

# Tie-rod Cylinders, ISO 6431, ISO 15552 compliant Series 60

**EXPRESS DELIVERY AVAILABLE**

Single or double-acting, magnetic, cushioned  
Standard and low friction versions  
ø 32, 40, 50, 63, 80, 100, 125 mm



The Series 60 cylinders comply with the dimensions laid down in the ISO 15552 standards. A permanent magnet, mounted on the piston, enables information to be received regarding the piston position by means of proximity switches positioned along the cylinder tube.

This cylinder series is normally equipped with adjustable end-stroke cushioning. Moreover these cylinders are equipped with bumpers in order to reduce noise and the impact of the piston as it reaches the end of the stroke.

- » In compliance with ISO 15552 standards and with the previous DIN/ISO 6431 - VDMA 24562 standards
- » Rolled stainless steel rod
- » Adjustable pneumatic cushioning
- » Special designs available

#### LOW FRICTION:

- » Friction force reduced by over 40%
- » Reduced stick-slip effect
- » Minimum operating pressure down to 0,1 bar (1.5 psi)
- » Double-acting with low friction in both directions

#### LOW TEMPERATURE:

Versions for -40°C and for -50°C

#### METAL ROD SCRAPER OPTION FOR DIRT/ICE APPLICATIONS

- » For dirt / ice applications
- » Resistant to dust, cement, resin, mud and wood residue

## GENERAL DATA

<b>Type of construction</b>	with tie-rods
<b>Operation</b>	double-acting, single-acting, tandem. Low friction version: double-acting only.
<b>Materials</b>	standard = AL end-caps, rolled stainless steel rod AISI 420B, anodized AL tube, zinc-plated steel nuts and tie-rods, PU seals; low friction = standard materials with NBR piston seal and NBR rod seal (FKM rod seal on request); low temperature: standard materials with chrome plated stainless steel AISI 420B rod, brass rod scraper ring, stainless steel AISI 303 nuts, stainless steel AISI 420B tie-rods, PU piston seals and NBR rod seal
<b>Type of mounting</b>	with tie-rods, with front / rear flange, foot mounting, with centre / front / rear / swivel trunnion
<b>Strokes min - max</b>	10 – 2500 mm
<b>Operating temperature</b>	0°C – 80°C (with dry air - 20°C) (32 - 176°F, with dry air -4°F) low temperature (-40°C version): -40°C - 60°C (with dry air -40°C) low temperature (-50°C version): -50°C - 60°C (with dry air -50°C)
<b>Operating pressure</b>	1 – 10 bar (standard and low temperature versions) (14.5 - 145 psi) 0,1 – 10 bar (low friction version) (1.5 - 145 psi)
<b>Speed</b>	10 – 1000 mm/sec, no load (standard and low temperature versions) 5 – 1000 mm/sec, no load (low friction version)
<b>Fluid</b>	filtered air, without lubrication. For standard versions only: if lubricated air is used, it is recommended to use oil ISOVG32. Once applied the lubrication should never be interrupted.

## STANDARD STROKES FOR CYLINDERS SERIES 60

■ = Single-acting (standard versions)    ✕ = Double-acting (standard low friction and low temperature versions)  
Other strokes up to 2500 mm are available on request.

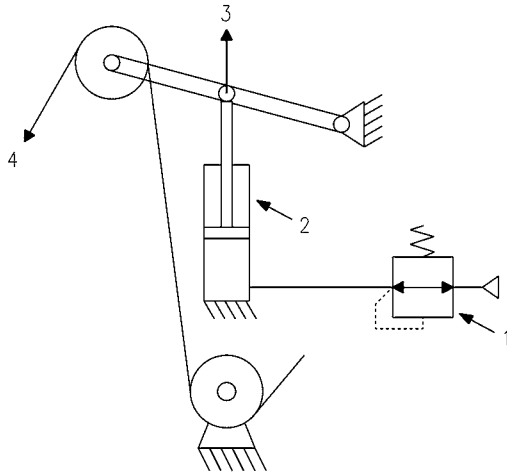
Ø	MAXIMUM STROKE LENGTHS (mm)														
	Series (and Ø)		Min-Max Stroke (Produced in USA)					Min-Max Stroke (Produced in Italy)							
	60-61 (Ø 32-125)		10-1500 mm					10-2500 mm							
25	32	40	50	63	80	100	125	150	160	200	250	300	320	400	500
32	■ ✕	■ ✕	■ ✕	■ ✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
40	■ ✕	■ ✕	■ ✕	■ ✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
50	■ ✕	■ ✕	■ ✕	■ ✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
63	■ ✕	■ ✕	■ ✕	■ ✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
80	■ ✕	■ ✕	■ ✕	■ ✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
100		■ ✕	■ ✕	■ ✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
125			■ ✕	■ ✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕

## CODING EXAMPLE

60	M	2	L	050	A	0200	
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<b>60</b>	SERIES
<b>M</b>	VERSIONS: M = magnetic N = non magnetic L = low friction, magnetic
<b>2</b>	OPERATION 1 = single-acting, front spring 2 = double-acting *, front and rear cushioned 3 = double-acting *, no cushion 4 = double-acting *, rear cushioned 5 = double-acting *, front cushioned 6 = double-acting *, through-rod, front and rear cushioned 7 = single-acting, through-rod  * all double-acting cylinders are also available in the low friction version.
<b>L</b>	MATERIALS L = see the general data on page 1/1.20.01 T = stainless steel AISI 420B tie-rods - stainless steel AISI 303 tie-rod nuts C = rolled stainless steel AISI 303 piston rod, stainless steel AISI 304 piston rod nut U = rolled stainless steel AISI 303 piston rod, AISI 304 piston-rod nut, AISI 420B tie-rods, AISI 303 tie-rod nuts W = rolled stainless steel AISI 304 piston rod, AISI304 piston-rod nut, AISI 420B tie-rods, AISI 303 tie-rod nuts Z = chrome plated stainless steel AISI 420B rod, stainless steel AISI 304 rod nut, stainless steel AISI 420B tie-rods, stainless steel AISI 303 tie-rods nuts, seals for low temperature (-40°C), brass rod scraper (Ø 125 excepted) Y = chrome plated stainless steel AISI 420B rod, stainless steel AISI 304 rod nut, stainless steel AISI 420B tie-rods, stainless steel AISI 303 tie-rods nuts, seals for low temperature (-50°C), brass rod scraper (Ø 125 excepted)
<b>050</b>	BORE: 032 = 32 mm 040 = 40 mm 050 = 50 mm 063 = 63 mm 080 = 80 mm 100 = 100 mm 125 = 125 mm
<b>A</b>	CONSTRUCTION: A = standard with lock nut for rod RL = cylinder with rod lock (rod extension required. See table.) F = cylinder with centre trunnion
<b>0200</b>	STROKE: see table  = standard V = FKM rod seal N = tandem R = NBR rod seal W = all FKM seals, up to 140C° C = PU coated cylinder. Colour: Grey * L = low friction version without rod seal (rear supply only) ** ( _ _ _ ) = extended piston rod _ _ _ mm G = with brass rod scraper (chrome plated stainless steel AISI 420B rod, NBR rod seal) (Ø 125 excepted)  * Version C: available on request. For further information, please contact our technical dept. ** The possibility to order the cylinder without piston rod seal, further reduces the friction force.

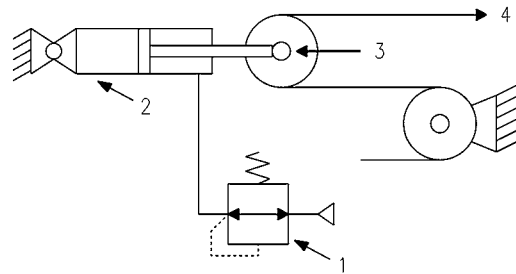
LOW FRICTION cylinders Series 60 - APPLICATION EXAMPLES



CYLINDER IN THRUST

DRAWING NOTES:

1. Precision pressure regulator or electro-pneumatic regulator
2. Low friction cylinder
3. Force direction
4. Band



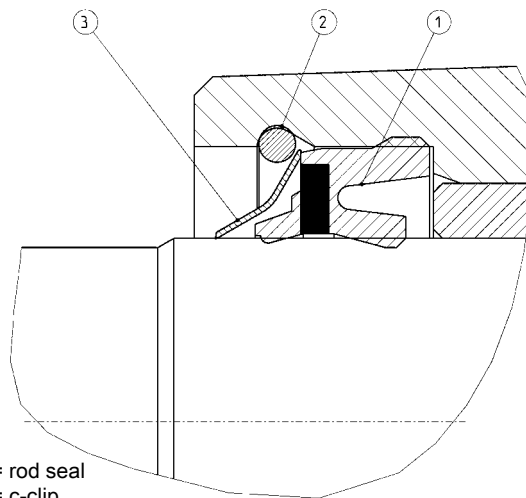
CYLINDER IN TRACTION

Note: in order to reach the highest performance, it is recommended to connect precision pressure regulator or an electro-pneumatic regulator with the low friction cylinder as shown in the drawing.

ISO / VDMA CYLINDERS

LOW TEMPERATURE cylinders Series 60 - DETAIL

Rod scraper included in all low-temperature cylinders



- 1 = rod seal
- 2 = c-clip
- 3 = metal scraper

**EXPRESS DELIVERY AVAILABLE**

## ACCESSORIES FOR CYLINDERS SERIES 60



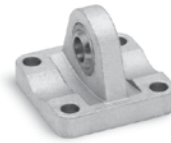
Piston rod socket joint  
Mod. GY



Piston rod nut Mod. U



Clevis pin Mod. S



Rear trunnion ball-joint  
Mod. R



Rod fork end Mod. G



Swivel ball joint Mod. GA



90° male trunnion  
Mod. ZC



Swivel combination  
Mod. I



Centre trunnion Mod. F



Self aligning rod  
Mod. GK



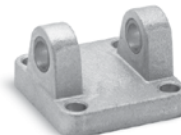
Counter bracket for  
centre trunnion Mod. BF



Foot mount Mod. B



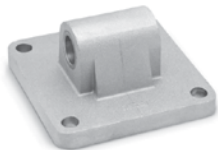
Front and rear flange  
Mod. D-E



Rear female trunnion  
Mod. C and C-H



Front female trunnion  
Mod. H and C-H



Rear male trunnion  
Mod. L

All accessories are supplied separately, except for Piston rod nut Mod. U

### Rod Gland

Hard Anodized Aluminum body and integrated design includes rod bearing and rod lip/wiper seal. Rod Bearing is oil impregnated, sintered bronze containing graphite for high speed and heavy load applications.

### Piston Rod

All stainless steel ground and polished rods, burnished for improved seal life and reduced wear. Standard.

### Rod Threads

Threads are rolled Stainless Steel for greater strength.

### Rod Nut

Threads are rolled Stainless Steel for greater strength.

### Tie Rod Nuts

Tie rod nuts are ID hexed and ID threaded providing a flush face and ability to assemble and disassemble mounting brackets without loosening Head.

### Heads and Caps

Heads and Caps are lightweight aluminum that have been precision machined and anodized.

### Piston Bumpers

Shock absorbing bumpers reduce noise and piston wear. Standard.

### Piston

Aluminum, one-piece design with built-in solid magnet ensuring consistent switch sensing.

### Cushion Adjustment

Recessed and captive cushion adjustment screws. Fine thread adjustment for greater repeatability and accuracy. Standard Viton.

### Cylinder Tube

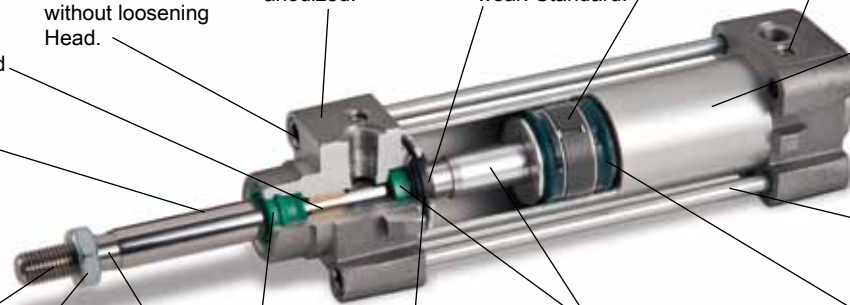
Hard Anodized Aluminum tube that provides superior seal life and wear resistance.

### Tie Rods

Zinc plated steel, rolled threads for added strength.

### Piston Seals

Rounded lip u-cup seal reduces friction; specifically designed for lube or non-lube service. Maintains factory prelube against the cylinder wall. Standard polyurethane.



### Key Flat

Hydraulically pressed key flat.

### Rod and Wiper Seal

Piston rod lip seal and wiper combination. A compact design, allowing for greater bushing support without sacrificing sealing ability. Standard polyurethane.

### Tube End Seals

Captured seal made from BUNA-N offering a wide range of temperature applications and positive sealing. Standard.

### Adjustable Cushion Seal Design

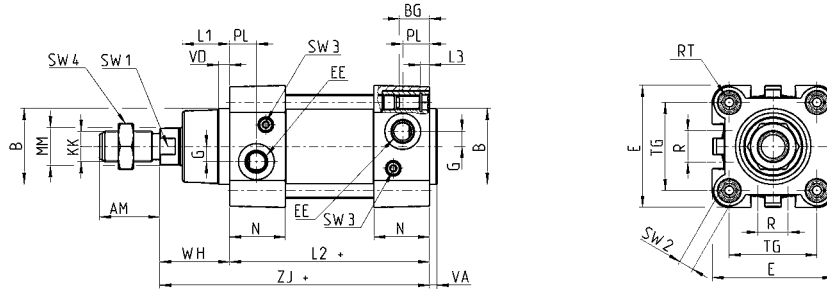
Precision-machined piston spears combined with floating cushion collar allow for a smooth deceleration at end of stroke. Cushion collar is specifically designed for rapid low-pressure breakaway when stroke reverses.

Cylinders Series 60

Note: the single-acting cylinders' sizes ZJ and L2 are increased by 25 mm.



+ = add the stroke



DIMENSIONS (mm)

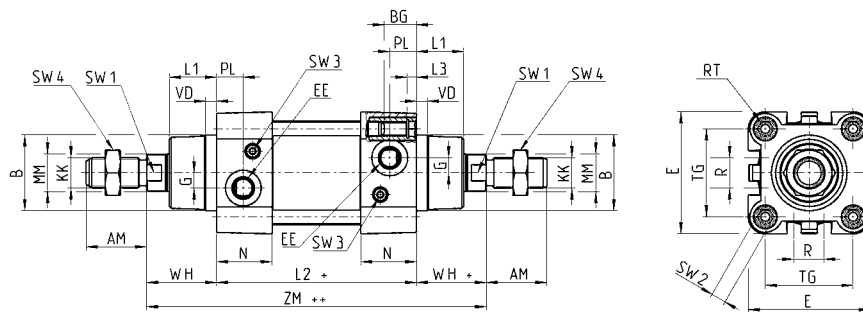
Ø	AM	B	BG	E	EE	G	KK	L1	L2+	L3	MM	N	PL	R	RT	SW1	SW2	SW3	SW4	TG	VA	VD	WH	ZJ+	Front/rear cushion stroke
32	22	30	16	46	G1/8	5	M10x1,25	18	94	5	12	26	14	13	M6	10	6	2	17	32,5	4	5	26	120	17 / 12
40	24	35	16	55	G1/4	5	M12x1,25	21	105	5	16	29	15	13,5	M6	13	6	2	19	38	4	5	30	135	20 / 17
50	32	40	16	64,5	G1/4	8	M16x1,5	25	106	5	20	29,5	15	16	M8	17	8	3	24	46,5	4	6	37	143	15 / 14
63	32	45	16	75	G3/8	8	M16x1,5	26	121	5	20	36,5	21	28	M8	17	8	3	24	56,5	4	6	37	158	17 / 16
80	40	45	19	93	G3/8	8	M20x1,5	30	128	0	25	36	21	30	M10	22	10	5	30	72	4	7	46	174	20 / 20
100	40	55	19,5	110	G1/2	8	M20x1,5	35	138	0	25	38,5	23	40	M10	22	10	5	30	89	4	7	51	189	21 / 19
125	54	60	23	135	G1/2	10,5	M27x2	42	160	0	32	43	23,5	50	M12	27	12	4	41	110	6	8	65	225	26 / 25

Cylinders Series 60 - through-rod

Note: the single-acting cylinders' sizes ZJ and L2 are increased by 25 mm.



+ = add the stroke  
++ = add the stroke two times



DIMENSIONS (mm)

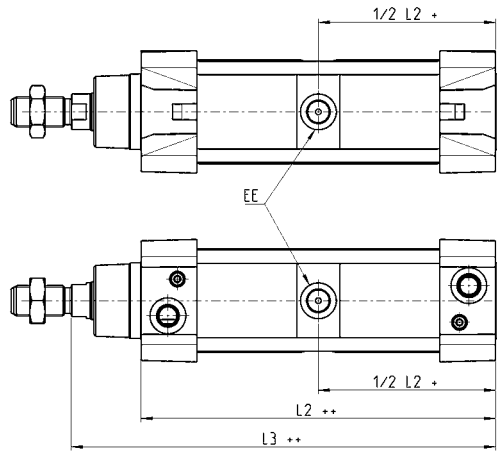
Ø	AM	B	BG	E	EE	G	KK	L1	L2+	L3	MM	N	PL	R	RT	SW1	SW2	SW3	SW4	TG	VD	WH	ZM++	Front/rear cushion stroke
32	22	30	16	46	G1/8	5	M10x1,25	18	94	5	12	26	14	13	M6	10	6	2	17	32,5	5	26	146	17 / 12
40	24	35	16	55	G1/4	5	M12x1,25	21	105	5	16	29	15	13,5	M6	13	6	2	19	38	5	30	165	20 / 17
50	32	40	16	64,5	G1/4	8	M16x1,5	25	106	5	20	29,5	15	16	M8	17	8	3	24	46,5	6	37	180	15 / 14
63	32	45	16	75	G3/8	8	M16x1,5	26	121	5	20	36,5	21	28	M8	17	8	3	24	56,5	6	37	195	17 / 16
80	40	45	19	93	G3/8	8	M20x1,5	30	128	0	25	36	21	30	M10	22	10	5	30	72	7	46	220	20 / 20
100	40	55	19,5	110	G1/2	8	M20x1,5	35	138	0	25	38,5	23	40	M10	22	10	5	30	89	7	51	240	21 / 19
125	54	60	23	135	G1/2	10,5	M27x2	42	160	0	32	43	23,5	50	M12	27	12	4	41	110	8	65	290	26 / 25

**EXPRESS DELIVERY AVAILABLE**

Cylinders Series 60 - tandem version



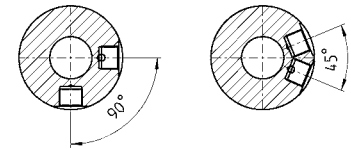
+ = add the stroke  
 ++ = add the stroke two times



Intermediate porting orientation

Ø32-40-50-63

Ø80-100-125



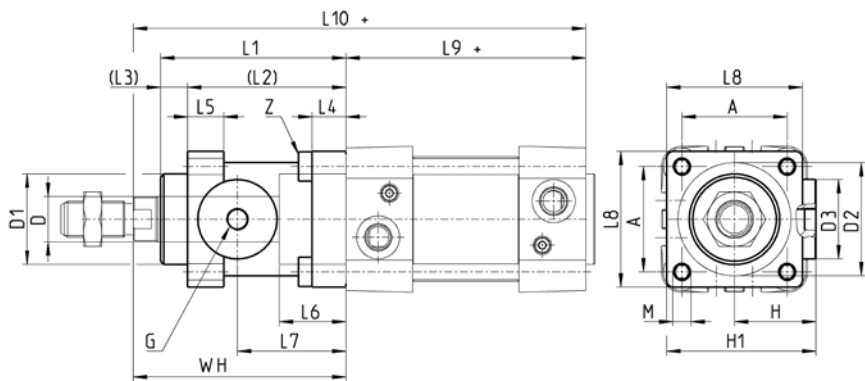
**DIMENSIONS (mm)**

Ø	EE	L2	L3
32	G1/8	171,5	197,5
40	G1/4	191,5	221,5
50	G1/4	188	225
63	G3/8	204	241
80	G3/8	225,5	271,5
100	G1/2	231	282
125	G1/2	264	329

Cylinders Series 60 with rod lock



Ø	Rod extension [X] (mm)	Holding force [static load] (N)
20	+50	300
25	+48	400
32	+40	650
40	+43	1100
50	+57	1600
63	+57	2500
80	+80	4000
100	+80	6300
125	+125	8800



+ = add the stroke

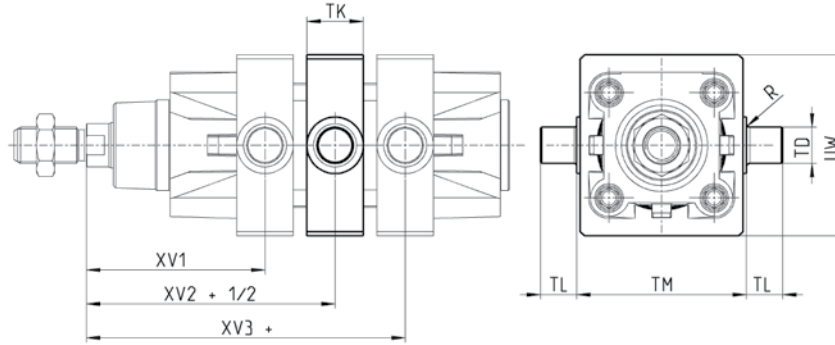
**DIMENSIONS (mm)**

Ø	ØD	ØD1	ØD2	ØD3	A	G	H	H1	L1	L2	L3	L4	L5	L6	L7	L8	L9+	L10+	M	WH	Z
32	12	30,5	35	25	32,5	M5	25,5	46,5	58	48	10	8	13	20,5	34	45	94	160	M6	66	M6X20
40	16	35	40	28	38	G1/8	30	53	65	55	10	8	13	22,5	38	50	105	178	M6	73	M6X20
50	20	40	50	35	46,5	G1/8	36	64	82	70	12	15	16	29,5	48	60	106	200	M8	94	M8X30
63	20	45	60	38	56,5	G1/8	40	75	82	70	12	15	16	29,5	49,5	70	121	215	M8	94	M8X30
80	25	45	80	48	72	G1/8	50	95	110	90	20	18	20	35	61	90	128	254	M10	126	M10X35
100	25	55	100	58	89	G1/8	58	110,5	115	100	15	18	20	39	69	105	138	269	M10	131	M10X35
125	32	60	130	65	110	G1/8	80	150	167	122	45	22	30	51	86,5	140	160	350	M12	190	M12X40

Cylinders Series 60 with centre trunnion Mod F.



+ = add the stroke  
 ++ = add the stroke twice



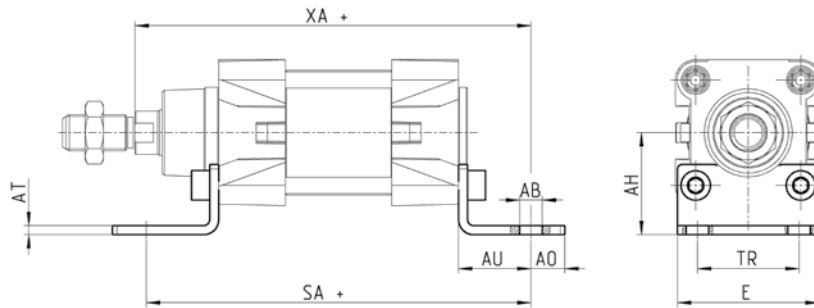
DIMENSIONS (mm)									
Ø	XV1	XV2	XV3	TM	TK	TD	TL	UW	R
32	62	73	84	50	20	12	12	65	0,1
40	71,5	82,5	93,5	63	25	16	16	74	0,15
50	79	90	101	75	25	16	16	85	0,15
63	88,5	97,5	106,5	90	30	20	20	100	0,15
80	97	110	123	110	30	20	20	120	0,15
100	104,5	120	135,5	132	30	25	25	135	0,2
125	123	145	167	162	30	25	25	160	0,2

Foot mount Mod. B

Material: zinc-plated steel



Supplied with:  
 2x feet  
 4x screws  
 + = add the stroke

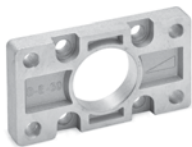


DIMENSIONS (mm)											
Mod.	Ø	AT	SA+	XA+	TR	E	AB	AH	AO	AU	torque force
B-41-32	32	4	142	144	32	45	7	32	11	24	6 Nm
B-41-40	40	4	161	163	36	53,5	10	36	15	28	6 Nm
B-41-50	50	4	170	175	45	62,5	10	45	15	32	13 Nm
B-41-63	63	5	185	190	50	73	10	50	15	32	13 Nm
B-41-80	80	6	210	216	63	92	12	63	20	41	19 Nm
B-41-100	100	6	220	230	75	108,5	14,5	71	25	41	22 Nm
B-41-125	125	7	250	270	90	132	16,5	90	25	45	26 Nm

**EXPRESS DELIVERY AVAILABLE**

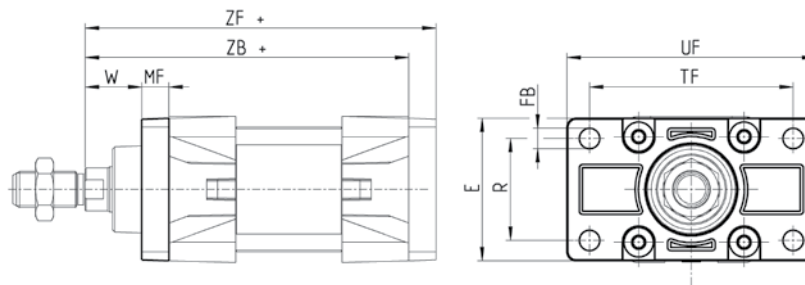
### Front and rear flange Mod. D-E

Material: Aluminium



Supplied with:  
1x flange  
4x screws

+ = add the stroke

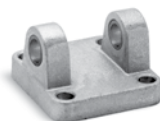


#### DIMENSIONS (mm)

Mod.	Ø	W	MF	ZB	TF	R	UF	E	FB	ZF	torque force
D-E-41-32	32	16	10	120	64	32	86	45	7	130	6 Nm
D-E-41-40	40	20	10	135	72	36	88	52	9	145	6 Nm
D-E-41-50	50	25	12	143	90	45	110	63	9	155	13 Nm
D-E-41-63	63	25	12	158	100	50	116	73	9	170	13 Nm
D-E-41-80	80	30	16	174	126	63	148	95	12	190	19 Nm
D-E-41-100	100	35	16	189	150	75	176	115	14	205	22 Nm
D-E-41-125	125	45	20	225	180	90	224	135	16	245	26 Nm

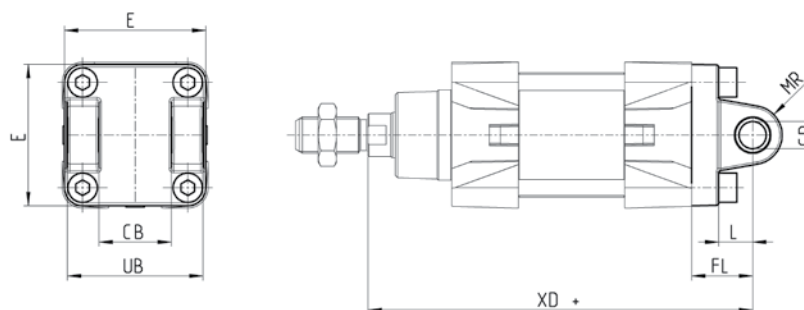
### Rear female trunnion Mod. C and C-H

Material: Aluminium



Supplied with:  
1x female trunnion  
4x screws

+ = add the stroke



#### DIMENSIONS (mm)

Mod.	Ø	CD	L	FL	XD+	MR	E	CB	UB	torque force
C-41-32	32	10	12	22	142	10	45	26	45	6 Nm
C-41-40	40	12	15	25	160	13	52	28	52	6 Nm
C-41-50	50	12	15	27	170	13	63	32	60	13 Nm
C-H-41-63	63	16	20	32	190	15	73	40	70	13 Nm
C-H-41-80	80	16	24	36	210	15	95	50	90	19 Nm
C-H-41-100	100	20	29	41	230	18	115	60	110	22 Nm
C-H-41-125	125	25	30	50	275	25	135	70	130	26 Nm



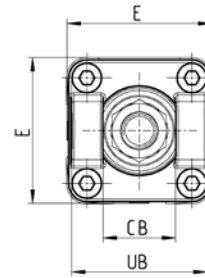
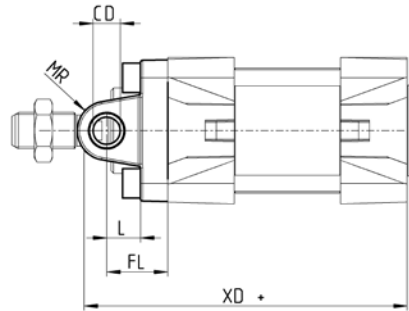
Front female trunnion Mod. H and C-H

Material: Aluminium



Supplied with:  
1x trunnion  
4x screws

+ = add the stroke

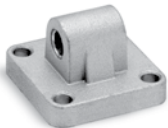


DIMENSIONS (mm)

Mod.	CB	UB	E	XD+	FL	L	CD	MR	torque force
H-41-32	26	45	45	120	22	12	10	10	6 Nm
H-41-40	28	52	52	135	25	15	12	13	6 Nm
H-41-50	32	60	63	143	27	15	12	13	13 Nm
H-60-63	40	70	73	158	32	20	16	15	13 Nm
C-H-41-80	50	90	95	174	36	24	16	15	19 Nm
C-H-41-100	60	110	115	189	41	29	20	18	22 Nm
C-H-41-125	70	130	135	225	50	30	25	25	22 Nm

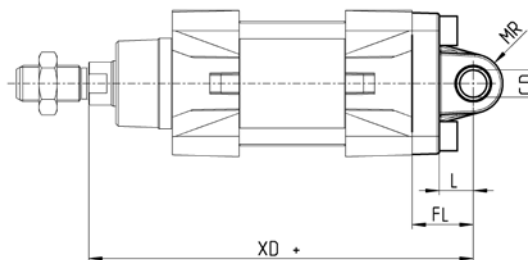
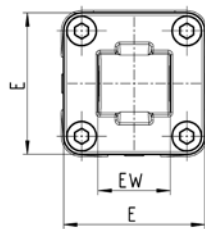
Rear male trunnion Mod. L

Material: Aluminium



Supplied with:  
1x male trunnion  
4x screws

+ = add the stroke



DIMENSIONS (mm)

Mod.	Ø	CD	L	FL	XD+	MR	E	EW	torque force
L-41-32	32	10	12	22	142	9	45	26	6 Nm
L-41-40	40	12	15	25	160	13	52	28	6 Nm
L-41-50	50	12	15	27	170	13	63	32	13 Nm
L-41-63	63	16	20	32	190	15	73	40	13 Nm
L-41-80	80	16	24	36	210	15	95	50	19 Nm
L-41-100	100	20	29	41	230	18	115	60	22 Nm
L-41-125	125	25	30	50	275	25	135	70	26 Nm

**EXPRESS DELIVERY AVAILABLE**

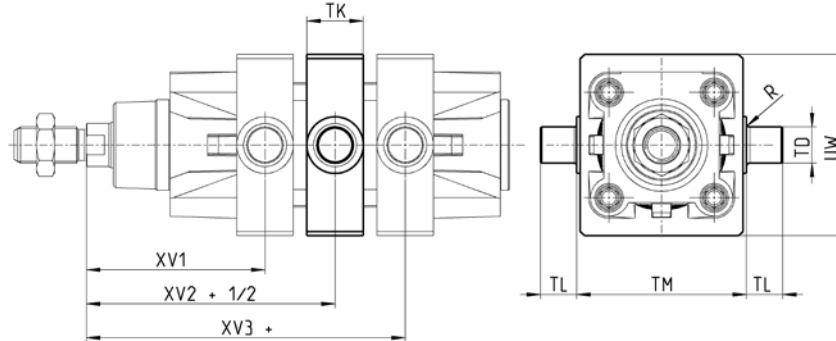
**Centre trunnion Mod. F**

Material: zinc-plated steel



Supplied with:  
1x intermediate trunnion  
8x clamping pins  
8x set screws

+ = add the stroke

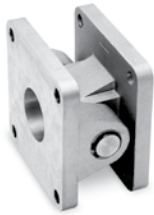


**DIMENSIONS (mm)**

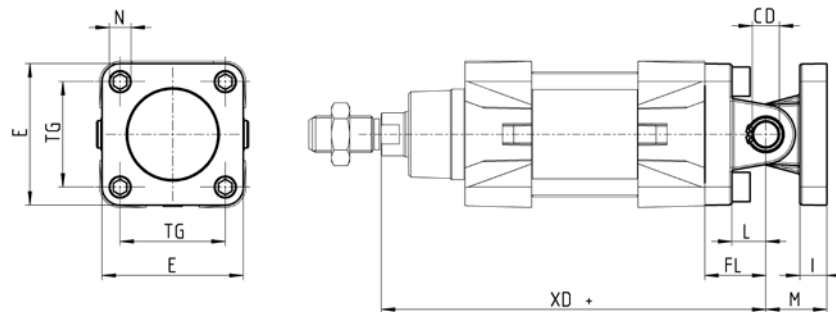
Mod.	Ø	XV1	XV2	XV3	TM	TK	TD	TL	UW	R
F-32	32	62	73	84	50	20	12	12	60	0,1
F-40	40	71,5	82,5	93,5	63	25	16	16	68	0,15
F-50	50	79	90	101	75	25	16	16	80	0,15
F-63	63	88,5	97,5	106,5	90	30	20	20	95	0,15
F-80	80	97	110	123	110	30	20	20	120	0,15
F-100	100	104,5	120	135,5	132	30	25	25	135	0,2
F-125	125	123	145	167	160	30	25	25	160	0,2

**Accessory combination Mod. I (combination of models C + L + S)**

Material: Aluminium



+ = add the stroke



**DIMENSIONS (mm)**

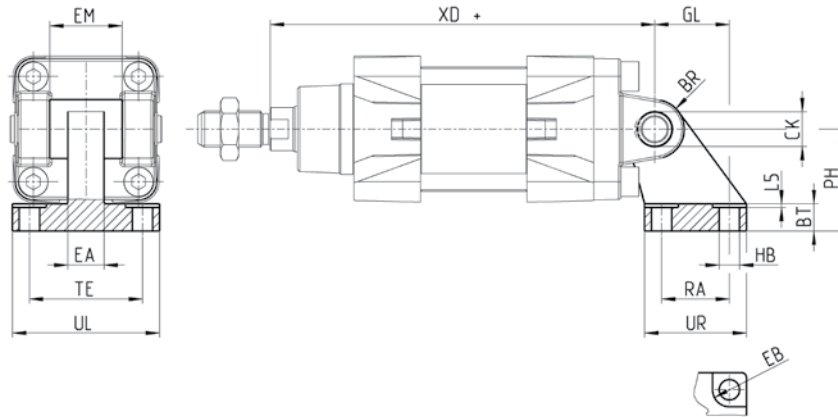
Mod.	Ø	ØCD	L	FL	XD+	TG	E	I	M	ØN	torque force
I-41-32	32	10	12	22	142	32,5	45	10	22	6,5	6 Nm
I-41-40	40	12	15	25	160	38	52	10	25	6,5	6 Nm
I-41-50	50	12	15	27	170	46,5	63	12	27	9	13 Nm
I-41-63	63	16	20	32	190	56,5	73	12	32	9	13 Nm
I-41-80	80	16	24	36	210	72	95	12	36	11	19 Nm
I-41-100	100	20	29	41	230	89	115	12	41	11	22 Nm
I-41-125	125	25	30	50	275	110	135	20	50	13	26 Nm

90° male trunnion Mod. ZC

CETOP RP 107P  
Material: aluminium



Supplied with:  
1x male trunnion  
+ = add the stroke

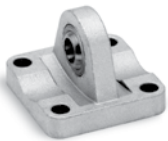


DIMENSIONS (mm)

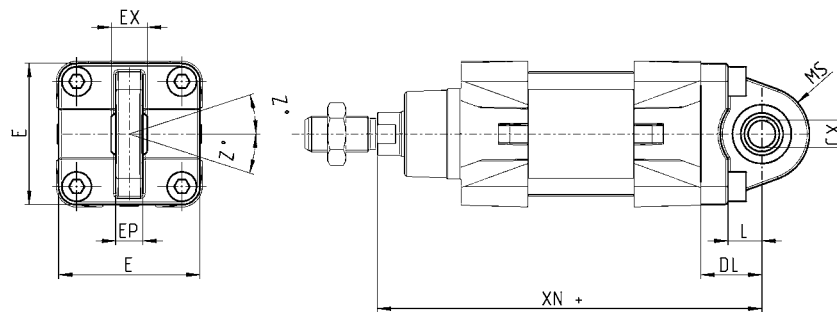
Mod.	Ø	EB	ØCK	HB	XD+	TE	UL	EA	GL	L5	RA	EM	UR	PH	BT	BR
ZC-32	32	11	10	6,6	142	38	51	10	21	1,6	18	26	31	32	8	10
ZC-40	40	11	12	6,6	160	41	54	15	24	1,6	22	28	35	36	10	11
ZC-50	50	15	12	9	170	50	65	16	33	1,6	30	32	45	45	12	13
ZC-63	63	15	16	9	190	52	67	16	37	1,6	35	40	50	50	14	15
ZC-80	80	18	16	11	210	66	86	20	47	2,5	40	50	60	63	14	15
ZC-100	100	18	20	11	230	76	96	20	55	2,5	50	60	70	71	17	19
ZC-125	125	20	25	14	275	94	124	30	70	3,2	60	70	90	90	20	22,5

Rear trunnion ball-joint Mod. R\*

Material: aluminium  
\* not according to standard



Supplied with:  
1x trunnion ball joint  
4x screws  
+ = add the stroke



DIMENSIONS (mm)

Mod.	Ø	ØCX	L	DL	XN+	MS	E	EX	EP	Z	torque force
R-41-32	32	10	12	22	142	16	45	14	10,5	4	6 Nm
R-41-40	40	12	15	25	160	20	52	16	12	4	6 Nm
R-41-50	50	12	15	27	170	20	63	16	12	4	13 Nm
R-41-63	63	16	20	32	190	24	73	21	15	4	13 Nm
R-41-80	80	16	24	36	210	24	95	21	15	4	19 Nm
R-41-100	100	20	29	41	230	30	115	25	18	4	22 Nm
R-41-125	125	30	30	50	275	40	140	37	25	4	26 Nm

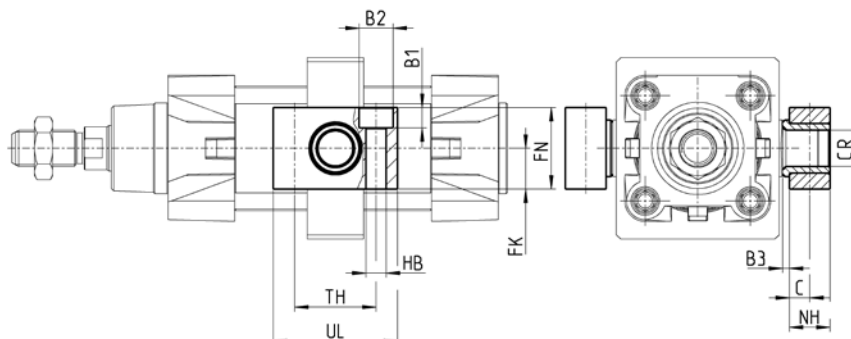
**EXPRESS DELIVERY AVAILABLE**

### Counter bracket for centre trunnion Mod. BF

Material: aluminium



Supplied with:  
2x supports



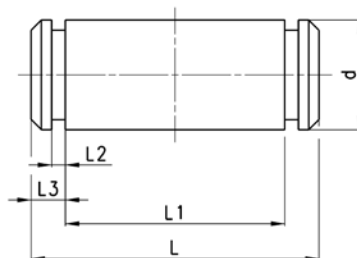
**DIMENSIONS (mm)**

Mod.	CR	NH	C	b3	TH	UL	FK	FN	B1	B2	HB
BF-32	12	15	7,5	3	32	46	15	30	6,8	11	6,6
BF-40-50	16	18	9	3	36	55	18	36	9	15	9
BF-63-80	20	20	10	3	42	65	20	40	11	18	11
BF-100-125	25	25	12,5	3,5	50	75	25	50	13	20	14

### Clevis pin Mod. S



Supplied with:  
1x clevis pin (stainless steel 303)  
2x C-clips (steel) plain carbon steel



**DIMENSIONS (mm)**

Mod.	Ø	d	L	L1	L2	L3
S-32	32	10	52	46	1,1	3
S-40	40	12	59	53	1,1	3
S-50	50	12	67	61	1,1	3
S-63	63	16	77	71	1,1	3
S-80	80	16	97	91	1,1	3
S-100	100	20	121	111	1,3	5
S-125	125	25	140,5	132	1,3	4,25

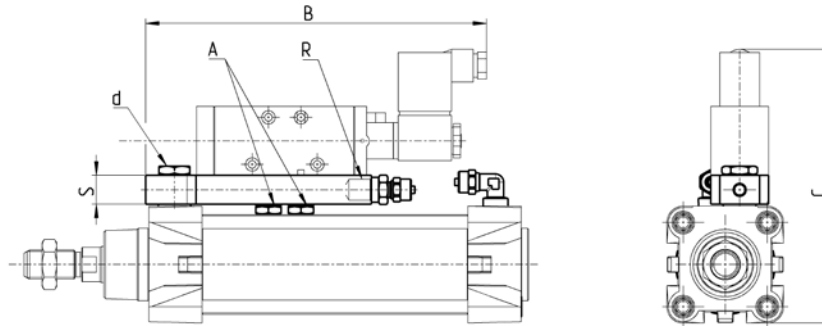
Accessory for mounting valves on the cylinder

The mounting sub-base Mod. PCV enables the valve to be mounted directly on the cylinder using Stud Manifold bolts Mod. 1635 or flow controllers, Mod. SCU. The stud bolts used to attach the valve outlet ports to the PCV mounting plate are model number 1631-01-\*\*(thread size of valve). The other end of the plate has a threaded port to connect fittings to the rear end-cap port.



d\* = mounting on the cylinder using Mod. 1635 or Mod. SCU.

Note: the minimum possible stroke is 100mm.



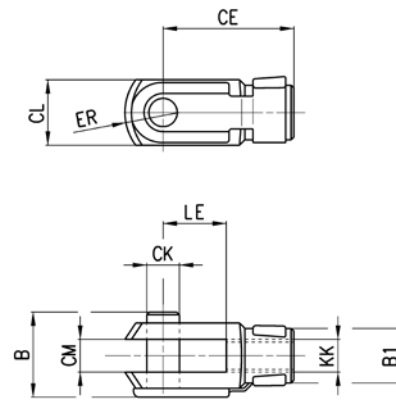
DIMENSIONS (mm)

Mod.	Ø	A	B	C	R	S	d*	Valve Model To Use (Standard valves with end cap turned 180°)
PCV-32	32	G1/8	185	131,5	G1/8	16	G1/8	458-015-22-S19
PCV-40-50	40	G1/8	188,5	140,5	G1/4	16	G1/4	458-015-22-S19
PCV-40-50	50	G1/8	188,5	150	G1/4	16	G1/4	458-015-22-S19
PCV-63-80	63	G1/4	215	167	G1/4	16	G3/8	454-015-22-S07
PCV-63-80	80	G1/4	215	185	G1/4	16	G3/8	454-015-22-S07

Rod fork end Mod. G

ISO 8140

Material: zinc-plated steel



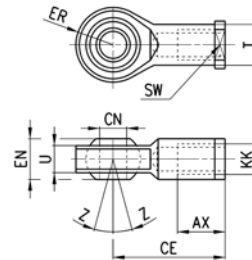
DIMENSIONS (mm)

Mod.	Ø	ØCK	LE	CM	CL	ER	CE	KK	B	B1
G-25-32	32	10	20	10	20	12	40	M10X1,25	26	18
G-40	40	12	24	12	24	14	48	M12X1,25	32	20
G-50-63	50-63	16	32	16	32	19	64	M16X1,5	40	26
G-80-100	80-100	20	40	20	40	25	80	M20X1,5	48	34
G-41-125	125	30	55	30	55	38	110	M27X2	74	48

**EXPRESS DELIVERY AVAILABLE**

**Swivel ball joint Mod. GA**

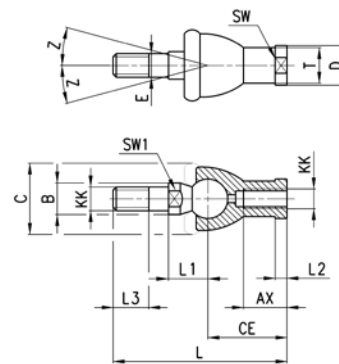
ISO 8139.  
Material: zinc-plated steel.



DIMENSIONS (mm)											
Mod.	∅	∅CN <sup>(H7)</sup>	U	EN	ER	AX	CE	KK	T	Z	SW
GA-32	32	10	10,5	14	14	20	43	M10X1,25	15	6,5	17
GA-40	40	12	12	16	16	22	50	M12X1,25	17,5	6,5	19
GA-50-63	50-63	16	15	21	21	28	64	M16X1,5	22	7,5	22
GA-80-100	80-100	20	18	25	25	33	77	M20x1,5	27,5	7	30
GA-41-125	125	30	25	37	35	51	110	M27x2	40	7,5	41

**Piston rod socket joint Mod. GY**

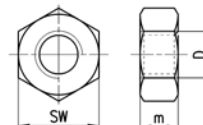
Material: Zinc-Aluminum alloy and zinc-plated steel.



DIMENSIONS (mm)																
Mod.	∅	KK	L	CE	L2	AX	SW	SW1	L1	L3	∅T	∅D	E	∅B	∅C	Z
GY-32	32	M10X1,25	74	35	6,5	18	17	11	19,5	15	15	19	10	14	28	15
GY-40	40	M12X1,25	84	40	6,5	20	19	17	21	17	17,5	22	12	19	32	15
GY-50-63	50-63	M16X1,5	112	50	8	27	22	23	27,5	23	22	27	16	22	40	11
GY-80-100	80-100	M20x1,5	133	63	10	38	30	25	31,5	25	27,5	34	20	27	45	7,5

**Piston rod nut Mod. U**

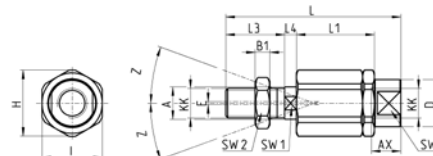
UNI EN ISO 4035  
Material: zinc-plated steel



DIMENSIONS (mm)				
Mod.	∅	KK	m	SW
U-25-32	32	M10X1,25	6	17
U-40	40	M12X1,25	7	19
U-50-63	50-63	M16X1,5	8	24
U-80-100	80-100	M20X1,5	9	30
U-41-125	125	M27X2	12	41

**Self aligning rod Mod. GK**

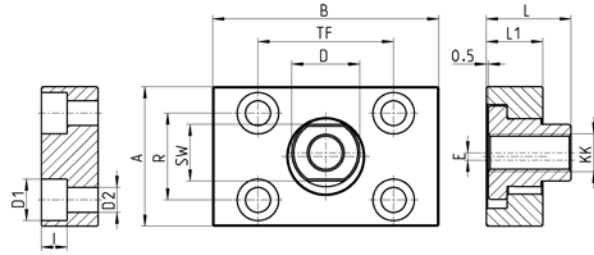
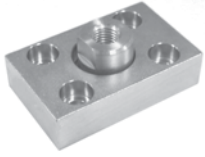
Material: Zinc-Aluminum alloy and zinc-plated steel.



DIMENSIONS (mm)																	
Mod.	∅	KK	L	L1	L3	L4	∅A	∅D	H	I	SW	SW1	SW2	B1	AX	Z	E
GK-25-32	32	M10X1,25	71,5	35	20	7,5	14	22	32	30	19	12	17	5	22	4	2
GK-40	40	M12X1,25	75,5	35	24	7,5	14	22	32	30	19	12	19	6	22	4	2
GK-50-63	50-63	M16X1,5	104	53	32	10	22	32	45	41	27	20	24	8	30	3	2
GK-80-100	80-100	M20x1,5	119	53	40	10	22	32	45	41	27	20	30	10	37	3	2

Coupling piece Mod. GKF

Material: Zinc-Aluminum alloy and zinc-plated steel.



DIMENSIONS (mm)

Mod.	Ø	KK	A	B	R	TF	L	L1	I	Ø D	Ø D1	Ø D2	SW	E
GKF-25-32	32	M10x1,25	37	60	23	36	22,5	15	6,8	18	11	6,6	15	2
GKF-40	40	M12x1,25	56	60	38	42	22,5	15	9	20	15	9	15	2,5
GKF-50-63	50-63	M16x1,5	80	80	58	58	26,5	15	10,5	25	18	11	22	2,5
GKF-80-100	80-100	M20x1,5	90	90	65	65	32,5	20	13	30,5	20	14	27	2,5
GKF-125	125	M27x2	90	90	65	65	35,5	20	13	40	20	14	36	4