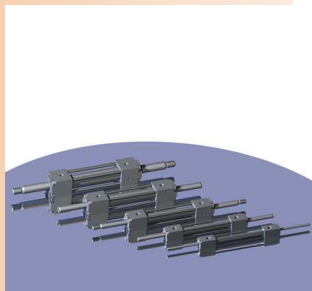


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AGIROSSI GMBH 
INDUSTRIE- & MOBILHYDRAULIK

microZ



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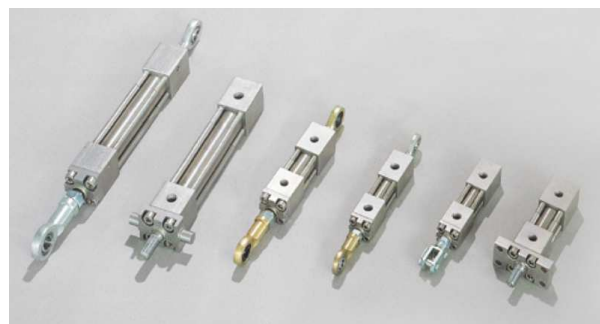
General Information

MICRO-Z – Hydraulic Mini Cylinder

The MICRO-Z is a cylinder type (linear drive) perfectly fitting for hydraulic (oil / water) or pneumatic operations. Furthermore the MICRO-Z stands out due to its small measurements and stainless material.

An advantage of the MICRO-Z is its wide application range, especially with difficult or extreme operating conditions.

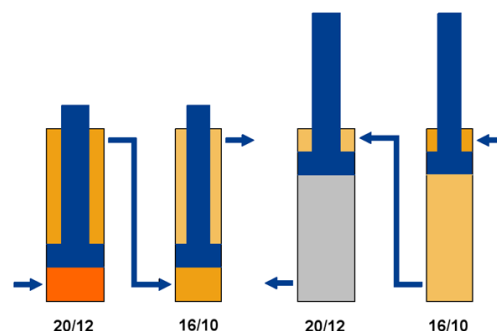
Another important attribute is the construction: The MICRO-Z was developed with a special attention for modularity and expandability. With a lot of mounting parts and accessories to reach a maximum of variety, the MICRO-Z can be used for many different requirements.



Technical Information

Piston Diameter:	8 - 25 mm
Stroke Length:	max. 500 mm (in 1 mm steps free to choose)
Working Pressure:	max. 200 bar
Working Fluid:	suitable for many different kinds of working fluid
Special Construction:	<ul style="list-style-type: none"> - with a throughout rod - as synchronous / double rod cylinder - as a light construction e.g. diverse aluminium alloy - resistant against high temperatures - suitable for operations with water, alcohol and petrol - other constructions on request

Piston/ Rod Ø mm	Stroke mm	Volume piston side ml	Volume rod side ml
8 / 5	100	5,026	3,063
12 / 8	100	11,309	6,283
16 / 10	100	20,106	12,252
20 / 12	100	31,415	20,106
25 / 16	100	49,087	28,981



ORDER SPECIFICATION (ARTICLE CODE)

1	2	3	4	5	6	7	8	9	10	
W	M	A	-			-			-	

1 Type

- D** = Differential Cylinder
G = Double-Rod Cylinder

2 Rod End

- A** = Male Thread
I = Female Thread

3 Rod End Opposite Only for double-rod cylinder!

- A** = Male Thread
I = Female Thread
0 = For Type **D**

4 Piston- / Rod- Ø

- E** = 8 / 5 mm
F = 12 / 8 mm
G = 16 / 10 mm
H = 20 / 12 mm
J = 25 / 16 mm

5 Stroke in mm

Example: 100mm Hub = **0100**

8/5 – max. 160mm	20/12 – max. 320mm
12/8 – max. 260mm	25/16 – max. 500mm
16/10 – max. 320mm	Other strokes on request

Mounting parts like for example ball-joint ends and accessory are found in chapter „Accessory“

Order Example: **DWMA-A0-E-0100-B0-1-1-CH-1**
 Clear Text: **additionally 50mm extended guide**

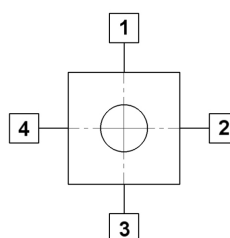


6 Cylinder Mounting Parts

- B0** = Basic Version
F0 = Flange On Head Side
BF = Flange on Bottom Side
FF = Flange On Both Sides
DF = Support
FS = Trunnion On Head Side
BS = Trunnion On Bottom Side
MS = Trunnion In The Middle
ZB = Tension Rods On Bottom Side

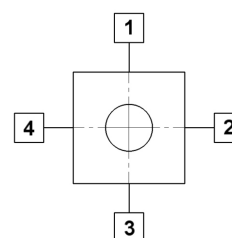
7 Inlet Port

End Plug Side:
View On Rod



8 Inlet Port

Rod Side:
View On Rod



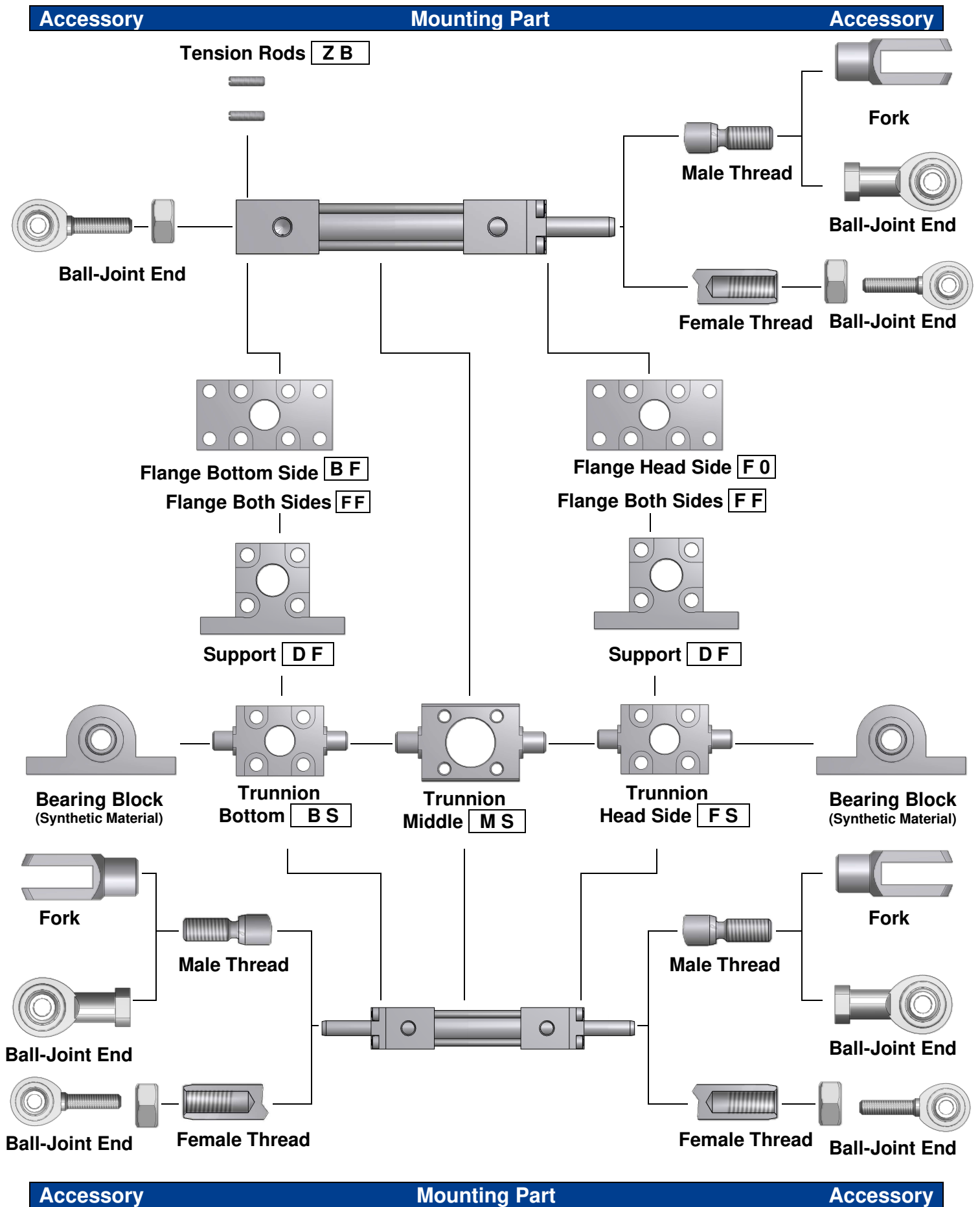
9 Rod Type

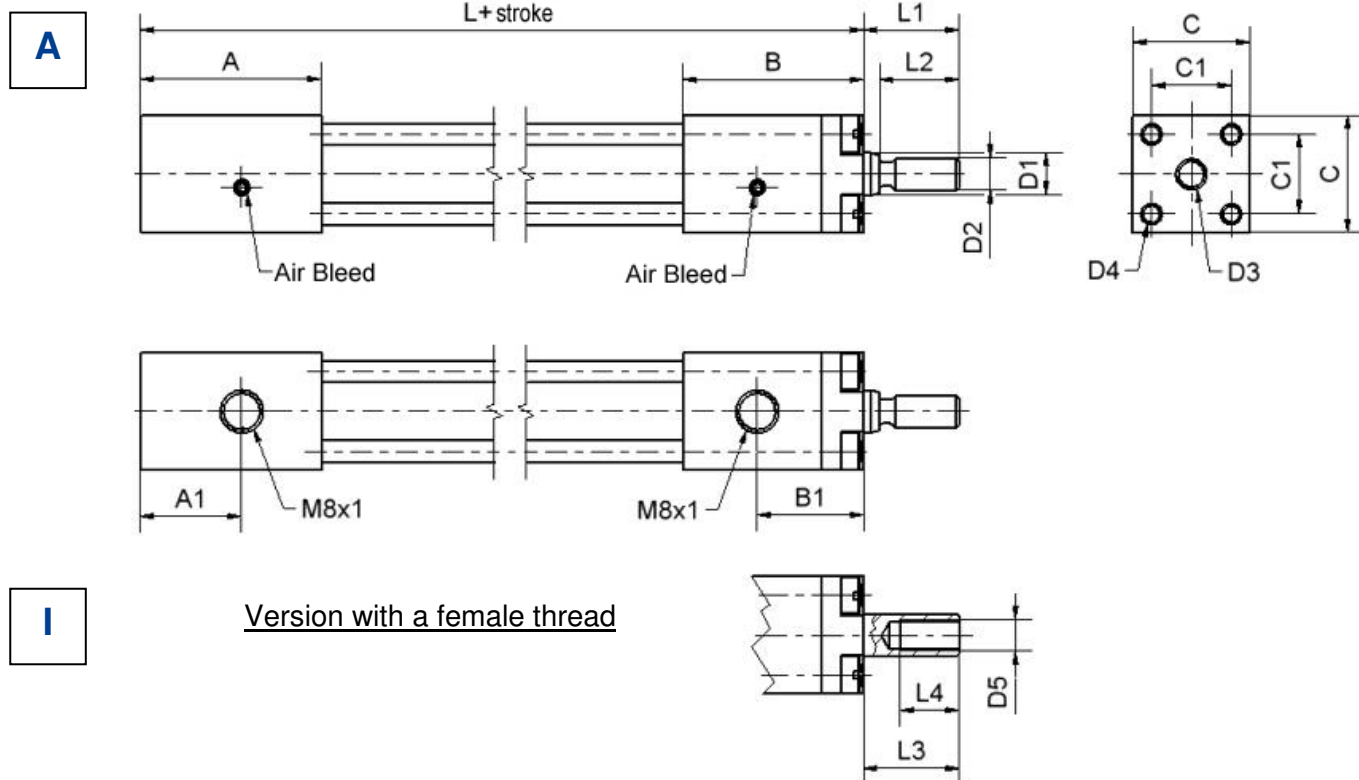
- CH** = Steel Hard-Chrome Plated *
 * (not available for piston/rod 8/5)
EO = Stainless Steel
EC = Stainless Steel Hard-Chrome Plated *
 * (not available for piston/rod 8/5)

10 Further Specifications In Clear Text.....

- 0** = ...do not follow
1 = ...follow (enclosures needed)

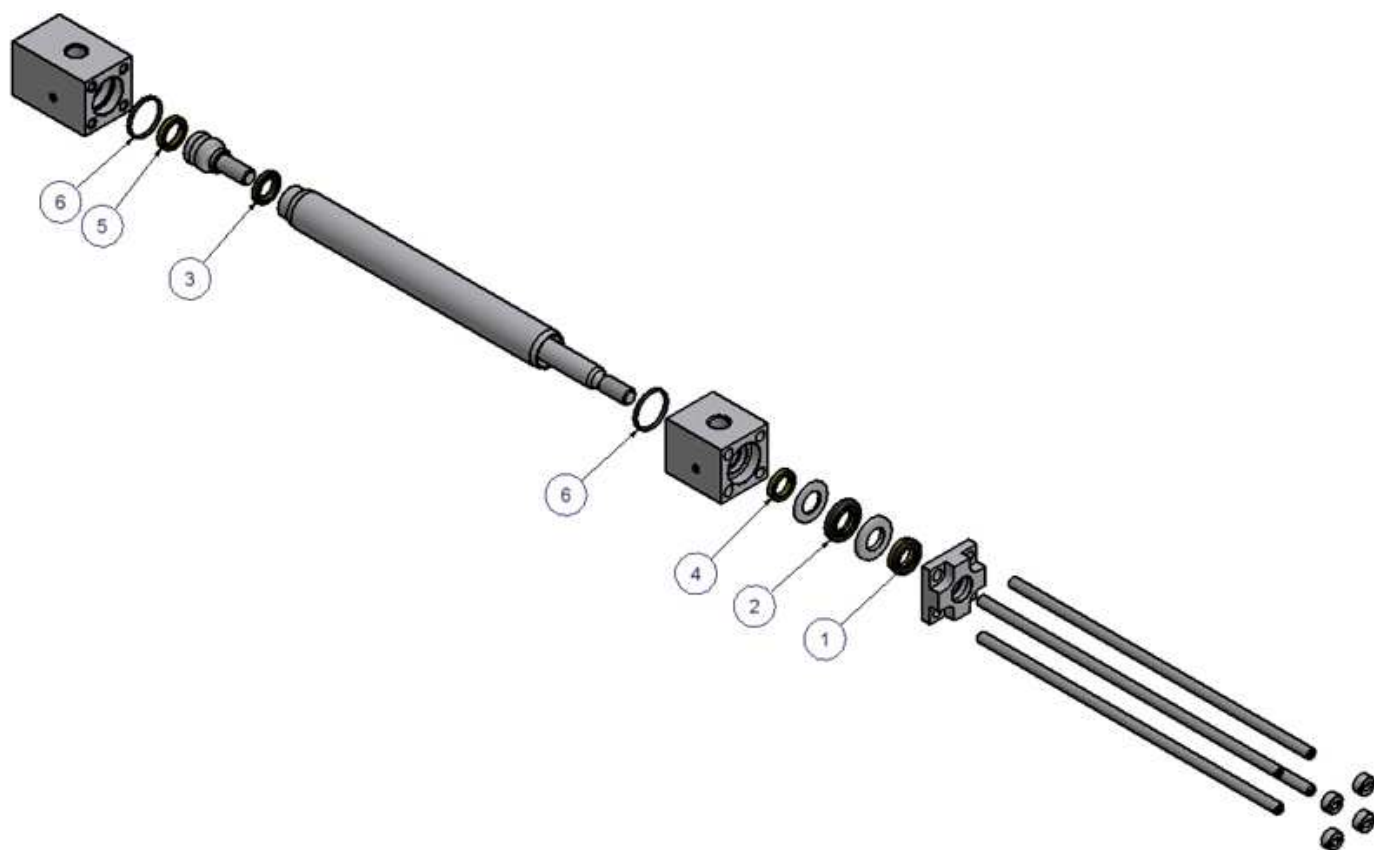
Survey Of Mounting Parts





Piston / Rod Ø	L+ stroke	A	B	A1	B1	L1	L2	L3	L4	C	C1	D1 Ø	D2	D3	D4	D5
08 / 05	65	32	32	19	19	15	12	6	10	18	12,5	5	M5	M5	M3	M3
12 / 08	68	34	34	19	20	18	15	6	11	22	15	8	M6	M6	M4	M6
16 / 10	73	34	38	19	23	20	16	6	15	28	19,5	10	M8	M8	M5	M8
20 / 12	78	37	42	21	26	25	20	6	15	32	23	12	M10	M10	M5	M8
25 / 16	83	39	42	23	26	33	28	6	20	38	27,5	16	M12	M12	M6	M12

Piston / Rod Ø	Max. Stroke Length mm	Working Pressure bar	Pressure kN	Tension kN
08 / 05	160	200	1,01	0,61
12 / 08	260	200	2,26	1,26
16 / 10	320	200	4,02	2,45
20 / 12	320	150	4,71	3,02
25 / 16	500	120	5,89	3,48



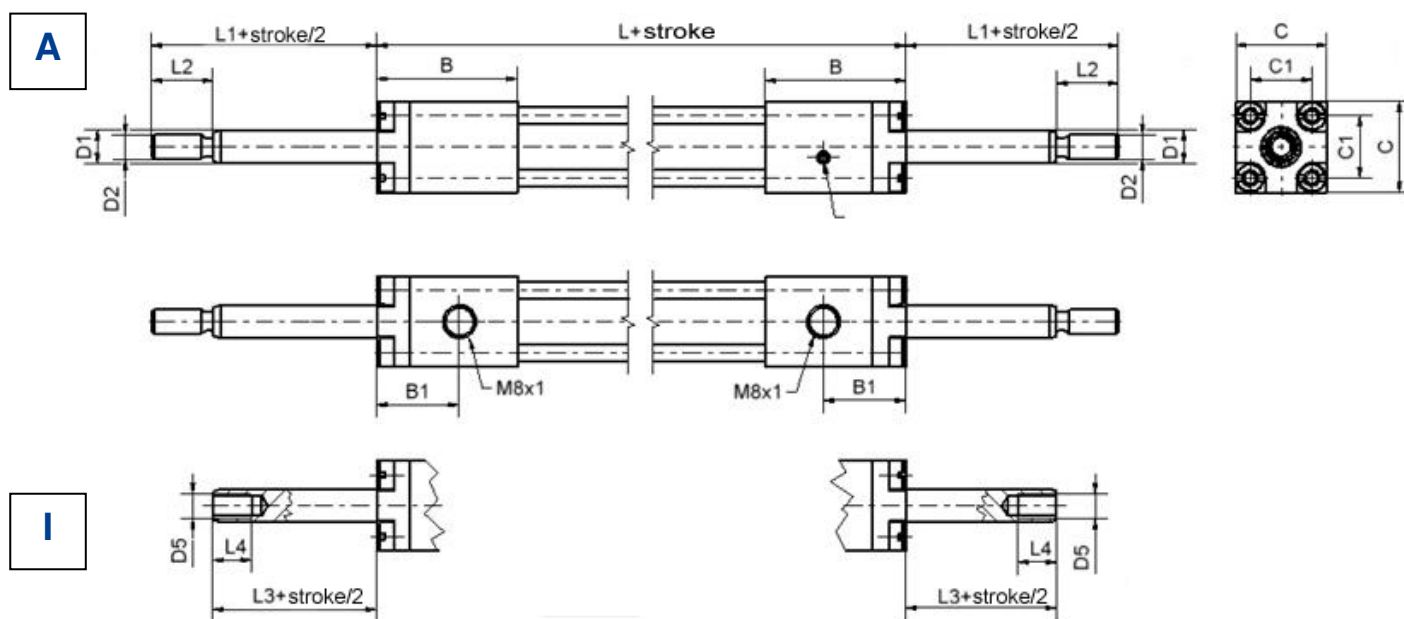
Pos.	Quantity	Seal Kit
1	1	Scraper
2	1	Rod Seal
3	1	Piston Seal
4	1	Rod Guide
5	1	Piston Guide
6	2 (4*)	O-Ring (*for 25 / 16)

Order Code:

	1	2
MA-		-

1=Piston Diameter
2=Rod Diameter

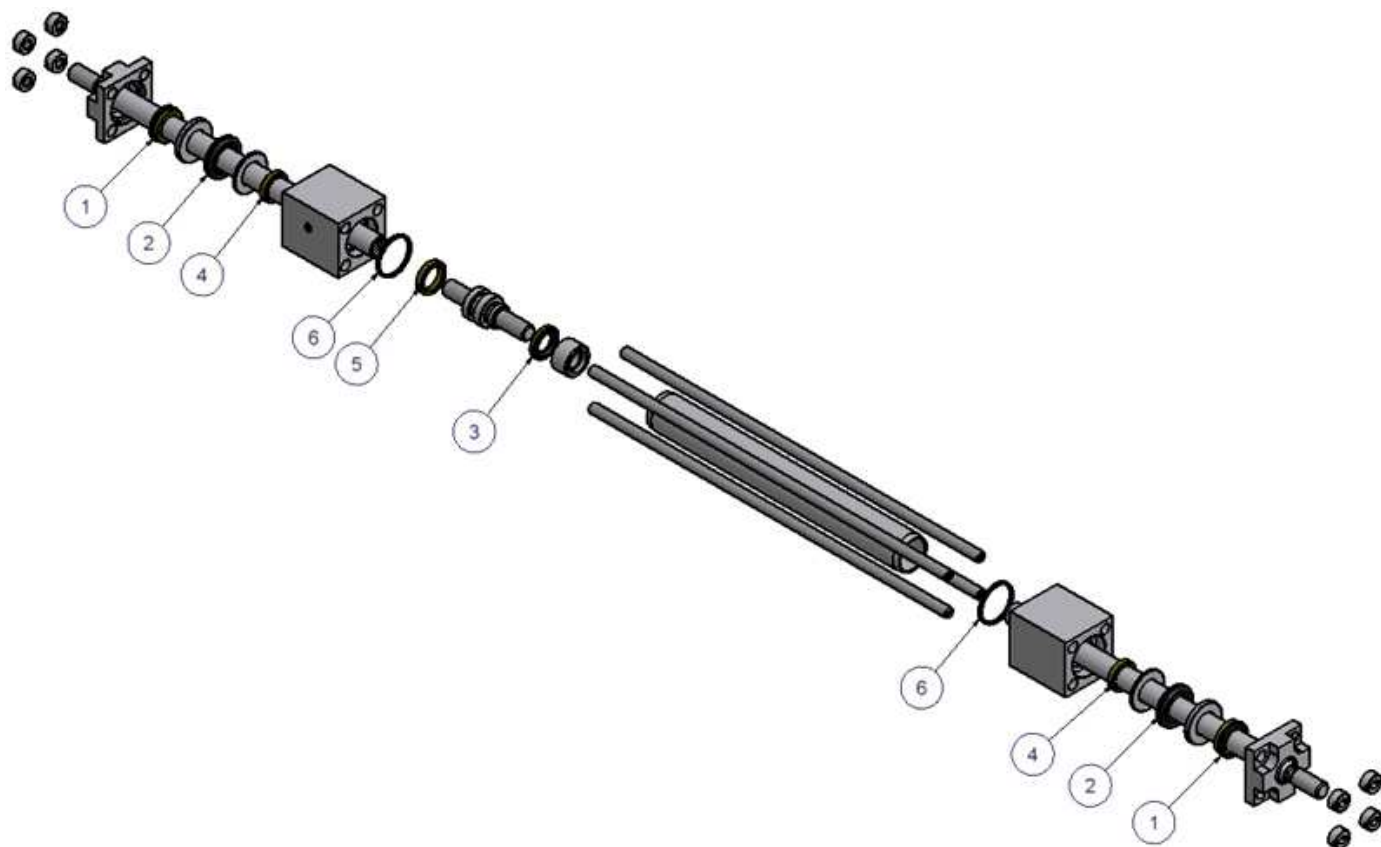
Example: **MA-8-5**



Version with a female thread

Piston / Rod Ø	L+ stroke	B	B1	L1+ stroke/2	L2	L3+ stroke/2	L4	C	C1	D1 Ø	D2	D5
08 / 05	65	32	19	15	12	6	10	18	12,5	5	M5	M3
12 / 08	68	34	20	18	15	6	11	22	15	8	M6	M6
16 / 10	77	38	23	20	16	6	15	28	19,5	10	M8	M8
20 / 12	83	42	26	25	20	6	15	32	23	12	M10	M8
25 / 16	86	42	26	33	28	6	20	38	27,5	16	M12	M12

Piston / Rod Ø	Max. Stroke Length mm	Working Pressure bar	Pressure kN	Tension kN
08 / 05	160	200	0,61	0,61
12 / 08	260	200	1,26	1,26
16 / 10	320	200	2,45	2,45
20 / 12	320	150	3,02	3,02
25 / 16	500	120	3,48	3,48



Pos.	Quantity	Seal Kit
1	2	Scraper
2	2	Rod Seal
3	1	Piston Seal
4	2	Rod Guide
5	2	Piston Guide
6	2 (4*)	O-Ring (*for 25 / 16)

Order Code:

	1	2	3
MA-		-	

1=Piston Diameter

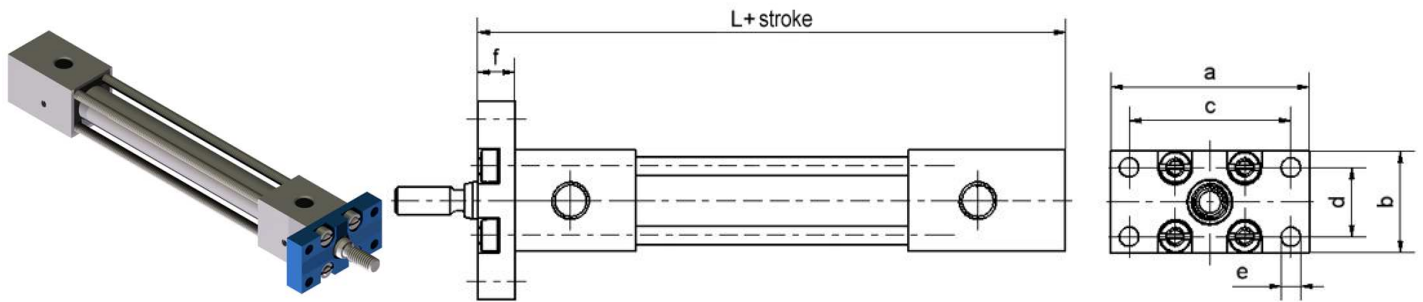
2=Rod Diameter

3=Rod Diameter

Example: MA-8-5-5

Flange On Head Side

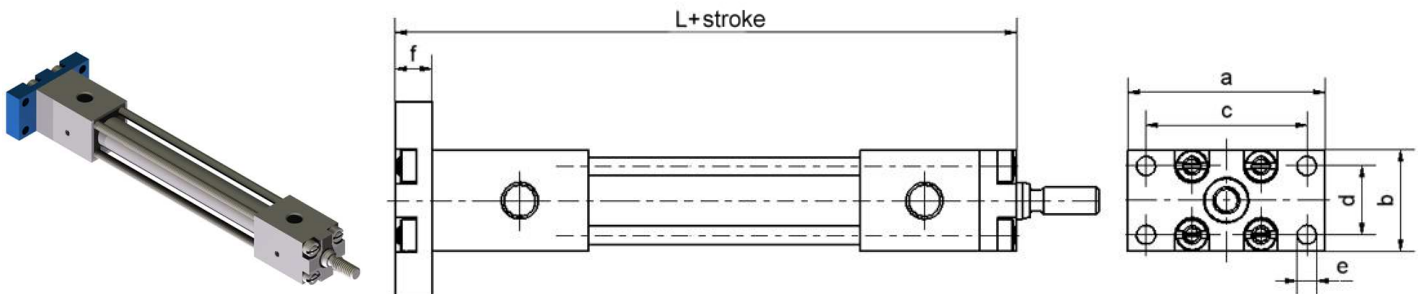
F0



Piston / Rod Ø	L+ stroke	a	b	c	d	e Ø	f
08 / 05	65	34	18	28	12,5	3,25	8
12 / 08	68	43	22	35	15	4,25	8
16 / 10	73	51	28	42	19,5	5,25	10
20 / 12	78	57	32	47	23	5,25	12
25 / 16	83	65	38	54	27,5	6,25	12

Flange On Bottom Side

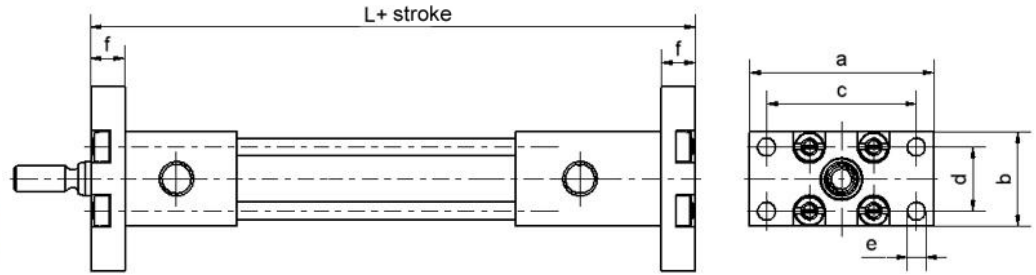
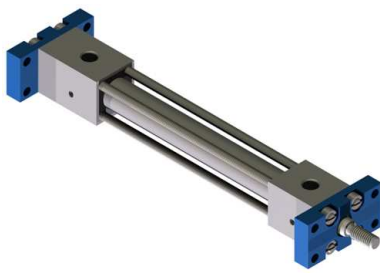
BF



Piston / Rod Ø	L+ stroke	a	b	c	d	e Ø	f
08 / 05	73	34	18	28	12,5	3,25	8
12 / 08	76	43	22	35	15	4,25	8
16 / 10	83	51	28	42	19,5	5,25	10
20 / 12	90	57	32	47	23	5,25	12
25 / 16	95	65	38	54	27,5	6,25	12

Flange On Both Sides

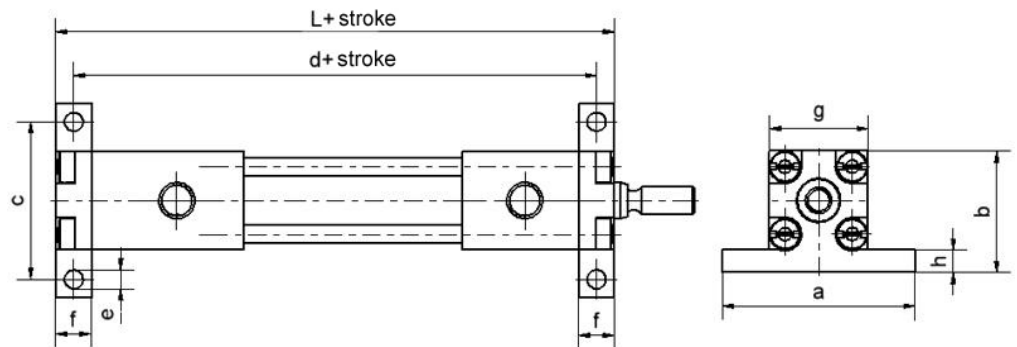
FF



Piston / Rod Ø	L+ stroke	a	b	c	d	e Ø	f
08 / 05	73	34	18	28	12,5	3,25	8
12 / 08	76	43	22	35	15	4,25	8
16 / 10	83	51	28	42	19,5	5,25	10
20 / 12	90	57	32	47	23	5,25	12
25 / 16	95	65	38	54	27,5	6,25	12

Support

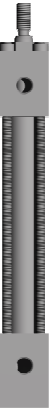
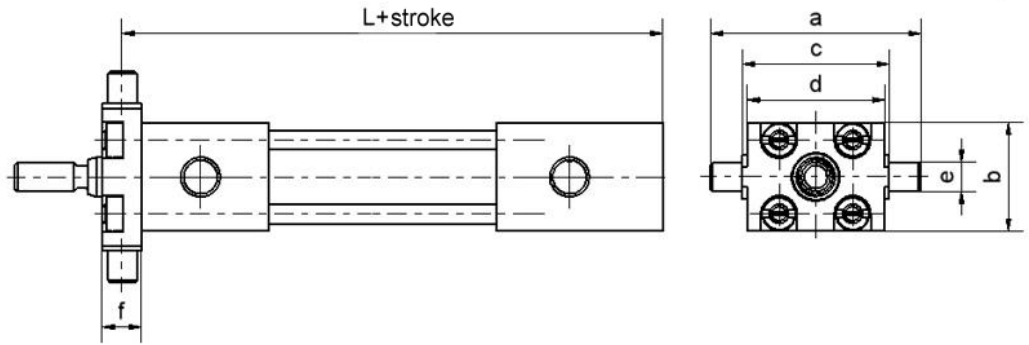
DF



Piston / Rod Ø	L+ stroke	a	b	c	d+ stroke	e Ø	f	g	h
08 / 05	73	38	23	32	65	3,25	8	18	5
12 / 08	76	43	27	35	68	4,25	8	22	5
16 / 10	83	51	35	42	73	5,25	10	28	7
20 / 12	90	57	40	47	78	5,25	12	32	8
25 / 16	95	65	46	54	83	6,25	12	38	8

Trunnion On Head Side

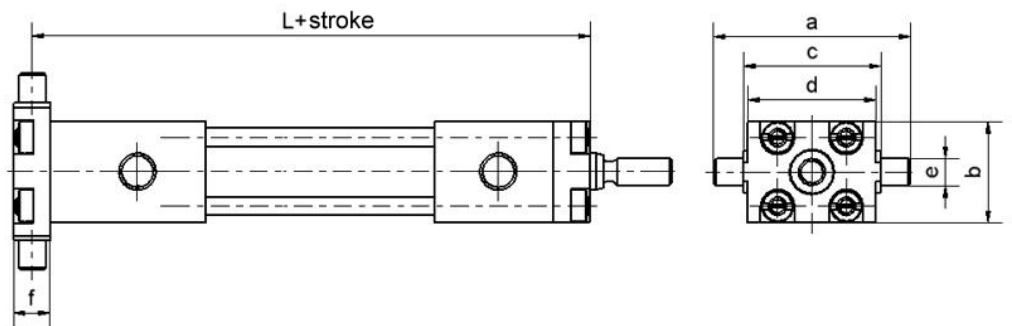
FS



Piston / Rod Ø	L+ stroke	a	b	c	d	e Ø	f
08 / 05	61	34	18	24	22	5 f7	8
12 / 08	64	43	22	30	28	6 f7	8
16 / 10	68	51	28	35	33	8 f7	10
20 / 12	72	60	32	40	38	10 f7	12
25 / 16	78	69	38	45	43	12 f7	14

Trunnion On Bottom Side

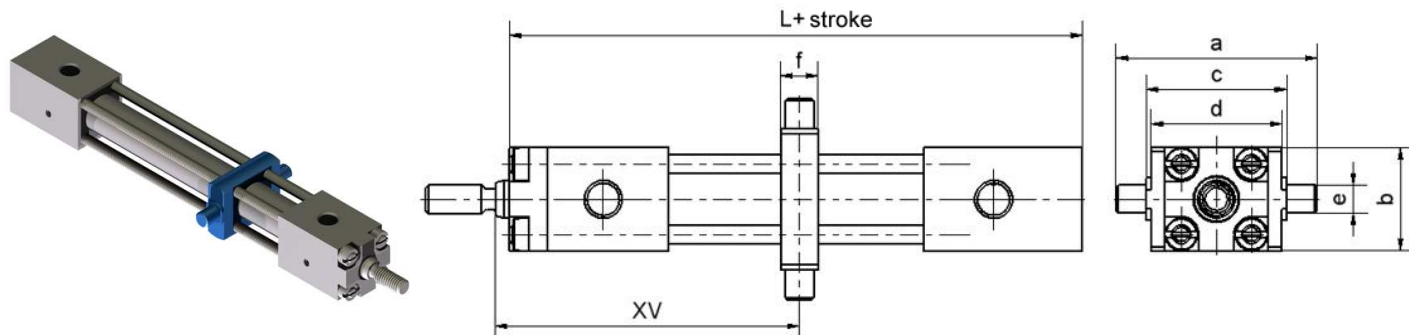
BS



Piston / Rod Ø	L+ stroke	a	b	c	d	e Ø	f
08 / 05	69	34	18	24	22	5 f7	8
12 / 08	72	43	22	30	28	6 f7	8
16 / 10	78	51	28	35	33	8 f7	10
20 / 12	84	60	32	40	38	10 f7	12
25 / 16	90	69	38	45	43	12 f7	14

Trunnion In The Middle

MS

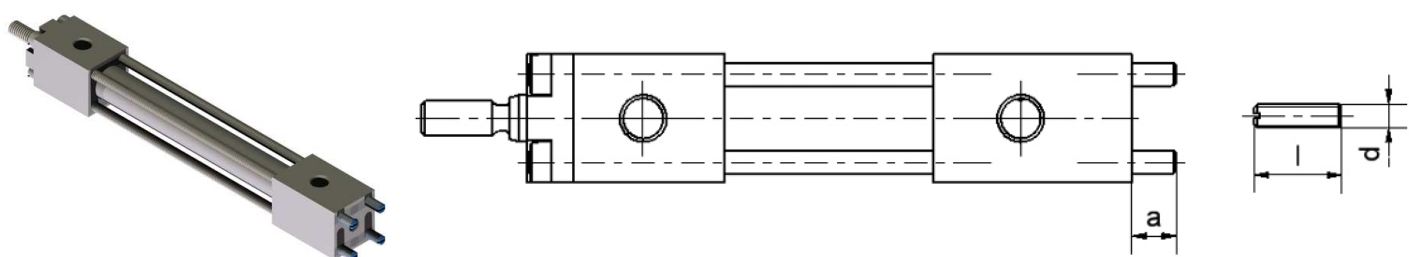


Piston / Rod Ø	L+ stroke	a	b	c	d	e Ø	f
08 / 05	65	34	18	24	22	5 f7	8
12 / 08	68	43	22	30	28	6 f7	8
16 / 10	73	51	28	35	33	8 f7	10
20 / 12	78	60	32	40	38	10 f7	12
25 / 16	83	69	38	45	43	12 f7	14

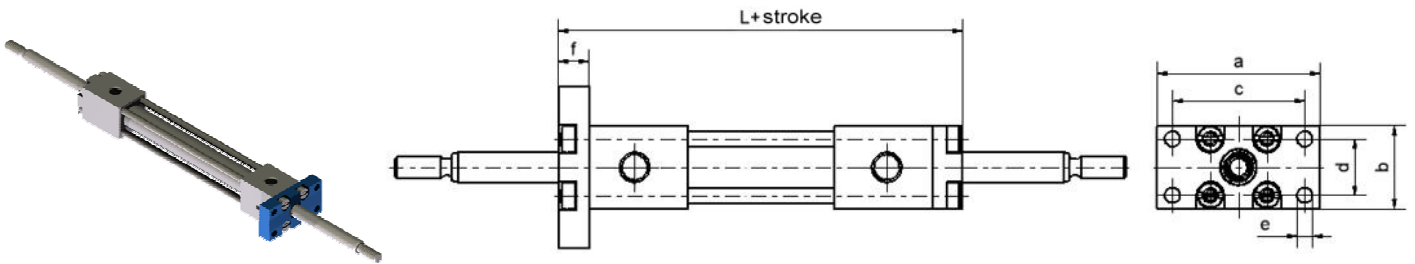
Piston / Rod Ø	XV min. Rod with male thread	XV+stroke max. Rod with male thread	XV min. Rod with female thread	XV+stroke max. Rod with female thread
08 / 05	39	32	42	35
12 / 08	42	33	44	36
16 / 10	47	38	49	40
20 / 12	53	40	54	41
25 / 16	54	42	55	43

Tension Rods On Bottom Side

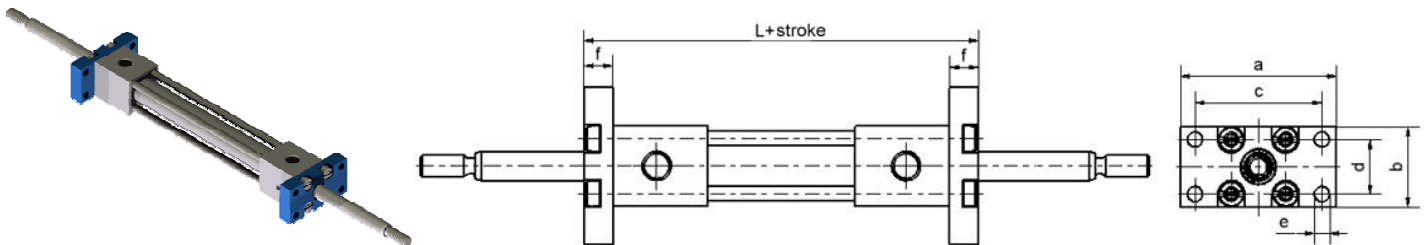
ZB



Piston / Rod Ø	a	d	l
08 / 05	7	M3	15
12 / 08	7	M4	15
16 / 10	10	M5	20
20 / 12	10	M5	20
25 / 16	15	M6	25

**Flange On Head Side/
Flange On Bottom Side**
**F0/
BF**


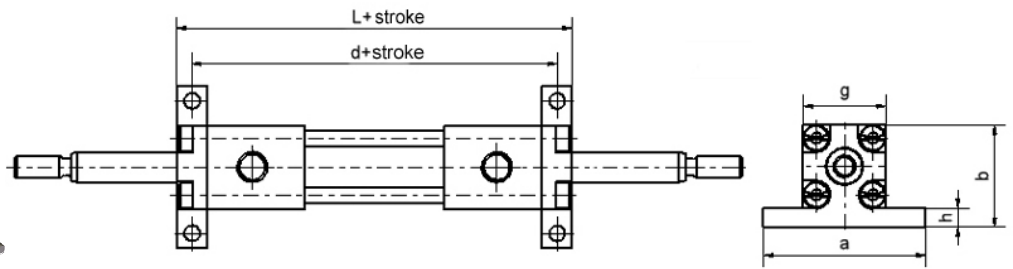
Piston / Rod Ø	L+ stroke	a	b	c	d	e Ø	f
08 / 05	65	34	18	28	12,5	3,25	8
12 / 08	68	43	22	35	15	4,25	8
16 / 10	77	51	28	42	19,5	5,25	10
20 / 12	83	57	32	47	23	5,25	12
25 / 16	86	65	38	54	27,5	6,25	12

Flange On Both Sides
FF


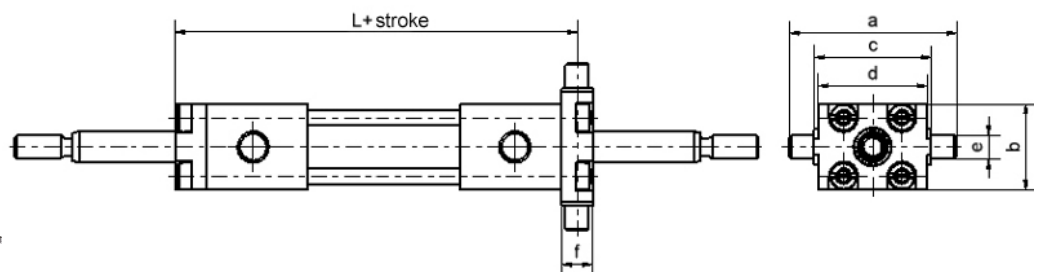
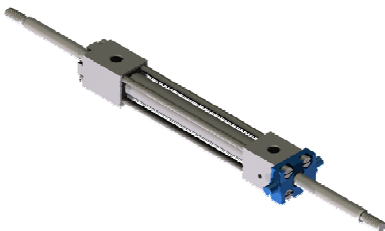
Piston / Rod Ø	L+ stroke	a	b	c	d	e Ø	f
08 / 05	65	34	18	28	12,5	3,25	8
12 / 08	68	43	22	35	15	4,25	8
16 / 10	77	51	28	42	19,5	5,25	10
20 / 12	83	57	32	47	23	5,25	12
25 / 16	86	65	38	54	27,5	6,25	12

Support

DF



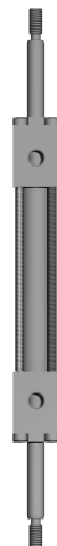
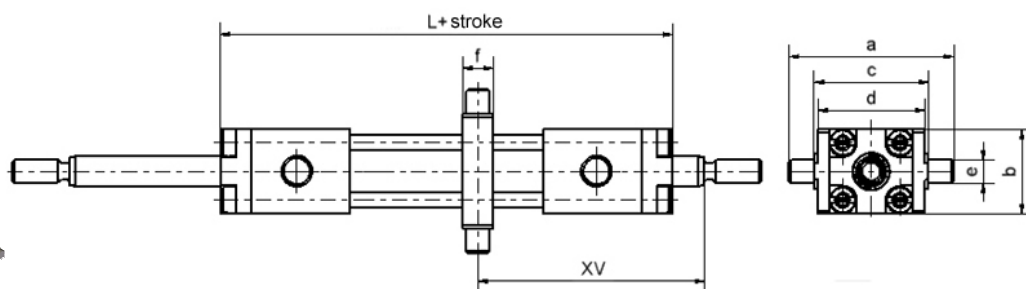
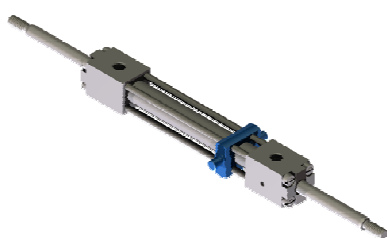
Piston / Rod Ø	L+ stroke	a	b	c	d+ stroke	e Ø	f	g	h
08 / 05	65	38	23	32	73	3,25	8	18	5
12 / 08	68	43	27	35	76	4,25	8	22	5
16 / 10	77	51	35	42	87	5,25	10	28	7
20 / 12	83	57	40	47	95	5,25	12	32	8
25 / 16	86	65	46	54	98	6,25	12	38	8

Trunnion On Head Side/
Trunnion On Bottom SideFS/
BS

Piston / Rod Ø	L+ stroke	a	b	c	d	e Ø	f
08 / 05	61	34	18	24	22	5 f7	8
12 / 08	64	43	22	30	28	6 f7	8
16 / 10	72	51	28	35	33	8 f7	10
20 / 12	77	60	32	40	38	10 f7	12
25 / 16	81	69	38	45	43	12 f7	14

Trunnion In The Middle

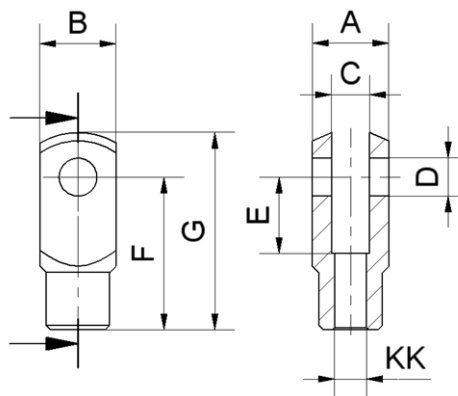
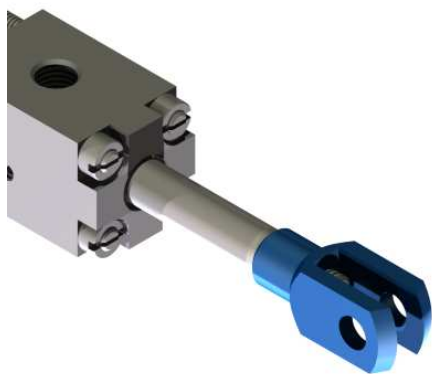
MS



Piston / Rod Ø	L+ stroke	a	b	c	d	e Ø	f
08 / 05	65	34	18	24	22	5 f7	8
12 / 08	68	43	22	30	28	6 f7	8
16 / 10	77	51	28	35	33	8 f7	10
20 / 12	83	60	32	40	38	10 f7	12
25 / 16	86	69	38	45	43	12 f7	14

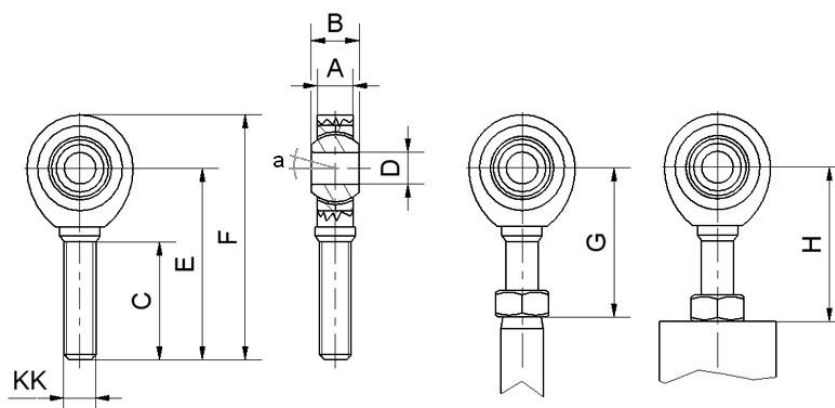
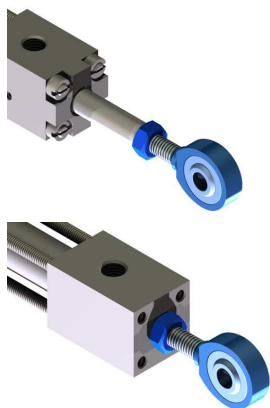
Piston / Rod Ø	XV min. Rod with male thread	XV+stroke max. Rod with male thread	XV min. Rod with female thread	XV+stroke max. Rod with female thread
08 / 05	39	32	42	35
12 / 08	42	33	44	36
16 / 10	47	38	49	40
20 / 12	53	40	54	41
25 / 16	54	42	55	43

Fork



Piston / Rod Ø	KK	A	B	C	D Ø	E	F	G	Art-Nr. (steel)	Art-Nr. (synthetic)
08 / 05	M5	10	10	5	5	10	20	25,5	4FP5X10	GARM05
12 / 08	M6	12	12	6	6	12	24	30,6	4FP6X12	GARM06
16 / 10	M8	16	16	8	8	16	32	41,6	4FP8X16	GARM08
20 / 12	M10	20	20	10	10	20	40	51,3	4FP10X20	GARM10
25 / 16	M12	24	24	12	12	24	48	61,3	4FP12X24	GARM12

Ball-Joint End With Male Thread

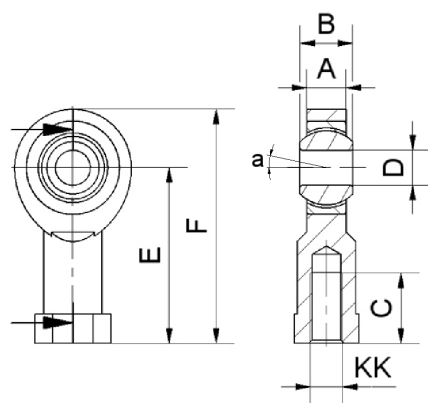
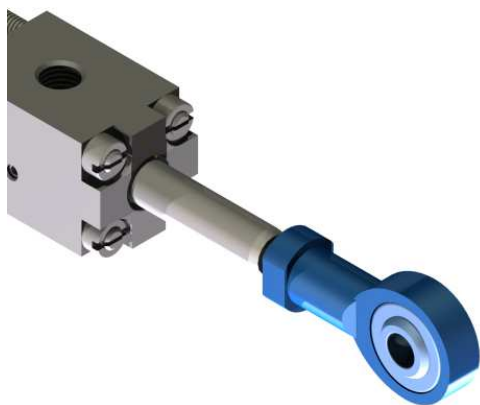


Piston / Rod Ø	KK	A	B	C	D Ø	E	F	G	H	a	Art-Nr. (steel)	Art-Nr. (stainless steel)	Art-Nr. (synthetic)
08 / 05	- *	- *	- *	- *	- *	- *	- *	-	25	12°			
	M5 **	6 **	8 **	20 **	5 **	33 **	42 **				PFE5U	-	KARM05
12 / 08	M6	7	9	22	6	36	46	25	26	12°	PFE6U	PFE6UN	KARM06
16 / 10	M8	9	12	25	8	42	55	27	32	12°	PFE8U	PFE8UN	KARM08
20 / 12	M8 *	9 *	12 *	25 *	8 *	42 *	55 *	33	36	12°	PFE8U	PFE8UN	KARM08
	M10 **	11 **	14 **	29 **	10 **	48 **	63 **				PFE10U	PFE10UN	KARM10
25 / 16	M12	12	16	33	12	54	71	34	40	12°	PFE12U	PFE12UN	KARM12

* Ball-joint end rod side

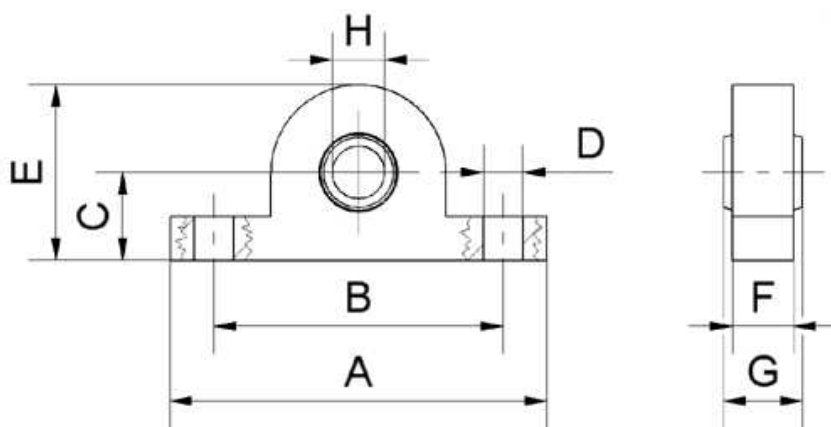
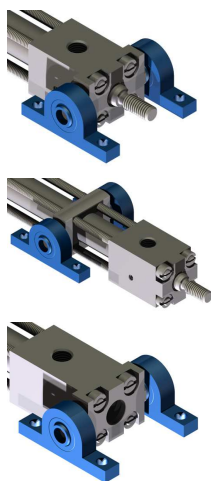
** Ball-joint end bottom side

Ball-Joint End With Female Thread

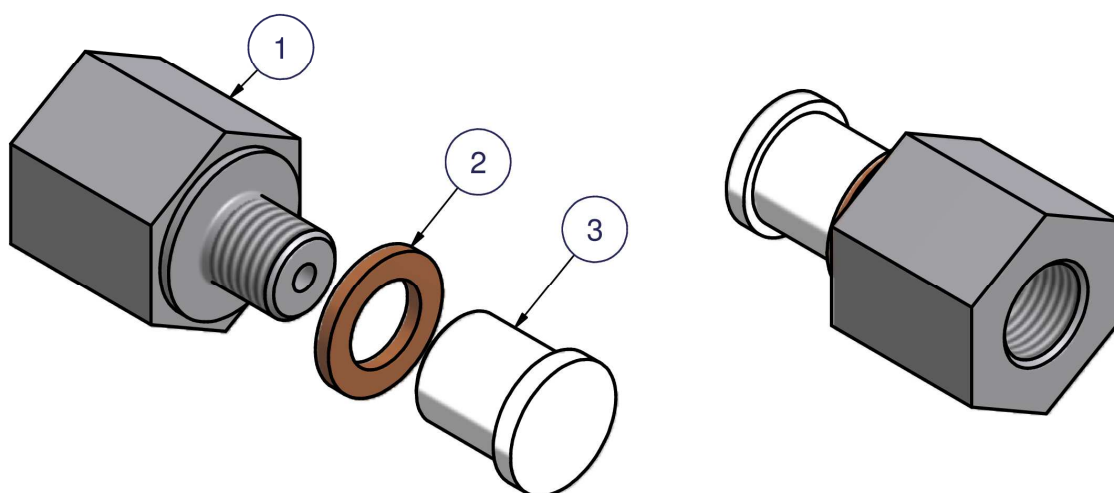
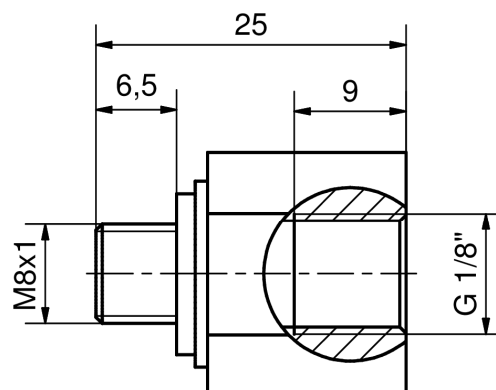
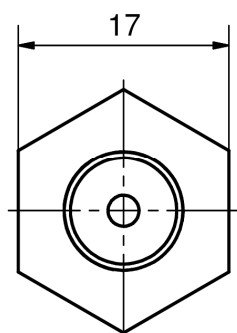


Piston / Rod Ø	KK	A	B	C	D Ø	E	F	a	Art-Nr. (steel)	Art-Nr. (stainless steel)	Art.-Nr. (synthetic)
08 / 05	M5	6	8	8	5	27	36	12°	PFI5U	-	KBRM05
12 / 08	M6	7	9	9	6	30	40	12°	PFI6U	PFI6UN	KBRM06
16 / 10	M8	9	12	12	8	36	48	12°	PFI8U	PFI8UN	KBRM08
20 / 12	M10	11	14	15	10	43	58	12°	PFI10U	PFI10UN	KBRM10
25 / 16	M12	12	16	18	12	50	67	12°	PFI12U	PFI12UN	KBRM12

Bearing Block (Synthetic Material)



Piston / Rod Ø	A	B	C	D Ø	E	F	G	H Ø	Art.-Nr.
08 / 05	34	25	7	3,3	14	6	8	5	LB05
12 / 08	43	33	10	4,5	20	7	9	6	LB06
16 / 10	47	33	10	5,5	20	9	12	8	LB08
20 / 12	62	46	14	5,5	28	10,5	14	10	LB10
25 / 16	65	46	14	5,5	28	12	16	12	LB12



Delivery Content

Pos.	Quantity	Designation	Article Number
1	1	Connection adapter	GRAM81IG18I
2	1	Copper ring	CR 8-13-2
3	1	Protection cap	GPN 200 Z 8 x 10

General Operating And Maintenance Instruction

I. GENERAL

The following instructions and supporting hints should be strictly adhered to for catalogue products as well as for special cylinders (if present). This applies also for system-/ and telescope-cylinders.

II. Safety instruction

A hydraulic cylinder has two properties – it either serves as a pressure tank during operation or in its main function serves as a motional device. Therefore the following instructions must be STRICTLY followed:

- the installation may only be conducted by a hydraulic expert.
- the operating pressure must be secured by a Relief-Valve.
- security norm EN 982 for hydraulic must be observed.

III. Installation and assembling

Assembling: When assembling hydraulic cylinders the following instructions apply:

- All screws and connecting elements for securing the cylinder (including its attachments) should comply with stability class 8.8 (recommended 10.9) in accordance with DIN / ISO 898 T1.
- Pay attention to a clean surrounding as well as to all parts to be assembled.
- The hydraulic cylinder must be deaerated before starting operation.
- The sealing material must be compatible with the used hydraulic media. Sealing materials such as hemp, cementing composition or plastic sealing tape may not be used.
- All pipes and containers must be thoroughly cleaned of dirt, dust, sand, spunk, cuttings and shreds etc..
- All pipes that are either welded or have been warm bended must be pickled, rinsed and oiled afterwards.
- All cleaning must be performed with fibreless rags or with special paper.

Installation: When selecting or installing a hydraulic cylinder the following instructions must be obeyed:

- The pressure within the hydraulic cylinder may never exceed the maximum pressure recommended.
- When selecting a hydraulic cylinder the maximum operating length recommended must be taken into account and strictly adhered to. The same applies to the recommended place of the installation, the recommended way of operation (vertical or horizontal), and the maximum operating pressure.
- The hydraulic cylinder must be installed tensionless. Neither a diagonal nor transverse force may occur or apply to the hydraulic cylinders base or to its moving parts.

We strictly advise against using the product in any other way than recommended.

In case of uncertainty please call our technical office. For further inquiries we are glad to be of assistance.

IV. INITIAL STARTING INSTRUCTION

Deaering: Before the hydraulic cylinder is taken into operation for the first time, it must be deaerated. During idle operating pressure the special deaerating valve must be opened. This valve may only be closed after the upcoming oil contains no air bubbles any more. The valve must then be tightened again.

Pressure Media:

- All Agirossi-Cylinders are build to be used with HLP Mineral Oil iaw DIN 51524 as well as with Bio-Oil (such as Panolin).
- Please check whether the pressure media of the machine is compatible with the recommended pressure media of the hydraulic cylinder.
- Before use of other pressure media please consult our technical office!
- The recommended maximum operating temperature of the pressure media may not be exceeded. To ascertain a continuous and dependable performance, we recommend to keep the pressure media constant (+/-5° C).

Filter: The live expectancy of the hydraulic cylinder may be increased by the use of reliable filtering. Please take notice of the recommendations of the maximum rate of contamination of the pressure media in accordance with NAS 1638. We advocate to use hydraulic filtering with electrical contamination meter.

V. ELECTRICAL INSTALLATION

The installation of the electricity supply should be taken from the respective catalogue.

VI. MAINTENANCE

- Generally regular maintenance of hydraulic cylinders is not necessary. However joints and ball-bearings should be greased in regular intervals.
- The tightness of the hydraulic cylinder should be checked in short intervals.

Change of seals: Seals are inclined to wear out after a certain period of time. In case of obvious leakage we recommend to replace the complete set of seals or to send the hydraulic cylinder to our maintenance plant. When replacing the seals we also check all parts of the hydraulic cylinder.

VII. REQUIREMENTS OF THE STORAGE MEDIA

- Hydraulic cylinders should be stored in locations that are dry, free of dust, free of acids or other corrosive liquids or gas.
- In case of storage of longer than six months the hydraulic cylinder must be filled with conservation oil or must already be ordered for longer storage periods.
- In case of longer periods of storage the hydraulic cylinder must be stored whenever possible vertically.

IX. SPARE PARTS

Complete sets of seals can be ordered by using the number of the hydraulic cylinder with the attachment of "S" (for example Art #: "6909201" for the hydraulic cylinder, "6909201S" for the complete set of seals).

Please order other spare parts by using the number of the requested item – or the serial number.



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