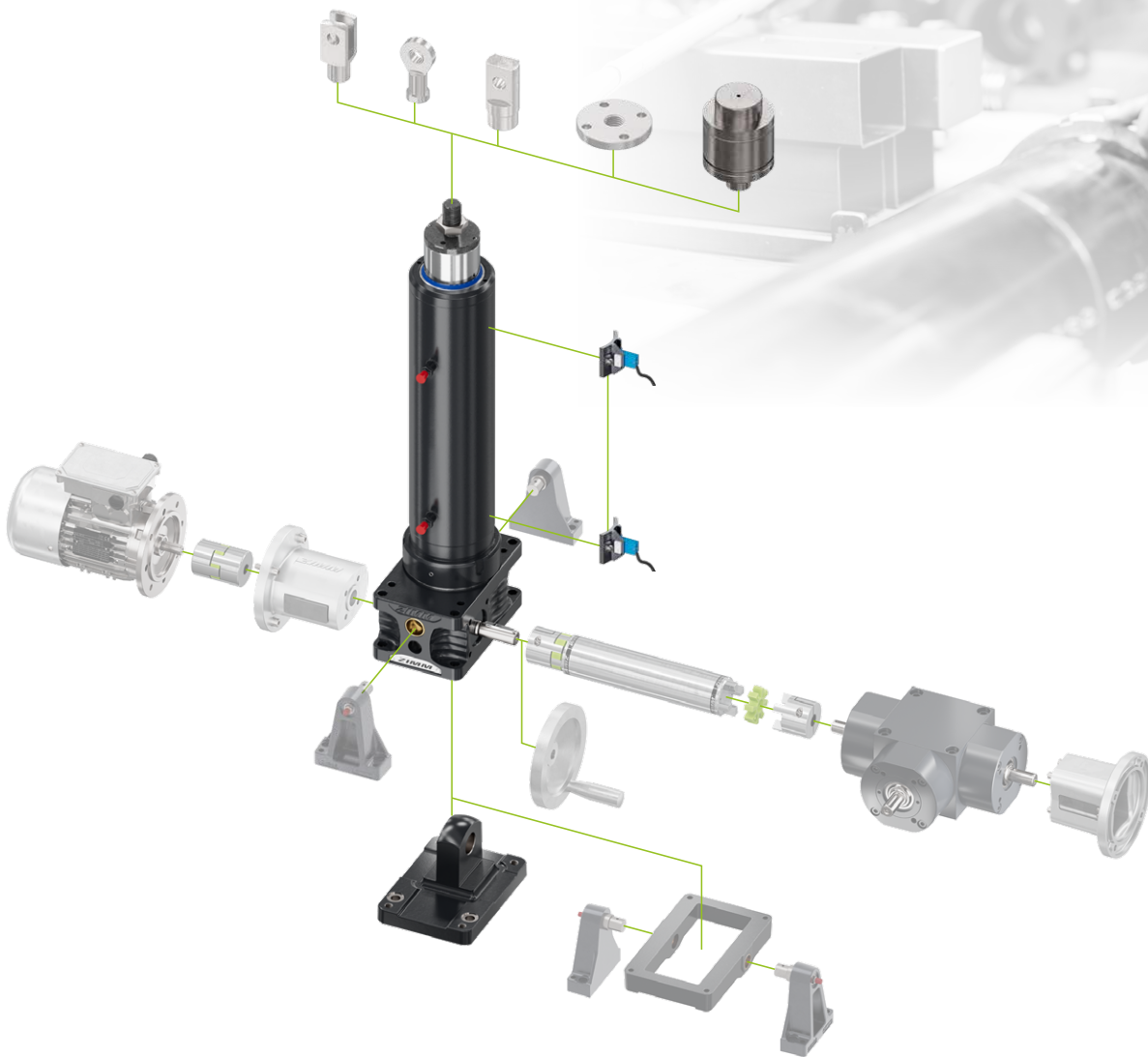


Technology thought ahead

New accessories for ZIMM actuators



Load damper LAD

Limit switch ES

Pivot bearing console SLKO

ZIMM®

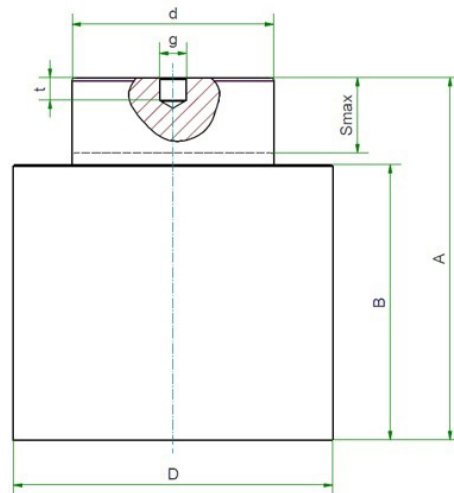
Accessories

Add-on components | Load damper LAD



Function

The load damper provides the actuator with a physical buffer that reduces impacts in case of a blockage. Additionally, the motor can be switched off or braked during the spring travel, preventing damage to the system.

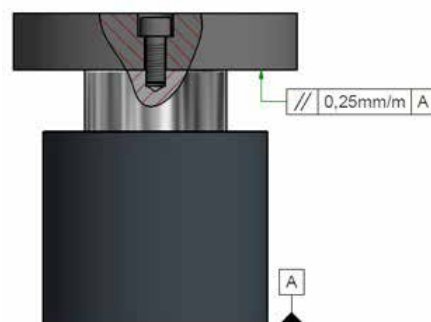


Type	max. dynamic force	max. impacts/min	Smax	A	B	D	d	g	t
ZA	kN	at 20°C	mm	mm	mm	mm	mm	mm	mm
ZA-25-LAD	15	60	22	95	69	75,2	45	M8	6
ZA-50-LAD	30	59	22	108	82	95	60	M8	6
ZA-100-LAD	60	45	22	108	82	120	75	M8	8
ZA-200-LAD	118	34	22	128	100	150	100	M8	18

- The load damper is equipped with a gas pressure spring.
- The system can only absorb compressive loads.
- Available only in combination with ball screw drives.
- Use a unit (e.g., servo motor) with precisely controllable shut-off/braking torque.
- Operational temperature range: 0 to 80°C.
- The maximum spring travel (Smax) must not exceed 22mm.
- Lateral forces are not permitted, as they will damage the load damper.
- The load damper must always act perpendicular to the contact surface (see illustrations).



Load is loosely placed



Screwing for positioning is allowed; no tensile loads or lateral forces permitted

Accessories

Add-on components | Load damper LAD

Length determination

	KGT32x5	KGT32x10	KGT32x20	KGT40x5	KGT40x10	KGT40x20
ZA	25			50		
L1	451	461	501	540	540	575
L2	234	239	264	269	269	289
L3	29	34	49	32	32	47
SP1	29	34	49	32	32	47
SML1	105	110	125	112	112	127
SML2	129	129	139	157	157	162

	KGT50x10	KGT50x20	KGT80x10	KGT80x20
ZA	100		200	
L1	705	760	838	893
L2	382	417	474	509
L3	37	57	40	60
SP1	37	57	40	60
SML1	156	176	239	259
SML2	226	241	235	250

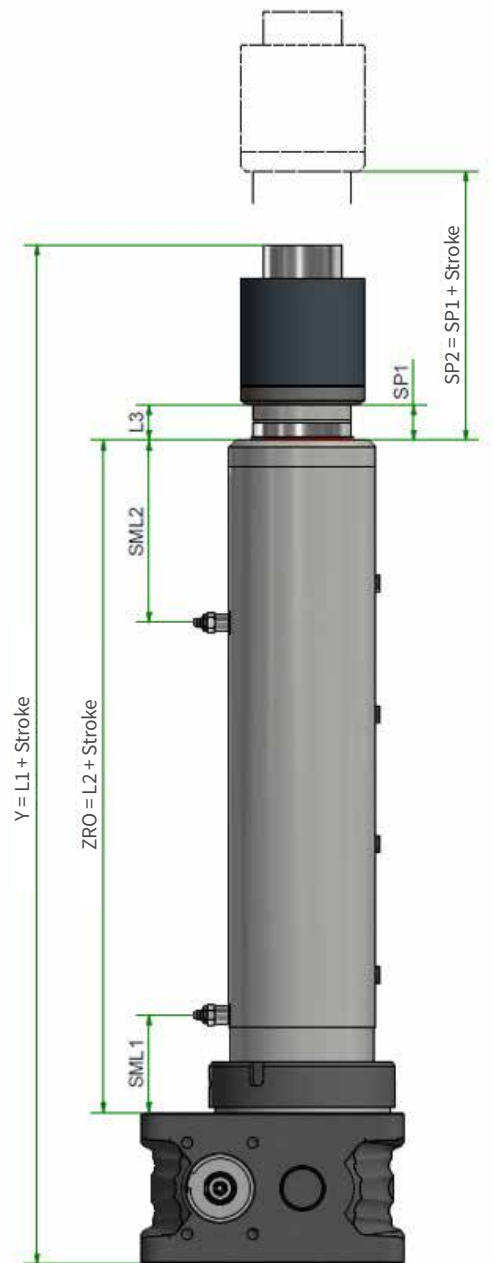
Lubrication position SP1 corresponds to the standard lubrication length SML1 with safety clearance L3.

For lubrication of the spindle and the anti-rotation mechanism, lubrication positions SP1 (retracted) and SP2 (extended) must be maintained within $\pm 2\text{mm}$.

Design

- 1) Calculate the holding force (F_c) of the load damper using the lifting load (F) and the safety factor ($S_1 = 1,3$): $F_c = F \cdot S_1$
The safety factor also determines the spring stiffness (load pressure).
- 2) Calculate the cut-off torque (M_s) at which the braking process is initiated. Use the cut-off factor ($S_2 = 1,5$) and the formula provided below.

$$M_s = \frac{F \times p}{2 \times \pi \times \eta_G \times \eta_{sp} \times i} \times S_2$$



Calculation example: ZA-100 1,11 KGT 50x10

Size _____
Speed _____
Thread version _____

Spindle diameter,
Spindle pitch

F=50 kN (dynamic lifting load)

n=1500 rpm

Ambient temperature = 20°C

1) Holding force = Force x Safety factor (S_1) = $50 \times 1,3 = 65 \text{ kN}$

2) Calculate cut-off torque:

$$M_s = \frac{F \times p}{2 \times \pi \times \eta_G \times \eta_{sp} \times i} \times S_2 = \frac{50 \times 10}{2 \times \pi \times 0,88 \times 0,9 \times 9} \times 1,5 = 16,75 \text{ Nm}$$



Note

These parameters serve as the basis for designing the load damper. Refer to the operating manual during commissioning.

Accessories

Add-on components | Limit switch ES



1
Cable outlet
turnable 180°



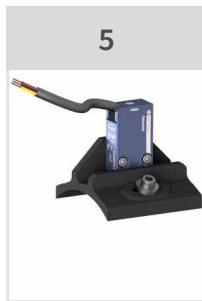
2
Cabel length
5m standard
(2 m, 10 m)



3
Integrated plug,
for fast and comfortable
revisions



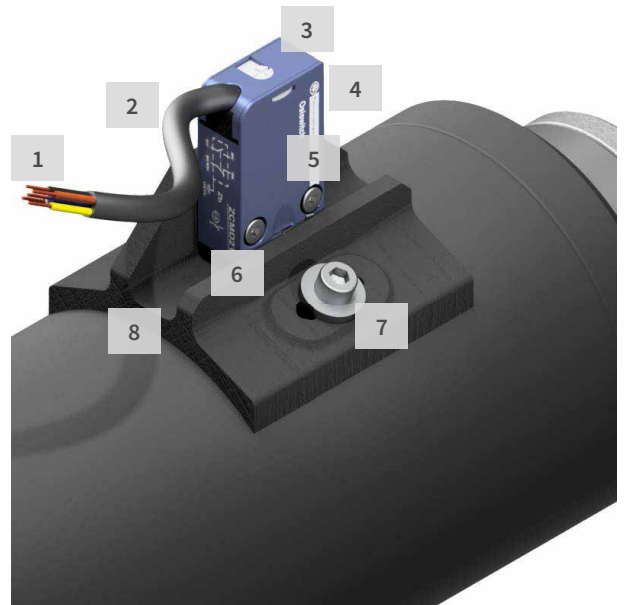
4
Temperature
resistance console:
-25°C to +90°C



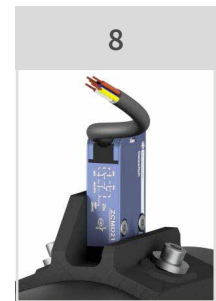
5
Fine adjustment
+/- 8 mm possible



6
IP64 version
with static O-ring seal



7
Delivered fully
assembled and pre-set

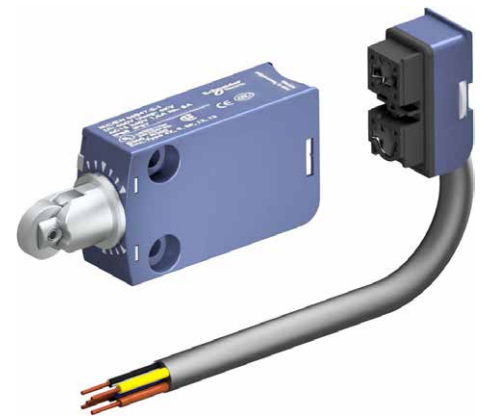
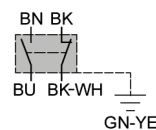


8
Robust design made
of carbon fiber
reinforced plastic

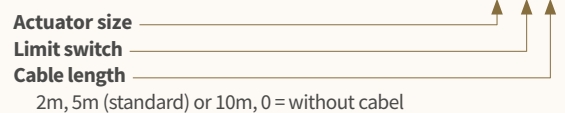
Technical data

Type:	Mechanical limit switch with positively-actuated NC relay
Material:	Metal housing and roller plunger
Mode of operation:	1Ö + 1S, snap action contacts
Protection class:	IP67
Temperature range:	-40°C to +70°C
Cabel standard-material:	PVC black Ø 7,3 mm, 5 x 0,75 mm ²
Cabel standard-temperature:	-25°C to +70°C
Cabel special-temperature:	-40°C to +105°C (only available on request)
Electrical duty:	max. 240V AC / 1,5A max. 250V DC / 0,1A
Electrical service life:	5 million switching operations at 24V DC/3W 1 million switching operations at 230V AC/0,5A
Weight:	Limit switch set: 0,2 kg; cabel (5m): 0,45 kg

NC	BK BK-WH	black black-white	black black-white
NO	BU BN	blue brown	blue brown
Protective earth conductor	GN-YE	green-yellow	green-yellow

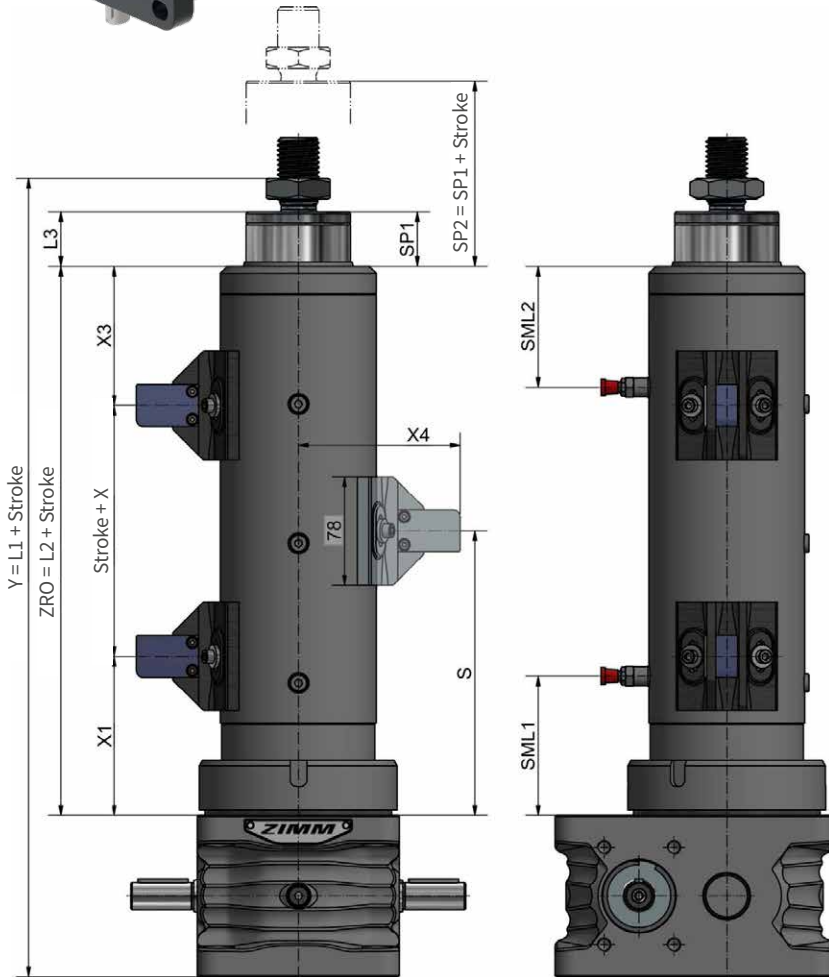


Ordering example for an single switch: **ZA-25-ES-5**



Accessories

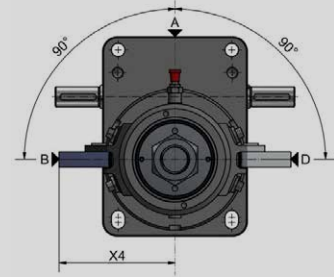
Add-on components | Limit switch ES



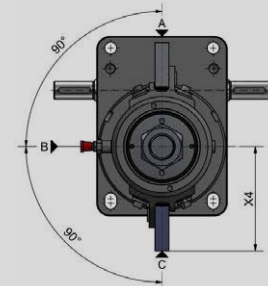
Size	Screw	L1	L2	L3	SP	SML1	SML2	X	X1	X3	X4
ZA-25	TR	365	237	30	30	116	121	29	101	107	106
	KGT32x5	434	301	35	35	174	127	87	101	113	
	KGT32x10	444	306	40	40	174	132	87	101	118	
	KGT32x20	474	321	55	55	174	147	87	101	133	
ZA-50	TR	449	278	31	31	130	148	33	114	131	116
	KGT40x5	524	348	36	36	193	155	97	114	137	
	KGT40x10	524	348	36	36	193	155	97	114	137	
	KGT40x20	554	363	51	51	193	170	97	114	152	
ZA-100	TR	582	353	41	41	159	194	43	137	173	126
	KGT50x10	705	476	41	41	247	229	165	137	174	
	KGT50x20	745	496	61	61	247	249	165	137	194	
ZA-200	TR	621	404	41	41	171	233	38	152	214	149
	KGT80x10	702	485	41	41	247	238	48	223	214	
	KGT80x20	762	525	61	61	267	258	48	243	234	

Limit switch positions

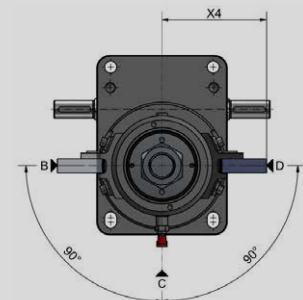
The limit switches can be mounted on all four sides of the cylinder tube. However, the limit switch position is always offset by 90° from the lubrication position. This results in the possibilities shown below.



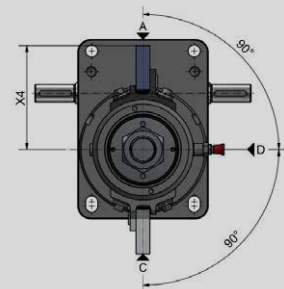
Lubrication position A
Limit switch position B (Standard)
Limit switch position D



Lubrication position B
Limit switch position C (Standard)
Limit switch position A



Lubrication position C
Limit switch position D (Standard)
Limit switch position B



Lubrication position D
Limit switch position A (Standard)
Limit switch position C

Accessories

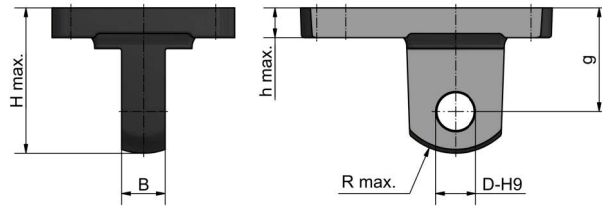
Add-on components | Pivot bearing console SLKO



SLKO-P Pivot direction **P**
(Parallel to the drive)



SLKO-R Pivot direction **R**
(Perpendicular to the drive)



Size	H max.	g	D	B	h max.	R max.
ZA-25	86	57	20	30	23	41
ZA-50	119	82	30	35	28	57
ZA-100	159	110	35	50	33	77
ZA-200	207	142	65	75	47	114

Material: GGG, Corrosion-protected





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