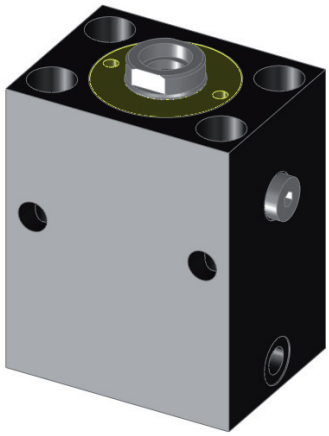
Operating pressure max. 500 bar/min 100 bar

This hydraulic block cylinder are single acting with spring retraction. Due to their block shape design, hydraulic block cylinders can be used in a wide range of applications, e.g. clamping, punching, pressing, aligning.
The factory made mounting holes allow easy and quick mounting of the cylinder in the horizontal or vertical position.



Technical characteristics

- Suitable for operating pressures starting from 100 bar onwards.
- Lateral hydraulic connection
- Spring retraction
- Convertible to a double action cylinder
- Glide ring seal with high wear resistance
- No stick-slip effect
- An extended piston rod guide gives high stability when transversal-forces occure
- Piston rod with internal thread

CUSTOMER DESIGNED MODELS

If you need a special cylinder for your application – customer designed models are available. PLEASE LET US KNOW!

Improtant Note

The maximum spring retraction force has been taken into account in the clamping force values .
The operating pressure should not exceed 150 bar if the piston is actuated without a counter force.

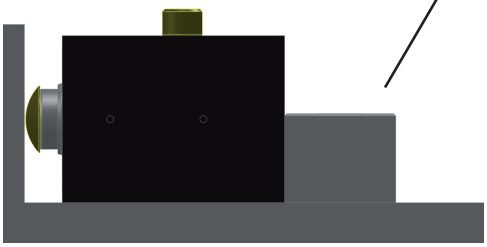
Recommended accessories (separate order)

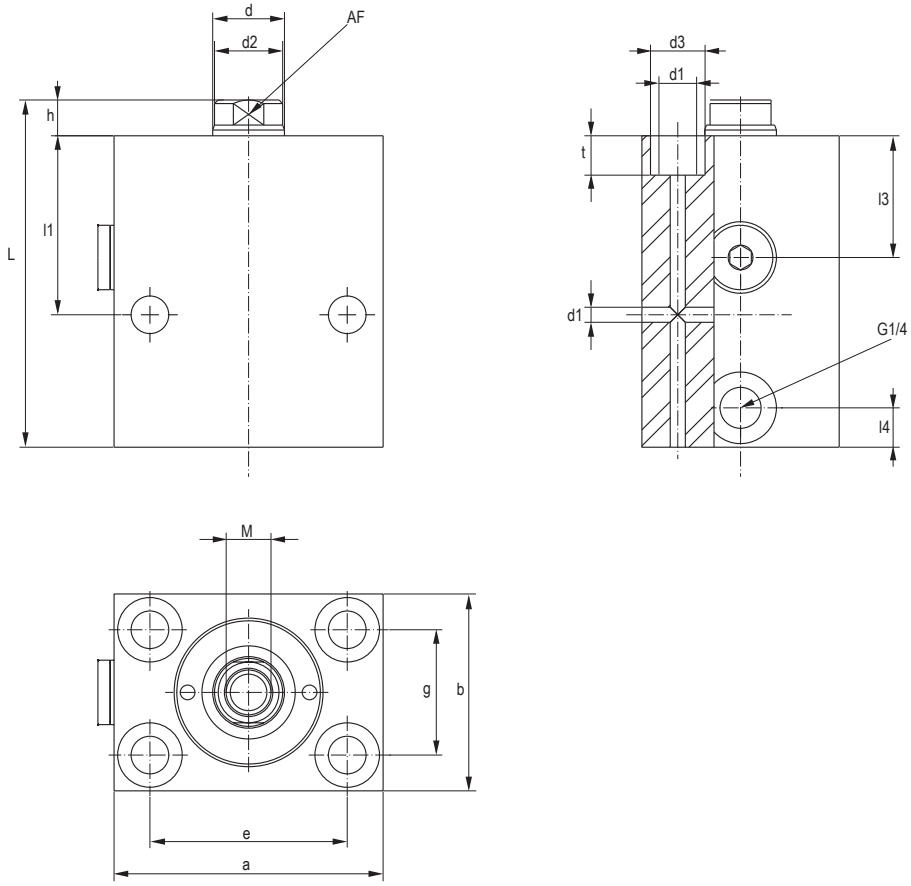
1 straight screw connectors D8S-R1/4

model no.	Clamping force at 100 bar	Clamping force at 500 bar	Repair kit	Piston Ø	Stroke* S max.	Piston surface area	Oil con-suption/ stroke	Spring retracting force min	Connection G	Weight ~
	[kN]	[kN]		[mm]	[mm]	[cm²]	[cm³]	[N]		[kg]
722E16202-1	1,9	9,7	720V16-0003	16	20	2,01	4,02	50	G1/4	1,0
722E25202-1	4,6	22,9	720V25-0005	25	20	4,91	9,82	104	G1/4	2,0
722E32202-1	7,7	38,4	720V32-0005	32	20	8,04	16,08	200	G1/4	3,0
722E40202-1	12	59,8	720V40-0005	40	20	12,56	25,12	270	G1/4	3,7
722E50202-1	18,9	94,5	720V50-0004	50	20	19,64	39,27	460	G1/4	5,7

Application example

Support is necessary in case of operating pressure over 160 bar





model no.	a	b	c	d	d1	d2	d3	e	g	h	L	l1	l3	l4	M x depth	AF	t	t1
	[mm]																	
722E16202-1	60	35	17,5	10	6,5	9	11	40	22	6	111	44	30,5	11	M 6x15	8	6,8	4,5
722E25202-1	65	45	22,5	16	8,5	15	13,5	50	30	7	114	46	32	11	M10x15	13	9	5,5
722E32202-1	75	55	27,5	20	10,5	19	18	55	35	10	122	50	34	11	M12x18	17	11	7
722E40202-1	85	63	31,5	25	10,5	24	18	63	40	10	123	49	33	11	M16x25	21	11	7
722E50202-1	100	75	37,5	32	13	31	20	76	45	10	135	54	38	13	M20x30	27	13	8

Operating pressure max. 350 bar/min 100 bar

Hydraulic hollow piston cylinders can solve many clamping problems because they can also be used as pulling cylinders due to the hollow piston combined with a tie rod. The double action principle allows short stroke times and high retraction forces, i.e. clamping forces in the reverse stroke direction.

Technical characteristics

- Piston with through-hole and with internal thread
- 2 fastening threads at the base
- Lateral hydraulic connections

CUSTOMER DESIGNED MODELS

If you need a special cylinder for your application – customer designed models are available. PLEASE LET US KNOW!

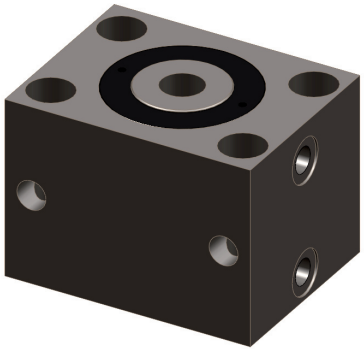
Important note

The operating pressure should not exceed 250 bar if the piston is actuated without a counter force.

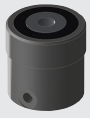
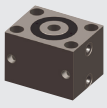
Recommended accessories (separate order)

2 straight screw connectors D8S-R1/4

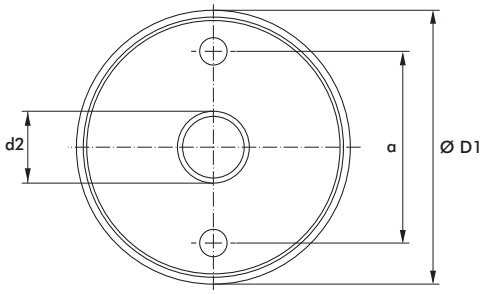
Cylindrical version

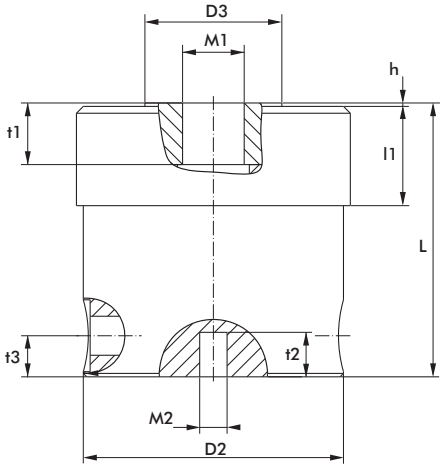


Block version

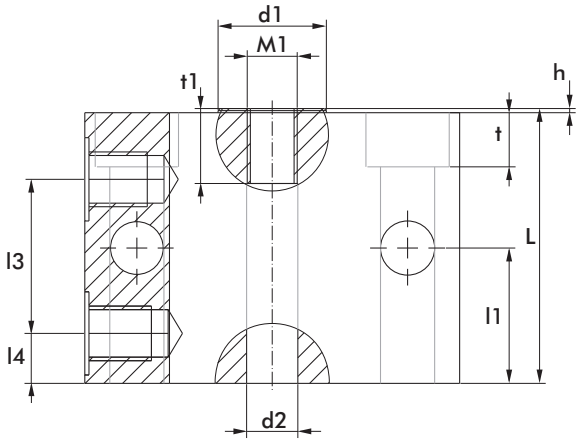
model no. cylindrical version		Clamping force at 100 bar forward stroke [kN]	back stroke [kN]	Repair kit	Stroke* S max. [mm]	Piston surface area forward stroke [cm²]	back stroke [cm²]	Oil consumption forward stroke [cm³]	back stroke [cm³]	Connection G 2x	Weight ~ [kg]
	7411-2	8,6	5,9	7411-2-00	10	8,8	6,0	8,8	6,0	G1/4	0,9
	7412-2	12,9	8,3	7412-2-00	15	13,2	8,4	21,1	13,4	G1/4	1,5
	7413-2	18,1	12,7	7413-2-00	24	18,4	15,0	44,1	36,0	G1/4	2,0
	7414-2	26,2	20	7414-2-00	24	26,7	20,4	64,1	49,0	G1/4	2,6
block version											
	723D38102-2	8,6	5,9	7411-1-00	10	8,8	6,0	8,8	6,0	G1/4	1,3
	723D48152-2	12,9	8,3	7412-1-00	15	13,2	8,4	21,1	13,4	G1/4	1,8
	723D57242-2	18,1	12,7	7413-1-00	24	18,4	15,0	44,1	36,0	G1/4	2,5
	723D68242-2	26,2	20	7414-1-00	24	26,7	20,4	64,1	49,0	G1/4	3,1

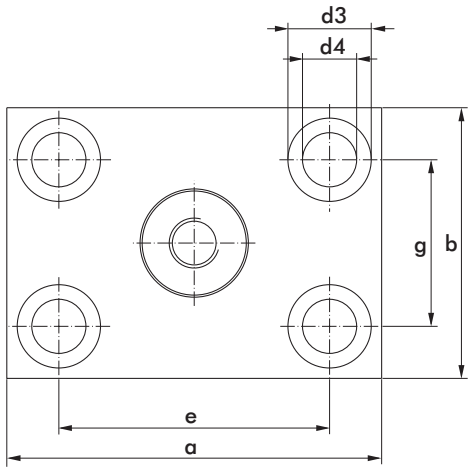
Cylindrical version 74...





Block version 723D...



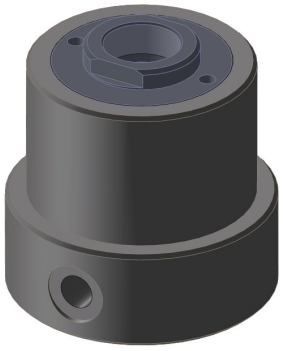


model no. cylindrical version	a	b	d1	d2	d3	d4	D1	D2	e	g	h	l1	l3	l4	L	M1	M2	t	t1	t2	t3
	[mm]																				
7411-2	40	-	25	12,3	-	-	60	56	-	-	1	25	-	-	66	M12x1,5	M8	-	18	12	12
7412-2	48	-	35	17	-	-	72	66	-	-	1	33	-	-	72	M16x1,5	M8	-	18	13	12
7413-2	56	-	40	21	-	-	80	76	-	-	1	29	-	-	80	M20x1,5	M10	-	18	13	12
7414-2	60	-	45	25	-	-	90	84	-	-	1	29	-	-	90	M24x1,5	M10	-	18	13	12

block version																					
723D38102-2	90	65	25	-	20	13	-	-	65	40	1	32,5	37	12	66	M12x1,5	-	13	18	-	-
723D48152-2	100	75	35	-	20	13	-	-	76	45	1	35,5	41	12	72	M16x1,5	-	13	18	-	-
723D57242-2	110	85	40	-	20	13	-	-	86	55	1	39,5	50	12	80	M20x1,5	-	13	18	-	-
723D68242-2	110	85	45	-	20	13	-	-	86	55	1	39,5	50	12	80	M24x1,5	-	13	18	-	-

Operating pressure max. 350 bar/min 100 bar

These hydraulic cylinder are single acting with spring retraction. A typical application for hydraulic hollow piston cylinders is when pulling and/or pushing forces are needed for clamping. The piston inserts which can be mounted in the thread on the top end of the piston are used to secure threaded bolts or screws. The piston inserts are available with the internal thread (type A) or with the through-hole (type B).



Cylindrical version

Technical characteristics

- Cylindrical and Block version available
- Cylindrical version available with– or without external thread
- Spring retraction
- Piston with through-hole (different piston inserts available)
- Piston nitrogen hardened
- Fastening threads at the base
- Lateral hydraulic connection

CUSTOMER DESIGNED MODELS

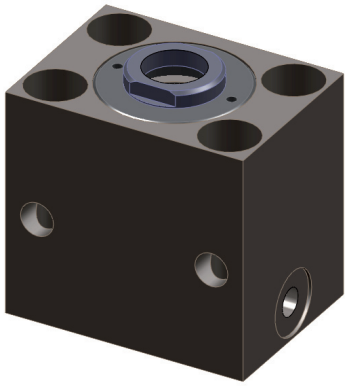
If you need a special cylinder for your application – customer designed models are available. PLEASE LET US KNOW!

Important note

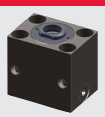
The operating pressure should not exceed 100 bar if the piston is actuated without a counter force.

Recommended accessories (separate order)

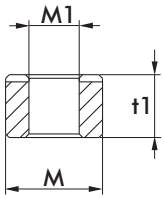
1 straight screw connectors D8S-R1/8
1 straight screw connectors D8S-R1/4
Piston inserts



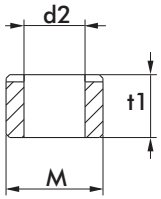
Block version

model no. cylindrical version		Clamping force at 100 bar [kN]	Repair kit	Stroke S max. [mm]	Piston surface area [cm²]	Oil consumption/ stroke [cm³]	Spring retracting force min [kN]	Connection G 2x	Weight ~ [kg]
	70537-DX11	8	70537-D1-00	9	8,8	7,9	34	G1/8	1,25
	70537-D1	8,4	70537-D1-00	9	8,8	7,9	12,5	G1/8	1,25
	70537-DG	8,4	70537-D1-00	9	8,8	7,9	12,5	G1/8	1,25
	70550-D2	15,7	70550-D2-00	12,5	16,4	20,5	18,5	G1/4	2
	70550-DG	15,7	70550-D2-00	12,5	16,4	20,5	18,5	G1/4	2
	70562-D2	23,9	70562-D1-00	15,5	24,8	38,4	32	G1/4	2,8
	70562-DG	23,9	70562-D1-00	15,5	24,8	38,4	32	G1/4	2,8
block version									
	723E38092-1	8	70537-D1-00	9	8,8	7,9	34	G1/8	1,5
	723E51122-1	15,7	70550-D2-00	12,5	16,4	20,5	18,5	G1/4	2,5
	723E63152-1	23,9	70562-D1-00	15,5	24,8	28,4	32	G1/4	3,3

Type A



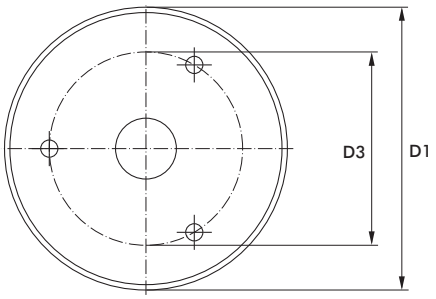
Type B

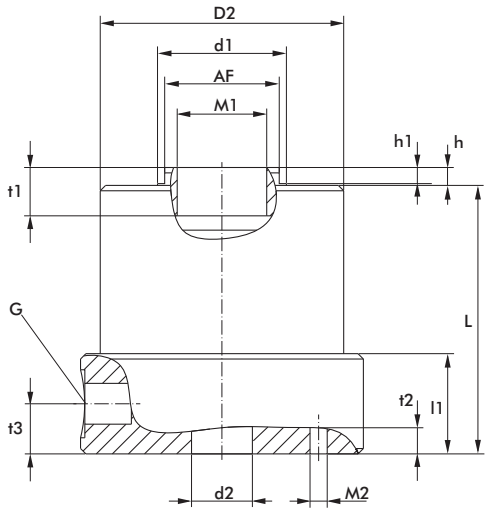


Accessories piston inserts

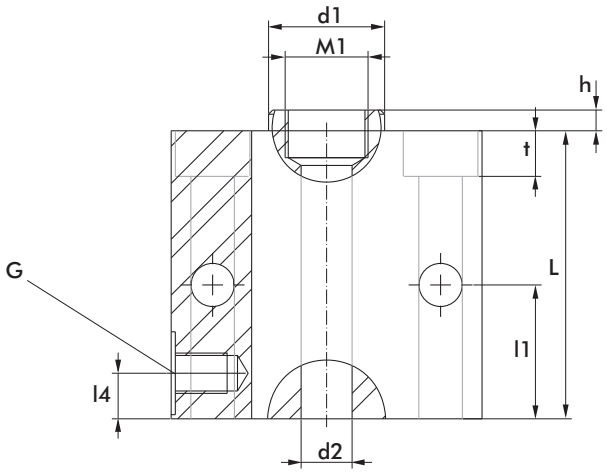
order no. Type A	order no. Type B	d2	M	M1	t1	for model
		[mm]				
705383-D	705384-D	12,3	M12	M20x1,5	11,5	70537.../ 723E38...
705511-D	705513-D	17	M16	M27x1,5	17,5	70550.../ 723E51...
705633-D	705634-D	21	M20	M36x1,5	21	70562.../ 723E63...

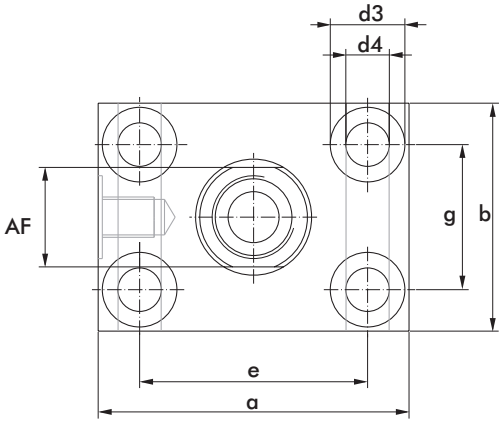
Cylindrical version 705...





Block version 723E...





model cylindrical version	a	b	d1	d3	d4	D1	D2/M3	D3	e	g	h	h1	L	l1	l4	M1	M2	AF	t	t2	t3
								[mm]													
70537-DX11	-	-	26	-	-	65	55	46	-	-	5	4,5	64.5	22		M20x1,5	M5	22	-	8	11
70537-D1	-	-	28	-	-	65	55	46	-	-	5	4,5	60	25		M20x1,5	M5	24	-	8	12
70537-DG	-	-	28	-	-	65	M50x1,5	46	-	-	5	4,5	60	25		M20x1,5	M5	24	-	8	12
70550-D2	-	-	36	-	-	79	68	54	-	-	5	4,5	75	28		M27x1,5	M6	32	-	9	14
70550-DG	-	-	36	-	-	79	M68x1,5	54	-	-	5	4,5	75	28		M27x1,5	M6	32	-	9	14
70562-D2	-	-	48	-	-	93	80	60	-	-	5	4,5	92	32		M36x1,5	M6	41	-	10	16
70562-DG	-	-	48	-	-	93	M80x2	60	-	-	5	4,5	92	32		M36x1,5	M6	41	-	10	16

block version																					
723E38092-1	75	55	28	18	10,5	-	-	-	55	35	5	4,5	69,5	32,5	11	M20x1,5	-	24	11	-	-
723E51122-1	100	75	36	20	13	-	-	-	76	45	5	4,5	80	37,5	14	M27x1,5	-	32	13	-	-
723E63152-1	110	85	48	20	13	-	-	-	86	55	5	4,5	97	46	16	M36x1,5	-	41	13	-	-

Operating pressure max. 350 bar/min 100 bar

These double action hydraulic short-stroke cylinders are primarily used for operating double action hydraulic punching, notching and cutting units. Furthermore, they can be used as clamping cylinders. The double action version allows rapid stroke speeds. The cylinders are mounted to the hydraulic punching units with the help of mounting flanges. Adequate mounting flanges available on request.

Technical characteristics

- Optimal piston rod guide; hardened piston rod for protection against corrosion and wear and for better gliding.
- Fine-grinded, polished slide faces for the lip seal and the piston rod improve the service life and the function of the seals.
- Lateral oil ports, additional advance stroke connection on the cylinder base

CUSTOMER DESIGNED MODELS

If you need a special cylinder for your application – customer designed models are available. PLEASE LET US KNOW!

Included accessories

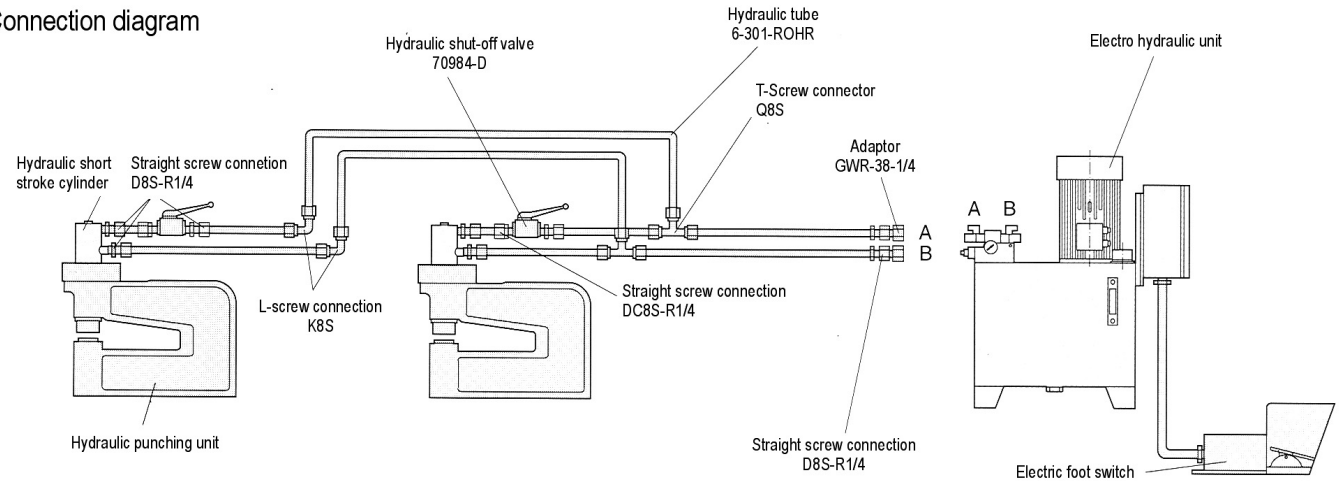
2 x reducing nipples GWR-3/8-1/4 (only 725D80151-1)

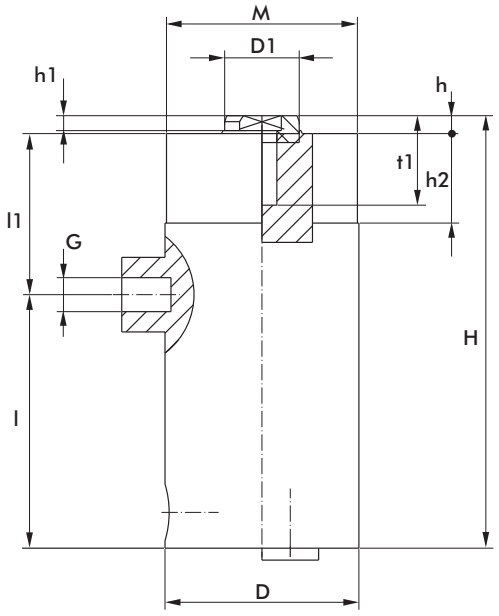
Recommended accessories (separate order)

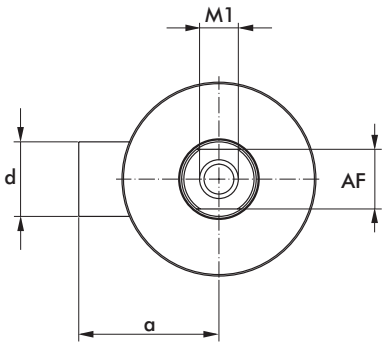
2 x straight screw connectors D8S-R1/4
Mounting flange
Grooved or hexagonal nut (see page 20 and 24)

model no.	Clamping force at 100 bar forward stroke [kN]	backstroke [kN]	Repair kit	Piston Ø [mm]	Stroke* S max. [mm]	Piston surface area forward stroke [cm²]	back stroke [cm²]	Oil consumption/stroke forward stroke [cm³]	back stroke [cm³]	Connection G 2x	Weight ~ [kg]
725D35151-2	9,6	6,5	720V35-0001	35	15	9,62	6,47	14,40	9,70	G1/4	1,9
725D50151-2	19,6	14,7	720V50-0005-2	50	15	19,63	14,72	29,50	22,10	G1/4	3,0
725D63171-1	31,2	22,7	720V63-0001	63	17	31,17	23,13	53,00	39,30	G1/4	4,5
725D80151-1	50,3	37,7	720V80-0001	80	15	50,26	37,69	75,40	56,60	G3/8	10,0

Connection diagram







model no.	a	d	D	D1	h	hi	h2	H [mm]	l	l1	M	M1	AF	t1
725D35151-2	40	25	50	20	9	7	30	159	88	52	M48x1,5	M10	17	25
725D50151-2	-	-	84	25	9	7	30	137	90	47	M64x1,5	M12	20	25
725D63171-1	-	-	97	32	9	7	32	150	96	45	M80x2	M16	27	30
725D80151-1	65	28	105	40	9	7	29,5	183,5	105	72,5	M80x2	M16	36	31

Operating pressure max. 350 bar/min 100 bar

Hydraulic hollow piston cylinders can solve many clamping problems because they can also be used as pulling cylinders due to the hollow piston combined with a tie rod. The double action principle allows short stroke times and high retraction forces, i.e. clamping forces in the reverse stroke direction.

Technical characteristics

- Piston with through-hole and with internal thread
- 2 fastening threads at the base
- Lateral hydraulic connections

CUSTOMER DESIGNED MODELS

If you need a special cylinder for your application – customer designed models are available. PLEASE LET US KNOW!

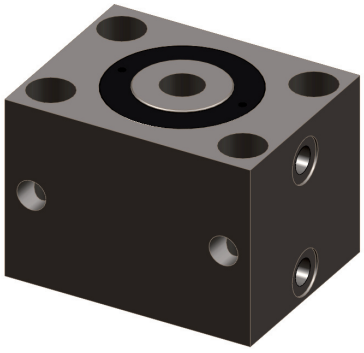
Important note

The operating pressure should not exceed 250 bar if the piston is actuated without a counter force.

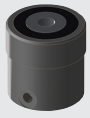
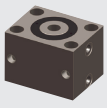
Recommended accessories (separate order)

2 straight screw connectors D8S-R1/4

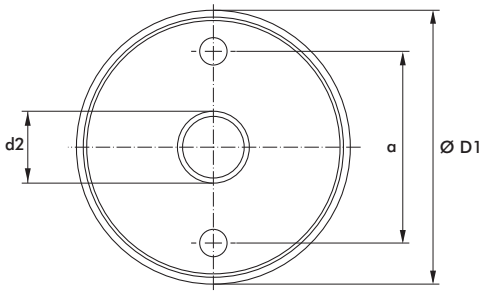
Cylindrical version

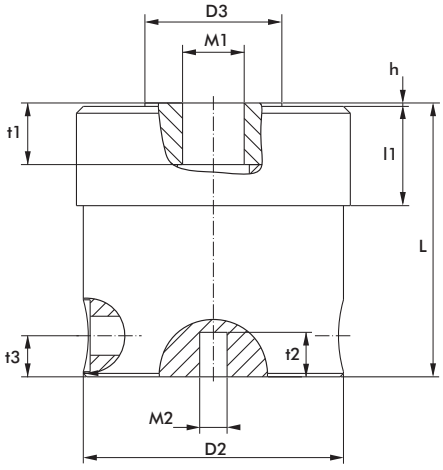


Block version

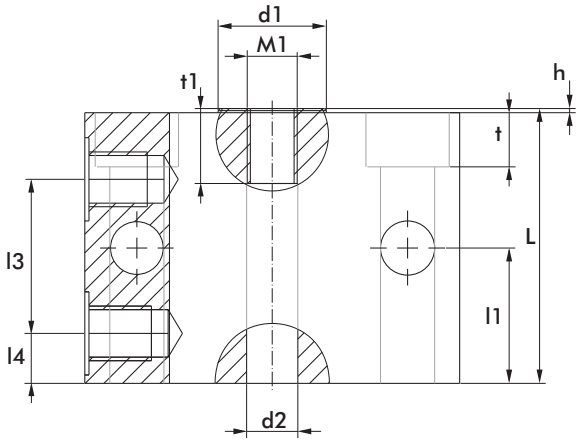
model no. cylindrical version		Clamping force at 100 bar forward stroke [kN]	back stroke [kN]	Repair kit	Stroke* S max. [mm]	Piston surface area forward stroke [cm²]	back stroke [cm²]	Oil consumption forward stroke [cm³]	back stroke [cm³]	Connection G 2x	Weight ~ [kg]
	7411-2	8,6	5,9	7411-2-00	10	8,8	6,0	8,8	6,0	G1/4	0,9
	7412-2	12,9	8,3	7412-2-00	15	13,2	8,4	21,1	13,4	G1/4	1,5
	7413-2	18,1	12,7	7413-2-00	24	18,4	15,0	44,1	36,0	G1/4	2,0
	7414-2	26,2	20	7414-2-00	24	26,7	20,4	64,1	49,0	G1/4	2,6
block version											
	723D38102-2	8,6	5,9	7411-1-00	10	8,8	6,0	8,8	6,0	G1/4	1,3
	723D48152-2	12,9	8,3	7412-1-00	15	13,2	8,4	21,1	13,4	G1/4	1,8
	723D57242-2	18,1	12,7	7413-1-00	24	18,4	15,0	44,1	36,0	G1/4	2,5
	723D68242-2	26,2	20	7414-1-00	24	26,7	20,4	64,1	49,0	G1/4	3,1

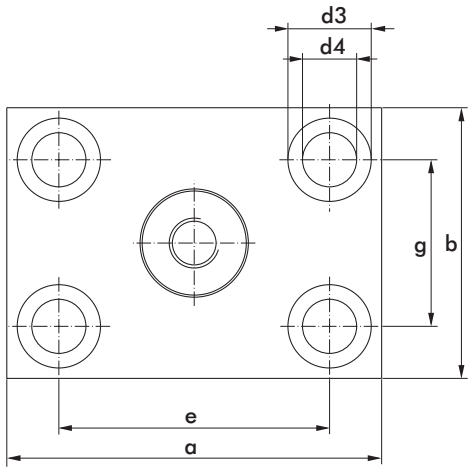
Cylindrical version 74...





Block version 723D...





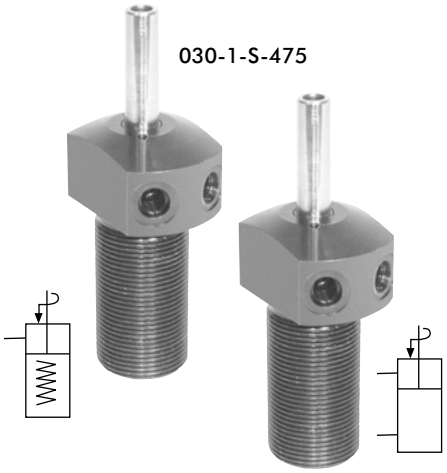
model no. cylindrical version	a	b	d1	d2	d3	d4	D1	D2	e	g	h	l1	l3	l4	L	M1	M2	t	t1	t2	t3
	[mm]																				
7411-2	40	-	25	12,3	-	-	60	56	-	-	1	25	-	-	66	M12x1,5	M8	-	18	12	12
7412-2	48	-	35	17	-	-	72	66	-	-	1	33	-	-	72	M16x1,5	M8	-	18	13	12
7413-2	56	-	40	21	-	-	80	76	-	-	1	29	-	-	80	M20x1,5	M10	-	18	13	12
7414-2	60	-	45	25	-	-	90	84	-	-	1	29	-	-	90	M24x1,5	M10	-	18	13	12

block version																					
723D38102-2	90	65	25	-	20	13	-	-	65	40	1	32,5	37	12	66	M12x1,5	-	13	18	-	-
723D48152-2	100	75	35	-	20	13	-	-	76	45	1	35,5	41	12	72	M16x1,5	-	13	18	-	-
723D57242-2	110	85	40	-	20	13	-	-	86	55	1	39,5	50	12	80	M20x1,5	-	13	18	-	-
723D68242-2	110	85	45	-	20	13	-	-	86	55	1	39,5	50	12	80	M24x1,5	-	13	18	-	-

Series **030** Hydraulic Swing/Pull Clamps – 475 lb.

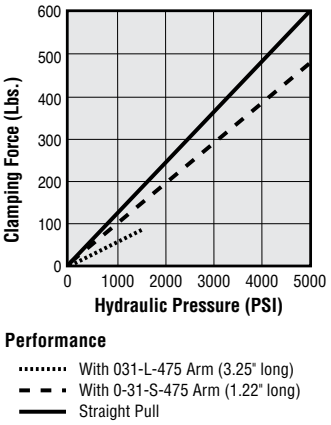
The DE-STA-CO Threaded Body Swing/Pull Clamps are available in both single-acting and double-acting versions. They incorporate the latest hydraulic swing clamp technology. The top port design allows easy access for plumbing connections.

They are available with 90° left or right hand rotation, or with guided straight pull. The breather port on single-acting models may be replaced with tubing for remote venting. The optional arms clamp securely to the piston rod to reduce fatigue and deflection. Arms may be easily modified or custom arms may be substituted.

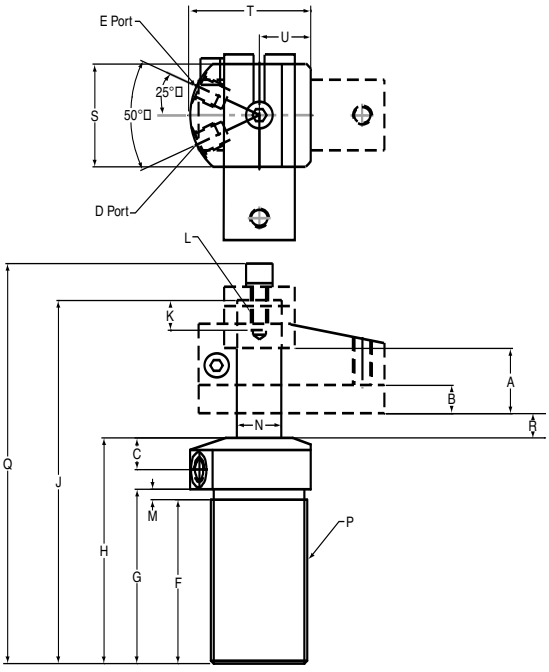


Features:

- Advanced seals and wipers utilize a special, highly wear-resistant construction for long cycle life and 5,000 PSI operation
- Triple track piston rod design for field adjustable swing direction
- Hardened and hard chrome plated piston rod for increased strength and wear resistance
- Advanced metal treated body for superior wear and corrosion resistance
- MRO interchange design
- Straight pull capacity 600 lbs. at 5,000 PSI max



For 475 lb. Swing/Pull Clamp Arms see Page 19.10



Cat. no.	Specifications							Max Oil Flow in³/m in
	Oper.	Swing Direction	*Force (lbs.)	Eff. Area (sq. In.) Clamp	Eff. Area (sq. In.) Unclamp	Oil Cap. (cu. In.) Clamp	Oil Cap. (cu. In.) Unclamp	
030-1-S-475 (-X)	Single-Acting	Left Hand (Counter Clockwise) Right Hand (Clockwise) Straight Pull	475	0.12	–	0.08	–	12
030-1-D-475 (-X) ⓘ	Double-acting				0.24		0.15	

Ordering Notes:
- Left hand swing (ccw) is standard– no suffix
- Add –R suffix for right hand swing
- Add –S suffix for straight guided pull

Cat. no.	Specifications																		
	A Total Stroke	B Clamping Stroke	C	D Clamp Port	E Unclamp Port	F	G	H	J	K	L	M	N	P	Q	R	S	T	U
030-1-S-475	0.65	0.210	0.59	SAE-2	SAE-2	1.929	2.086	3.07	4.429	0.8	M6x1	0.157	0.393	1-1/8-16UN	4.96	0.495	1.3	1.55	0.61
030-1-D-475 ⓘ	0.65	0.32	0.59																

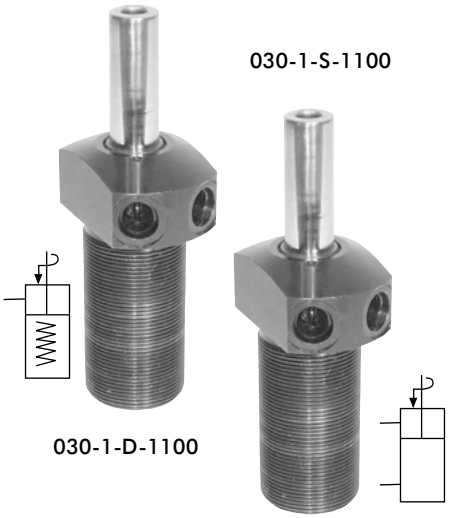
ⓘ This item is available upon request

NOTE: *With 1.22" long arm at 5,000 PSI maximum operating pressure.
Δ Do not pressurize – single-acting only
† See page 19.10 for arms, accessories and custom arm mounting

Series 030 Hydraulic Swing/Pull Clamps – 1,100lb.

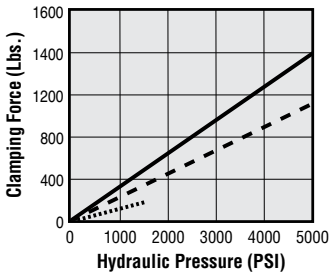
The DE-STA-CO Threaded Body Swing/Pull Clamps are available in both single-acting and double-acting versions. They incorporate the latest hydraulic swing clamp technology. The top port design allows easy access for plumbing connections.

They are available with 90° left or right hand rotation, or with guided straight pull. The breather port on single-acting models may be replaced with tubing for remote venting. The optional arms clamp securely to the piston rod to reduce fatigue and deflection. Arms may be easily modified or custom arms may be substituted.



Features:

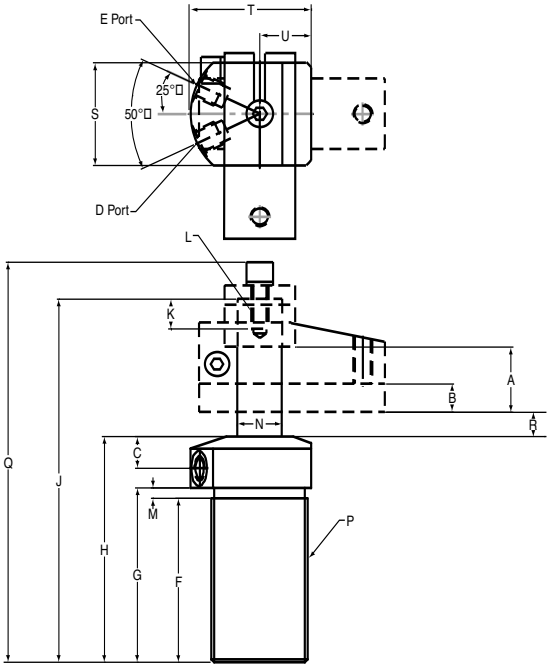
- Advanced seals and wipers utilize a special, highly wear-resistant construction for long cycle life and 5,000 PSI operation
- Triple track piston rod design for field adjustable swing direction
- Hardened and hard chrome plated piston rod for increased strength and wear resistance
- Advanced metal treated body for superior wear and corrosion resistance
- MRO interchange design
- Straight pull capacity 1,400 lbs. at 5,000 PSI max



Performance

With 031-L-1100 Arm (5.31" long)
With 031-S-1100 Arm (1.89" long)
Straight Pull

For 1,100 lb. Swing/Pull Clamp Arms see Page 19.10



Cat. no.	Specifications							Max Oil Flow in³/min
	Oper.	Swing Direction	*Force (lbs.)	Eff. Area (sq. In.) Clamp	Eff. Area (sq. In.) Unclamp	Oil Cap. (cu. In.) Clamp	Oil Cap. (cu. In.) Unclamp	
030-1-S-1000 (-X)	Single-Acting	Left Hand (Counter Clockwise) Right Hand (Clockwise) Straight Pull	1100	0.28	–	0.25	–	25
030-1-D-1000 (-X)	Double-acting				0.59		0.52	

Ordering Notes:
- Left hand swing (ccw) is standard– no suffix
- Add –R suffix for right hand swing
- Add –S suffix for straight guided pull

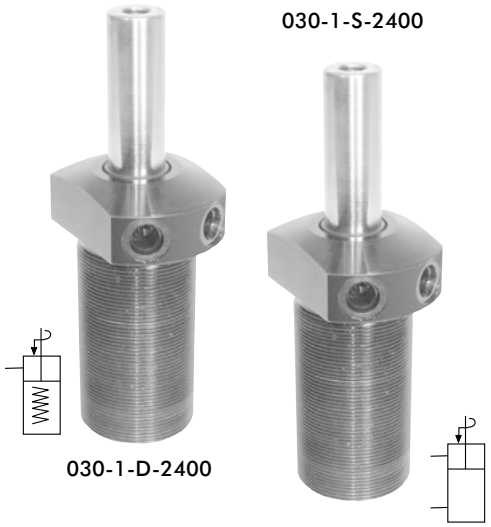
Cat. no.	Specifications																			
	A Total Stroke	B Clamping Stroke	C	D Clamp Port	E Unclamp Port	F	G	H	J	K	L	M	N	P	Q	R	S	T	U
030-1-S-1100	0.89	0.39	0.6	SAE-4	SAE-4	2.4	2.6	3.58	5.305	0.94	M8 x 1.25	0.196	0.629	1-3/8-18UN	5.965	0.400	1.5	1.87	0.75
030-1-D-1100																			

NOTE: *With 1.89" long arm at 5,000 PSI maximum operating pressure.
Δ Do not pressurize – single-acting only
† See page 19.10 for arms, accessories and custom arm mounting

Series **030** Hydraulic Swing/Pull Clamps – 2,400 lb.

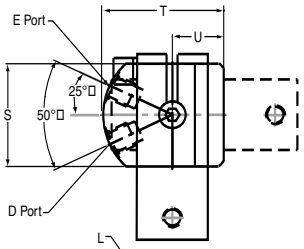
The DE-STA-CO Threaded Body Swing/Pull Clamps are available in both single-acting and double-acting versions. They incorporate the latest hydraulic swing clamp technology. The top port design allows easy access for plumbing connections.

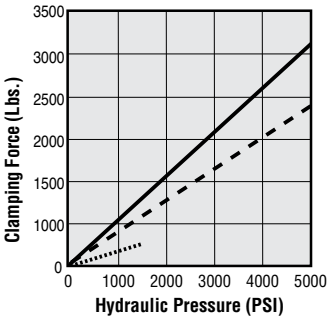
They are available with 90° left or right hand rotation, or with guided straight pull. The breather port on single-acting models may be replaced with tubing for remote venting. The optional arms clamp securely to the piston rod to reduce fatigue and deflection. Arms may be easily modified or custom arms may be substituted.



Features:

- Advanced seals and wipers utilize a special, highly wear-resistant construction for long cycle life and 5,000 PSI operation
- Triple track piston rod design for field adjustable swing direction
- Hardened and hard chrome plated piston rod for increased strength and wear resistance
- Advanced metal treated body for superior wear and corrosion resistance
- MRO interchange design
- Straight pull capacity 3,150 lbs. at 5,000 PSI max

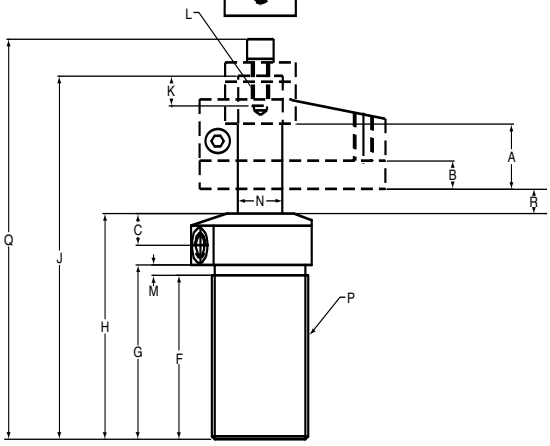




Performance

With 031-L-2400 Arm (6.36" long)
With 031-S-2400 Arm (2.43" long)
Straight Pull

For 2,400 lb. Swing/Pull Clamp Arms see Page 19.10



Cat. no.	Specifications							Max Oil Flow in3/m in
	Oper.	Swing Direction	*Force (lbs.)	Eff. Area (sq. In.) Clamp	Eff. Area (sq. In.) Unclamp	Oil Cap. (cu. In.) Clamp	Oil Cap. (cu. In.) Unclamp	
030-1-S-2400 (-X)	Single-Acting	Left Hand (Counter Clockwise) Right Hand (Clockwise) Straight Pull	2400	0.63	–	0.07	–	100
030-1-D-2400 (-X)	Double-acting				1.23		0.14	

Ordering Notes:
- Left hand swing (ccw) is standard– no suffix
- Add –R suffix for right hand swing
- Add –S suffix for straight guided pull

Cat. no.	Specifications																		
	A Total Stroke	B Clamping Stroke	C	D Clamp Port	E Unclamp Port	F	G	H	J	K	L	M	N	P	Q	R	S	T	U
030-1-S-2400	1.12	0.5	0.62	SAE-4	SAE-4	t	3.38	4.38	6.8	1.28	M10x 1.5	0.196	0.87	1-7/8-16UN	7.543	0.517	2.0	2.38	1.0
030-1-D-2400																			

NOTE: *With 2.43" long arm at 5,000 PSI maximum operating pressure.
Δ Do not pressurize – single-acting only
† See page 19.10 for arms, accessories and custom arm mounting

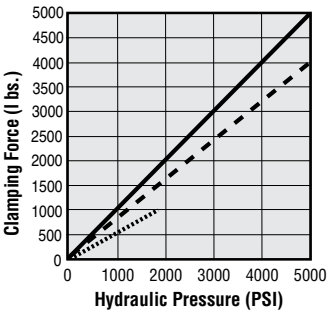
Series 030 Hydraulic Swing/Pull Clamps – 4,000 lb.

The DE-STA-CO Threaded Body Swing/Pull Clamps are available in both single-acting and double-acting versions. They incorporate the latest hydraulic swing clamp technology. The top port design allows easy access for plumbing connections.

They are available with 90° left or right hand rotation, or with guided straight pull. The breather port on single-acting models may be replaced with tubing for remote venting. The optional arms clamp securely to the piston rod to reduce fatigue and deflection. Arms may be easily modified or custom arms may be substituted.

Features:

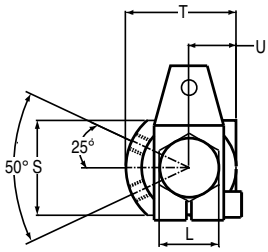
- Advanced seals and wipers utilize a special, highly wear-resistant construction for long cycle life and 5,000 PSI operation
- Triple track piston rod design for field adjustable swing direction
- Hardened and hard chrome plated piston rod for increased strength and wear resistance
- Advanced metal treated body for superior wear and corrosion resistance
- MRO interchange design
- Straight pull capacity 5,500 lbs. at 5,000 PSI max

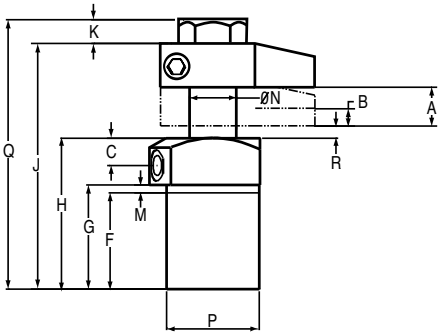


Performance

With 031-L-4000 Arm (X.XX" long)
With 031-S-4000 Arm (X(7.01" long)
Straight Pull (2.75" long)

For 4,000 lb. Swing/Pull Clamp Arms see Page 19.11





Cat. no.	Specifications							Max Oil Flow in³/m in
	Oper.	Swing Direction	*Force (lbs.)	Eff. Area (sq. In.) Clamp	Eff. Area (sq. In.) Unclamp	Oil Cap. (cu. In.) Clamp	Oil Cap. (cu. In.) Unclamp	
030-1-S-4000 (-X)	Single-Acting	Left Hand (Counter Clockwise) Right Hand (Clockwise) Straight Pull	4000	1.10	–	1.22	–	140
030-1-D-4000 (-X) ⓘ	Double-acting				2.35		2.60	

ⓘ This item is available upon request

Ordering Notes:
- Left hand swing (ccw) is standard– no suffix
- Add –R suffix for right hand swing
- Add –S suffix for straight guided pull

Cat. no.	Specifications																		
	A Total Stroke	B Clamping Stroke	C	D Clamp Port	E Unclamp Port	F	G	H	J	K	L	M	N	P	Q	R	S	T	U
030-1-S-4000	1.07	0.45	0.75	SAE#4	SAE#4	2.70	2.83	4.09	6.67	0.64	1.61	0.14	1.26	2-1/2-16UN	7.30	0.33	2.56	2.99	1.28
030-1-D-4000 ⓘ																			

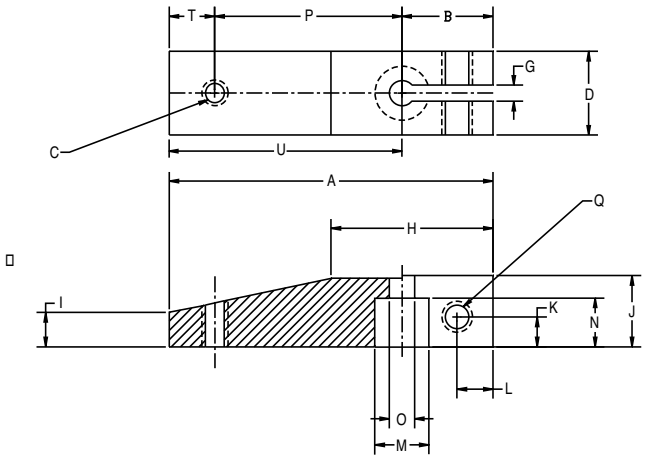
ⓘ This item is available upon request

NOTE: *With 2.75" long arm at 5,000 PSI maximum operating pressure.
Δ Do not pressurize – single-acting only
† See page 19.10 for arms, accessories and custom arm mounting

Series **030** Hydraulic Swing/Pull Clamps 475-2,400 lb. Arms

Custom built arms of any length must clamp to the swing/pull clamp's piston rod in a manner similar to the DE-STA-CO arms or some derating of the clamp will be necessary.

The design feature "K," in the chart and drawing at the bottom of this page, is recommended for all applications of custom, single arms. See the accompanying chart for design details. In applications where there is no bending stress being transferred into the piston rod (like push/pull linkages and equalizing double arms), this design detail may be eliminated. In these applications, the clamp's full capacity (referred to as "straight pull" capacity) is available.



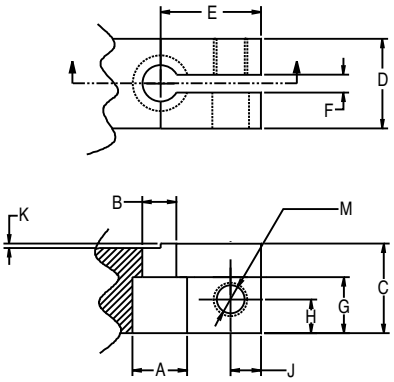
Cat. no.	Specifications																	Weight (lbs.)
	A	B	C	D	G	H	I	J	K	L	M	N	O	P	Q	T	U	
031-S-475	1.929	0.709	M6	0.63	0.126	1.139	0.394	0.630	0.236	0.217	0.394	0.394	0.256	0.984	M6	0.236	1.220	0.159
031-L-475	3.959	0.709	–	0.63		1.166	0.394	0.630			0.394	0.394	0.256	–	M6	–	3.250	0.348
031-S-1100	2.598	0.709	M8	0.748		1.294	0.433	0.748			0.630	0.472	0.33	1.575	M6	0.315	1.889	0.286
031-L-1100	6.019	0.709	–	0.748		1.412	0.433	0.748			0.630	0.472	0.335	–	M6	–	5.310	0.721
031-S-2400	3.268	0.866	M10	1.125		1.459	0.633	1.00			0.866	0.709	0.413	1.969	M8	0.433	2.402	0.634
031-L-2400	7.226	0.866	–	1.125		1.696	0.633	1.00			0.866	0.709	0.413	–	M8	–	6.360	1.564

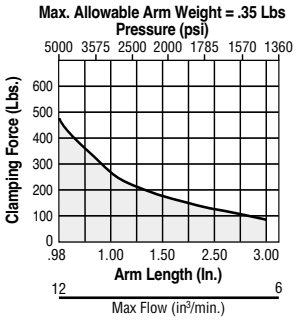
IMPORTANT: Any clamp using a modified or custom arm that is longer or heavier than DE-STA-CO's standard arms must be derated to prevent internal damage.

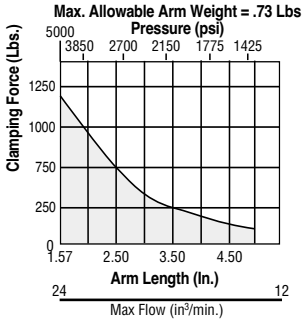
Do not exceed the maximum speed and pressure ratings for DE-STA-CO's standard arms.
For maximum hydraulic pressure and speed ratings, see the accompanying charts
Do not use meter-out circuitry for controlling double-acting clamp speeds
Contact DE-STA-CO if further design assistance is required

Custom Arm Mounting Dimensions for Swing/Pull Clamps

Shaft Dia.	Specifications										
	A	B	C	D	E	F	G	H	J	K	M
10 MM	0.394	0.256	0.63	0.63	0.709	1.26	0.394	0.236	0.217	0.30	M6 x 1.0
16MM	0.630	0.335	0.748	0.748	0.709		0.472	0.236	0.217		M6 x 1.0
22 MM	0.866	0.413	1.00	1.00	0.866		0.709	0.236	0.217		M8 x 1.25







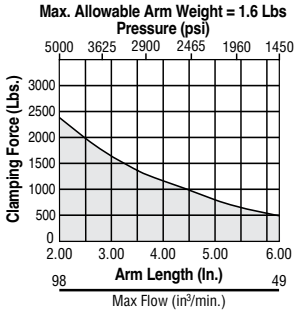


Chart Legend

Maximum Length / Pressure
Operating Range

Clamps must operate at or below maximum/arm length/pressure curve:

To approximate clamping force with any arm at less than maximum pressure:

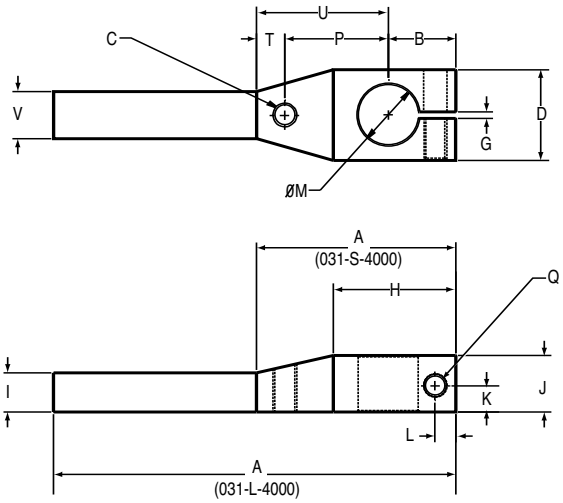
FORCE = P x A x [1-(P/M x .23)]

P = Hyd. system operating pressure (PSI)
A = Clamp effective area (sq. in.)
M = Max. rated pressure of chosen arm length (PSI)

Series 030 Hydraulic Swing/Pull Clamps – 4,000 lb. Arms

Custom built arms of any length must clamp to the swing/pull clamp's piston rod in a manner similar to the DE-STA-CO arms or some derating of the clamp will be necessary.

The design feature "K," in the chart and drawing at the bottom of this page, is recommended for all applications of custom, single arms. See the accompanying chart for design details. In applications where there is no bending stress being transferred into the piston rod (like push/pull linkages and equalizing double arms), this design detail may be eliminated. In these applications, the clamp's full capacity (referred to as "straight pull" capacity) is available.



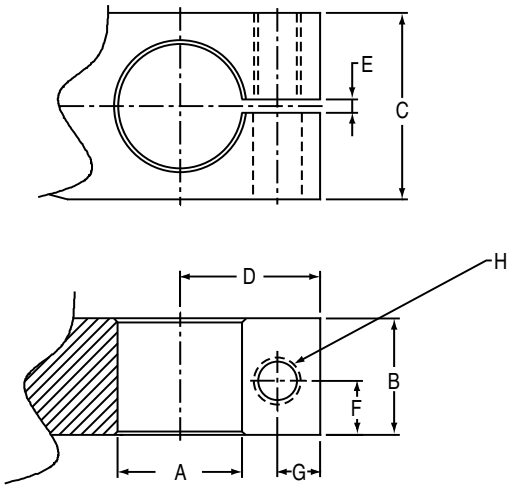
Cat no.	Specifications																
	A	B	C	D	G	H	I	J	K	L	M	P	Q	T	U	V	Weight (lbs.)
031-S-4000	4.17	1.42	1/2-13	1.89	0.138	2.56	0.83	1.18	0.55	0.43	1.26	2.17	M12	0.58	2.75	0.98	1.80
031-L-4000	8.43	1.42	1/2-13	1.89	0.138	2.56	0.83	1.18	0.55	0.43	1.26	–	M12	–	7.01	0.98	2.80

IMPORTANT: Any clamp using a modified or custom arm that is longer or heavier than DE-STA-CO's standard arms must be derated to prevent internal damage.

Do not exceed the maximum speed and pressure ratings for DE-STA-CO's standard arms.
For maximum hydraulic pressure and speed ratings, see the accompanying charts
Do not use meter-out circuitry for controlling double-acting clamp speeds
Contact DE-STA-CO if further design assistance is required

Custom Arm Mounting Dimensions for 4,000 lb. Swing/Pull Clamps

Cat no.	Specifications							
	A	B	C	D	E	F	G	H
32MM	1.26	1.18	1.89	1.42	0.138	0.55	0.43	M12 x 1.75



031-S-4000 • 031-L-4000

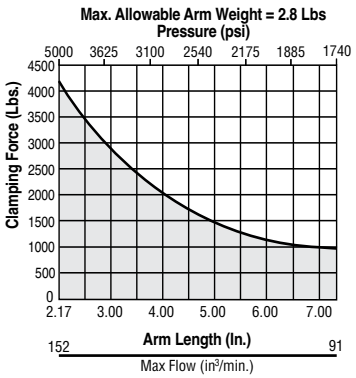


Chart Legend

Maximum Length / Pressure
Operating Range

Clamps must operate at or below maximum/ arm length/pressure curve:

To approximate clamping force with any arm at less than maximum pressure:

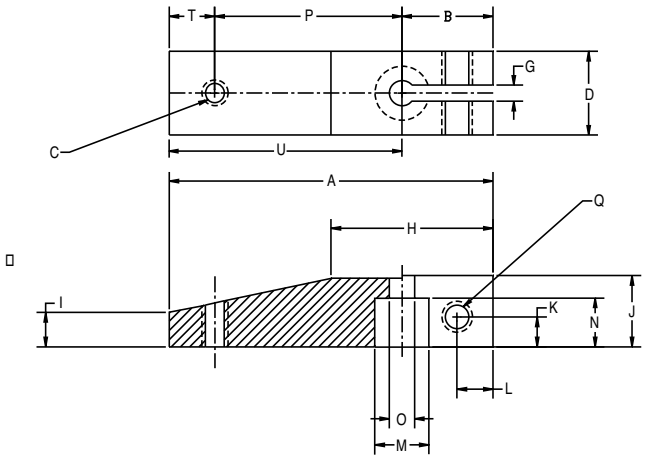
FORCE = P x A x [1-(P/M x .23)]

P = Hyd. system operating pressure (PSI)
A = Clamp effective area (sq. in.)
M = Max. rated pressure of chosen arm length (PSI)

Series **030** Hydraulic Swing/Pull Clamps 475-2,400 lb. Arms

Custom built arms of any length must clamp to the swing/pull clamp's piston rod in a manner similar to the DE-STA-CO arms or some derating of the clamp will be necessary.

The design feature "K," in the chart and drawing at the bottom of this page, is recommended for all applications of custom, single arms. See the accompanying chart for design details. In applications where there is no bending stress being transferred into the piston rod (like push/pull linkages and equalizing double arms), this design detail may be eliminated. In these applications, the clamp's full capacity (referred to as "straight pull" capacity) is available.



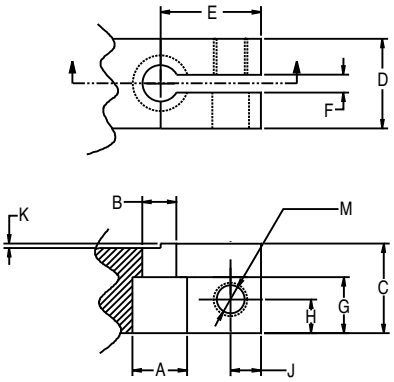
Cat. no.	Specifications																	Weight (lbs.)
	A	B	C	D	G	H	I	J	K	L	M	N	O	P	Q	T	U	
031-S-475	1.929	0.709	M6	0.63	0.126	1.139	0.394	0.630	0.236	0.217	0.394	0.394	0.256	0.984	M6	0.236	1.220	0.159
031-L-475	3.959	0.709	–	0.63		1.166	0.394	0.630			0.394	0.394	0.256	–	M6	–	3.250	0.348
031-S-1100	2.598	0.709	M8	0.748		1.294	0.433	0.748			0.630	0.472	0.33	1.575	M6	0.315	1.889	0.286
031-L-1100	6.019	0.709	–	0.748		1.412	0.433	0.748			0.630	0.472	0.335	–	M6	–	5.310	0.721
031-S-2400	3.268	0.866	M10	1.125		1.459	0.633	1.00			0.866	0.709	0.413	1.969	M8	0.433	2.402	0.634
031-L-2400	7.226	0.866	–	1.125		1.696	0.633	1.00			0.866	0.709	0.413	–	M8	–	6.360	1.564

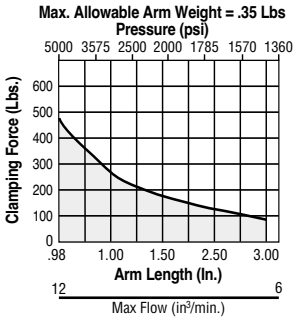
IMPORTANT: Any clamp using a modified or custom arm that is longer or heavier than DE-STA-CO's standard arms must be derated to prevent internal damage.

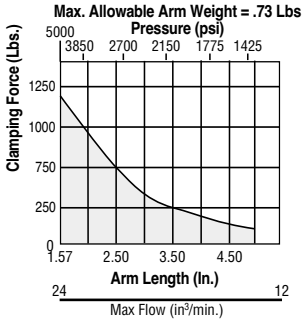
Do not exceed the maximum speed and pressure ratings for DE-STA-CO's standard arms.
For maximum hydraulic pressure and speed ratings, see the accompanying charts
Do not use meter-out circuitry for controlling double-acting clamp speeds
Contact DE-STA-CO if further design assistance is required

Custom Arm Mounting Dimensions for Swing/Pull Clamps

Shaft Dia.	Specifications										
	A	B	C	D	E	F	G	H	J	K	M
10 MM	0.394	0.256	0.63	0.63	0.709	1.26	0.394	0.236	0.217	0.30	M6 x 1.0
16MM	0.630	0.335	0.748	0.748	0.709		0.472	0.236	0.217		M6 x 1.0
22 MM	0.866	0.413	1.00	1.00	0.866		0.709	0.236	0.217		M8 x 1.25







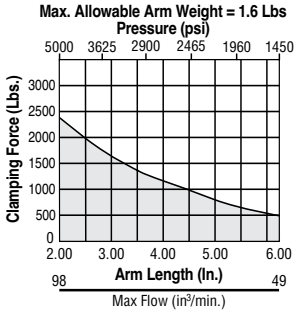


Chart Legend

Maximum Length / Pressure
Operating Range

Clamps must operate at or below maximum/arm length/pressure curve:

To approximate clamping force with any arm at less than maximum pressure:

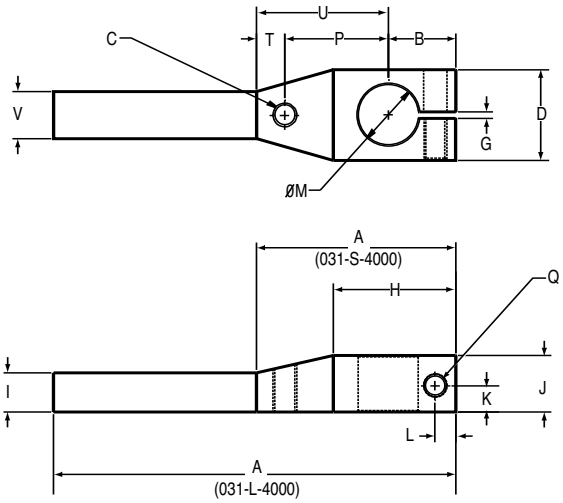
FORCE = P x A x [1-(P/M x .23)]

P = Hyd. system operating pressure (PSI)
A = Clamp effective area (sq. in.)
M = Max. rated pressure of chosen arm length (PSI)

Series 030 Hydraulic Swing/Pull Clamps – 4,000 lb. Arms

Custom built arms of any length must clamp to the swing/pull clamp's piston rod in a manner similar to the DE-STA-CO arms or some derating of the clamp will be necessary.

The design feature "K," in the chart and drawing at the bottom of this page, is recommended for all applications of custom, single arms. See the accompanying chart for design details. In applications where there is no bending stress being transferred into the piston rod (like push/pull linkages and equalizing double arms), this design detail may be eliminated. In these applications, the clamp's full capacity (referred to as "straight pull" capacity) is available.



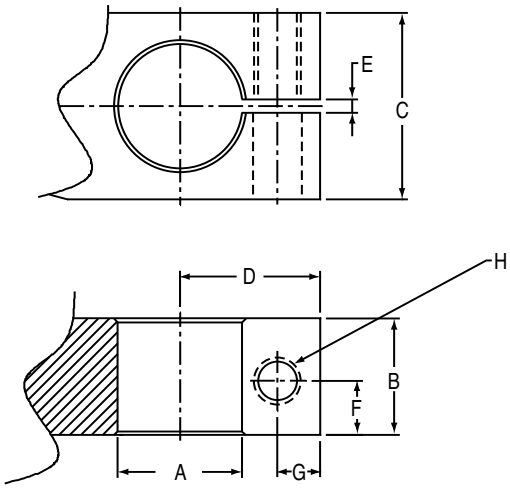
Cat no.	Specifications																
	A	B	C	D	G	H	I	J	K	L	M	P	Q	T	U	V	Weight (lbs.)
031-S-4000	4.17	1.42	1/2-13	1.89	0.138	2.56	0.83	1.18	0.55	0.43	1.26	2.17	M12	0.58	2.75	0.98	1.80
031-L-4000	8.43	1.42	1/2-13	1.89	0.138	2.56	0.83	1.18	0.55	0.43	1.26	–	M12	–	7.01	0.98	2.80

IMPORTANT: Any clamp using a modified or custom arm that is longer or heavier than DE-STA-CO's standard arms must be derated to prevent internal damage.

Do not exceed the maximum speed and pressure ratings for DE-STA-CO's standard arms.
For maximum hydraulic pressure and speed ratings, see the accompanying charts
Do not use meter-out circuitry for controlling double-acting clamp speeds
Contact DE-STA-CO if further design assistance is required

Custom Arm Mounting Dimensions for 4,000 lb. Swing/Pull Clamps

Cat no.	Specifications							
	A	B	C	D	E	F	G	H
32MM	1.26	1.18	1.89	1.42	0.138	0.55	0.43	M12 x 1.75



031-S-4000 • 031-L-4000

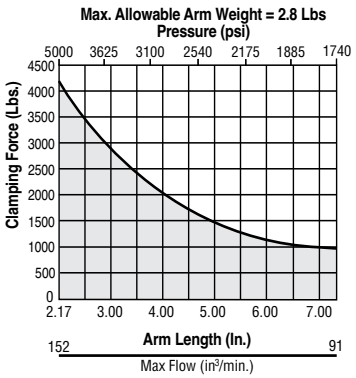


Chart Legend

Maximum Length / Pressure
Operating Range

Clamps must operate at or below maximum/ arm length/pressure curve:

To approximate clamping force with any arm at less than maximum pressure:

FORCE = P x A x [1-(P/M x .23)]

P = Hyd. system operating pressure (PSI)
A = Clamp effective area (sq. in.)
M = Max. rated pressure of chosen arm length (PSI)

Operating pressure max. 250 bar

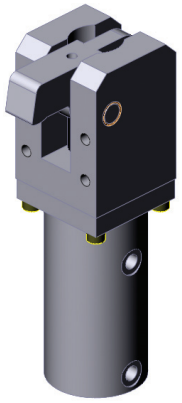
These power clamps are used where a high clamping force is needed combined with small clamp dimensions. The clamps are equipped with double oil connections for the clamping and opening procedures. This makes it easy to connect pipes when the clamps are arranged close together. If necessary, the cylinder body (after removal of the fastening screws) can be turned 90° in relation to the clamp. The stated clamping force of 5kN at 100 bar oil pressure is achieved only within the last 4 mm of clamping arm movement.

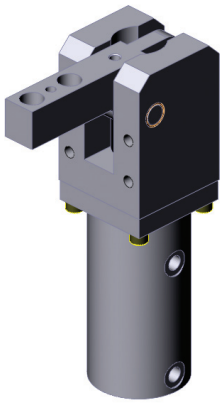
Technical characteristics

- Short clamping cycles with the double action version
- High clamping force with small dimensions
- Tolerance compensation of up to 4 mm at consistant clampforce
- Optional: special clamping arm available

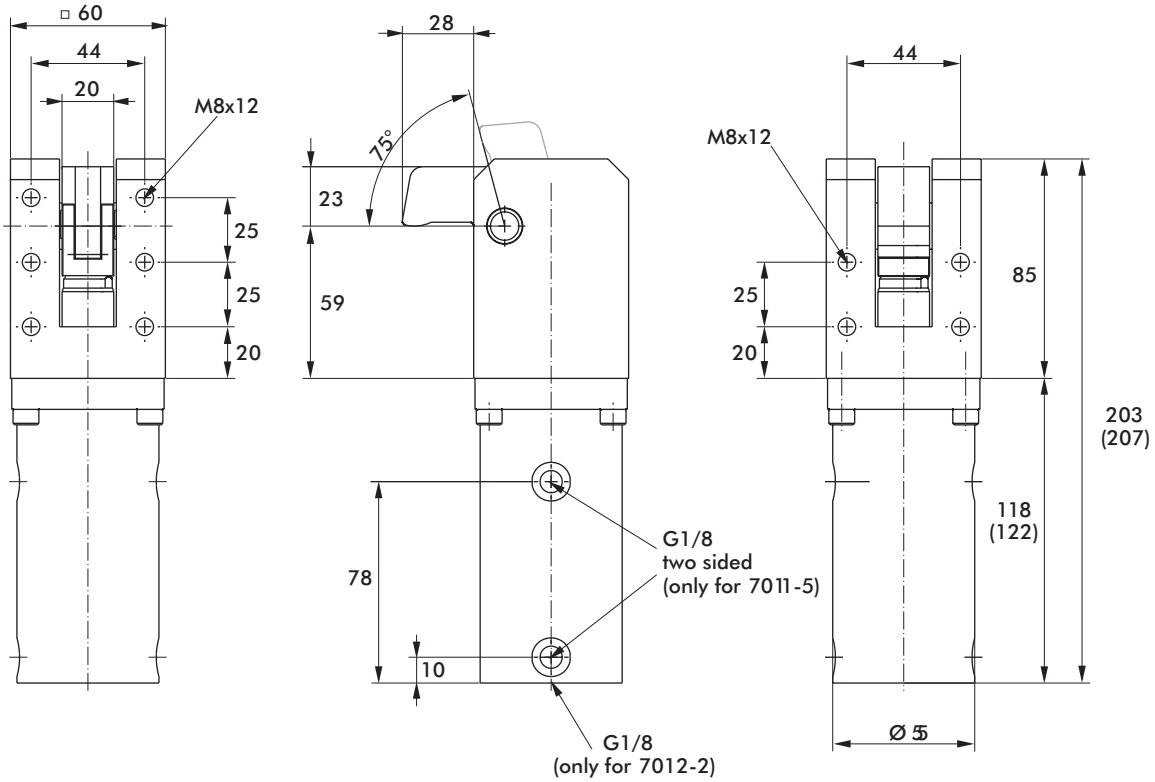
Recommended accessories (separate order)

1 or 2 straight screw connections, order no. **D8S-R1/8**





(with special designed clamping arm)



model no.	version	max. operating pressure [bar]	Clamping force at 100 bar [kN]	Tolerance compensation [mm]	Oil consumption forward stroke [cm³]	Oil consumption back stroke [cm³]	Connection	Weight [kg]
7011-5	double acting	250	5	4	25,7	15,5	4 x G1/8	3,8
7012-2	single acting				25,7	-	2 x G1/8	3,9

Operating pressure max. 250 bar

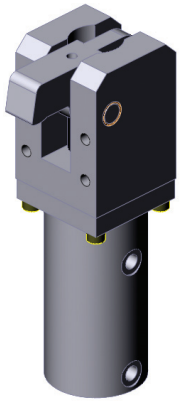
These power clamps are used where a high clamping force is needed combined with small clamp dimensions. The clamps are equipped with double oil connections for the clamping and opening procedures. This makes it easy to connect pipes when the clamps are arranged close together. If necessary, the cylinder body (after removal of the fastening screws) can be turned 90° in relation to the clamp. The stated clamping force of 5kN at 100 bar oil pressure is achieved only within the last 4 mm of clamping arm movement.

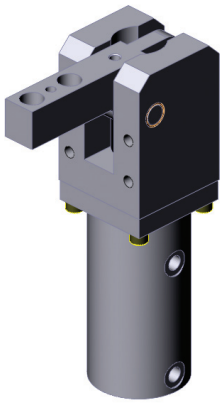
Technical characteristics

- Short clamping cycles with the double action version
- High clamping force with small dimensions
- Tolerance compensation of up to 4 mm at consistant clampforce
- Optional: special clamping arm available

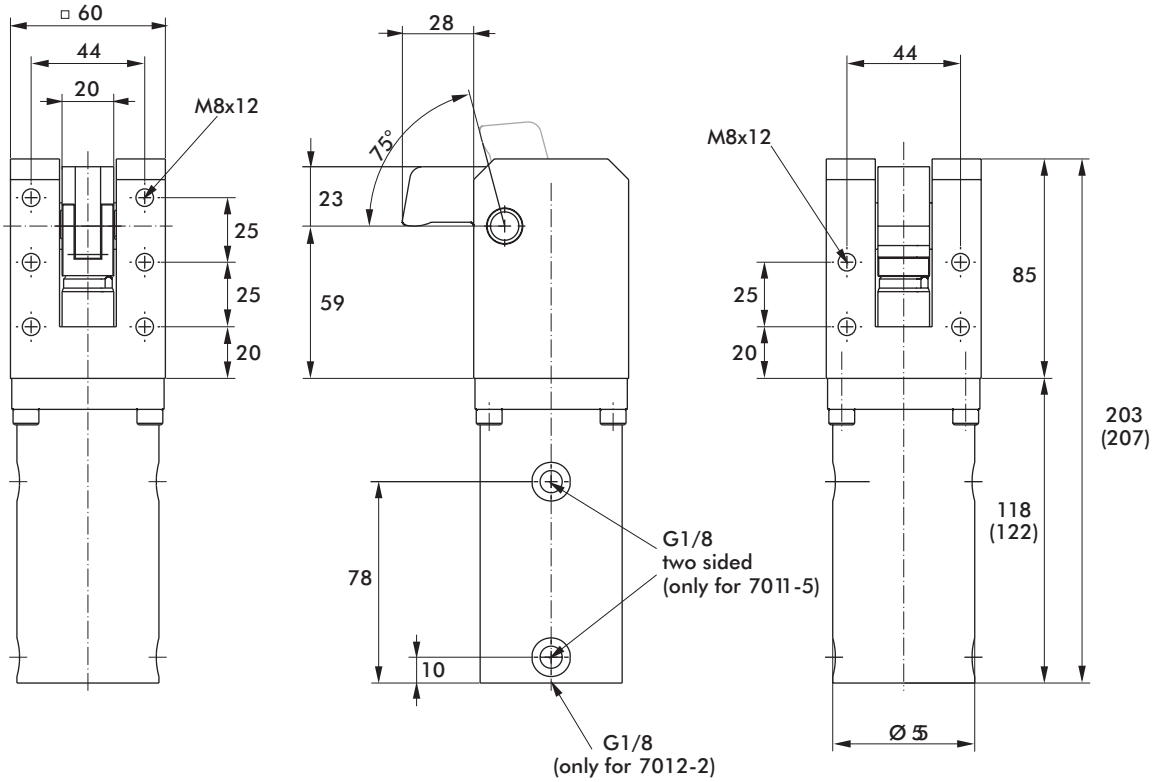
Recommended accessories (separate order)

1 or 2 straight screw connections, order no. **D8S-R1/8**





(with special designed clamping arm)



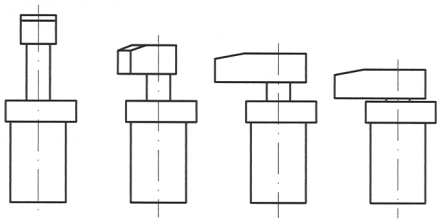
model no.	version	max. operating pressure [bar]	Clamping force at 100 bar [kN]	Tolerance compensation [mm]	Oil consumption forward stroke [cm³]	Oil consumption back stroke [cm³]	Connection	Weight [kg]
7011-5	double acting	250	5	4	25,7	15,5	4 x G1/8	3,8
7012-2	single acting				25,7	-	2 x G1/8	3,9

Hydraulic swing clamps are particularly designed for applications which require high clamping forces and easy loading of workpieces in confined spaces.

Standard version

Double acting swing clamps

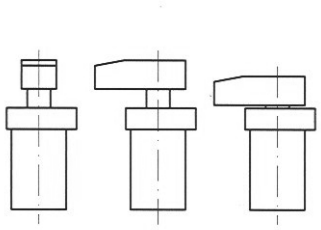
Cylinder with helical pivoting. The cylinder swing around 90° with swivel stroke and continue to the vertical clamping stroke. Complete stroke = swivel stroke + clamping stroke. Available in block-, screw-in-, top flange– and base flange version.



Compact version

Double acting swing clamps

Cylinder with rotation in a plane. The cylinder swing arround 90° without stroke movement, continue to the vertical clamping stroke. Complete stroke = clamping stroke. Available in top flange-, base flange– and block version



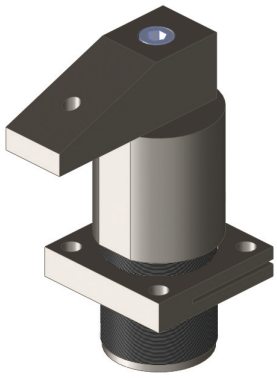
model no.		Pressure range		stroke	Clamping force	
swivel right	swivel left	min [bar]	max [bar]	[mm]	min [kN]	max [kN]
screw-in version standard						
726D25221-2	727D25221-2	100	250	10	1,9	4,8
726D32321-2	727D32321-2	100	250	11	3,4	8,5
726D40341-2	727D40341-2	100	250	12	5	12,5
block-version standard						
726D25222-2	727D25222-2	100	250	10	1,9	4,8
726D32322-2	727D32322-2	100	250	11	3,4	8,5
726D40342-2	727D40342-2	100	250	12	5	12,5
bottom-flange-version standard						
726D32243-2	727D32243-2	30	250	12	1	8
726D32373-2	727D32373-2	30	250	25	1	8
726D50293-2	727D50293-2	30	250	15	1,9	16
726D50393-2	727D50393-2	30	250	25	1,9	16
top-flange-version standard						
726D32244-2	727D32244-2	30	250	12	1	8
726D32374-2	727D32374-2	30	250	25	1	8
726D50294-2	727D50294-2	30	250	15	1,9	16
726D50394-2	727D50394-2	30	250	25	1,9	16
block-version compact						
726D25082-5	727D25082-5	30	250	8	0,5	4
726D32122-5	727D32122-5	30	250	12	1,0	8
726D50162-5	727D50162-5	30	250	16	1,9	16
726D63242-5	727D63242-5	30	250	24	2,9	24
base-flange-version compact						
726D25083-5	727D25083-5	30	250	8	0,5	4
726D32123-5	727D32123-5	30	250	12	1,0	8
726D50163-5	727D50163-5	30	250	16	1,9	16
726D63243-5	727D63243-5	30	250	24	2,9	24
top-flange-version compact						
726D25084-5	727D25084-5	30	250	8	0,5	4
726D32124-5	727D32124-5	30	250	12	1,0	8
726D50164-5	727D50164-5	30	250	16	1,9	16
726D63244-5	727D50164-5	30	250	24	2,9	24

Swing clamp-screw-in version

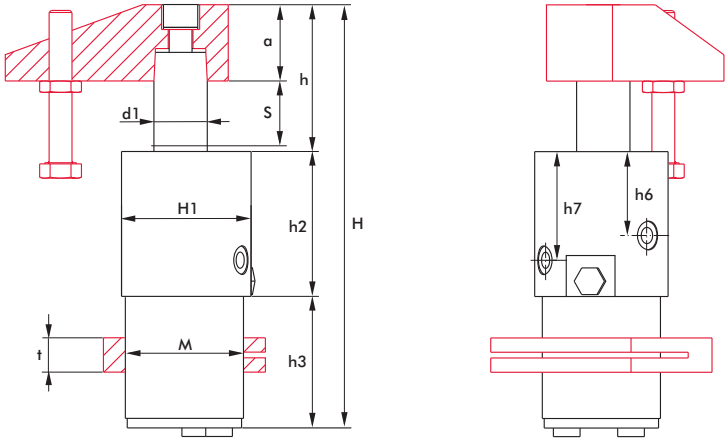
- Double acting version
- More accessories under accessories standard

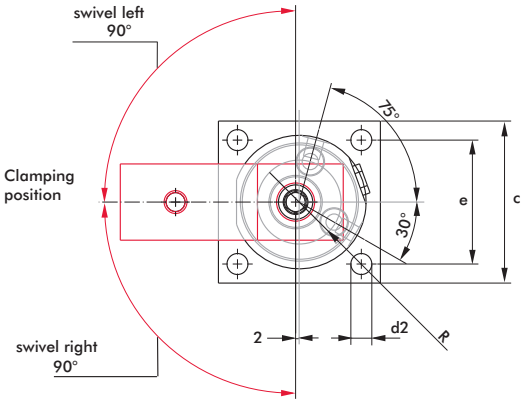
Technical note:

- Clamping must be accomplished in the vertical stroke range.
- The clamping arm cannot be impeded during swivel.
- The cycle time for a clamping or a unclamping stroke should not fall under 1,5 s. If necessary, the oil flow must be reduced. Observe the max. permitted oil flow.



model no.		operating pressure		Clamping force	volume flow	stroke		Oil consumption		Connection	Weight
swivel right	swivel left	min. [bar]	max. [bar]	at 100 bar [kN]	max. [l/min]	complete stroke [mm]	clamping stroke [mm]	clamping [cm³]	unclamping [cm³]	G	[kg]
726D25221-2	727D25221-2	100	250	1,9	0,26	27	10	6,4	13,3	4x G1/8	1,85
726D32321-2	727D32321-2	100	250	3,4	0,53	31	11	13,2	24,9	4x G1/8	2,6
726D40341-2	727D40341-2	100	250	5,0	0,87	34	12	21,8	42,7	4x G1/8	3,5





Notes on assembling the clamping arm
When loosening and tightening the clamping arm screw the clamping arm must fixed to prevent damage to the piston guide.
See table for max. torque for arm screw.

model no.		a	c	d1	d2	e	f	H	H1	h	h2	h3	h6	h7	M	R	t	max. torque
swivel right	swivel left	[mm]																[Nm]
726D25221-2	727D25221-2	25	65	18	9	50	23	173	53	55	61	57	35,5	44,5	48x1,5	29	12	30
726D32321-2	727D32321-2	30	70	22	9	56	27	199	61,5	64	70	65	46	57	52x1,5	34	15	45
726D40341-2	727D40341-2	40	85	28	11	65	31	222	68	77	76	69	44	57	62x1,5	44	18	80

Swing clamp-block version

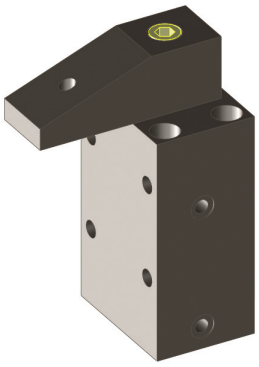
- Double acting version

Optional

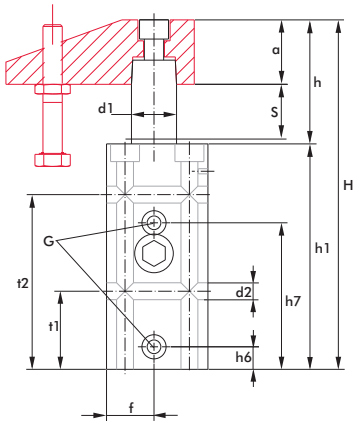
- Position control (E)
- More accessories under accessories standard

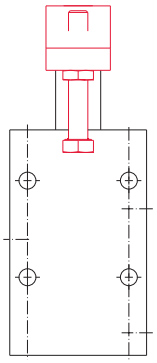
Technical note:

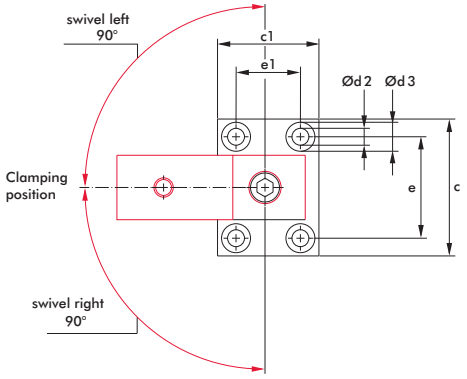
- Clamping must be accomplished in the vertical stroke range.
- The clamping arm cannot be impeded during swivel.
- The cycle time for a clamping or a unclamping stroke should not fall under 1,5 s. If necessary, the oil flow must be reduced. Observe the max. permitted oil flow.



model no.		operating pressure		Clamping force	Volume flow	Stroke		Oil consumption		Connection	Weight
swivel right	swivel left	min.	max.	at 100 bar	max.	complete stroke	clamping stroke	clamping	unclamping	G	
		[bar]	[bar]	[kN]	[l/min]	[mm]	[mm]	[cm³]	[cm³]		[kg]
726D25222-2	727D25222-2	100	250	1,9	0,26	27	10	6,4	13,3	2x G1/8	2,2
726D32322-2	727D32322-2	100	250	3,4	0,53	31	11	13,2	24,9	2x G1/8	3,5
726D40342-2	727D40342-2	100	250	5	0,87	34	12	21,8	42,7	2x G1/8	4,9







Notes on assembling the clamping arm
When loosening and tightening the clamping arm screw the clamping arm must fixed to prevent damage to the piston guide.
See table for max. torque for arm screw.

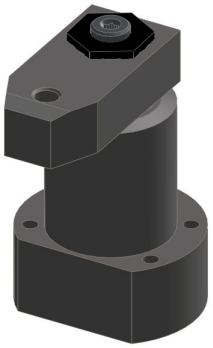
model no.		a	c	c1	d1	d2	d3	e	e1	f	H	h	h1	h6	h7	t1	t2	max. Torque
swivel right	swivel left	[mm]																[Nm]
726D25222-2	727D25222-2	25	65	45	18	8,5	13,5	50	30	20,5	165	55	110	10	70,5	35	85	30
726D32322-2	727D32322-2	30	75	55	22	10,5	18	55	35	25,5	194	64	130	12,5	79	45,5	100,5	45
726D40342-2	727D40342-2	40	85	63	28	10,5	18	63	40	29,5	217	77	140	14	91	48,5	108,5	80

Swing clamp-base flange version

- Double acting version

Optional

- Piston with indexing for high repeat accuracy
- Other angle of rotation 0°, 45°, 60°
- Bigger stroke
- More accessories under accessories standard

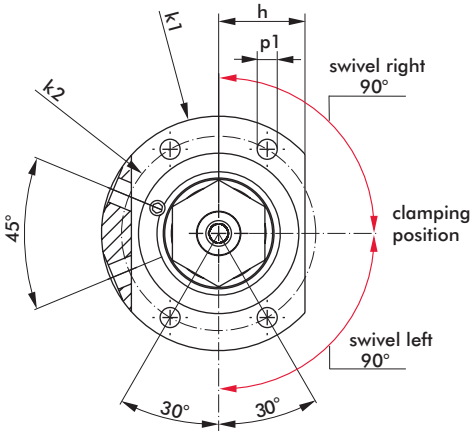


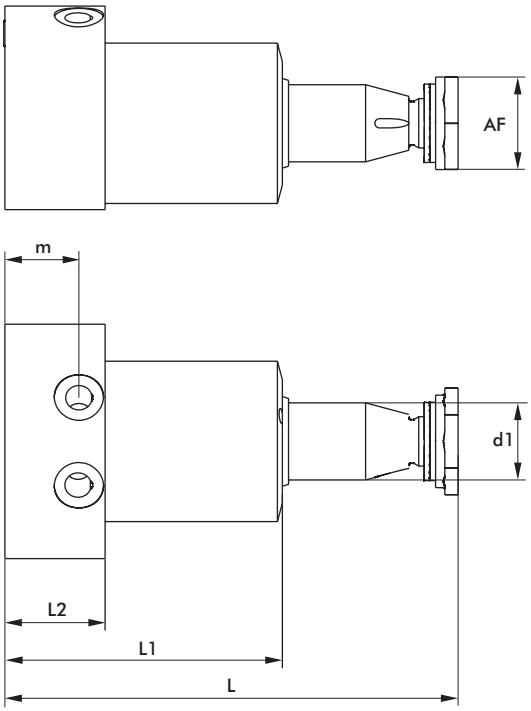
Technical note:

- Clamping must be accomplished in the vertical stroke range.
- The clamping arm cannot be impeded during swivel.
- The cycle time for a clamping or a unclamping stroke should not fall under 1,5 s. If necessary, the oil flow must be reduced. Observe the max. permitted oil flow.

model no.		operating pressure		Clamping force	Volume flow	Stroke		Oil consumption		Connection	Weight
swivel right	swivel left	min. [bar]	max. [bar]	at 100 bar [kN]	max. [l/min]	complete stroke [mm]	clamping stroke [mm]	clamping [cm³]	unclamping [cm³]	G	[kg]
726D32243-2	727D32243-2	30	250	3,2	0,9	24	12	11,1	22,6	G1/8	1,9
726D32373-2	727D32373-2	30	250	3,2	0,9	37	25	27,0	55,9	G1/8	2,2
726D50293-2	727D50293-2	30	250	6,4	2,0	29	15	17,4	35,6	G1/4	4,6
726D50393-2	727D50393-2	30	250	6,4	2,0	39	25	36,9	76,6	G1/4	5,3

Notes on assembling the clamping arm
When loosening and tightening the clamping arm screw the clamping arm must fixed to prevent damage to the piston guide.





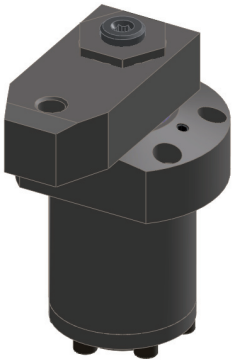
model no.		Piston	d1	D	e	f	h	k1	k2	L	L1	L2	m	p1	AF
swivel right	swivel left	Ø	[mm]												
726D32243-2	727D32243-2	32	25	52	M16x1,5	6	28	76	63	147	90	32,5	24	6,5	22
726D32373-2	727D32373-2	32	25	52	M16x1,5	6	28	76	63	176	106	32,5	24	6,5	30
726D50293-2	727D50293-2	50	36	72	M24x1,5	10	38	110	90	176,5	106,5	42	29	10,5	40
726D50393-2	727D50393-2	50	36	72	M24x1,5	10	38	110	90	201,5	121,5	42	29	10,5	46

Swing clamp-top flange version

- Double acting version

Optional

- Position control
- Piston with indexing for high repeat accuracy
- Other angle of rotation 0°, 45°, 60°
- Bigger stroke
- More accessories under accessories standard

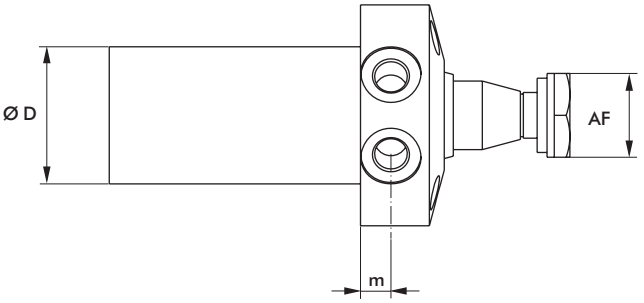


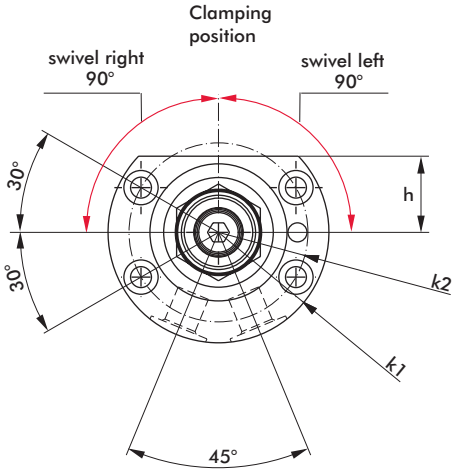
Technical note:

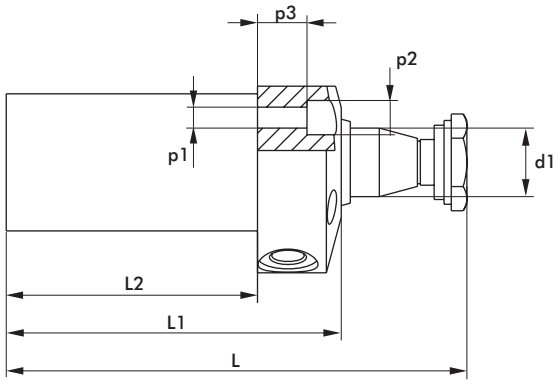
- Clamping must be accomplished in the vertical stroke range.
- The clamping arm cannot be impeded during swivel.
- The cycle time for a clamping or a unclamping stroke should not fall under 1,5 s. If necessary, the oil flow must be reduced. Observe the max. permitted oil flow.

model no.		operating pressure		Clamping force	Volume flow	Stroke		Oil consumption		Connection	Weight
swiv el right	swiv el left	min. [bar]	max. [bar]	at 100 bar [kN]	max. [l/min]	complete stroke [mm]	clamping stroke [mm]	clamping [cm³]	unclamping [cm³]	G	[kg]
726D32244-2	727D32244-2	30	250	3,2	0,9	24	12	11,1	22,6	G1/8	1,7
726D32374-2	727D32374-2	30	250	3,2	0,9	37	25	27,0	55,9	G1/8	2
726D50294-2	727D50294-2	30	250	6,4	2,0	29	15	17,4	35,6	G1/4	4
726D50394-2	727D50394-2	30	250	6,4	2,0	39	25	36,9	76,6	G1/4	4,5

Notes on assembling the clamping arm
When loosening and tightening the clamping arm screw the clamping arm must fixed to prevent damage to the piston guide.







model no.		piston	d1	D	e	f	h	k1	k2	L	L1	L2	m	p1	p2	p3	AF
swivel right	swivel left	Ø	[mm]														
726D32244-2	727D32244-2	32	25	52	M16x1,5	6	28	76	63	146,5	89,5	63,5	11	6,5	10,5	16	30
726D32374-2	727D32374-2	32	25	52	M16x1,5	6	28	76	63	175,5	105,5	79,5	11	6,5	10,5	16	30
726D50294-2	727D50294-2	50	36	72	M24x1,5	10	38	110	90	176	106	78	11	10,5	17	11	40
726D50394-2	727D50394-2	50	36	72	M24x1,5	10	38	110	90	201	121	93	11	10,5	17	11	40

Swivel clamp-block version

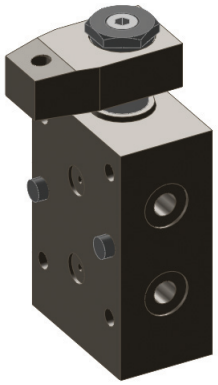
- Double acting version
- Rotation in a plane – without swivel stroke

Optional

- Piston with indexing for high repeat accuracy
- Other angle of rotation 0°, 45°, 60°
- Bigger stroke
- More accessories under accessories compact

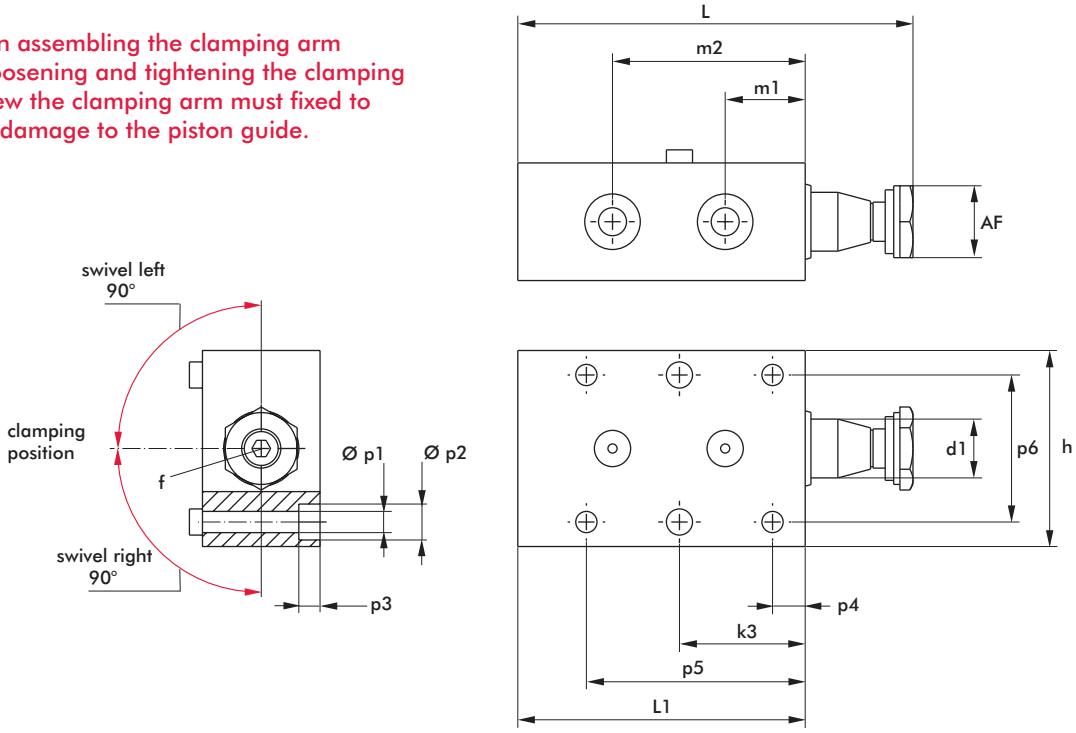
Technical note:

- Clamping must be accomplished in the vertical stroke range.
- The clamping arm cannot be impeded during swivel.
- The cycle time for a clamping or a unclamping stroke should not fall under 1,5 s. If necessary, the oil flow must be reduced. Observe the max. permitted oil flow.



model no.		operating pressure		Clamping force	Volume flow	Stroke		Oil consumption		Connection	Weight
swivel right	swivel left	min.	max.	bei 100 bar	max.	complete stroke	clamping stroke	clamping	unclamping	G	
		[bar]	[bar]	[kN]	[l/min]	[mm]	[mm]	[cm³]	[cm³]		[kg]
726D25082-5	727D25082-5	30	250	1,6	0,4	8	8	5,3	7,4	G1/8	1.8
726D32122-5	727D32122-5	30	250	3,2	0,9	12	12	15,0	21,0	G1/4	3
726D50162-5	727D50162-5	30	250	6,4	2,0	16	16	41,0	53,0	G1/4	7
726D63242-5	727D63242-5	30	250	9,6	3,0	24	24	74,0	88,0	G1/4	15

Notes on assembling the clamping arm
When loosening and tightening the clamping arm screw the clamping arm must fixed to prevent damage to the piston guide.



model no.		piston	d1	e	f	g	h	k3	L	L1	L3	m1	m2	p1	p2	p3	p4	p5p	p6	AF
swivel right	swivel left	Ø							[mm]											
726D25082-5	727D25082-5	25	18	M12x1,5	5	36	60	38,5	121	88	48,5	24.5	59	6,5	11	6.5	10	67	45	22
726D32122-5	727D32122-5	32	25	M16x1,5	6	52	75	44,5	152	107	59,5	28	68,5	8,5	14	8	12	77	58	30
726D50162-5	727D50162-5	50	36	M24x1,5	10	72	96	60	195	142	75	34	94	10,5	17	11	15	105	76	40
726D63242-5	727D63242-5	63	42	M30x1,5	12	85	116	70	218	161	85	40	107	13	20	13	20	120	92	46

Swing clamp-base flange version

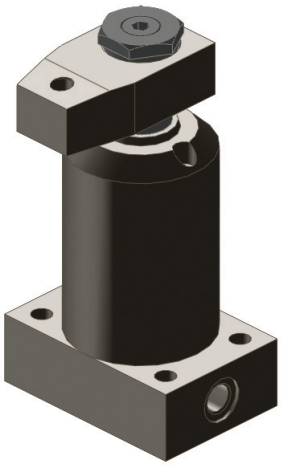
- Double acting version
- Rotation in a plane – without swivel stroke

Optional

- Piston with indexing for high repeat accuracy
- Other angle of rotation 0°, 45°, 60°
- Bigger stroke
- More accessories under accessories compact

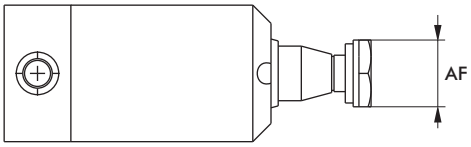
Technical note:

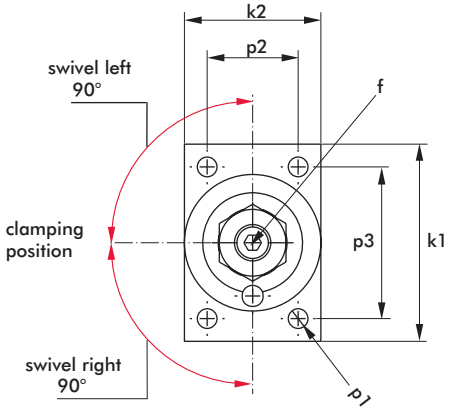
- Clamping must be accomplished in the vertical stroke range.
- The clamping arm cannot be impeded during swivel.
- The cycle time for a clamping or a unclamping stroke should not fall under 1,5 s. If necessary, the oil flow must be reduced. Observe the max. permitted oil flow.

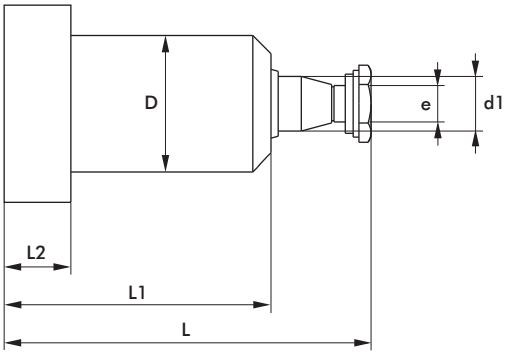


model no.		operating pressure		Clamping force	Volume flow	Stroke		Oil consumption		Connection	Weight
swivel right	swivel left	min.	max.	at 100 bar	max.	complete stroke	clamping stroke	clamping	unclamping	G	
		[bar]	[bar]	[kN]	[l/min]	[mm]	[mm]	[cm³]	[cm³]		[kg]
726D25083-5	727D25083-5	30	250	1,6	0,4	8	8	5,3	7,4	G1/8	1,8
726D32123-5	727D32123-5	30	250	3,2	0,9	12	12	15,0	21,0	G1/8	3
726D50163-5	727D50163-5	30	250	6,4	2,0	16	16	41,0	53,0	G1/4	7
726D63243-5	727D63243-5	30	250	9,6	3,0	24	24	74,0	88,0	G1/4	15

Notes on assembling the clamping arm
When loosening and tightening the clamping arm screw the clamping arm must fixed to prevent damage to the piston guide.







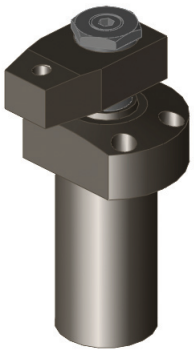
model no.		piston	d1	D	e	f	k1	k2	L	L1	L2	p1	p2	p3	AF
swivel right	swivel left	Ø					[mm]								
726D25083-5	727D25083-5	25	18	M45x1,5	M12x1,5	5	65	45	121	88	22	6,5	30	50	22
726D32123-5	727D32123-5	32	25	M60x1,5	M16x1,5	6	83	63	152	107	22	8,5	44	65	30
726D50163-5	727D50163-5	50	36	M50x2	M24x1,5	10	110	80	195	142	25	13	60	83	40
726D63243-5	727D63243-5	63	42	M95x2	M30x1,5	12	120	95	218	161	25	15	70	96	46

Swing clamps-top flange version

- Double acting version
- Rotation in a plane-without swivel stroke

Optional

- Position control(P/E/H)
- Piston with indexing for high repeat accuracy
- Other angle of rotation 0°, 45°, 60°
- Bigger stroke
- More accessories under accessories compact

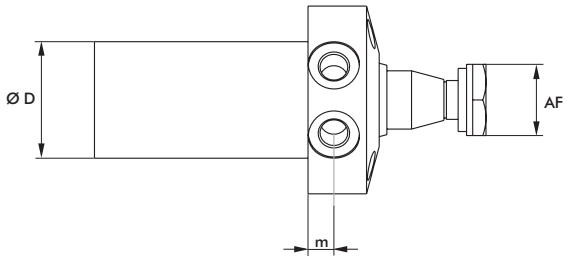


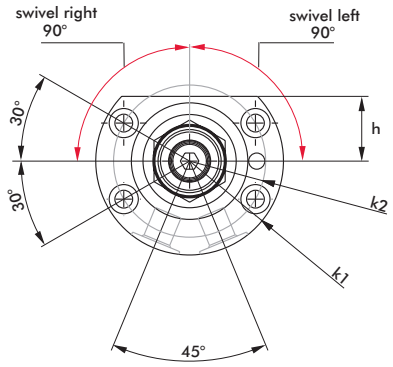
Technical note:

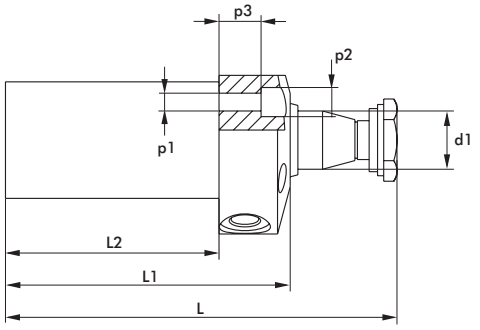
- Clamping must be accomplished in the vertical stroke range.
- The clamping arm cannot be impeded during swivel.
- The cycle time for a clamping or a unclamping stroke should not fall under 1,5 s. If necessary, the oil flow must be reduced. Observe the max. permitted oilflow.

model no.		operating pressure		Clamping force	Volume flow	Stroke		Oil consumption		Connection	Weight
swivel right	swivel left	min.	max.	at 100 bar	max.	complete stroke	clamping stroke	clamping	unclamping	G	
		[bar]	[bar]	[kN]	[l/min]	[mm]	[mm]	[cm³]	[cm³]		[kg]
726D25084-5	727D25084-5	30	250	1,6	0,4	8	8	5,3	7,4	G1/8	0,9
726D32124-5	727D32124-5	30	250	3,2	0,9	12	12	15,0	21,0	G1/8	2
726D50164-5	727D50164-5	30	250	6,4	2,0	16	16	41,0	53,0	G1/4	5
726D63244-5	727D63244-5	30	250	9,6	3,0	24	24	74,0	88,0	G1/4	7,7

Notes on assembling the clamping arm
When loosening and tightening the clamping arm screw the clamping arm must fixed to prevent damage to the piston guide.







model no.		piston	d1	D	e	f	h	K1	K2	L	L1	L2	m	p1	p2	p3	AF
swivel right	swivel left	Ø	[mm]														
726D25084-5	727D25084-5	25	18	36	M12x1,5	5	20	58	47	121	88	66	8	5,5	9	13	22
726D32124-5	727D32124-5	32	25	52	M16x1,5	6	28	76	63	152	107	81	11	6,5	10,5	16	30
726D50164-5	727D50164-5	50	36	72	M24x1,5	10	38	110	90	195	142	114	11	10,5	17	11	40
726D63244-5	727D63244-5	63	42	85	M30x1,5	12	45	125	105	218	161	131	12	10,5	17	12	46

Operating pressure max. 500 bar

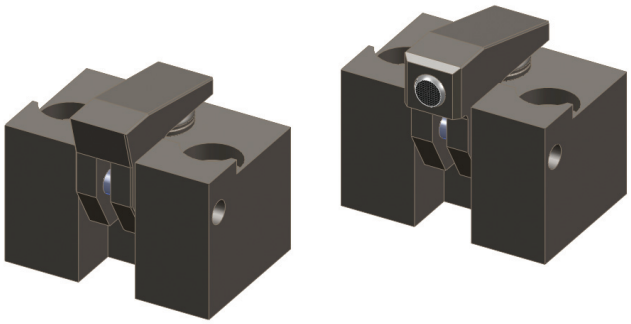
Edge clamps are mainly used where workpiece clamping "from the top" is difficult or impossible. Its small design is an advantage where space is limited. The clamp is equipped with 2 hydraulic connections. Both connections are linked via a transverse hole. This allows the possibility to link the edge clamps directly if several clamps are to be operated simultaneously.

Technical characteristics:

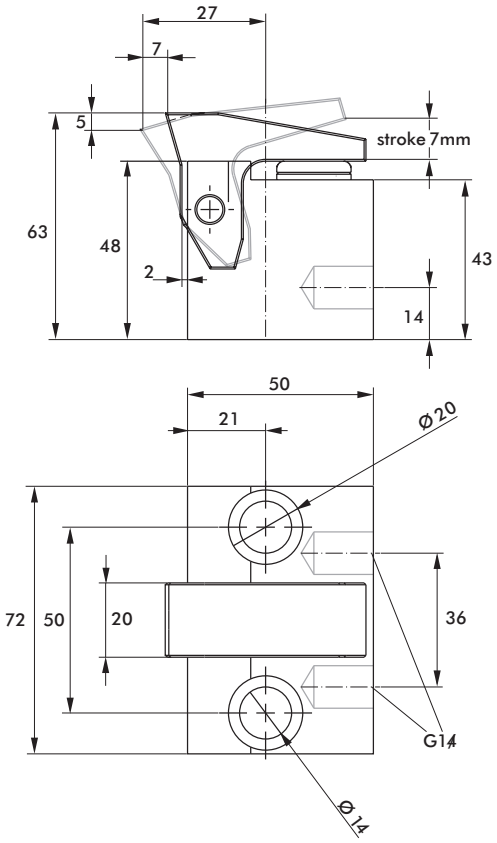
- Spring retraction
- Clamping lever with or without ball element
- The hold down force is the vertically (downward) acting component of the clamping force

Recommended accessories (separate order)

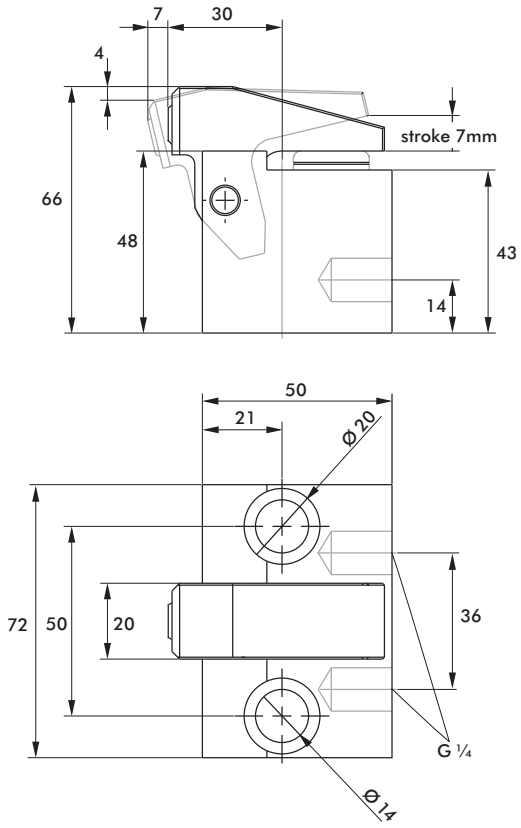
1 straight screw connection, order no. **D8S-R1/8**



Model no. 733E03701-1



Model no. 733E03702-1



model no.	version	max. operating pressure [bar]	Clamping force at 100 bar [kN]	Clamping range horizontal [mm]	Clamping range vertical [mm]	Oil consumption [cm³]	Connection	Weight [kg]
733E03701-1	standard	500	3,7	7	5	2,2	2 x G1/4	1
733E03702-1	with ball element							

Series 010 Hydraulic Threaded Body Cylinders Product Overview

The single-action, spring-return hydraulic power cylinders are small pistons that can be used singly or combined. They offer tremendous force in a small, easily mounted package that can be used in any attitude and requires only a single inlet port. They are often used grouped together by a common manifold to provide as much force as needed for the operation. For a relatively small volume of oil, they provide exceptional exerting force, and are generally the best choice if stroke lengths can be kept short.

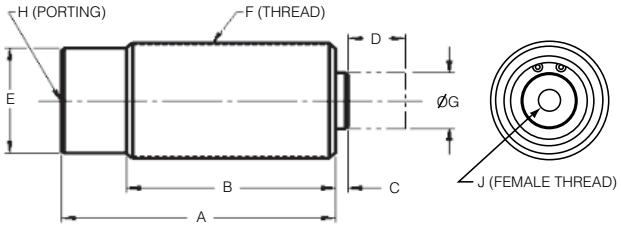
Features:

- Threaded body for easy mounting
- Small size permits "low profile" workholding
- Accessories available for easy mounting
- Available in metric or inch sizes (Metric on special request)
- Hardened piston and rod
- Single-acting for simple plumbing
- Wide variety of sizes and strokes
- Pressure capacity up to 5,000 PSIG, provided piston does not bottom out

Technical Information

Model no.	SAE Ports	Threaded Body	Stoke	Force at 3,000 PSIG	Oil Displacement	Effective Area For Clamping	Jamnuts
010-210-400	#2	1/2-20	0.22	279 lbs.	0.024 cu. in.	0.110	Furnished
010-210-501	#4	3/4-16	0.31	588 lbs.	0.061 cu. in.	0.196	Furnished
010-210-702	#4	1-12	0.50	1,326 lbs.	0.221 cu. in.	0.442	Furnished
010-211-002	#4	1 5/16-16	0.50	2,355 lbs.	0.393 cu. in.	0.785	Optional
010-211-004	#4	1 5/16-16	1.00	2,355 lbs.	0.785 cu. in.	0.785	Optional
010-211-502	#4	1 7/8-16	0.50	5,301 lbs.	0.884 cu. in.	1.767	Optional
010-211-504	#4	1 7/8-16	1.00	5,301 lbs.	1.767 cu. in.	1.767	Optional
010-212-004	#4	2 1/2-16	1.00	9,423 lbs.	3.142 cu. in.	3.142	Optional

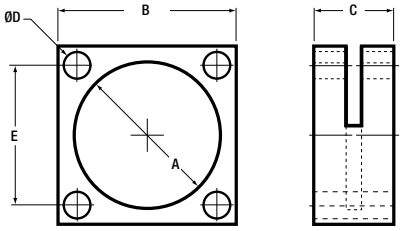
Series **010** Hydraulic Threaded Body Cylinders Standart Dimensions



Model no.	Dimensions (In Inches)								
	A	B	C	D	E	F	G	H	J
010-210-400	1.66	1.41	0.19	0.22	.044 Hex	1/2-20	0.15	SAE #2	–
010-210-501	2.25	1.97	0.22	0.31	.062 Hex	3/4-16	0.22	SAE #4	–
010-210-702	2.56	2.31	0.31	0.50	.075 Hex	1-12	.024	SAE #4	–
010-211-002	2.63	2.25	0.13	0.50	1.00 Hex	1 5/16-16	0.64	SAE #4	1/4-20
010-211-004	3.63	3.25	0.12	1.00	1.00 Hex	1 5/16-16	0.64	SAE #4	1/4-20
010-211-502	2.94	2.57	0.13	0.50	1.50 Hex	1 7/8ß-16	1.00	SAE #4	5/16-18
010-211-504	4.59	4.22	0.14	1.00	1.50 Hex	1 7/8-16	1.00	SAE #4	5/16-18
010-212-004	4.13	3.76	0.13	1.00	2.00 Hex	2 1/2-16	1.50	SAE #4	5/16-18

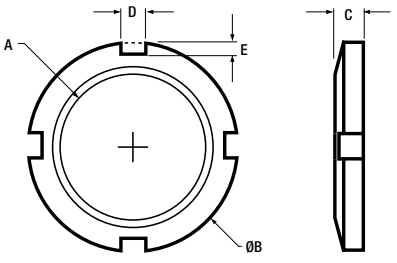
Series **052** Flange Mount

Model no.	Dimensions (In Inches)				
	A	B	C	øD	E
052-112-160	1 1/8-16 UN 2B	1.50	0.50	0.22	1.030
052-131-160	1 5/16-16 UN 2B	1.69	0.50	0.27	1.250
052-137-180	1 3/8-16 UN 2B	1.75	0.50	0.27	1.340
052-187-160	1 7/8-16 UN 2B	2.25	1.00	0.34	1.770
052-250-160	2 1/2-16 UN 2B	3.00	1.00	0.34	2.170



Series **051** Jam Nut

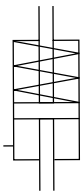
Model no.	Dimensions (In Inches)				
	A	B	C	D	E
051-112-160	1 1/8-16 UN 2B	1.500	0.31	0.250	0.250
051-131-160	1 5/16-16 UN 2B	1.688	0.31	0.250	0.250
051-137-180	1 3/8-16 UN 2B	1.875	0.31	0.250	0.250
051-187-160	1 7/8-16 UN 2B	2.625	0.38	0.312	0.132
051-250-160	2 1/2-16 UN 2B	3.250	0.50	0.312	0.312

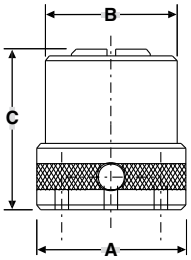


Series 020 Thru-Hole Hydraulic Ram Product Overview

By inserting a rod through the hollow piston, these cylinders can be used to push or pull depending on the orientation of the ram. They will actuate a rod of any length or shape and are extremely effective in translating power to a remote location. Greater forces are generated in these thru-hole rams because of their larger piston area.

Symbol





Features:

- Larger piston diameter for greater clamping forces
- Hardened steel piston and rod
- Single-acting for simple plumbing
- Optional threaded inserts
- Optional mounting plate
  (permits mounting ram with a single cap screw)

Model no.	RAM I.D.*	Port	Stroke	Force at 3,000 PSIG	Oil Displacement	Dimensions		
						A	B	C
020-011-011DE	0.38	SAE #2	0.38	4,380 lbs.	0.547 cu. in.	2.13	1.88	2.25
020-012-021DE	0.50	SAE #4	0.50	8,100 lbs.	1.35 cu. in.	3.00	2.63	2.88
020-013-031DE	0.63	SAE #4	0.63	12,066 lbs.	2.51 cu. in.	3.25	3.00	3.63

* Clearance for rod or bolt of given dimension.

Maximum input pressure 3,500 PSIG.

Accessories

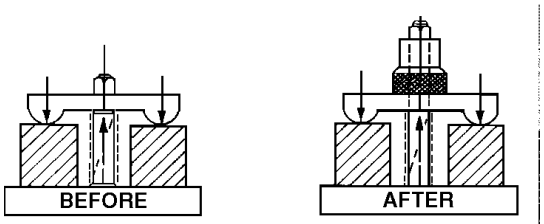
All size thru-hole rams are supplied with a thru-hole insert threaded into the top. Optional threaded inserts, inch or metric, are also available.

RAM no.	Thru-Hole Insert (supplied)
020-011-011DE	705384
020-012-021DE	705512
020-013-031DE	705634

Loads Trasmitted by Various Diameter Screws		
Bolt Size	Wrench Length	F-lbs. (Average)
1/4 UNF	4.00	2,400 lbs.
1/4 UNF	4.00	1,920 lbs.
3/8 UNF	5.75	3,000 lbs.
3/8 UNF	5.75	2,920 lbs.
1/2 UNF	8.00	4,200 lbs.
1/2 UNF	8.00	3,640 lbs.
5/8 UNF	9.00	5,600 lbs.
5/8 UNF	9.00	5,600 lbs.
3/4 UNF	9.00	4,800 lbs.
3/4 UNF	11.00	4,200 lbs.
7/8 UNF	12.00	50,400 lbs.

To determine how much force is needed to replace a manual clamp, use this chart as a guide.

A thru-hole ram easily converts a manual strap clamp into an automatic hydraulic powered clamp. Usually a longer bolt is the only part needed to make this conversion.



Calculation of Forces Using Straps and Levers

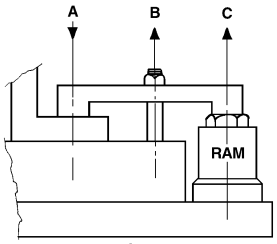


FIGURE #1

Figure #1
When the distance AB is equal to the distance BC the force upward from Model 020-011-011DE Ram "C" is equal to the downward force
"A" on the part.

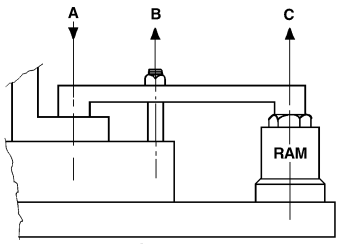


FIGURE #2

Figure #2
The downward force "A" is equal to the upward force "C" times a ratio of the distance BC:AB.
Example:
AB = 2", BC = 4", Force "C" = 1,000 lbs.

Force "A" = Force "C" x $\frac{BC}{AB}$

"A" = 1,000 lbs. x $\frac{4}{2}$

"A" = 2,000 lbs.

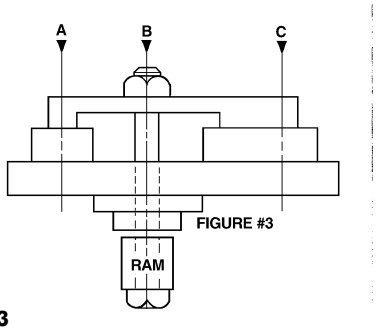


Figure #3
When Force "B" from Model 020-011-011DE Hollow Bore is divided between "A" & "C", the forces at "A" & "C" are in inverse ratio to the distance AB & BC respectively.

Force "A" = Force "B" x $\frac{BC}{AB}$

Force "C" = Force "B" x $\frac{AB}{AC}$

Example:
AB = 2", BC = 4," Force "B" = 1,000 lbs.

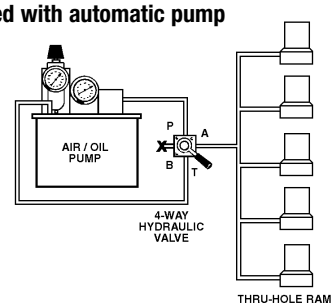
Force "A" = 1,000 lbs. x $\frac{4}{6}$ = 666.7 lbs.

Force "C" = 1,000 lbs. x $\frac{2}{6}$ = 333.3 lbs.

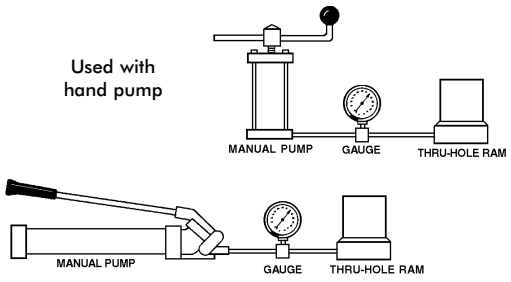
Power Sources

Thru-hole Rams can be powered by automatic pumps, hand pumps, boosters or existing machine hydraulics.

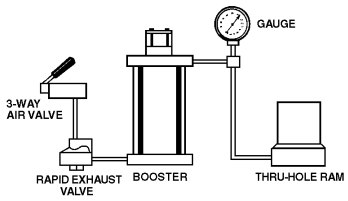
Used with automatic pump



Used with hand pump

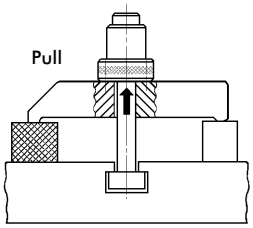


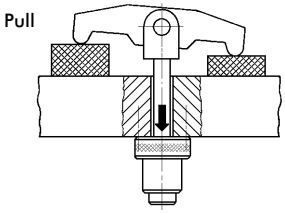
Used with booster

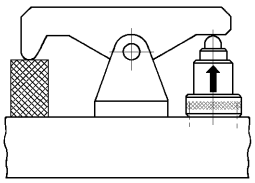


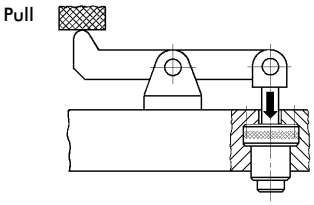
Multiple Uses

Thru-hole Rams can be used to push or pull depending on the position of the ram.



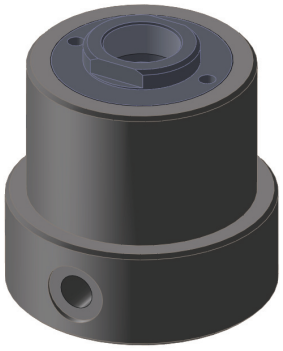






Operating pressure max. 350 bar/min 100 bar

These hydraulic cylinder are single acting with spring retraction. A typical application for hydraulic hollow piston cylinders is when pulling and/or pushing forces are needed for clamping. The piston inserts which can be mounted in the thread on the top end of the piston are used to secure threaded bolts or screws. The piston inserts are available with the internal thread (type A) or with the through-hole (type B).



Cylindrical version

Technical characteristics

- Cylindrical and Block version available
- Cylindrical version available with– or without external thread
- Spring retraction
- Piston with through-hole (different piston inserts available)
- Piston nitrogen hardened
- Fastening threads at the base
- Lateral hydraulic connection

CUSTOMER DESIGNED MODELS

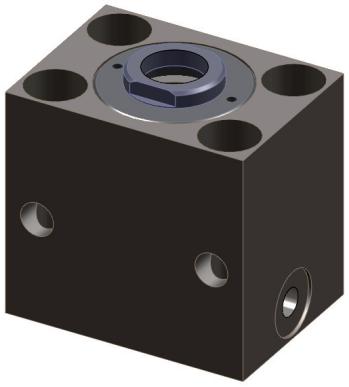
If you need a special cylinder for your application – customer designed models are available. PLEASE LET US KNOW!

Important note

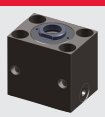
The operating pressure should not exceed 100 bar if the piston is actuated without a counter force.

Recommended accessories (separate order)

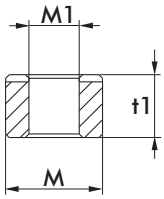
1 straight screw connectors D8S-R1/8
1 straight screw connectors D8S-R1/4
Piston inserts



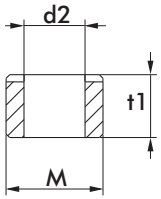
Block version

model no. cylindrical version		Clamping force at 100 bar [kN]	Repair kit	Stroke S max. [mm]	Piston surface area [cm²]	Oil consumption/ stroke [cm³]	Spring retracting force min [kN]	Connection G 2x	Weight ~ [kg]
	70537-DX11	8	70537-D1-00	9	8,8	7,9	34	G1/8	1,25
	70537-D1	8,4	70537-D1-00	9	8,8	7,9	12,5	G1/8	1,25
	70537-DG	8,4	70537-D1-00	9	8,8	7,9	12,5	G1/8	1,25
	70550-D2	15,7	70550-D2-00	12,5	16,4	20,5	18,5	G1/4	2
	70550-DG	15,7	70550-D2-00	12,5	16,4	20,5	18,5	G1/4	2
	70562-D2	23,9	70562-D1-00	15,5	24,8	38,4	32	G1/4	2,8
	70562-DG	23,9	70562-D1-00	15,5	24,8	38,4	32	G1/4	2,8
block version									
	723E38092-1	8	70537-D1-00	9	8,8	7,9	34	G1/8	1,5
	723E51122-1	15,7	70550-D2-00	12,5	16,4	20,5	18,5	G1/4	2,5
	723E63152-1	23,9	70562-D1-00	15,5	24,8	28,4	32	G1/4	3,3

Type A



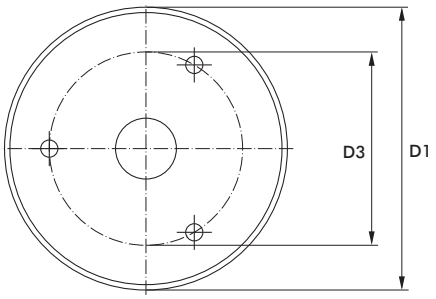
Type B

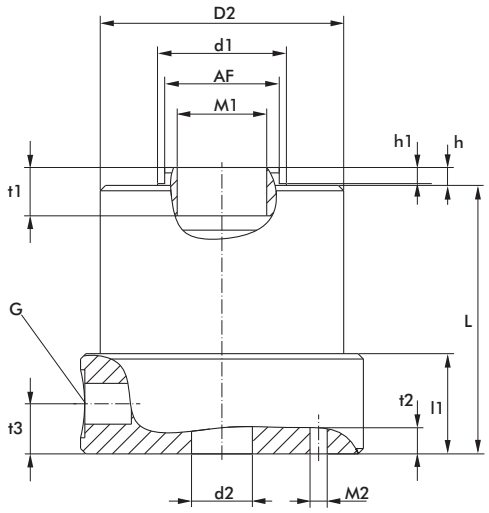


Accessories piston inserts

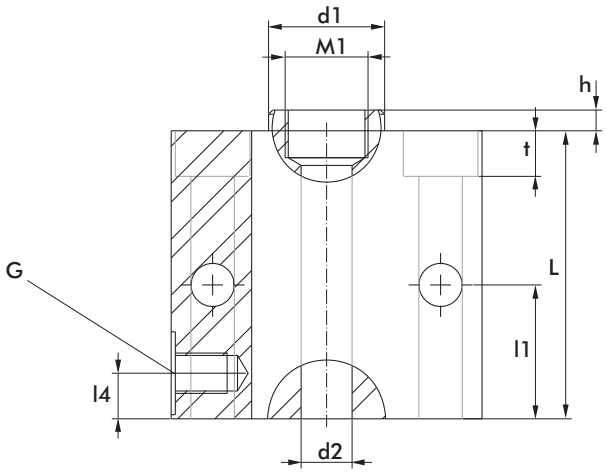
order no. Type A	order no. Type B	d2	M	M1	t1	for model
		[mm]				
705383-D	705384-D	12,3	M12	M20x1,5	11,5	70537.../ 723E38...
705511-D	705513-D	17	M16	M27x1,5	17,5	70550.../ 723E51...
705633-D	705634-D	21	M20	M36x1,5	21	70562.../ 723E63...

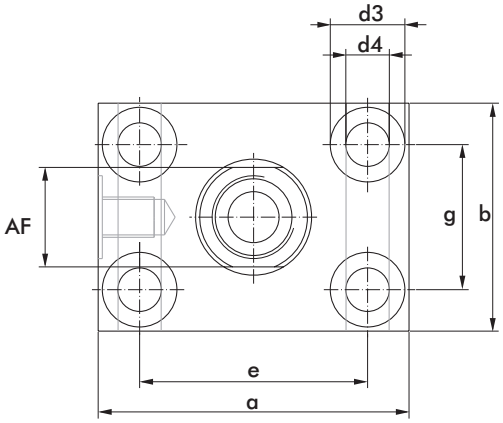
Cylindrical version 705...





Block version 723E...





model cylindrical version	a	b	d1	d3	d4	D1	D2/M3	D3	e	g	h	h1	L	l1	l4	M1	M2	AF	t	t2	t3
								[mm]													
70537-DX11	-	-	26	-	-	65	55	46	-	-	5	4,5	64.5	22		M20x1,5	M5	22	-	8	11
70537-D1	-	-	28	-	-	65	55	46	-	-	5	4,5	60	25		M20x1,5	M5	24	-	8	12
70537-DG	-	-	28	-	-	65	M50x1,5	46	-	-	5	4,5	60	25		M20x1,5	M5	24	-	8	12
70550-D2	-	-	36	-	-	79	68	54	-	-	5	4,5	75	28		M27x1,5	M6	32	-	9	14
70550-DG	-	-	36	-	-	79	M68x1,5	54	-	-	5	4,5	75	28		M27x1,5	M6	32	-	9	14
70562-D2	-	-	48	-	-	93	80	60	-	-	5	4,5	92	32		M36x1,5	M6	41	-	10	16
70562-DG	-	-	48	-	-	93	M80x2	60	-	-	5	4,5	92	32		M36x1,5	M6	41	-	10	16

block version																					
723E38092-1	75	55	28	18	10,5	-	-	-	55	35	5	4,5	69,5	32,5	11	M20x1,5	-	24	11	-	-
723E51122-1	100	75	36	20	13	-	-	-	76	45	5	4,5	80	37,5	14	M27x1,5	-	32	13	-	-
723E63152-1	110	85	48	20	13	-	-	-	86	55	5	4,5	97	46	16	M36x1,5	-	41	13	-	-

Operating pressure max. 350 bar/min 100 bar

These hydraulic screw-in cylinder are double acting. They can be used in clamping fixtures for positioning, clamping and gripping of workpieces. Such cylinder should be used if rapid and precise stroke speeds are required or when high retraction forces are needed.

Technical characteristics

- Hydraulik ports at the cylinder bottom
- External thread along the whole housing
- Glide ring seal with high wear resistance
- No stick-slip-effect
- Double piston-rod seal
- An extended piston rod guide assures high stability when transversal forces occur
- Piston rod with internal thread

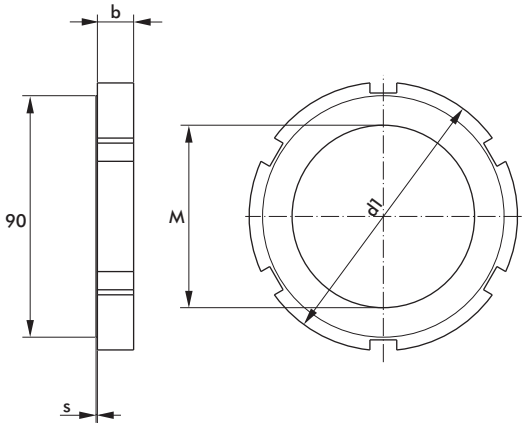
CUSTOMER DESIGNED MODELS

If you need a special cylinder for your application – customer designed models are available. PLEASE LET US KNOW!

Recommended accessories (separate order)

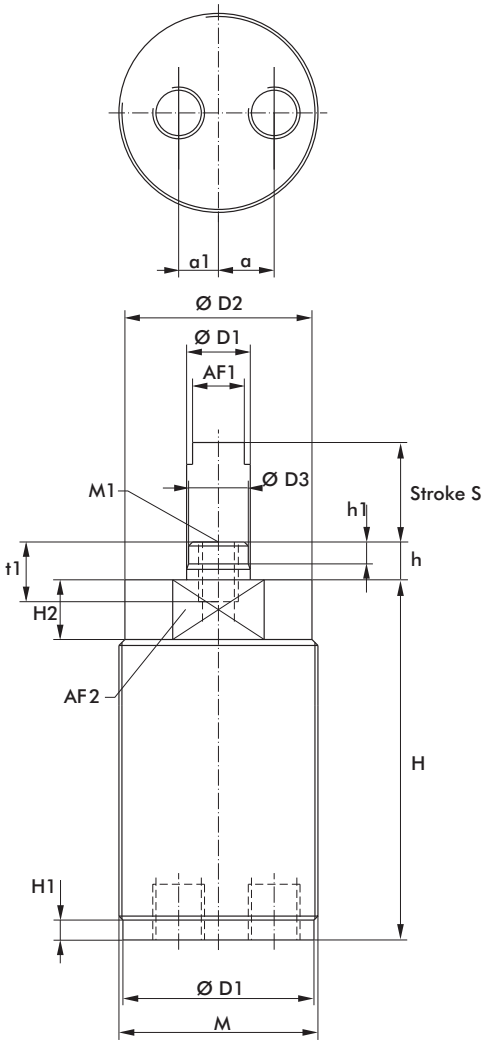
- Groove nut DIN 1804
- 2 x straight screw connection D8S-R1/4

model no.	Clamping force at 100 bar forward stroke [kN]	Clamping force at 100 bar backstroke [kN]	Repair kit	Piston Ø [mm]	Stroke* S max. [mm]	Piston surface area forward stroke [cm²]	Piston surface area back stroke [cm²]	Oil consuption/stroke forward stroke [cm³]	Oil consuption/stroke back stroke [cm³]	Connection G 2x	Weight ~ [kg]
721D25501-1	4,8	2,8	720V25-0002	25	50	4,90	2,90	24,50	14,50	G1/4	2,5
721D32501-1	7,9	4,8	720V32-0002	32	50	8,04	4,90	40,20	24,50	G1/4	2,90
721D40501-1	12,3	7,5	720V40-0002	40	50	12,56	7,66	62,80	38,30	G1/4	3,50
721D50501-1	19,3	11,4	720V50-0001	50	50	19,63	11,59	98,15	57,95	G1/4	4,50



Accessories groove nut DIN 1804

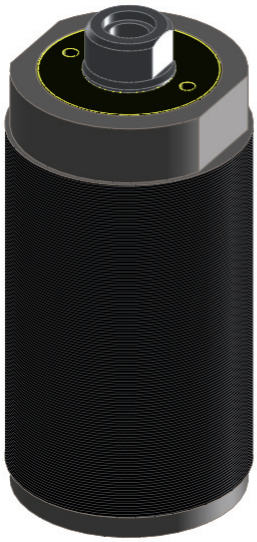
order no. M	b	d	d1	s
		[mm]		
M50x1,5N	13	67	75	0,5
M56x1,5N	13	70	80	0,5
M68x1,5N	14	90	100	0,5
M80x2N	16	105	175	1



model no.	a	a1	D	D1	D2	D3	H	H1	H2	h	h1	M	M1	AF1	AF2	t
									[mm]							
721D25501-1	14	10	48	16	47	15	133,5	5	15	9,5	5,5	M50x1,5	M10	13	41	20
721D32501-1	17	10	54	20	52	19	138	5	15	10	7	M56x1,5	M12	17	46	24
721D40501-1	22,5	5	65	25	64	24	144	5	15	11	8	M68x1,5	M16	21	55	32
721D50501-1	28	-	76	32	76	31	145,5	5	15	12	8	M80x2	M20	27	65	38

Operating pressure max. 350 bar/min 100 bar

These hydraulic screw-in cylinder are single acting and with spring retraction. They can be used in clamping fixtures for positioning, clamping and gripping of workpieces.



Technical characteristics

- Only suitable for operating pressures starting from 100 bar
- Use for pipe connections and for integrated oil supply (sealing on the cylinder's base with a seal which is delivered with the unit)
- External thread along the whole length of the housing
- Narrow distances between the cylinders are possible when the cylinders are mounted in groups
- Spring retraction
- Slide ring seals with high wear resistance
- No stick-slip effect
- Piston rods with internal thread on all models starting from model 721E16121-1 onwards

CUSTOMER DESIGNED MODELS

If you need a special cylinder for your application – customer designed models are available. PLEASE LET US KNOW!

Included accessories
DELRIN seal ring

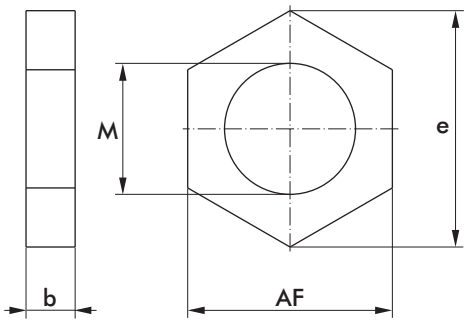
Recommended accessories (separate order)

- Hexagonal nut DIN 936
- Groove nut DIN 1804
- Straight screw-connection D8S-R1/8
- Straight screw-connection D8S-R1/4

Important Note

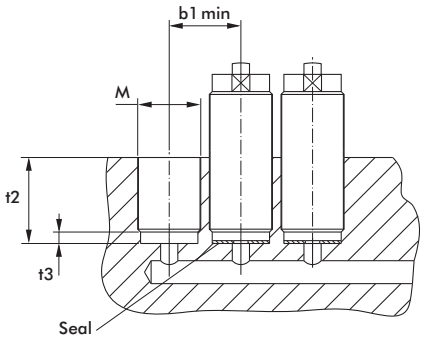
The maximum spring retraction force has been taken into account in the clamping force values diagram.
The operating pressure should not exceed 150 bar if the piston is actuated without a counter force.

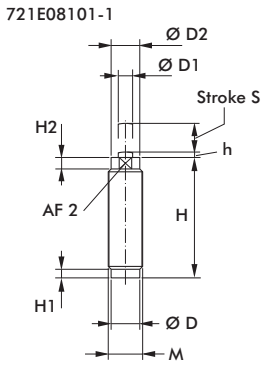
model no.	Clamping force at 100 bar [kN]	Clamping force at 350 bar [kN]	Repair kit	Piston Ø [mm]	Stroke* S max. [mm]	Piston surface area [cm²]	Oil consumption/ stroke [cm³]	Spring retracting force min [N]	Connection G	Weight ~ [kg]
721E08101-1	0,4	1,4	-	8	10	0,5	0,5	39	-	0,03
721E12101-1	1,0	3,7	720V12-0001	12	10	1,13	1,13	25	G1/8	0,25
721E16121-1	1,9	6,7	720V16-0002	16	12	2,01	2,41	60	G1/8	0,32
721E20161-1	2,8	9,8	720V20-0001	20	16	3,14	5,02	62	G1/4	0,4
721E20401-1	2,7	9,4	720V20-0001	20	40	3,14	12,57	66	G1/4	0,6
721E25161-1	4,6	16,2	720V25-0003	25	16	4,91	7,85	117	G1/4	0,6
721E25401-1	4,6	15,9	720V25-0003	25	40	4,91	19,63	115	G1/4	0,9
721E32161-1	7,8	27,3	720V32-0003	32	16	8,04	12,87	98	G1/4	0,95
721E40161-1	12,2	42,8	720V40-0003	40	16	12,57	20,11	201	G1/4	1,45
721E40401-1	12	42,1	720V40-0003	40	40	12,57	50,28	280	G1/4	2,4
721E50251-1	19,1	66,7	720V50-0002	50	25	19,63	49,09	239	G1/4	3,3

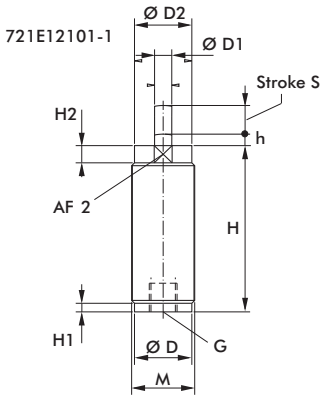


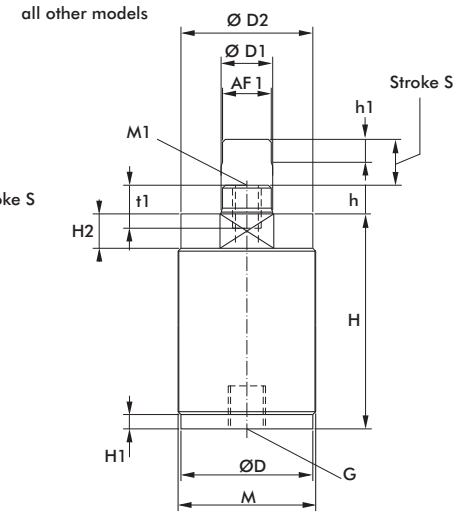
Accessories hexagonal nut DIN 936

model no. M	b	e [mm]	AF
M22x1,5	10	35,72	32
M27x1,5	12	45,63	41
M33x1,5	14	55,8	50
M38x1,5	16	66,96	60
M48x1,5	18	83,9	75
M56x1,5N	groove nut DIN 1804 (see page 24)		
M68x1,5N	groove nut DIN 1804 (see page 24)		









model no.	b1	D	D1	D2	H	H1	H2	h	h1	M	M1	AF 1	AF 2	t1	t2	t3	max. torque [Nm]
	[mm]																
721E08101-1	15	10	5	10	42	3	4	1,9	-	M12x1,5	-	-	9	-	18	3	10
721E12101-1	25	20	6	20	58	3	6	4	-	M22x1,5	-	-	19	-	30	3	70
721E16121-1	30	24	10	25	75	3	6,5	7	5,5	M27x1,5	M5	8	22	10	36	3	130
721E20161-1	38	30	10	31	84,5	3	8	7	5,5	M33x1,5	M5	8	27	10	42	3	230
721E20401-1	38	30	10	31	140	3	8	7	5,5	M33x1,5	M5	8	27	10	42	3	230
721E25161-1	43	35	12	36	95	5	12	7	5,5	M38x1,5	M6	9	32	12	52	5	370
721E25401-1	43	35	12	36	137	5	12	7	5,5	M38x1,5	M6	9	32	12	52	5	370
721E32161-1	53	45	18	46	91	5	12	10	8	M48x1,5	M10	15	42	15	61	5	750
721E40161-1	61	53	22	54	99	5	12	10	8	M56x1,5	M12	19	50	18	71	5	1200
721E40401-1	61	53	22	54	173	5	12	10	8	M56x1,5	M12	19	50	18	71	5	1200
721E50251-1	73	65	32	65	116	5	15	10	8	M68x1,5	M20	27	60	30	85	5	2000

Operating pressure max. 250 bar/min 100 bar

These hydraulic screw-in cylinder are single acting and with spring retraction. They can be used in clamping fixtures for positioning, clamping and gripping of workpieces. Flexible applicable because of the radial and axial ports.

Technical characteristics

- Suitable even for operating pressures under 100 bar
- 1 oil port radial, one axial
- External thread along the whole housing
- Spring retraction
- O-ring-seal
- Piston rod with internal thread

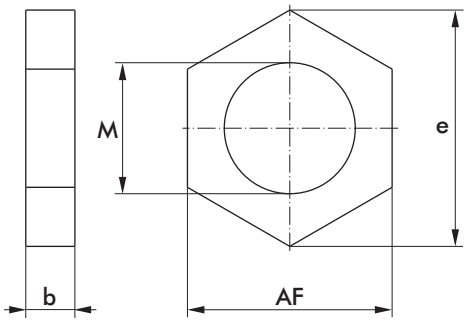
CUSTOMER DESIGNED MODELS

If you need a special cylinder for your application – customer designed models are available. PLEASE LET US KNOW!

Recommended accessories (separate order)

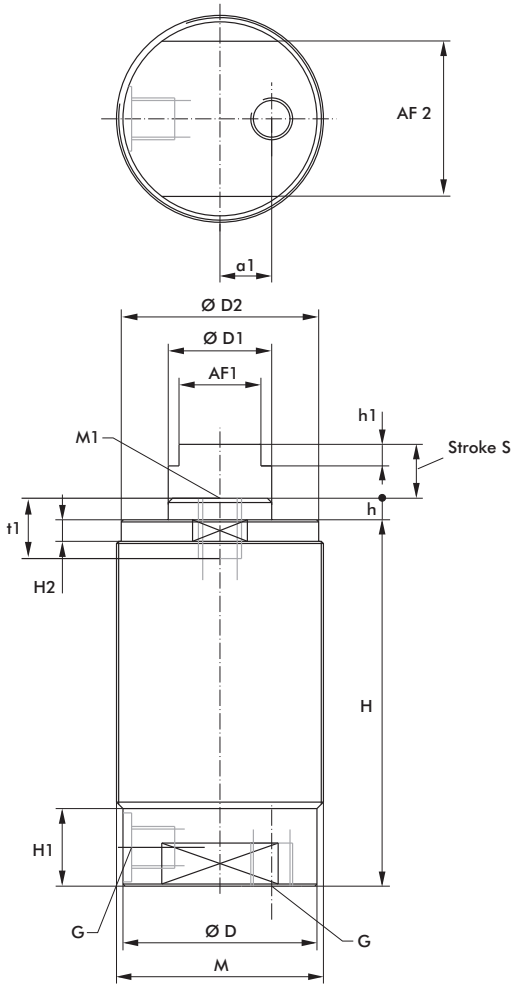
- Hexagonal nut DIN 936
- Straight screw-connection D8S-R1/8
- Straight screw-connection D8S-R1/4

model no.	clamping force at 100 bar [kN]	clamping force at 250 bar [kN]	Repair kit	Piston Ø [mm]	Stroke* S max. [mm]	Piston surface area [cm²]	Oil consumption/ stroke [cm³]	Spring retracting force min [N]	Connection G	Weight ~ [kg]
721E25155-1	4,7	11,6	720V25-0006-1	25	15	4,91	7,37	60	G1/8	0,6
721E25255-1	4,6	11,5	720V25-0006-1	25	25	4,91	12,28	70	G1/8	0,7
721E25405-1	4,6	11,4	720V25-0006-1	25	40	4,91	19,63	110	G1/8	0,9
721E38125-1	10,9	27,3	720V38-0001	38	12,5	11,34	14,18	200	G1/8	1,4
721E38255-1	10,9	27,1	720V38-0001	38	25	11,34	28,35	220	G1/8	1,8
721E38505-1	10,8	27	720V38-0001	38	50	11,34	56,7	280	G1/8	2,5
721E50255-1	19,1	47,7	720V50-0008	50,8	25	19,95	49,87	200	G1/4	3,4



Accessories hexagonal nut DIN 936

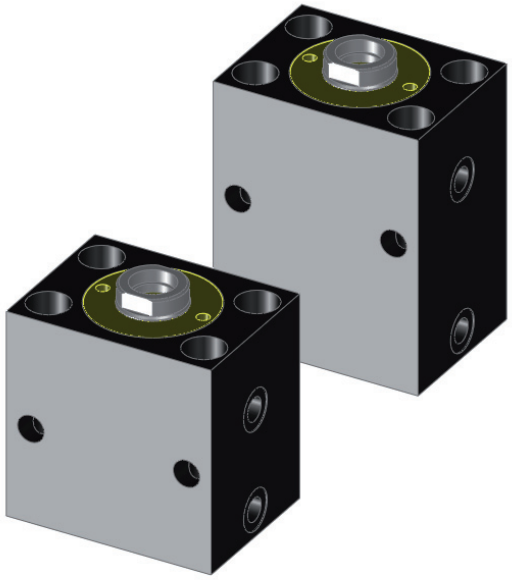
order no. M	b	e [mm]	AF
M33x1,5	14	55,8	50
M48x1,5	18	83,9	75



model no.	a1	D	D1	D2	H	H1	H2	h	h1	M	M1	AF 1	AF 2	t1
	[mm]													
721E25155-1	7	30	14	30	80	21	5	5	5	M33x1,5	M8	11	24	10
721E25255-1	7	30	14	30	98	21	5	5	5	M33x1,5	M8	11	24	10
721E25405-1	7	30	14	30	126	21	5	5	5	M33x1,5	M8	11	24	10
721E38125-1	12	45	24	45,8	85	19	5	5	5	M48x1,5	M10	19	36	14
721E38255-1	12	45	24	45,8	122,5	19	5	5	5	M48x1,5	M10	19	36	14
721E38505-1	12	45	24	45,8	177	19	5	5	5	M48x1,5	M10	19	36	14
721E50255-1	-	60	36	-	107	22	-	5	5	M64x1,5	M16	30	50	20

Operating pressure max. 500 bar/min 100 bar

Hydraulic double acting block cylinders are particularly suited for applications requiring frequent cycles and rapid stroke speeds. The block design allows a wide range of applications such as clamping, pressing, aligning and punching. The mounting boreholes are a further advantage which allow quick and easy mounting in the horizontal or vertical position.



Technical characteristics

- Lateral hydraulic connections
- Glide ring seal with high wear resistance
- No stick-slip effect
- Double piston rod seal
- An extended piston rod guide assures high stability when transversal forces occur on the piston.
- Piston rod with internal thread

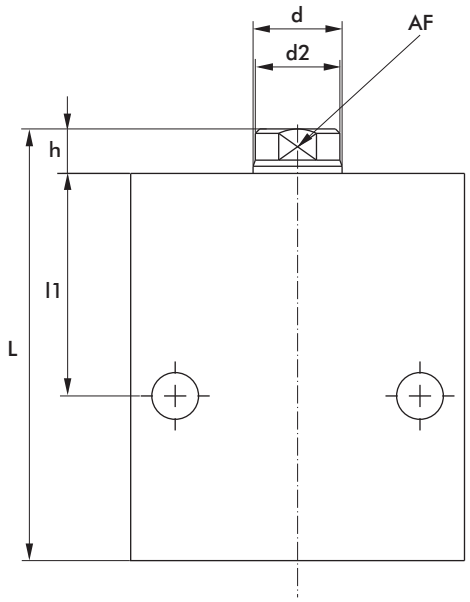
CUSTOMER DESIGNED MODELS

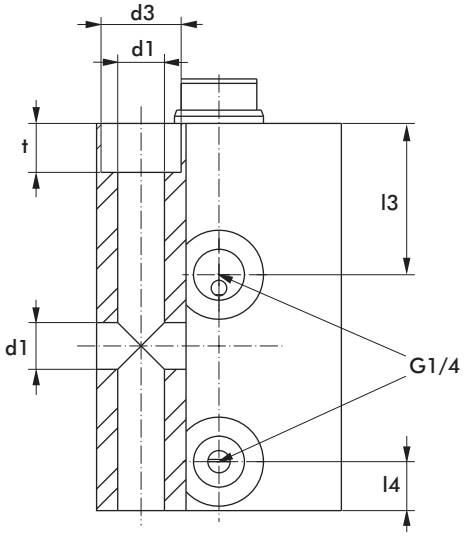
If you need a special cylinder for your application – customer designed models are available. PLEASE LET US KNOW!

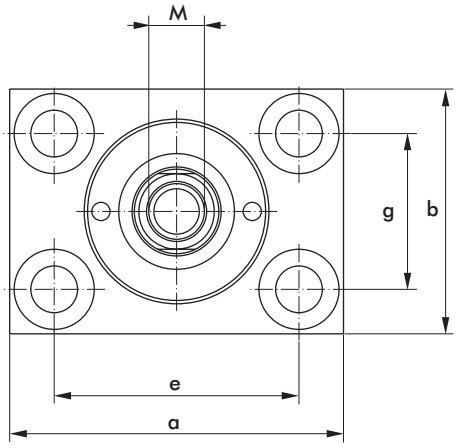
Recommended accessories (separate order)

2 straight screw connectors D8S-R1/4

model no.	Clamping force at 100 bar		Repair kit	Piston Stroke*		Piston surface area		Oil consumption		Connection	Weight
	forward stroke	back stroke		Ø	S max.	forward stroke	back stroke	forward stroke	back stroke	G	~
	[kN]	[kN]		[mm]	[mm]	[cm²]	[cm²]	[cm³]	[cm³]	2x	[kg]
722D16162-1	2,0	1,2	720V16-0002	16	16	2,01	1,23	3,20	1,95	G1/4	0,9
722D16502-1	2,0	1,2	720V16-0002	16	50	2,01	1,23	10,05	6,15	G1/4	1,3
722D25202-1	4,8	2,8	720V25-0002	25	20	4,91	2,90	9,82	5,80	G1/4	1,4
722D32252-1	7,9	4,8	720V32-0002	32	25	8,04	4,90	20,10	12,25	G1/4	2,0
722D32502-1	7,9	4,8	720V32-0002	32	50	8,04	4,90	40,20	24,50	G1/4	3,2
722D40252-1	12,3	7,5	720V40-0002	40	25	12,56	7,66	31,40	19,15	G1/4	2,8
722D40992-1	12,3	7,5	720V40-0002	40	100	12,56	7,66	125,70	75,60	G1/4	5,5
722D50252-1	19,3	11,4	720V50-0001	50	25	19,64	11,59	49,10	29,00	G1/4	5,7
722D50502-1	19,3	11,4	720V50-0001	50	50	19,64	11,59	98,20	58,00	G1/4	7,0
722D50992-1	19,3	11,4	720V50-0001	50	100	19,64	11,59	196,40	116,00	G1/4	13,0
722D63252-1	30,0	18,0	720V63-0002	63	25	31,2	18,6	77,9	46,5	G1/4	8,0
722D63502-1	30,0	18,0	720V63-0002	63	50	31,2	18,6	155,9	93,0	G1/4	9,4
722D63802-1	30,0	18,0	720V63-0002	63	80	31,2	18,6	249,4	148,9	G1/4	14,0







model no.	a	b	c	d	d1	d2	d3	e	g	h	L	l1	l3	l4	M x depth	AF	t	t1
	[mm]																	
722D16162-1	60	35	17,5	10	6,5	9	11	40	22	6	76	44	30,5	11	M 6x15	8	6,8	4,5
722D16502-1	60	35	17,5	10	6,5	9	11	40	22	6	111	44	30,5	11	M 6x15	8	6,8	4,5
722D25202-1	65	45	22,5	16	8,5	15	13,5	50	30	7	84	46	32	11	M10x15	13	9	4,5
722D32252-1	75	55	27,5	20	10,5	19	18	55	35	10	97	50	34	11	M12x18	17	11	7
722D32502-1	75	55	27,5	20	10,5	19	18	55	35	10	122	50	34	11	M12x18	17	11	7
722D40252-1	85	63	31,5	25	10,5	24	18	63	40	10	98	49	33	11	M16x25	21	11	7
722D40992-1	85	63	31,5	25	10,5	24	18	63	40	10	173	49	33	11	M16x25	21	20	7
722D50252-1	100	75	37,5	32	13	31	20	76	45	10	110	54	38	13	M20x30	27	13	8
722D50502-1	100	75	37,5	32	13	31	20	76	45	10	135	54	38	13	M20x30	27	13	8
722D50992-1	100	75	37,5	32	13	31	20	76	45	10	165	56	38	13	M20x30	27	30	8
722D63252-1	125	95	47,5	40	17,5	39	26	95	65	10	110	56	38	13	M24x30	36	16	8
722D63502-1	125	95	47,5	40	17,5	39	26	95	65	10	135	56	38	13	M24x30	36	16	8
722D63802-1	125	95	47,5	40	17,5	39	26	95	65	10	165	56	38	13	M24x30	36	16	8

Series **039** Air/Hydraulic Power Boosters

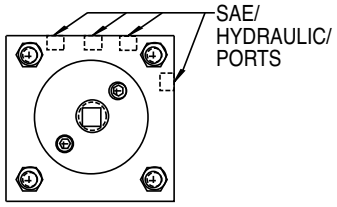
The De-Sta-Co Air/Hydraulic Power Booster converts normal shop-line air pressure to high-pressure hydraulic power. The six models available provide oil displacements ranging from 1 cu. in. to 12 cu. in. per stroke.

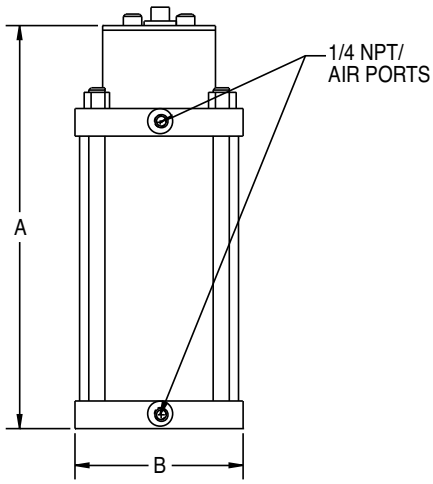
With the system filled, the volume of oil required to actuate a cylinder or pressure point is only equal to the cubic content of the piston displacement. The small booster, producing 1 cu. in. of usable oil per stroke, can operate 50 of the tiny 1/2-20 pressure points a full .22 max. stroke, and even more when strokes are kept to a minimum.

039-104-000DE

Features:

- Built-in manifold
- Complete automatic bleeding with each return stroke
- Automatic relief of system overcharge
- Automatic bleeding feature eliminates pre-filling
- Large volume visible oil reservoir automatically replenishes the system with reserve oil capacity
- Corrosion and wear-resistant materials
- Wear rings on hydraulic piston tube
- Unique self-centering air piston assures long life
- Increases hydraulic pressure to 3,000 PSIG from 100 PSIG air-line pressure
- All models supplied with SAE hydraulic ports
- NPT hydraulic ports available on request





Model no.	Press Ratio	Displacement Per Stroke	Nominal Reservoir Capacity	Weight	Dimensions A	Dimensions B (Square)	Ports
039-101-000DE	33.87:1	1 cu. in.	10.4 cu. in.	9 lbs.	10.88	4.50	SAE #4
039-104-000DE	32.41:1	4 cu. in.	42 cu. in.	23 lbs.	16.38	6.50	SAE #4
039-108-000DE	30.97:1	8 cu. in.	96 cu. in.	43 lbs., 8 oz.	18.00	8.50	SAE #4
039-109-000DE	45.38:1	5 cu. in.	96 cu. in.	43 lbs.	18.00	8.50	SAE #4

(100 PSIG max. input air pressure)

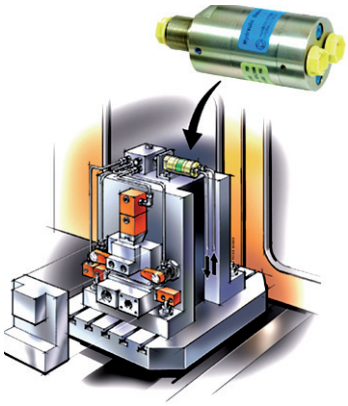
Note: Special High Temperature Seals available for applications where Viton Seals are required. Order as H/T option.

Operating pressure up to 800 bar
Output flow up to 11 l/min

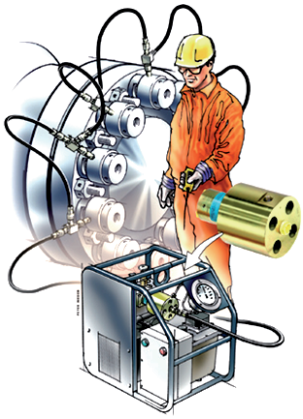
This pressure converter is an add-on to systems whose supply pressure is too low to meet the needs of some applications e.g. swing clamps or work supports.
Most of machine tools have a standard hydraulic system with low pressure (30-100 bar), but to reach the required clamping force you need pressure about 150 up to 500 bar. Solution: add a hydraulic pressure convertor into the system and provide the required high pressure.

Features:

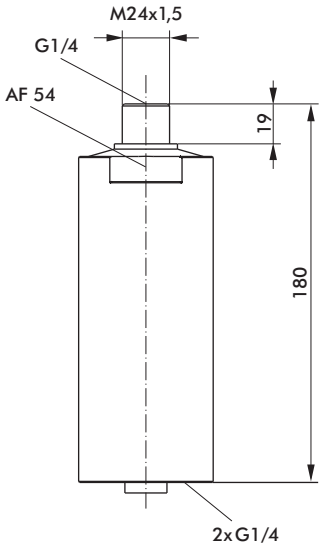
- Various ratios available
- High capacity, small size
- once built up, the pressure remains constant by automatically supplying some extra oil to the consumer to compensate for any loss of pressure supplied via the IN port
- Low noise level of 64 dB (A)
- Maintenance free (no dynamic seals)



Clamping application in a machine tool (pallet system)



Mobile application



model no.	Ratio	max. input flow max l/min	max. output flow max l/min	max. input pressure max bar	max. output pressure max bar	Weight kg
70-HC2D/1,9	1,9	15	8,8	200	380	1
70-HC2D/2,6	2,6	15	7,0	200	520	1
70-HC2D/3,2	3,2	15	6,2	200	800	1
70-HC2D/4,0	4,0	14	5,0	200	800	1
70-HC2D/5,0	5,0	14	4,0	160	800	1
70-HC2D/6,6	6,6	13	3,2	120	800	1
70-HC2D/9,0	9,0	13	2,2	85	800	1

Operating pressure max. 225 bar, 230 bar
Ratio 1:32, 1:33

Compressed air from the mains is converted into hydraulic high pressure by these pressure converters. Without this converting facilities, many clamping problems cannot be solved at all or only at high costs.

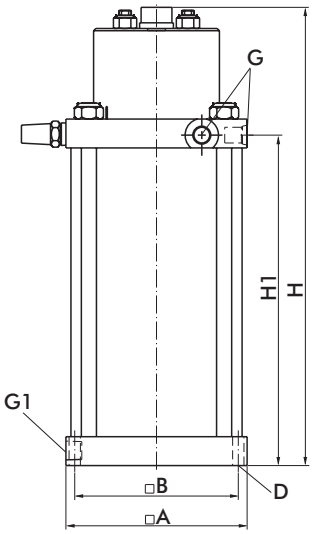
Technical characteristics

- The large oil tank automatically supplies the system with fresh oil according to the needs.
- Hydraulic piston with guide rings.
- The backstroke is produced by spring retraction. This offers the advantage of low air consumption and a single valve system.
- The moving parts are made of corrosion protected materials.

Contrary to hydraulic pumps, the maximum output of the pressure converter is restricted to one stroke. The amount of oil required per stroke is calculated as follows:

Cylinder number x piston surface x stroke

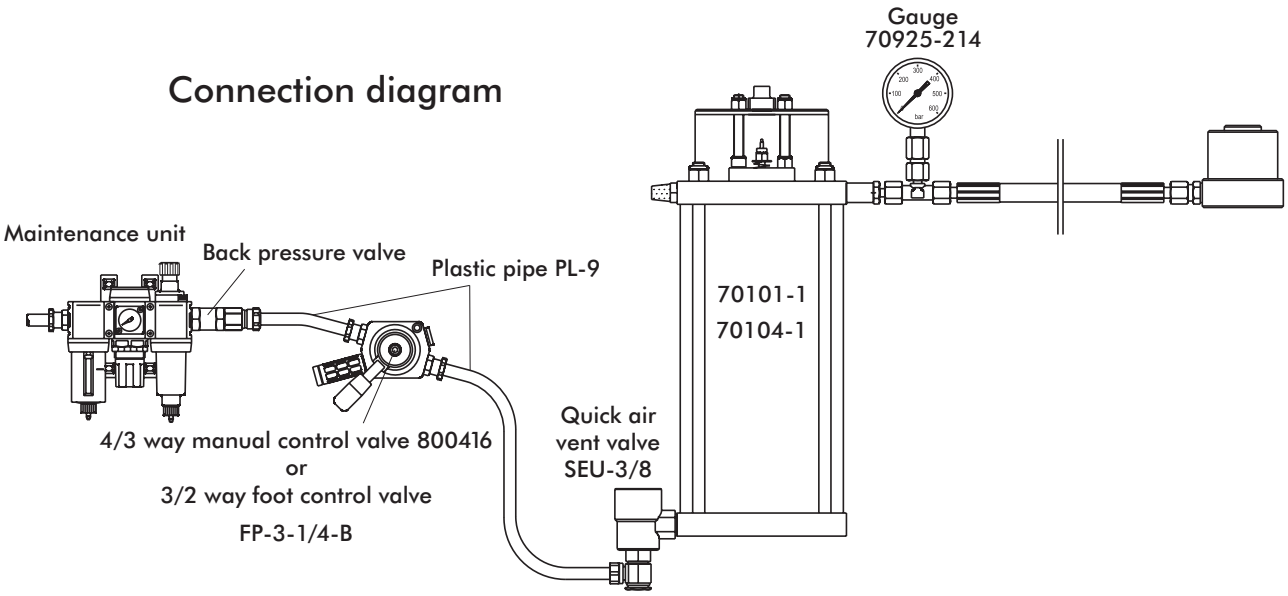
ATTENTION: A reserve of 20% should be taken into account!



Included accessories

- Connecting nipple R-1/4-1/4NPT (Air side)
- Adapter SAE4-1/4NPT (Oil side)
- Straight screw connection D8L-1/4NPT (Oil side)

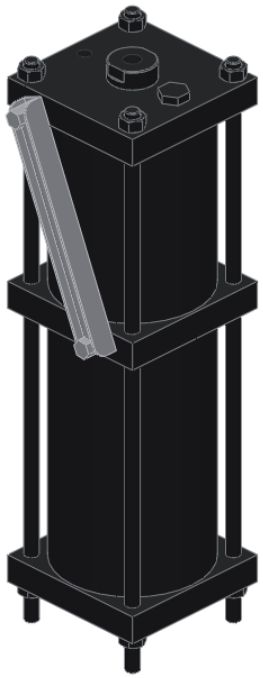
Connection diagram



model no.	Ratio	Air pressure min [bar]	Air pressure max. [bar]	Air consumption at 6 bar [l/Hub]	max. operating max. [bar]	Oil quantity/ stroke [cm³]	oil volume (Reservoir) [cm³]	A [mm]	B [mm]	D [mm]	H [mm]	H1 [mm]	Connection Oil side G	Connection Air side G1	Weight [kg]
70101-1	1:33	3	7	5	230	16	170	115	103,2	7,2	295	210	SAE 4	1/4NPT	4.5
70104-1	1:32	3	7	16	225	64	690	165	146	8,6	435	335	SAE 4	1/4NPT	11

Operating pressure max. 210 bar
Ratio 1:32

Compressed air from the mains is converted into hydraulic high pressure by these pressure converters. Without this converting facilities, many clamping problems cannot be solved at all or only at high costs.



Technical characteristics

- Metal oil tank with oil level indicator
- Fast backstroke by the 2.air line
- Works in vertical and horizontal position

CUSTOMER BUILD VERSIONS (E. G. HIGHER PRESSURE, HIGHER OIL QUANTITY/STROKE) POSSIBLE.

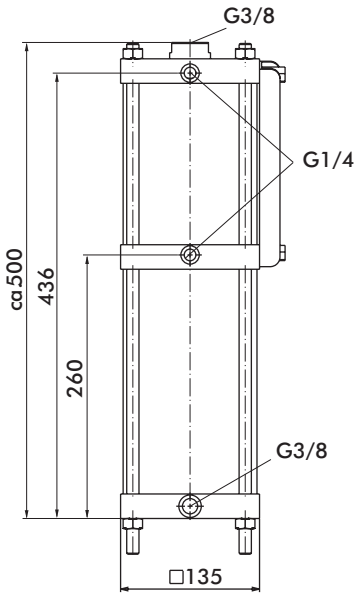
Contrary to hydraulic pumps, the maximum output of the pressure converter is restricted to one stroke. The amount of oil required per stroke is calculated as follows:

Cylinders number x piston surface x stroke

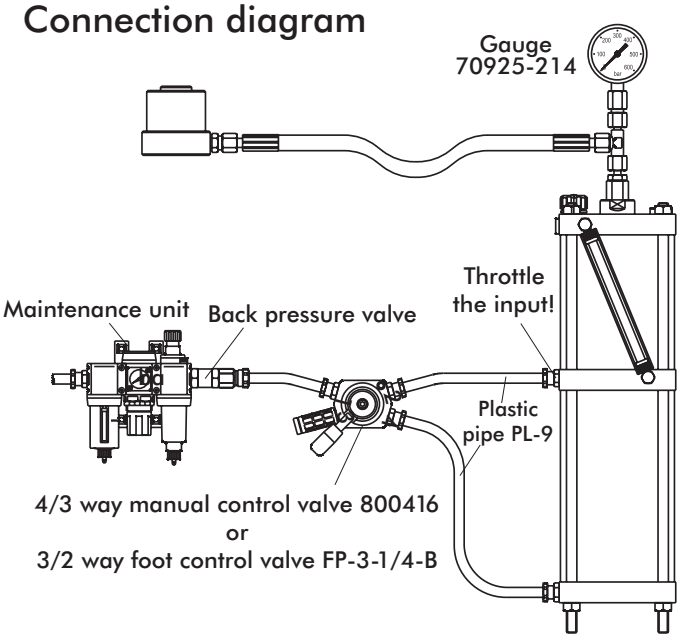
ATTENTION: A reserve of 20% should be taken into account!

Included accessories

- Screw connection CK-1/4-PK9 (Air side)
- Screw connection CK-3/8-PK9 (Air side)
- Adapter GWR-3/8-1/4 (Oil side)
- Screw connection D8L-1/4 (Oil side)



Connection diagram



model no.	Ratio	Air pressure min [bar]	Air pressure max. [bar]	Air consumption at 6 bar [l/stroke]	Operating pressure max. [bar]	Oil quantity/ stroke [cm³]	Oil volume (reservoir) [cm³]	A [mm]	H [mm]	H1 [mm]	H2 [mm]	Connection Oil side G	Connection Oil side G1	Connection Air side G2	Connection Air side G3	Weight [kg]
70104-2	1:30	3	7	16	210	64	690	135	ca. 500	260	436	G3/8	G1/4	G1/4	G3/8	11

Operating pressure max. 225 bar, 230 bar
Ratio 1:32, 1:33

Compressed air from the mains is converted into hydraulic high pressure by these pressure converters. Without this converting facilities, many clamping problems cannot be solved at all or only at high costs.

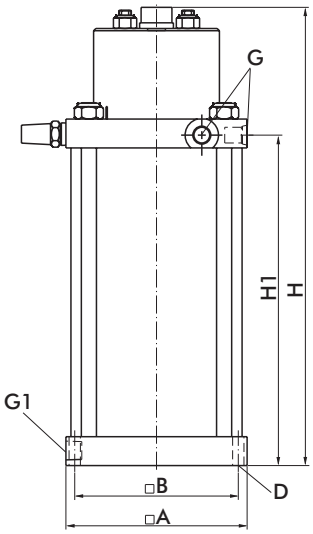
Technical characteristics

- The large oil tank automatically supplies the system with fresh oil according to the needs.
- Hydraulic piston with guide rings.
- The backstroke is produced by spring retraction. This offers the advantage of low air consumption and a single valve system.
- The moving parts are made of corrosion protected materials.

Contrary to hydraulic pumps, the maximum output of the pressure converter is restricted to one stroke. The amount of oil required per stroke is calculated as follows:

Cylinder number x piston surface x stroke

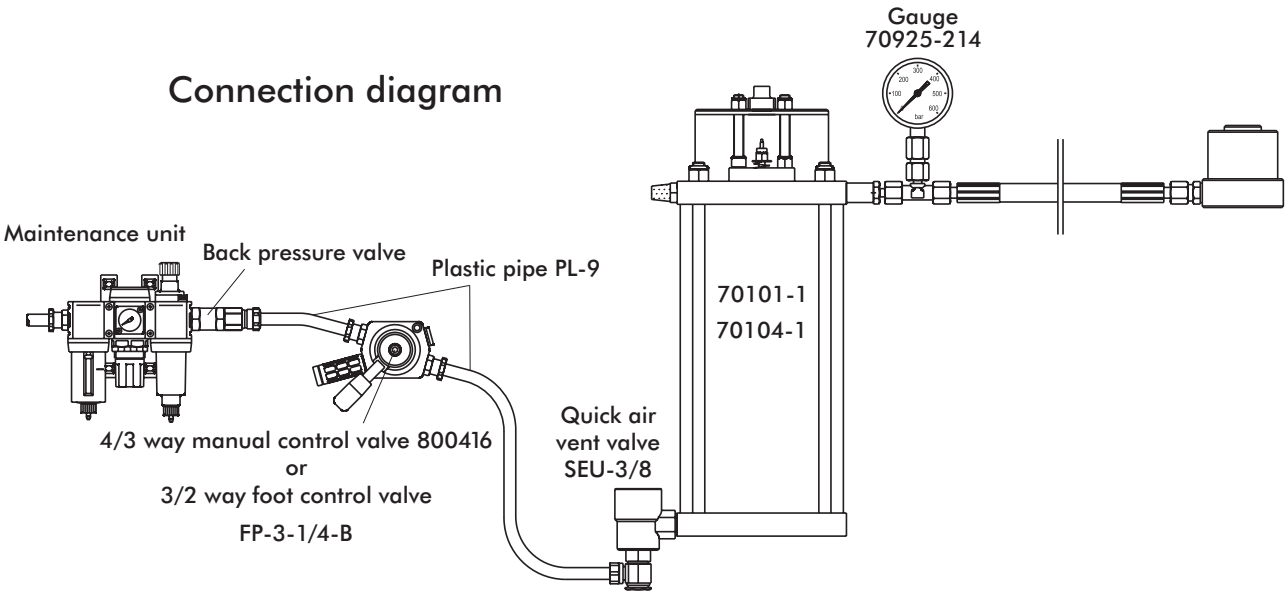
ATTENTION: A reserve of 20% should be taken into account!



Included accessories

- Connecting nipple R-1/4-1/4NPT (Air side)
- Adapter SAE4-1/4NPT (Oil side)
- Straight screw connection D8L-1/4NPT (Oil side)

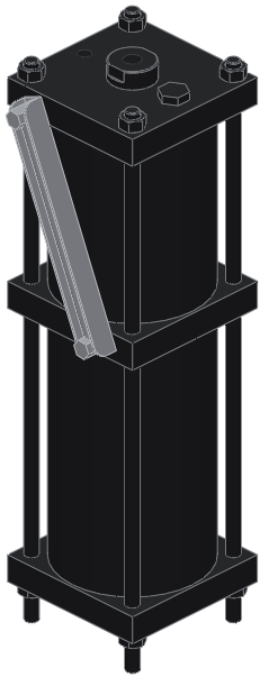
Connection diagram



model no.	Ratio	Air pressure min [bar]	Air pressure max. [bar]	Air consumption at 6 bar [l/Hub]	max. operating max. [bar]	Oil quantity/ stroke [cm³]	oil volume (Reservoir) [cm³]	A [mm]	B [mm]	D [mm]	H [mm]	H1 [mm]	Connection Oil side G	Connection Air side G1	Weight [kg]
70101-1	1:33	3	7	5	230	16	170	115	103,2	7,2	295	210	SAE 4	1/4NPT	4.5
70104-1	1:32	3	7	16	225	64	690	165	146	8,6	435	335	SAE 4	1/4NPT	11

Operating pressure max. 210 bar
Ratio 1:32

Compressed air from the mains is converted into hydraulic high pressure by these pressure converters. Without this converting facilities, many clamping problems cannot be solved at all or only at high costs.



Technical characteristics

- Metal oil tank with oil level indicator
- Fast backstroke by the 2.air line
- Works in vertical and horizontal position

CUSTOMER BUILD VERSIONS (E. G. HIGHER PRESSURE, HIGHER OIL QUANTITY/STROKE) POSSIBLE.

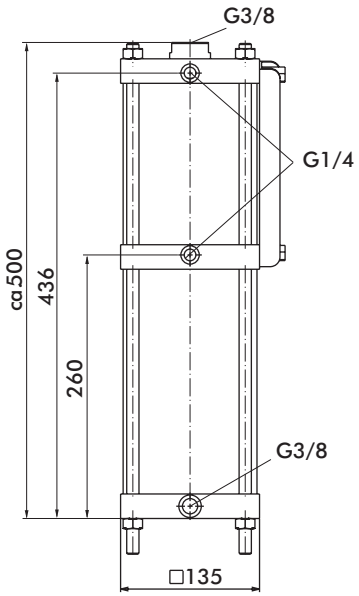
Contrary to hydraulic pumps, the maximum output of the pressure converter is restricted to one stroke. The amount of oil required per stroke is calculated as follows:

Cylinders number x piston surface x stroke

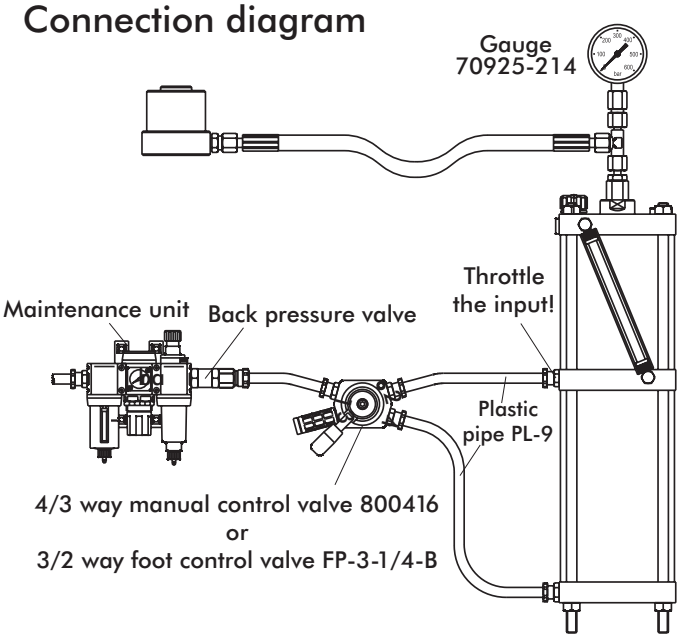
ATTENTION: A reserve of 20% should be taken into account!

Included accessories

- Screw connection CK-1/4-PK9 (Air side)
- Screw connection CK-3/8-PK9 (Air side)
- Adapter GWR-3/8-1/4 (Oil side)
- Screw connection D8L-1/4 (Oil side)



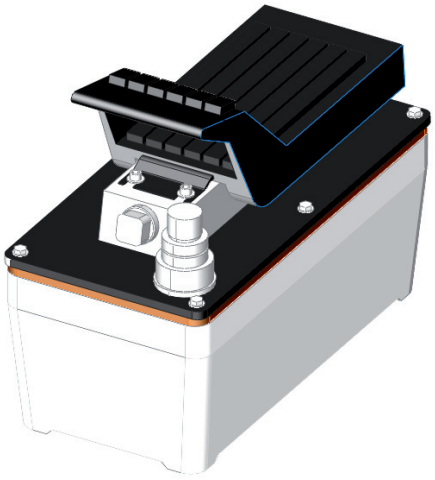
Connection diagram



model no.	Ratio	Air pressure min [bar]	Air pressure max. [bar]	Air consumption at 6 bar [l/stroke]	Operating pressure max. [bar]	Oil quantity/ stroke [cm³]	Oil volume (reservoir) [cm³]	A [mm]	H [mm]	H1 [mm]	H2 [mm]	Connection Oil side G	Connection Oil side G1	Connection Air side G2	Connection Air side G3	Weight [kg]
70104-2	1:30	3	7	16	210	64	690	135	ca. 500	260	436	G3/8	G1/4	G1/4	G3/8	11

Operating pressure max. 210 bar/700 bar
Conversion ratio 1:30, 1:100

Compact Air-hydraulic-pump for single acting hydraulic tools. This air hydraulic pump can activate a higher number of clamping cylinders simultaneously due to the tank volume of 1600 cm³. The compact lightweight design allows to set up the pumps wherever required. Actuating by foot control valve.

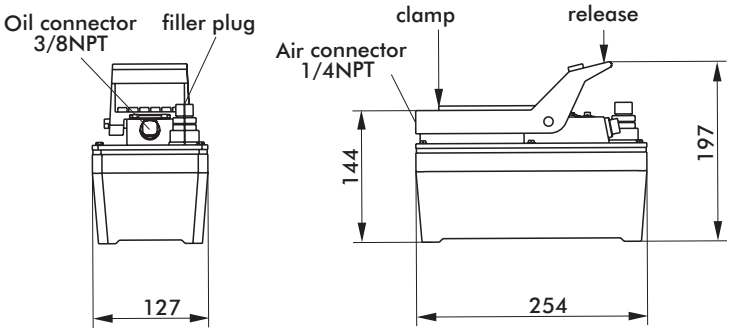


Technical features

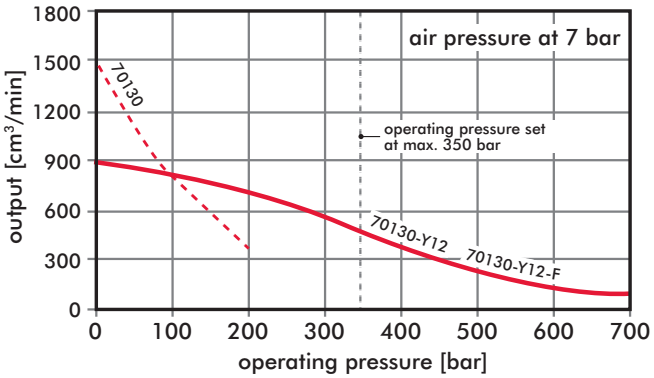
- Switching on the pump and releasing the hydraulic systems pressure is carried out by foot valve activation
- integrated back pressure valve prevents pressure loss in the clamping circuit
- In case of a pressure drop > 10 bar within the pressure circuit, the pump automatically restarts to pump oil in order to restore the set pressure
- Reservoir made of aluminium

Included accessories

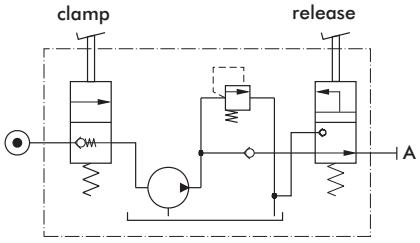
1 Transition nipple **R1/4-1/4 NPT**
1 Reducing nipple **PTRS-1/4 NPT**
1 Straight screw connector
D8L-1/4 NPT or **D8S-1/4 NPT**



Output characteristics



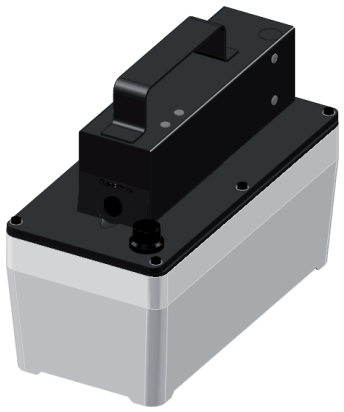
Schematic diagram



model no.	actuating by	Ratio	oil capacity [cm³]	usable oil capacity [cm³]	Air inlet pressure min. [bar]	Air inlet pressure max. [bar]	max. operating pressure [bar]	Air consumtion at 6 bar [m³/min]	Sound level [dB(A)]	Weight [kg]
70130	foot control	1:30	1720	1600	3	7	210	0,5	72	6,5
70130-Y12	foot control	1:100	1720	1600	3	7	700	0,5	72	6,5

Operating pressure max. 700 bar
Conversion ratio 1:100

Compact Air-hydraulic-pump for single acting hydraulic tools. This air hydraulic pump can activate a higher number of clamping cylinders simultaneously due to the tank volume of 1600 cm³. The compact lightweight design allows to set up the pumps wherever required. Actuating by remote control valve.

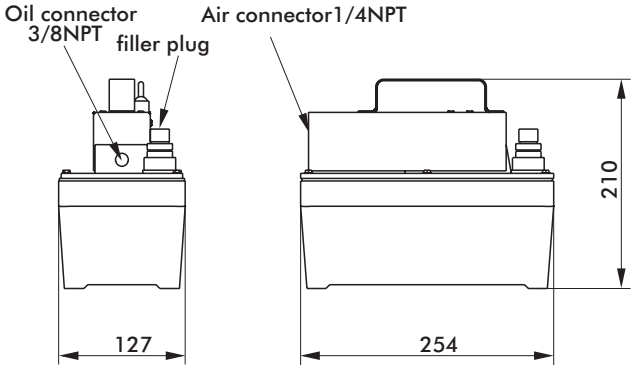


Technical features

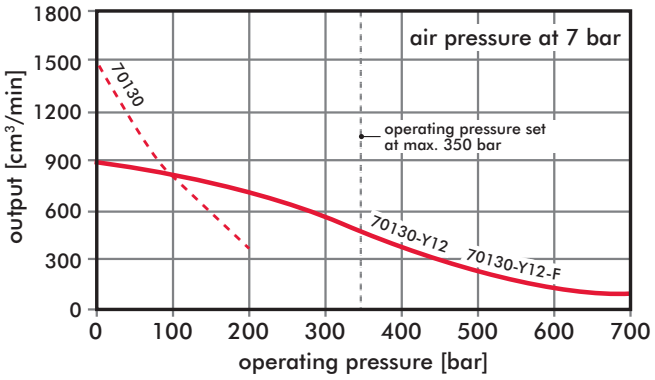
- Switching on the pump and releasing the hydraulic systems pressure is carried out by remote control activation
- integrated back pressure valve prevents pressure loss in the clamping circuit
- In case of a pressure drop > 10 bar within the pressure circuit, the pump automatically restarts to pump oil in order to restore the set pressure
- Reservoir made of aluminium

Included accessories

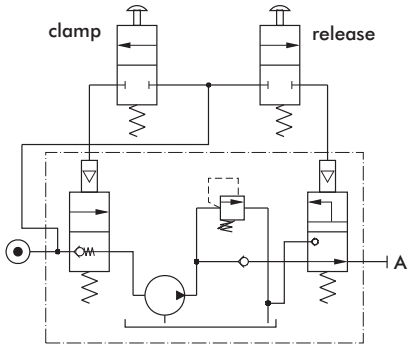
- Transition nipple **R 1/4-1/4 NPT**
- Reducing nipple **PTRS-1/4 NPT**
- Straight screw connector **D8S-1/4 NPT.**



Output characteristics



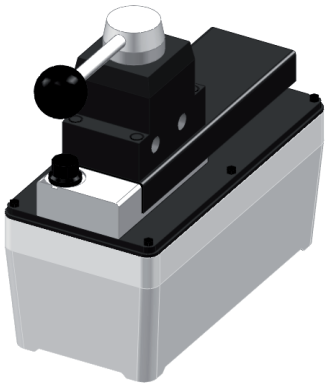
Schematic diagram



model no	actuating by	Ratio	Reservoir oil capacity [cm³]	usable oil capacity [cm³]	Air inlet pressure min. [bar]	Air inlet pressure max. [bar]	max. operating pressure [bar]	Air consumption at 6 bar [m³/min]	Sound level [dB(A)]	Weight [kg]
70130-Y12-F	remote control	1:100	1720	1600	3	7	210	0.5	72	8,3

Operating pressure max. 700 bar
Conversion ratio 1:100

Compact Air-hydraulic-pump for single– and double acting hydraulic tools. This air hydraulic pump can activate a higher number of clamping cylinders simultaneously due to the tank volume of 1600 cm³. The compact lightweight design allows to set up the pumps wherever required. Actuating by manual control valve.

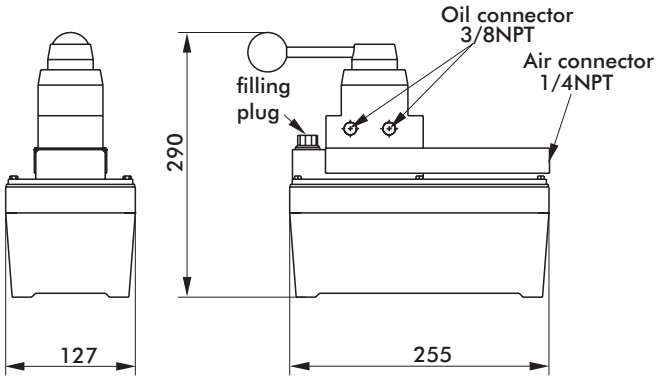


Technical features

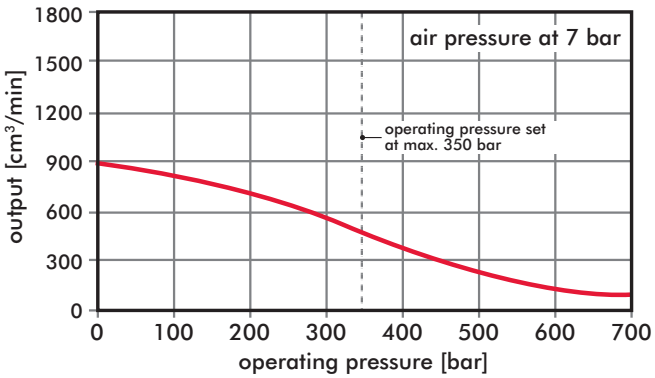
- Switching on the pump and releasing the hydraulic systems pressure is carried out by manual control valve activation
- integrated back pressure valve prevents pressure loss in the clamping circuit
- In case of a pressure drop > 10 bar within the pressure circuit, the pump automatically restarts to pump oil in order to restore the set pressure
- Reservoir made of aluminium

Included accessories

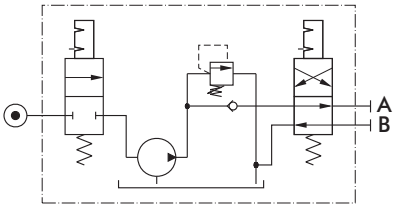
1 transition nipple **R 1/4-1/4 NPT**
2 reducing nipple **PTRS-1/4 NPT**
2 straight screw connector **D8S-1/4 NPT.**



Output characteristics



Schematic diagram



model no.	actuating by	Ratio	oil capacity	usable oil capacity	Air inlet pressure min.	Air inlet pressure max.	max. operating pressure	Air consumption at 6 bar	Sound level	Weight
			[cm³]	[cm³]	[bar]	[bar]	[bar]	[m³/min]	[dB(A)]	[kg]
70130-Y12-H	manual valve	1:100	1720	1600	3	7	700	0,5	72	8,4

Operating pressure max. 360 bar
Conversion ratio 1:60

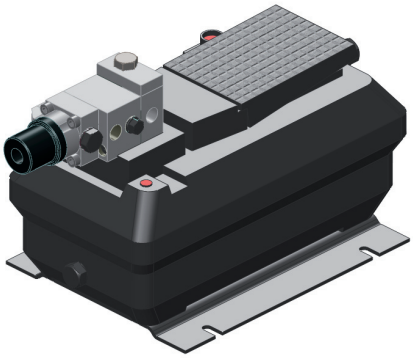
Compact Air-hydraulic-pump for single– and double acting hydraulic tools. This air hydraulic pump can activate a higher number of clamping cylinders simultaneously due to the tank volume of 2100 cm³. The compact lightweight design allows to set up the pumps wherever required.

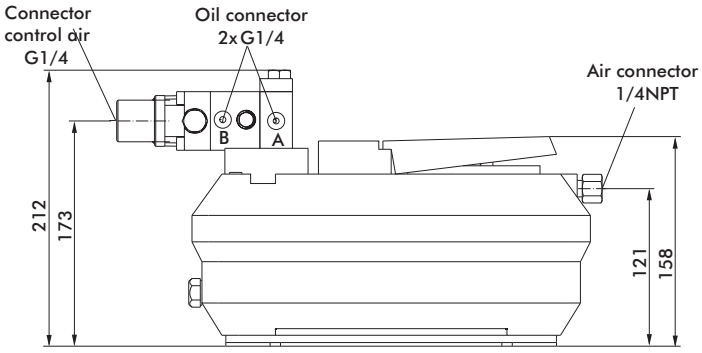
Technische Merkmale

- Switching on the pump and releasing the hydraulic systems pressure is carried out by foot valve activation
- Valve control via air controlled 4/2 way direction valve
- In case of a pressure drop > 10 bar within the pressure circuit, the pump automatically restarts to pump oil in order to restore the set pressure

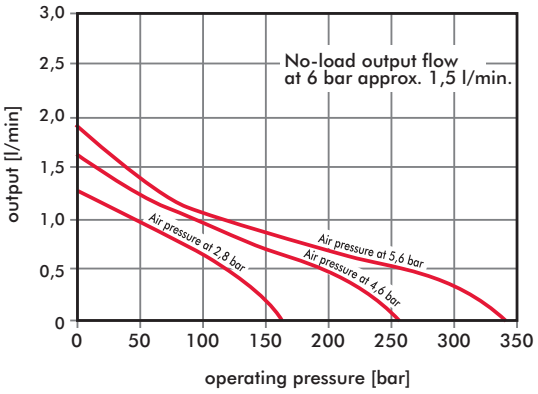
Optional:

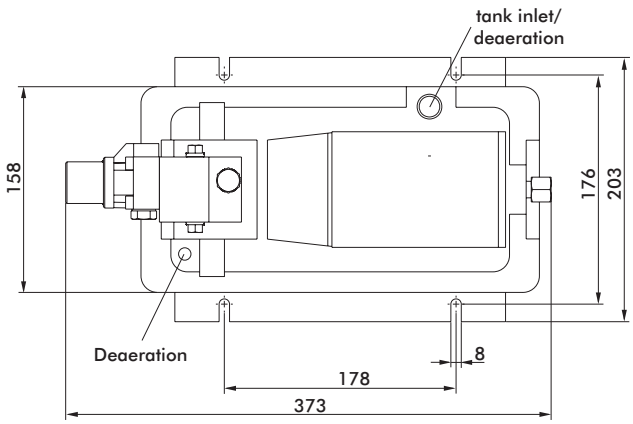
- System extendible via valve vertical interconnection
- Electro-magnetic, mechanical or manual controlled valves available



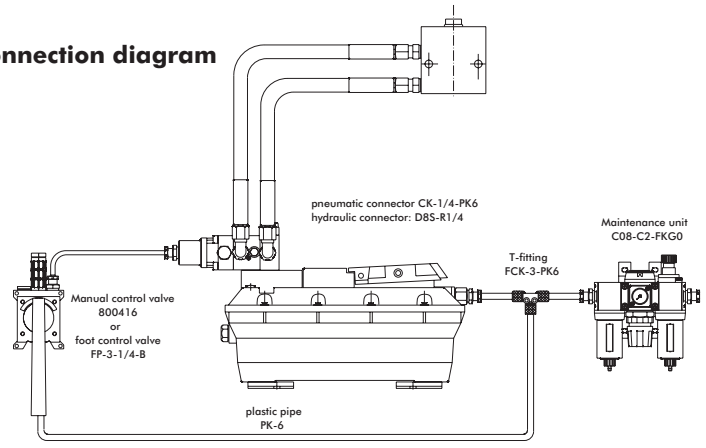


Output characteristics

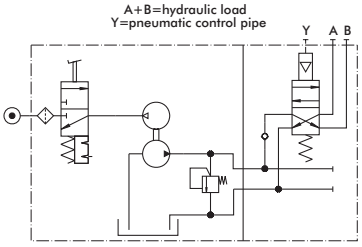




Connection diagram



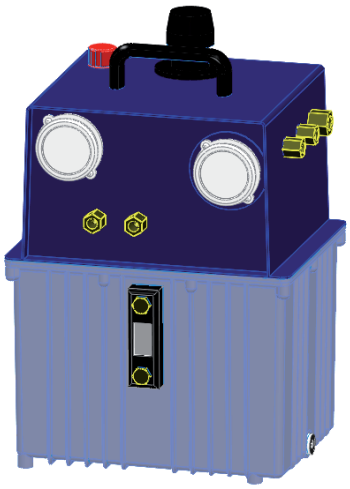
Schematic diagram



model no.	actuating by	Ratio	oil quantity	usable oil quantity	Air inlet pressure min.	Air inlet pressure max.	max. operating pressure	Air consumption at 6 bar	Sound level	Weight
			[cm³]	[cm³]	[bar]	[bar]	[bar]	[m³/min]	[dB(A)]	[kg]
70130-HW1DP	4/2 way seat valve, pneumatic piloting	1:60	2500	2100	3	6	360	0,5	79	6,4

Operating pressure max. 150 bar/360 bar/600 bar
Conversion ratio 1:25/1:60/1:1000

These air hydraulic pumps are designed for various hydraulic applications, especially for intermittent operation. By connecting a 3/2- way or 4/2-way pneumatic valve, the built-in hydraulic valves for stroke and backstroke can be actuated. The pumps are complete, and only have to be connected to the existing compressed air supply.



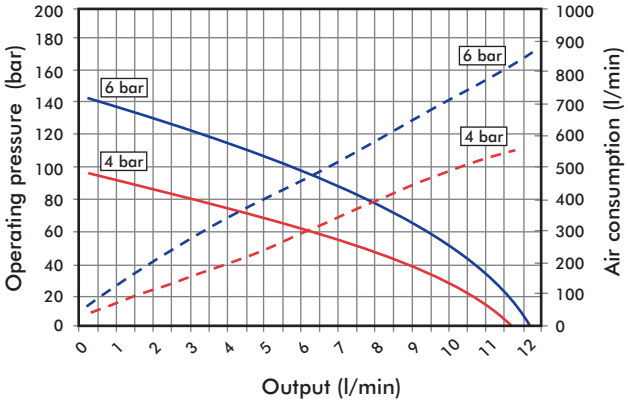
Technical characteristics

- Double piston pump-therefore pressure build-up almost pulsation free
- Compact pump - low required space
- 3 different conversion ratios available
- integrated back pressure valve prevents pressure loss in the clamping circuit
- In case of a pressure drop > 10 bar within the pressure circuit, the pump automatically restarts to pump oil in order to restore the set pressure

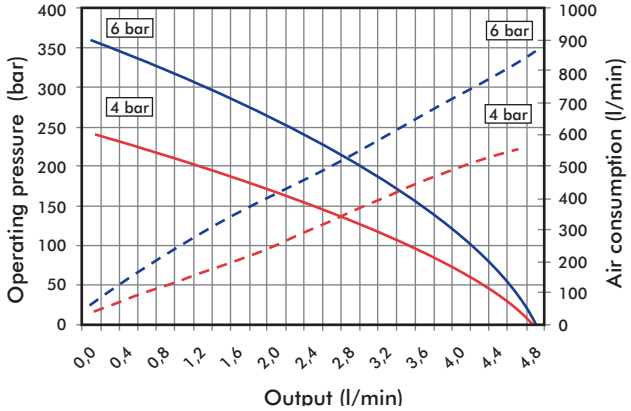
Recommended accessories (separate order)

1 4/2-ways manual-control-valve **800416**
1 3/2-way-foot-control-valve **FP-3-1/4**-H
2 screw-in connections **CK-1/4-PK6**
1 screw-in connections **CK-3/8-PK9**

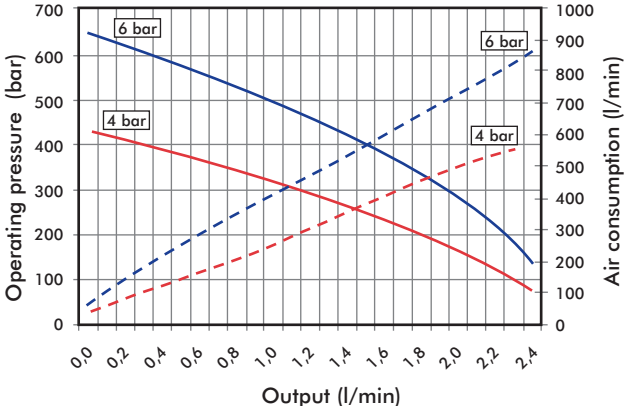
713D/E1505.-1



713D/E3605.-1



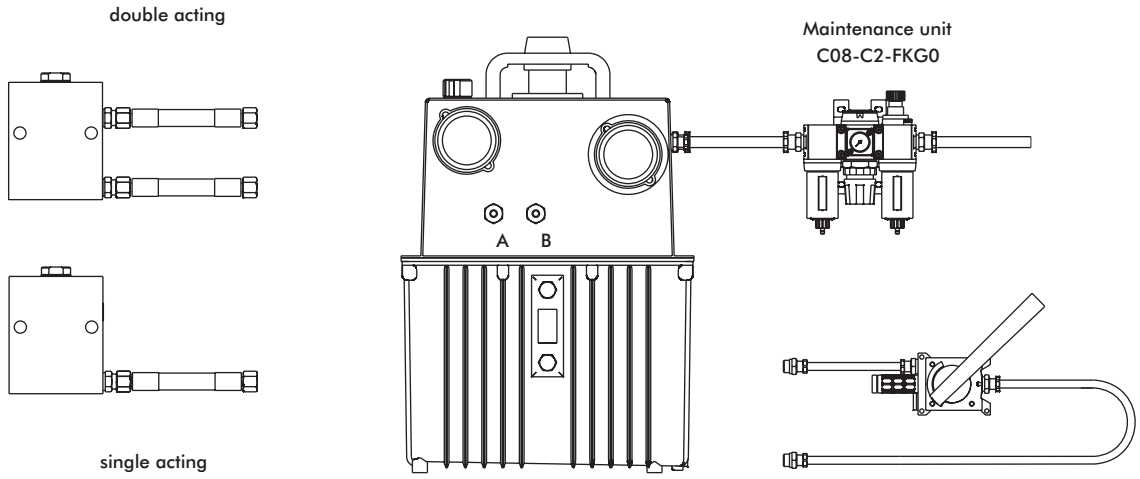
713D/E6005.-1



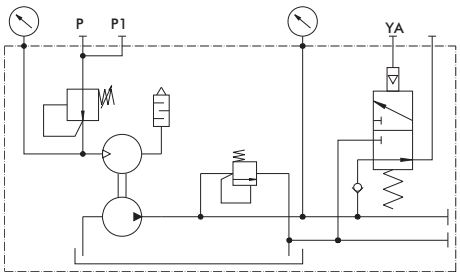
model no.		Ratio	max. operating pressure	Reservoir oil quantity	usable oil quantity	Air inlet pressure min.	Air inlet pressure max	Connection oil side	Sound level	Weight
single acting	double acting		[bar]	[l]	[l]	[bar]	[bar]		[dB(A)]	[kg)]
713E15051-1		1:25	150	8	5,5	1,5	6	1xG1/4	65	30
	713D15051-1	1:25	150	8	5,5	1,5	6	2xG1/4	65	31
713E36051-1		1:60	360	8	5,5	1,5	6	1xG1/4	65	30
	713D36051-1	1:60	360	8	5,5	1,5	6	2xG1/4	65	31
713E60051-1		1:100	600	8	5,5	1,5	6	1xG1/4	65	30
	713D60051-1	1:100	600	8	5,5	1,5	6	2xG1/4	65	31

Connection diagram:

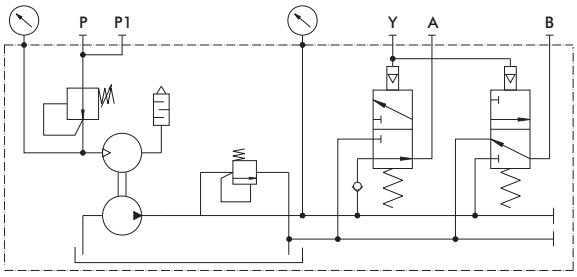
in this connection diagram you can see an air hydraulic pump, double action, with pneumatic control. On a single action design, the connection B does not apply.



Clamping circuit combinations

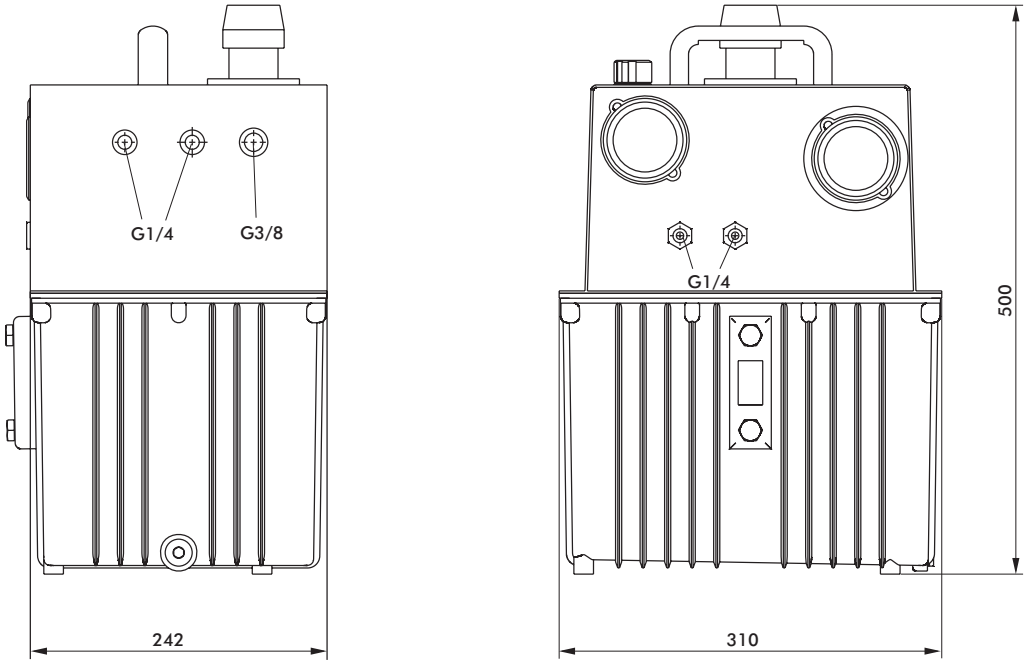


1 clamping circuit*, single action*
713E15051-1, 713E36051-1, 713E60051-1



1 clamping circuit*, double action*
713D15051-1, 713D36051-1, 713D60051-1

* Pumps with more circuits, with electrically controlled valves, positioning circuit or accumulator control unit circuit are also available.



Operating pressure up to 300 bar

Hydraulic synchronous flow dividers are required whenever several hydraulic cylinders need to be extended or retracted absolutely synchronously, e.g. to evenly lift something or to clamp a part with true reference to a centre. They can also help to operate several hydraulic punching units: punching a sheet in several places at the same time avoids moving or warping the sheet in the process.

Function

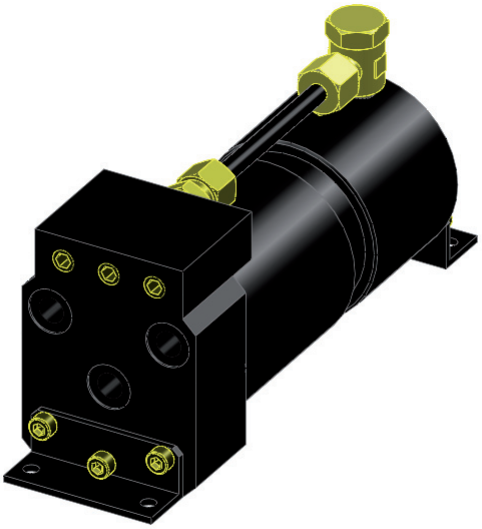
Hydraulic synchronous flow dividers are based on the principle of mechanically coupled hydraulic cylinders (displacement cylinders) which are extended together by a main cylinder. It's a intermediary device for absolute synchronous run. Every working cylinder requires a displacement cylinder. During every stroke, all working cylinders are supplied with the same volume of oil.

Features

- The compact unit consists of the main cylinder plus the displacement cylinders plus integrated stop valves for resynchronising the system after a leak has caused some loss of oil.
- Single-action and double-action operation of the cylinders connected to the divider unit
- Every unit is accurately adapted to the customer's needs
- Automatically controlled solenoid stop valves for permanent resynchronisation
- Accuracy of synchronisation > 99%
- Air and electrohydraulic pumps available as power sources

Please add to your inquiry or order:

- Max. operating pressure of the main cylinders used
- Number, piston diameter and stroke of the hydraulic cylinders used
- Intended use, e.g. clamping, lifting, punching etc.
- Manual or automatic synchronisation
- Type of power source: air hydraulic or electrical pump



Example: