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The company

The TECHMATIK plant was established in the summer of 2004. The company comprises 2 divisions. One deals exclusively with the production of modern machines and devices for manufacturing precast concrete and ready-mixed concrete.

The second division - TECHMATIK COOPERATION includes three departments which closely cooperate with each other: Machining Treatment Department, Heat Treatment Department and Quality Control Department providing services for external clients.



TECHMATIK COOPERATION offers a wide range and full scope of services utilizing modern metal treatment, hardening and quality control technologies. These services range from the smallest and detail-oriented to the most complicated activities. The remaining two departments equipped with state-of-the-art measurement and heat treatment machines guarantee the highest possible quality of service. The company's offer is supplemented with manufacturing process control systems. These include control modules for individual stages or integrated systems for controlling the entire production line. TECHMATIK COOPERATION provides its services to such contractors as: Heller, Bombardier Aerospace, ABB, IVA, Alstom, Normet, Tecauma, Shapers, ITM, PMP Poland, KRAŚNIK Rolling Bearing Factory, BEFARED, etc.

We cater to individual needs of our customers with regard to cooperation and production of hydraulic cylinders.

Testing of the actuators is conducted on a special hydraulic station for testing cylinder leak tightness. General requirements and tests, as well as the manner and character of proceeding during tests of hydraulic actuators are detailed in the Polish Standard PN-72/M-73202.

The standard describes "product testing" as follows:

- External inspection performed without equipment (with the naked eye) including:
 - quality of workmanship of mounting surfaces,
 - and in particular the quality of connecting threads,
 - quality of protective coating,
 - quality of welded joints,
 - protection of power supply connections,
 - status of mounting seals.

Elements and assemblies should be compared with references, when applicable.

- Inspection of dimensions (mounting and overall).

In accordance with PN-83/M-73005, inspecting dimensions is necessary in order to ascertain the conformity with technical documentation and technical requirements.

Only "external inspection" has been presented above in detail. For more details consult PN-72/M-73202.



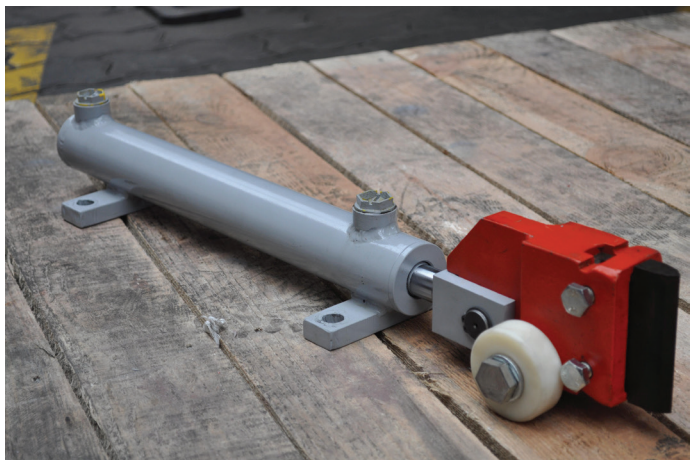
Actuators used in machines being part of concrete product manufacturing lines

The majority of our production is constituted by special hydraulic cylinders utilized in machines for manufacturing concrete products, being the main business profile of our company.

Cylinders fitted to customers' individual needs are manufactured upon delivering basic technical data by the ordering party. The design office prepares comprehensive technical documentation and after being granted approval cylinders are manufactured by means of modern machine park.



Actuator for lifting the forklift's upper mast
SJ-125/70/80/KST125/ZGZ58/ I / G1/2



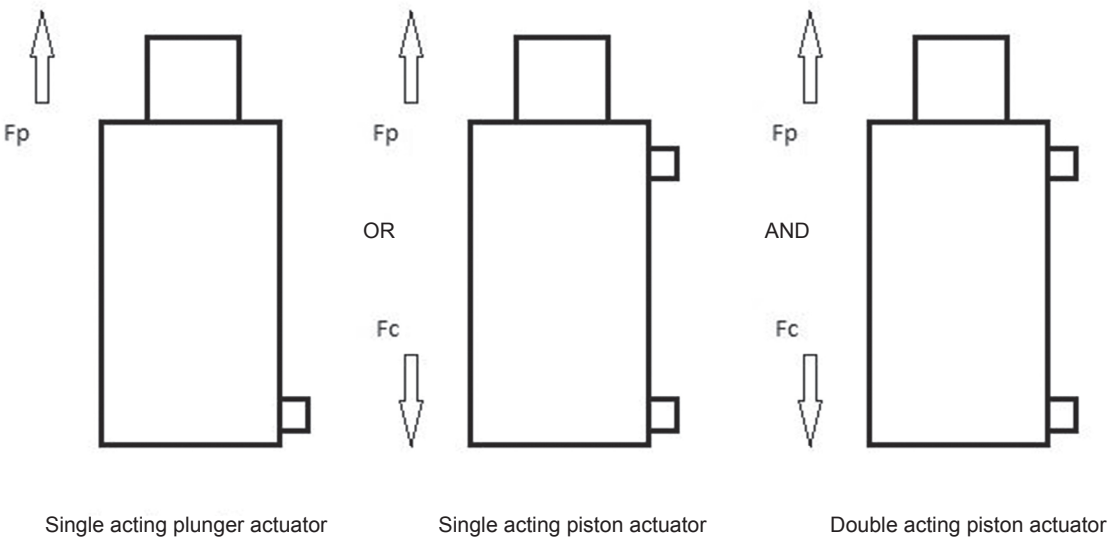
Lateral actuator of the multifunctional splitting machine
SJ-50/28/300/TkM88/TWS20/ I / G1/2



Lower and upper actuator of the multifunctional splitting machine
SJ-100/50/30/TKZ120/GZG42/G3/4
SJ-100/50/300/TKZ120/GZG42/G3/4

Choice of actuator

1. The first step in choosing an actuator is the determination of the supply pressure.
2. Next, one should choose the type of movement the actuator is going to perform (pulling, pushing) and the operating mode (single or double acting).



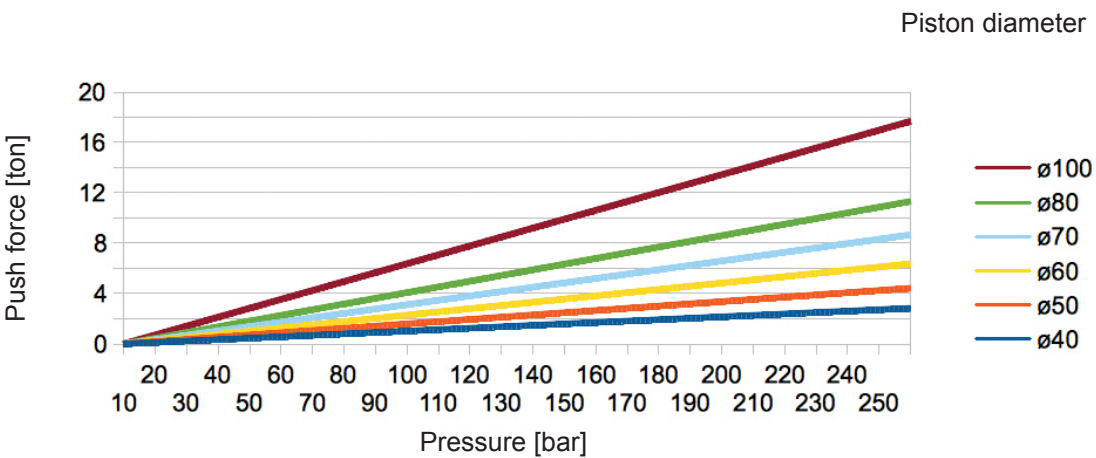
Key:
Fp = push force
Fc = pull force

A double acting actuator may perform single action if only one of its chambers is powered.

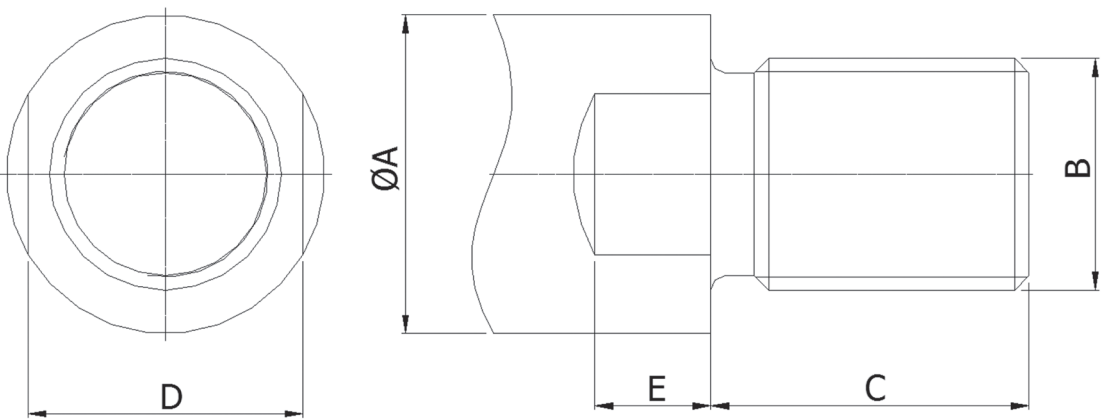
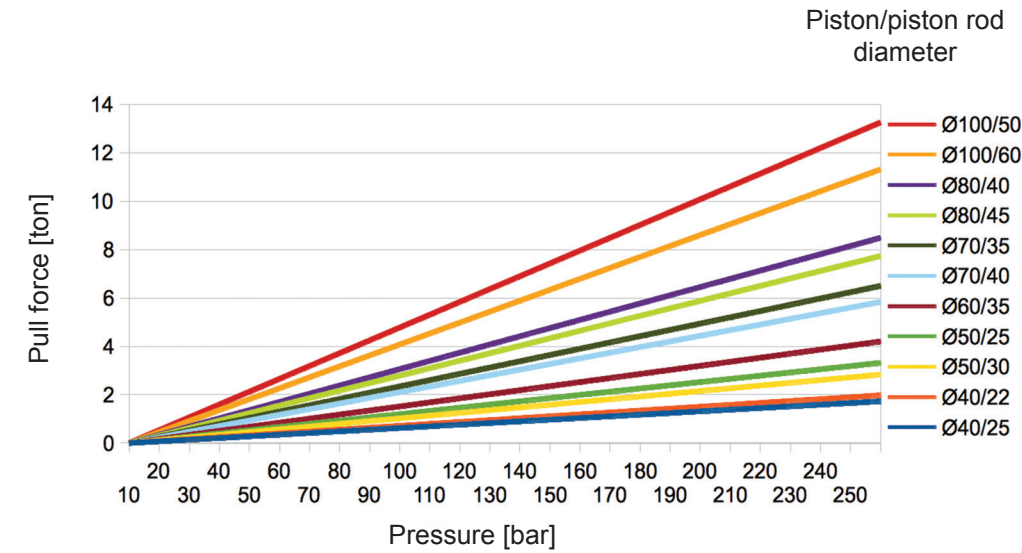
3. If the type of operating motion presented on the diagram below is known, an actuator based on the appropriate load may be chosen.

Piston actuator

PUSH FORCE DIAGRAM

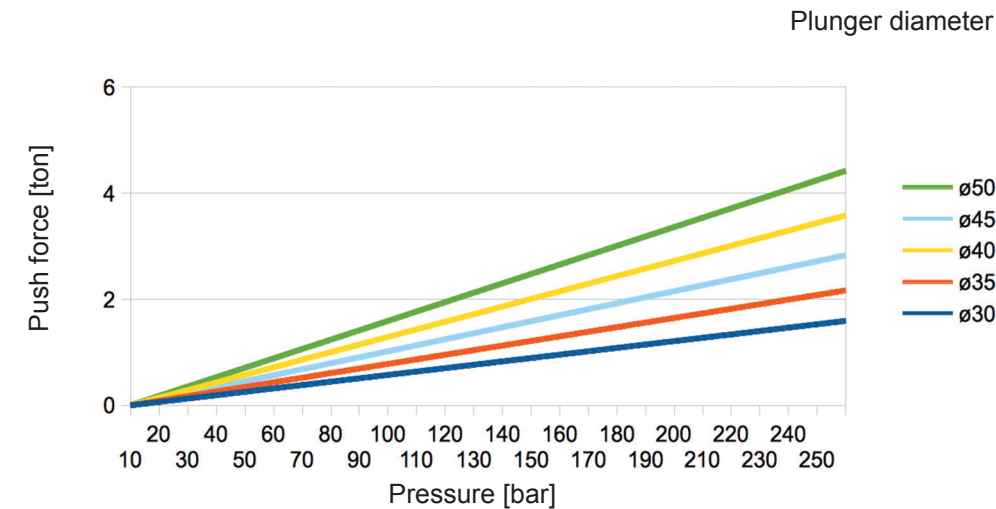


PULL FORCE DIAGRAM

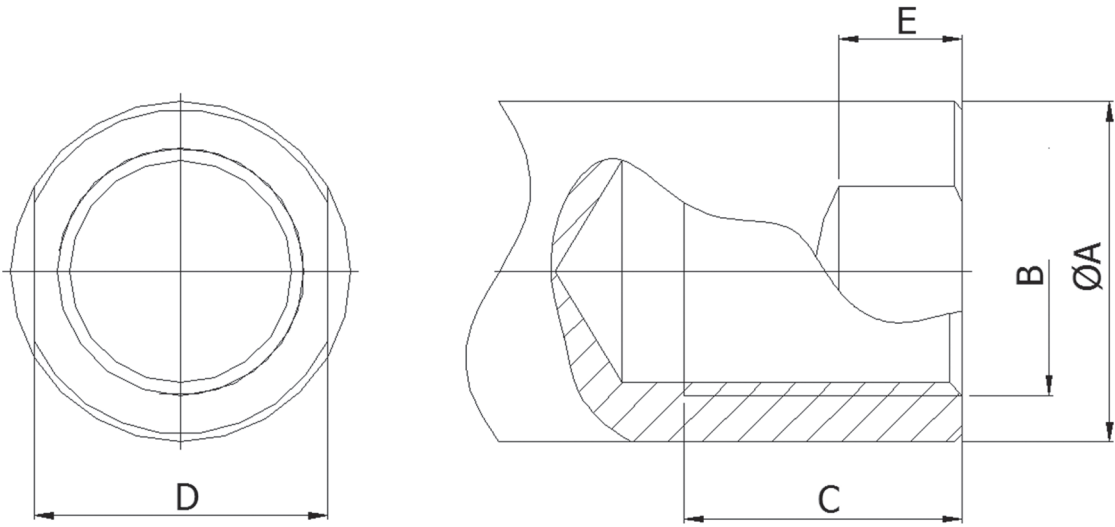


Plunger actuator

PUSH FORCE DIAGRAM



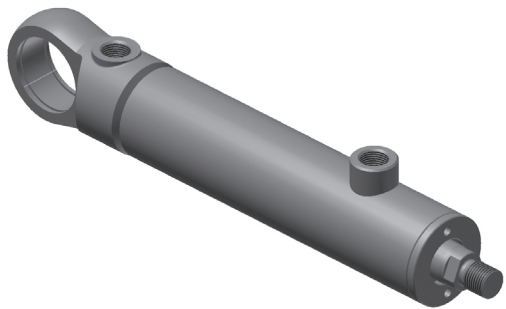
Name	ØA	B	C	D	E
ZGZ16	22	M16x1,5	22	19	8
ZGZ18	25	M18x1,5	25	22	10
ZGZ20	25	M20x1,5	28	22	10
ZGZ22	30	M22x1,5	30	27	10
ZGZ27	35	M27x2	36	32	10
ZGZ30	40	M30x2	40	36	12
ZGZ33	45	M33x2	45	41	12
ZGZ42	50	M42x2	56	46	15
ZGZ48	60	M48x2	63	55	18



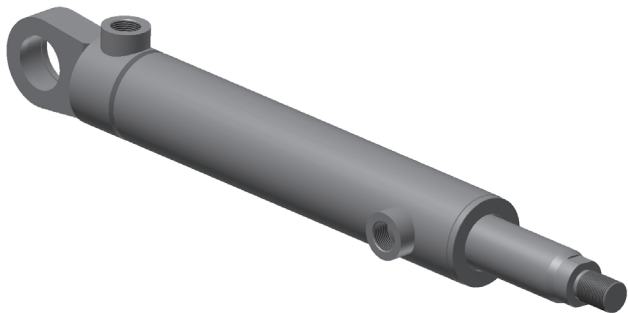
Name	ØA	B	C	D	E
ZGW16	22	M16x1,5	22	19	8
ZGW18	25	M18x1,5	25	22	10
ZGW22	30	M22x1,5	30	27	10
ZGW27	35	M27x2	36	32	10
ZGW30	40	M30x2	40	36	12
ZGW33	45	M33x2	45	41	12
ZGW42	50	M42x2	56	46	15
ZGW48	60	M48x2	63	55	18

Example actuator mounting variants

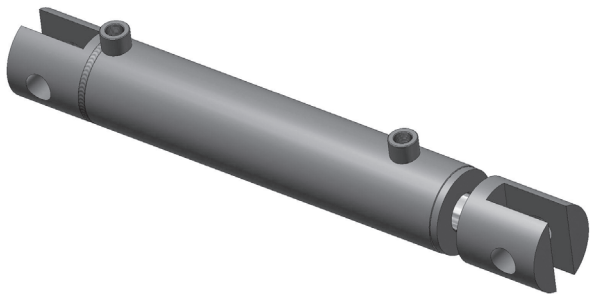
SJ-KST-ZGZ



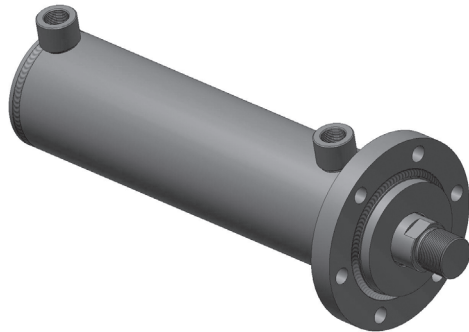
SJ-PSN-ZGZ



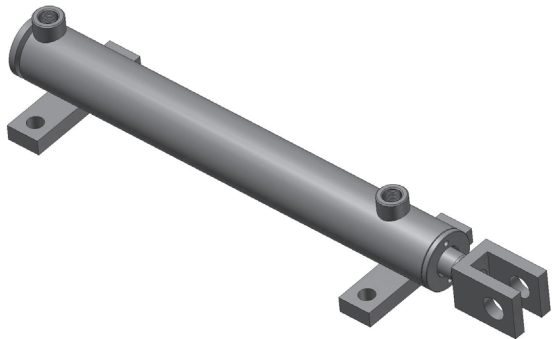
SJ-TWS-TWS



SJ-TKZ-ZGZ

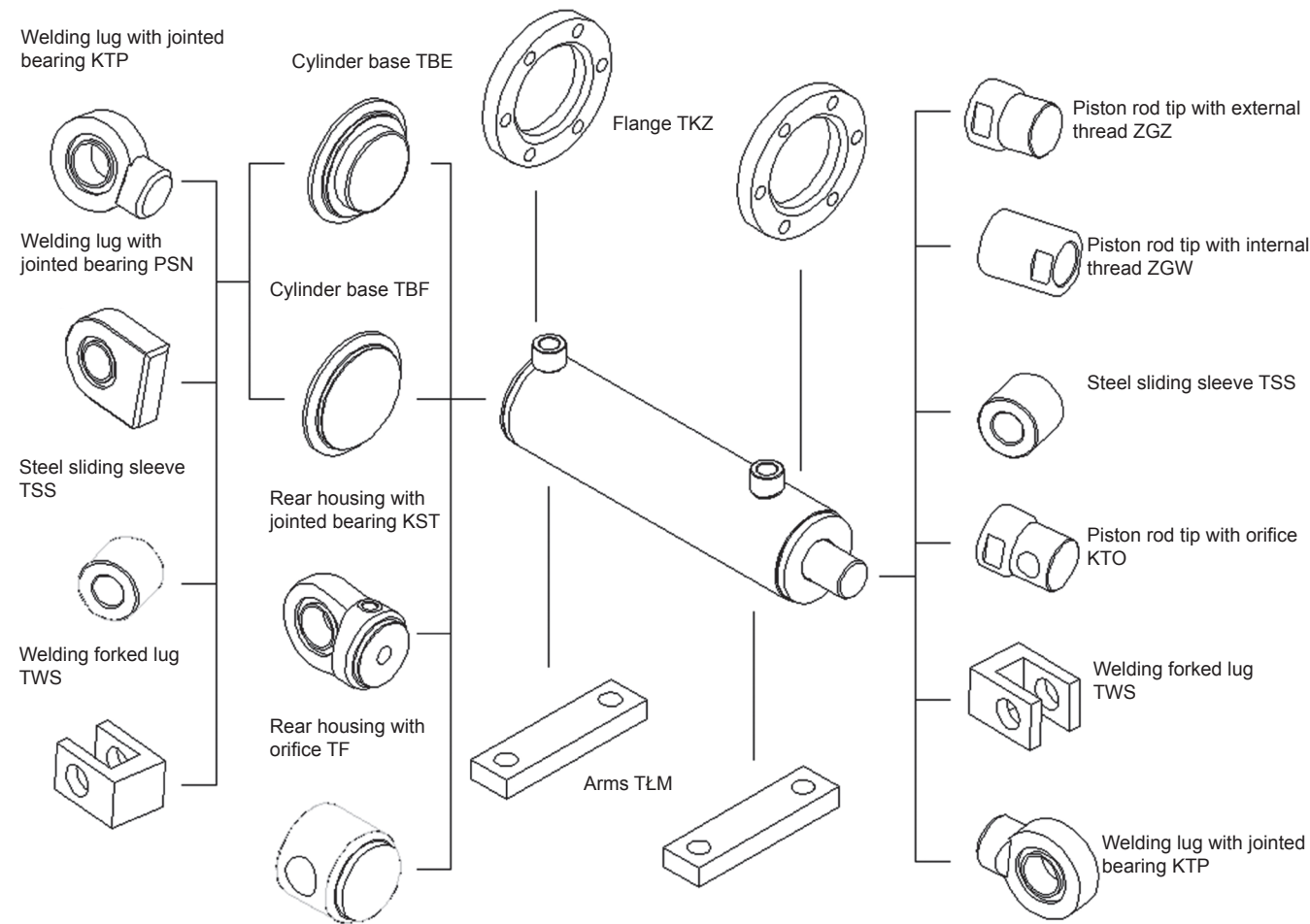


SJ-TLM-TWS

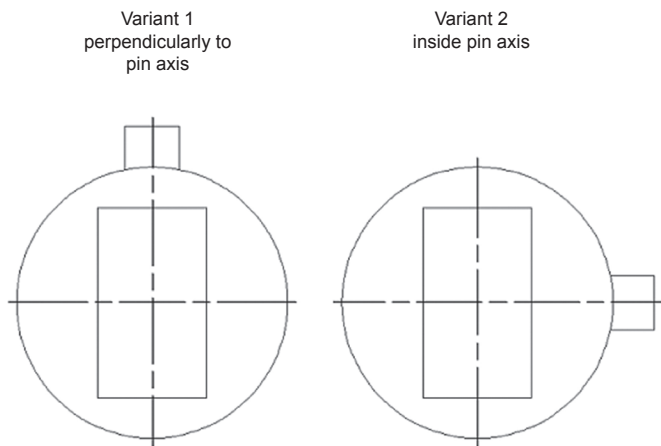


Structure of actuator based on unrestricted configurations

An actuator may be constructed on the basis of a freely chosen configuration, utilizing the below key.



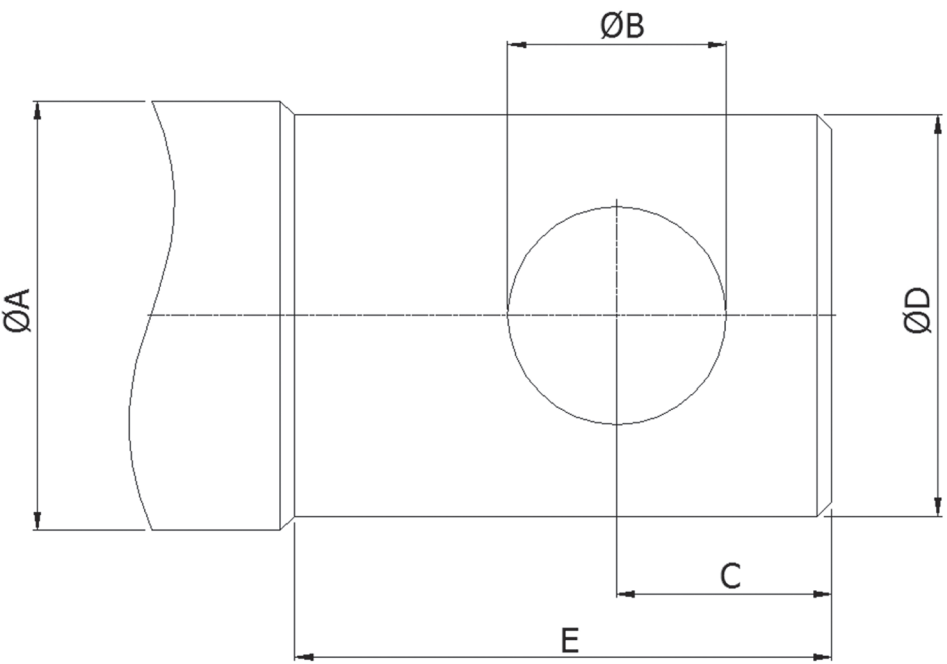
Connectors may be located in two configurations.



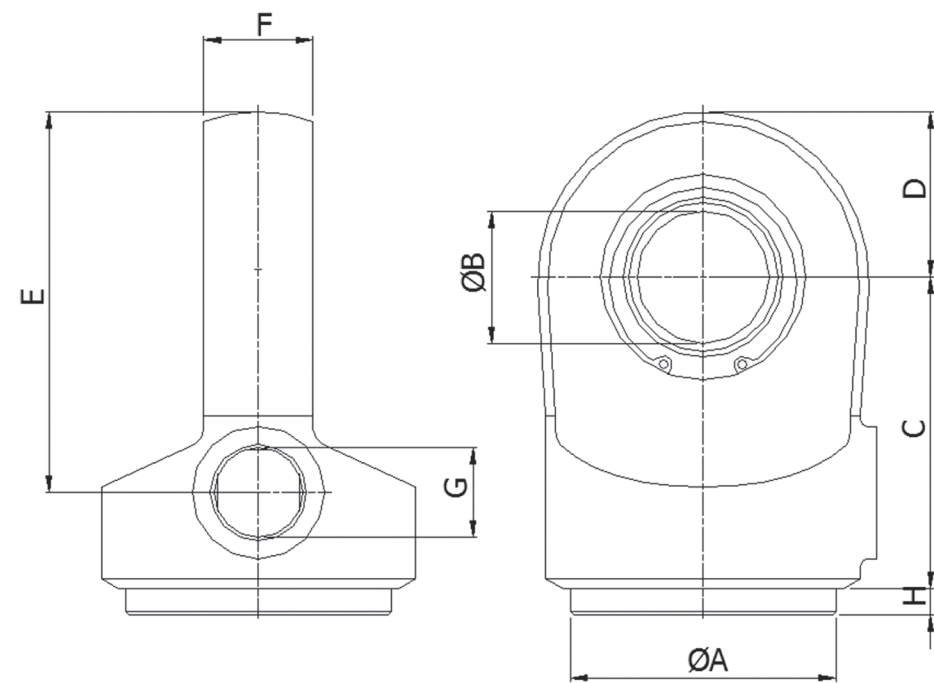
Types of connector threads

THREAD	
Metric	Inch
M14x1,5	G1/4"
M16x1,5	G3/8"
M18x1,5	G3/8"
M22x1,5	G1/2"
M27x2	G5/8"
M30x2	G3/4"
M33x2	G3/4"
M36x2	G1"

11. Piston rod tip with orifice KTO



Name	$\varnothing A$	$\varnothing B$	C	$\varnothing D$	E
KTO22	22	12,1	12	19	32
KTO25	25	16	13	22	35
KTO30	30	20,5	15	27	37
KTO35	35	25,5	18	32	44
KTO40	40	25,5	20	37	49
KTO45	45	30,5	22	41	55
KTO50	50	30,5	25	46	65
KTO60	60	30,5	30	56	75



Name	ØA	ØB	C	D	E	F	G	H
KST40	40	25	55	30	70	25	M16x1,5	4
KST50	50	30	59	37	80	29	M16x1,5	5
KST63	63	35	76	40	95	32	M22x1,5	6
KST80	80	40	94	50	115	33	M27x2	8

Manner of labeling

On the basis of the key presented above, the customer is able to create any configuration adapted to individual needs.

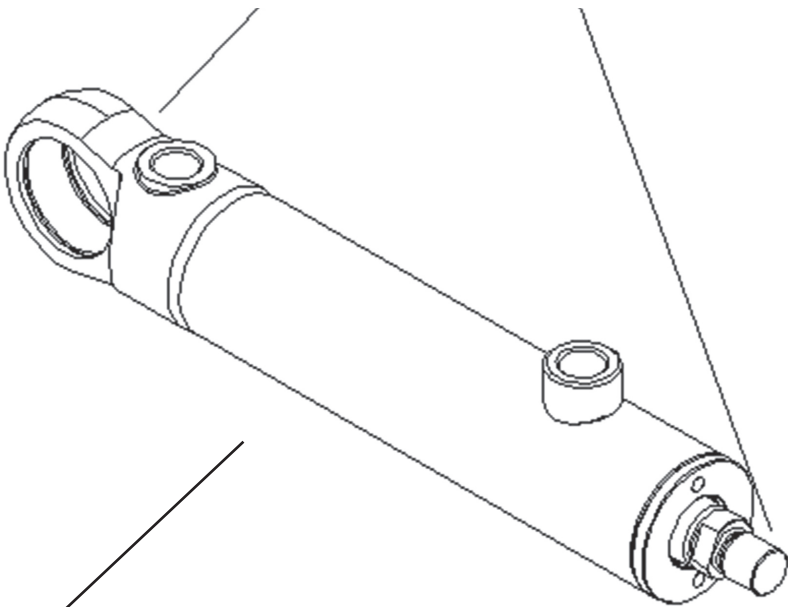
Type of actuator	Mounting -rear	Mounting - piston rod	Inlet configuration	Connector thread size
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Piston stroke [mm]

Piston rod diameter [mm]

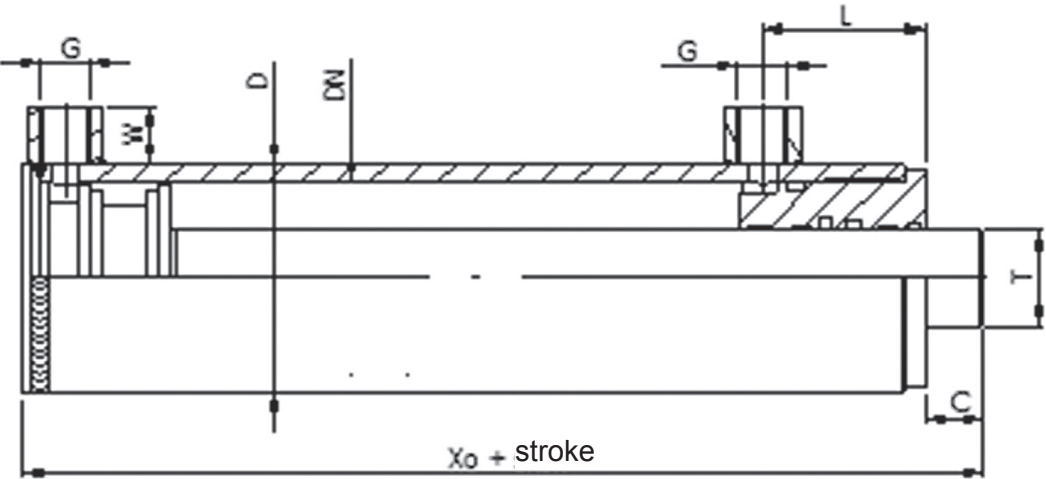
Cylinder bore [mm]

SJ – 40 / 22 / 120 / KST40/ ZGZ16 / I / G3/8



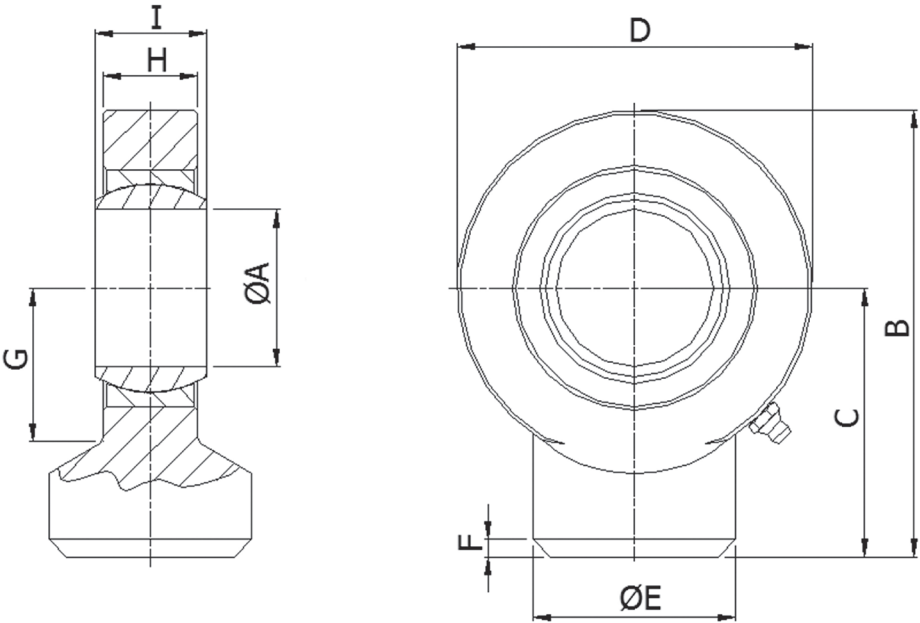
Actuator chosen according to the labeling

Double acting piston actuator with one-sided piston rod.
Fully adjustable mounting configuration.

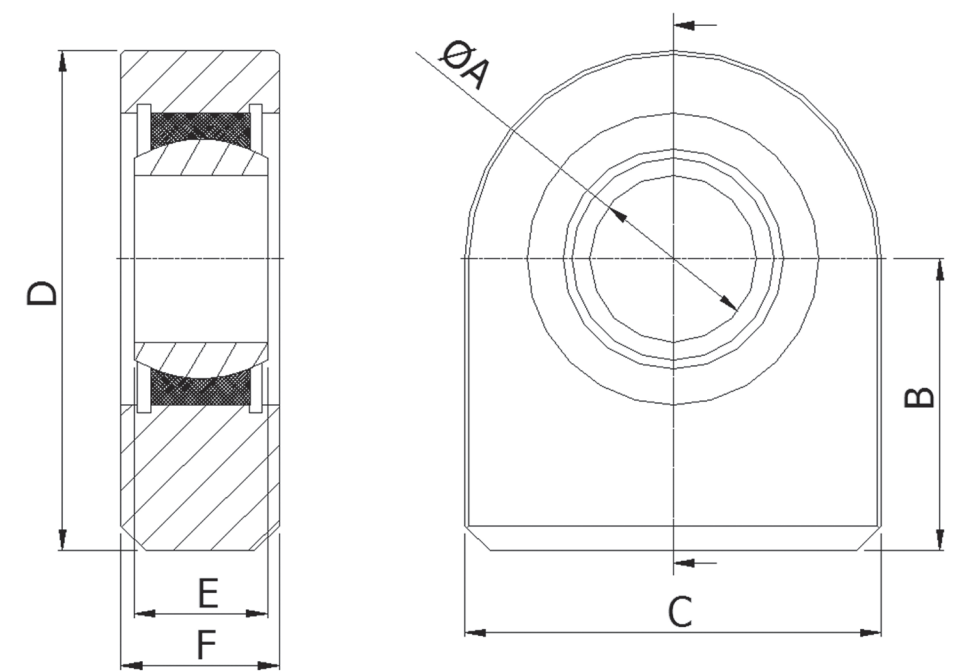


Name	DN	T	D	G	W	L	C	Xo
SJ-40/.../...	40	22; 25	50	G3/8"	16	52	22	132
SJ-50/.../...	50	25; 28; 32	60	G3/8"	16	52	22	140
SJ-63/.../...	63	32; 35; 40	75	G1/2"	17	56	22	150
SJ-80/.../...	80	40; 45; 50; 56	95	G1/2"	17	76	25	185
SJ-100/.../...	100	50; 56; 63; 70	120	G3/4"	18	88	25	200
SJ-125/.../...	125	56; 63; 70; 80	145	G3/4"	18	88	25	208

9. Welding lug with jointed bearing KTP



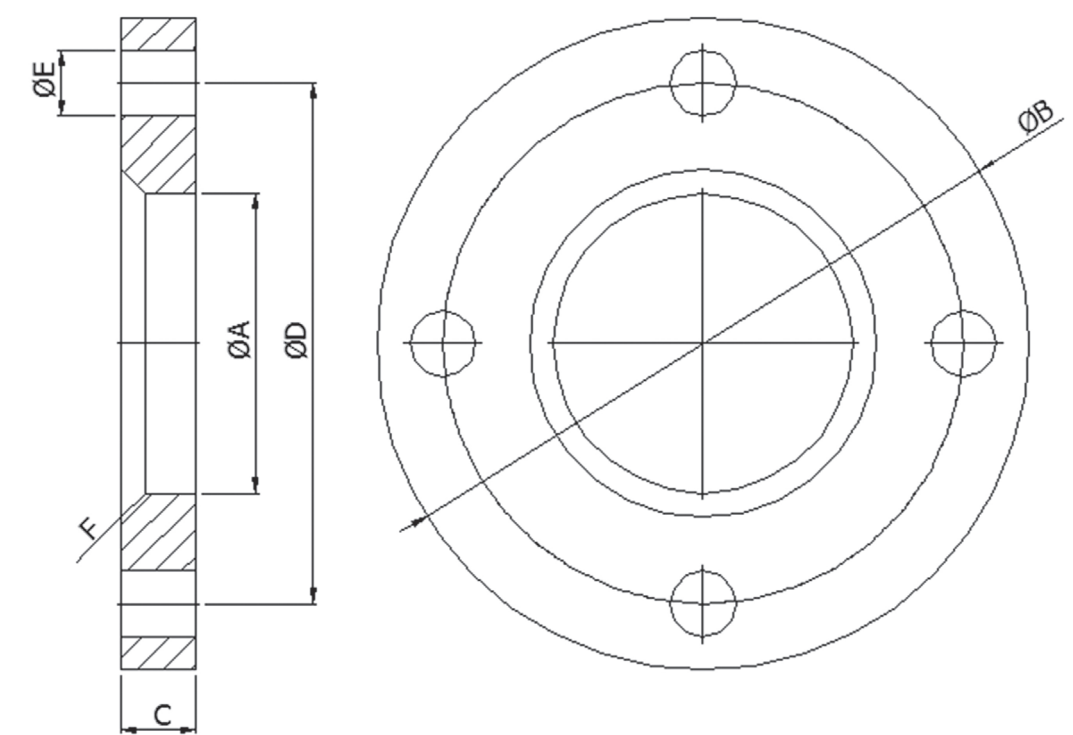
Name	ØA	B	C	D	ØE	F	G	H	I
KTP20	20	64,5	38	53	27,5	3	27,5	13	16
KTP25	25	77	45	64	33,5	4	33	17	20
KTP30	30	87,5	51	73	40	4	37,5	19	22
KTP35	35	102	61	82	47	4	43	21	25
KTP40	40	115	69	92	52	5	48	23	28
KTP45	45	128	77	102	58	5	52	27	32
KTP50	50	144	88	112	62	6	59	30	35



Name	ØA	B	C	D	E	F
PSN20	20	38	50	63	16	19
PSN25	25	45	55	72,5	20	23
PSN30	30	51	65	83,5	22	28
PSN35	35	61	83	102,5	25	30
PSN40	40	69	100	119	28	35
PSN45	45	77	111	132	32	40
PSN50	50	88	123	149,5	35	40

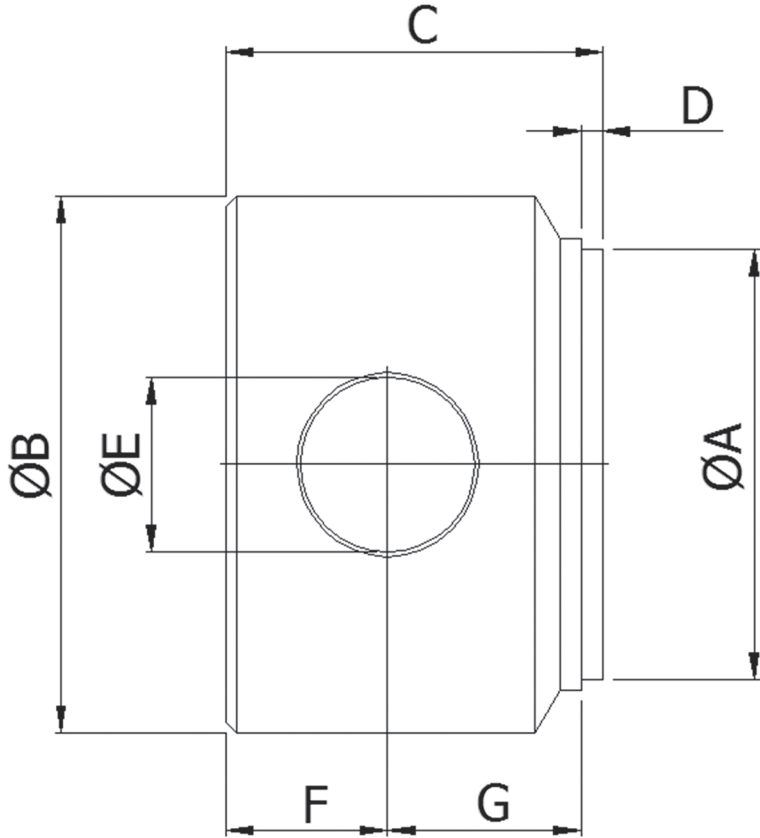
Components of the actuator

1. TKZ Flange



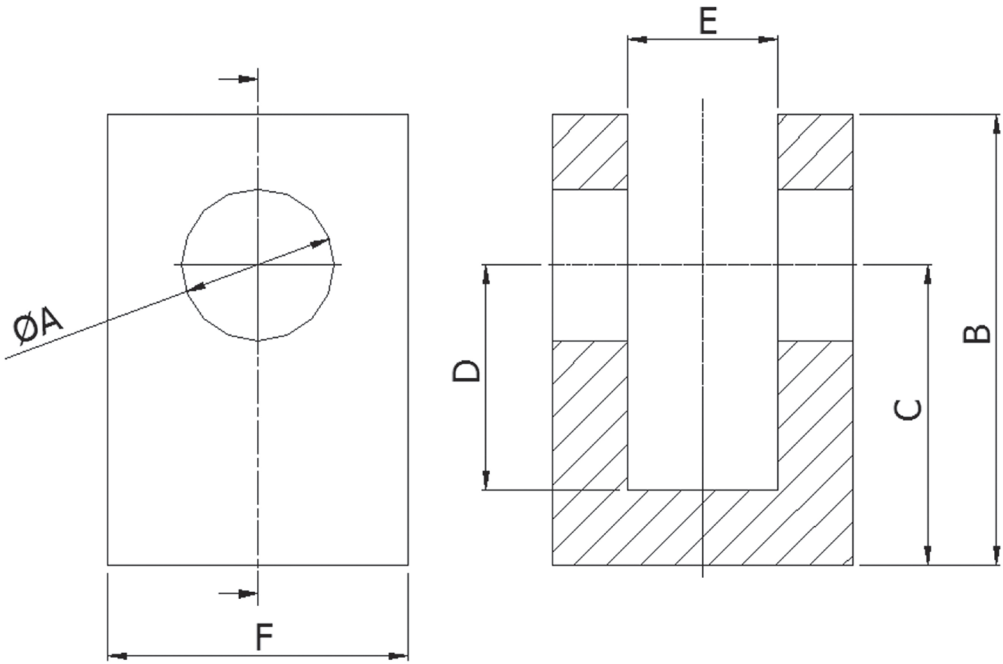
Name	A	B	C	D	E	F
TKZ50	50	109	12,5	87	4xØ11	4x45°
TKZ60	60	128	14,5	105	4xØ13	4x45°
TKZ70	70	142	16,5	117	4xØ13	5x45°
TKZ80	80	162	16,5	127	4xØ15	5x45°
TKZ92	92	181	18,5	149	4xØ17	7x45°
TKZ95	95	181	18,5	149	4xØ17	7x45°
TKZ115	115	194	24,5	162	4xØ17	8x45°

2. Rear housing with orifice TF



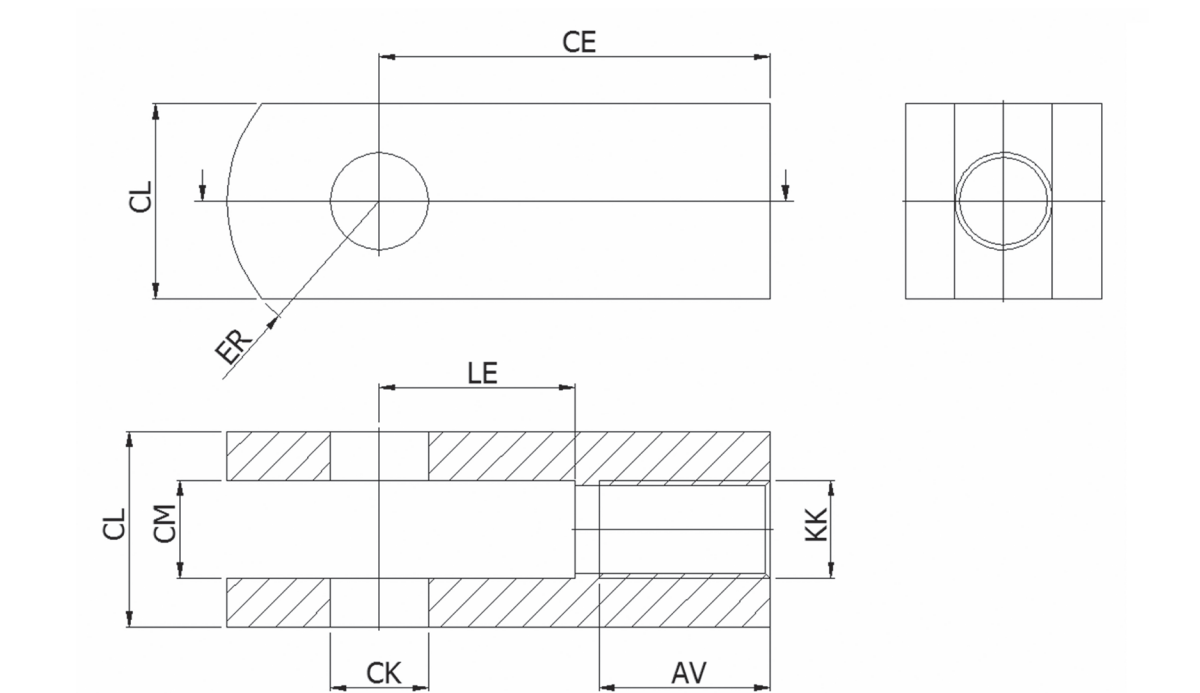
Name	A	B	C	D	E	F	G
TF040	40	50	35	2	16,2	15	18
TF050	50	60	45	2	20,25	20	23
TF060	60	70	50	2	25,25	22,5	25,5
TF070	70	80	50	2	25,25	22,5	25,5
TF080	80	95	60	2	30,25	25	33
TF0100	100	115	70	2	30,25	30	38

7. Welding forked lug TWS



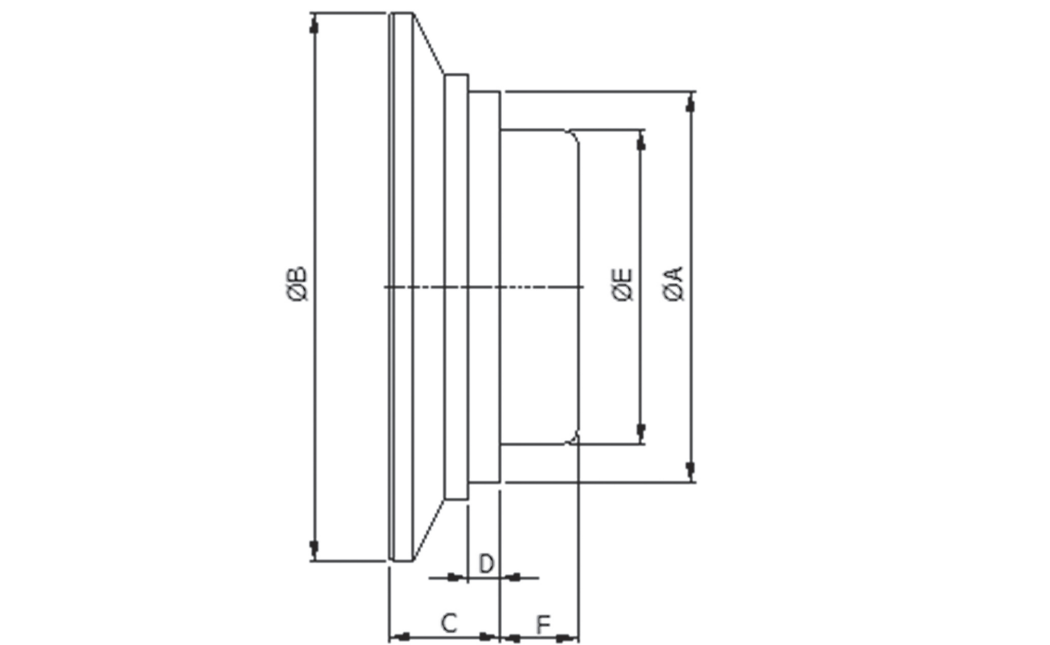
Name	ØA	B	C	D	E	F
TWS20	20,25	60	40	30	20	40
TWS25	25,25	70	45	30	25	50
TWS30	30,25	80	50	35	30	60
TWS35	35,25	90	55	35	35	70

6. Forked lug TWW



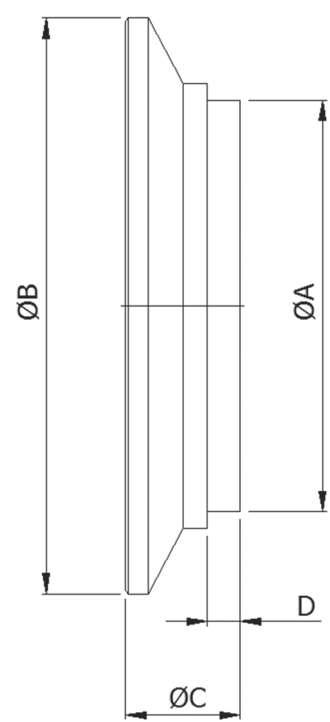
Name	KK	AV min.	CK H9	CE	CL max.	CM	LE min.	ER max.
TWW4	M4x0,7	8	4	16	8	4 _{+0,1} ^{+0,4}	8	6,5
TWW6	M6x1	12	6	24	12	6	12	9,5
TWW8	M8x1,25	16	8	32	16	8	16	13
TWW10	M10x1,25	20	10	40	20	10	20	16
TWW12	M12x1,25	22	12	48	24	12	24	19
TWW16	M16x1,5	28	16	64	32	16	32	25
TWW20	M20x1,5	33	20	80	40	20	40	32
TWW24	M24x2	42	25	100	50	25	50	41
TWW27	M27x2	51	30	110	55	30	54	45
TWW36	M36x2	56	35	144	70	35	72	57
TWW42	M42x2	60	40	168	85	40	84	77
TWW48	M48x2	65	50	192	96	50	96	88

3. Cylinder base TBE



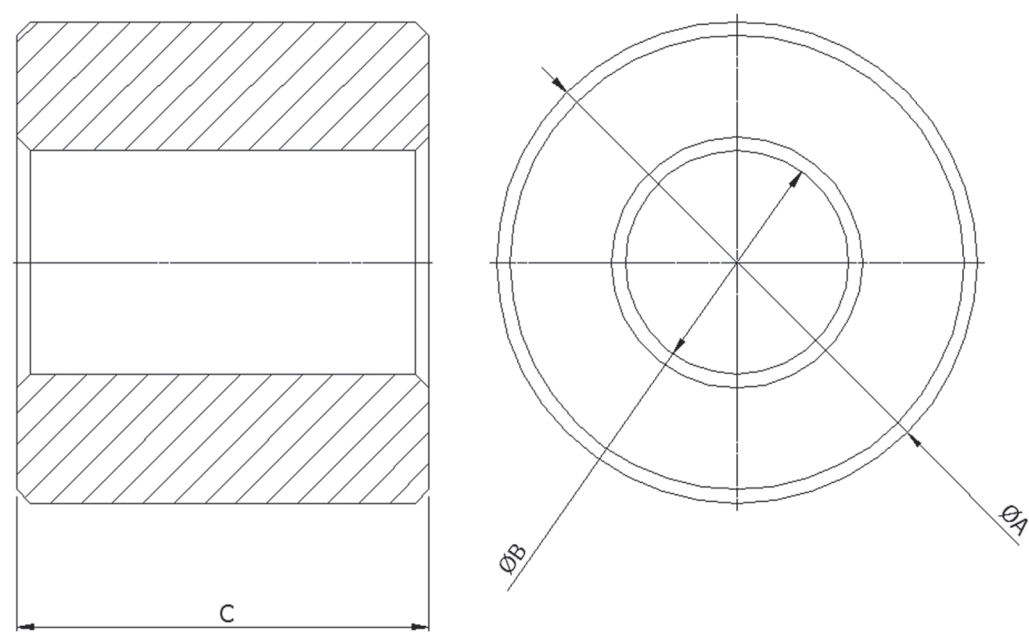
Name	A	B	C	D	E	F
TBE30-40	30	40	8	2	18	10
TBE35-45	35	45	10	2	24	10
TBE40-50	40	50	10	2	28	13
TBE45-55	45	55	10	2	32	13
TBE50-60	50	60	10	2	36	13
TBE55-65	55	65	12	2	40	13
TBE60-70	60	70	12	2	45	13
TBE63-73	63	73	12	2	48	13
TBE65-75	65	75	12	2	50	13
TBE65-80	65	80	12	2	50	13
TBE70-80	70	80	12	2	56	13
TBE70-85	70	85	12	2	56	13
TBE75-90	75	90	12	2	56	13
TBE80-90	80	90	12	2	60	15
TBE80-92	80	92	12	2	60	15
TBE80-95	80	95	12	2	60	15
TBE85-100	85	100	15	2	65	15
TBE90-105	90	105	15	2	70	15
TBE100-115	100	115	15	2	75	15

4. Cylinder base TBF



Name	A	B	C	D
TBF30-40	30	40	8	2
TBF35-45	35	45	10	2
TBF40-50	40	50	10	2
TBF45-55	45	55	10	2
TBF50-60	50	60	10	2
TBF55-65	55	65	12	2
TBF60-70	60	70	12	2
TBF63-73	63	73	12	2
TBF65-75	65	75	12	2
TBF65-80	65	80	12	2
TBF70-80	70	80	12	2
TBF70-85	70	85	12	2
TBF75-90	75	90	12	2
TBF80-90	80	90	12	2
TBF80-92	80	92	12	2
TBF80-95	80	95	12	2
TBF85-100	85	100	15	2
TBF90-105	90	105	15	2
TBF100-115	100	115	15	2

5. Steel sliding sleeve TSS



Name	A	B	C
TSS16-30	35	16,25	30
TSS16-60	35	16,25	60
TSS20-40	40	20,25	40
TSS20-70	40	20,25	70
TSS25-50	50	25,25	50
TSS25-80	50	25,25	80
TSS25-90	50	25,25	90
TSS30-60	60	30,25	60
TSS30-110	60	30,25	110
TSS40-70	70	40,25	70
TSS40-130	70	40,25	130