

# GHZ / GHZO

(two hydraulic-cylinder-series)

### GHZ

Piston diameter: 32-100 mm  
 Operating pressure: 250 bar  
 Double-acting  
 Damping on both sides  
 Integral limit switch  
 Stroke monitoring  
 Different piston seals

### GHZO:

Piston diameter: 32-100 mm  
 Operating pressure: 160 bar  
 Double-acting  
 Easy to maintain  
 Competitive in price  
 Different piston seals

### Type-code:



GRIBI-hydraulic cylinder with damping \_\_\_\_\_

GRIBI-hydraulic cylinder without damping \_\_\_\_\_

DES = induction-limit switch \_\_\_\_\_

Piston  $\varnothing$  32, 40, 50, 63, 80, 100 \_\_\_\_\_

Piston rod  $\varnothing$  18, 22, 28, 36, 45, 50 \_\_\_\_\_

Stroke in mm \_\_\_\_\_

**Mouting type:**

V = Flange front \_\_\_\_\_

H = Flange back \_\_\_\_\_

S = Swivel head back or front \_\_\_\_\_

SV = Swivel head back or front reinforced \_\_\_\_\_

SS = Swivel head on both sides \_\_\_\_\_

SSV=Swivel head on both sides reinforced \_\_\_\_\_

L = Rigid bearing for bolt on back \_\_\_\_\_

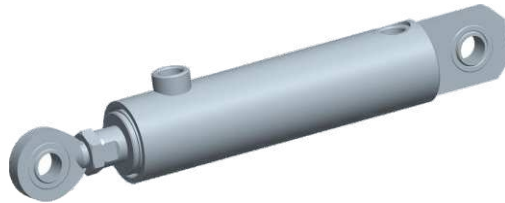
GW = Thread head \_\_\_\_\_

F = Mouting feet \_\_\_\_\_

Z = Pivot bearing \_\_\_\_\_

K = Synchronous cylinder/ constant velocity cylinder \_\_\_\_\_

## GHZO $\varnothing$ 32-100 (GRIBI hydraulic cylinder without damping)

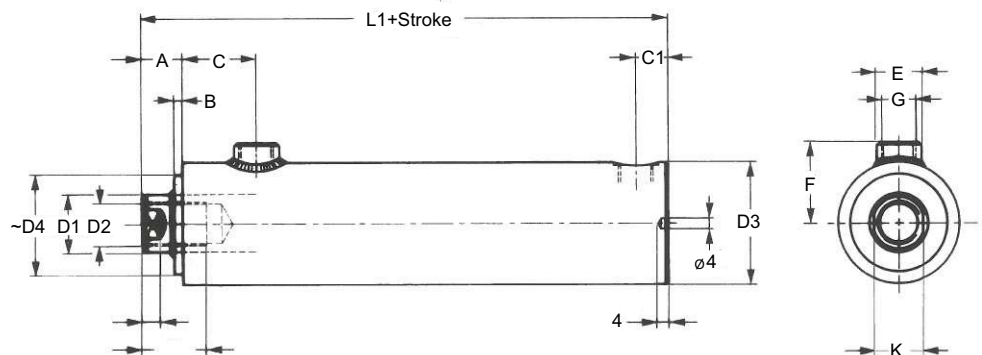


- Max. translational speed 0.5m/s
- Piston size  $\varnothing$  32-100mm
- Operating pressure max. 160bar, welded model
- Piston rod hard-chrome plating
- Cylinder tube honed / rolled

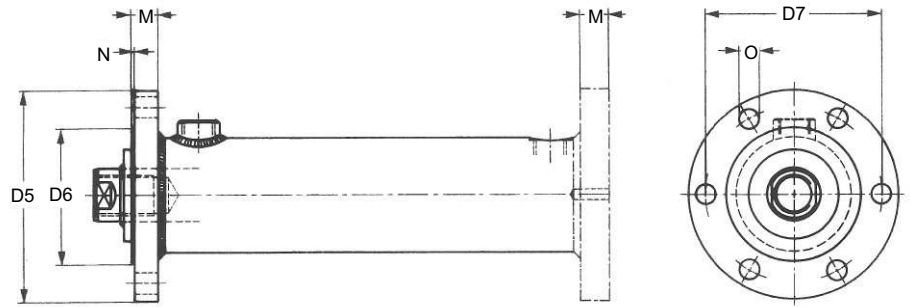
$\varnothing$	A	B	C	C1	D1	D2	D3	D4	D5	D6	D7	D8	E	F	G	H	J	K	L1
32	20	5	37	18	18	M12	42	30	90	55	75	M12	22	35	G1/4"	22	8	15	135
40	25	5	37	17.5	22	M16	50	38	110	60	90	M16	24	39	G3/8"	30	10	19	140
50	25	5	45	20	28	M20x1.5	62	48	120	75	100	M20x1.5	28	45	G1/2"	35	12	24	175
63	25	5	45	20	36	M24x2	75	61	140	90	115	M24x2	28	51	G1/2"	40	12	30	175
80	30	5	52	22.5	45	M30x2	95	77	170	110	140	M30x2	34	64	G3/4"	55	15	36	200
100	35	7	65	25	50	M39x3	120	96	200	140	170	M39x3	34	76	G3/4"	65	20	46	230

L2	M	N	O	P	Q	R	S	T	U	V1	V2	W	X	Y	min. Stroke	Piston area	Pull force area
187	12	2	7	20	18	38	8	10	20	12	18	32	17	20	15	8.04 cm <sup>2</sup>	5.50 cm <sup>2</sup>
215	15	2	9	35	25	45	10	14	25	17	25	40	23	35	15	12.56 cm <sup>2</sup>	8.76 cm <sup>2</sup>
260	17	2	11	40	30	55	12	16	30	20	30	45	27	40	15	19.63 cm <sup>2</sup>	13.48 cm <sup>2</sup>
275	20	2	13	45	35	65	16	20	35	25	35	55	32	50	15	31.17 cm <sup>2</sup>	21.00 cm <sup>2</sup>
310	25	2	13	50	40	80	18	22	40	30	40	60	37	55	15	50.26 cm <sup>2</sup>	34.36 cm <sup>2</sup>
375	30	2	17	60	50	100	22	28	50	40	50	85	48	65	20	78.54 cm <sup>2</sup>	58.91 cm <sup>2</sup>

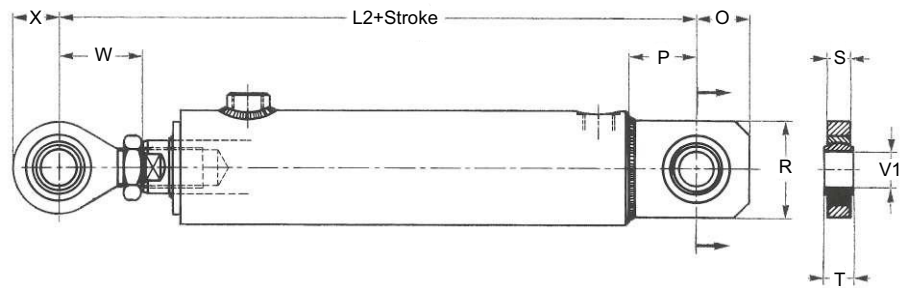
### G Basic type



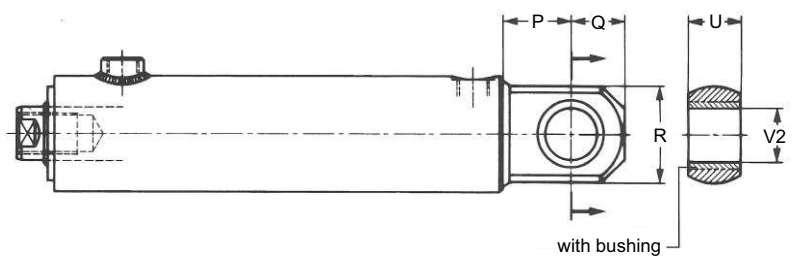
**V**  
Flange front  
**H**  
Flange back



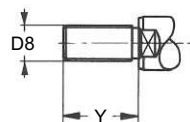
**S**  
Swivel head back or front  
**SS**  
Swivel head on both sides



**L**  
Rigid bearing for bolt on back

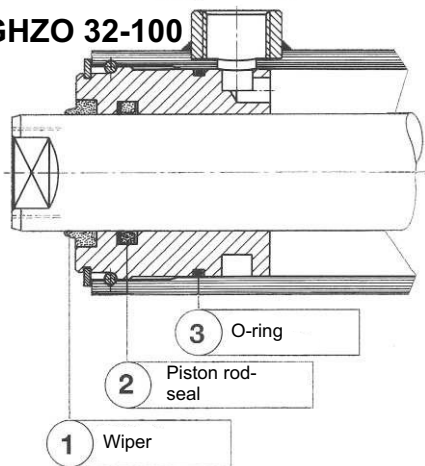


**Option:**  
Threaded piston rod

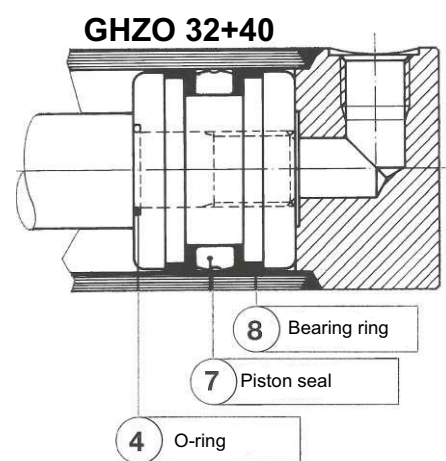


## GHZO $\varnothing$ 32-100 (structure and spare part)

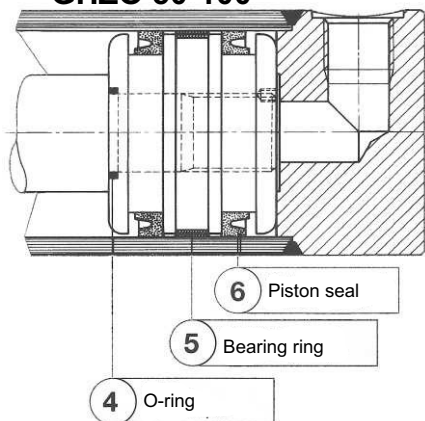
GHZO 32-100



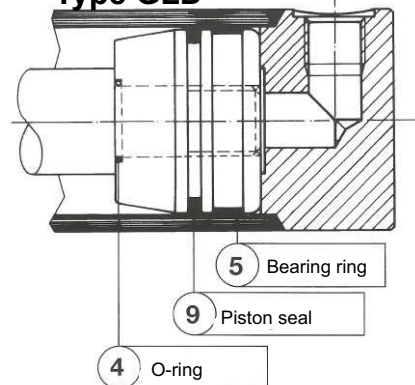
GHZO 32+40



GHZO 50-100



Type GLD



## GHZ $\varnothing$ 32-80 (GRIBI hydraulic cylinder with damping)

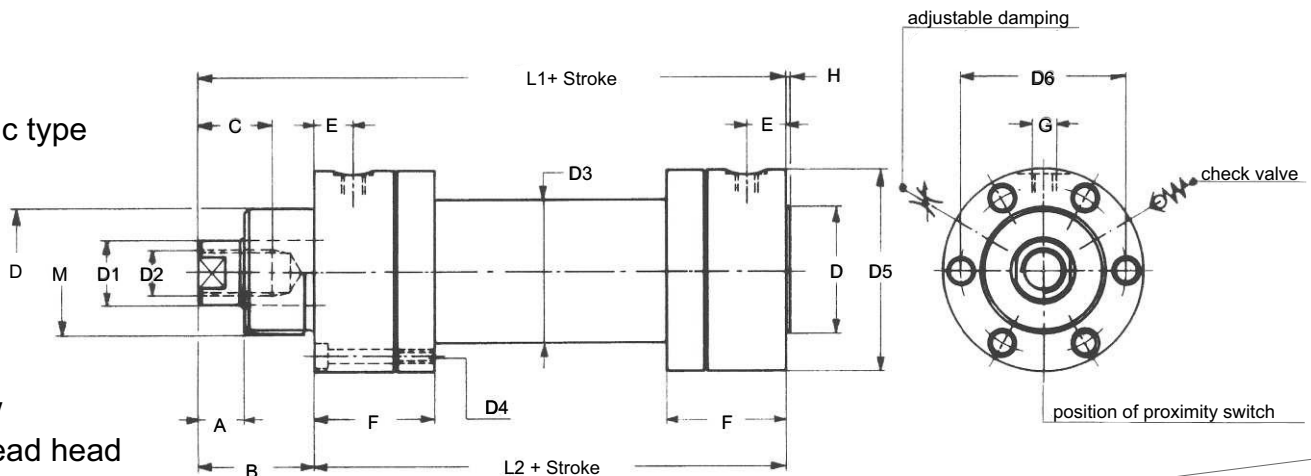


- Adjustable damping on both sides
- Max. translational speed 0.5m/s
- Piston size  $\varnothing$  32-80mm
- Operating pressure max. 250bar, connected model
- Piston rod hard-chrome plating
- Cylinder tube honed / rolled

$\varnothing$	A	B	C	D	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	E	F	G	H	H1	H2	J	K1	K2	L1	L2	L3
32	15	33	22	40	18	M12	42	M5	63	52	100	86	M16	-	12	35	G1/4"	2	-	15	7	-	130	97		
40	17	42	22	50	22	M16	50	M6	75	62	120	98	M20x1.5	20	14	41	G3/8"	2	55.5	78	15	9	8.4	150	108	35
50	20	50	40	55	28	M20x1.5	62	M6	88	75	130	110	M24x2	25	17.5	53	G1/2"	2	55	94	17	11	10.5	200	150	58
63	20	50	40	70	36	M24x2	75	M8	105	90	160	135	M30x2	32	17.5	54	G1/2"	2	64.5	118	20	13	13	200	150	53
80	26	66	60	85	45	M30x2	95	M12	135	116	190	165	M39x3	40	22	70	G3/4"	3	87.5	148	25	13	15	250	184	64

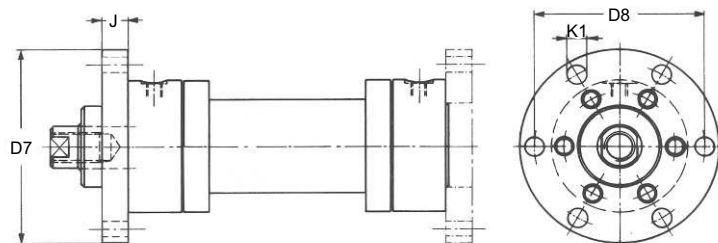
L4	L5	L8	L9	M	N	O	P	Q	R1	R2	S1	S2	T	U1	U2	U3	V1	V2	W1	W2	W3	X1	X2	Y1	Y2	Z1	Z2
	231	-	-	M40x1.5						23		76	35		25			25		14	16		17		55		
242	293	86	106	M50x1.5	36.5	40	100	80	23	27	42	88	40	50	55	15	27	32	14	16	10	17	20	55	65	92	122
300	372	103	147	M55x2	46	46	120	95	27	32	45	107	50	55	65	15	32	40	16	20	12	20	25	65	80	107	145
320	397	108	142	M70x2	48.5	55	140	114	32	37	55	127	55	65	70	20	40	45	20	22	16	25	30	80	90	122	170
380	484	137	179	M85x2	60	70	180	146	37	48	60	164	65	70	70	20	45	50	22	28	18	30	40	90	100	137	199

### G Basic type



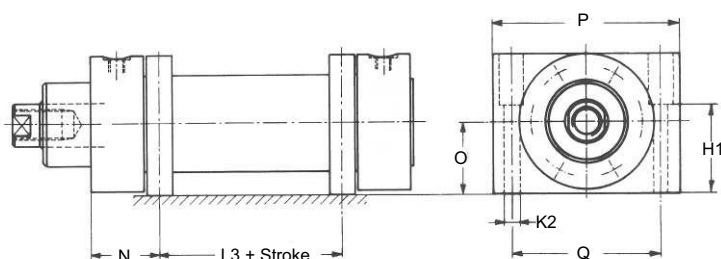
### Gw Thread head

**V**  
Flange front

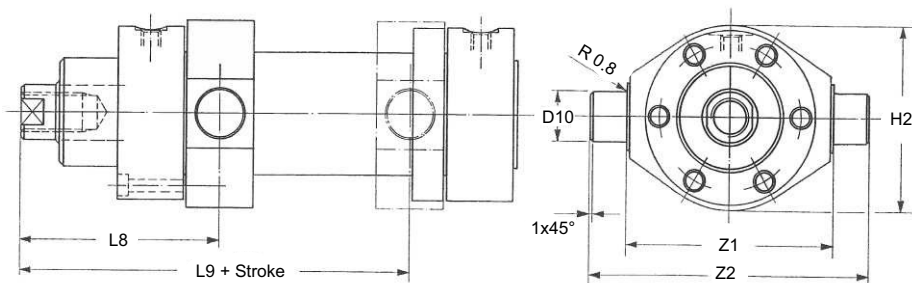


**H**  
Flange back

**F**  
Mounting feet  
(max. 100 bar)

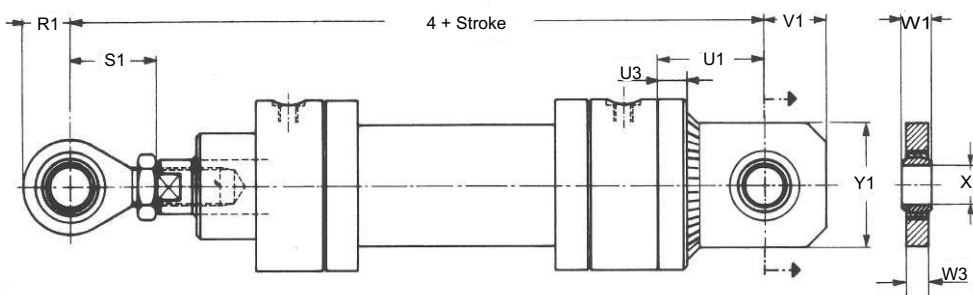


**Z**  
Pivot bearing



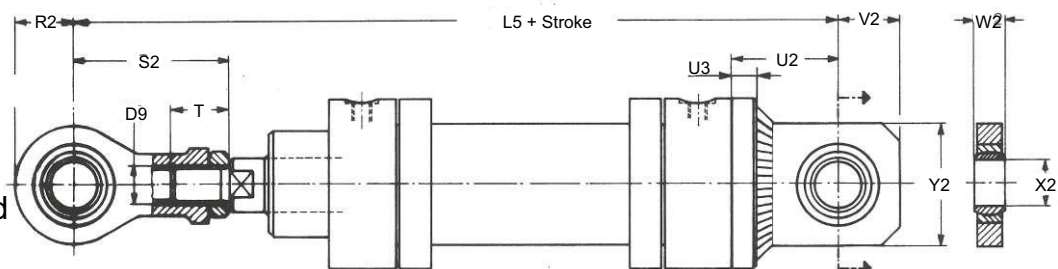
**S**  
Swivel head back or front

**SS**  
Swivel head on both sides



**SV**  
Swivel head back or  
front reinforced

**SSV**  
Swivel head reinforced  
on both sides

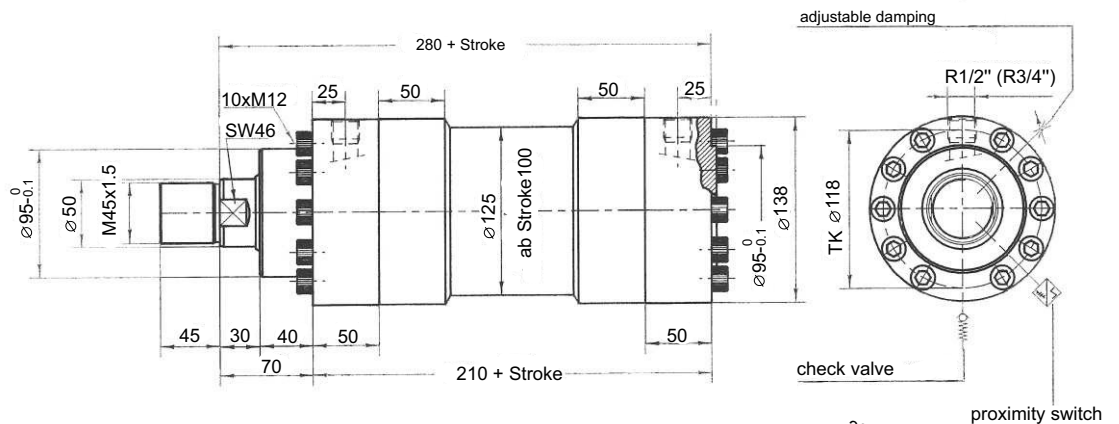


## GHZ $\varnothing 100$ (GRIBI hydraulic cylinder with damping)



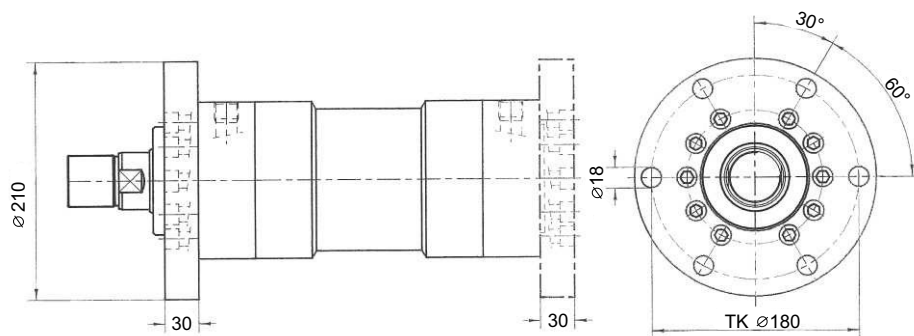
- |                             |                         |                 |                     |
|-----------------------------|-------------------------|-----------------|---------------------|
| - Adjustable damping        | on both sides           | - Piston rod    | hard-chrome plating |
| - Max. translational speed  | 0.5m/s                  | - Cylinder tube | honed / roled       |
| - Piston size $\varnothing$ | 100mm                   |                 |                     |
| - Operating pressure max.   | 250bar, connected model |                 |                     |

### G Basic type



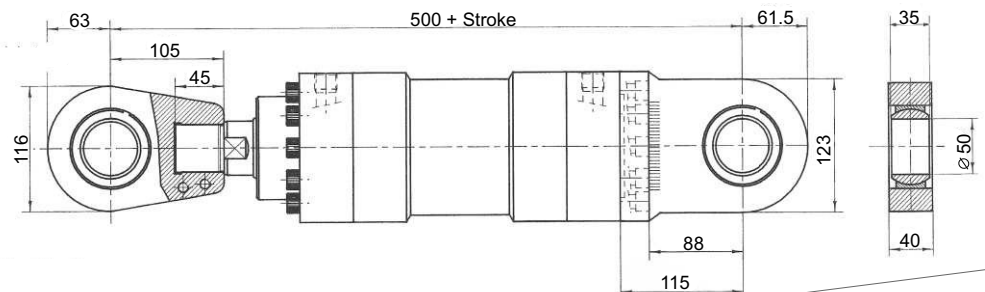
### V Flange front

### H Flange back

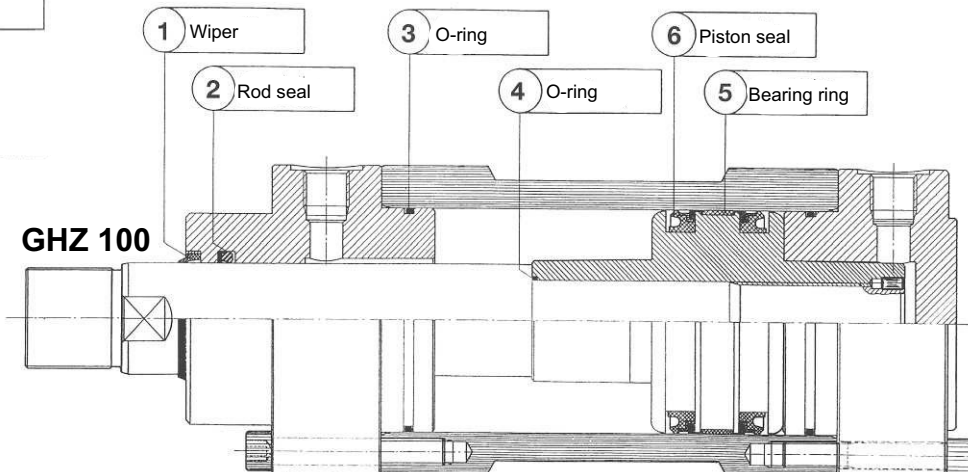
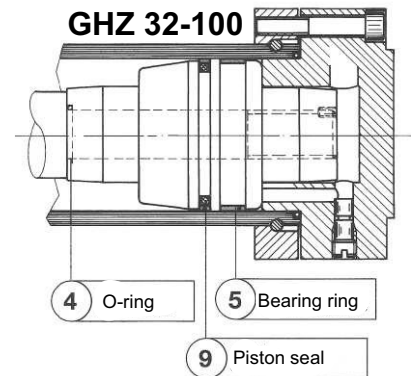
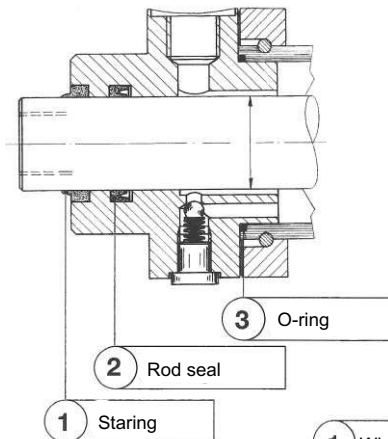
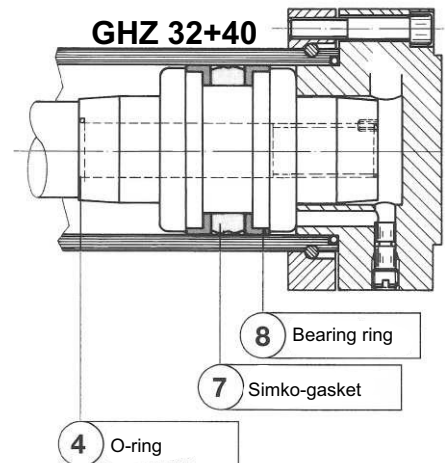
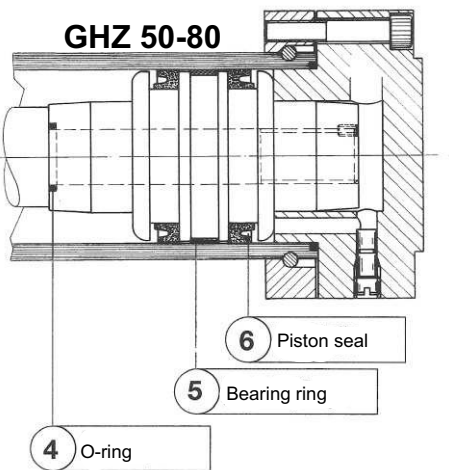


### S Swivel head back or front

### SS Swivel head on both sides



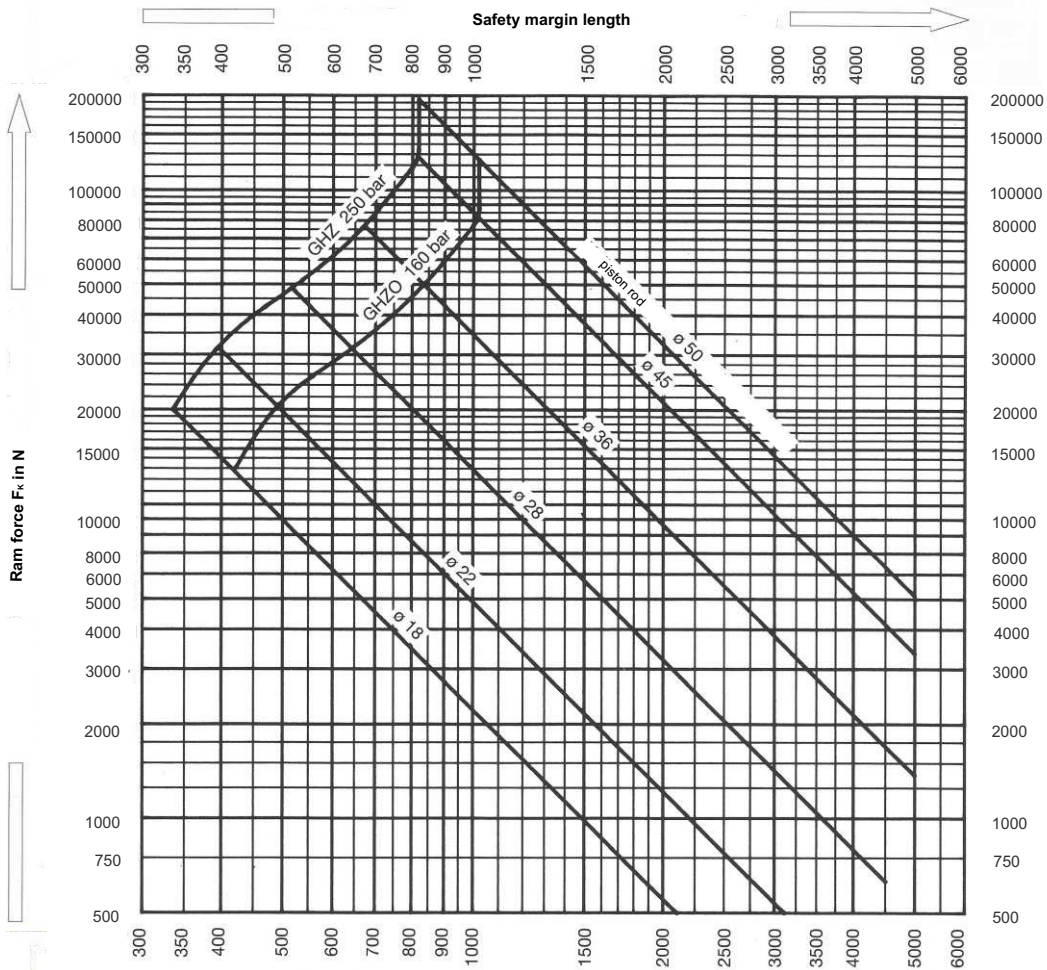
## GHZ $\varnothing$ 32-100 (structure and spare part)





## Tolerance buckling load

Calculation: Euler Case II

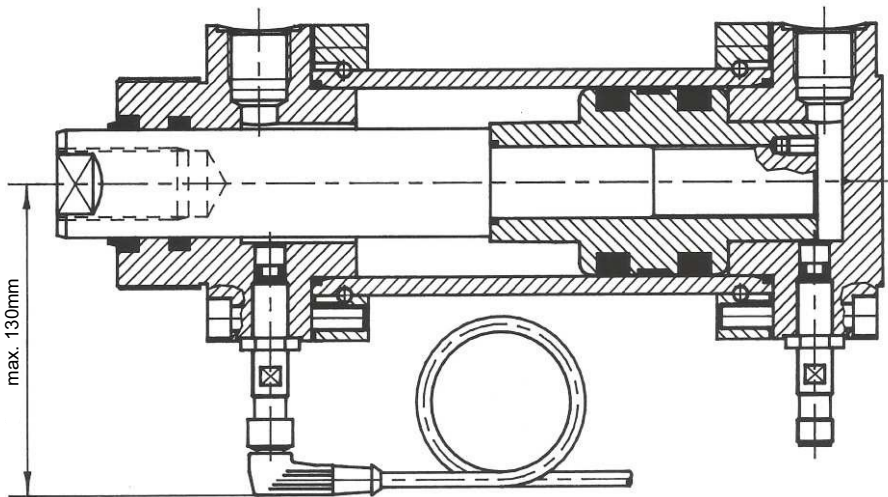


	1	2 (Normal case)	3	4
Loading case				
Free Bucking-length $L_k$	$2l$	$l$	$0.7l$	$0.50l$
Length to diameter ratio $\lambda$	$\frac{2l}{i}$	$\frac{l}{i}$	$\frac{0.7l}{i}$	$\frac{0.50l}{i}$

## GHZ DES $\varnothing$ 32-100 (with inductive-proximity switch)



- Safe and precise detection of end position for heavy duty operating conditions
- High repetitive accuracy
- Simple assembly of proximity switch



**Switch point:**  
Adjustable of 1-3 mm  
Basetting: to against  
Max. 3/4- turn back

### Inductive proximity switch

Operating voltage $U_B$	10...30 V DC
Current carrying capacity $I_a$	130 mA
Switching frequency $f$ max.	1000 Hz
Material of body	INOX-Steel
Coupling type	Plug connection
Protection category	IP68
Switching function	PNP closer

