

## HYDRAULIC CYLINDERS

**LARZEP** cylinders are manufactured using the highest quality materials. Our ranges of products are able to perform all kinds of industrial applications such as: lifting, pushing, pulling, bending, holding, etc. The Quality System UNE-EN ISO 9001 since 1995 and the standard ANSI-B30.1 / EN1494 guarantees the design, manufacturing, supply and aftersales service.

All of our products are tested individually in order to maximize their quality and the safety.

- ✓ Fully compliant with ANSI-B30.1 / EN1494 \*.
- ✓ All units load tested under 125% of the nominal capacity.
- ✓ Mechanical end of stroke gland avoids over travel at full pressure \*.
- ✓ Cylinder bodies manufactured using solid high strength alloy steel.
- ✓ Hard chrome plated pistons.
- ✓ Wiper seal reduces contamination and allows longer life \*.
- ✓ Wear rings for long service life and high absorption of side-loads \*.
- ✓ Hardened grooved saddles as standard, optional tilting saddles improve side-load resistance.
- ✓ Heavy cylinders include carrying handles or eye bolts.
- ✓ Female coupling AZ3140 with rubber dust cap included in all cylinders.
- ✓ LARZEP designs and manufactures special cylinders and fixing systems.
- ✓ Bottle jacks from 3 to 50 ton.

\* On most models.



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**BOTTLE JACKS**



Bottle jack with lock nut



50 ton, 2 speed, long stroke bottle jack



Type	<b>A</b>
Capacity	<b>3 - 50 ton</b>
Stroke	<b>105 - 150 mm</b>
Max. pressure	<b>700 bar</b>

A BOTTLE JACKS

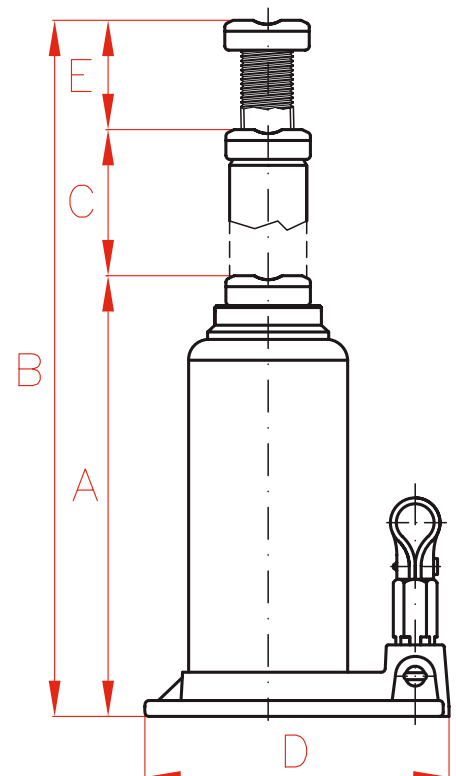
**J**  
Cylinder - pump sets




P.60

**BOTTLE JACKS**

Capacity ton	Model LARZEP	A mm	B mm	C mm	D mm	Screw E mm	Weight kg
3	A10310	168	338	105	118 x 75	65	3,7
5	A10515	212	437	150	125 x 75	75	4,5
8	A10815	219	444	150	145 x 90	75	6,2
10	A11015	219	444	150	145 x 90	75	6,4
15	A11515	228	453	150	165 x 110	75	8,8
20	A12015	234	459	150	173 x 122	75	10,6
30	A13015	242	467	150	196 x 142	75	15,5
50	A15014	260	400	140	214 x 164	-	26,9



# CYLINDERS

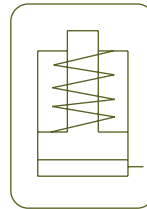
Models	Cylinder Type	Capacity ton (kN)	Stroke mm		Page
<b>SM</b>	Single Acting Spring Return Cylinders Attachments for SM and D cylinders (P.10)	<b>5 - 220</b> (49 - 2.156)	25 - 362		<b>6</b>
<b>SAM</b>	Aluminium Single Acting Cylinders, Spring Return	<b>30 - 140</b> (303 - 1.380)	50 - 300		<b>12</b>
<b>SH</b>	Single Acting Hollow Piston Cylinders, Spring Return	<b>12 - 100</b> (121 - 1.018)	40 - 150		<b>16</b>
<b>SAH</b>	Aluminium Single Acting Cylinders, Hollow Piston, Spring Return	<b>22 - 100</b> (217 - 1.019)	50 - 250		<b>18</b>
<b>SP - SMP</b>	Single Acting Low Height Cylinders, Load or Spring Return	<b>10 - 100</b> (109 - 911)	40 - 150		<b>22</b>
<b>SX - SMX</b>	Single Acting Low Profile Cylinders, Load or Spring Return	<b>4 - 150</b> (44 - 1.450)	6 - 16		<b>24</b>
<b>STC</b>	Single Acting Locknut Cylinders, Load Return	<b>30 - 1.085</b> (303 - 10.644)	50 - 300		<b>26</b>
<b>STX</b>	Single Acting Pancake Cylinders, Locknut Tilting Saddle, Load Return	<b>50 - 500</b> (496 - 5.114)	45 - 50		<b>32</b>
<b>SSC</b>	Single Acting High Tonnage Cylinders, Load Return	<b>144 - 1.085</b> (1.407 - 10.644)	50 - 300		<b>34</b>
<b>TE - TD</b>	Pull Cylinders, Spring Return or Double Acting	<b>10 - 50</b> (109 - 483)	150		<b>38</b>
<b>D</b>	Double Acting Cylinders	<b>10 - 550</b> (109 - 5.519)	50 - 320		<b>40</b>
<b>DDC</b>	Double Acting High Tonnage Cylinders	<b>51 - 1.085</b> (496 - 10.644)	50 - 300		<b>44</b>
<b>DDA</b>	Aluminium Double Acting Cylinders	<b>50 - 100</b> (487 - 911)	50 - 300		<b>48</b>
<b>DH</b>	Double Acting Hollow Piston Cylinders	<b>30 - 150</b> (302 - 1.407)	38 - 250		<b>52</b>
<b>DAH</b>	Aluminium Double Acting Cylinders, Hollow Piston	<b>30 - 100</b> (302 - 1.018)	50 - 250		<b>54</b>
<b>DM</b>	Double Acting Production Cylinders and Mounting Accessories	<b>4 - 23</b> (34 - 228)	28 - 260		<b>56</b>
<b>J</b>	Cylinder-Pump Sets, Single Acting	<b>5 - 100</b> (49 - 1.018)	40 - 362		<b>60</b>
<b>A</b>	Bottle Jacks	<b>3 - 50</b> (33 - 483)	105 - 150		<b>62</b>

## SINGLE ACTING SPRING RETURN CYLINDERS



- ✓ Capacities from 5 to 220 ton, stroke up to 362 mm.
- ✓ Industrial general purpose cylinders.
- ✓ Strong spring for quick retraction, can be used in all positions.
- ✓ Collar threads, piston end threads and base holes, for accessory mounting.
- ✓ Hard chrome-plated piston with wiper seal to extend cylinder life.
- ✓ Heavy cylinders include carrying handles or eye bolts as standard.
- ✓ Body made of solid steel.
- ✓ Stop ring can withstand full capacity of the cylinder.
- ✓ Guiding bands to improve resistance against side-loads.





**S/A SPRING RETURN CYLINDERS**



Type	<b>SM</b>
Capacity	5 - 220 ton
Stroke	25 - 362 mm
Max. pressure	700 bar

SM CYLINDERS



In case of operation under side loads, Larzep can supply tilting saddles.

**AZ04**  
Optional Tilting Saddles



P.90

**SM & D**  
Special attachments for SM and D models



P.10

**AZ3**  
Coupler 3/8" - 18 NPT included



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**SAM**  
Lightweight Aluminium Cylinders



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**D**  
Double Acting Cylinders



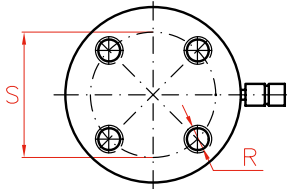
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**J**  
Cylinder and pump sets

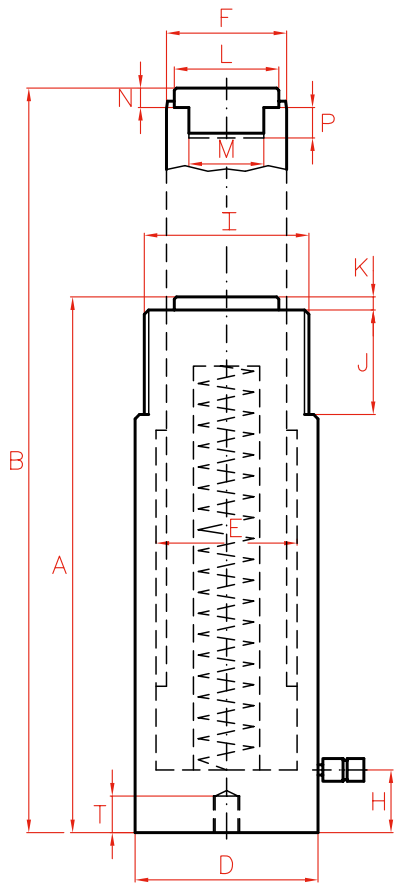
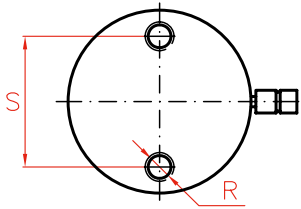


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**Models from 100 to 140 ton**



**Models up to 75 ton**



Capacity		Stroke	Model	Oil Cap.	A	B	D	E	F	H	I	
ton	kN	mm	LARZEP	cm <sup>3</sup>	mm	mm	mm	mm	mm	mm	UN	
5	49	25	SM00502	18	110	135	40	30	25	19	1 1/2"-16	
		76	SM00508	54	168	244	40	30	25	19	1 1/2"-16	
		127	SM00513	90	219	346	40	30	25	19	1 1/2"-16	
		180	SM00518	128	276	456	40	30	25	19	1 1/2"-16	
		232	SM00523	164	328	560	40	30	25	19	1 1/2"-16	
10	109	25	SM01002	40	90	115	60	45	36	20	2 1/4"-14	
		54	SM01005	86	121	175	60	45	36	20	2 1/4"-14	
		105	SM01010	167	172	277	60	45	36	20	2 1/4"-14	
		155	SM01015	247	247	402	60	45	36	20	2 1/4"-14	
		205	SM01020	326	301	506	60	45	36	20	2 1/4"-14	
		257	SM01025	409	352	609	60	45	36	20	2 1/4"-14	
		307	SM01030	489	402	709	60	45	36	20	2 1/4"-14	
355	SM01035	565	454	809	60	45	36	20	2 1/4"-14			
15	163	25	SM01502	60	127	152	75	55	45	20	2 3/4"-16	
		54	SM01505	129	155	209	75	55	45	20	2 3/4"-16	
		105	SM01510	250	205	310	75	55	45	20	2 3/4"-16	
		155	SM01515	369	275	430	75	55	45	20	2 3/4"-16	
		205	SM01520	487	327	532	75	55	45	20	2 3/4"-16	
		257	SM01525	611	379	636	75	55	45	20	2 3/4"-16	
		307	SM01530	730	426	733	75	55	45	20	2 3/4"-16	
355	SM01535	844	477	832	75	55	45	20	2 3/4"-16			
23	228	25	SM02302	83	140	165	85	65	56	25	3 5/16"-12	
		51	SM02305	170	166	217	85	65	56	25	3 5/16"-12	
		102	SM02310	339	217	319	85	65	56	25	3 5/16"-12	
		159	SM02315	528	277	436	85	65	56	25	3 5/16"-12	
		210	SM02321	697	327	537	85	65	56	25	3 5/16"-12	
		261	SM02326	866	379	640	85	65	56	25	3 5/16"-12	
		310	SM02331	1.029	430	740	85	65	56	25	3 5/16"-12	
		362	SM02336	1.201	480	842	85	65	56	25	3 5/16"-12	
30	303	60	SM03006	265	165	225	100	75	60	30	3 7/8"-12	
		150	SM03015	663	270	420	100	75	60	30	3 7/8"-12	
		210	SM03021	928	340	550	100	75	60	30	3 7/8"-12	
50	487	60	SM05006	426	176	236	127	95	80	35	5"-12	
		102	SM05010	723	227	329	127	95	80	35	5"-12	
		160	SM05016	1.134	285	445	127	95	80	35	5"-12	
		200	SM05020	1.418	325	525	127	95	80	35	5"-12	
		250	SM05025	1.772	376	626	127	95	80	35	5"-12	
339	SM05034	2.402	465	804	127	95	80	35	5"-12			
75	713	160	SM07516	1.661	285	445	150	115	90	35	5 3/4"-12	
		330	SM07533	3.426	495	825	150	115	90	35	5 3/4"-12	
100	911	60	SM10006	797	180	240	177	130	110	40	6 7/8"-12	
		150	SM10015	1.991	300	450	177	130	110	40	6 7/8"-12	
		260	SM10026	3.451	449	709	177	130	110	40	6 7/8"-12	
140	1.380	60	SM14006	1.206	190	250	216	160	140	40	8 1/2"-12	
		150	SM14015	3.015	320	470	216	160	140	40	8 1/2"-12	
		260	SM14026	5.226	470	730	216	160	140	40	8 1/2"-12	
220	2.156	150	SM22015	4.710	340	490	250	200	160	40	-	

\* SM01002 and SM01502 models are not provided with removable saddles.

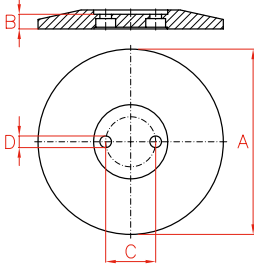


	J	K	L	M	N	P	R	S	T	Area	Weight	Model	With tilting saddle	
	mm	mm	mm	UN	mm	mm	UN	mm	mm	cm <sup>2</sup>	kg	LARZEP	A	Model
	28	6	25	3/4"-16	6	14	1/4"-20	25	14	7	1,0	SM00502	-	-
	28	6	25	3/4"-16	6	14	1/4"-20	25	14	7	1,5	SM00508	-	-
	28	6	25	3/4"-16	6	14	1/4"-20	25	14	7	1,9	SM00513	-	-
	28	6	25	3/4"-16	6	14	1/4"-20	25	14	7	2,4	SM00518	-	-
	28	6	25	3/4"-16	6	14	1/4"-20	25	14	7	2,8	SM00523	-	-
	32	6	30	*	*	*	5/16"-18	39	12	16	1,8	SM01002	*	*
	32	6	28	1"-8	10	19	5/16"-18	39	12	16	2,4	SM01005	140	AZ0420
	32	6	28	1"-8	10	19	5/16"-18	39	12	16	3,3	SM01010	191	AZ0420
	32	6	28	1"-8	10	19	5/16"-18	39	12	16	4,7	SM01015	266	AZ0420
	32	6	28	1"-8	10	19	5/16"-18	39	12	16	5,7	SM01020	320	AZ0420
	32	6	28	1"-8	10	19	5/16"-18	39	12	16	6,6	SM01025	371	AZ0420
	32	6	28	1"-8	10	19	5/16"-18	39	12	16	7,4	SM01030	421	AZ0420
	32	6	28	1"-8	10	19	5/16"-18	39	12	16	8,4	SM01035	473	AZ0420
	32	8	35	*	*	*	3/8"-16	47	12	24	4,2	SM01502	*	*
	32	8	35	1"-8	8	25	3/8"-16	47	12	24	5,0	SM01505	176	AZ0423
	32	8	35	1"-8	8	25	3/8"-16	47	12	24	6,4	SM01510	226	AZ0423
	32	8	35	1"-8	8	25	3/8"-16	47	12	24	8,5	SM01515	296	AZ0423
	32	8	35	1"-8	8	25	3/8"-16	47	12	24	10,0	SM01520	348	AZ0423
	32	8	35	1"-8	8	25	3/8"-16	47	12	24	11,5	SM01525	400	AZ0423
	32	8	35	1"-8	8	25	3/8"-16	47	12	24	12,8	SM01530	447	AZ0423
	32	8	35	1"-8	8	25	3/8"-16	47	12	24	14,2	SM01535	498	AZ0423
	45	10	45	1 1/2"-16	10	25	1/2"-13	58	19	33	6,0	SM02302	158	AZ0421
	45	10	45	1 1/2"-16	10	25	1/2"-13	58	19	33	7,0	SM02305	184	AZ0421
	45	10	45	1 1/2"-16	10	25	1/2"-13	58	19	33	8,9	SM02310	235	AZ0421
	45	10	45	1 1/2"-16	10	25	1/2"-13	58	19	33	11,2	SM02315	295	AZ0421
	45	10	45	1 1/2"-16	10	25	1/2"-13	58	19	33	13,0	SM02321	345	AZ0421
	45	10	45	1 1/2"-16	10	25	1/2"-13	58	19	33	15,0	SM02326	397	AZ0421
	45	10	45	1 1/2"-16	10	25	1/2"-13	58	19	33	16,9	SM02331	448	AZ0421
	45	10	45	1 1/2"-16	10	25	1/2"-13	58	19	33	18,8	SM02336	498	AZ0421
	48	10	45	1 1/2"-16	10	25	1/2"-13	66	19	44	9,3	SM03006	183	AZ0421
	48	10	45	1 1/2"-16	10	25	1/2"-13	66	19	44	14,6	SM03015	288	AZ0421
	48	10	45	1 1/2"-16	10	25	1/2"-13	66	19	44	18,2	SM03021	358	AZ0421
	55	5	61	-	12	-	1/2"-13	95	19	71	16,4	SM05006	203	AZ0402
	55	5	61	-	12	-	1/2"-13	95	19	71	20,7	SM05010	254	AZ0402
	55	5	61	-	12	-	1/2"-13	95	19	71	25,5	SM05016	312	AZ0402
	55	5	61	-	12	-	1/2"-13	95	19	71	29,0	SM05020	352	AZ0402
	55	5	61	-	12	-	1/2"-13	95	19	71	33,1	SM05025	403	AZ0402
	55	5	61	-	12	-	1/2"-13	95	19	71	40,4	SM05034	492	AZ0402
	55	5	61	-	12	-	3/4"-10	115	19	104	32,0	SM07516	312	AZ0402
	55	5	61	-	12	-	3/4"-10	115	19	104	54,0	SM07533	522	AZ0402
	55	5	88	-	14	-	3/4"-10	139	25	133	32,0	SM10006	213	AZ0404
	55	5	88	-	14	-	3/4"-10	139	25	133	53,0	SM10015	333	AZ0404
	55	5	88	-	14	-	3/4"-10	139	25	133	78,5	SM10026	482	AZ0404
	55	5	88	-	15	-	3/4"-10	165	25	201	52,0	SM14006	222	AZ0404
	55	5	88	-	15	-	3/4"-10	165	25	201	85,7	SM14015	352	AZ0404
	55	5	88	-	15	-	3/4"-10	165	25	201	124,5	SM14026	502	AZ0404
	-	5	111	-	15	-	-	-	-	314	116,5	SM22015	377	AZ0405



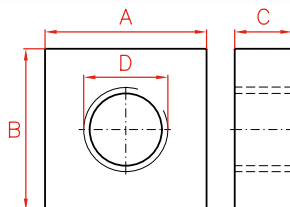
## ATTACHMENTS FOR SM AND D MODELS

### Base Plate



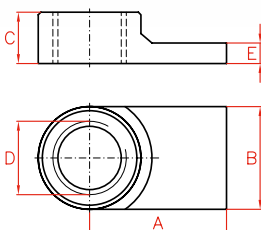
Capacity (ton)		Model	A	B	C	D	Weight
SM	D	LARZEP	mm	mm	mm	mm	kg
5	-	SM005P	150	15	25	7,0	2,2
10	10	SM010P	180	15	39	8,5	2,7
15	-	SM015P	180	15	47	10,0	2,7
23	20	SM023P	215	17	58	13,5	4,9
30	30	SM030P	215	17	66	13,5	4,9

### Mounting Block



Capacity (ton)		Model	A	B	C	D
SM	D	LARZEP	mm	mm	mm	UN
5	-	SM005B	76	90	25	1 1/2" - 16
10	10	SM010B	90	114	30	2 1/4" - 14
15	-	SM015B	100	114	30	2 3/4" - 16
23	-	SM023B	127	127	45	3 5/16" - 12
30	30	SM030B	135	135	45	3 7/8" - 12

### Collar Toe



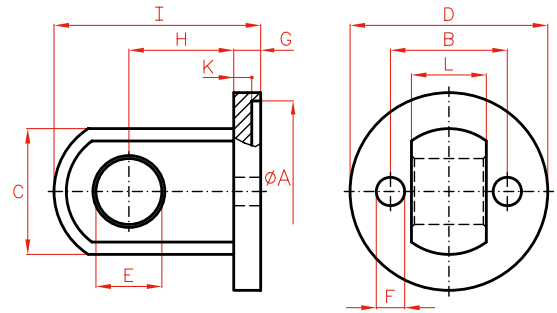
### WARNING

When using this accessory do not exceed 350 bar.

Capacity (ton)		Model	A	B	C	D	E
SM	D	LARZEP	mm	mm	mm	UN	mm
5	-	SM005U	54	31	25	1 1/2" - 16	11
10	10	SM010U	79	60	37	2 1/4" - 14	12
23	-	SM023U	105	80	40	3 5/16" - 12	20

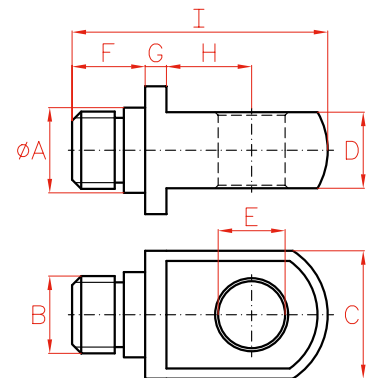


Clevis Eye Body



Capacity (ton)		Model	A	B	C	D	E	F	G	H	I	K	L
SM	D	LARZEP	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
5	-	SM005RB	41	25	28	46	16	8	9	25	50	6	14
10	10	SM010RB	61	39	42	66	22	10	9	35	69	6	25
15	-	SM015RB	76	47	42	82	22	11	9	35	69	6	25
23	20	SM023RB	86	58	57	95	31	14	12	41	84	7	38

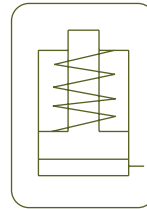
Clevis Eye Piston



Capacity (ton)		Model	A	B	C	D	E	F	G	H	I
SM	D	LARZEP	mm	UN	mm	mm	mm	mm	mm	mm	mm
5	-	SM005RP	25	3/4"-16	28	14	16	15	5	19	55
10	10-20	SM010-15RP	28	1"-8	42	25	22	24	7	28	84
23	30	SM023RP	45	1 1/2"-16	57	38	31	27	8	35	101

**ALUMINIUM SINGLE ACTING CYLINDERS, SPRING RETURN**

- ✓ Lightweight, general purpose cylinders from 30 to 140 ton, stroke up to 300 mm.
- ✓ Made from high strength aluminium alloy.
- ✓ Solid piston, spring return.
- ✓ All aluminium parts are treated to improve resistance and extend working life.
- ✓ 40% weight reduction when compared with steel equivalent.
- ✓ Fitted with steel base plate and saddle for wear resistance.
- ✓ Not suitable for high-cycle applications.



The body, stop ring and piston of the cylinder are hard anodized to strengthen the working area and extend its working life.

The lighter weight of aluminium makes them especially suitable for use in sites of difficult access.

It is highly recommended to place the cylinder on a flat area to avoid any damage to the base.

**S/A ALUMINIUM CYLINDERS**



Type	<b>SAM</b>
Capacity	<b>30 - 140 ton</b>
Stroke	<b>50 - 300 mm</b>
Max. pressure	<b>700 bar</b>

SAM CYLINDERS

**SAH**  
Lightweight Aluminium  
Hollow Piston Cylinders



P.18

**DDA**  
Double Acting Aluminium Cylinders



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**WA**  
Aluminium Hand Pumps



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**HBM / HBE**  
Powerpacks



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**Z12107**  
Air Hydraulic Pumps

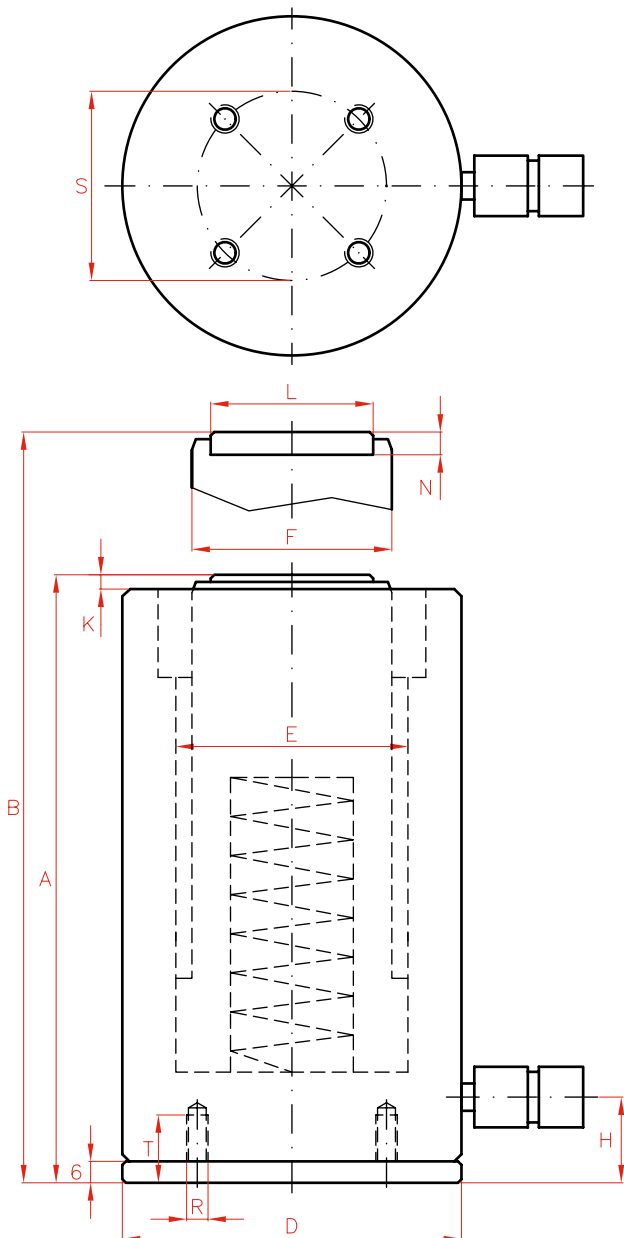


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**W**  
Single Acting Hand Pumps



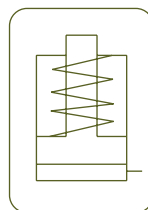
P.66



Capacity		Stroke	Model	Oil Cap.	A
ton	kN	mm	LARZEP	cm <sup>3</sup>	mm
30	303	50	SAM03005	221	172
		100	SAM03010	442	222
		150	SAM03015	663	272
		200	SAM03020	883	322
		250	SAM03025	1.104	372
		300	SAM03030	1.325	422
50	487	50	SAM05005	354	180
		100	SAM05010	709	230
		150	SAM05015	1.063	280
		200	SAM05020	1.417	330
		250	SAM05025	1.772	380
		300	SAM05030	2.126	430
100	911	50	SAM10005	663	210
		100	SAM10010	1.326	260
		150	SAM10015	1.989	310
		200	SAM10020	2.652	360
		250	SAM10025	3.315	410
		300	SAM10030	3.982	460
140	1.380	50	SAM14005	1.005	225
		100	SAM14010	2.010	275
		150	SAM14015	3.016	325
		200	SAM14020	4.021	375
		250	SAM14025	5.026	425



S/A ALUMINIUM CYLINDERS



Type **SAM**

Capacity **30 - 140 ton**

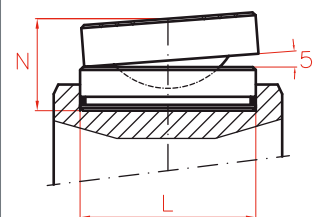
Stroke **50 - 300 mm**

Max. pressure **700 bar**

SAM CYLINDERS

OPTIONAL TILTING SADDLES

Model	L	N	Weight
LARZEP	mm	mm	kg
<b>AZ0401</b>	45	36	0,4
<b>AZ0402</b>	61	39	0,8
<b>AZ0404</b>	88	47	2,2



P.90

	B	D	E	F	H	K	L	N	R	S	T	Area	Weight	Model	With tilting saddle	
	mm	mm	mm	mm	mm	mm	mm	mm		mm	mm	cm <sup>2</sup>	kg	LARZEP	A	Model
	222	105	75	60	24	6	45	11	M6	85	19	44	4,8	<b>SAM03005</b>	197	AZ0401
	322	105	75	60	24	6	45	11	M6	85	19	44	5,4	<b>SAM03010</b>	247	AZ0401
	422	105	75	60	24	6	45	11	M6	85	19	44	6,4	<b>SAM03015</b>	297	AZ0401
	522	105	75	60	24	6	45	11	M6	85	19	44	7,4	<b>SAM03020</b>	347	AZ0401
	622	105	75	60	24	6	45	11	M6	85	19	44	8,4	<b>SAM03025</b>	397	AZ0401
	722	105	75	60	24	6	45	11	M6	85	19	44	9,3	<b>SAM03030</b>	447	AZ0401
	230	135	95	80	26	7	61	12	M6	115	19	71	8,0	<b>SAM05005</b>	207	AZ0402
	330	135	95	80	26	7	61	12	M6	115	19	71	9,5	<b>SAM05010</b>	257	AZ0402
	430	135	95	80	26	7	61	12	M6	115	19	71	11,0	<b>SAM05015</b>	307	AZ0402
	530	135	95	80	26	7	61	12	M6	115	19	71	11,5	<b>SAM05020</b>	357	AZ0402
	630	135	95	80	26	7	61	12	M6	115	19	71	13,0	<b>SAM05025</b>	407	AZ0402
	730	135	95	80	26	7	61	12	M6	115	19	71	14,5	<b>SAM05030</b>	457	AZ0402
	260	180	130	110	32	5	88	14	M6	160	19	133	16,0	<b>SAM10005</b>	243	AZ0404
	360	180	130	110	32	5	88	14	M6	160	19	133	19,0	<b>SAM10010</b>	293	AZ0404
	460	180	130	110	32	5	88	14	M6	160	19	133	22,0	<b>SAM10015</b>	343	AZ0404
	560	180	130	110	32	5	88	14	M6	160	19	133	25,0	<b>SAM10020</b>	393	AZ0404
	660	180	130	110	32	5	88	14	M6	160	19	133	28,0	<b>SAM10025</b>	443	AZ0404
	760	180	130	110	32	5	88	14	M6	160	19	133	31,0	<b>SAM10030</b>	493	AZ0404
	275	225	160	140	43	6	88	14	M6	200	19	201	24,0	<b>SAM14005</b>	258	AZ0404
	375	225	160	140	43	6	88	14	M6	200	19	201	29,0	<b>SAM14010</b>	308	AZ0404
	475	225	160	140	43	6	88	14	M6	200	19	201	34,0	<b>SAM14015</b>	358	AZ0404
	575	225	160	140	43	6	88	14	M6	200	19	201	39,0	<b>SAM14020</b>	408	AZ0404
	675	225	160	140	43	6	88	14	M6	200	19	201	44,0	<b>SAM14025</b>	458	AZ0404

**SINGLE ACTING HOLLOW PISTON CYLINDERS, SPRING RETURN**



- ✓ Capacities from 12 to 100 ton, strokes up to 150 mm.
  - ✓ Spring return, hollow piston.
  - ✓ For push and pull applications: Tensioning cables and bolts, pulling sleeves and bearings.
  - ✓ Body and saddle black nitrided to improve corrosion and wear resistance, except 12 ton models.
  - ✓ Hollow hard chrome-plated piston.
  - ✓ Collar threads, piston end thread and base holes for easy fixing.
  - ✓ Compatible with our complete puller range.
  - ✓ Hollow plain saddle as standard.
- Optional solid or threaded saddles available. Page 90.
- ✓ Hollow cylinders also available in double acting DH and aluminium single and double acting SAH and DAH.

Capacity		Stroke	Model	Oil Cap.	A	B	C
ton	kN	mm	LARZEP	cm <sup>3</sup>	mm	mm	mm
12	121	40	SH01204	70	124	164	20,5
		76	SH01208	134	176	252	20,5
		150	SH01215	264	300	450	20,5
22	217	50	SH02205	158	165	215	27
		76	SH02208	240	203	279	27
		150	SH02215	474	318	468	27
30	302	64	SH03006	281	197	261	34
		150	SH03015	660	322	472	34
60	578	76	SH06008	640	223	299	56
		153	SH06015	1.288	315	468	56
100	1.019	80	SH10008	1.187	282	362	81
		150	SH10015	2.225	367	517	81

**AZ04 & AZ05**  
Optional Saddles available  
Tilting or hollow



P.90



**HOLLOW PISTON CYLINDERS**



Type	<b>SH</b>
Capacity	12 - 100 ton
Stroke	40 - 150 mm
Max. pressure	700 bar

**SAH**  
Lightweight Aluminium  
Hollow Piston Cylinders

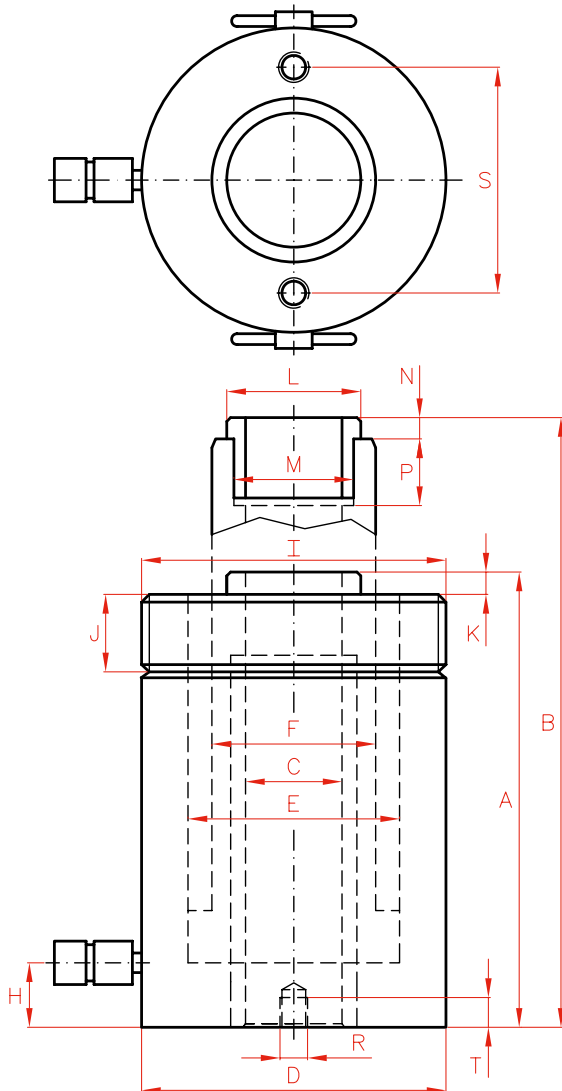
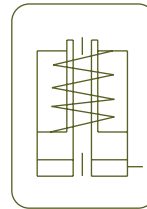


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**DH**  
Double Acting Hollow Piston Cylinders



P.52

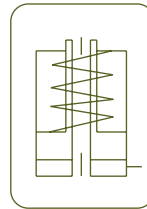


	D	E	F	H	I	J	K	L	M	N	P	R	S	T	Area	Weight	Model
	mm	mm	mm	mm	UN	mm	mm	mm	UN	mm	mm	UN	mm	mm	cm <sup>2</sup>	kg	LARZEP
	75	55	40	19	2 3/4"-16	30	3	34	M28 x 1,5	7	18	5/16"-18	51	12	18	3,4	<b>SH01204</b>
	75	55	40	19	2 3/4"-16	30	3	34	M28 x 1,5	7	18	5/16"-18	51	12	18	4,6	<b>SH01208</b>
	75	55	40	19	2 3/4"-16	30	3	34	M28 x 1,5	7	18	5/16"-18	51	12	18	7,6	<b>SH01215</b>
	105	75	56	23	3 7/8"-12	38	3	48	1 9/16"-16	8	20	3/8"-16	83	15	32	8,6	<b>SH02205</b>
	105	75	56	23	3 7/8"-12	38	3	48	1 9/16"-16	8	20	3/8"-16	83	15	32	11,5	<b>SH02208</b>
	105	75	56	23	3 7/8"-12	38	3	48	1 9/16"-16	8	20	3/8"-16	83	15	32	16,4	<b>SH02215</b>
	120	90	68	26	4 1/2"-12	42	4	55	1 13/16"-16	9	22	3/8"-16	92	17	44	13,2	<b>SH03006</b>
	120	90	68	26	4 1/2"-12	42	4	55	1 13/16"-16	9	22	3/8"-16	92	17	44	18,5	<b>SH03015</b>
	160	125	95	31	6 1/4"-12	48	4	80	2 3/4"-16	12	22	1/2"-13	130	14	84	26,0	<b>SH06008</b>
	160	125	95	31	6 1/4"-12	48	4	80	2 3/4"-16	12	22	1/2"-13	130	14	84	38,0	<b>SH06015</b>
	213	170	130	37	8 3/8"-12	60	5	116	4"-16	13	25	5/8"-11	178	19	148	58,0	<b>SH10008</b>
	213	170	130	37	8 3/8"-12	60	5	116	4"-16	13	25	5/8"-11	178	19	148	79,0	<b>SH10015</b>



**ALUMINIUM SINGLE ACTING CYLINDERS, HOLLOW PISTON, SPRING RETURN**

- ✓ Lightweight hollow cylinders with capacities from 22 to 100 ton and up to 250 mm stroke.
- ✓ Made from high strength aluminium alloy.
- ✓ Hollow piston, spring return.
- ✓ All aluminium parts are treated to improve resistance and extend working life.
- ✓ Fitted with steel base plate and saddle for wear resistance.
- ✓ 40% weight reduction when compared with steel equivalent.
- ✓ Hollow plain saddle as standard.
- ✓ Not suitable for high-cycle applications.



**HOLLOW PISTON ALUM. CYLINDERS**



Type **SAH**

Capacity **22 - 100 ton**

Stroke **50 - 250 mm**

Max. pressure **700 bar**

SAH CYLINDERS



**AZ04 & AZ05**  
Optional Saddles available  
Plain, threaded or solid



P.90

**W**  
Single Acting Hand Pumps



P.66

**DAH**  
Aluminium Double Acting  
Hollow Piston Cylinders



P.54

**WA**  
Aluminium Hand Pumps



P.68



**HBM / HBE**  
Powerpacks



P.72

**Z12107**  
Air Hydraulic Pumps

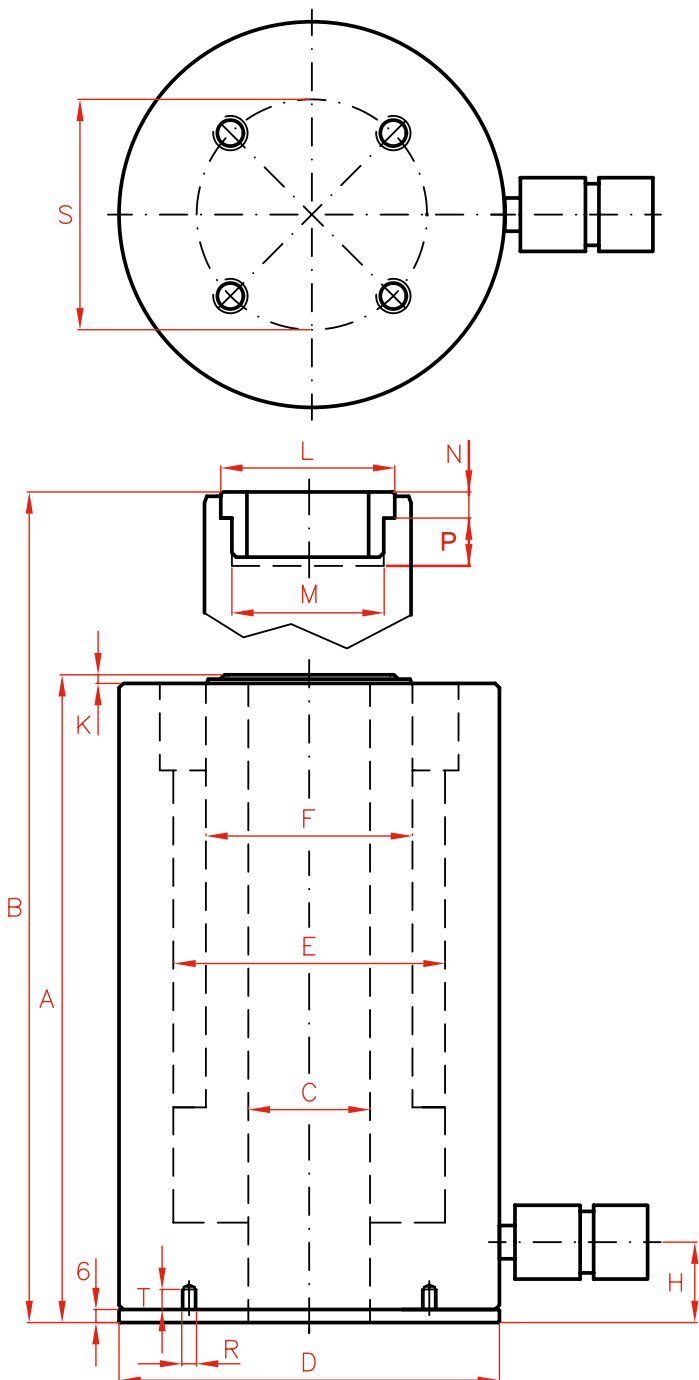


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**W**  
Single Acting Hand Pumps



P.66



Capacity		Stroke	Model	Oil Cap.	A	
ton	kN	mm	LARZEP	cm <sup>3</sup>	mm	
22	217	50	SAH02205	158	183	
		100	SAH02210	316	253	
		150	SAH02215	474	323	
		200	SAH02220	632	383	
		250	SAH02225	790	448	
30	302	50	SAH03005	220	210	
		100	SAH03010	440	278	
		150	SAH03015	660	350	
		200	SAH03020	880	410	
		250	SAH03025	1.100	475	
60	578	50	SAH06005	421	243	
		100	SAH06010	842	298	
		150	SAH06015	1.263	363	
		200	SAH06020	1.684	428	
		250	SAH06025	2.105	493	
100	1.018	50	SAH10005	742	260	
		100	SAH10010	1.484	327	
		150	SAH10015	2.226	397	
		200	SAH10020	3.968	462	
		250	SAH10025	3.710	532	

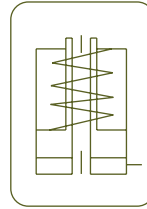


**AZ04 & AZ05**

Optional Saddles available  
Plain, threaded or solid



P.90



**HOLLOW PISTON ALUM. CYLINDERS**



Type

**SAH**

Capacity

**22 - 100 ton**

Stroke

**50 - 250 mm**

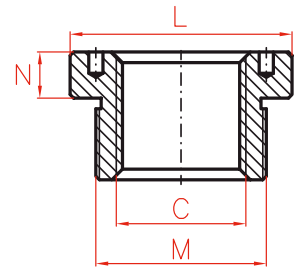
Max. pressure

**700 bar**

SAH CYLINDERS

**OPTIONAL THREADED SADDLES**

Cylinder Model	Model	C	L	M	N
LARZEP	LARZEP	UN	mm	UN	mm
SAH022	<b>AZ0552</b>	1"-8	48	1 9/16"-16	8
SAH030	<b>AZ0553</b>	1 1/4"-7	55	1 13/16"-16	9
SAH060	<b>AZ0556</b>	1 5/8"-5 1/2	80	2 3/4"-16	12
SAH100	<b>AZ0560</b>	2 1/2"-8	116	4"-16	13



P.90

	B	C	D	E	F	H	K	L	M	N	P	R	S	T	Area	Weight	Model
	mm	mm	mm	mm	mm	mm	mm	mm	UN	mm	mm		mm	mm	cm <sup>2</sup>	kg	LARZEP
	233	27	100	75	56	26	3	48	1 9/16"-16	8	20	M6	85	19	32	4,5	<b>SAH02205</b>
	353	27	100	75	56	26	3	48	1 9/16"-16	8	20	M6	85	19	32	5,8	<b>SAH02210</b>
	473	27	100	75	56	26	3	48	1 9/16"-16	8	20	M6	85	19	32	7,0	<b>SAH02215</b>
	587	27	100	75	56	26	3	48	1 9/16"-16	8	20	M6	85	19	32	8,0	<b>SAH02220</b>
	698	27	100	75	56	26	3	48	1 9/16"-16	8	20	M6	85	19	32	8,8	<b>SAH02225</b>
	260	34	130	90	68	32	4	55	1 11/13"-16	9	22	M6	110	19	44	7,5	<b>SAH03005</b>
	378	34	130	90	68	32	4	55	1 11/13"-16	9	22	M6	110	19	44	10,0	<b>SAH03010</b>
	500	34	130	90	68	32	4	55	1 11/13"-16	9	22	M6	110	19	44	11,5	<b>SAH03015</b>
	610	34	130	90	68	32	4	55	1 11/13"-16	9	22	M6	110	19	44	13,0	<b>SAH03020</b>
	725	34	130	90	68	32	4	55	1 11/13"-16	9	22	M6	110	19	44	14,6	<b>SAH03025</b>
	293	56	175	125	95	37	4	80	2 3/4"-16	12	22	M6	155	19	84	16,3	<b>SAH06005</b>
	398	56	175	125	95	37	4	80	2 3/4"-16	12	22	M6	155	19	84	19,5	<b>SAH06010</b>
	513	56	175	125	95	37	4	80	2 3/4"-16	12	22	M6	155	19	84	23,4	<b>SAH06015</b>
	628	56	175	125	95	37	4	80	2 3/4"-16	12	22	M6	155	19	84	26,0	<b>SAH06020</b>
	743	56	175	125	95	37	4	80	2 3/4"-16	12	22	M6	155	19	84	32,0	<b>SAH06025</b>
	310	81	235	170	130	40	6	116	4"-16	13	25	M6	215	19	148	31,0	<b>SAH10005</b>
	427	81	235	170	130	40	6	116	4"-16	13	25	M6	215	19	148	38,0	<b>SAH10010</b>
	547	81	235	170	130	40	6	116	4"-16	13	25	M6	215	19	148	45,0	<b>SAH10015</b>
	662	81	235	170	130	40	6	116	4"-16	13	25	M6	215	19	148	53,0	<b>SAH10020</b>
	782	81	235	170	130	40	6	116	4"-16	13	25	M6	215	19	148	61,0	<b>SAH10025</b>

## SINGLE ACTING LOW HEIGHT CYLINDERS, LOAD OR SPRING RETURN

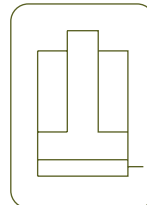
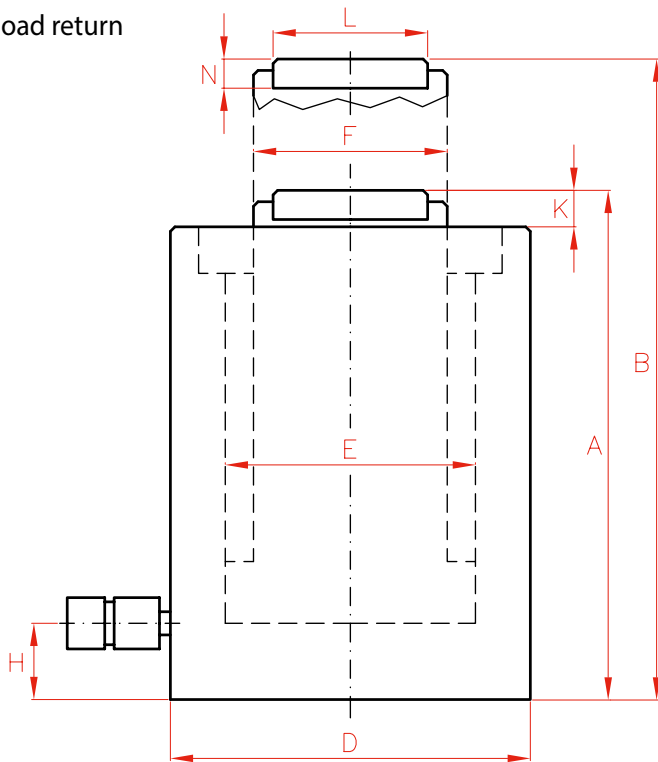


- ✓ Capacities from 10 to 100 ton, strokes up to 150 mm.
- ✓ Two versions: **SP** for load return, and **SMP** for spring return.
- ✓ Low profile for use in confined spaces: machinery positioning, tool fastening, load tests.
- ✓ Body and saddle black nitrided to improve corrosion and wear resistance.
- ✓ Optional tilting saddles can be mounted on 30 to 100 ton models.

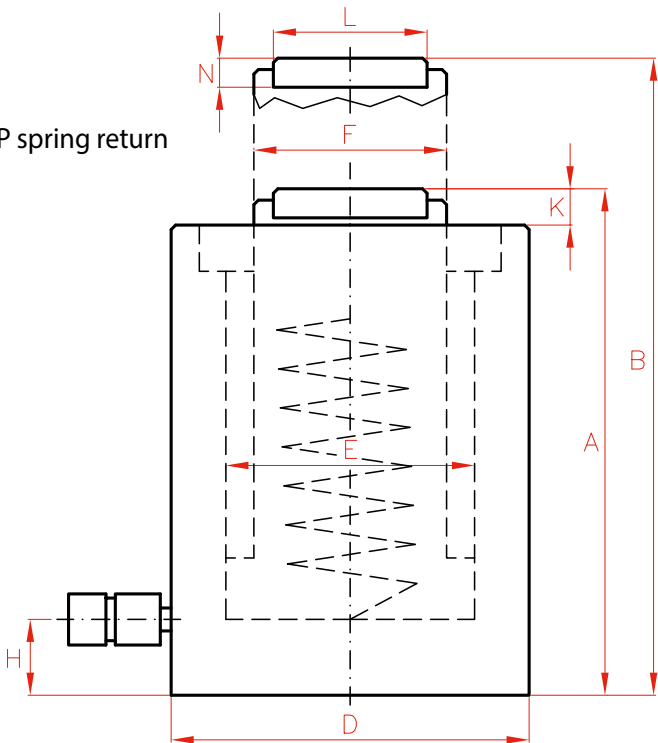
Capacity		Stroke	Model	Model	Oil Cap.	A	B	D	E	F	H	K	
ton	kN	mm	LARZEP	LARZEP	cm <sup>3</sup>	mm	mm	mm	mm	mm	mm	mm	
10	109	40	SP01004	SMP01004	64	89	129	66	45	36	14*	2	
20	214	40	SP02004	SMP02004	125	101	141	90	63	56	14*	2	
30	303	60	SP03006	SMP03006	265	125	185	102	75	60	14*	2	
50	486	60	SP05006	SMP05006	425	125	185	127	95	80	16*	2	
100	911	60	SP10006	SMP10006	796	141	201	175	130	110	26	2	
		150	-	SMP10015	1.990	254	404	175	130	110	26	2	



SP load return



SMP spring return



SINGLE ACTING CYLINDERS



Type	<b>SP - SMP</b>
Capacity	10 - 100 ton
Stroke	40 - 150 mm
Max. pressure	700 bar

J Cylinder and pump sets



P.60

SX - SMX Single Acting Low Profile Cylinders



P.24

AZ3 Coupler inclined 10°



P.86

AZ04 Optional Tilting Saddles



P.90

	L	N	Area cm <sup>2</sup>	Weight kg	Model	Model	With tilting saddle	
	mm	mm			LARZEP	LARZEP	A	Model
	30	-	16	3	<b>SP01004</b>	<b>SMP01004</b>	-	-
	42	-	31	5	<b>SP02004</b>	<b>SMP02004</b>	-	-
	45	11	44	8	<b>SP03006</b>	<b>SMP03006</b>	150	AZ0401
	61	12	71	12	<b>SP05006</b>	<b>SMP05006</b>	152	AZ0402
	88	14	133	25	<b>SP10006</b>	<b>SMP10006</b>	174	AZ0404
	88	14	133	43	-	<b>SMP10015</b>	287	AZ0404

**SINGLE ACTING LOW PROFILE CYLINDERS, LOAD OR SPRING RETURN**



- ✓ Capacities from 4 to 150 ton, strokes up to 16 mm.
- ✓ Two versions: **SX** for load return, and **SMX** for spring return.
- ✓ For use in confined spaces: machinery positioning, tool fastening.
- ✓ With two parallel faces for horizontal operation.
- ✓ Mounting bolt holes for easy fixing.
- ✓ Special coating as standard to improve corrosion and side-load resistance.
- ✓ SX models from 50 to 150 ton include removable saddle and can be fitted with optional tilting saddles.

**SX & SMX**

Coupler inclined 5°, except on 100 ton and 150 ton, which is 0°



P.86

**AZ04**

Optional Tilting Saddles available for SX models from 50 to 150 ton



P.90

**W**

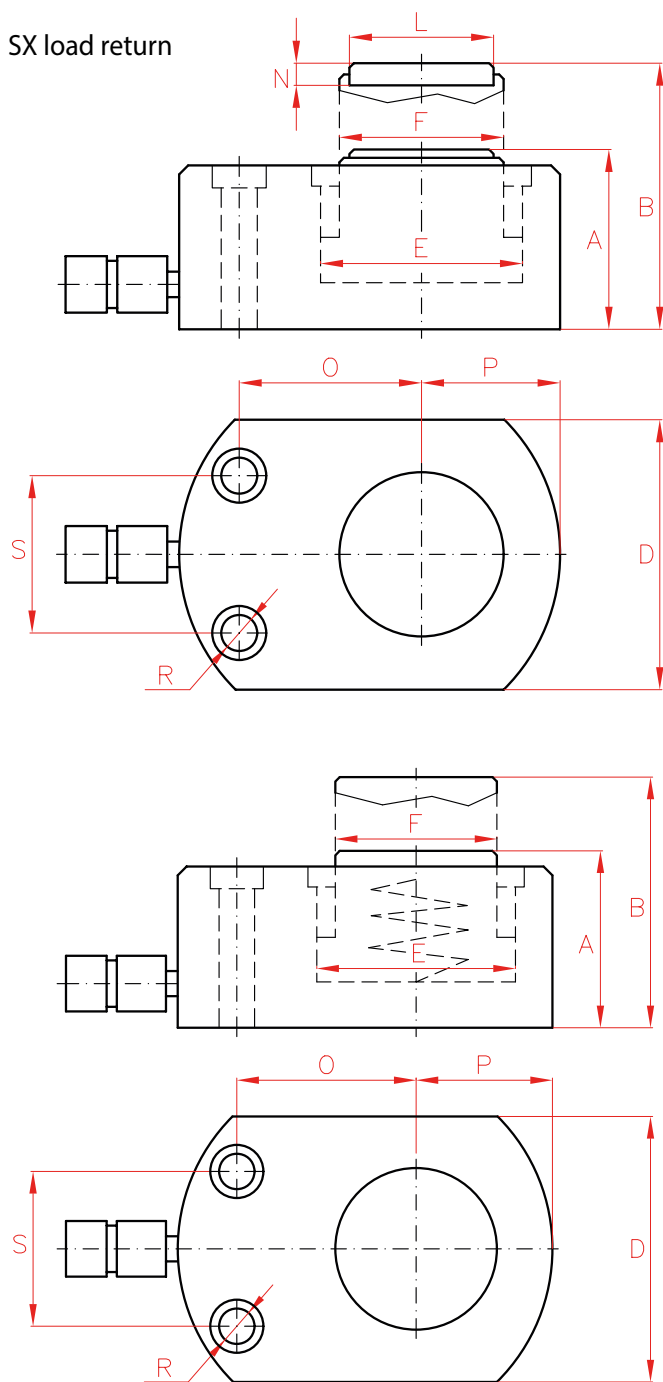
Single Acting Hand Pumps



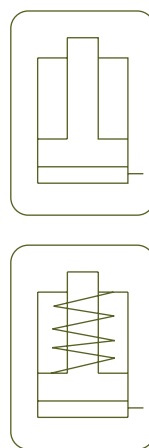
P.66



SX load return



SMX spring return



**SINGLE ACTING CYLINDERS**



Type **SX - SMX**

Capacity **4 - 150 ton**

Stroke **6 - 16 mm**

Max. pressure **700 bar**

**SP - SMP**  
Low Height Single Acting Cylinders



P.22

**STX**  
Single Acting Pancake Locknut Cylinders



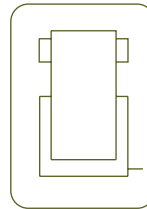
P.32

Capacity		Stroke	Model	Model	Oil Cap.	A	B	D	E	F	L	N	O	P	S	R	Area	Weight
ton	kN	mm	LARZEP	LARZEP	cm <sup>3</sup>	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	cm <sup>2</sup>	kg
4	44	6	<b>SX00406</b>	<b>SMX00406</b>	4	33	39	41	28,5	25	21	-	20	21	28	5,5	6	0,8
		16	<b>SX00416</b>	<b>SMX00416</b>	11	43	59	41	28,5	25	21	-	20	21	28	5,5	6	1,2
10	100	11	<b>SX01011</b>	<b>SMX01011</b>	16	43	54	56	43	38	30	-	33	29	37	6,5	15	1,6
22	228	11	<b>SX02211</b>	<b>SMX02211</b>	37	52	63	80	65	57	42	-	39	41	50	9	33	2,8
30	287	13	<b>SX03013</b>	<b>SMX03013</b>	55	59	72	95	73	60	44	-	46	47	52	11	42	4,1
50	487	16	<b>SX05016</b>	<b>SMX05016</b>	114	68	84	114	95	78	61	12	56	58	67	13	71	6,6
75	713	16	<b>SX07516</b>	<b>SMX07516</b>	167	79	95	140	115	95	61	12	66	70,5	75	13	104	12,5
100	954	16	<b>SX10016</b>	<b>SMX10016</b>	223	87	103	162	133	108	88	14	70	89	76	6,6	139	15,0
150	1.450	16	<b>SX15016</b>	<b>SMX15016</b>	338	100	116	194	164	134	88	14	78	108	117	9	211	25,0



**SINGLE ACTING LOCKNUT CYLINDERS, LOAD RETURN**

- ✓ Capacities from 30 to 1.085 ton, strokes up to 300 mm.
- ✓ The locknut holds the load mechanically for extended periods of time.
- ✓ Locknut tested under 50% overload.
- ✓ Hydraulic end of stroke overflow port. Red band warning.
- ✓ Body, locknut and saddle black nitrided to improve corrosion and wear resistance.
- ✓ Used for foundation supporting, bridge construction and shipbuilding.
- ✓ For confined spaces, use **STX** models.



**S/A LOCKNUT CYLINDERS**



Type	<b>STC</b>
Capacity	<b>30 - 1.085 ton</b>
Stroke	<b>50 - 300 mm</b>
Max. pressure	<b>700 bar</b>

**CATS**  
Optional Tilting Saddles available



P.90

**STX**  
Single Acting Pancake Locknut Cylinders



P.32



**AZ3**

Coupler 3/8"-18 NPT included



P.86

**AP2**

Hoses



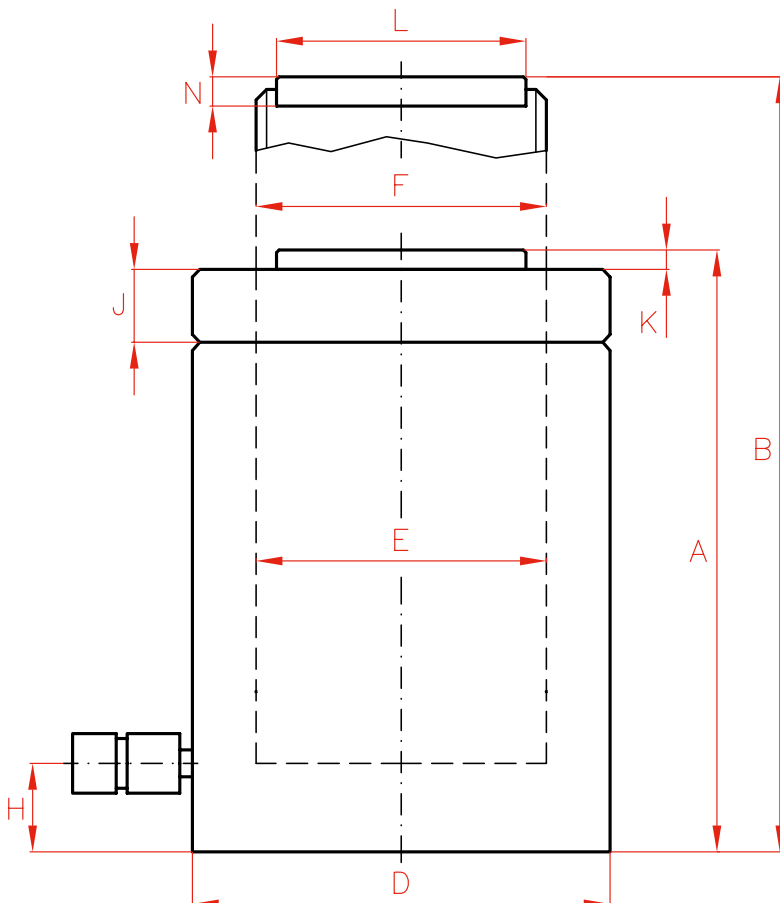
P.84

**AV - AY - AVD**

Pressure Gauges



P.94



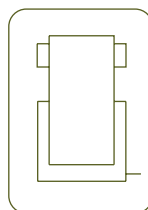
Capacity		Stroke	Model	Oil Cap.	A	
ton	kN	mm	LARZEP	cm <sup>3</sup>	mm	
30	303	50	STC03005	221	141	
		100	STC03010	442	191	
		150	STC03015	663	246	
		200	STC03020	884	296	
		250	STC03025	1.104	355	
		300	STC03030	1.325	405	
51	496	50	STC05005	354	153	
		100	STC05010	709	203	
		150	STC05015	1.063	261	
		200	STC05020	1.418	311	
		250	STC05025	1.772	366	
		300	STC05030	2.126	416	
95	929	50	STC10005	664	180	
		100	STC10010	1.327	230	
		150	STC10015	1.991	285	
		200	STC10020	2.655	335	
		250	STC10025	3.318	391	
		300	STC10030	3.982	441	
144	1.470	50	STC14005	1.005	195	
		100	STC14010	2.011	245	
		150	STC14015	3.016	309	
		200	STC14020	4.021	359	
		250	STC14025	5.027	415	
		300	STC14030	6.032	465	



**W**  
Single Acting Hand Pumps



P.66



**S/A LOCKNUT CYLINDERS**



Type **STC**

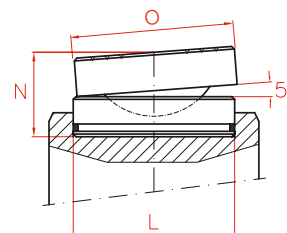
Capacity **30 - 1.085 ton**

Stroke **50 - 300 mm**

STC CYLINDERS

**OPTIONAL TILTING SADDLES**

Model	L	N	O	Weight
LARZEP	mm	mm	mm	kg
<b>CATS50</b>	50	34,0	71	1,0
<b>CATS100</b>	71	30,0	71	1,5
<b>CATS150</b>	94	39,2	97	3,0



P.90

	B	D	E	F	H	J	K	L	N	Area	Weight	Model	With tilting saddle	
	mm	mm	mm	mm	mm	mm	mm	mm	mm	cm <sup>2</sup>	kg	LARZEP	A	Model
	191	100	75	Tr 75x4	20	20	3	50	20	44,2	9	<b>STC03005</b>	155	CATS50
	291	100	75	Tr 75x4	20	20	3	50	20	44,2	12	<b>STC03010</b>	205	CATS50
	396	100	75	Tr 75x4	20	20	3	50	20	44,2	15	<b>STC03015</b>	260	CATS50
	496	100	75	Tr 75x4	20	20	3	50	20	44,2	18	<b>STC03020</b>	310	CATS50
	605	100	75	Tr 75x4	20	20	3	50	20	44,2	22	<b>STC03025</b>	369	CATS50
	705	100	75	Tr 75x4	20	20	3	50	20	44,2	25	<b>STC03030</b>	419	CATS50
	203	125	95	Tr 95x4	25	21	3	50	20	70,9	14	<b>STC05005</b>	167	CATS50
	303	125	95	Tr 95x4	25	21	3	50	20	70,9	19	<b>STC05010</b>	217	CATS50
	411	125	95	Tr 95x4	25	21	3	50	20	70,9	25	<b>STC05015</b>	275	CATS50
	511	125	95	Tr 95x4	25	21	3	50	20	70,9	30	<b>STC05020</b>	325	CATS50
	616	125	95	Tr 95x4	25	21	3	50	20	70,9	35	<b>STC05025</b>	380	CATS50
	716	125	95	Tr 95x4	25	21	3	50	20	70,9	40	<b>STC05030</b>	430	CATS50
	230	170	130	Tr 130x6	30	31	3	71,5	20	132,7	31	<b>STC10005</b>	190	CATS100
	330	170	130	Tr 130x6	30	31	3	71,5	20	132,7	40	<b>STC10010</b>	240	CATS100
	435	170	130	Tr 130x6	30	31	3	71,5	20	132,7	50	<b>STC10015</b>	295	CATS100
	535	170	130	Tr 130x6	30	31	3	71,5	20	132,7	59	<b>STC10020</b>	345	CATS100
	641	170	130	Tr 130x6	30	31	3	71,5	20	132,7	69	<b>STC10025</b>	401	CATS100
	741	170	130	Tr 130x6	30	31	3	71,5	20	132,7	78	<b>STC10030</b>	451	CATS100
	245	210	160	Tr 160x6	40	38	3	94	20	201,1	52	<b>STC14005</b>	214	CATS150
	345	210	160	Tr 160x6	40	38	3	94	20	201,1	65	<b>STC14010</b>	264	CATS150
	459	210	160	Tr 160x6	40	38	3	94	20	201,1	83	<b>STC14015</b>	328	CATS150
	559	210	160	Tr 160x6	40	38	3	94	20	201,1	96	<b>STC14020</b>	378	CATS150
	665	210	160	Tr 160x6	40	38	3	94	20	201,1	111	<b>STC14025</b>	434	CATS150
	765	210	160	Tr 160x6	40	38	3	94	20	201,1	125	<b>STC14030</b>	484	CATS150

**Z12107**  
Air Hydraulic Pump



P.70

**HBM / HBE**  
Powerpack

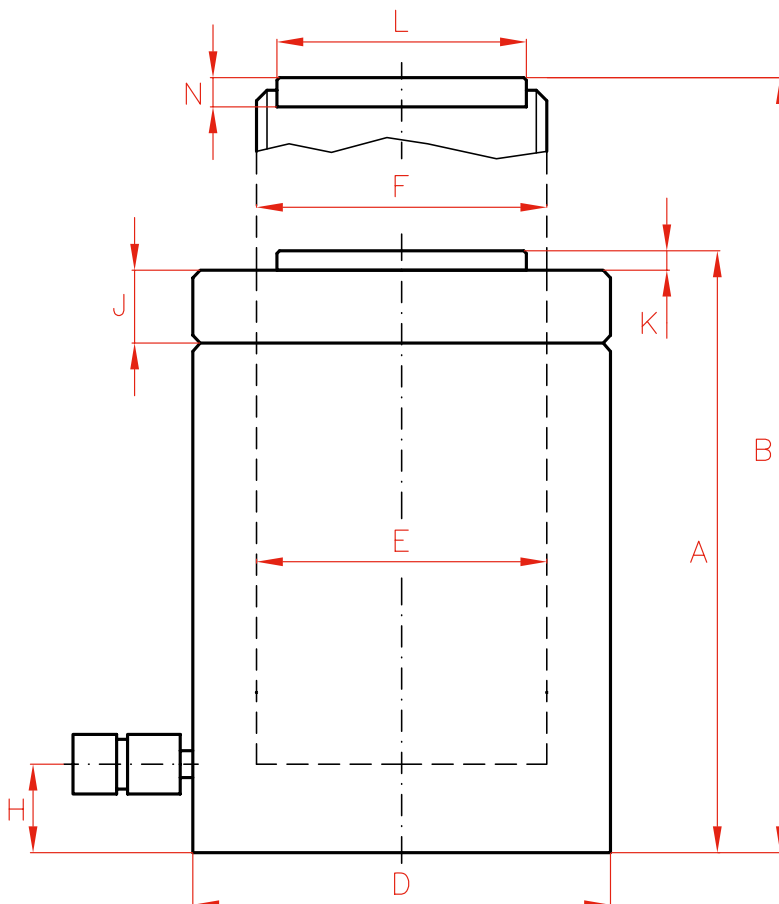


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**AP2**  
Hoses

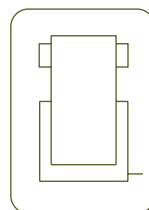


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Capacity		Stroke	Model	Oil Cap.	A
ton	kN	mm	LARZEP	cm <sup>3</sup>	mm
224	2.199	150	STC22015	4.712	328
		300	STC22030	9.425	488
310	3.036	150	STC30015	6.506	351
		300	STC30030	13.012	511
409	4.008	150	STC40015	8.588	370
		300	STC40030	17.177	530
552	5.114	150	STC50015	10.959	395
		300	STC50030	21.918	555
611	5.987	50	STC60005	4.276	311
		150	STC60015	12.829	421
		300	STC60030	25.659	581
831	8.149	50	STC80005	5.821	348
		150	STC80015	17.462	458
		300	STC80030	34.925	618
1.085	10.644	50	STC100005	7.603	392
		150	STC100015	22.808	502
		300	STC100030	45.616	673





Type **STC**

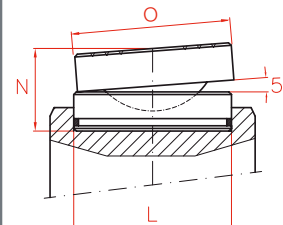
Capacity **30 - 1.085 ton**

Stroke **50 - 300 mm**

Max. pressure **700 bar**

OPTIONAL TILTING SADDLES

Model	L	N	O	Weight
LARZEP	mm	mm	mm	kg
CATS200	113	43,0	126	4,4
CATS300	140	68,5	175	10,3
CATS400	159	78,0	210	17,0
CATS500	179	77,0	230	20,0
CATS600	194	81,5	250	24,0
CATS800	224	86,5	275	32,0
CATS1000	249	105,5	300	46,0



P.90

	B	D	E	F	H	J	K	L	N	Area	Weight	Model	With tilting saddle	
	mm	mm	mm	mm	mm	mm	mm	mm	mm	cm <sup>2</sup>	kg	LARZEP	A	Model
	478	260	200	Tr 200 x 6	50	40	3	113	25	314,2	134	STC22015	346	CATS200
	788	260	200	Tr 200 x 6	50	40	3	113	25	314,2	201	STC22030	506	CATS200
	501	305	235	Tr 235 x 6	55	45	5	140	30	433,7	197	STC30015	390	CATS300
	811	305	235	Tr 235 x 6	55	45	5	140	30	433,7	289	STC30030	550	CATS300
	520	350	270	Tr 270 x 6	65	50	5	159	30	572,6	274	STC40015	418	CATS400
	830	350	270	Tr 270 x 6	65	50	5	159	30	572,6	395	STC40030	578	CATS400
	545	400	305	Tr 305 x 6	75	60	5	179	30	730,6	383	STC50015	442	CATS500
	855	400	305	Tr 305 x 6	75	60	5	179	30	730,6	540	STC50030	602	CATS500
	361	430	330	Tr 330 x 6	80	80	5	194	30	855,3	347	STC60005	363	CATS600
	571	430	330	Tr 330 x 6	80	80	5	194	30	855,3	472	STC60015	473	CATS600
	881	430	330	Tr 330 x 6	80	80	5	194	30	855,3	654	STC60030	633	CATS600
	398	505	385	Tr 385 x 6	95	90	5	224	30	1.164,2	537	STC80005	405	CATS800
	608	505	385	Tr 385 x 6	95	90	5	224	30	1.164,2	709	STC80015	515	CATS800
	918	505	385	Tr 385 x 6	95	90	5	224	30	1.164,2	959	STC80030	675	CATS800
	442	570	440	Tr 440 x 6	105	105	5	249	30	1.520,5	772	STC100005	468	CATS1000
	652	570	440	Tr 440 x 6	105	105	5	249	30	1.520,5	991	STC100015	578	CATS1000
	973	570	440	Tr 440 x 6	105	105	5	249	30	1.520,5	1.332	STC100030	749	CATS1000

**SINGLE ACTING PANCAKE CYLINDERS, LOCKNUT, TILTING SADDLE, LOAD RETURN**

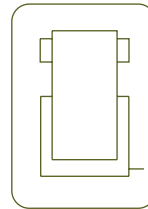
- ✓ Capacities from 50 to 500 ton, strokes up to 50 mm.
- ✓ Load return. Locknut tested under 50% overload.
- ✓ The locknut holds the load mechanically for extended periods of time.
- ✓ Hydraulic end of stroke overflow port. Without stop ring. Red band warning.
- ✓ Built-in tilting saddle to improve side-load resistance.
- ✓ Body, nut and saddle black nitrided to improve corrosion and wear resistance.
- ✓ Used in confined spaces.



**STC**  
Single Acting Locknut Cylinders



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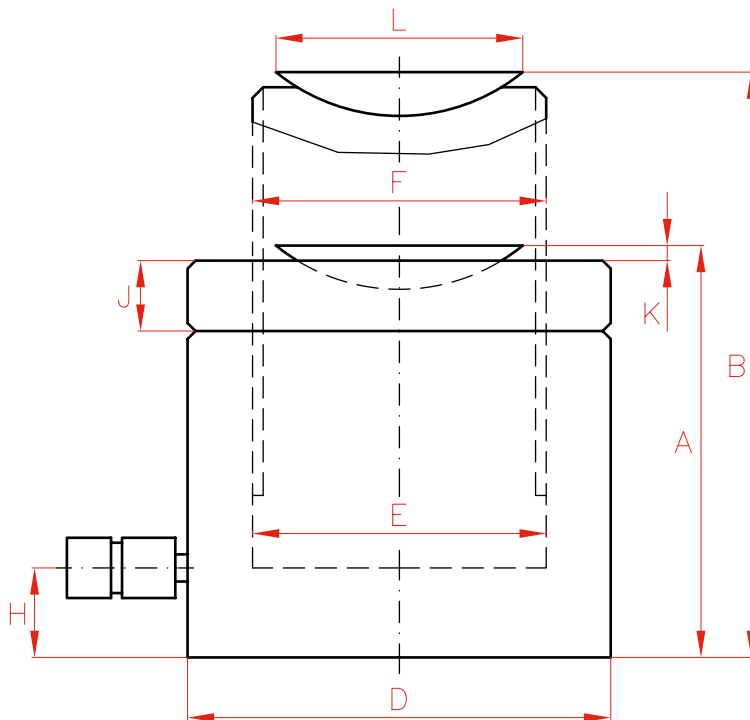


**S/A LOCKNUT CYLINDERS**



Type	<b>STX</b>
Capacity	<b>50 - 500 ton</b>
Stroke	<b>45 - 50 mm</b>
Max. pressure	<b>700 bar</b>

STX CYLINDERS



**STX**  
Built-in Tilting Saddle



P.32

**SX - SMX**  
Single Acting Low Profile Cylinders,  
Load or Spring Return



P.24

Capacity		Stroke	Model	Oil Cap.	A	B	D	E	F	H	J	K	L	Area	Weight
ton	kN	mm	LARZEP	cm <sup>3</sup>	mm	mm	mm	mm	mm	mm	mm	mm	mm	cm <sup>2</sup>	kg
50	496	50	<b>STX05004</b>	355	125	175	125	95	Tr 95x4	20	21	6	85	71	11
100	929	45	<b>STX10004</b>	597	137	182	165	130	Tr 130X5	23	31	8	117	133	22
150	1.407	45	<b>STX15004</b>	905	148	193	205	160	Tr 160x6	28	38	9	143	201	39
230	2.199	45	<b>STX23004</b>	1.413	155	200	255	200	Tr 200x6	32	40	10	150	314	62
300	3.036	45	<b>STX30004</b>	1.952	173	218	310	235	Tr 235x6	38	45	11	209	433	97
400	4.008	45	<b>STX40004</b>	2.577	180	225	350	270	Tr 270x6	44	50	10	258	572	130
500	5.114	45	<b>STX50004</b>	3.388	195	240	400	305	Tr 305x6	50	60	10	285	730	184



**SINGLE ACTING HIGH TONNAGE CYLINDERS, LOAD RETURN**



- ✓ Capacities from 144 to 1.085 ton, strokes up to 300 mm.
- ✓ Load return. For weighing, lifting and positioning applications in Civil Engineering.
- ✓ Hydraulic end of stroke overflow port. Without stop ring. Red band warning.  
For mechanical stop ring see **DDC** double acting models.
- ✓ For confined spaces and loads up to 150 ton, see **SX** and **SP** models.
- ✓ Black nitrided body, up to 224 ton.

**SX - SMX**  
Single Acting Low Profile Cylinders



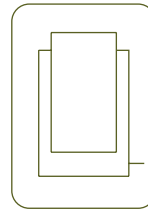
P.24

**SP - SMP**  
Low Height Single Acting Cylinders



P.22





**S/A LOAD RETURN CYLINDERS**



Type	<b>SSC</b>
Capacity	144 - 1.085 ton
Stroke	50 - 300 mm
Max. pressure	700 bar

SSC CYLINDERS



**DDC**  
Double Acting High Tonnage Cylinders



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**HBM / HBE**  
Powerpacks



P.72



**HBM / HBE**  
Powerpacks



P.72

**Z22107**  
Air Hydraulic Pumps

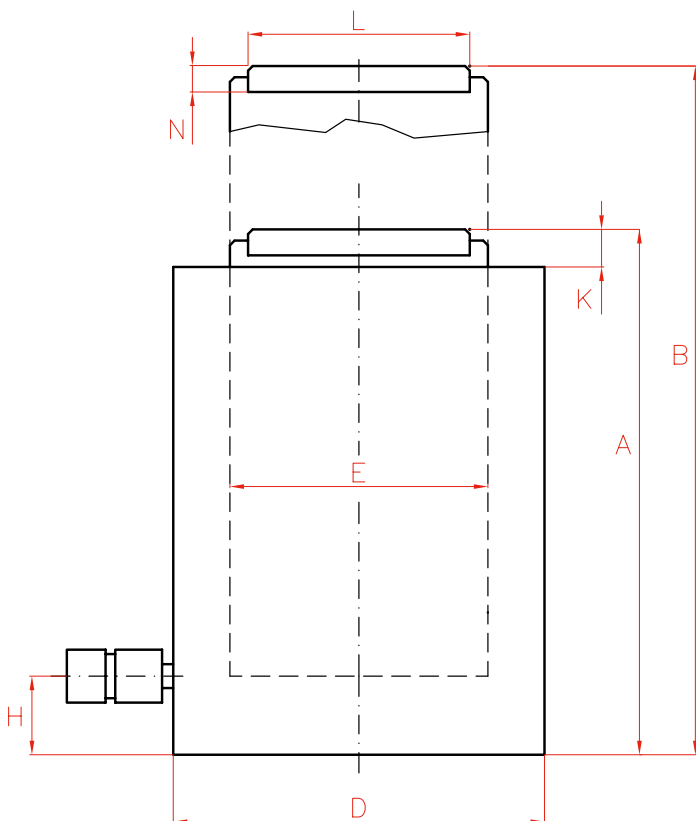


P.70

**W**  
Single Acting Hand Pumps



P.66

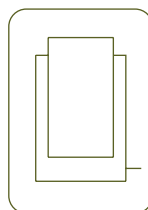
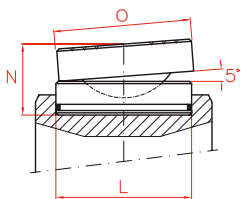


Capacity		Stroke	Model	Oil Cap.	A
ton	kN	mm	LARZEP	cm <sup>3</sup>	mm
144	1.407	50	SSC14005	1.005	159
		150	SSC14015	3.016	275
		300	SSC14030	6.032	430
224	2.199	50	SSC22005	1.571	180
		150	SSC22015	4.712	291
		300	SSC22030	9.425	451
310	3.036	50	SSC30005	2.169	193
		150	SSC30015	6.506	309
		300	SSC30030	13.012	469
409	4.008	50	SSC40005	2.863	215
		150	SSC40015	8.588	325
		300	SSC40030	17.177	485
522	5.114	50	SSC50005	3.653	225
		150	SSC50015	10.959	335
		300	SSC50030	21.918	495
611	5.987	50	SSC60005	4.276	236
		150	SSC60015	12.829	346
		300	SSC60030	25.659	506
831	8.149	50	SSC80005	5.821	263
		150	SSC80015	17.462	373
		300	SSC80030	34.925	533
1.085	10.644	50	SSC100005	7.603	292
		150	SSC100015	22.808	402
		300	SSC100030	45.616	573



OPTIONAL TILTING SADDLES

Model	L	N	O	Weight
LARZEP	mm	mm	mm	kg
CATS150	94	39,2	97	3,0
CATS200	113	43,0	126	4,4
CATS300	140	68,5	175	10,3
CATS400	159	78,0	210	17,0
CATS500	179	77,0	230	20,0
CATS600	194	81,5	250	24,0
CATS800	224	86,5	275	32,0
CATS1000	249	105,5	300	46,0



P.90



Type **SSC**

Capacity **144 - 1.085 ton**

Stroke **50 - 300 mm**

Max. pressure **700 bar**

	B	D	E	H	K	L	N	Area	Weight	Model	With tilting saddle	
	mm	mm	mm	mm	mm	mm	mm	cm <sup>2</sup>	kg	LARZEP	A	Model
	209	210	160	40	6	94	20	201,1	43	<b>SSC14005</b>	178	CATS150
	425	210	160	40	6	94	20	201,1	74	<b>SSC14015</b>	294	CATS150
	730	210	160	40	6	94	20	201,1	116	<b>SSC14030</b>	449	CATS150
	230	260	200	50	6	113	20	314,2	75	<b>SSC22005</b>	203	CATS200
	441	260	200	50	6	113	20	314,2	120	<b>SSC22015</b>	314	CATS200
	751	260	200	50	6	113	20	314,2	187	<b>SSC22030</b>	474	CATS200
	243	305	235	55	8	140	30	433,7	110	<b>SSC30005</b>	232	CATS300
	459	305	235	55	8	140	30	433,7	176	<b>SSC30015</b>	348	CATS300
	769	305	235	55	8	140	30	433,7	267	<b>SSC30030</b>	508	CATS300
	265	350	270	65	10	159	30	572,6	161	<b>SSC40005</b>	263	CATS400
	475	350	270	65	10	159	30	572,6	244	<b>SSC40015</b>	373	CATS400
	785	350	270	65	10	159	30	572,6	364	<b>SSC40030</b>	533	CATS400
	275	400	305	70	10	179	30	730,6	221	<b>SSC50005</b>	272	CATS500
	485	400	305	70	10	179	30	730,6	329	<b>SSC50015</b>	382	CATS500
	795	400	305	70	10	179	30	730,6	486	<b>SSC50030</b>	542	CATS500
	286	430	330	80	10	194	30	855,3	268	<b>SSC60005</b>	288	CATS600
	496	430	330	80	10	194	30	855,3	393	<b>SSC60015</b>	398	CATS600
	806	430	330	80	10	194	30	855,3	574	<b>SSC60030</b>	558	CATS600
	313	505	385	95	10	224	30	1.164,2	411	<b>SSC80005</b>	320	CATS800
	523	505	385	95	10	224	30	1.164,2	583	<b>SSC80015</b>	430	CATS800
	833	505	385	95	10	224	30	1.164,2	834	<b>SSC80030</b>	590	CATS800
	342	570	440	105	10	249	30	1.520,5	582	<b>SSC100005</b>	368	CATS1000
	552	570	440	105	10	249	30	1.520,5	801	<b>SSC100015</b>	478	CATS1000
	873	570	440	105	10	249	30	1.520,5	1.142	<b>SSC100030</b>	649	CATS1000

**PULL CYLINDERS**



- ✓ Capacities from 10 to 50 ton, and 150 mm stroke.
- ✓ TE models are Spring Return.
- ✓ TD models are Double Acting.
- ✓ For pulling applications: to hook and join plates for welding, tensioning cables, etc.



Capacity		Stroke	Model	Oil Cap.	A
ton	kN	mm	LARZEP	cm <sup>3</sup>	mm
10	93	150	TE01015	204	559
		150	TD01015	356	559
30	302	150	TE03015	660	723
		150	TD03015	954	723
50	483	150	TE05015	1.056	757
		150	TD05015	1.425	757

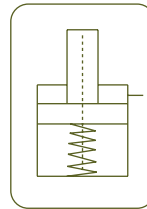


W - X

Single and Double Acting Hand Pumps



P.66



PULL CYLINDERS



Type

TE - TD

Capacity

10 - 50 ton

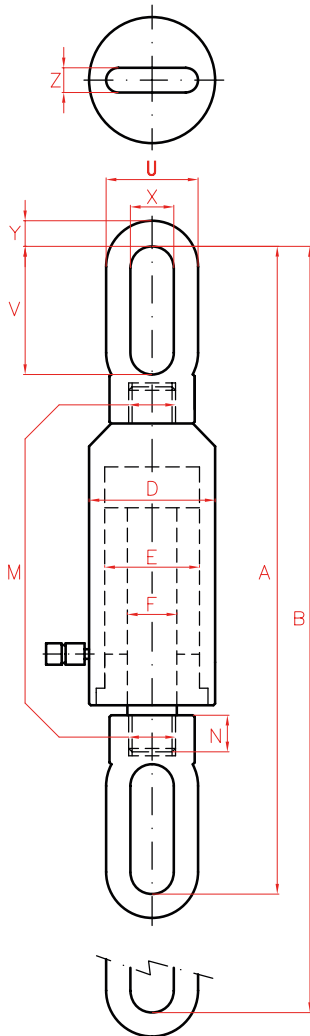
Stroke

150 mm

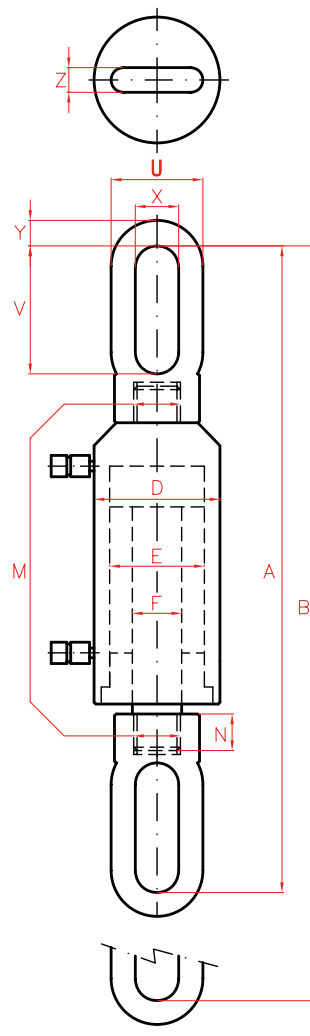
Max. pressure

700 bar

TE - TD CYLINDERS



TE



TD

AP2

Hoses



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AV - AT - AY

Pressure Gauges

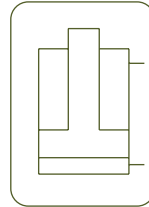


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	B	D	E	F	M	N	U	V	X	Y	Z	Area	Weight	Model
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	cm <sup>2</sup>	kg	LARZEP
	709	86	55	36	M30x2	25	64	119	34	32	22	13,5	14,9	TE01015
	709	86	55	36	M30x2	25	64	119	34	32	22	13,5	14,9	TD01015
	873	125	90	50	M40x2	45	108	153	50	29	29	43,9	32,0	TE03015
	873	125	90	50	M40x2	45	108	153	50	29	29	43,9	32,0	TD03015
	907	148	110	56	M52x2	60	130	150	50	70	39	70,3	60,0	TE05015
	907	148	110	56	M52x2	60	130	150	50	70	39	70,3	60,0	TD05015

**DOUBLE ACTING CYLINDERS**

- ✓ Capacities from 10 to 550 ton, strokes up to 320 mm as standard.
- ✓ For push and pull applications.
- ✓ For heavy-duty applications, high precision and involving high-cycle life.
- ✓ Guide and sealing system of highest quality.
- ✓ Safety valve on the retract side to prevent accidental over-pressure.
- ✓ Collar threads, piston end threads and base mounting holes for easy fixing and pull operations.
- ✓ Compatible with SM accessories.
- ✓ Longer stroke models up to 1.500 mm upon request.



**DOUBLE ACTING CYLINDERS**



Type	<b>D</b>
Capacity	10 - 550 ton
Stroke	50 - 320 mm
Max. pressure	700 bar

**SM & D**  
Special attachments for SM and D models



P.10

**DDA**  
Double Acting Aluminium Cylinders



P.48

**DDC**  
Double Acting High Tonnage Cylinders



P.44

**AZ04**  
Optional Tilting Saddles available



P.90





**HBM / HBE**  
Powerpack



P.72

**Z22107**  
Air Hydraulic Pump



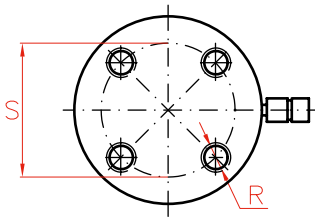
P.70

**X**  
Double Acting Hand Pumps

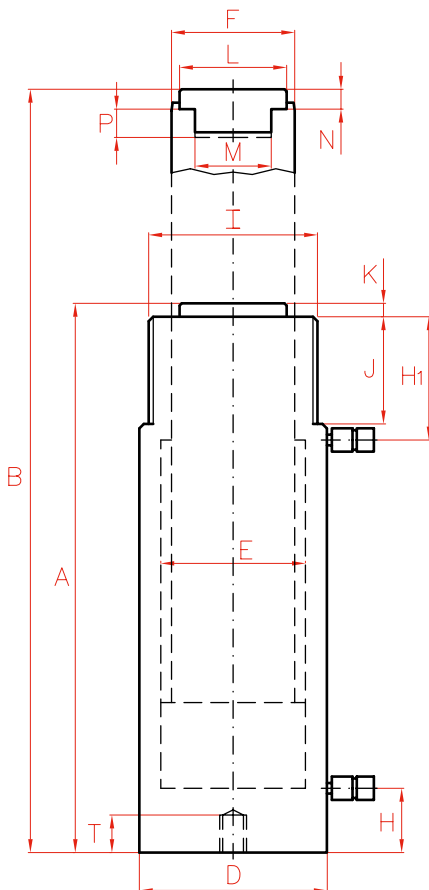
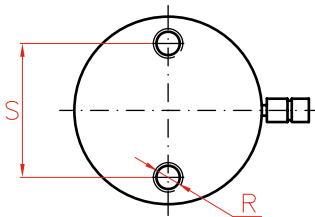


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**Models from 50 to 550 ton**



**Models up to 30 ton**

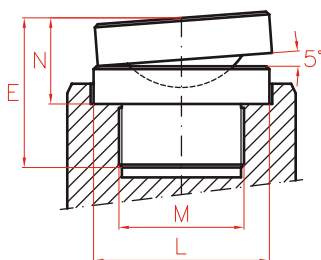


Capacity ton	Stroke mm	Model LARZEP	Capacity (kN)		Oil Cap. cm <sup>3</sup>	A mm	B mm	D mm	E mm	F mm
			Push	Pull						
10	160	D01016	109	20	255	310	470	60	45	36
	250	D01025	109	20	398	400	650	60	45	36
	320	D01032	109	20	509	470	790	60	45	36
20	160	D02016	214	53	499	320	480	83	63	45
	250	D02025	214	53	779	410	660	83	63	45
	320	D02032	214	53	997	480	800	83	63	45
30	160	D03016	303	68	707	335	495	100	75	56
	320	D03032	303	68	1.413	495	815	100	75	56
50	160	D05016	486	72	1.134	335	495	127	95	80
	320	D05032	486	72	2.267	510	830	127	95	80
75	160	D07516	712	140	1.661	338	498	150	115	90
	320	D07532	712	140	3.322	512	832	150	115	90
100	160	D10016	911	189	2.123	339	499	177	130	100
	320	D10032	911	189	4.245	509	829	177	130	100
150	50	D15005	1.380	370	1.005	258	308	215	160	110
	150	D15015	1.380	370	3.015	378	528	215	160	110
	300	D15030	1.380	370	6.029	528	828	215	160	110
200	50	D20005	2.156	560	1.570	274	324	265	200	140
	150	D20015	2.156	560	4.710	394	544	265	200	140
	300	D20030	2.156	560	9.420	544	844	265	200	140
350	50	D35005	3.368	1.014	2.454	299	349	330	250	160
	150	D35015	3.368	1.014	7.359	419	569	330	250	160
	300	D35030	3.368	1.014	14.718	569	869	330	250	160
550	50	D55005	5.519	1.714	4.020	383	433	430	320	200
	150	D55015	5.519	1.714	12.058	518	668	430	320	200
	300	D55030	5.519	1.714	24.116	668	968	430	320	200



OPTIONAL TILTING SADDLES

Model	L	M	N	E	Weight
LARZEP	mm	UN	mm	mm	kg
AZ0420	28	1"-8	29	43	0,2
AZ0423	35	1"-8	29	49	0,3
AZ0421	45	1 1/2"-16	28	50	0,4
AZ0422	61	1 3/4"-12	38	58	0,7
AZ0424	88	2 1/2"-12	47	82	2,5
AZ0425	111	2 1/2"-12	52	107	4,5



P.90

DOUBLE ACTING CYLINDERS



Type

D

Capacity 10 - 550 ton

Stroke 50 - 320 mm

Max. pressure 700 bar

D CYLINDERS

H	H1	I	J	K	L	M	N	P	R	S	T	Area	Weight	Model	With tilting saddle	
mm	mm	UN	mm	mm	mm	UN	mm	mm	UN	mm	mm	cm <sup>2</sup>	kg	LARZEP	A	Model
20	53,5	2 1/4"-14	32	7	28	1"-8	10	24	5/16"-18	39	12	16	6,4	D01016	329	AZ0420
20	53,5	2 1/4"-14	32	7	28	1"-8	10	24	5/16"-18	39	12	16	8,0	D01025	419	AZ0420
20	53,5	2 1/4"-14	32	7	28	1"-8	10	24	5/16"-18	39	12	16	9,5	D01032	489	AZ0420
20	60	3 1/4"-12	40	8	35	1"-8	8	24	1/2"-13	58	15	31	11,7	D02016	341	AZ0423
20	60	3 1/4"-12	40	8	35	1"-8	8	24	1/2"-13	58	15	31	14,5	D02025	431	AZ0423
20	60	3 1/4"-12	40	8	35	1"-8	8	24	1/2"-13	58	15	31	16,8	D02032	501	AZ0423
26	77	3 7/8"-12	48	10	45	1 1/2"-16	10	25	1/2"-13	66	15	44	18,9	D03016	353	AZ0421
26	77	3 7/8"-12	48	10	45	1 1/2"-16	10	25	1/2"-13	66	15	44	26,6	D03032	513	AZ0421
28	70	5"-12	50	10	61	1 3/4"-12	10	25	1/2"-13	95	15	71	30,8	D05016	363	AZ0422
28	85	5"-12	50	10	61	1 3/4"-12	10	25	1/2"-13	95	15	71	44,8	D05032	538	AZ0422
30	70	5 3/4"-12	50	10	61	1 3/4"-12	10	25	1/2"-13	100	18	104	42,0	D07516	366	AZ0422
30	80	5 3/4"-12	50	10	61	1 3/4"-12	10	25	1/2"-13	100	18	104	60,6	D07532	540	AZ0422
38	70	6 7/8"-12	50	10	88	1 3/4"-12	16	30	3/4"-10	139	18	133	51,8	D10016	361	AZ0422
38	84	6 7/8"-12	50	10	88	1 3/4"-12	16	30	3/4"-10	139	18	133	84,1	D10032	531	AZ0422
49	85	8"-12	55	10	88	2 1/2"-12	15	40	3/4"-16	158	25	201	66,0	D15005	279	AZ0424
49	85	8"-12	55	10	88	2 1/2"-12	15	40	3/4"-16	158	25	201	90,0	D15015	410	AZ0424
49	85	8"-12	55	10	88	2 1/2"-12	15	40	3/4"-16	158	25	201	119,0	D15030	560	AZ0424
65	85	9 3/4"-12	55	10	111	2 1/2"-12	19	60	1"-8	127	25	314	105,0	D20005	307	AZ0425
65	85	9 3/4"-12	55	10	111	2 1/2"-12	19	60	1"-8	127	25	314	151,0	D20015	427	AZ0425
65	85	9 3/4"-12	55	10	111	2 1/2"-12	19	60	1"-8	127	25	314	191,0	D20030	577	AZ0425
85	90	12 1/4"-12	60	10	131	3"-12	15	70	1 1/4"-7	158	40	491	189,0	D35005	-	-
85	90	12 1/4"-12	60	10	131	3"-12	15	70	1 1/4"-7	158	40	491	247,0	D35015	-	-
85	90	12 1/4"-12	60	10	131	3"-12	15	70	1 1/4"-7	158	40	491	346,0	D35030	-	-
110	120	15 5/8"-8	80	15	178	4"-12	26	85	1 3/4"-5	203	55	804	396,0	D55005	-	-
110	120	15 5/8"-8	80	15	178	4"-12	26	85	1 3/4"-5	203	55	804	504,0	D55015	-	-
110	120	15 5/8"-8	80	15	178	4"-12	26	85	1 3/4"-5	203	55	804	625,0	D55030	-	-

**DOUBLE ACTING HIGH TONNAGE CYLINDERS**



- ✓ Capacities from 51 to 1.085 ton, strokes up to 300 mm.
- ✓ Safety valve on the retract side to prevent accidental over-pressure.
- ✓ Wear bands to improve side-load capacity.

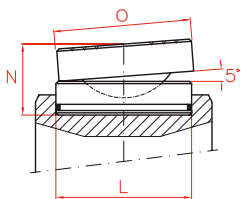


Capacity		Stroke	Model	Oil Cap.	A
ton	kN	mm	LARZEP	cm <sup>3</sup>	mm
51	496	50	DDC05005	354	206
		150	DDC05015	1.063	306
		300	DDC05030	2.126	461
95	929	50	DDC10005	664	196
		150	DDC10015	1.991	296
		300	DDC10030	3.982	451
144	1.407	50	DDC14005	1.005	213
		150	DDC14015	3.016	318
		300	DDC14030	6.032	478
224	2.199	50	DDC22005	1.571	233
		150	DDC22015	4.712	336
		300	DDC22030	9.425	498
310	3.036	50	DDC30005	2.169	251
		150	DDC30015	6.506	357
		300	DDC30030	13.012	512

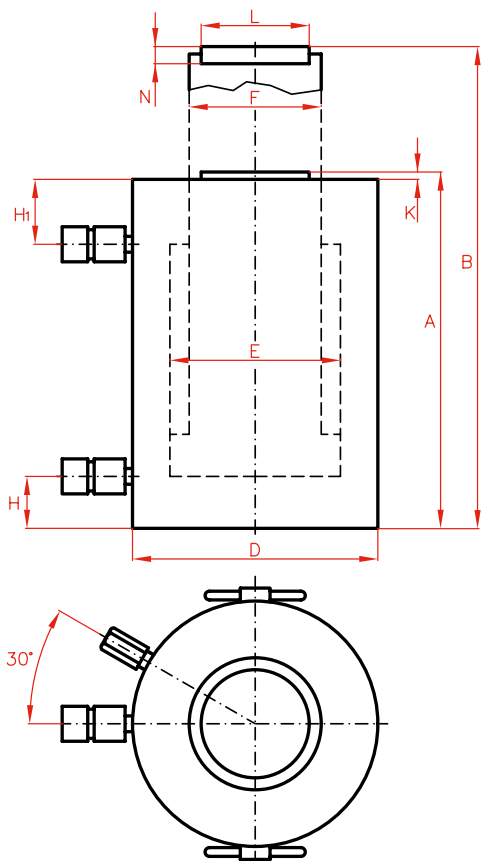
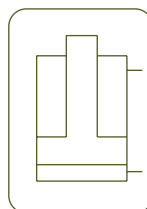


OPTIONAL TILTING SADDLES

Model	L	N	O	Weight
LARZEP	mm	mm	mm	kg
CATS150	94	39,2	97	3,0
CATS200	113	43,0	126	4,4
CATS300	140	68,5	175	10,3



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Type **DDC**

Capacity **51 - 1.085 ton**

Stroke **50 - 300 mm**

Max. pressure **700 bar**

**DDA**  
Aluminium Double Acting Cylinders



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**HBM / HBE**  
Powerpacks



P.72

B	D	E	F	H	H1	K	L	N	Area	Weight	Model	With tilting saddle	
mm	mm	mm	mm	mm	mm	mm	mm	mm	cm <sup>2</sup>	kg	LARZEP	A	Model
256	125	95	75	25	75	6	50	20	70,9	19	<b>DDC05005</b>	270	CATS50
456	125	95	75	25	75	6	50	20	70,9	26	<b>DDC05015</b>	470	CATS50
761	125	95	75	25	80	6	50	20	70,9	38	<b>DDC05030</b>	775	CATS50
246	170	130	100	30	60	6	75	20	132,7	33	<b>DDC10005</b>	256	CATS100
446	170	130	100	30	60	6	75	20	132,7	46	<b>DDC10015</b>	456	CATS100
751	170	130	100	30	65	6	75	20	132,7	67	<b>DDC10030</b>	761	CATS100
263	210	160	110	40	65	6	94	20	201,1	53	<b>DDC14005</b>	282	CATS150
468	210	160	110	40	70	6	94	20	201,1	74	<b>DDC14015</b>	487	CATS150
778	210	160	110	40	80	6	94	20	201,1	104	<b>DDC14030</b>	797	CATS150
283	260	200	140	50	75	6	113	25	314,2	90	<b>DDC22005</b>	251	CATS200
486	260	200	140	50	75	6	113	25	314,2	120	<b>DDC22015</b>	354	CATS200
798	260	200	140	50	85	6	113	25	314,2	169	<b>DDC22030</b>	516	CATS200
301	305	235	200	55	85	8	140	30	433,7	137	<b>DDC30005</b>	290	CATS300
507	305	235	200	55	85	8	140	30	433,7	189	<b>DDC30015</b>	396	CATS300
812	305	235	200	55	85	8	140	30	433,7	263	<b>DDC30030</b>	551	CATS300

**HBM / HBE**  
Powerpacks



P.72

**AV - AY - AVD**  
Pressure Gauges



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**AP2**  
Hoses



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**AZ3140**  
Coupler 3/8" -18 NPT included

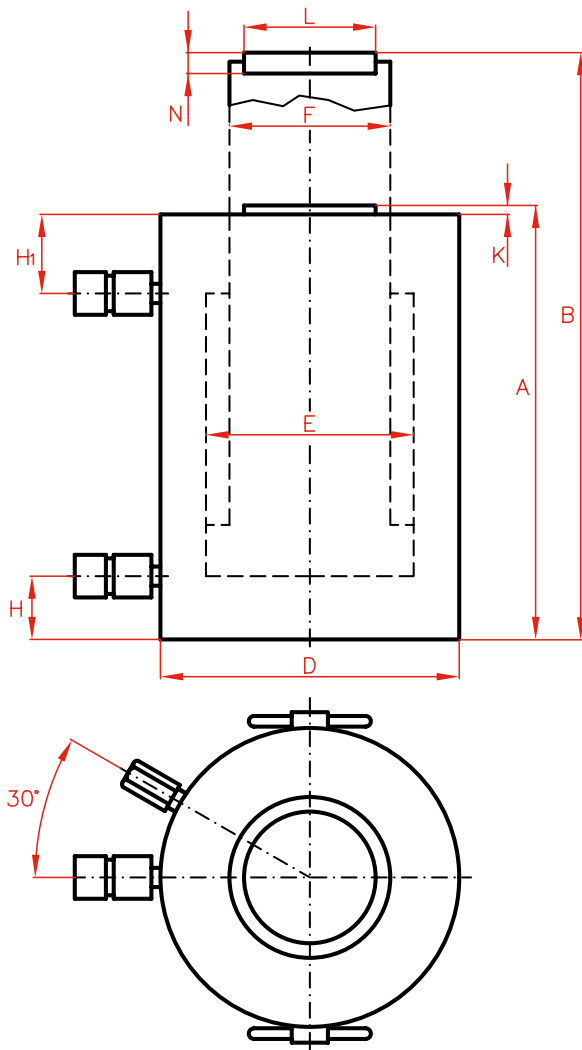
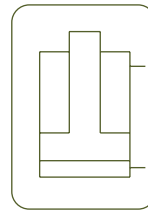


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Capacity		Stroke	Model	Oil Cap.	A
ton	kN	mm	LARZEP	cm <sup>3</sup>	mm
409	4.008	50	DDC40005	2.863	275
		150	DDC40015	8.588	382
		300	DDC40030	17.177	538
522	5.114	50	DDC50005	3.653	305
		150	DDC50015	10.959	410
		300	DDC50030	21.918	566
611	5.987	50	DDC60005	4.276	315
		150	DDC60015	12.829	420
		300	DDC60030	25.659	576
831	8.149	50	DDC80005	5.821	335
		150	DDC80015	17.462	446
		300	DDC80030	34.925	606
1.085	10.644	50	DDC100005	7.603	365
		150	DDC100015	22.808	476
		300	DDC100030	45.616	636



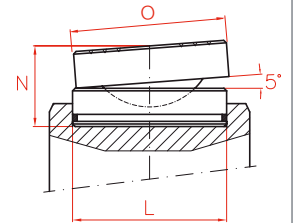


Type	<b>DDC</b>
Capacity	<b>51 - 1.085 ton</b>
Stroke	<b>50 - 300 mm</b>
Max. pressure	<b>700 bar</b>

DDC CYLINDERS

OPTIONAL TILTING SADDLES

Model	L	N	O	Weight
LARZEP	mm	mm	mm	kg
<b>CATS400</b>	159	78,0	210	17,0
<b>CATS500</b>	179	77,0	230	20,0
<b>CATS600</b>	194	81,5	250	24,0
<b>CATS800</b>	224	86,5	275	32,0
<b>CATS1000</b>	249	105,5	300	46,0



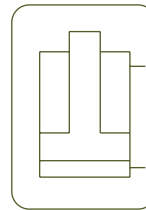
P.90

	B	D	E	F	H	H1	K	L	N	Area	Weight	Model	With tilting saddle	
	mm	mm	mm	mm	mm	mm	mm	mm	mm	cm <sup>2</sup>	kg	LARZEP	A	Model
	325	350	270	220	65	95	10	159,5	30	572,6	197	<b>DDC40005</b>	323	CATS400
	532	350	270	220	65	95	10	159,5	30	572,6	262	<b>DDC40015</b>	430	CATS400
	838	350	270	220	65	95	10	159,5	30	572,6	357	<b>DDC40030</b>	586	CATS400
	355	400	305	250	75	110	10	179,5	30	730,6	287	<b>DDC50005</b>	352	CATS500
	560	400	305	250	75	110	10	179,5	30	730,6	371	<b>DDC50015</b>	457	CATS500
	866	400	305	250	75	110	10	179,5	30	730,6	496	<b>DDC50030</b>	613	CATS500
	365	430	330	270	80	115	10	195	30	855,3	342	<b>DDC60005</b>	367	CATS600
	570	430	330	270	80	115	10	195	30	855,3	440	<b>DDC60015</b>	472	CATS600
	876	430	330	270	80	115	10	195	30	855,3	583	<b>DDC60030</b>	628	CATS600
	385	505	385	320	95	120	10	225	30	1.164,2	504	<b>DDC80005</b>	392	CATS800
	596	505	385	320	95	120	10	225	30	1.164,2	649	<b>DDC80015</b>	503	CATS800
	906	505	385	320	95	120	10	225	30	1.164,2	858	<b>DDC80030</b>	663	CATS800
	415	570	440	340	105	130	10	250	30	1.520,5	696	<b>DDC100005</b>	441	CATS1000
	626	570	440	340	105	130	10	250	30	1.520,5	869	<b>DDC100015</b>	552	CATS1000
	936	570	440	340	105	130	10	250	30	1.520,5	1.116	<b>DDC100030</b>	712	CATS1000

## ALUMINIUM DOUBLE ACTING CYLINDERS



- ✓ Capacities from 50 and 100 ton, strokes up to 300 mm.
- ✓ Made from high strength aluminium alloy.
- ✓ All aluminium parts are treated to improve resistance and extend working life.
- ✓ Lightweight. Over 40% weight reduction when compared with steel equivalent.
- ✓ Fitted with steel base plate and saddle for wear resistance.
- ✓ Internal safety valve to prevent accidental over-pressure.
- ✓ Not suitable for high-cycle applications.



**ALUM. DOUBLE ACTING CYLINDERS**



Type	<b>DDA</b>
Capacity	<b>50 - 100 ton</b>
Stroke	<b>50 - 300 mm</b>
Max. pressure	<b>700 bar</b>

DDA CYLINDERS



Step by step aluminium cylinders. Stage lifting.



**DDC**  
Double Acting High Tonnage Cylinders



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**D**  
Double Acting Cylinders



P.42

**DAH**  
Aluminium Double Acting Hollow Piston Cylinders



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**AZ04**  
Optional Tilting Saddles available



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**HBM / HBE**  
Powerpacks



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**Z22107**  
Air Hydraulic Pumps



P.70

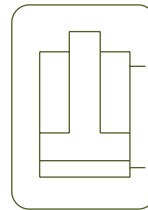
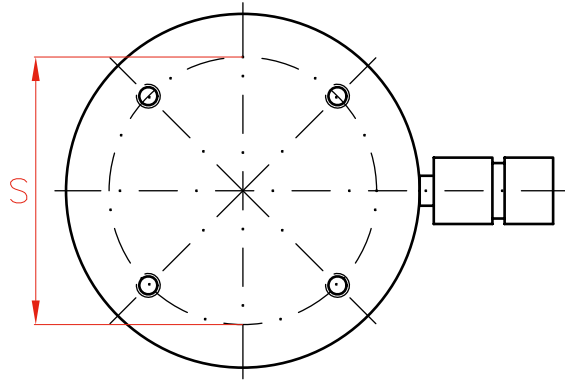
**X**  
Double Acting Hand Pumps



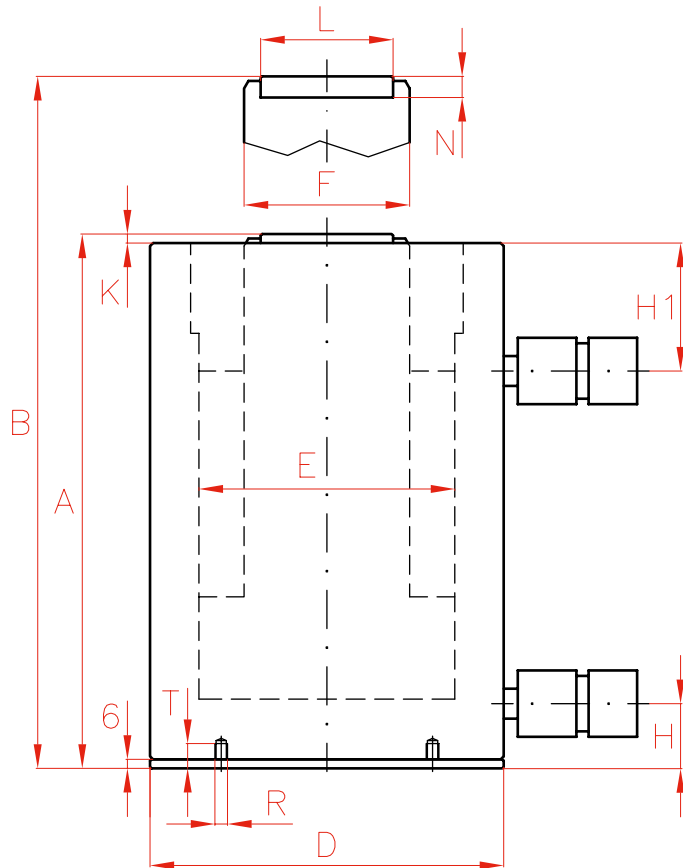
P.66

Capacity	Stroke	Model	Capacity (kN)	Oil Cap.	A	
ton	mm	LARZEP	Push	cm <sup>3</sup>	mm	
<b>50</b>	50	<b>DDA05005</b>	487	354	198	
	100	<b>DDA05010</b>	487	709	248	
	150	<b>DDA05015</b>	487	1.063	298	
	200	<b>DDA05020</b>	487	1.418	348	
	250	<b>DDA05025</b>	487	1.772	398	
	300	<b>DDA05030</b>	487	2.126	448	
<b>100</b>	50	<b>DDA10005</b>	911	664	230	
	100	<b>DDA10010</b>	911	1.327	280	
	150	<b>DDA10015</b>	911	1.991	330	
	200	<b>DDA10020</b>	911	2.655	380	
	250	<b>DDA10025</b>	911	3.318	430	
	300	<b>DDA10030</b>	911	3.982	480	



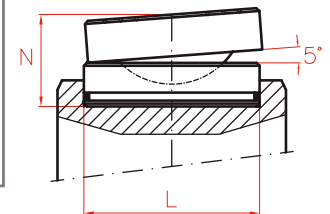


Type	<b>DDA</b>
Capacity	<b>50 - 100 ton</b>
Stroke	<b>50 - 300 mm</b>
Max. pressure	<b>700 bar</b>



OPTIONAL TILTING SADDLES

Model	L	N	Weight
LARZEP	mm	mm	kg
<b>AZ0402</b>	61	39	0,8
<b>AZ0404</b>	88	47	2,2



P.90

	B	D	E	F	H	H1	K	L	N	S	R	T	Area	Weight	Model	With tilting saddle	
	mm	mm	mm	mm	mm	mm		mm	mm	mm		mm	cm <sup>2</sup>	kg	LARZEP	A	Model
	248	135	95	75	26	60	7	61	12	115	M6	19	71	8,0	<b>DDA05005</b>	225	AZ0402
	348	135	95	75	26	60	7	61	12	115	M6	19	71	9,7	<b>DDA05010</b>	275	AZ0402
	448	135	95	75	26	60	7	61	12	115	M6	19	71	11,3	<b>DDA05015</b>	325	AZ0402
	548	135	95	75	26	60	7	61	12	115	M6	19	71	12,9	<b>DDA05020</b>	375	AZ0402
	648	135	95	75	26	60	7	61	12	115	M6	19	71	14,6	<b>DDA05025</b>	425	AZ0402
	748	135	95	75	26	60	7	61	12	115	M6	19	71	16,2	<b>DDA05030</b>	475	AZ0402
	280	180	130	110	32	70	5	88	14	160	M6	19	133	16,1	<b>DDA10005</b>	263	AZ0404
	380	180	130	110	32	70	5	88	14	160	M6	19	133	19,2	<b>DDA10010</b>	313	AZ0404
	480	180	130	110	32	70	5	88	14	160	M6	19	133	22,2	<b>DDA10015</b>	363	AZ0404
	580	180	130	110	32	70	5	88	14	160	M6	19	133	25,3	<b>DDA10020</b>	413	AZ0404
	680	180	130	110	32	70	5	88	14	160	M6	19	133	28,3	<b>DDA10025</b>	463	AZ0404
	780	180	130	110	32	70	5	88	14	160	M6	19	133	31,3	<b>DDA10030</b>	513	AZ0404

**DOUBLE ACTING HOLLOW PISTON CYLINDERS**



- ✓ Capacities from 30 to 150 ton, strokes up to 250 mm.
- ✓ For push and pull operations: Tensioning cables and bolts, pulling sleeves and bearings.
- ✓ Collar thread, piston end thread and base holes for easy fixing.
- ✓ Safety valve on the retract side to prevent accidental over-pressure.
- ✓ Hollow plain saddle as standard. Optional solid or threaded saddles available.



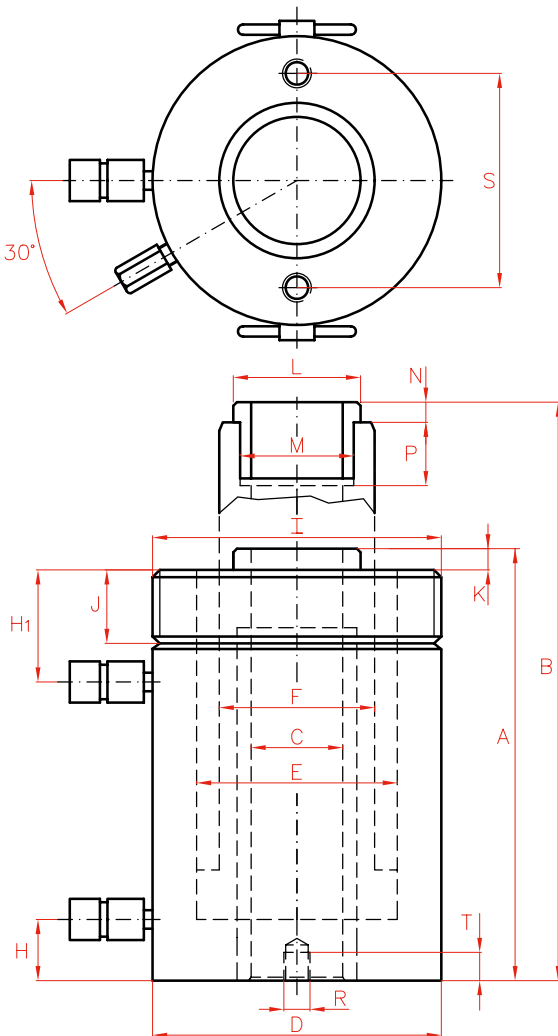
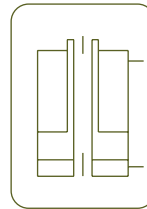
Capacity	Stroke	Model	Capacity (kN)		Oil Cap.	A	B	C	D	
			Push	Pull						
ton	mm	LARZEP			cm <sup>3</sup>	mm	mm	mm	mm	
30	150	DH03015	302	173	660	300	450	34	120	
	250	DH03025	302	173	1.100	400	650	34	120	
60	80	DH06008	578	356	674	249	329	56	165	
	150	DH06015	578	356	1.263	319	469	56	165	
	250	DH06025	578	356	2.105	419	669	56	165	
100	38	DH10004	1.018	647	564	197	235	81	220	
	76	DH10008	1.018	647	1.128	255	331	81	220	
	150	DH10015	1.018	647	2.226	335	485	81	220	
	250	DH10025	1.018	647	3.709	465	715	81	220	
150	200	DH15020	1.407	566	4.096	375	575	81	250	



**AZ05**  
Hollow Saddles



P.90



Type **DH**

Capacity **30 - 150 ton**

Stroke **38 - 250 mm**

Max. pressure **700 bar**

**DAH**  
Aluminium Double Acting  
Hollow Piston Cylinders



P.54



	E	F	H	H1	I	J	K	L	M	N	P	R	S	T	Area	Weight	Model
	mm	mm	mm	mm	UN	mm	mm	mm	UN	mm	mm	UN	mm	mm	cm <sup>2</sup>	kg	LARZEP
	90	70	27	61	4 1/2"-12	42	4	55	1 13/16"-16	9	22	3/8"-16	92,2	17	44	22	<b>DH03015</b>
	90	70	27	61	4 1/2"-12	42	4	55	1 13/16"-16	9	22	3/8"-16	92,2	17	44	28	<b>DH03025</b>
	125	95	31	66	6 1/4"-12	48	5	80	2 3/4"-16	12	22	1/2"-13	130,3	14	84	35	<b>DH06008</b>
	125	95	31	66	6 1/4"-12	48	5	80	2 3/4"-16	12	22	1/2"-13	130,3	14	84	42	<b>DH06015</b>
	125	95	31	66	6 1/4"-12	48	5	80	2 3/4"-16	12	22	1/2"-13	130,3	14	84	53	<b>DH06025</b>
	170	130	37	60	-	-	5	116	4"-16	13	25	5/8"-11	177,8	19	148	48	<b>DH10004</b>
	170	130	37	80	8 3/8"-12	60	5	116	4"-16	13	25	5/8"-11	177,8	19	148	60	<b>DH10008</b>
	170	130	37	80	8 3/8"-12	60	5	116	4"-16	13	25	5/8"-11	177,8	19	148	76	<b>DH10015</b>
	170	130	37	80	8 3/8"-12	60	5	116	4"-16	13	25	5/8"-11	177,8	19	148	102	<b>DH10025</b>
	190	160	37	60	-	-	10	135	4 1/4"-12	20	40	-	-	-	205	116	<b>DH15020</b>

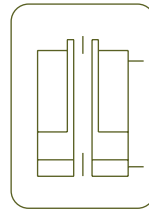
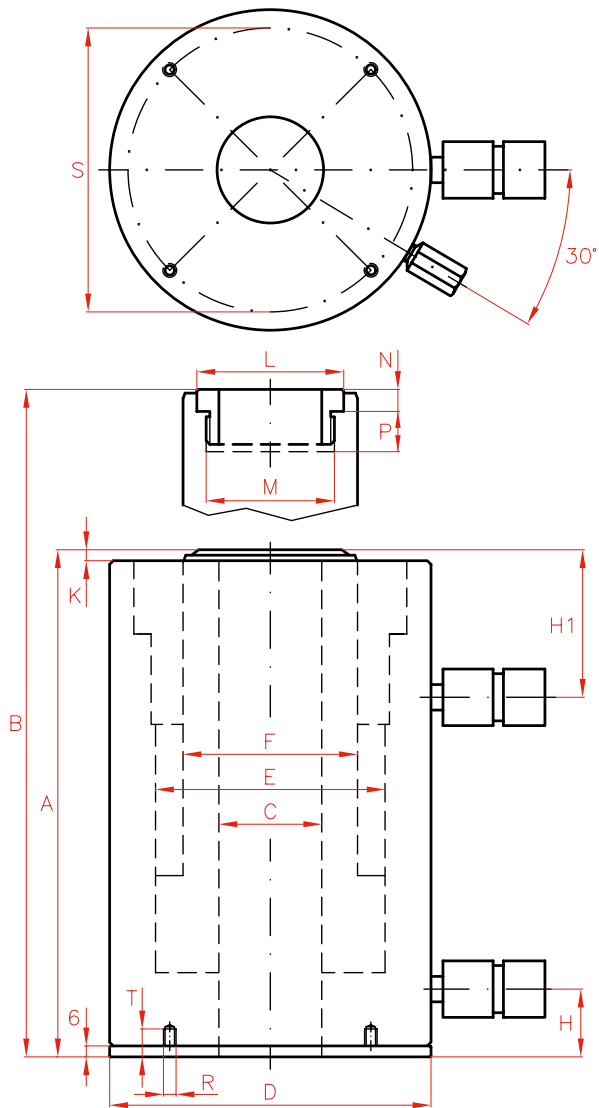
**ALUMINIUM DOUBLE ACTING, HOLLOW PISTON CYLINDERS**



- ✓ Capacities from 30 to 100 ton, strokes up to 250 mm.
- ✓ For push and pull operations: Tensioning cable and bolts, pulling sleeves and bearings.
- ✓ Made from high-strength aluminium alloy.
- ✓ All aluminium parts are treated to improve resistance and extend working life.
- ✓ Lightweight. Over 40% weight reduction when compared with steel equivalent.
- ✓ Lighter and shorter than single acting SAH equivalent.
- ✓ Fitted with steel base plate for wear resistance.
- ✓ Safety valve to prevent accidental over-pressure.
- ✓ Hollow plain saddle as standard. Optional solid or threaded saddles available. See page 90.
- ✓ Not suitable for high-cycle applications.

Capacity	Stroke	Model	Capacity (kN)		Oil Cap.		
			ton	mm			LARZEP
30	50	DAH03005		302	173	220	
	100	DAH03010		302	173	440	
	150	DAH03015		302	173	660	
	200	DAH03020		302	173	880	
	250	DAH03025		302	173	1.100	
60	50	DAH06005		578	356	421	
	100	DAH06010		578	356	842	
	150	DAH06015		578	356	1.263	
	200	DAH06020		578	356	1.684	
	250	DAH06025		578	356	2.105	
100	50	DAH10005		1.018	647	742	
	100	DAH10010		1.018	647	1.484	
	150	DAH10015		1.018	647	2.226	
	200	DAH10020		1.018	647	2.968	
	250	DAH10025		1.018	647	3.710	





ALUMINIUM D/A HOLLOW CYLINDERS



Type	<b>DAH</b>
Capacity	30 - 100 ton
Stroke	50 - 250 mm
Max. pressure	700 bar

DAH CYLINDERS

**DH**  
Double Acting Hollow Piston Cylinders



P.52

**AZ04**  
Optional Saddles available



P.90

	A	B	C	D	E	F	H	H1	K	L	M	N	P	R	S	T	Area	Weight	Model
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	UN	mm	mm		mm	mm	cm <sup>2</sup>	kg	LARZEP
	217	267	34	130	90	70	32	61	4	55	1 11/13"-16	9	22	M6	110	19	44	7	<b>DAH03005</b>
	267	367	34	130	90	70	32	61	4	55	1 11/13"-16	9	22	M6	110	19	44	9	<b>DAH03010</b>
	317	467	34	130	90	70	32	61	4	55	1 11/13"-16	9	22	M6	110	19	44	12	<b>DAH03015</b>
	367	567	34	130	90	70	32	61	4	55	1 11/13"-16	9	22	M6	110	19	44	13	<b>DAH03020</b>
	417	667	34	130	90	70	32	61	4	55	1 11/13"-16	9	22	M6	110	19	44	15	<b>DAH03025</b>
	225	275	56	175	125	95	37	66	4	80	2 3/4"-16	12	22	M6	155	19	84	13	<b>DAH06005</b>
	275	375	56	175	125	95	37	66	4	80	2 3/4"-16	12	22	M6	155	19	84	16	<b>DAH06010</b>
	325	475	56	175	125	95	37	66	4	80	2 3/4"-16	12	22	M6	155	19	84	19	<b>DAH06015</b>
	375	575	56	175	125	95	37	66	4	80	2 3/4"-16	12	22	M6	155	19	84	22	<b>DAH06020</b>
	425	675	56	175	125	95	37	66	4	80	2 3/4"-16	12	22	M6	155	19	84	25	<b>DAH06025</b>
	256	306	81	235	170	130	40	80	6	116	4"-16	13	25	M6	215	19	148	27	<b>DAH10005</b>
	306	406	81	235	170	130	40	80	6	116	4"-16	13	25	M6	215	19	148	33	<b>DAH10010</b>
	356	506	81	235	170	130	40	80	6	116	4"-16	13	25	M6	215	19	148	38	<b>DAH10015</b>
	406	606	81	235	170	130	40	80	6	116	4"-16	13	25	M6	215	19	148	43	<b>DAH10020</b>
	456	706	81	235	170	130	40	80	6	116	4"-16	13	25	M6	215	19	148	49	<b>DAH10025</b>

## DOUBLE ACTING PRODUCTION CYLINDERS



- ✓ Capacities from 4 to 23 ton, strokes up to 260 mm.
- ✓ For carrying out push and pull operations.
- ✓ Black nitrided to improve corrosion resistance.
- ✓ Designed for long life in production applications.
- ✓ Large range of mounting accessories: flanges, mounting blocks, nuts and clevis eyes.

Capacity ton	Stroke mm	Model LARZEP	Capacity (kN)		Area (cm <sup>2</sup> )		Oil Cap. cm <sup>3</sup>	A mm
			Push	Pull	Push	Pull		
4	28	DM00403	34	12	5	2	14	186
	79	DM00408	34	12	5	2	39	237
	155	DM00416	34	12	5	2	76	313
8	28	DM00803	86	44	13	6	35	223
	79	DM00808	86	44	13	6	99	274
	155	DM00816	86	44	13	6	195	350
	257	DM00826	86	44	13	6	323	452
15	159	DM01516	139	73	20	11	323	389
	260	DM01526	139	73	20	11	527	490
23	159	DM02316	228	93	33	14	527	425
	260	DM02326	228	93	33	14	863	526



**HBM / HBE**  
Powerpacks



P.72

**Z12107**  
Air Hydraulic Pumps



P.70

**D/A PRODUCTION CYLINDERS**



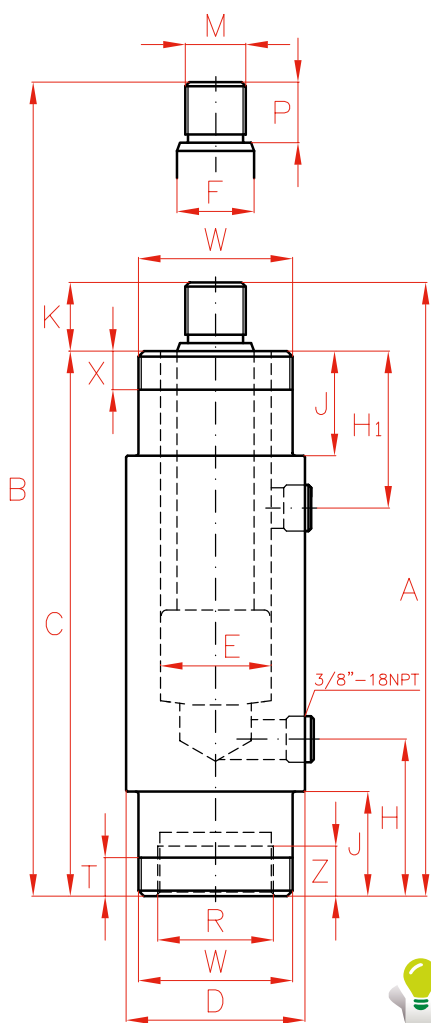
Type **DM**

Capacity **4 - 23 ton**

Stroke **28 - 260 mm**

Max. pressure **700 bar**

DM CYLINDERS



**WARNING**

**DM cylinders are not equipped with safety valve to prevent accidental over-pressure.**

**DM-RB, DM-RP, DM-RC, DM-RS**  
Mounting Accessories for DM cylinders



P.58

**AV - AY - AVD**  
Pressure Gauges



P.94

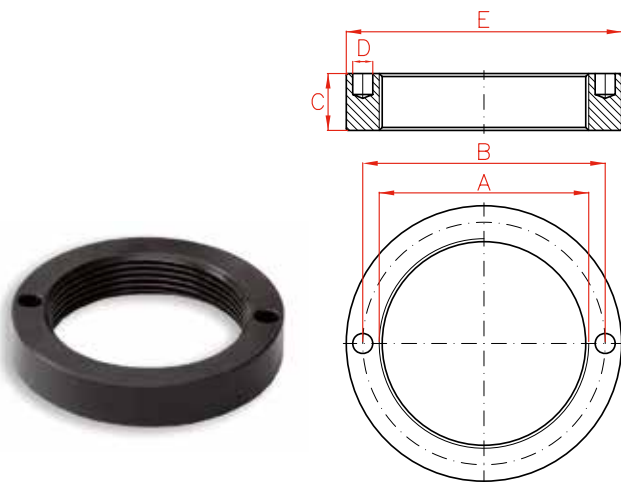


NOTE: 4 ton cylinders have 1/4" BSP thread for the couplers.

	B	C	D	E	F	H	H1	K	J	M	P	R	W	X	Z	Weight	Model
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg	LARZEP
	214	162	51	25	20	47	61	24	29	M16 x 1,5	19	M30 x 1,5	M42 x 1,5	11	9	2,0	DM00403
	316	213	51	25	20	47	61	24	29	M16 x 1,5	19	M30 x 1,5	M42 x 1,5	11	9	2,9	DM00408
	468	289	51	25	20	47	61	24	29	M16 x 1,5	19	M30 x 1,5	M42 x 1,5	11	9	3,9	DM00416
	251	198	65	40	28	75	57	25	38	M22 x 1,5	22	M42 x 1,5	M56 x 2	14	14	4,2	DM00803
	353	249	65	40	28	75	57	25	38	M22 x 1,5	22	M42 x 1,5	M56 x 2	14	14	5,3	DM00808
	505	325	65	40	28	75	57	25	38	M22 x 1,5	22	M42 x 1,5	M56 x 2	14	14	6,8	DM00816
	709	427	65	40	28	75	57	25	38	M22 x 1,5	22	M42 x 1,5	M56 x 2	14	14	9,0	DM00826
	548	359	80	51	35	73	95	30	54	M30 x 1,5	28	M56 x 2	M70 x 2	22	24	9,0	DM01516
	750	460	80	51	35	73	95	30	54	M30 x 1,5	28	M56 x 2	M70 x 2	22	24	11,7	DM01526
	584	398	92	65	50	89	110	27	70	M42 x 1,5	25	M70 x 2	M85 x 2	29	26	17,0	DM02316
	786	499	92	65	50	89	110	27	70	M42 x 1,5	25	M70 x 2	M85 x 2	29	26	21,0	DM02326

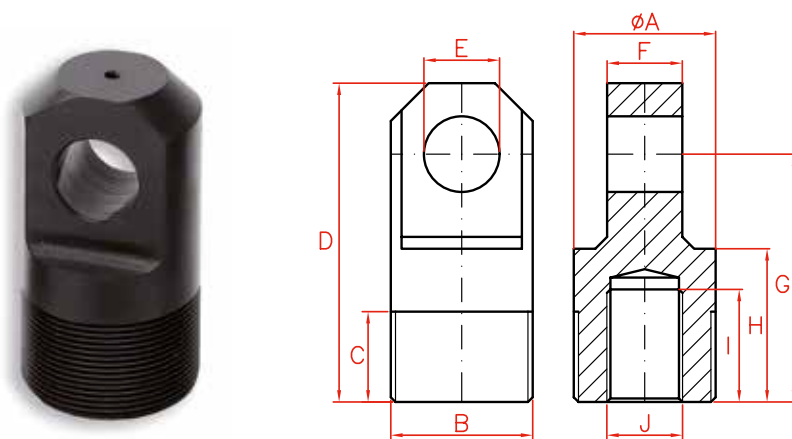


## ATTACHMENTS FOR DM CYLINDERS



### Nuts

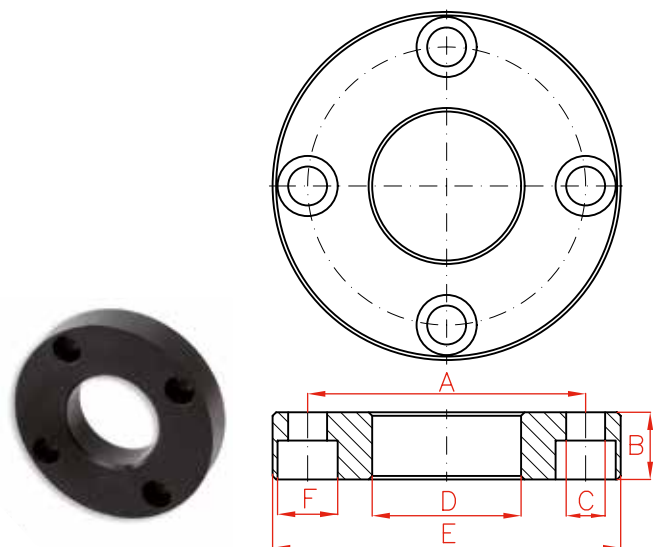
Model	A	B	C	D	E	Weight
LARZEP	mm	mm	mm	mm	mm	kg
<b>DM004RB</b>	M42 x 1,5	49,5	9,5	6,3	57	0,1
<b>DM008RB</b>	M56 x 2	65,5	12,7	6,7	75	0,1
<b>DM015RB</b>	M70 x 2	81,0	19,0	6,7	92	0,4
<b>DM023RB</b>	M85 x 2	96,5	25,4	6,7	108	0,7



### Clevis Eyes

Model	A	B	C	D	E	F	G	H	I	J	Weight
LARZEP	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
<b>DM004RP</b>	30	M30 x 1,5	19,1	67,4	16	15,9	52,4	32,4	23,8	M16 x 1,5	0,2
<b>DM008RP</b>	42	M42 x 1,5	25,4	78,1	20	25,4	57,1	37,1	23,8	M22 x 1,5	0,6
<b>DM015RP</b>	56	M56 x 2	25,4	105,8	25	31,9	77,8	52,8	30,2	M30 x 1,5	1,3
<b>DM023RP</b>	70	M70 x 2	25,4	112,8	32	38,2	77,8	50,3	27,0	M42 x 1,5	2,1

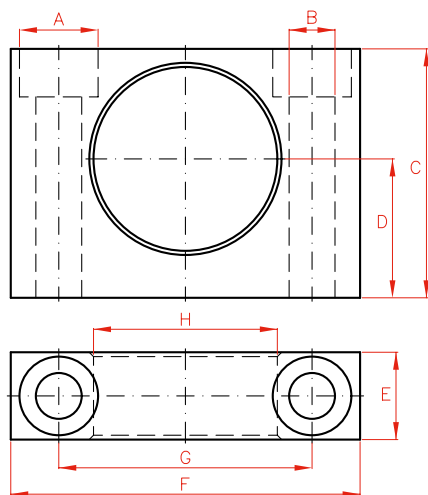




To use these attachments the nut DM\_RB is required.

**Flanges**

Model	A	B	C	D	E	F	Weight
LARZEP	mm	mm	mm	mm	mm	mm	kg
DM004RS	78,6	19,0	11,0	42,1	98,4	17	1,0
DM008RS	98,4	25,4	11,0	56,1	120,5	17	2,1
DM015RS	115,9	35,0	13,4	70,1	143,0	18	3,8
DM023RS	135,7	44,5	17,0	85,1	165,0	22	6,0



To use these attachments the nut DM\_RB is required.

**Mounting Blocks**

Model	A	B	C	D	E	F	G	H	Weight
LARZEP	mm	mm	mm	mm	mm	mm	mm	mm	kg
DM004RC	18	10,5	57,0	31,8	20	80	58,0	42,1	0,4
DM008RC	21	13,5	82,5	44,5	25	105	78,0	56,1	1,2
DM015RC	28	20,0	100,0	52,4	35	127	95,2	70,1	2,9
DM023RC	36	26,5	125,0	63,5	45	159	117,5	85,1	4,5



Type	DM
Capacity	4 - 23 ton
Stroke	28 - 260 mm
Max. pressure	700 bar

**AZ3**  
Coupler 3/8"-18 NPT



P.86

**AP2**  
Hoses



P.84

**CYLINDER - PUMP SETS**



- ✓ All sets include 2 m hose (AP2020), male coupler (AZ3120), pressure gauge (AV10007) and gauge adaptor (AZ1502).
- ✓ Available with hand pump or air hydraulic pump.
- ✓ Cylinder pump set available without pressure gauge or gauge adaptor. Add 'G' to the reference.

**SINGLE ACTING, HOLLOW PISTON CYLINDER**

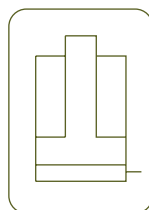
Capacity		Stroke	Closed Height	Cylinder	Hand Pump 1 Stage	Hand Pump 1 Stage	Hand Pump 1 Stage	Hand Pump 2 Stage	Hand Pump 2 Stage	Air Hydraulic Pump
ton	kN	mm	mm	LARZEP	W20307	W10607	W20807	W21807	W22607	Z12107
12	121	40	124	SH01204	JH01204					JHZ01204
22	217	50	165	SH02205		JH02205				JHZ02205
30	302	64	197	SH03006			JH03006			JHZ03006
60	578	76	223	SH06008				JH06008		JHZ06008
100	1.018	80	282	SH10008					JH10008	JHZ10008



**W**  
Single Acting Hand Pumps.



P.66



Type **J**

Capacity 5 - 100 ton

Stroke 40 - 362 mm

Max. pressure 700 bar

**Z12107**  
Air Hydraulic Pumps



P.70

**SINGLE ACTING, SPRING RETURN CYLINDER**

Capacity		Stroke	Closed Height	Cylinder	Hand Pump 1 Stage	Hand Pump 1 Stage	Hand Pump 1 Stage	Hand Pump 2 Stage	Hand Pump 2 Stage	Air Hydraulic Pump
ton	kN	mm	mm	LARZEP	W20307	W10607	W20807	W21807	W22607	Z12107
5	49	76	168	SM00508	JM00508					JMZ00508
		127	219	SM00513	JM00513					JMZ00513
10	109	54	121	SM01005	JM01005					JMZ01005
		155	247	SM01015		JM01015				JMZ01015
		257	352	SM01025			JM01025			JMZ01025
15	163	105	205	SM01510		JM01510				JMZ01510
		155	275	SM01515			JM01515			JMZ01515
23	228	51	166	SM02305		JM02305				JMZ02305
		102	217	SM02310		JM02310				JMZ02310
		159	277	SM02315			JM02315			JMZ02315
		261	379	SM02326				JM02326		JMZ02326
		362	480	SM02336					JM02336	JMZ02336
30	303	210	340	SM03021				JM03021	JMZ03021	
50	487	160	285	SM05016				JM05016	JMZ05016	
100	911	150	300	SM10015				JM10015	JMZ10015	

**LOW HEIGHT, SINGLE ACTING, SPRING RETURN CYLINDER**

Capacity		Stroke	Closed Height	Cylinder	Hand Pump 1 Stage	Hand Pump 1 Stage	Hand Pump 1 Stage	Hand Pump 2 Stage	Hand Pump 2 Stage	Air Hydraulic Pump
ton	kN	mm	mm	LARZEP	W20307	W10607	W20807	W21807	W22607	Z12107
10	109	40	89	SMP01004	JP01004					JPZ01004
20	214	40	101	SMP02004		JP02004				JPZ02004
30	303	60	125	SMP03006			JP03006			JPZ03006
50	486	60	125	SMP05006			JP05006			JPZ05006
100	911	60	141	SMP10006				JP10006		JPZ10006