



EMC

ELDRO®
classic

ELECTRO HYDRAULIC THRUSTERS



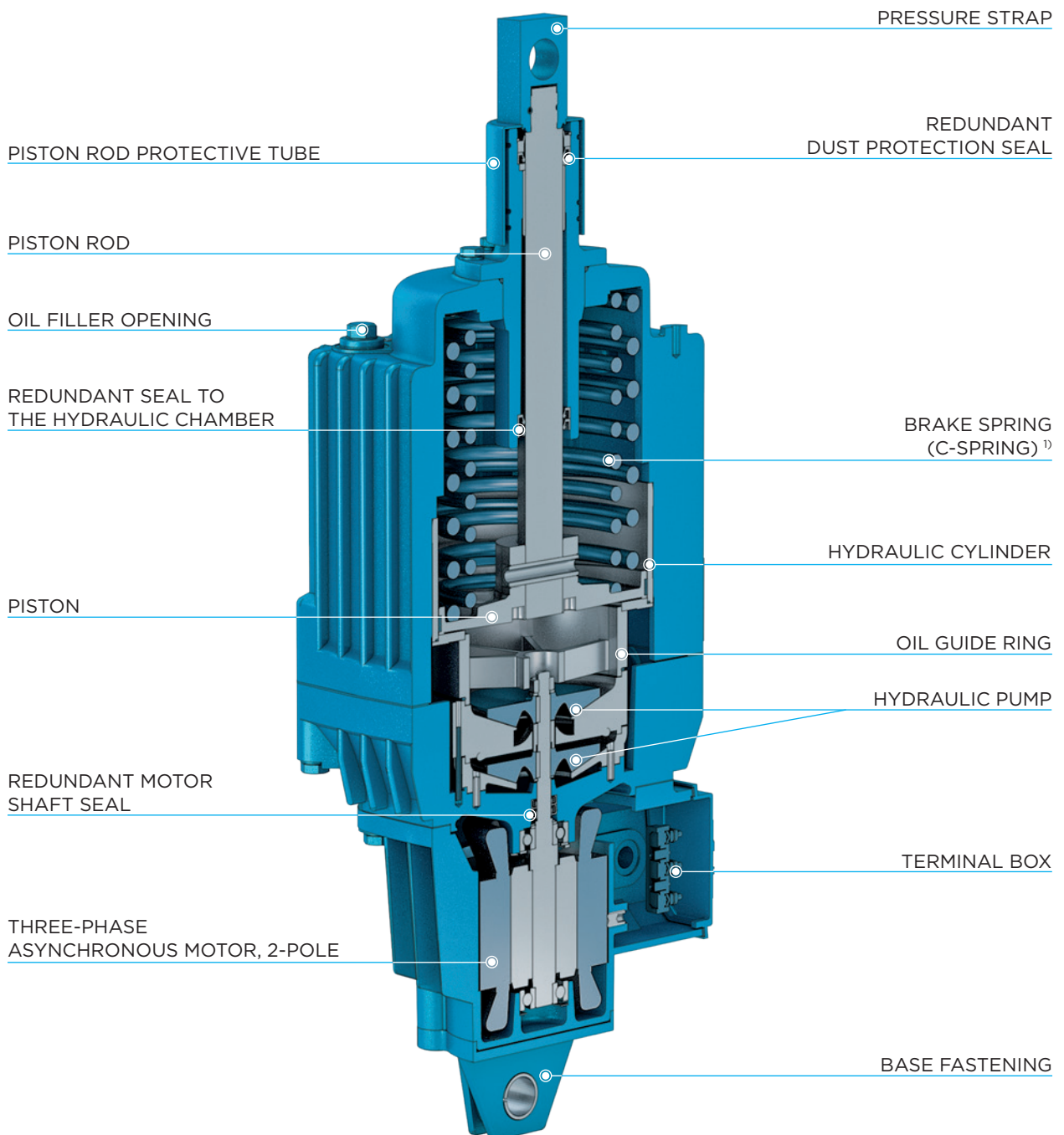
THE ORIGINAL. BE SAFE.

STANDARD SERIES

Ed

EMC.moving ahead.

DESIGN, FUNCTION AND ADVANTAGES



¹⁾ Auxiliary equipment

Ed THRUSTER OVERVIEW

CHARACTERISTIC FEATURES

The electro hydraulic system of the ELDRO^{classic}® thrusters, in conjunction with the straightforward integration in brake systems and the simple electrical start-up, result in the following features under the diverse application conditions:

- High operational safety
- Long service life due to wear-free work under constant self-lubrication
- Soft and impact-free mode of operation, as a systemic result of the hydraulic working principle
- Short actuating times
- Approved continuous operation S1 in standard temperature range of -25 °C up to +50 °C
- High switching frequency of up to 2,000 cycles per hour in switching operation S3
- Reversing operation without limitations
- Easy to install and de-install
- Arbitrary direction of motor rotation, meaning no changeover contactors required
- Overloading not possible during operation
- Arbitrary external limiting of the stroke path
- Stepless extension of the lifting and/or lowering times through the installation of valves
- The fill level of the operating medium is optimised according to the application conditions

TECHNICAL VALUES

Type	Lifting force [N]	Stroke path [mm]**	Power consumption [W]	Current consumption [A] at 400 V/50 Hz	Switching frequency with S3 operation [c/h]	Weight [kg]
<i>Three-phase current version</i>						
Ed 12/...	120	40	120	0.36	2,000	8
Ed 23/...	220	50	165	0.50	2,000	10
Ed 25/...	300	50	165	0.50	2,000	10
Ed 30/...	300	50	200	0.50	2,000	14
Ed 50/...	500	60 - 120	210	0.50	1,200 - 2,000*	23 - 26*
Ed 80/...	800	60 - 120	330	1.20	1,200 - 2,000*	24 - 27*
Ed 121/...	1,250	60 - 200	330	1.20	400 - 2,000*	39
Ed 125/...	1,250	70	330	1.20	2,000	24
Ed 185/...	1,850	60 - 155	450	1.30	400 - 2,000*	40
Ed 201/...	2,000	60 - 120	450	1.30	1,200 - 2,000*	39
Ed 301/...	3,000	60 - 150	500	1.40	400 - 1,500*	40 - 50*
Ed 350/...	3,500	200	550	1.40	400	50
Ed 400/...	4,000	80 - 200	550	1.40	400 - 600*	50
Ed 450/...	4,500	80 - 200	600	1.40	400 - 600*	40 - 50*
Ed 500/...	5,000	80	700	1.80	400	50
Ed 630/...	6,300	80 - 120	700	1.80	400	70

* depending on stroke path

** further on request

Stroke work (N cm) = Lifting force x stroke path

Ed THRUSTER OVERVIEW

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Ed 12/4



Ed 23/5



Ed 30/5



Ed 80/6

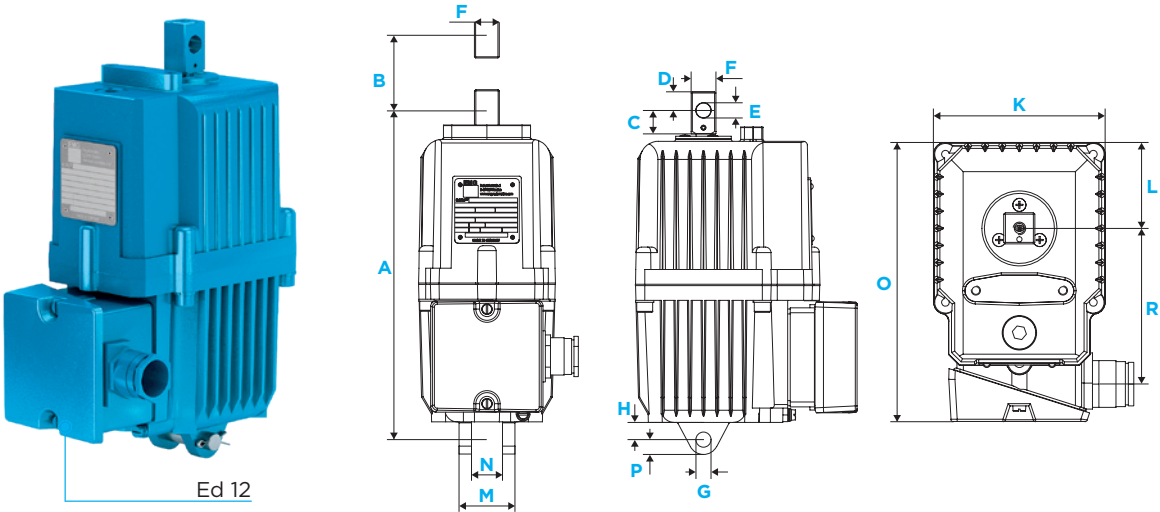


Ed 301/6

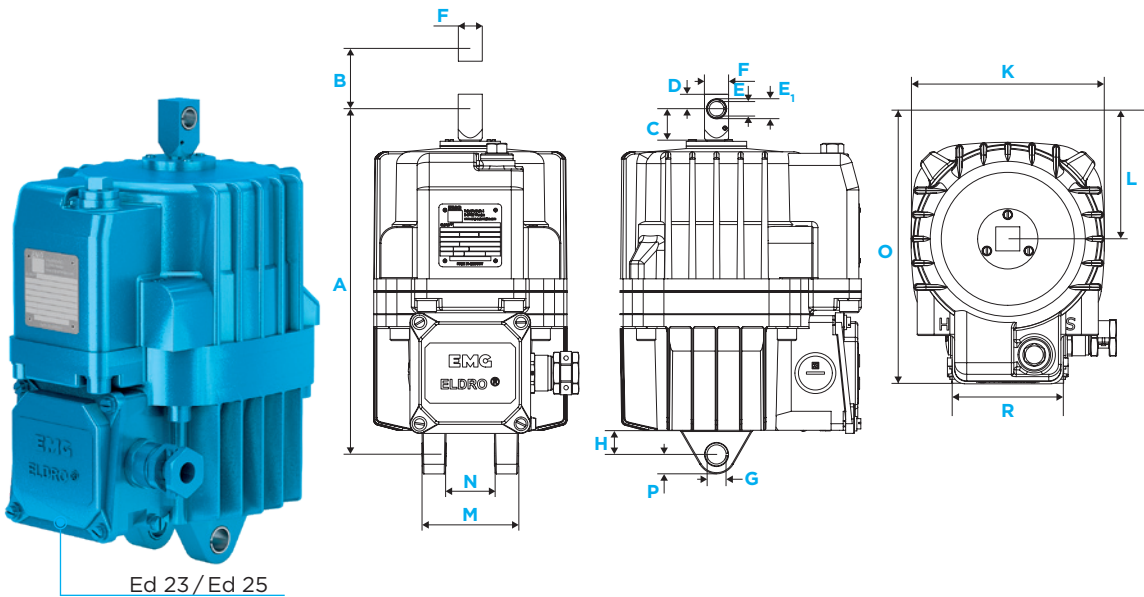


Ed 630/9

Ed 12



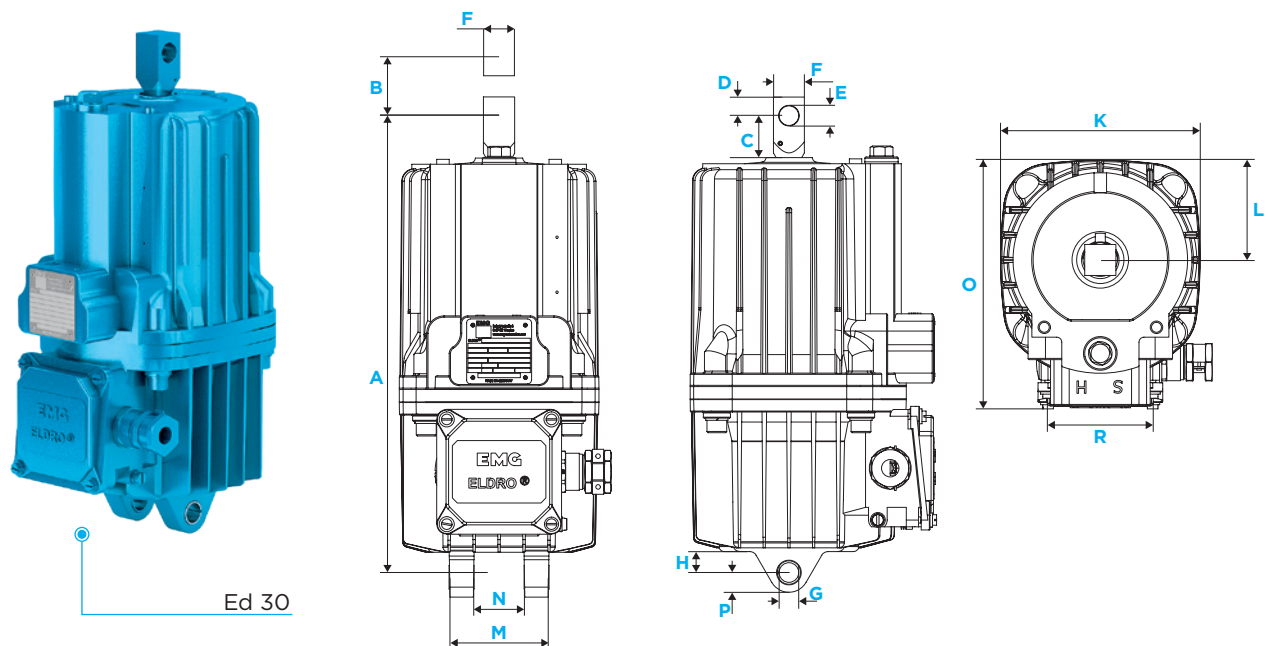
Ed 23 TO Ed 25



Type	A	C	D	E	E ₁	F	G	H	K	L	M	N	O	P	R
Ed 12/...	265	20	10	12	-	20	12	12	110	55	45	25	178	14	100
Ed 23/...	286	26	12	12	16	20	16	20	160	80	80	40	200	16	92
Ed 25/...	286	26	12	12	16	20	16	20	160	80	80	40	200	16	92

All dimensions in mm
B = stroke path (variable) | E convertible to E₁ by removing the clamping bush

Ed 30 TO Ed 80 AND Ed 125

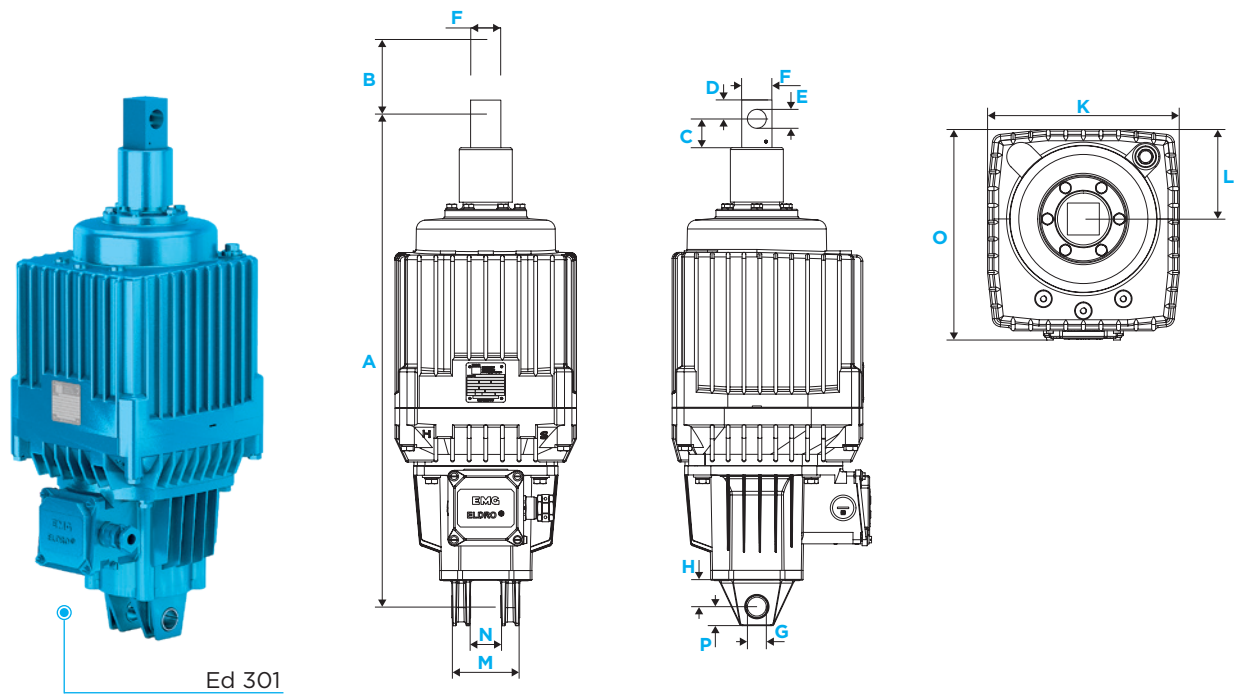


Type	A	C	D	E	E ₁	F	G	H	K	L	M	N	O	P	R
<i>Short stroke thrusters</i>															
Ed 30/...	370	34	15	16	-	25	16	18	160	80	80	40	197	16	80
Ed 50/...	435	36	18	20	-	30	20	23	195	97	120	60	254	22	90
Ed 80/...	450	36	18	20	-	30	20	23	195	97	120	60	254	22	90
Ed 125/...	450	36	18	20	-	30	20	23	195	97	120	60	254	22	90
<i>Long stroke thrusters</i>															
Ed 50/...	515	36	18	20	-	30	20	23	195	97	120	60	254	22	90
Ed 80/...	530	36	18	20	-	30	20	23	195	97	120	60	254	22	90

All dimensions in mm

B = stroke path (variable) | E convertible to E₁ by removing the clamping bush

Ed 121 TO Ed 630



Type	A	C	D	E	F	G	H	K	L	M	N	O	P	R
Short stroke thrusters														
Ed 121/...	645	38	25	25	40	25	35	240	112	90	40	260	25	-
Ed 185/...	600	42	25	25	40	27	44	240	112	160	80	260	25	-
Ed 201/...	645	38	25	25	40	25	35	240	112	90	40	260	25	-
Ed 301/...	645	38	25	25	40	25	35	240	112	90	40	260	25	-
Long stroke thrusters														
Ed 121/...	705	38	25	25	40	25	35	240	112	90	40	260	25	-
Ed 185/...	700	42	25	25	40	27	44	240	112	160	80	260	25	-
Ed 201/...	705	38	25	25	40	25	35	240	112	90	40	260	25	-
Ed 301/...	705	38	25	25	40	25	35	240	112	90	40	260	25	-
Ed 301/...*	880	38	25	25	40	27	44	250	117	160	80	265	25	-
Ed 350/...	880	38	25	25	40	27	44	250	117	160	80	265	25	-
Ed 400/...	645	42	25	25	40	25	34	240	112	90	40	265	25	-
Ed 450/...	645	42	25	25	40	25	34	240	112	90	40	265	25	-
Ed 500/...	665	52.5	25	25	40	25	35	250	117	90	40	265	25	-
Ed 630/...	705	38	25	25	40	25	35	274	127	90	40	328	30	-

All dimensions in mm
B = stroke path (variable) | * from 130 mm stroke path

ELECTRICAL VERSION

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MOTOR

- Three-phase asynchronous motor, 2-pole
- For power data see “Technical values”
- Standard insulation per insulation class F
- Special version in insulation class H

VOLTAGES AND FREQUENCIES

- Standard:
230/400 V, 50 Hz, 3 ~
290/500 V, 50 Hz, 3 ~
400/690 V, 50 Hz, 3 ~
- Special versions 110 V to 690 V, 3 ~,
50 Hz and 60 Hz possible
- All thrusters are star (Y) connected on delivery
- Alternating current versions (with capacitor for Steinmetz circuit) on request
- DC current version see separate brochure

CABLE INLET

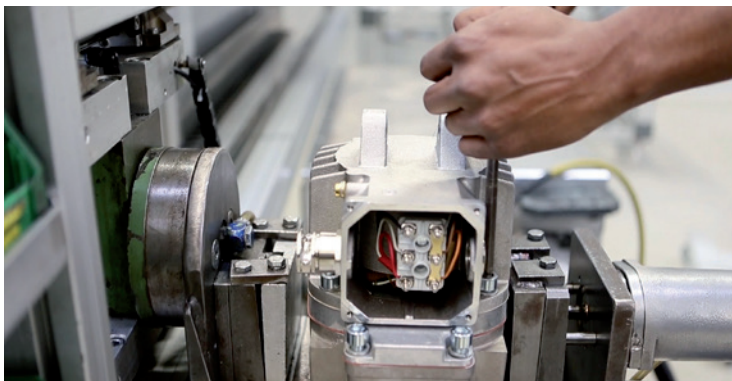
- Threaded cable gland M 25 x 1.5 for cable cross-sections to 4 x 2.5 mm² (Ø 12 – 18 mm)

OPERATING MODES

- Continuous operation S1 and intermittent duty S3 – 60 % duty cycle standard
- With ambient temperatures > 50 °C deviating technical values (available on request)

TERMINAL BOX

- Terminal board 6-pole, with thrusters with heating the terminal board is 9-pole
- Supply line connection M4
- Internal protective conductor connection: M4
- External protective conductor connection: M6



MECHANICAL VERSION

INSTALLATION VARIANTS

- In case of types from Ed 50, the base fastening can be mounted offset through 90°.
- With the types Ed 23/5 and Ed 30/5, the base fastening is cast on the motor.
 - Here, 90° offset installation is possible with a special motor housing.
- The pressure strap at the top rotates in all types.
- In case of versions with a limit switch, minor modifications are required in order to rotate the pressure strap or fasten the base as required.

OPERATING FLUID

- Mineral hydraulic oil or silicone oil depending on the operating conditions, e.g. ambient temperature, factory-filled

ENCLOSURE

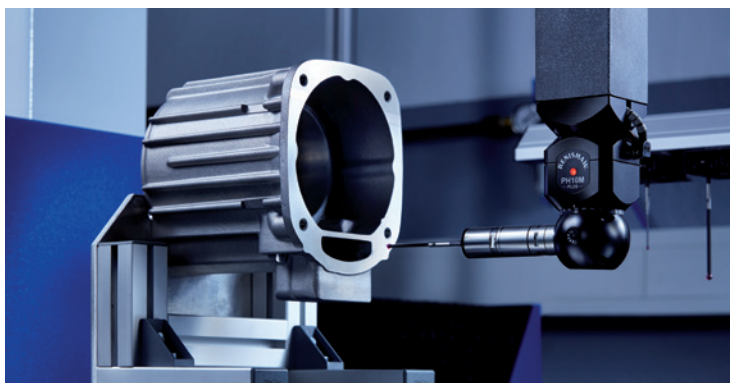
- Standard IP 65, in special version up to IP 68

PAINT APPLICATION PER DIN EN ISO 12944

- Standard for corrosion load C1, layer thickness 70 µm
- Special paint up to corrosion load C5-M, coating thickness to 280 µm
- Standard colour RAL 7022 (umbra grey)

PROTECTIVE MEASURES

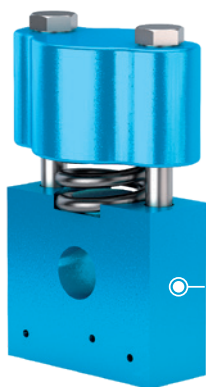
- Redundant dust protection seal
- Redundant seal with the hydraulic chamber
- Piston rod chromium plated to dimension
- With Ed 121, Ed 201, Ed 301, Ed 350, Ed 630 additional piston rod protective tube against external mechanical influences



ELECTRICAL & MECHANICAL AUXILIARY EQUIPMENT

DAMPING SPRING (D-SPRING)

- Damping of the load change when closing and opening the brake.
- The D-spring is only effective in conjunction with a C-spring.
- With the installation of the D-spring, it is not possible to fit a limit switch.
- The installation length "A" of the device does not change.
- When specifying the working point of the brake, dimension "z" must be taken into account (see device specific dimension drawing).
- Main application: ELDRO[®] classic control brake



d-spring

BRAKE SPRING (C-SPRING)

- Integrated C-spring for generating the brake force. The specified brake force of the C-spring is reached at 1/3 of the nominal stroke.

VERSIONS WITH BRAKE SPRING

Type	Brake spring force (C-spring) [N]
<i>Three-phase current version</i>	
Ed 23/5	180
Ed 30/5	270
Ed 50/6	460
Ed 80/6	750
Ed 121/6	1,200
Ed 185/6	1,900
Ed 201/6	1,900
Ed 301/6	2,700

