------------|-------------------------|--|--------|--------|----------------|----------------------------------|----------------------|--------------------|---------------|---|---|---|---|---|---|---|---|---|
| | | | Kind of contact | Symbol | | | Kind of sensor | Denotation | | | Fs [N] | tw [s] | tp [s] | | | | | | | | | | | | | | |
| ExZE | 3200 | 100 | Break | r | — | 3200 | bimetal | 1 | ExZE 3200/100r1 | S1, S3 do 100% 2000 c/h | — | — | — | 3x230 | 2,35 | 550 | 74 | 9 | | | | | | | | | |
| | | | | | posistor | | 2 | ExZE 3200/100r2 | — | | — | — | | | | | | | | | | | | | | | |
| | | | | | bimetal | | 1 | ExZE 3200/100r1 S 1300 | 1300 | | 0,8 | 1,3 | | | | | | | | | | | | | | | |
| | | | | | posistor | | 2 | ExZE 3200/100r2 S 1300 | — | | — | — | | | | | | | | | | | | | | | |
| | | | | | bimetal | | 1 | ExZE 3200/100r1 S 2000 | 2000 | | 0,9 | 1,0 | | | | | | | | | | | | | | | |
| | | | | | posistor | | 2 | ExZE 3200/100r2 S 2000 | — | | — | — | | | | | | | | | | | | | | | |
| | | | Make | z | — | | bimetal | 1 | ExZE 3200/100z1 | | — | — | — | | | | | | — | — | — | — | — | — | — | — | — |
| | | | | | posistor | | 2 | ExZE 3200/100z2 | — | | — | — | | | | | | | | | | | | | | | |
| | | | | | bimetal | | 1 | ExZE 3200/100z1 S 1300 | 1300 | | 0,8 | 1,3 | | | | | | | | | | | | | | | |
| | | | | | posistor | | 2 | ExZE 3200/100z2 S 1300 | — | | — | — | | | | | | | | | | | | | | | |
| | | | | | bimetal | | 1 | ExZE 3200/100z1 S 2000 | 2000 | | 0,9 | 1,0 | | | | | | | | | | | | | | | |
| | | | | | posistor | | 2 | ExZE 3200/100z2 S 2000 | — | | — | — | | | | | | | | | | | | | | | |
| | | 120 | Break | r | — | bimetal | 1 | ExZE 3200/120r1 | — | | — | — | — | — | — | — | — | — | — | — | | | | | | | |
| | | | | | posistor | 2 | ExZE 3200/120r2 | — | — | | — | | | | | | | | | | | | | | | | |
| | | | | | bimetal | 1 | ExZE 3200/120r1 S 1300 | 1300 | 0,95 | | 1,6 | | | | | | | | | | | | | | | | |
| | | | | | posistor | 2 | ExZE 3200/120r2 S 1300 | — | — | | — | | | | | | | | | | | | | | | | |
| | | | | | bimetal | 1 | ExZE 3200/120r1 S 2000 | 1250 | 1,1 | | 1,3 | | | | | | | | | | | | | | | | |
| | | | | | posistor | 2 | ExZE 3200/120r2 S 2000 | — | — | | — | | | | | | | | | | | | | | | | |
| | | | Make | z | — | bimetal | 1 | ExZE 3200/120z1 | — | | — | — | — | — | — | — | — | — | — | — | — | | | | | | |
| | | | | | posistor | 2 | ExZE 3200/120z2 | — | — | | — | | | | | | | | | | | | | | | | |
| | | | | | bimetal | 1 | ExZE 3200/120z1 S 1300 | 1300 | 0,95 | | 1,6 | | | | | | | | | | | | | | | | |
| | | | | | posistor | 2 | ExZE 3200/120z2 S 1300 | — | — | | — | | | | | | | | | | | | | | | | |
| | | | | | bimetal | 1 | ExZE 3200/120z1 S 2000 | 1250 | 1,1 | | 1,3 | | | | | | | | | | | | | | | | |
| | | | | | posistor | 2 | ExZE 3200/120z2 S 2000 | — | — | | — | | | | | | | | | | | | | | | | |

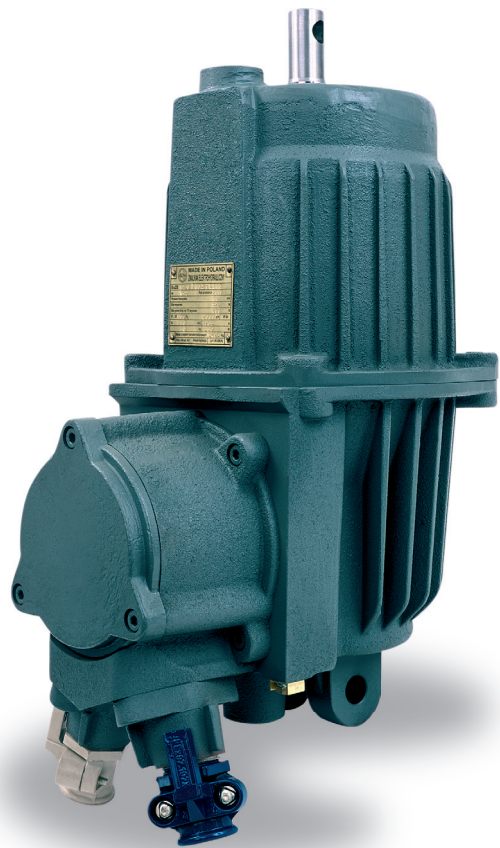
* - for release with built-in return spring required advance force is taken as 10% of rated force



Order denotation

Ordering example:
 ExZE 1250/60 r1 S 800 • 500 V AC/50 Hz
 ExZE 1250/60 z1 S 1250 • 230 V AC/50 Hz
 ExZE 2500/60 z2 S 2000 • 400 V AC/50 Hz

Explosion- proof Electrohy- draulic Release type Ex ZEM



Application

Electrohydraulic release finds application mainly in brakes for releasing (opening) shoe brakes. The release can be used for all applications requiring to-and-fro movement, e.g. to actuate gates and valves, to open and close flaps and doors, to raise and lower barriers, to move levers and pull-rods as well as to execute operations of to-and-fro movement in various machines and equipment.

Operation of the release consists in advance of the piston rod with appropriate force and to specific stroke.

With built-in return spring, return of the piston rod also occurs with appropriate force.

Release type ExZEM provided with electromagnet having rectifier circuit powered from outside with voltage of 42 V AC. Such design enables holding the piston rod in top position after switching off the hydraulic pump motor by external control and supply circuit. This reduces power drawn by the release.

Release ExZEM can be used both for continuous operation S1 as well as for periodically interrupted operation S3 with relative loading time up to 40% and number of actuations up to 600 c/h.

Operating conditions

Electrohydraulic release is designed for operation in mining plants in which methane hazard or coal-dust explosion hazard occurs (equipment group I – category M2) as well as in places other than those mentioned above which are endangered with occurrence of explosive atmosphere (equipment group II – category 2 GD) Ex IM2/II 2 GD.

This release is an explosion-proof device with flame-proof enclosure group I and IIB of temperature class 125°C (T4), with signaling circuits of spark-proof version: Exd[ia] I/IIB 125°C (T4).

As a device protected by its enclosure "tD", the release can be used in the presence of inflammable dust in zone 21 and 22: Ex tD A21 IP65 T125°C.

Bimetal sensor or posistor sensor can be connected in the spark-proof circuit according to PN-EN 60079-11 of maximum voltage 30V.

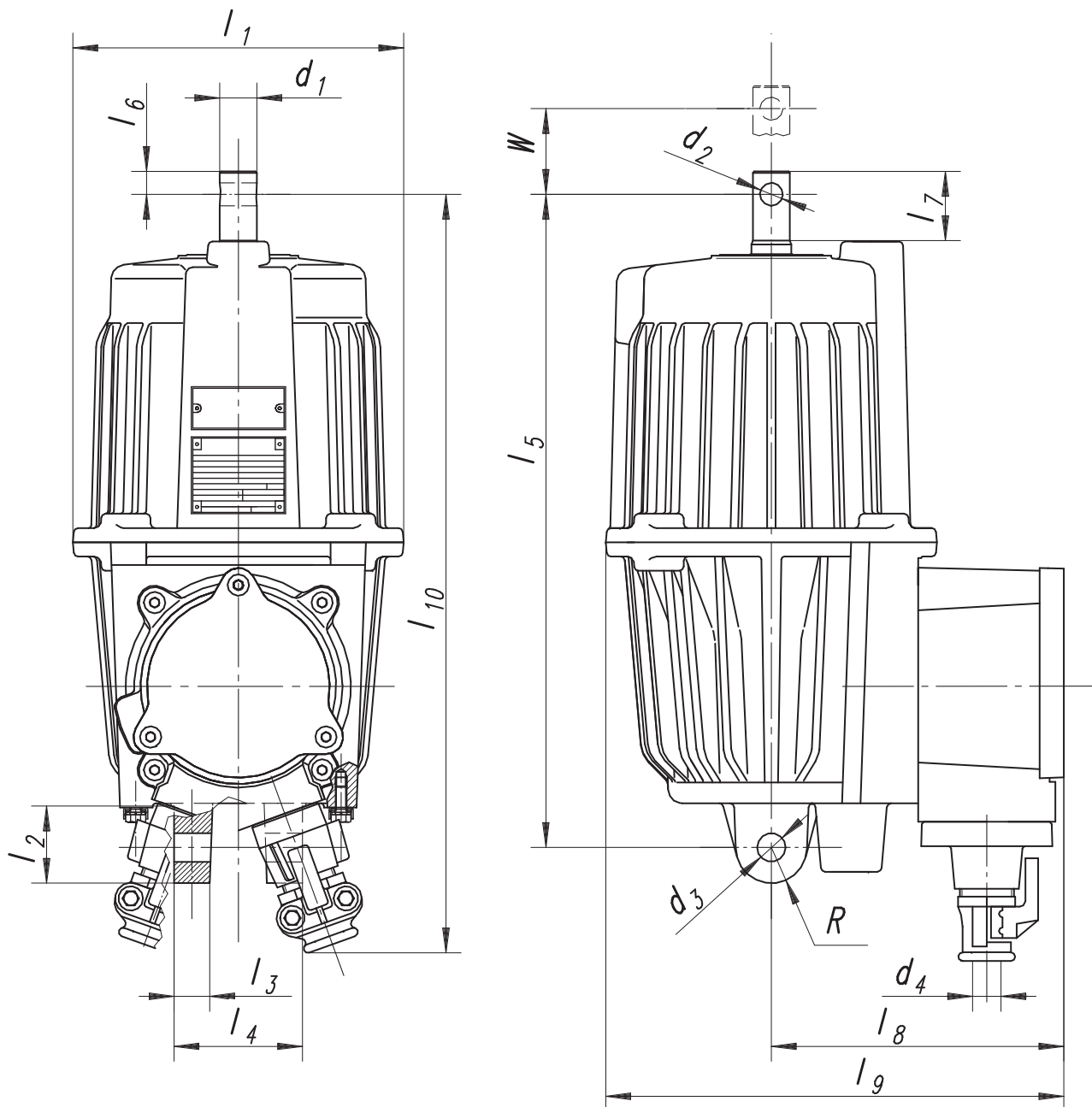
A limit switch can be connected in the spark-proof circuit according to PN-EN 60079-11.

Limit switch parameters: $U_i=60V$, $I_i=3A$, $L_i=0$, $C_i=0$.

The release can be used in ambient temperature range from -20°C to +40 °C and relative humidity of air up to 95%.

The release meets the requirements of directive ATEX (94/9/WE) and possesses test certificate type WE: KDB 04ATEX152X.

Overall dimensions



| Release type | l_1 | l_2 | l_3 | $l_4 \pm 0,3$ | l_5 | l_6 | l_7 | l_8 | l_9 | l_{10} | d_1 e_8 | d_2 F9 | d_3 D11 | d_4 | R | W |
|------------------|-------|-------|-------|---------------|-------|-------|-------|-------|-------|----------|----------------|-------------|--------------|-------|----|----|
| ExZEM 1250/60 | 232 | 54 | 25 | 90 | 458 | 16 | 48,5 | 206 | 322 | 533 | 26 | 16 | 20 | 10÷20 | 25 | 60 |



Electrohydraulic Release type **ZE-X** – substitute for Release type **ZHA**

Application

Electrohydraulic release typu ZE-X is a device substituting the formerly produced brake release type ZHA. This release can be provided with spring causing return movement of piston rod.

Version

Normal (standard) N/1 – for utilization in open air in temperate climate.

Protection rating IP 65.

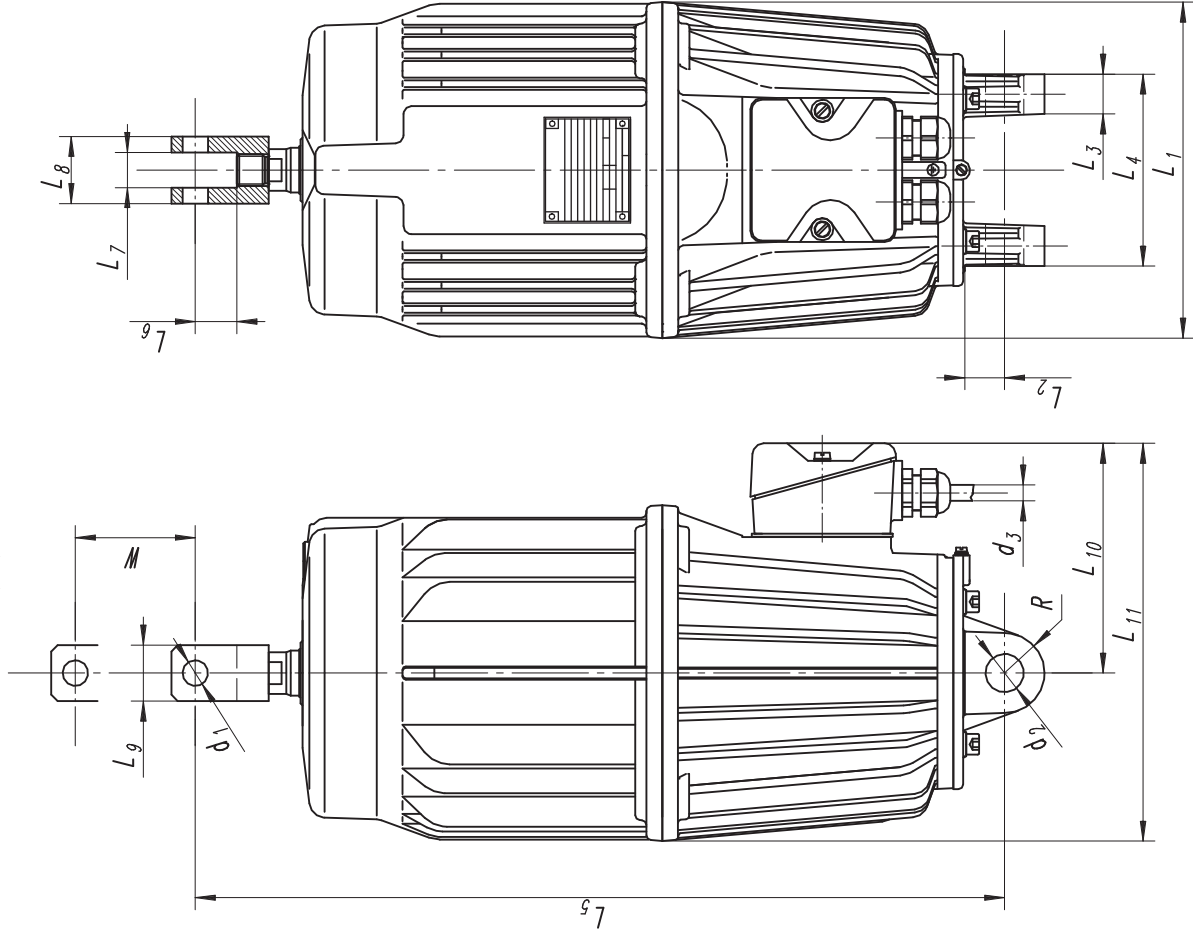
Ambient temperature:

-25 °C to +40 °C (electro-insulating transformer oil),

-40 °C to +50 °C (silicone oil – DOW CORNING Fluid 200 10 cSt).

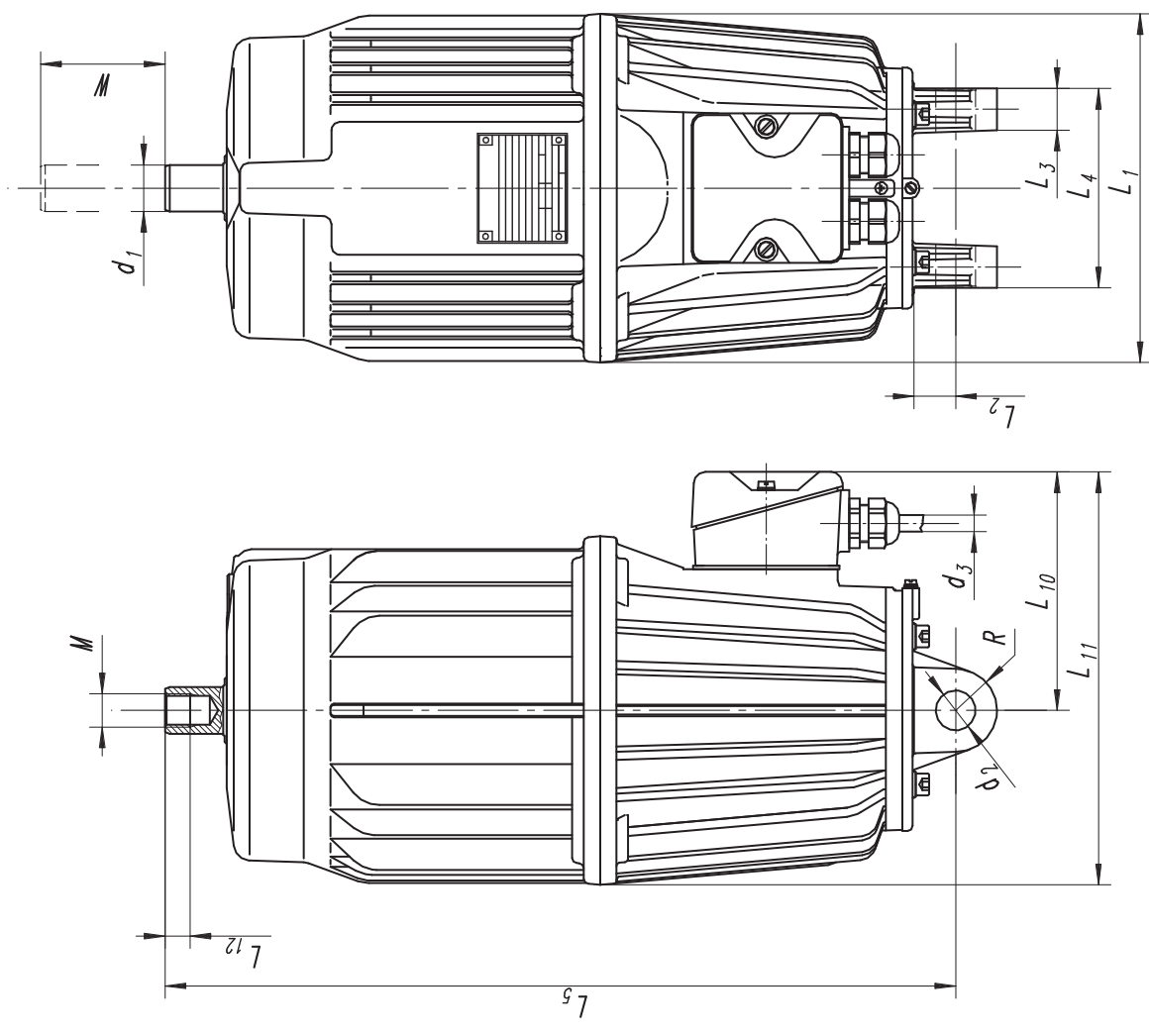
Overall dimensions of ZE 1250-X115, ZE 2500-X121

Release type ZE1250-X115 and ZE2500-X121 substitutes brake release type ZHA in version "12" — with forked-eye yoke "12(X-115)" and "12(X-121)".



Overall dimensions of ZE 1250-X109, ZE 2500-X122

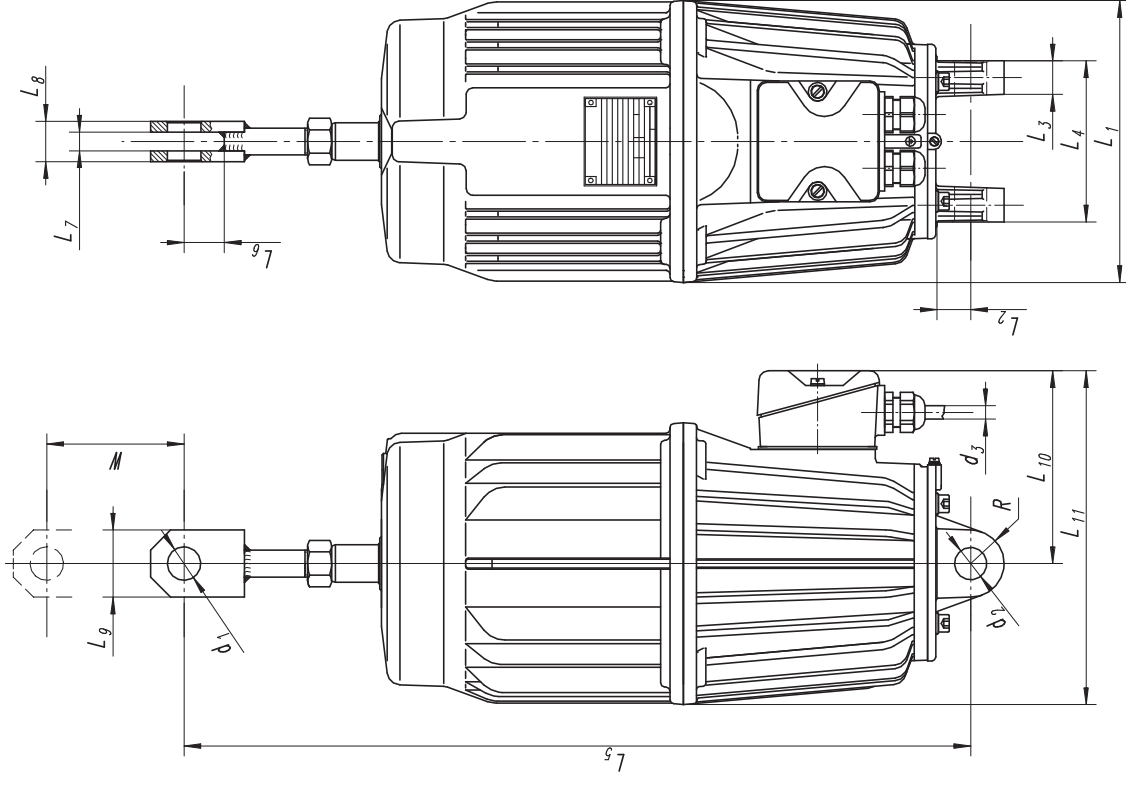
Release type ZE1250-X109 and ZE2500-X122 substitutes brake release type ZHA in version "11" — with tapped-hole yoke "11(X-109)" and "11(X-122)".



Overall dimensions of

E 1250-X116, ZE 2500-X120

Release type ZE1250-X116 and ZE2500-X120 substitutes brake release type ZHA in version "13" — with capped yoke "13(X-116)" and "13(X-120)".



| Type | L ₁ | L ₂ | L ₃ | L ₄ ^{+0,3} | L ₅ | L ₆ | L ₇ | L ₈ | L ₉ | L ₁₀ | L ₁₁ | M | d ₁ H8 | d ₂ ^{+0,2} | d ₃ | R | W |
|------------------|----------------|----------------|----------------|--------------------------------|----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|-----|-------------------|--------------------------------|----------------|----|-----|
| ZE 1250/50-X109 | 210 | 26 | 25 | 120 | 476 | — | — | — | — | 143 | 248 | M20 | 28 | 24 | 9÷14 | 25 | 50 |
| ZE 1250/60-X109 | 210 | 26 | 25 | 120 | 476 | — | — | — | — | 143 | 248 | M20 | 28 | 24 | 9÷14 | 25 | 60 |
| ZE 1250/75-X109 | 210 | 26 | 25 | 120 | 476 | — | — | — | — | 143 | 248 | M20 | 28 | 24 | 9÷14 | 25 | 75 |
| ZE 1250/50-X115 | 210 | 26 | 25 | 120 | 506 | 26 | 2 | 42 | 35 | 143 | 248 | — | 16 | 24 | 9÷14 | 25 | 50 |
| ZE 1250/60-X115 | 210 | 26 | 25 | 120 | 506 | 26 | 2 | 42 | 35 | 143 | 248 | — | 16 | 24 | 9÷14 | 25 | 60 |
| ZE 1250/75-X115 | 210 | 26 | 25 | 120 | 506 | 26 | 2 | 42 | 35 | 143 | 248 | — | 16 | 24 | 9÷14 | 25 | 75 |
| ZE 1250/50-X116 | 210 | 26 | 25 | 120 | 586 | 30 | 14 | 30 | 50 | 143 | 248 | — | 25 | 24 | 9÷14 | 25 | 50 |
| ZE 1250/60-X116 | 210 | 26 | 25 | 120 | 586 | 30 | 14 | 30 | 50 | 143 | 248 | — | 25 | 24 | 9÷14 | 25 | 60 |
| ZE 1250/75-X116 | 210 | 26 | 25 | 120 | 586 | 30 | 14 | 30 | 50 | 143 | 248 | — | 25 | 24 | 9÷14 | 25 | 75 |
| ZE 2500/50-X120 | 254 | 43 | 40 | 160 | 762 | 30 | 14 | 30 | 50 | 152 | 279 | — | 25 | 24 | 9÷14 | 27 | 50 |
| ZE 2500/60-X120 | 254 | 43 | 40 | 160 | 762 | 30 | 14 | 30 | 50 | 152 | 279 | — | 25 | 24 | 9÷14 | 27 | 60 |
| ZE 2500/75-X120 | 254 | 43 | 40 | 160 | 762 | 30 | 14 | 30 | 50 | 152 | 279 | — | 25 | 24 | 9÷14 | 27 | 75 |
| ZE 2500/120-X120 | 254 | 43 | 40 | 160 | 762 | 30 | 14 | 30 | 50 | 152 | 279 | — | 25 | 24 | 9÷14 | 27 | 120 |
| ZE 2500/160-X120 | 254 | 43 | 40 | 160 | 762 | 30 | 14 | 30 | 50 | 152 | 279 | — | 25 | 24 | 9÷14 | 27 | 160 |
| ZE 2500/50-X121 | 254 | 43 | 40 | 160 | 692 | 26 | 22 | 42 | 35 | 152 | 279 | — | 16 | 24 | 9÷14 | 27 | 50 |
| ZE 2500/60-X121 | 254 | 43 | 40 | 160 | 692 | 26 | 22 | 42 | 35 | 152 | 279 | — | 16 | 24 | 9÷14 | 27 | 60 |
| ZE 2500/75-X121 | 254 | 43 | 40 | 160 | 692 | 26 | 22 | 42 | 35 | 152 | 279 | — | 16 | 24 | 9÷14 | 27 | 75 |
| ZE 2500/120-X121 | 254 | 43 | 40 | 160 | 692 | 26 | 22 | 42 | 35 | 152 | 279 | — | 16 | 24 | 9÷14 | 27 | 120 |
| ZE 2500/160-X121 | 254 | 43 | 40 | 160 | 692 | 26 | 22 | 42 | 35 | 152 | 279 | — | 16 | 24 | 9÷14 | 27 | 160 |
| ZE 2500/50-X122 | 254 | 43 | 40 | 160 | 662 | — | — | — | — | 152 | 279 | M20 | 34 | 24 | 9÷14 | 27 | 50 |
| ZE 2500/60-X122 | 254 | 43 | 40 | 160 | 662 | — | — | — | — | 152 | 279 | M20 | 34 | 24 | 9÷14 | 27 | 60 |
| ZE 2500/75-X122 | 254 | 43 | 40 | 160 | 662 | — | — | — | — | 152 | 279 | M20 | 34 | 24 | 9÷14 | 27 | 75 |
| ZE 2500/120-X122 | 254 | 43 | 40 | 160 | 662 | — | — | — | — | 152 | 279 | M20 | 34 | 24 | 9÷14 | 27 | 120 |
| ZE 2500/160-X122 | 254 | 43 | 40 | 160 | 662 | — | — | — | — | 152 | 279 | M20 | 34 | 24 | 9÷14 | 27 | 160 |

Technical data of ZE 1250-X109, ZE 1250-X115, ZE 1250-X116

| Type | Size | Version | | Version with spring | Rated force of piston rod advance ** | Piston rod stroke | Denotation | Kind of work | Return force of piston rod to 1/3 stroke ± 10 % | Motor | | | Weight without oil (basic version) | Weight of oil |
|------|------|--------------------------------------|--------|---------------------|--------------------------------------|-------------------|---------------------|---------------------------|---|-------------------------|----------------------------|-------------|------------------------------------|---------------|
| | | Name | Symbol | | | | | | | Supply voltage* | Current intensity at 50 Hz | Rated power | | |
| | | | | | Fz [N] | W [mm] | | | Fs [N] | U [V] | I [A] | P [W] | m [kg] | mo [kg] |
| ZE | 1250 | Version "11" – with tapped-hole yoke | X-109 | — | 1250 | 50 | ZE1250/50-X109 | S1 SS do 100% 2000 c/h | — | 3x230 3x400 3x500 | 2,1 1,2 0,9 | 450 | 18 | 4,5 |
| | | | | S 450 | | | ZE1250/50-X109 S450 | | S 450 | | | | | |
| | | | | — | | 60 | ZE1250/60-X109 | | — | | | | | |
| | | | | S 450 | | | ZE1250/60-X109 S450 | | S 450 | | | | | |
| | | | | — | | 75 | ZE1250/75-X109 | | — | | | | | |
| | | | | S 450 | | | ZE1250/75-X109 S450 | | S 450 | | | | | |
| | | Version "12" – with forked-eye yoke | X-115 | — | | 50 | ZE1250/50-X115 | | — | | | | | |
| | | | | S 450 | | | ZE1250/50-X115 S450 | | S 450 | | | | | |
| | | | | — | | 60 | ZE1250/60-X115 | | — | | | | | |
| | | | | S 450 | | | ZE1250/60-X115 S450 | | S 450 | | | | | |
| | | | | — | | 75 | ZE1250/75-X115 | | — | | | | | |
| | | | | S 450 | | | ZE1250/75-X115 S450 | | S 450 | | | | | |
| | | Version "13" – with capped yoke | X-116 | — | | 50 | ZE1250/50-X116 | | — | | | | | |
| | | | | S 450 | | | ZE1250/50-X116 S450 | | S 450 | | | | | |
| | | | | — | | 60 | ZE1250/60-X116 | | — | | | | | |
| | | | | S 450 | | | ZE1250/60-X116 S450 | | S 450 | | | | | |
| | | | | — | | 75 | ZE1250/75-X116 | | — | | | | | |
| | | | | S 450 | | | ZE1250/75-X116 S450 | | S 450 | | | | | |

* - possibility of other voltage variations

** - for release with built-in return spring required advance force is taken as 10% of rated force

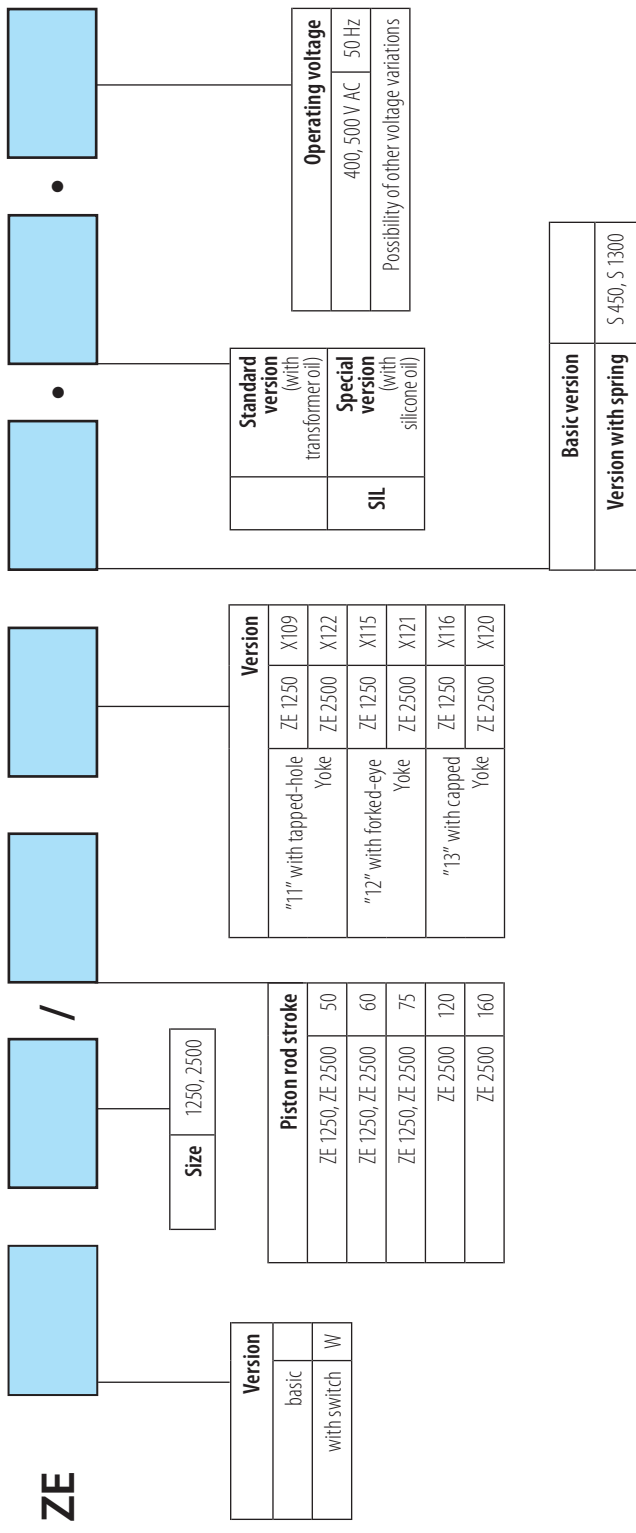
Technical data of ZE 2500–X120, ZE 2500–X121, ZE 2500–X122

| Type | Size | Version | | Version with spring | Rated force of piston rod advance ** | Piston rod stroke | Denotation | Kind of work | Return force of piston rod to 1/3 stroke ± 10 % | Motor | | | Weight without oil (basic version) | Weight of oil | | |
|--------|------|--------------------------------------|--------|-------------------------------------|--------------------------------------|-----------------------|----------------------|---------------------------|---|-----------------|----------------------------|-------------|------------------------------------|---------------|----------------------|--------|
| | | Name | Symbol | | | | | | | Supply voltage* | Current intensity at 50 Hz | Rated power | | | | |
| | | | | | Fz [N] | W [mm] | | | Fs [N] | U [V] | I [A] | P [W] | m [kg] | mo [kg] | | |
| ZE | 2500 | Version "13" – with capped yoke | | X-120 | — | 50 | ZE2500/50-X120 | S1 S3 do 100% 2000 c/h | — | 3x230 | 2,35 | 550 | 28 | 8 | | |
| | | | | | S 1300 | | ZE2500/50-X120 S1300 | | S 1300 | | | | | | | |
| | | | | | — | 60 | ZE2500/60-X120 | | — | | | | | | | |
| | | | | | S 1300 | | ZE2500/60-X120 S1300 | | S 1300 | | | | | | | |
| | | | | | — | 75 | ZE2500/75-X120 | | — | | | | | | | |
| | | | | | S 1300 | | ZE2500/75-X120 S1300 | | S 1300 | | | | | | | |
| | | | | — | 120 | ZE2500/120-X120 | — | | | | | | | | | |
| | | | | S 1300 | | ZE2500/120-X120 S1300 | S 1300 | | | | | | | | | |
| | | | | — | 160 | ZE2500/160-X120 | — | | | | | | | | | |
| | | | | S 1300 | | ZE2500/160-X120 S1300 | S 1300 | | | | | | | | | |
| | | | | Version "12" – with forked-eye yoke | | X-121 | — | | 50 | | | | | | ZE2500/50-X121 | — |
| | | | | | | | S 1300 | | | | | | | | ZE2500/50-X121 S1300 | S 1300 |
| | | — | 60 | | | | ZE2500/60-X121 | | — | | | | | | | |
| | | S 1300 | | | | | ZE2500/60-X121 S1300 | | S 1300 | | | | | | | |
| | | — | 75 | | | | ZE2500/75-X121 | | — | | | | | | | |
| | | S 1300 | | | | | ZE2500/75-X121 S1300 | | S 1300 | | | | | | | |
| | | — | 120 | | | ZE2500/121-X121 | — | | | | | | | | | |
| | | S 1300 | | | | ZE2500/121-X121 S1300 | S 1300 | | | | | | | | | |
| | | — | 160 | | | ZE2500/160-X121 | — | | | | | | | | | |
| | | S 1300 | | | | ZE2500/160-X121 S1300 | S 1300 | | | | | | | | | |
| | | Version "11" – with tapped-hole yoke | | | | X-122 | — | | 50 | | | | | | ZE2500/50-X122 | — |
| | | | | | | | S 1300 | | | | | | | | ZE2500/50-X122 S1300 | S 1300 |
| | | | | — | 60 | | ZE2500/60-X122 | | — | | | | | | | |
| | | | | S 1300 | | | ZE2500/60-X122 S1300 | | S 1300 | | | | | | | |
| — | 75 | | | ZE2500/75-X122 | — | | | | | | | | | | | |
| S 1300 | | | | ZE2500/75-X122 S1300 | S 1300 | | | | | | | | | | | |
| — | 120 | | | ZE2500/122-X122 | — | | | | | | | | | | | |
| S 1300 | | | | ZE2500/122-X122 S1300 | S 1300 | | | | | | | | | | | |
| — | 160 | | | ZE2500/160-X122 | — | | | | | | | | | | | |
| S 1300 | | | | ZE2500/160-X122 S1300 | S 1300 | | | | | | | | | | | |

* - possibility of other voltage variations

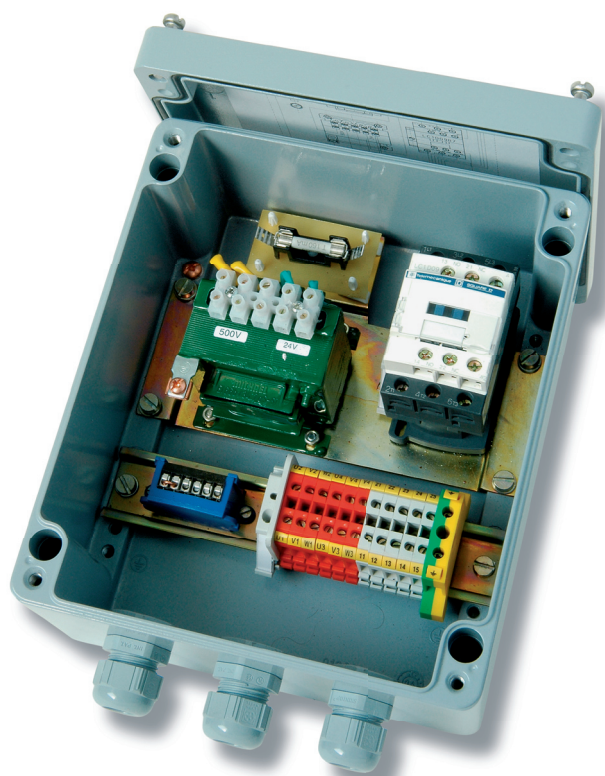
** - for release with built-in return spring required advance force is taken as 10% of rated force

Order denotation



Ordering example:

ZE 1250/60 - X109 • 500 V AC/50 Hz
 ZE 2500/120 - X121 • 400 V AC/50 Hz
 ZE W 1250/75 - X115 S450 • 400 V AC/50 Hz



Supply and control circuit type UZ for ZEM release

Application

Supply and control circuit type UZ is designed for powering electrohydraulic release type ZEM of mechanical size 500 to 3200 provided with electromagnet, produced by Fabryka Aparatury Elektrycznej EMA-ELFA Sp. z o.o. in Ostrzeszów. The circuit operates on three-phase AC.

After feeding voltage to the supply circuit, voltage of 42 VAC appears on the auxiliary contacts of the contactor causing energizing of the main contacts and feeding of voltage to the release. In release ZEM, the hydraulic pump motor gets started causing advance of the piston and the attached piston rod of the release to the top position, simultaneously voltage of 38 VDC is fed to the electromagnet coil situated in the release, through the rectifier circuit. In top position of the piston, the attached keeper gets drawn by the electromagnet opening contacts of the limit switch located in the release.

This breaks the circuit of the contactor auxiliary contacts, interrupting its main contacts and switching off the release motor.

From now on, piston rod of the release is held in top position exclusively by the electromagnet.

Operating conditions

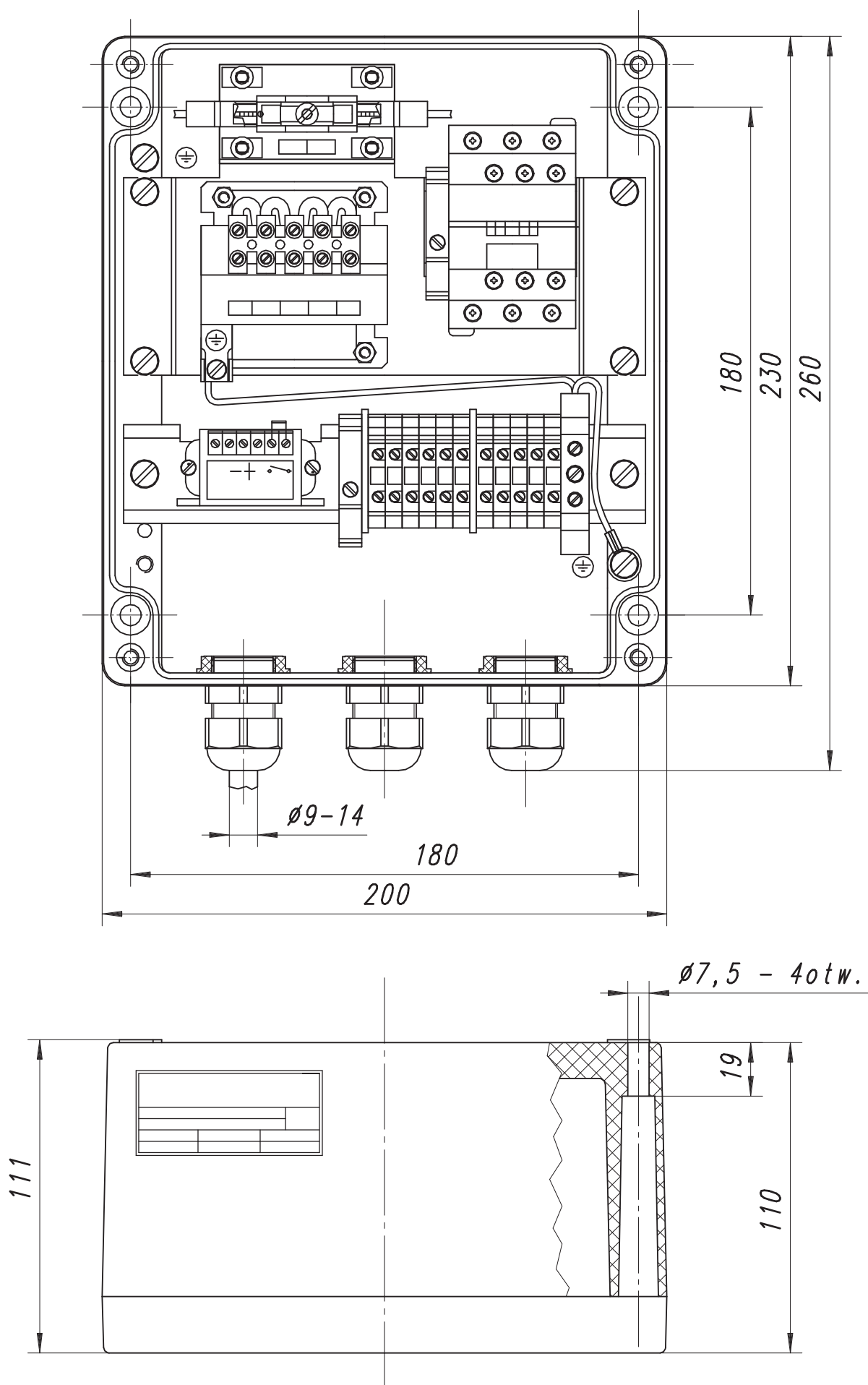
The supply and control circuit is adapted for operation in temperate climate zone on land, in open air N/1 according to PN-68/H-04650 in ambient temperature range from -25°C to +40°C.

The circuit possesses casing of protection rating IP66 according to PN-EN 60529:2003.

Technical data

| Type of supply circuit | UZ-230/42 | UZ-400/42 | UZ-500/42 |
|--|-------------|-------------|-------------|
| Input parameters: | | | |
| Supply voltage (release motor voltage) | 3 x 230 VAC | 3 x 400 VAC | 3 x 500 VAC |
| Output parameters: | | | |
| Control voltage | | | 42 V AC |
| Electromagnet supply voltage | | | 38 V DC |

Overall dimensions





Release with external inductive sensor of piston rod position type **ZE...Ci**

Application

Release type ZE...Ci is provided with external inductive sensor. This sensor can signal the position of piston rod along its full range of advance. Determination of piston rod position at any point is enabled by utilization of sliding measuring head.

All releases of ZE series can be provided with inductive sensors.

The release can be provided with the following types of induction sensors:

| Denotation | Type of sensor | Operating mode | Kind of output |
|------------|--------------------|----------------|----------------|
| B1 | E2A-M18-KS08-M1-B1 | NO | PNP |
| C1 | E2A-M18-KS08-M1-C1 | NO | NPN |
| B2 | E2A-M18-KS08-M1-B2 | NC | PNP |
| C2 | E2A-M18-KS08-M1-C2 | NC | NPN |

Electrical parameters of inductive sensors

Supply voltage: 12 to 24 VDC

Current: 10 mA max.

Denotation example

ZE1250/160 S450 with external inductive sensor E2A-M18-KS08-M1-B1:

ZE1250/160 S450 Ci-B1

ZE2500/60 S2000 with external inductive sensor E2A-M18-KS08-M1-C2:

ZE2500/60 S2000 Ci-C2

Release with external mechanical switch type ZE...Cm



Application

Release type ZE...Cm is provided with external mechanical switch. Depending on position of measuring slide, this switch can signal position of the piston rod in top as well as bottom position.

After agreeing with the producer, signaling of piston rod in other position is also possible.

All releases of ZE series can be provided with mechanical switches.

The release is provided with mechanical switch D4M-5171 of make and break contact system NO/NC.

Electrical parameters of mechanical switch

AC-15 6A/230V 4A/400V – 3A/500V

DC-13 6A/24V 0.4A/250V

Denotation example

ZE2000/120 S800 with external mechanical switch

ZE2000/120 S800 Cm

ZE2500/160 S1300 with external mechanical switch

ZE2500/160 S1300 Cm

Shock absorber for release type ZE



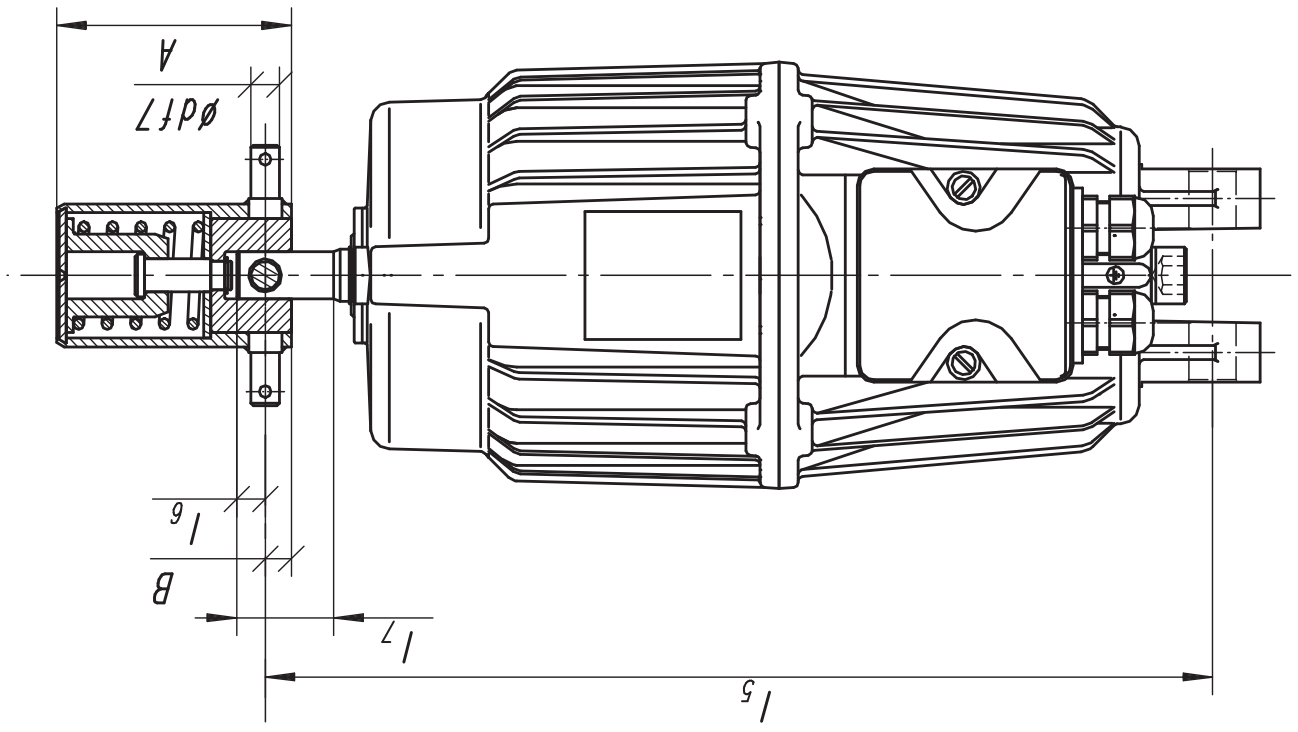
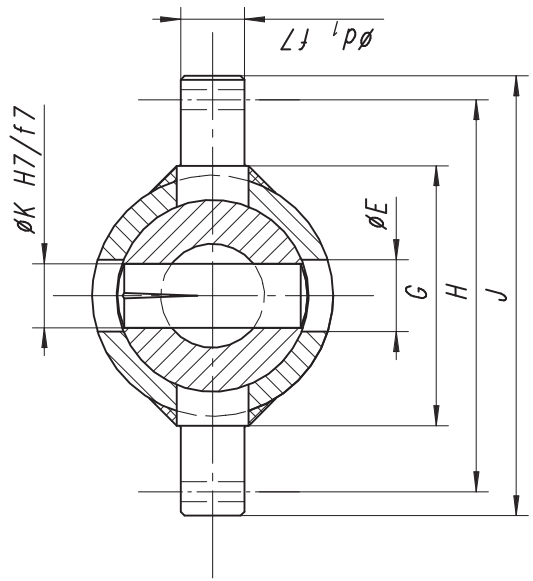
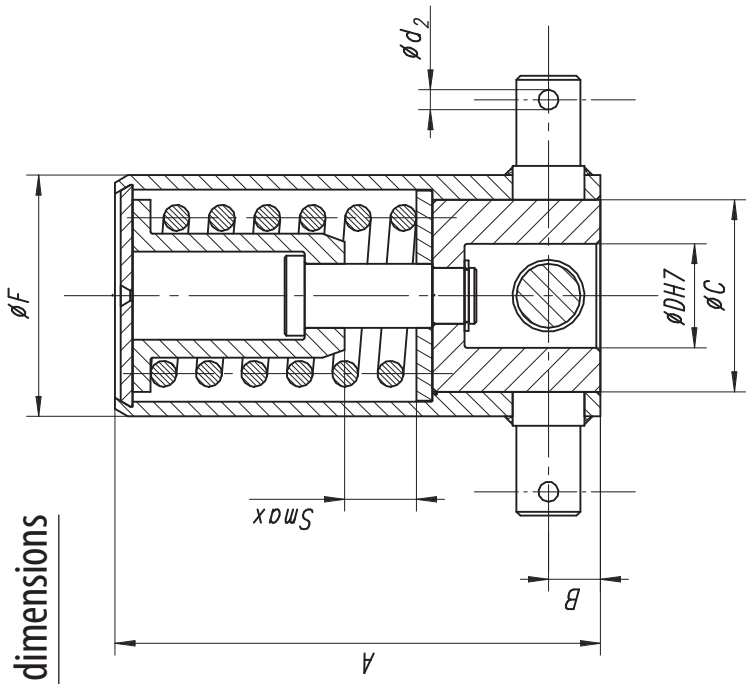
Application

Shock absorbers are meant for electrohydraulic release type ZE used mainly as brake release.

Use of shock absorber provides continuous growth in braking force from the moment braking is commenced until complete braking (viz. soft braking).

While releasing the brake, value of braking force reduces from highest value to zero.

Overall dimensions



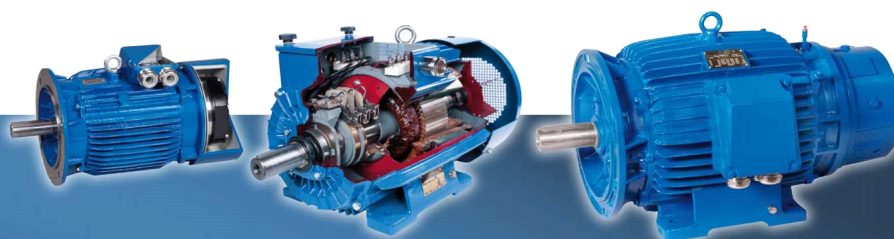
Technical data and overall dimensions

| Type of shock absorber | | A 180 | A 320 | A 500 | A 450 | A 800 | A 1250 | A 700 | A 1300 | A 2000 | A 2500 |
|-----------------------------|-----------------------|--------------|--------------|--------------|--|---|-----------------------------------|----------------|------------------------------------|------------------------------------|-----------------|
| Parameters | | | | | | | | | | | |
| Nominal force | [N] | 185 | 325 | 505 | 455 | 810 | 1260 | 710 | 1310 | 2010 | 2510 |
| Nominal stroke | [mm] | 13 | | | 15 | | | 17 | | | |
| Maximum force | [N] | 201 | 360 | 532 | 507 | 905 | 1400 | | | | |
| Maximum stroke | S _{max} [mm] | 15 | | | 18 | | | 20 | | | |
| Dimensions | | | | | | | | | | | |
| A | | 98 | | | 121 | | | ~ 140 | | | |
| B | | 11 | | | 13 | | | 17 | | | |
| C | | 48 | | | 48 | | | 54 | | | |
| D | | 20 | | | 26 | | | 34 | | | |
| E | | 14 | | | 18 | | | 22 | | | |
| F | | 60,3 | | | 60,3 | | | 70 | | | |
| G | | 65 | | | 65 | | | 75 | | | |
| H | | 98 | | | 98 | | | 109 | | | |
| J | | 110 | | | 110 | | | 121 | | | |
| K | | 12 | | | 16 | | | 20 | | | |
| d ₁ | | 12 | | | 16 | | | 20 | | | |
| d ₂ | | 5 | | | 5 | | | 5 | | | |
| Assigned for release | | ZEA 500 S180 | ZEA 500 S320 | ZEA 500 S500 | ZEA 800 S450 ZEA 1250 S450 ZEA 1500 S450 | ZEA 1250 S800 ZEA 1500 S800 ZEA 2000 S800 | ZEA 1500 S1250 ZEA 2000 S 1250 | ZEA 2500 S 700 | ZEA 2500 S 1300 ZEA 3200 S 1300 | ZEA 2500 S 2000 ZEA 3200 S 2000 | ZEA 3200 S 2500 |

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