



HIGH PRESSURE HYDRAULIC EQUIPMENT

CATALOGUE



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Larzep manufactures and markets high pressure hydraulic equipment

Larzep was founded in 1940 and since then, we have been making constant improvements, in order to offer you a better and wider service.

Located in Northern Spain, an area with a long experience and traditionally associated with engineering, we have modern facilities and machinery for fast and reliable production.

As a leading manufacturer of hydraulic tools, we are trustworthy, safe, reliable, quick, efficient and flexible to adapt to each of our customers needs and requirements. We have a worldwide reputation that is supported by an extensive network of Distributors and Technical Service Centres ensuring we have the support and coverage for our customers worldwide.

ENERPAC **TOOL GROUP**

Larzep is wholly owned by the Enerpac Tool Group (ETG), a diversified industrial company serving customers from operations in more than 30 countries.

The ETG businesses are leaders in a broad array of niche markets including branded hydraulic tools and solutions, specialized products and services for energy markets, and highly engineered position and motion control systems.

The Company was founded in 1910 and is headquartered in Menomonee Falls, Wisconsin, USA. ETG trades on the NYSE under the symbol EPAC.



For further information on ETG and its businesses, visit the Company's website at www.enerpactoolgroup.com

INTRODUCTION



The most advanced technology

Our products are specifically designed to cover multiple industrial applications, and to solve in a simple and economical way the problems encountered when moving heavy loads. We use the most advanced technology in our Technical Department to make sure customers problems are solved in a timely manner utilizing our special products and tools.

Quality

For each customer, with the best design and best manufacturing techniques and control, we test each product to guarantee its safety and reliability.

This process is supported by the Registered Firm Certificate ER-0404/1995 of UNE-EN ISO 9001 standard and the application of several European and International standards which we apply for each product range. Our Quality Management System is certified since 1995.



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.



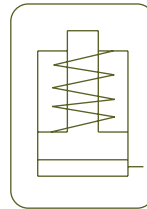
CYLINDERS

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

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	SM
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



P.86

SAM
Lightweight Aluminium Cylinders



P.12

D
Double Acting Cylinders



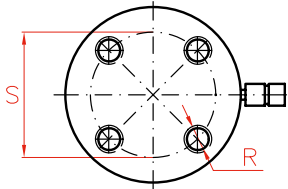
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J
Cylinder and pump sets

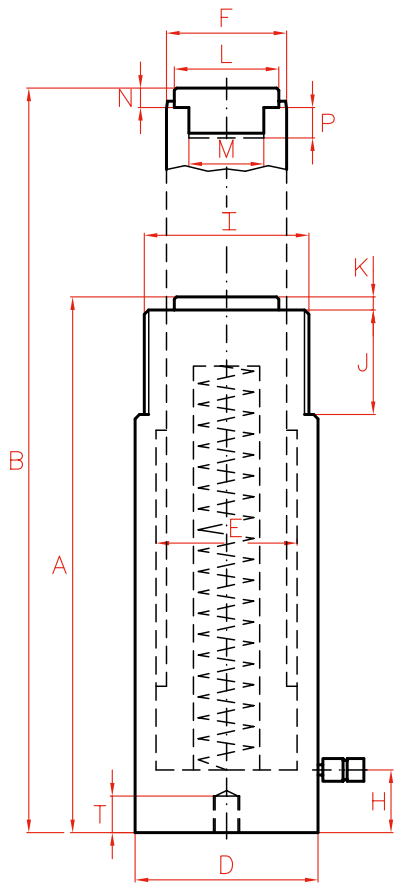
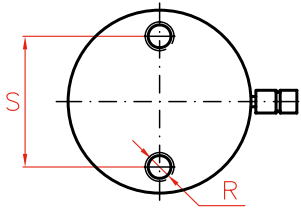


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Models from 100 to 140 ton



Models up to 75 ton



Capacity		Stroke	Model	Oil Cap.	A	B	D	E	F	H	I	
ton	kN	mm	LARZEP	cm ³	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.

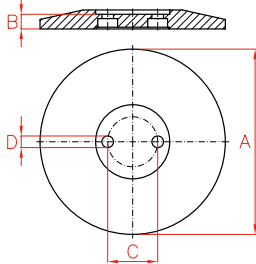


Always read the safety instructions.

	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 ²	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

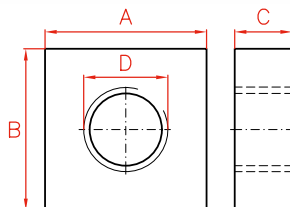
ATTACHMENTS FOR SM AND D MODELS

Base Plate



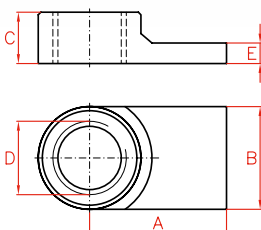
Capacity (ton)		Model	A	B	C	D	Weight
SM	D	LARZEP	mm	mm	mm	mm	kg
5	-	SM005P	150	15	25	7,0	2,2
10	10	SM010P	180	15	39	8,5	2,7
15	-	SM015P	180	15	47	10,0	2,7
23	20	SM023P	215	17	58	13,5	4,9
30	30	SM030P	215	17	66	13,5	4,9

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



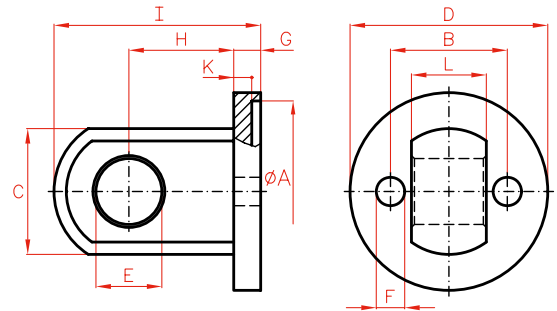
WARNING

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

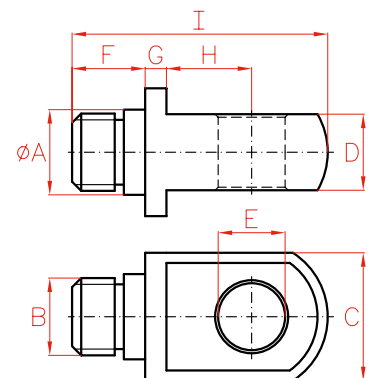


Clevis Eye Body



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

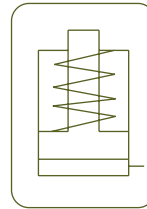
Clevis Eye Piston



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	SAM
Capacity	30 - 140 ton
Stroke	50 - 300 mm
Max. pressure	700 bar

SAM CYLINDERS

SAH
Lightweight Aluminium
Hollow Piston Cylinders



P.18

DDA
Double Acting Aluminium Cylinders



P.48

WA
Aluminium Hand Pumps



P.68



HBM / HBE
Powerpacks



P.72

Z12107
Air Hydraulic Pumps

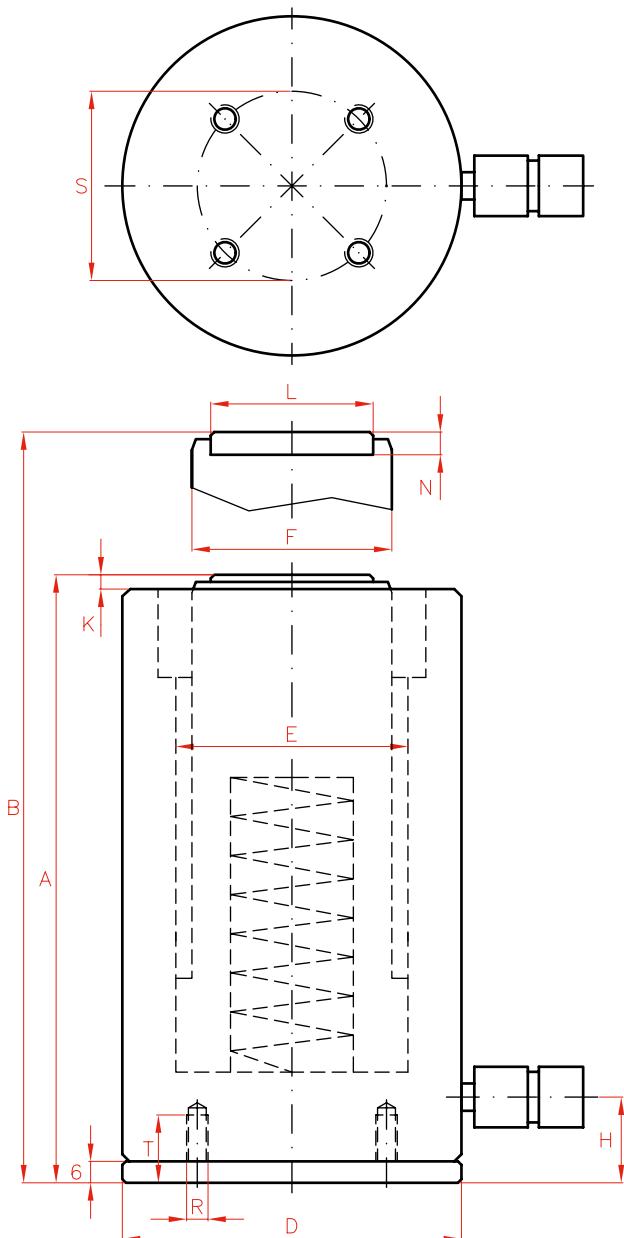


P.70

W
Single Acting Hand Pumps



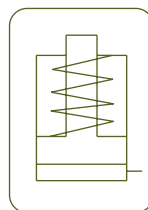
P.66



Capacity		Stroke	Model	Oil Cap.	A
ton	kN	mm	LARZEP	cm ³	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**

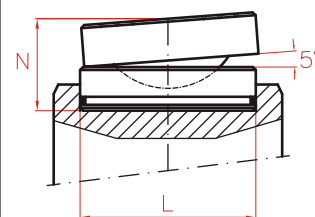
Stroke **50 - 300 mm**

Max. pressure **700 bar**

SAM CYLINDERS

OPTIONAL TILTING SADDLES

Model	L	N	Weight
LARZEP	mm	mm	kg
AZ0401	45	36	0,4
AZ0402	61	39	0,8
AZ0404	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 ²	kg	LARZEP	A	Model
	222	105	75	60	24	6	45	11	M6	85	19	44	4,8	SAM03005	197	AZ0401
	322	105	75	60	24	6	45	11	M6	85	19	44	5,4	SAM03010	247	AZ0401
	422	105	75	60	24	6	45	11	M6	85	19	44	6,4	SAM03015	297	AZ0401
	522	105	75	60	24	6	45	11	M6	85	19	44	7,4	SAM03020	347	AZ0401
	622	105	75	60	24	6	45	11	M6	85	19	44	8,4	SAM03025	397	AZ0401
	722	105	75	60	24	6	45	11	M6	85	19	44	9,3	SAM03030	447	AZ0401
	230	135	95	80	26	7	61	12	M6	115	19	71	8,0	SAM05005	207	AZ0402
	330	135	95	80	26	7	61	12	M6	115	19	71	9,5	SAM05010	257	AZ0402
	430	135	95	80	26	7	61	12	M6	115	19	71	11,0	SAM05015	307	AZ0402
	530	135	95	80	26	7	61	12	M6	115	19	71	11,5	SAM05020	357	AZ0402
	630	135	95	80	26	7	61	12	M6	115	19	71	13,0	SAM05025	407	AZ0402
	730	135	95	80	26	7	61	12	M6	115	19	71	14,5	SAM05030	457	AZ0402
	260	180	130	110	32	5	88	14	M6	160	19	133	16,0	SAM10005	243	AZ0404
	360	180	130	110	32	5	88	14	M6	160	19	133	19,0	SAM10010	293	AZ0404
	460	180	130	110	32	5	88	14	M6	160	19	133	22,0	SAM10015	343	AZ0404
	560	180	130	110	32	5	88	14	M6	160	19	133	25,0	SAM10020	393	AZ0404
	660	180	130	110	32	5	88	14	M6	160	19	133	28,0	SAM10025	443	AZ0404
	760	180	130	110	32	5	88	14	M6	160	19	133	31,0	SAM10030	493	AZ0404
	275	225	160	140	43	6	88	14	M6	200	19	201	24,0	SAM14005	258	AZ0404
	375	225	160	140	43	6	88	14	M6	200	19	201	29,0	SAM14010	308	AZ0404
	475	225	160	140	43	6	88	14	M6	200	19	201	34,0	SAM14015	358	AZ0404
	575	225	160	140	43	6	88	14	M6	200	19	201	39,0	SAM14020	408	AZ0404
	675	225	160	140	43	6	88	14	M6	200	19	201	44,0	SAM14025	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 ³	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	SH
Capacity	12 - 100 ton
Stroke	40 - 150 mm
Max. pressure	700 bar

SAH
Lightweight Aluminium
Hollow Piston Cylinders

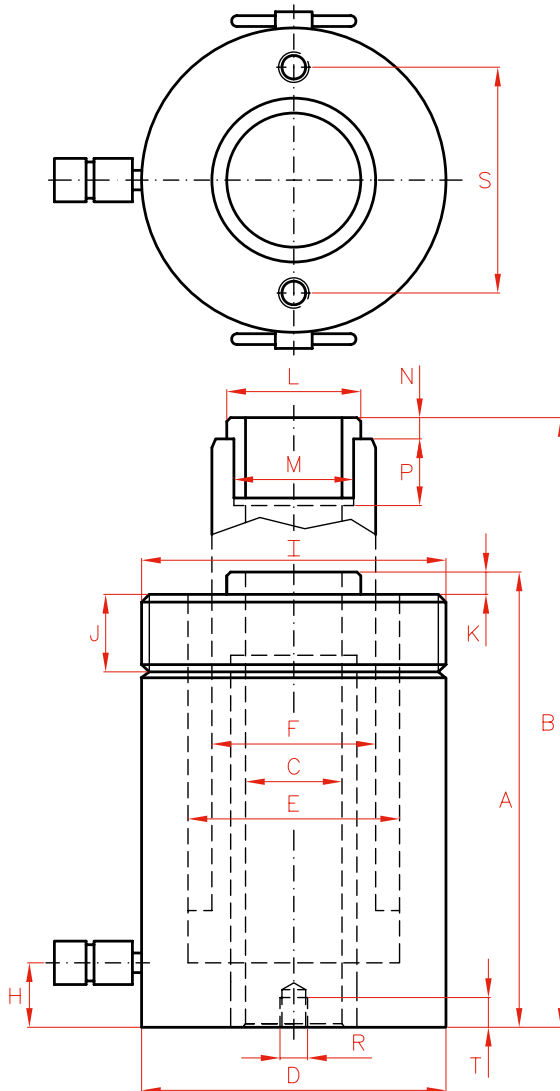
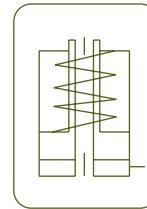


P.18

DH
Double Acting Hollow Piston Cylinders



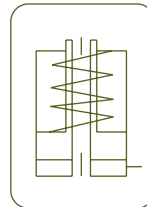
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	D	E	F	H	I	J	K	L	M	N	P	R	S	T	Area	Weight	Model
	mm	mm	mm	mm	UN	mm	mm	mm	UN	mm	mm	UN	mm	mm	cm ²	kg	LARZEP
	75	55	40	19	2 3/4"-16	30	3	34	M28 x 1,5	7	18	5/16"-18	51	12	18	3,4	SH01204
	75	55	40	19	2 3/4"-16	30	3	34	M28 x 1,5	7	18	5/16"-18	51	12	18	4,6	SH01208
	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	SH01215
	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	SH02205
	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	SH02208
	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	SH02215
	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	SH03006
	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	SH03015
	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	SH06008
	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	SH06015
	213	170	130	37	8 3/8"-12	60	5	116	4"-16	13	25	5/8"-11	178	19	148	58,0	SH10008
	213	170	130	37	8 3/8"-12	60	5	116	4"-16	13	25	5/8"-11	178	19	148	79,0	SH10015

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

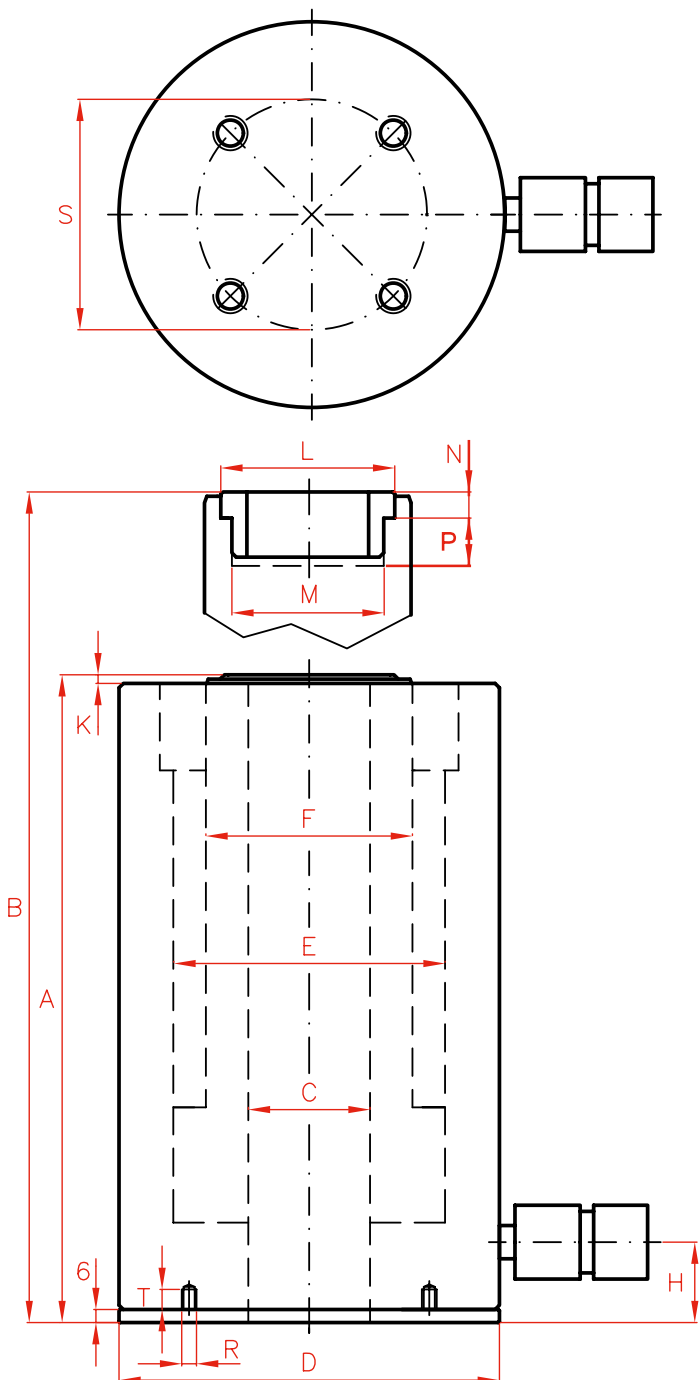


P.70

W
Single Acting Hand Pumps



P.66



Capacity		Stroke	Model	Oil Cap.	A	
ton	kN	mm	LARZEP	cm ³	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	

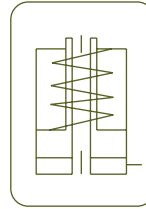


AZ04 & AZ05

Optional Saddles available
Plain, threaded or solid



P.90



HOLLOW PISTON ALUM. CYLINDERS



Type **SAH**

Capacity **22 - 100 ton**

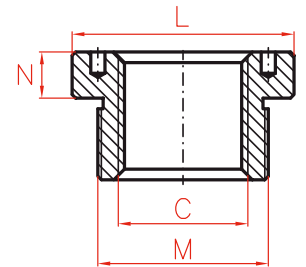
Stroke **50 - 250 mm**

Max. pressure **700 bar**

SAH CYLINDERS

OPTIONAL THREADED SADDLES

Cylinder Model	Model	C	L	M	N
LARZEP	LARZEP	UN	mm	UN	mm
SAH022	AZ0552	1"-8	48	1 9/16"-16	8
SAH030	AZ0553	1 1/4"-7	55	1 13/16"-16	9
SAH060	AZ0556	1 5/8"-5 1/2	80	2 3/4"-16	12
SAH100	AZ0560	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 ²	kg	LARZEP
	233	27	100	75	56	26	3	48	1 9/16"-16	8	20	M6	85	19	32	4,5	SAH02205
	353	27	100	75	56	26	3	48	1 9/16"-16	8	20	M6	85	19	32	5,8	SAH02210
	473	27	100	75	56	26	3	48	1 9/16"-16	8	20	M6	85	19	32	7,0	SAH02215
	587	27	100	75	56	26	3	48	1 9/16"-16	8	20	M6	85	19	32	8,0	SAH02220
	698	27	100	75	56	26	3	48	1 9/16"-16	8	20	M6	85	19	32	8,8	SAH02225
	260	34	130	90	68	32	4	55	1 11/13"-16	9	22	M6	110	19	44	7,5	SAH03005
	378	34	130	90	68	32	4	55	1 11/13"-16	9	22	M6	110	19	44	10,0	SAH03010
	500	34	130	90	68	32	4	55	1 11/13"-16	9	22	M6	110	19	44	11,5	SAH03015
	610	34	130	90	68	32	4	55	1 11/13"-16	9	22	M6	110	19	44	13,0	SAH03020
	725	34	130	90	68	32	4	55	1 11/13"-16	9	22	M6	110	19	44	14,6	SAH03025
	293	56	175	125	95	37	4	80	2 3/4"-16	12	22	M6	155	19	84	16,3	SAH06005
	398	56	175	125	95	37	4	80	2 3/4"-16	12	22	M6	155	19	84	19,5	SAH06010
	513	56	175	125	95	37	4	80	2 3/4"-16	12	22	M6	155	19	84	23,4	SAH06015
	628	56	175	125	95	37	4	80	2 3/4"-16	12	22	M6	155	19	84	26,0	SAH06020
	743	56	175	125	95	37	4	80	2 3/4"-16	12	22	M6	155	19	84	32,0	SAH06025
	310	81	235	170	130	40	6	116	4"-16	13	25	M6	215	19	148	31,0	SAH10005
	427	81	235	170	130	40	6	116	4"-16	13	25	M6	215	19	148	38,0	SAH10010
	547	81	235	170	130	40	6	116	4"-16	13	25	M6	215	19	148	45,0	SAH10015
	662	81	235	170	130	40	6	116	4"-16	13	25	M6	215	19	148	53,0	SAH10020
	782	81	235	170	130	40	6	116	4"-16	13	25	M6	215	19	148	61,0	SAH10025

SINGLE ACTING LOW HEIGHT CYLINDERS, LOAD OR SPRING RETURN

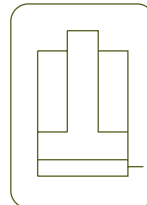
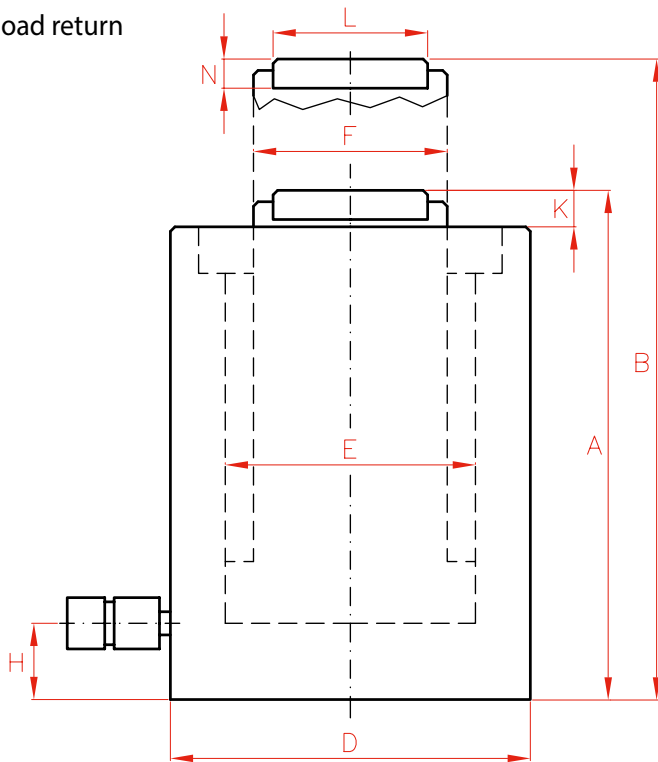


- ✓ Capacities from 10 to 100 ton, strokes up to 150 mm.
- ✓ Two versions: **SP** for load return, and **SMP** for spring return.
- ✓ Low profile for use in confined spaces: machinery positioning, tool fastening, load tests.
- ✓ Body and saddle black nitrided to improve corrosion and wear resistance.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

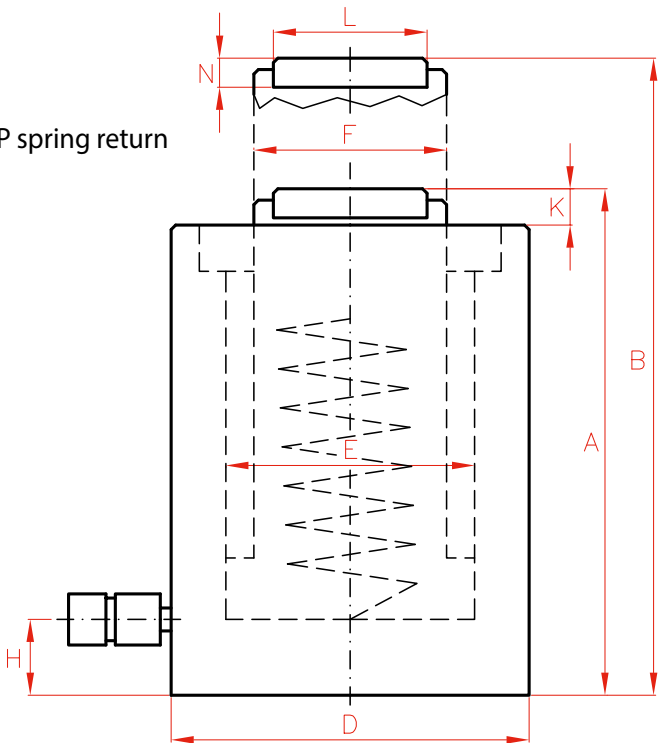
Capacity		Stroke	Model	Model	Oil Cap.	A	B	D	E	F	H	K	
ton	kN	mm	LARZEP	LARZEP	cm ³	mm	mm	mm	mm	mm	mm	mm	
10	109	40	SP01004	SMP01004	64	89	129	66	45	36	14*	2	
20	214	40	SP02004	SMP02004	125	101	141	90	63	56	14*	2	
30	303	60	SP03006	SMP03006	265	125	185	102	75	60	14*	2	
50	486	60	SP05006	SMP05006	425	125	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	SP - SMP
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 ²	Weight kg	Model	Model	With tilting saddle	
	mm	mm			LARZEP	LARZEP	A	Model
	30	-	16	3	SP01004	SMP01004	-	-
	42	-	31	5	SP02004	SMP02004	-	-
	45	11	44	8	SP03006	SMP03006	150	AZ0401
	61	12	71	12	SP05006	SMP05006	152	AZ0402
	88	14	133	25	SP10006	SMP10006	174	AZ0404
	88	14	133	43	-	SMP10015	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

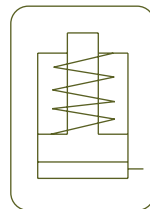
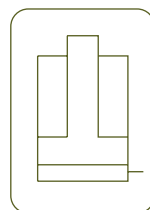
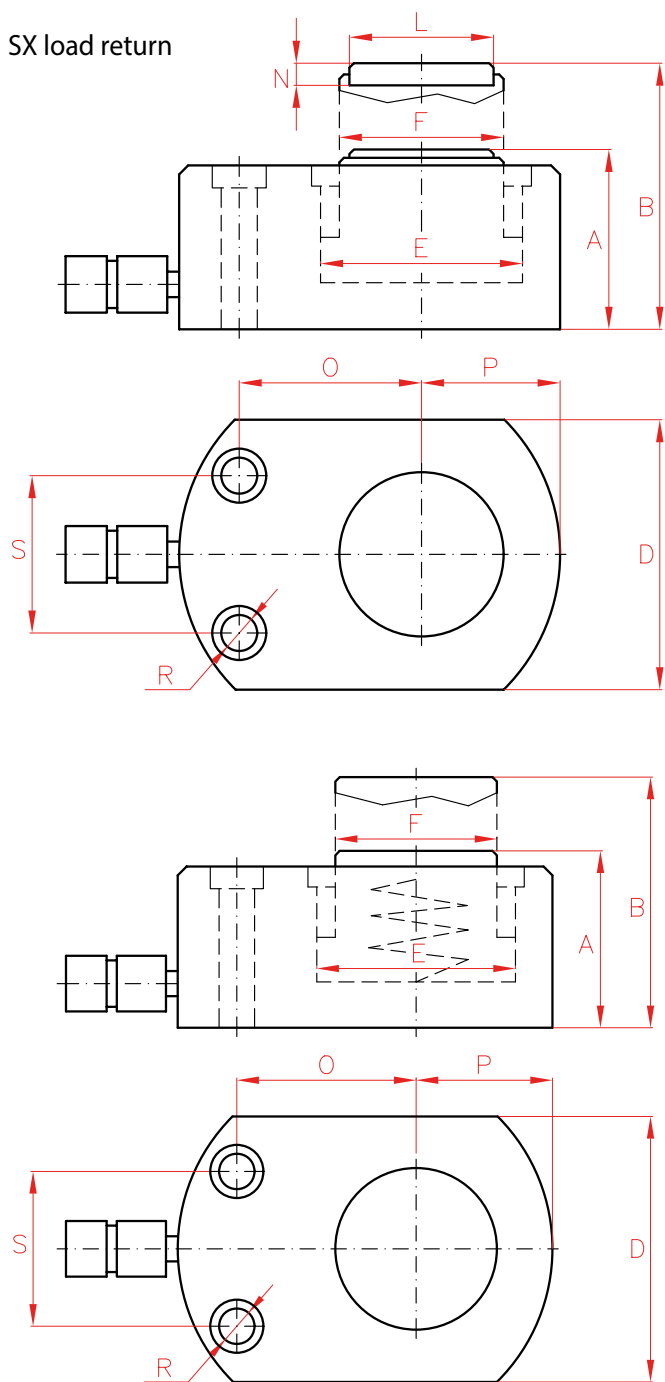
Single Acting Hand Pumps



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



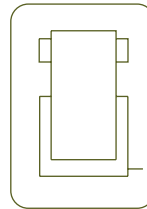
P.32

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 ³	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	cm ²	kg
4	44	6	SX00406	SMX00406	4	33	39	41	28,5	25	21	-	20	21	28	5,5	6	0,8
		16	SX00416	SMX00416	11	43	59	41	28,5	25	21	-	20	21	28	5,5	6	1,2
10	100	11	SX01011	SMX01011	16	43	54	56	43	38	30	-	33	29	37	6,5	15	1,6
22	228	11	SX02211	SMX02211	37	52	63	80	65	57	42	-	39	41	50	9	33	2,8
30	287	13	SX03013	SMX03013	55	59	72	95	73	60	44	-	46	47	52	11	42	4,1
50	487	16	SX05016	SMX05016	114	68	84	114	95	78	61	12	56	58	67	13	71	6,6
75	713	16	SX07516	SMX07516	167	79	95	140	115	95	61	12	66	70,5	75	13	104	12,5
100	954	16	SX10016	SMX10016	223	87	103	162	133	108	88	14	70	89	76	6,6	139	15,0
150	1.450	16	SX15016	SMX15016	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	STC
Capacity	30 - 1.085 ton
Stroke	50 - 300 mm
Max. pressure	700 bar

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



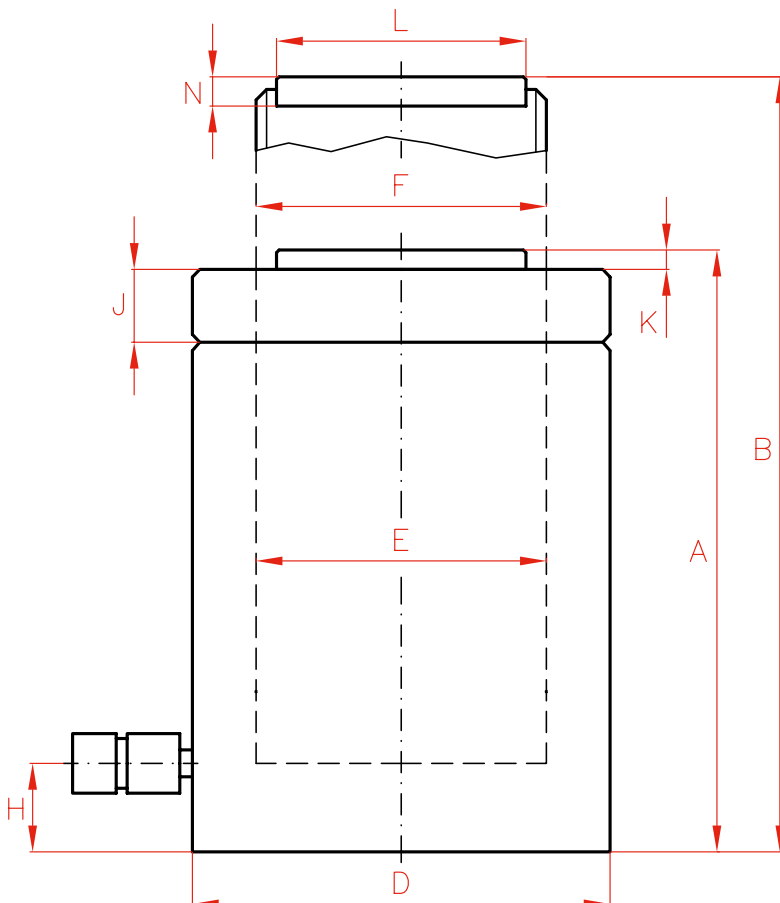
P.84

AV - AY - AVD

Pressure Gauges



P.94



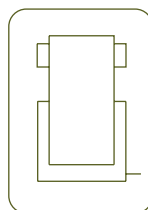
Capacity		Stroke	Model	Oil Cap.	A	
ton	kN	mm	LARZEP	cm ³	mm	
30	303	50	STC03005	221	141	
		100	STC03010	442	191	
		150	STC03015	663	246	
		200	STC03020	884	296	
		250	STC03025	1.104	355	
		300	STC03030	1.325	405	
51	496	50	STC05005	354	153	
		100	STC05010	709	203	
		150	STC05015	1.063	261	
		200	STC05020	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**

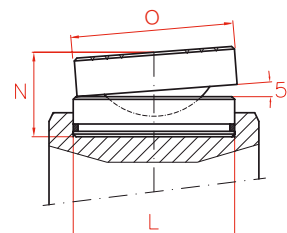
Capacity **30 - 1.085 ton**

Stroke **50 - 300 mm**

STC CYLINDERS

OPTIONAL TILTING SADDLES

Model	L	N	O	Weight
LARZEP	mm	mm	mm	kg
CATS50	50	34,0	71	1,0
CATS100	71	30,0	71	1,5
CATS150	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 ²	kg	LARZEP	A	Model
	191	100	75	Tr 75x4	20	20	3	50	20	44,2	9	STC03005	155	CATS50
	291	100	75	Tr 75x4	20	20	3	50	20	44,2	12	STC03010	205	CATS50
	396	100	75	Tr 75x4	20	20	3	50	20	44,2	15	STC03015	260	CATS50
	496	100	75	Tr 75x4	20	20	3	50	20	44,2	18	STC03020	310	CATS50
	605	100	75	Tr 75x4	20	20	3	50	20	44,2	22	STC03025	369	CATS50
	705	100	75	Tr 75x4	20	20	3	50	20	44,2	25	STC03030	419	CATS50
	203	125	95	Tr 95x4	25	21	3	50	20	70,9	14	STC05005	167	CATS50
	303	125	95	Tr 95x4	25	21	3	50	20	70,9	19	STC05010	217	CATS50
	411	125	95	Tr 95x4	25	21	3	50	20	70,9	25	STC05015	275	CATS50
	511	125	95	Tr 95x4	25	21	3	50	20	70,9	30	STC05020	325	CATS50
	616	125	95	Tr 95x4	25	21	3	50	20	70,9	35	STC05025	380	CATS50
	716	125	95	Tr 95x4	25	21	3	50	20	70,9	40	STC05030	430	CATS50
	230	170	130	Tr 130x6	30	31	3	71,5	20	132,7	31	STC10005	190	CATS100
	330	170	130	Tr 130x6	30	31	3	71,5	20	132,7	40	STC10010	240	CATS100
	435	170	130	Tr 130x6	30	31	3	71,5	20	132,7	50	STC10015	295	CATS100
	535	170	130	Tr 130x6	30	31	3	71,5	20	132,7	59	STC10020	345	CATS100
	641	170	130	Tr 130x6	30	31	3	71,5	20	132,7	69	STC10025	401	CATS100
	741	170	130	Tr 130x6	30	31	3	71,5	20	132,7	78	STC10030	451	CATS100
	245	210	160	Tr 160x6	40	38	3	94	20	201,1	52	STC14005	214	CATS150
	345	210	160	Tr 160x6	40	38	3	94	20	201,1	65	STC14010	264	CATS150
	459	210	160	Tr 160x6	40	38	3	94	20	201,1	83	STC14015	328	CATS150
	559	210	160	Tr 160x6	40	38	3	94	20	201,1	96	STC14020	378	CATS150
	665	210	160	Tr 160x6	40	38	3	94	20	201,1	111	STC14025	434	CATS150
	765	210	160	Tr 160x6	40	38	3	94	20	201,1	125	STC14030	484	CATS150

Z12107
Air Hydraulic Pump



P.70

HBM / HBE
Powerpack

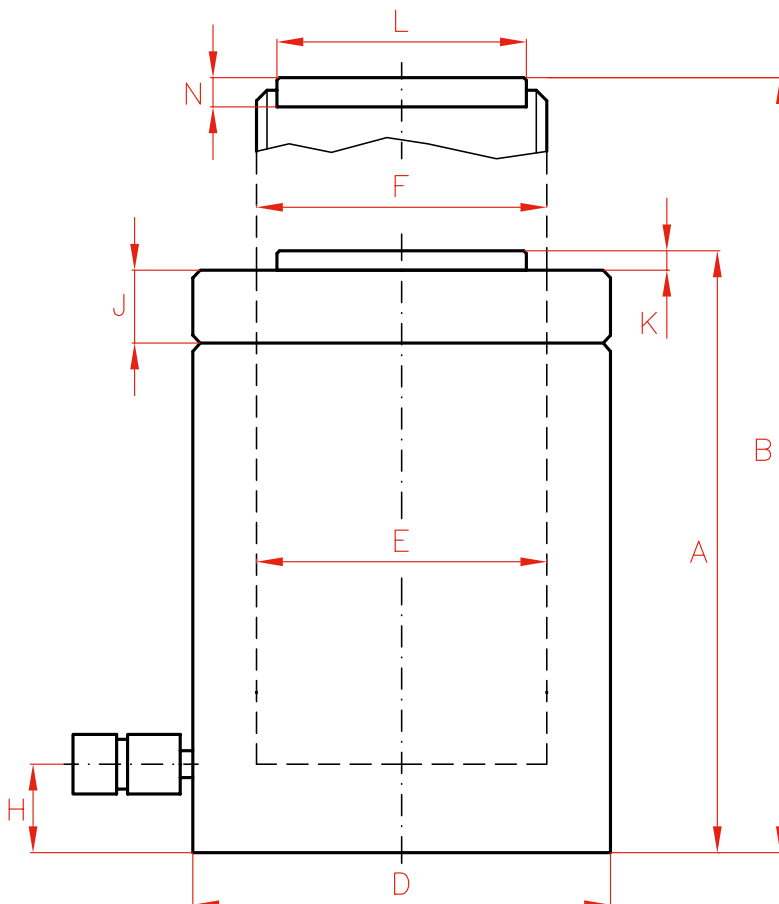


P.72

AP2
Hoses

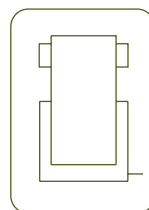


P.84



Capacity		Stroke	Model	Oil Cap.	A
ton	kN	mm	LARZEP	cm ³	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**

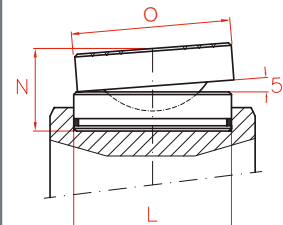
Capacity **30 - 1.085 ton**

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 ²	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

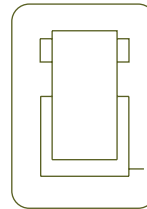
- ✓ Capacities from 50 to 500 ton, strokes up to 50 mm.
- ✓ Load return. Locknut tested under 50% overload.
- ✓ The locknut holds the load mechanically for extended periods of time.
- ✓ Hydraulic end of stroke overflow port. Without stop ring. Red band warning.
- ✓ Built-in tilting saddle to improve 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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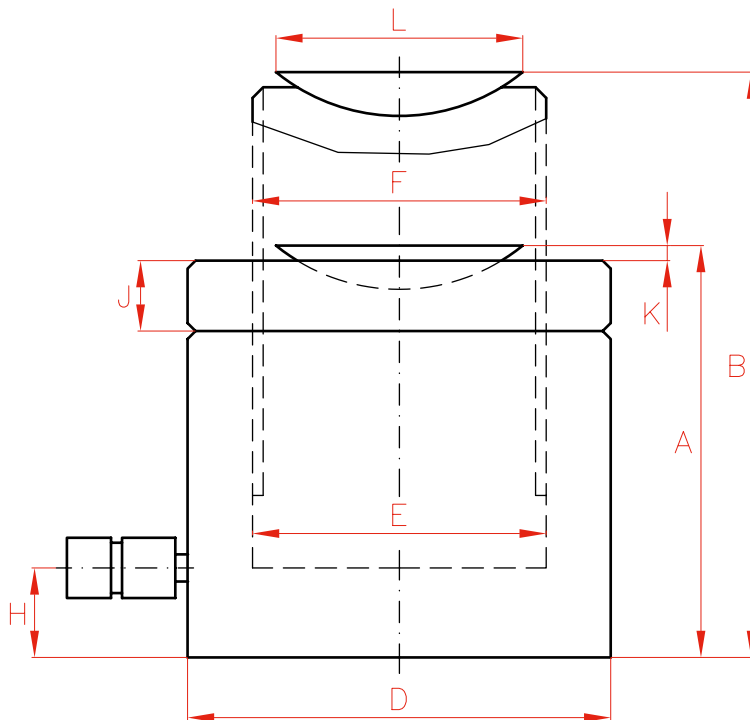


S/A LOCKNUT CYLINDERS



Type	STX
Capacity	50 - 500 ton
Stroke	45 - 50 mm
Max. pressure	700 bar

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 ³	mm	mm	mm	mm	mm	mm	mm	mm	mm	cm ²	kg
50	496	50	STX05004	355	125	175	125	95	Tr 95x4	20	21	6	85	71	11
100	929	45	STX10004	597	137	182	165	130	Tr 130X5	23	31	8	117	133	22
150	1.407	45	STX15004	905	148	193	205	160	Tr 160x6	28	38	9	143	201	39
230	2.199	45	STX23004	1.413	155	200	255	200	Tr 200x6	32	40	10	150	314	62
300	3.036	45	STX30004	1.952	173	218	310	235	Tr 235x6	38	45	11	209	433	97
400	4.008	45	STX40004	2.577	180	225	350	270	Tr 270x6	44	50	10	258	572	130
500	5.114	45	STX50004	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



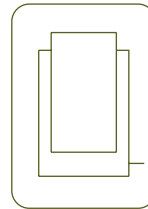
P.24

SP - SMP
Low Height Single Acting Cylinders



P.22





S/A LOAD RETURN CYLINDERS



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

SSC CYLINDERS



DDC
Double Acting High Tonnage Cylinders



P.44

HBM / HBE
Powerpacks



P.72



HBM / HBE
Powerpacks



P.72

Z22107
Air Hydraulic Pumps

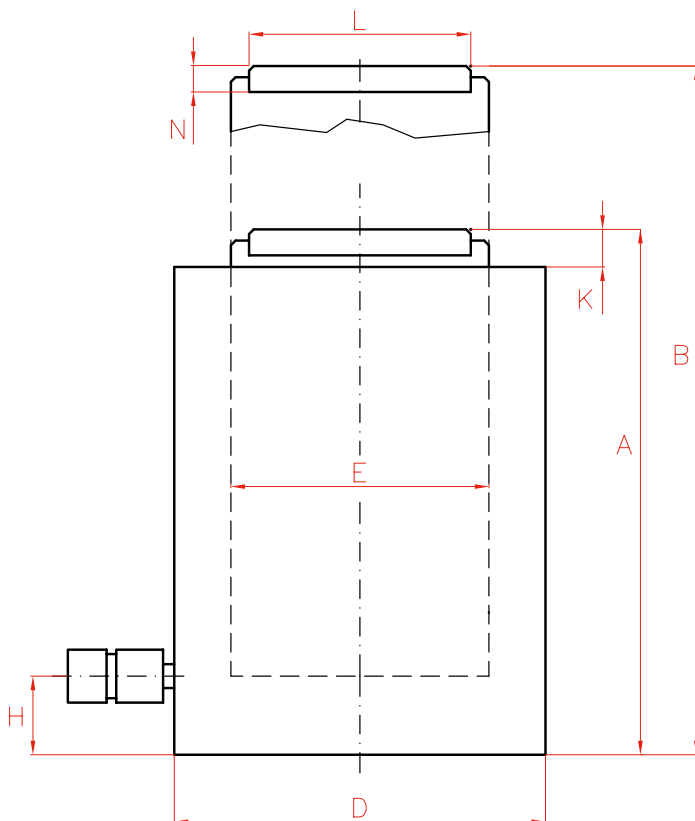


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W
Single Acting Hand Pumps



P.66

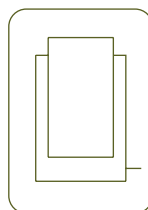
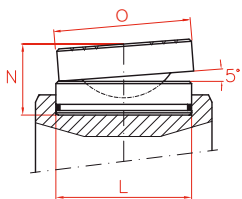


Capacity		Stroke mm	Model LARZEP	Oil Cap. cm ³	A mm
ton	kN				
144	1.407	50	SSC14005	1.005	159
		150	SSC14015	3.016	275
		300	SSC14030	6.032	430
224	2.199	50	SSC22005	1.571	180
		150	SSC22015	4.712	291
		300	SSC22030	9.425	451
310	3.036	50	SSC30005	2.169	193
		150	SSC30015	6.506	309
		300	SSC30030	13.012	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 ²	kg	LARZEP	A	Model
	209	210	160	40	6	94	20	201,1	43	SSC14005	178	CATS150
	425	210	160	40	6	94	20	201,1	74	SSC14015	294	CATS150
	730	210	160	40	6	94	20	201,1	116	SSC14030	449	CATS150
	230	260	200	50	6	113	20	314,2	75	SSC22005	203	CATS200
	441	260	200	50	6	113	20	314,2	120	SSC22015	314	CATS200
	751	260	200	50	6	113	20	314,2	187	SSC22030	474	CATS200
	243	305	235	55	8	140	30	433,7	110	SSC30005	232	CATS300
	459	305	235	55	8	140	30	433,7	176	SSC30015	348	CATS300
	769	305	235	55	8	140	30	433,7	267	SSC30030	508	CATS300
	265	350	270	65	10	159	30	572,6	161	SSC40005	263	CATS400
	475	350	270	65	10	159	30	572,6	244	SSC40015	373	CATS400
	785	350	270	65	10	159	30	572,6	364	SSC40030	533	CATS400
	275	400	305	70	10	179	30	730,6	221	SSC50005	272	CATS500
	485	400	305	70	10	179	30	730,6	329	SSC50015	382	CATS500
	795	400	305	70	10	179	30	730,6	486	SSC50030	542	CATS500
	286	430	330	80	10	194	30	855,3	268	SSC60005	288	CATS600
	496	430	330	80	10	194	30	855,3	393	SSC60015	398	CATS600
	806	430	330	80	10	194	30	855,3	574	SSC60030	558	CATS600
	313	505	385	95	10	224	30	1.164,2	411	SSC80005	320	CATS800
	523	505	385	95	10	224	30	1.164,2	583	SSC80015	430	CATS800
	833	505	385	95	10	224	30	1.164,2	834	SSC80030	590	CATS800
	342	570	440	105	10	249	30	1.520,5	582	SSC100005	368	CATS1000
	552	570	440	105	10	249	30	1.520,5	801	SSC100015	478	CATS1000
	873	570	440	105	10	249	30	1.520,5	1.142	SSC100030	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 ³	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

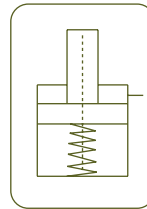


W - X

Single and Double Acting Hand Pumps



P.66



PULL CYLINDERS



Type

TE - TD

Capacity

10 - 50 ton

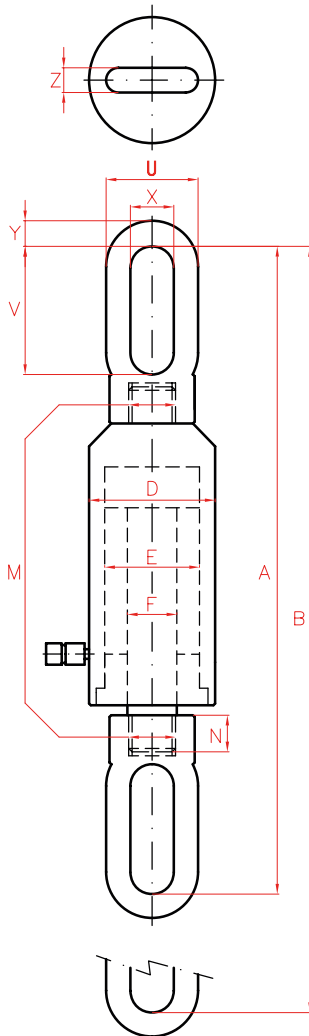
Stroke

150 mm

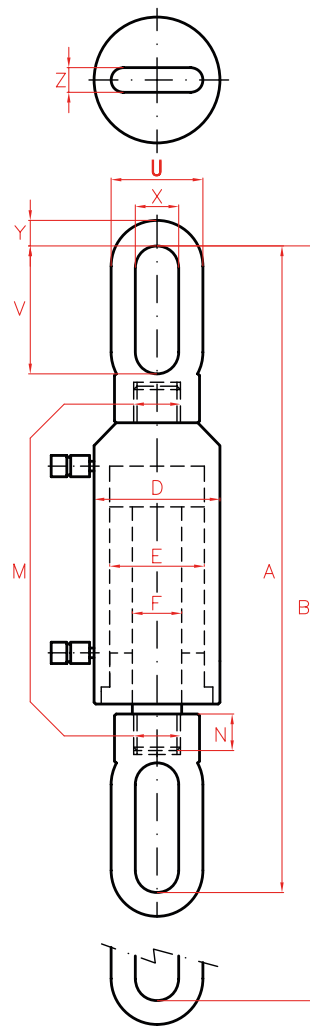
Max. pressure

700 bar

TE - TD CYLINDERS



TE



TD

AP2
Hoses



P.84

AV - AT - AY
Pressure Gauges

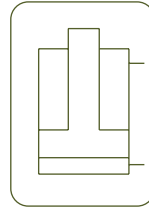


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	B	D	E	F	M	N	U	V	X	Y	Z	Area	Weight	Model
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	cm ²	kg	LARZEP
	709	86	55	36	M30x2	25	64	119	34	32	22	13,5	14,9	TE01015
	709	86	55	36	M30x2	25	64	119	34	32	22	13,5	14,9	TD01015
	873	125	90	50	M40x2	45	108	153	50	29	29	43,9	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	D
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



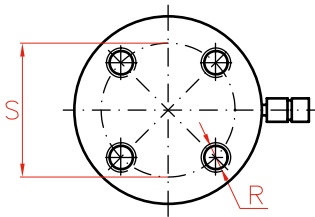
P.70

X
Double Acting Hand Pumps

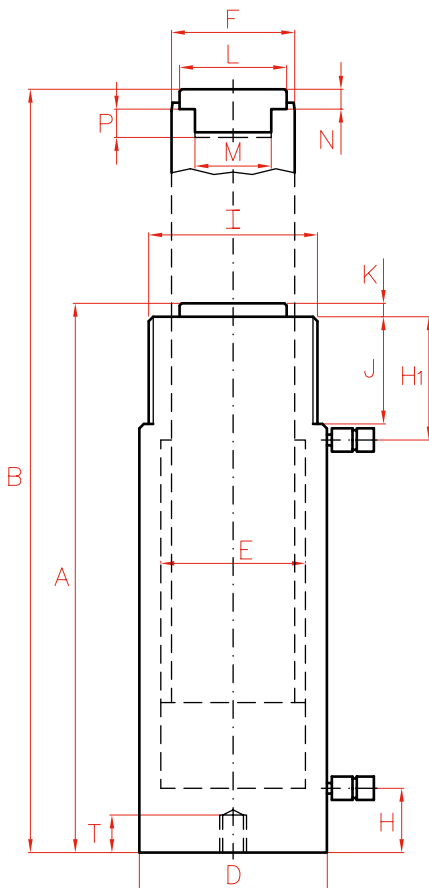
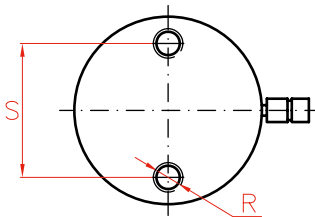


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Models from 50 to 550 ton



Models up to 30 ton

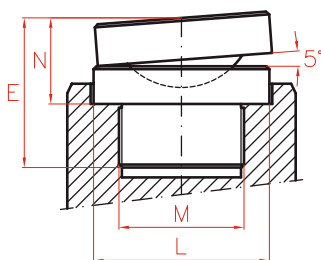


Capacity ton	Stroke mm	Model LARZEP	Capacity (kN)		Oil Cap. cm ³	A mm	B mm	D mm	E mm	F mm
			Push	Pull						
10	160	D01016	109	20	255	310	470	60	45	36
	250	D01025	109	20	398	400	650	60	45	36
	320	D01032	109	20	509	470	790	60	45	36
20	160	D02016	214	53	499	320	480	83	63	45
	250	D02025	214	53	779	410	660	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 ²	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.

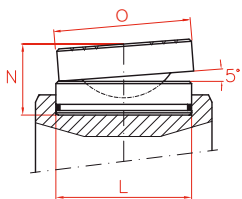


Capacity		Stroke	Model	Oil Cap.	A
ton	kN	mm	LARZEP	cm ³	mm
51	496	50	DDC05005	354	206
		150	DDC05015	1.063	306
		300	DDC05030	2.126	461
95	929	50	DDC10005	664	196
		150	DDC10015	1.991	296
		300	DDC10030	3.982	451
144	1.407	50	DDC14005	1.005	213
		150	DDC14015	3.016	318
		300	DDC14030	6.032	478
224	2.199	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

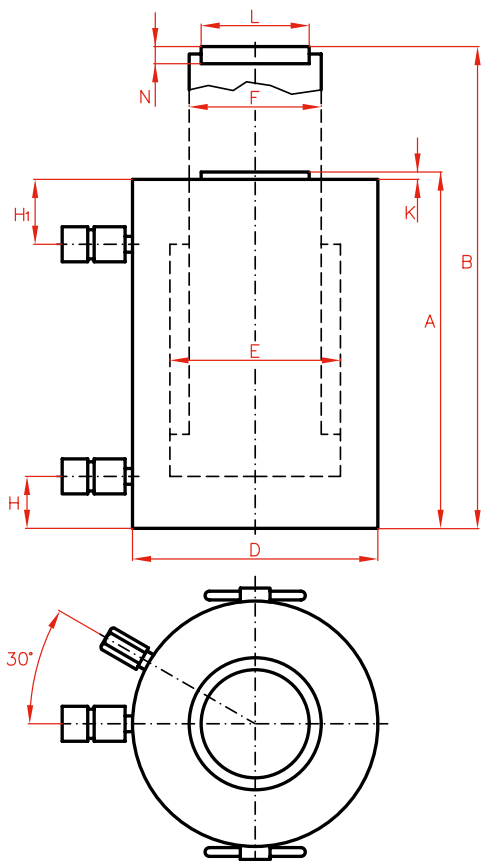
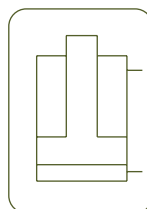


OPTIONAL TILTING SADDLES

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



P.90



Type **DDC**

Capacity **51 - 1.085 ton**

Stroke **50 - 300 mm**

Max. pressure **700 bar**

DDA
Aluminium Double Acting Cylinders

P.48

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

HBM / HBE
Powerpacks



P.72

AV - AY - AVD
Pressure Gauges



P.94

AP2
Hoses



P.84

AZ3140
Coupler 3/8" -18 NPT included

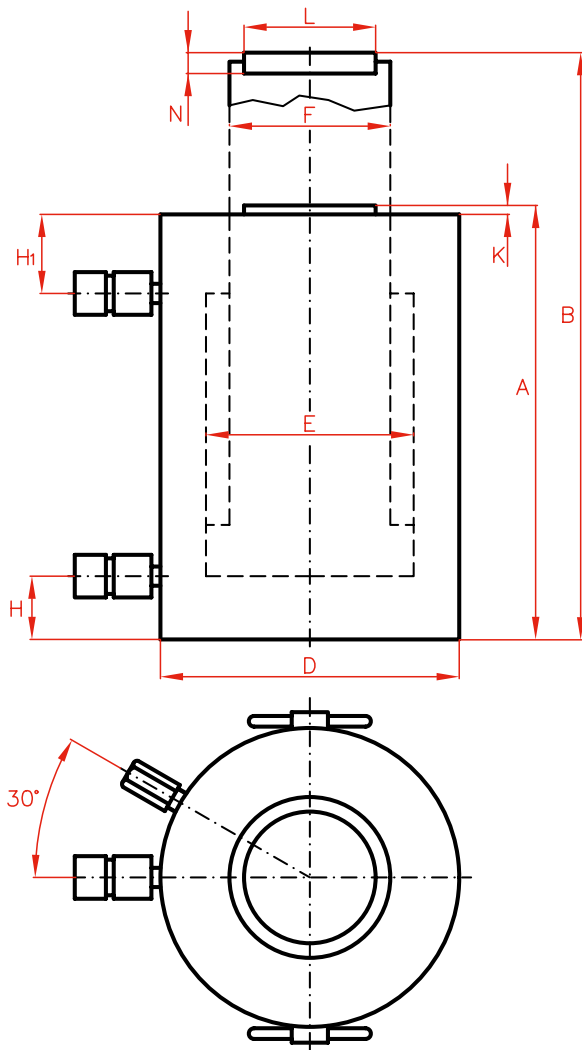
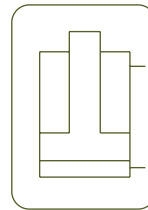


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Capacity		Stroke	Model	Oil Cap.	A
ton	kN	mm	LARZEP	cm ³	mm
409	4.008	50	DDC40005	2.863	275
		150	DDC40015	8.588	382
		300	DDC40030	17.177	538
522	5.114	50	DDC50005	3.653	305
		150	DDC50015	10.959	410
		300	DDC50030	21.918	566
611	5.987	50	DDC60005	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



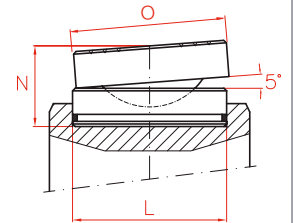


Type	DDC
Capacity	51 - 1.085 ton
Stroke	50 - 300 mm
Max. pressure	700 bar

DDC CYLINDERS

OPTIONAL TILTING SADDLES

Model	L	N	O	Weight
LARZEP	mm	mm	mm	kg
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



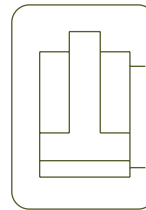
P.90

	B	D	E	F	H	H1	K	L	N	Area	Weight	Model	With tilting saddle	
	mm	mm	mm	mm	mm	mm	mm	mm	mm	cm ²	kg	LARZEP	A	Model
	325	350	270	220	65	95	10	159,5	30	572,6	197	DDC40005	323	CATS400
	532	350	270	220	65	95	10	159,5	30	572,6	262	DDC40015	430	CATS400
	838	350	270	220	65	95	10	159,5	30	572,6	357	DDC40030	586	CATS400
	355	400	305	250	75	110	10	179,5	30	730,6	287	DDC50005	352	CATS500
	560	400	305	250	75	110	10	179,5	30	730,6	371	DDC50015	457	CATS500
	866	400	305	250	75	110	10	179,5	30	730,6	496	DDC50030	613	CATS500
	365	430	330	270	80	115	10	195	30	855,3	342	DDC60005	367	CATS600
	570	430	330	270	80	115	10	195	30	855,3	440	DDC60015	472	CATS600
	876	430	330	270	80	115	10	195	30	855,3	583	DDC60030	628	CATS600
	385	505	385	320	95	120	10	225	30	1.164,2	504	DDC80005	392	CATS800
	596	505	385	320	95	120	10	225	30	1.164,2	649	DDC80015	503	CATS800
	906	505	385	320	95	120	10	225	30	1.164,2	858	DDC80030	663	CATS800
	415	570	440	340	105	130	10	250	30	1.520,5	696	DDC100005	441	CATS1000
	626	570	440	340	105	130	10	250	30	1.520,5	869	DDC100015	552	CATS1000
	936	570	440	340	105	130	10	250	30	1.520,5	1.116	DDC100030	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	DDA
Capacity	50 - 100 ton
Stroke	50 - 300 mm
Max. pressure	700 bar

DDA CYLINDERS



Step by step aluminium cylinders. Stage lifting.



DDC
Double Acting High Tonnage Cylinders



P.44

D
Double Acting Cylinders



P.42

DAH
Aluminium Double Acting Hollow Piston Cylinders



P.54

AZ04
Optional Tilting Saddles available



P.90

HBM / HBE
Powerpacks



P.72

Z22107
Air Hydraulic Pumps



P.70

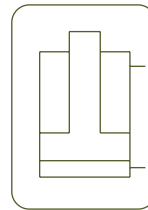
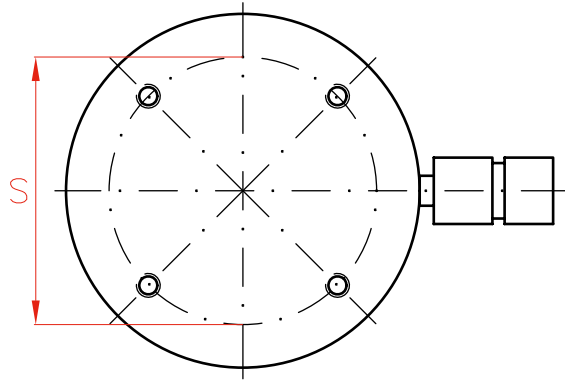
X
Double Acting Hand Pumps



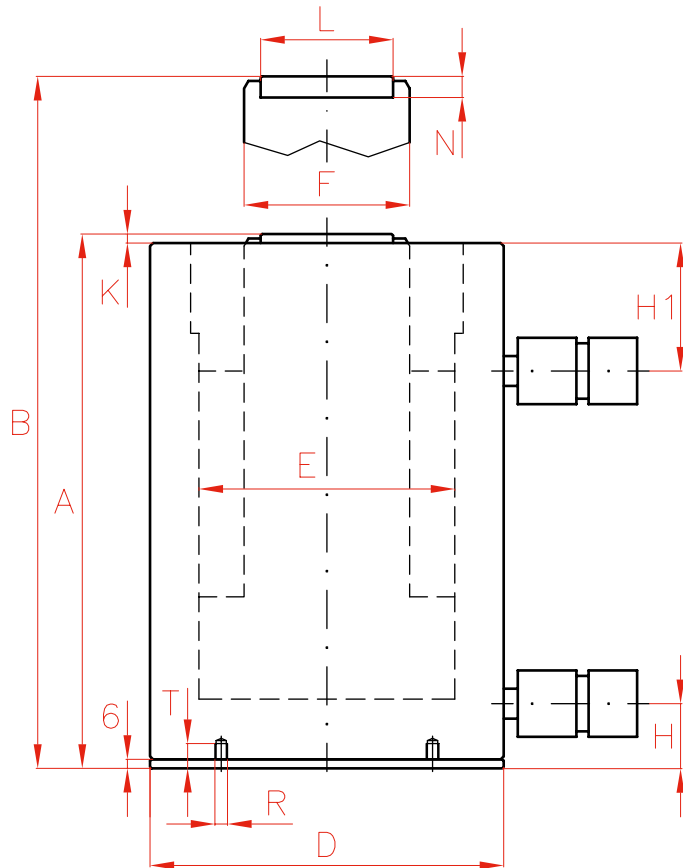
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Capacity	Stroke	Model	Capacity (kN)	Oil Cap.	A	
ton	mm	LARZEP	Push	cm ³	mm	
50	50	DDA05005	487	354	198	
	100	DDA05010	487	709	248	
	150	DDA05015	487	1.063	298	
	200	DDA05020	487	1.418	348	
	250	DDA05025	487	1.772	398	
	300	DDA05030	487	2.126	448	
100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



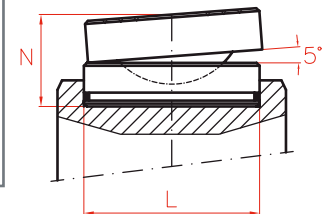


Type	DDA
Capacity	50 - 100 ton
Stroke	50 - 300 mm
Max. pressure	700 bar



OPTIONAL TILTING SADDLES

Model	L	N	Weight
LARZEP	mm	mm	kg
AZ0402	61	39	0,8
AZ0404	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 ²	kg	LARZEP	A	Model
	248	135	95	75	26	60	7	61	12	115	M6	19	71	8,0	DDA05005	225	AZ0402
	348	135	95	75	26	60	7	61	12	115	M6	19	71	9,7	DDA05010	275	AZ0402
	448	135	95	75	26	60	7	61	12	115	M6	19	71	11,3	DDA05015	325	AZ0402
	548	135	95	75	26	60	7	61	12	115	M6	19	71	12,9	DDA05020	375	AZ0402
	648	135	95	75	26	60	7	61	12	115	M6	19	71	14,6	DDA05025	425	AZ0402
	748	135	95	75	26	60	7	61	12	115	M6	19	71	16,2	DDA05030	475	AZ0402
	280	180	130	110	32	70	5	88	14	160	M6	19	133	16,1	DDA10005	263	AZ0404
	380	180	130	110	32	70	5	88	14	160	M6	19	133	19,2	DDA10010	313	AZ0404
	480	180	130	110	32	70	5	88	14	160	M6	19	133	22,2	DDA10015	363	AZ0404
	580	180	130	110	32	70	5	88	14	160	M6	19	133	25,3	DDA10020	413	AZ0404
	680	180	130	110	32	70	5	88	14	160	M6	19	133	28,3	DDA10025	463	AZ0404
	780	180	130	110	32	70	5	88	14	160	M6	19	133	31,3	DDA10030	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.



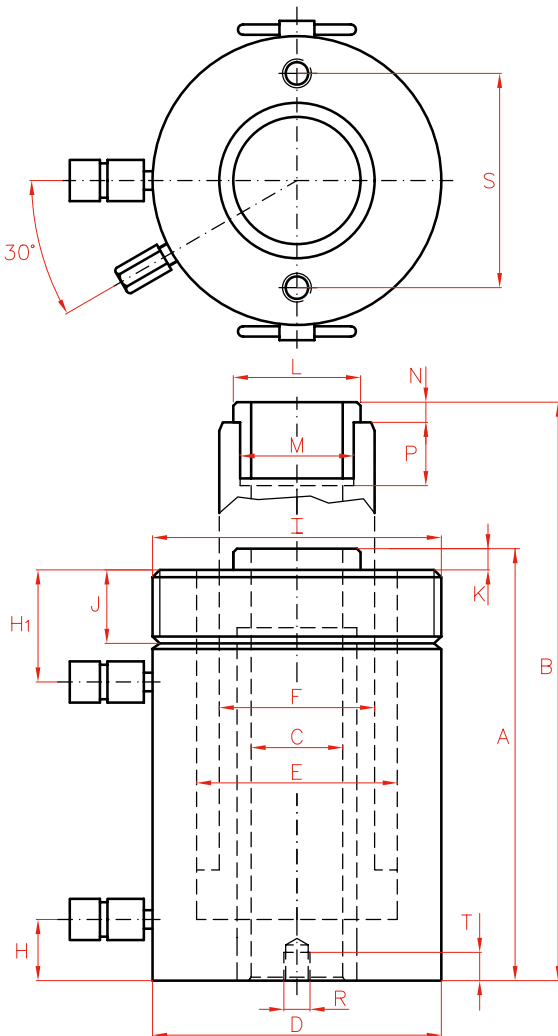
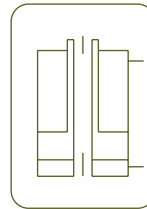
Capacity ton	Stroke mm	Model LARZEP	Capacity (kN)		Oil Cap. cm ³	A mm	B mm	C mm	D mm
			Push	Pull					
30	150	DH03015	302	173	660	300	450	34	120
	250	DH03025	302	173	1.100	400	650	34	120
60	80	DH06008	578	356	674	249	329	56	165
	150	DH06015	578	356	1.263	319	469	56	165
	250	DH06025	578	356	2.105	419	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 ²	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	DH03015
	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	DH03025
	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	DH06008
	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	DH06015
	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	DH06025
	170	130	37	60	-	-	5	116	4"-16	13	25	5/8"-11	177,8	19	148	48	DH10004
	170	130	37	80	8 3/8"-12	60	5	116	4"-16	13	25	5/8"-11	177,8	19	148	60	DH10008
	170	130	37	80	8 3/8"-12	60	5	116	4"-16	13	25	5/8"-11	177,8	19	148	76	DH10015
	170	130	37	80	8 3/8"-12	60	5	116	4"-16	13	25	5/8"-11	177,8	19	148	102	DH10025
	190	160	37	60	-	-	10	135	4 1/4"-12	20	40	-	-	-	205	116	DH15020

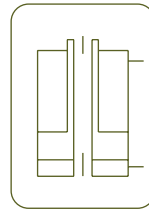
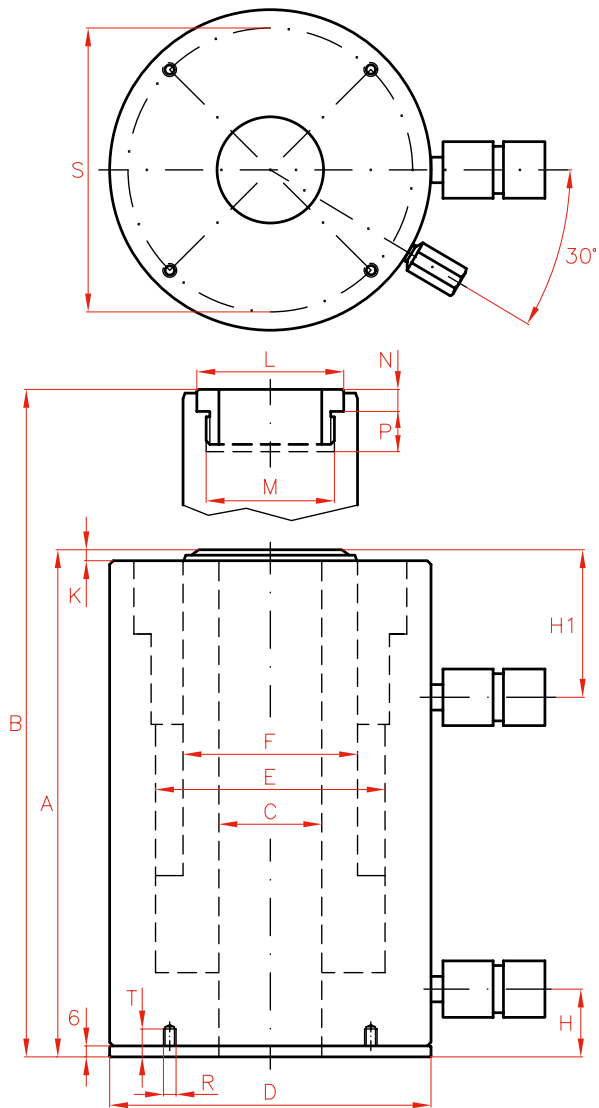
ALUMINIUM DOUBLE ACTING, HOLLOW PISTON CYLINDERS



- ✓ 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	DAH
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 ²	kg	LARZEP
	217	267	34	130	90	70	32	61	4	55	1 11/13"-16	9	22	M6	110	19	44	7	DAH03005
	267	367	34	130	90	70	32	61	4	55	1 11/13"-16	9	22	M6	110	19	44	9	DAH03010
	317	467	34	130	90	70	32	61	4	55	1 11/13"-16	9	22	M6	110	19	44	12	DAH03015
	367	567	34	130	90	70	32	61	4	55	1 11/13"-16	9	22	M6	110	19	44	13	DAH03020
	417	667	34	130	90	70	32	61	4	55	1 11/13"-16	9	22	M6	110	19	44	15	DAH03025
	225	275	56	175	125	95	37	66	4	80	2 3/4"-16	12	22	M6	155	19	84	13	DAH06005
	275	375	56	175	125	95	37	66	4	80	2 3/4"-16	12	22	M6	155	19	84	16	DAH06010
	325	475	56	175	125	95	37	66	4	80	2 3/4"-16	12	22	M6	155	19	84	19	DAH06015
	375	575	56	175	125	95	37	66	4	80	2 3/4"-16	12	22	M6	155	19	84	22	DAH06020
	425	675	56	175	125	95	37	66	4	80	2 3/4"-16	12	22	M6	155	19	84	25	DAH06025
	256	306	81	235	170	130	40	80	6	116	4"-16	13	25	M6	215	19	148	27	DAH10005
	306	406	81	235	170	130	40	80	6	116	4"-16	13	25	M6	215	19	148	33	DAH10010
	356	506	81	235	170	130	40	80	6	116	4"-16	13	25	M6	215	19	148	38	DAH10015
	406	606	81	235	170	130	40	80	6	116	4"-16	13	25	M6	215	19	148	43	DAH10020
	456	706	81	235	170	130	40	80	6	116	4"-16	13	25	M6	215	19	148	49	DAH10025

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 ²)		Oil Cap. cm ³	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



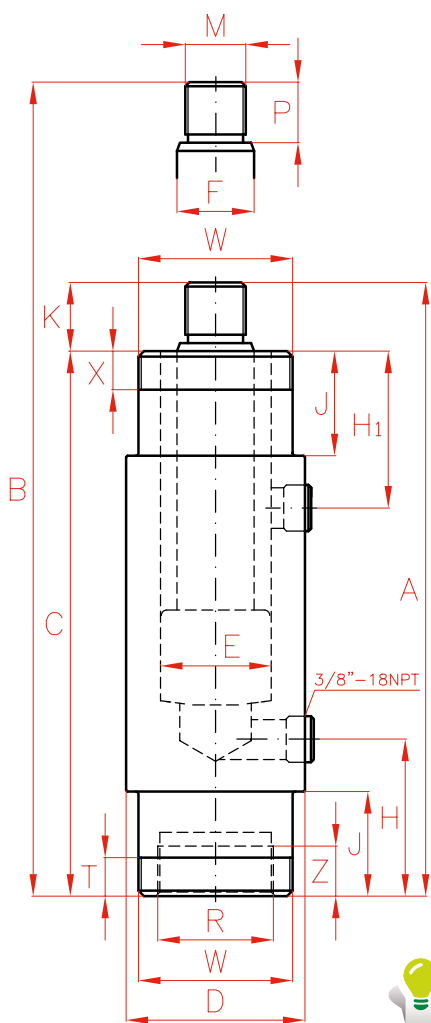
Type **DM**

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.

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

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



P.58

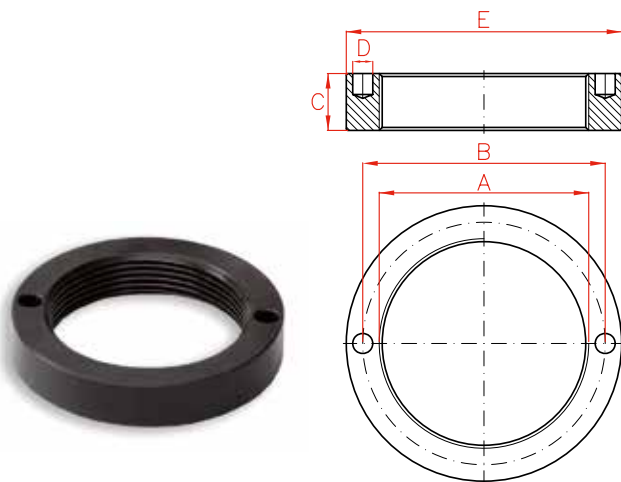
AV - AY - AVD
Pressure Gauges



P.94

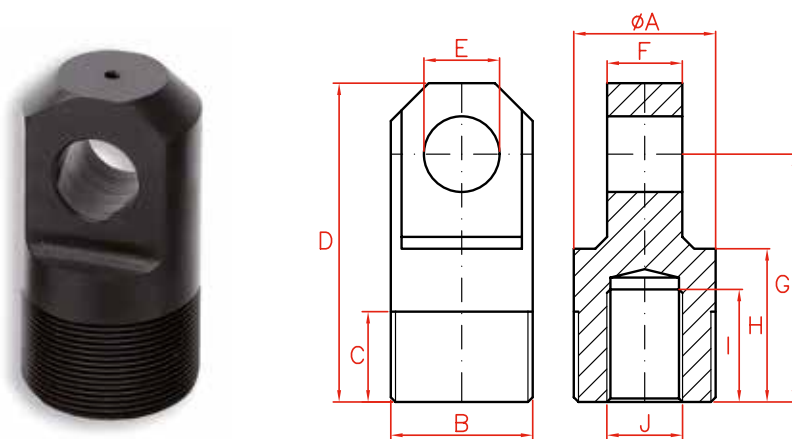
	B	C	D	E	F	H	H1	K	J	M	P	R	W	X	Z	Weight	Model
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg	LARZEP
	214	162	51	25	20	47	61	24	29	M16 x 1,5	19	M30 x 1,5	M42 x 1,5	11	9	2,0	DM00403
	316	213	51	25	20	47	61	24	29	M16 x 1,5	19	M30 x 1,5	M42 x 1,5	11	9	2,9	DM00408
	468	289	51	25	20	47	61	24	29	M16 x 1,5	19	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

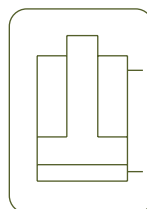
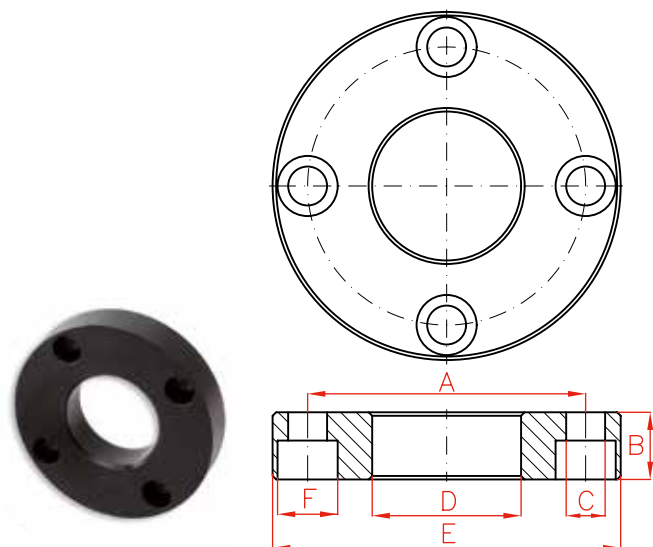
Model	A	B	C	D	E	Weight
LARZEP	mm	mm	mm	mm	mm	kg
DM004RB	M42 x 1,5	49,5	9,5	6,3	57	0,1
DM008RB	M56 x 2	65,5	12,7	6,7	75	0,1
DM015RB	M70 x 2	81,0	19,0	6,7	92	0,4
DM023RB	M85 x 2	96,5	25,4	6,7	108	0,7



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
DM004RP	30	M30 x 1,5	19,1	67,4	16	15,9	52,4	32,4	23,8	M16 x 1,5	0,2
DM008RP	42	M42 x 1,5	25,4	78,1	20	25,4	57,1	37,1	23,8	M22 x 1,5	0,6
DM015RP	56	M56 x 2	25,4	105,8	25	31,9	77,8	52,8	30,2	M30 x 1,5	1,3
DM023RP	70	M70 x 2	25,4	112,8	32	38,2	77,8	50,3	27,0	M42 x 1,5	2,1





Type **DM**

Capacity **4 - 23 ton**

Stroke **28 - 260 mm**

Max. pressure **700 bar**



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

AZ3
Coupler 3/8"-18 NPT

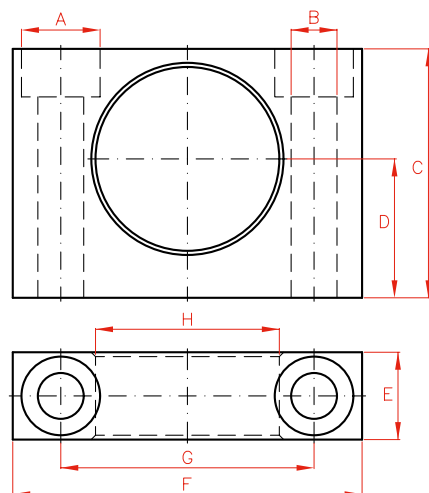


P.86

AP2
Hoses



P.84



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

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

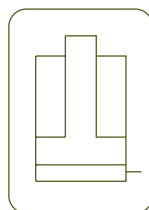
Capacity		Stroke	Closed Height	Cylinder	Hand Pump 1 Stage	Hand Pump 1 Stage	Hand Pump 1 Stage	Hand Pump 2 Stage	Hand Pump 2 Stage	Air Hydraulic Pump
ton	kN	mm	mm	LARZEP	W20307	W10607	W20807	W21807	W22607	Z12107
12	121	40	124	SH01204	JH01204					JHZ01204
22	217	50	165	SH02205		JH02205				JHZ02205
30	302	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

BOTTLE JACKS

- ✓ Capacities from 3 to 50 ton.
- ✓ Up to 30 ton models are single stage with screw extension.
- ✓ All models include safety relief valve.
- ✓ Supplied with zinc plated handle..
- ✓ Bottle jacks will operate horizontally, provided that the pump element is at the lowest point.



BOTTLE JACKS



Bottle jack with lock nut



50 ton, 2 speed, long stroke bottle jack



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

A BOTTLE JACKS

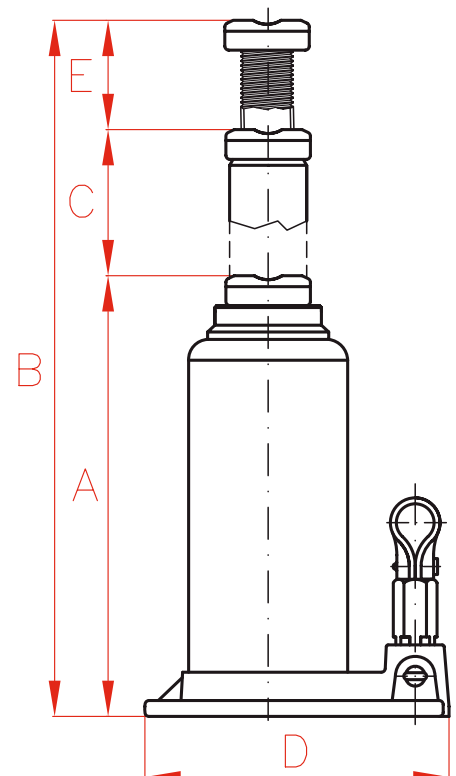
J
Cylinder - pump sets



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



HYDRAULIC PUMPS

LARZEP Pumps are available in a wide range of models: Hand Pumps, Air Hydraulic Pumps, Modular Pumps, Manual, Electric and Air Hydraulic Powerpacks, Hydrotest Hand Pumps and Air Pumps.

- ✓ 700 bar pumps as standard.
- ✓ Air and hand operated hydrotest pumps.
- ✓ Wide range of reservoirs, from 280 cm³ in hand pumps up to 25 litres in standard powerpacks.



PUMPS



Models	Pump type	Max. Oil Capacity litre	Max. Flow Rate l/min		Page
W	Hydraulic Single Acting Hand Pumps	6,5	4,9 cm ³ /stroke		66
X	Hydraulic Double Acting Hand Pumps	6,5	4,9 cm ³ /stroke		66
WA	Hydraulic Aluminium Hand Pumps	0,8	3,1 cm ³ /stroke		68
Z - ZR	Air Hydraulic Pumps 700 bar	20	0,14		70
HBM	Hydraulic Electric Powerpacks Manual Valve	25	3,28		72
HBE	Hydraulic Electric Powerpacks Solenoid Valve	25	3,28		74
WI	Modular Hand Pumps	–	36		76
HAP	Air Driven Hydrotest Pumps	7	16,2 cm ³ /stroke		78
WAP - WIP	Hydrotest Hand Pumps	100	20 cm ³ /stroke		80

HYDRAULIC HAND PUMPS



W Single acting



X Double acting

- ✓ **W** series pumps are for use with **Single Acting** cylinders.
- ✓ **X** series pumps are fitted with 4-way 3 position valve for use with **Double Acting** cylinders.
- ✓ The pump range includes single and two speed models.
- ✓ Two speed models provide rapid cylinder advance until contact is made with the load.
- ✓ Hydraulic port on all models is 3/8"-NPTF female.
- ✓ W and X series pumps are fitted with internal safety valves to prevent overpressure.
- ✓ W26507 and X26507 have a rectangular tank.
- ✓ WP21007 and XP21007 models are foot pedal operated.

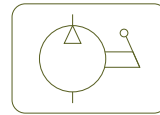


WP21007 pump, foot pedal operated.



W26507, X26507 pumps.



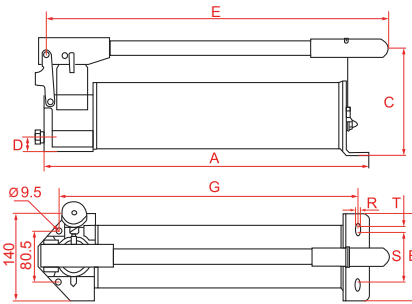
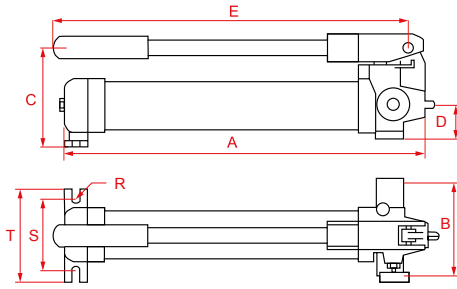


Type	W - X
Capacity	0,28 - 6,5 litres
Max. pressure	700 bar

SINGLE ACTING W

W20307 / W10607 / W20807 / W11407 / W21807

W22607 / W24507

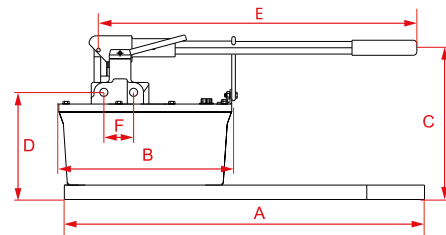
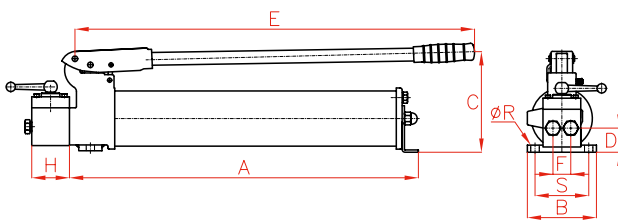


DOUBLE ACTING X

X22607 / X24507

SINGLE / DOUBLE ACTING W - X

W26507 / X26507



SINGLE ACTING

Model	Speeds	Usable oil	Handle effort	Oil displacement / stroke (cm ³)		Pressure rating (bar)		A	B	C	D	E	G	R	S	T	Weight	Model
LARZEP	No.	cm ³	kg	1 st Stage	2 nd Stage	1 st Stage	2 nd Stage	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg	LARZEP
W20307	2	280	40	7	1,0	20	700	331	138	124	44	380	-	7	38	66	5,5	W20307
W10607	1	640	43	-	3,2	-	700	557	137	144	55	608	-	-	-	90	7,3	W10607
W20807	2	640	45	13	2,8	17	700	563	137	144	55	608	-	-	-	90	8,2	W20807
WP21007	2	1.000	43	12	2,0	50	700	550	176	445*	52	540	-	9,0	185,0	176	9,0	WP21007
W11407	1	1.400	43	-	3,2	-	700	526	137	174	55	608	-	-	-	106	10,9	W11407
W21807	2	1.800	49	13	2,8	21	700	548	147	174	23	558	-	10,5	82,0	140	11,3	W21807
W22607	2	2.600	41	46	4,0	28	700	656	140	186	41	680	616	10,5	80,5	10	12,7	W22607
W24507	2	4.450	43	46	4,0	28	700	574	146	189	41	643	528	10,5	80,5	10	18,1	W24507
W26507	2	6.500	37	126	4,9	28	700	635	312	233	191	640	-	-	-	-	20,0	W26507

* with the pedal completely open.

DOUBLE ACTING

Model	Speeds	Usable oil	Handle effort	Oil displacement / stroke (cm ³)		Pressure rating (bar)		A	B	C	D	E	F	H	R	S	Weight	Model
LARZEP	No.	cm ³	kg	1 st Stage	2 nd Stage	1 st Stage	2 nd Stage	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg	LARZEP
XP21007	2	1.000	43	12,0	2,0	50	700	550	176	445*	52	540	-	-	9,0	185	9,0	XP21007
X22607	2	2.600	41	46,0	4,0	27	700	654	140	186	54	680	-	125	9,5	80,5	14,3	X22607
X24507	2	4.450	43	46	4,0	27	700	570	150	189	41	643	110	130	10,5	99,5	19,6	X24507
X26507	2	6.500	37	126,0	4,9	28	700	635	312	233	193	644	70	-	-	-	20,8	X26507

HYDRAULIC ALUMINIUM HAND PUMPS



- ✓ WA series pumps are for use with Single Acting cylinders.
- ✓ Lightweight aluminium pumps, ideal for easy portability and handling.
- ✓ Two speed models to provide rapid cylinder advance until contact is made with the load.
- ✓ Hydraulic outlet port: 3/8"-NPT female.
- ✓ Fitted with safety valves to prevent overpressure.
- ✓ Fitted with handle clip for ease of carrying.

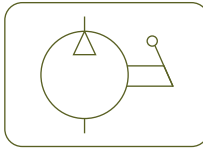
Model	Usable oil cm ³	Handle effort kg	Oil displacement per stroke (cm ³)		Pressure rating (bar)		Weight kg
			1 st Stage	2 nd Stage	1 st Stage	2 nd Stage	
LARZEP							
WA20507	400	29	13,4	2,6	20	700	3,7
WA21107	810	43	15,0	3,1	20	700	5,0



AZ3
Coupler 3/8"-18 NPT



P.86



AV - AVD - AY
Pressure Gauges



P.94

HYDRAULIC ALUM. HAND PUMPS



Type **WA**

Capacity **0,4 - 0,8 litres**

Max. pressure **700 bar**

W
Single Acting Hand Pumps



P.66

X
Double Acting Hand Pumps

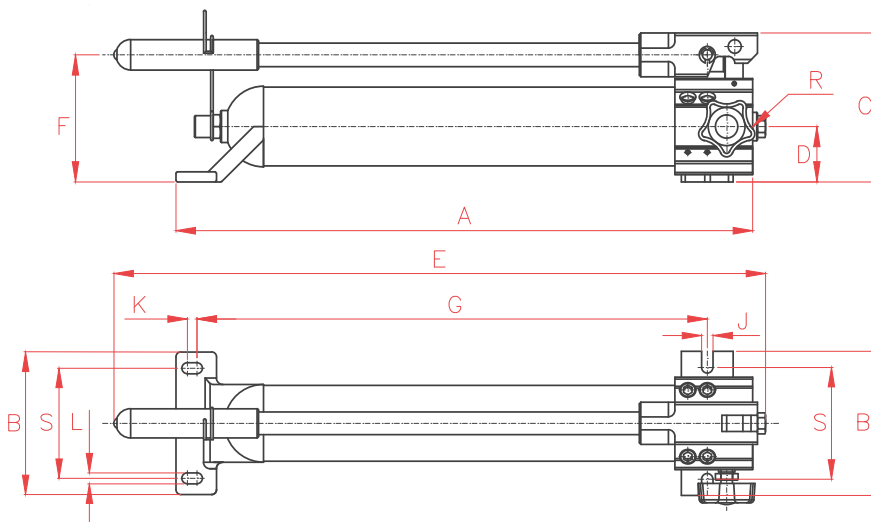


P.66

AP2
Hoses



P.84

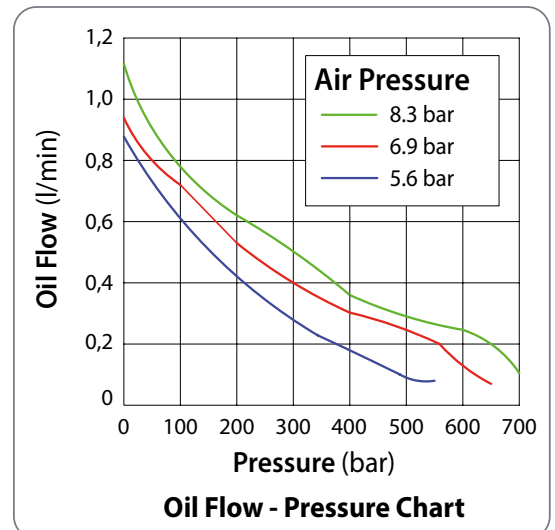


A	B	C	D	E	F	G	H	J	K	L	R	Model
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	NPT	LARZEP
361	140	141	51	435	124	295,0	108	11,2	10	11,2	3/8"-NPT	WA20507
556	140	141	51	625	124	489,5	108	11,2	10	11,2	3/8"-NPT	WA21107

AIR HYDRAULIC PUMPS

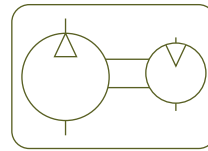
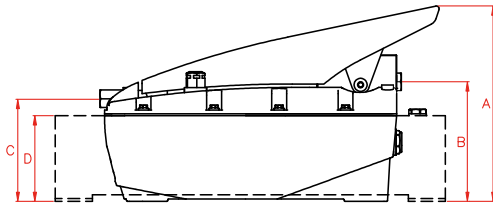


- ✓ On Z models for Single Acting cylinders, the pedal acts as the control valve, by controlling advance, hold and retract functions. In 'hold' mode, the pump maintains the output pressure.
- ✓ On ZR models, operation is controlled by a 3 metre remote pendant.
- ✓ Double Acting models are fitted with a manual 4-way 3 position control valve.
- ✓ The hydraulic port on all models is 3/8"-NPT female.
- ✓ Working pressure 700 bar.
- ✓ 4, 7, 10 and 20 litre pumps are fitted with steel tanks.
- ✓ Optional steel base plate available for Z12107 part number.
- ✓ Air Inlet Port: 1/4" BSP female.
- ✓ Air Pressure: 2,8 - 10 bar.
- ✓ Air Consumption: 400 N l/min.
- ✓ 700 bar Flow Rate: 0,14 l/min.
- ✓ Sound level: 75 dBA



Models:

- Z12107
- Z14007
- Z17007
- Z19107
- Z19207



Type

Z - ZR

Capacity

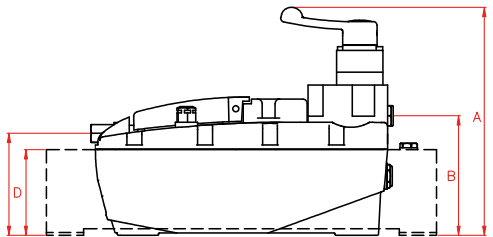
2,1 - 20 litres

Max. pressure

700 bar

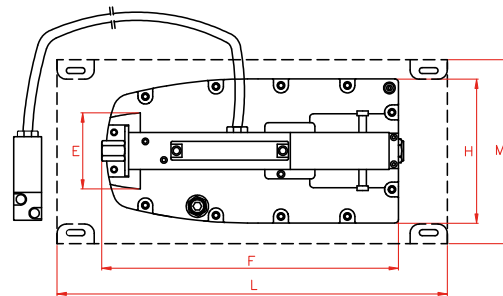
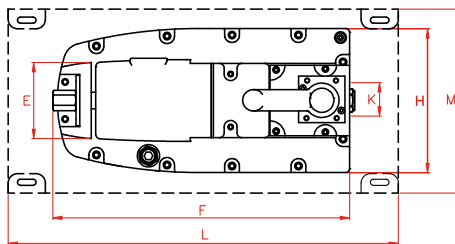
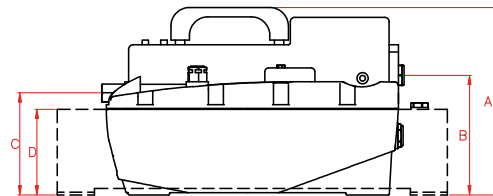
Models:

- Z22107
- Z24007
- Z27007
- Z29107
- Z29207



Models:

- ZR12107
- ZR14007
- ZR17007
- ZR19107
- ZR19207
- ZR22107
- ZR24007
- ZR27007
- ZR24007
- ZR27007



Type	Oil capacity	Model	A	B	C	D	E	F	G	H	K	L	M	Weight
	litres													
Single Acting	2,1	Z12107	209	127	109	-	82	320	364	155	-	-	-	7,6
Single Acting	4,0	Z14007	256	173	154	137	82	320	364	155	-	350	178	14,4
Single Acting	6,9	Z17007	256	173	154	137	82	320	364	155	-	415	206	19,2
Single Acting	10,0	Z19107	278	198	180	162	82	320	364	155	-	430	220	21,8
Single Acting	20,0	Z19207	278	198	180	162	82	320	364	155	-	500	356	29,1
Double Acting	2,1	Z22107	245	131	110	-	82	320	-	155	36	-	-	8,4
Double Acting	4,0	Z24007	290	176	154	137	82	320	-	155	36	350	178	15,2
Double Acting	6,9	Z27007	290	176	154	137	82	320	-	155	36	415	206	20,4
Double Acting	10,0	Z29107	315	201	180	162	82	320	-	155	36	430	220	23
Double Acting	20,0	Z29207	315	201	180	162	82	320	-	155	36	500	356	30,3
Single Acting	2,1	ZR12107	217	129	111	-	82	316	-	155	-	-	-	8,6
Single Acting	4,0	ZR14007	261	173	155	137	82	316	-	155	-	350	178	15,2
Single Acting	6,9	ZR17007	261	173	155	137	82	316	-	155	-	415	206	20,4
Single Acting	10,0	ZR19107	286	198	180	162	82	316	-	155	-	430	220	23
Single Acting	20,0	ZR19207	286	198	180	162	82	316	-	155	-	500	356	30,3
Double Acting	2,1	ZR22107	213	127	109	-	82	325	-	155	36	-	-	8,6
Double Acting	4,0	ZR24007	258	172	154	137	82	325	-	155	36	350	178	15,2
Double Acting	6,9	ZR27007	258	172	154	137	82	325	-	155	36	415	206	20,4

HYDRAULIC ELECTRIC PUMPS (MANUAL VALVE)

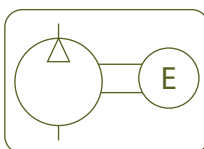
- ✓ Manual directional control valves.
- ✓ Also available HBE model, remote pendant controlled solenoid valves.
- ✓ The manual control valve is easily converted from double acting to single acting operation.
- ✓ Internal safety valve set at 700 bar to prevent overpressure.
- ✓ External adjustable pressure relief valve.
- ✓ For use with single acting or double acting cylinders for heavy lifting or production applications.
- ✓ Options: roll bars, glycerine pressure gauge and push button remote motor control.

NOTE: Pressure gauge is not included.

AZ89
Hydraulic Oil



P.85

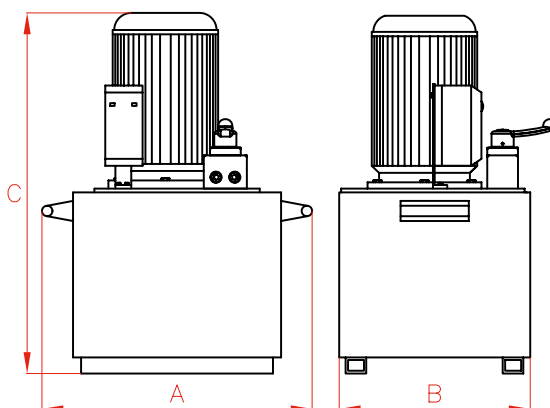


Type **HBM**

Capacity **5 - 25 litres**

Max. pressure **700 bar**

Capacity	A	B	C
l	mm	mm	mm
5	330	230	500
8,5	350	250	525
12,5	370	290	550
25	470	360	670



ELECTRIC PUMPS (MANUAL VALVE)

Tank Size	Flow 700 bar	Flow 50 bar	230V-1ph-50Hz	400V-3ph-50/60Hz	Motor Power	Pump Weight
			litres	l/min		
5	0,36	4,00	HBM7241	HBM7244	0,75	21
8,5	0,54	5,90	HBM3341	HBM3344	1,10	30
12,5	0,54	5,90	HBM3441	HBM3444	1,10	38
12,5	0,82	8,64	HBM4441	HBM4444	1,10	40
25	1,64	14,00	HBM5541	HBM5544	2,20	78
25	3,28	11,77	-	HBM6544	5,50	90

PUMP OPTIONS add letter behind pump model number



B Remote Pendant

- ✓ With 3 metre long cable.
- ✓ For remote operation of motor in HBM series, 'ON' button starts motor and stops when button is released.



C Roll Bar

- ✓ Protects pump and components: motor, valves, etc
- ✓ For easy portability.
- ✓ Different sizes available.



G Glycerine Pressure Gauge

- ✓ ± 1,6 % full scale
- ✓ Reliable pressure measurement.
- ✓ Pressure range: 0-1000 bar.

HYDRAULIC ELECTRIC PUMPS (SOLENOID VALVE)

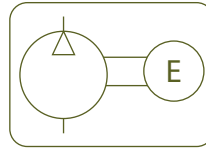
- ✓ Remote pendant controlled solenoid valves with up, down and emergency stop button.
- ✓ Internal safety valve set at 700 bar to prevent overpressure.
- ✓ External adjustable pressure relief valve.
- ✓ For use with single acting or double acting cylinders for heavy lifting or production applications.
- ✓ HBE series are supplied with the a 3 metre remote pendant as standard, with up, down and emergency stop button.
- ✓ Options: roll bars and glycerine pressure gauge.

NOTE: Pressure gauge is not included.

AZ89
Hydraulic Oil



P.85



Type

HBE

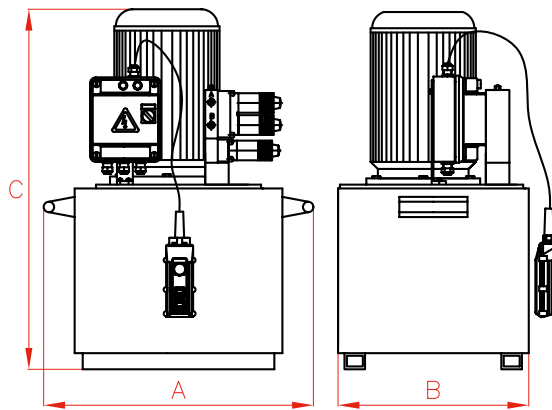
Capacity

5 - 25 litres

Max. pressure

700 bar

Capacity	A	B	C
l	mm	mm	mm
5	370	230	500
8,5	390	310	525
12,5	410	390	550
25	470	360	670



ELECTRIC PUMPS (SOLENOID VALVE)

Tank Size	Flow 700 bar	Flow 50 bar	230V-1ph-50Hz	400V-3ph-50/60Hz	Motor Power	Pump Weight
			litres	l/min		
5	0,36	4,00	HBE7271	HBE7274	0,75	27
8,5	0,54	5,90	HBE3371	HBE3374	1,10	35
12,5	0,54	5,90	HBE3471	HBE3474	1,10	43
12,5	0,82	8,64	HBE4471	HBE4474	1,10	45
25	1,64	14,00	HBE5571	HBE5574	2,20	83

PUMP OPTIONS

add letter behind pump model number



C Roll Bar

- ✓ Protects pump and components: motor, valves, etc
- ✓ For easy portability.
- ✓ Different sizes available.



G Glycerine Pressure Gauge

- ✓ ± 1,6 % full scale
- ✓ Reliable pressure measurement.
- ✓ Pressure range: 0-1000 bar.

MODULAR HAND PUMPS

- ✓ Wide range with different working pressures.
- ✓ Lightweight with tapped holes in the base for easy mounting.
- ✓ All models are black nitrided.
- ✓ Designed for use with external reservoirs.
- ✓ Operating lever included.
- ✓ Tank is not included.

AV - AVD - AY
Pressure Gauges

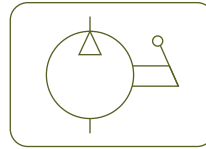
P.94



AP2
Hoses



P.84



Type

WI

Capacity

-

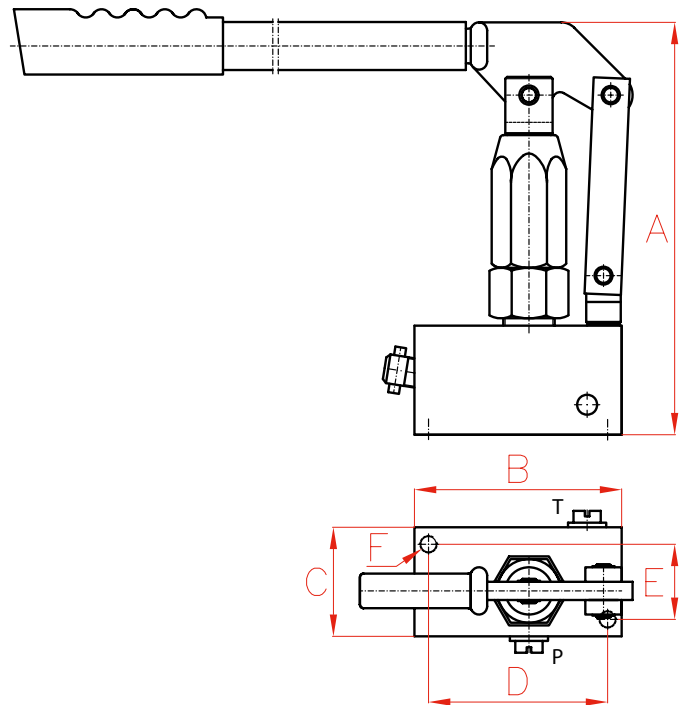
Max. pressure

40 - 700 bar

AZ3
Coupler 3/8"-18 NPT



P.86



Working Pressure	Model	Max. Pressure	Piston ø	Oil per Stroke	Port Size	A	B	C	D	E	F	Weight
bar	LARZEP	bar	mm	cm ³	NPT	mm	mm	mm	mm	mm	UNC	kg
700	WI1400	1.400	10	3	3/8"-18NPT	230	114	57	98,5	41,3	3/8"-16UNC	5,3
400	WI700	700	13	4	3/8"-18NPT	230	114	57	98,5	41,3	3/8"-16UNC	5,8
200	WI210	300	19	10	3/8"-18NPT	230	114	57	98,5	41,3	3/8"-16UNC	5,3
100	WI100	200	26	18	3/8"-18NPT	230	114	57	98,5	41,3	3/8"-16UNC	5,7
40	WI040	80	38	36	3/8"-18NPT	230	114	57	98,5	41,3	3/8"-16UNC	7,0

AIR DRIVEN HYDROTEST PUMPS



- ✓ 10 Models Available, from 70 bar to 2.900 bar.
- ✓ Engineered and designed for easy operation.
- ✓ Compact and lightweight steel frame for full protection and handling.
- ✓ Fully integrated, protected and calibrated pressure gauge.
- ✓ Clearly labelled controls for improved safety.
- ✓ Supplied with air inlet connector, air filter, air pressure regulator, air lubricator, air pressure gauge, air pressure limit valve, pump on/off control, oil pressure gauge.
- ✓ All pumps can work with water or oil.
- ✓ All pumps supplied complete with a full test certificate as standard.
- ✓ High pressure fittings and any length of high pressure hose available from stock.

Hydraulic Pressure Gauge: Dual scale bar/psi

Oil / Water Reservoir: 7 litres

Working Air Pressure: 1,7 to 6,9 bar

Air Inlet Port: 1/2" NPTF Female

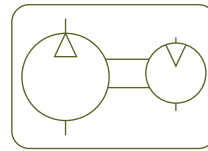
Air Consumption: 0,79 m³/min

Sound Level: 90 dBA

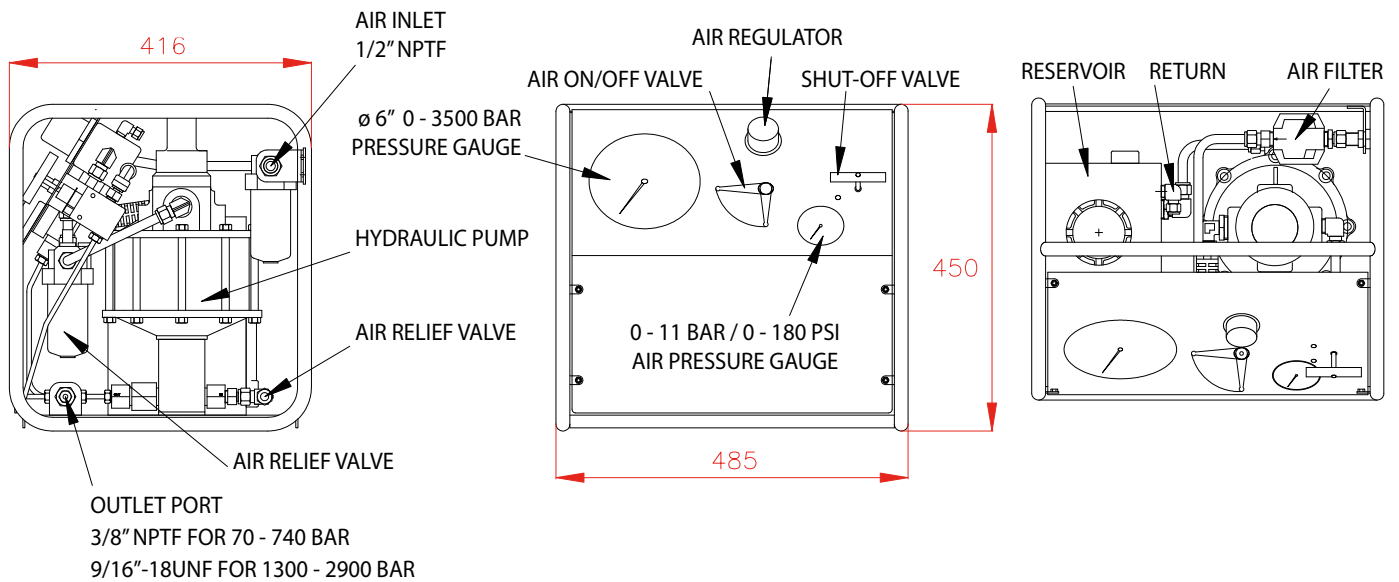
Weight: 30 kg



HYDROTEST AIR PUMPS



Type	HAP
Capacity	7 litres
Max. pressure	70 - 2.900 bar



HYDROTEST PUMPS

Hydrotest Pump	Maximum Hydraulic Pressure (bar)			Flow (l/min)			Outlet Port
	Air 6.9 bar	Air 5.1 bar	Air 4.1 bar	20% Max. P	50% Max. P	80% Max. P	
LARZEP							Female
HAP0070	70	55	40	16,2	11,0	3,7	3/8" NPT
HAP0130	130	100	80	8,5	6,0	3,9	3/8" NPT
HAP0180	180	150	100	6,1	4,7	2,6	3/8" NPT
HAP0250	250	200	150	4,1	3,1	2,0	3/8" NPT
HAP0400	400	320	240	2,6	1,8	1,2	3/8" NPT
HAP0740	740	600	440	1,2	0,9	0,6	3/8" NPT
HAP1300	1.300	1.000	770	0,65	0,5	0,3	9/16"-18UNF
HAP1900	1.900	1.500	1.100	0,4	0,3	0,2	9/16"-18UNF
HAP2900	2.900	2.300	1.800	0,25	0,2	0,1	9/16"-18UNF

HYDROTEST HAND PUMPS



- ✓ Tanks from 12 to 100 litres.
- ✓ 13 models available, from 25 bar to 1.300 bar.
- ✓ Engineered and designed for easy operation.
- ✓ WAP models with cast iron or mild steel frame.
- ✓ WIP models with stainless steel frame. Used by the Chemical industry or when aggressive liquids are used.
- ✓ Supplied with pressure gauge and control valve.
- ✓ All pumps can work with water and oil.
- ✓ Pressure gauge: Dual scale bar / psi. / Class 1.6 up to 200 bar and Class 1.0 from 300 to 1.300 bar.

WAP0025, WAP0035, WAP0045, WAP0050, WAP0100

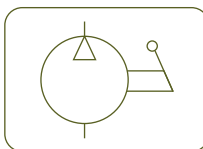
- ✓ Manufactured in cast iron for heavy duty and professional uses.
- ✓ Supplied with pressure gauge ø60 mm and double control valve, except model WAP0035 that is supplied with single control valve.

WAP0300, WAP0500, WAP1000, WAP1300

- ✓ Hand pumps used for high pressure hydrostatic tests.
- ✓ 2 stage pumps with 100 litres tank manufactured in mild steel.
- ✓ Supplied with pressure gauge ø100 mm and control valve.



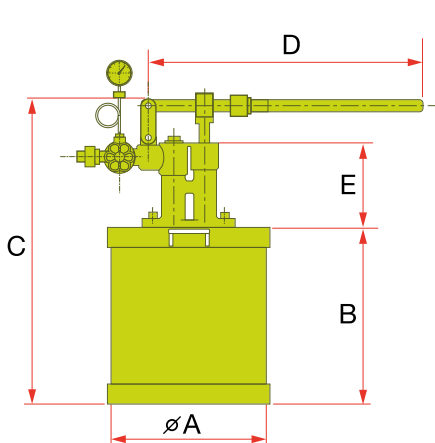
WAP0040, WAP0070, WIP0040, WIP0200



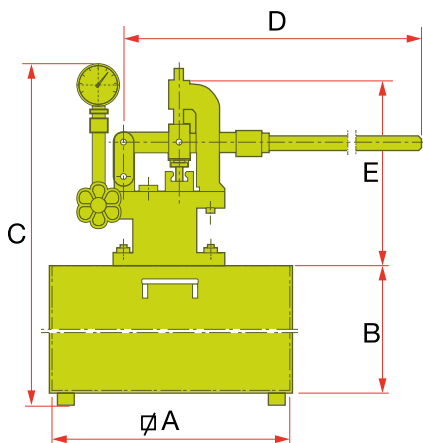
- ✓ Lightweight hand pumps manufactured in mild steel (WAP) and stainless steel (WIP) for use on bench in workshop hydrostatic tests.
- ✓ Supplied with pressure gauge ø60 mm, control valve and 13 litre tank.
- ✓ WIP0040 and WIP0200 models have stainless steel tanks. Used by the Chemical industry or when aggressive liquids are used.
- ✓ WAP0040 and WIP0040 pumps are supplied with 1.5 metre hose. These pumps are normally used on plumbing for heating plant testing.



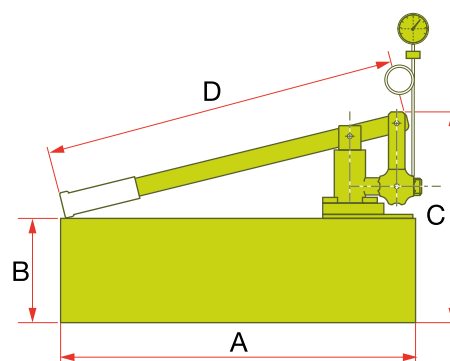
Type	WAP - WIP
Capacity	12 - 100 litres
Max. pressure	25 - 1.300 bar



WAP0025
WAP0035
WAP0045
WAP0050
WAP0100



WAP0300
WAP0500
WAP1000
WAP1300



WAP0040
WAP0070
WIP0040
WIP0200

WAP - WIP PUMPS

CAST IRON AND MILD STEEL PUMPS - WAP

Hydrotest Pump	Max. Pressure	Oil Capacity	Flow / stroke	Material	Outlet Port	A	B	C	D	E	Weight
LARZEP	bar	litres	cc		BSP	mm	mm	mm	mm	mm	kg
WAP0025	25	12	11	Cast iron	3/8" Male	ø255	272	450	420	120	10
WAP0035	35	12	14	Cast iron	1/2" Female	ø255	272	430	350	100	8
WAP0045	45	21	14	Cast iron	3/8" Male	ø260	397	558	420	150	12
WAP0050	50	38	20	Cast iron	3/8" Male	ø390	397	558	683	150	22
WAP0100	100	38	20	Cast iron	3/8" Male	ø390	397	558	683	150	22
WAP0040	40	13	18	Mild steel	1/2" Male	500 x 190	140	280	500	-	8
WAP0070	70	13	11	Mild steel	1/2" Female	500 x 190	140	295	700	-	9
WAP0300	300	100	18 / 3,5	Mild steel	1/2" Female	500 x 500	400	800	800	400	54
WAP0500	500	100	18 / 3,5	Mild steel	1/2" Female	500 x 500	400	800	800	400	54
WAP1000	1.000	100	18 / 3,5	Mild steel	1/2" Female	500 x 500	400	800	1.000	400	60
WAP1300	1.300	100	18 / 3,5	Mild steel	1/2" Female	500 x 500	400	800	1.000	400	60

STAINLESS STEEL PUMPS - WIP

Hydrotest Pump	Max. Pressure	Oil Capacity	Flow / stroke	Material	Outlet Port	A	B	C	D	Weight
LARZEP	bar	litres	cc		BSP	mm	mm	mm	mm	kg
WIP0040	40	13	18	Bronze & SS	1/2" Male	500 x 190	140	280	500	8
WIP0200	200	13	18	SS	1/2" Female	500 x 190	140	295	700	14

ACCESSORIES








LARZEP offers a wide range of accessories to optimize our products performance: Hoses, Couplers, Tilting Saddles, Hollow Saddles, Flow Control Valves, Fittings, Manifolds and Pressure Gauges are available as standard.

- ✓ Wide range of standard hoses up to 10 metres and 720 bar working pressure.
- ✓ Low-flow and high-flow quick couplers available as standard.
Working pressure: 700 bar and 1.000 bar.
- ✓ Wide range of flow control valves: snubber valves, flow regulating valves with 2 or 4 outlets, manually operated check valve, single way flow regulating valve, check valve, pressure relief valve and pilot operated check valve.
- ✓ Tilting saddles highly recommended for side load application.
Hollow saddles used in hollow piston cylinders specially in pulling and tensioning operations.
- ✓ Wide range of fittings and manifolds for multiple applications.
- ✓ Glycerine filled pressure gauges for monitoring working pressure and force.
- ✓ Digital pressure gauge for monitoring working pressure.



ACCESSORIES



Models	Accessories type		Page
AP	Hydraulic Hoses		84
AZ89	Hydraulic Oil		85
AZ3	Hydraulic Couplers		86
AZ5	Flow Control Valves		88
AZ04 - AZ05 CATS	Saddles		90
AZ1	Fittings and Manifolds		92
AV - AVD - AY	Pressure Gauges		94

HYDRAULIC HOSES

- ✓ 4:1 safety factor.
- ✓ Wide range of standard hoses. Hoses can be supplied in any length on request.
- ✓ Rubber guard on both ends.
- ✓ 3/8"-NPT thread on each end. Can be supplied with couplers on one or both ends.
- ✓ Internal diameter 6,4 mm. Oil capacity: 35 cm³ per metre.
- ✓ Minimum bending radius: 115 mm.

**WARNING**

**Never disconnect the hose when the system is pressurized.
Never exceed the maximum working pressure of the hose.**



Apply 2 rounds of Teflon around all 3/8" NPT threads of the system, in the thread direction, leaving the first thread uncovered to prevent the tape breaking and entering the hydraulic system. Torque: 80 Nm.



AZ3

Coupler 3/8"-18 NPT



P.86



Type **AP - AZ**

Capacity **0,8 - 10 m length**

Max. pressure **700 bar**

MAXIMUM WORKING PRESSURE 700 BAR

Int. ø mm	End		Pressure bar	Length						
	1	2		0,8 m	1,5 m	2 m	3 m	4 m	6 m	10 m
6,4	3/8"-NPT	3/8"-NPT	700	AP2008	AP2015	AP2020	AP2030	AP2040	AP2060	AP2100
6,4	3/8"-NPT	AZ3120	700	AP2008G	AP2015G	AP2020G	AP2030G	AP2040G	AP2060G	AP2100G
6,4	AZ3120	AZ3120	700	AP2008G2	AP2015G2	AP2020G2	AP2030G2	AP2040G2	AP2060G2	AP2100G2



- ✓ Highly refined quality oil.
- ✓ Additives to enhance film strength.
- ✓ Anti-wear properties.
- ✓ Anti-corrosion characteristics.
- ✓ Extreme pressure characteristics.
- ✓ Better conservation of the hydraulic circuits.

HYDRAULIC OIL

Model	Capacity (l)	For use with
AZ8901	5	Hand Pumps, Bottle Jacks
AZ8902	5	Powerpacks

HYDRAULIC COUPLERS



- ✓ Low-flow and high-flow couplers, from 6 to 40 litres/min.
- ✓ 700 and 1.000 bar couplers have 3/8"-18 NPTF thread.
- ✓ Male and female couplers can be supplied separately.
- ✓ Steel dust cup available for AZ3120, AZ3140 and AZ3141 couplers.
- ✓ AZ3321, AZ3325, AZ3341 and AZ3345:
ball quick couplers to guarantee easy and quick connection formerly used in cutters.
- ✓ AZ3120, AZ3140 and AZ3141: standard high-flow couplers.
- ✓ AZ3220 and AZ3240: low-flow couplers. Only used in legacy Maintenance Sets.
- ✓ All standard cylinders are supplied with AZ3140 female coupler.
- ✓ All cutters are supplied with AZ3140 female coupler.



WARNING

**Never disconnect the hose when the system is pressurized.
Never exceed the maximum working pressure of the hose.**



Apply 2 rounds of Teflon around all 3/8" NPTF threads of the system, in the thread direction, leaving the first thread uncovered to prevent the tape breaking and entering the hydraulic system. Torque: 80 Nm.





Type **AZ3**

Capacity **6 - 40 l/min**

Max. pressure **700 - 1.000 bar**

Steel dust cap available:
AZ3144 for female couplers AZ3140 and AZ3141



Rubber dust cap AZ3145 available
to suit AZ3120, AZ3140 and AZ3141 couplers



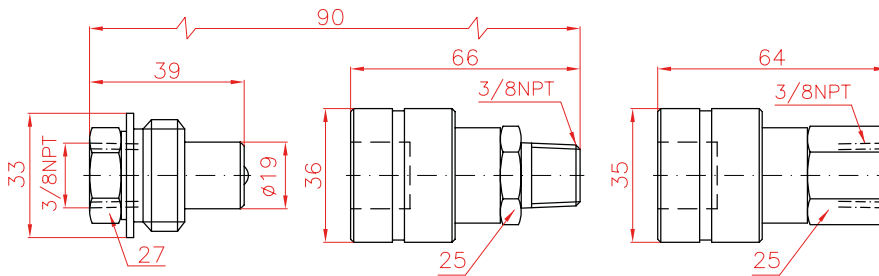
AZ3321 and AZ3325 male couplers are connectable with AZ3341 and AZ3345 female couplers

HIGH-FLOW COUPLERS 700 BAR

AZ3120

AZ3140

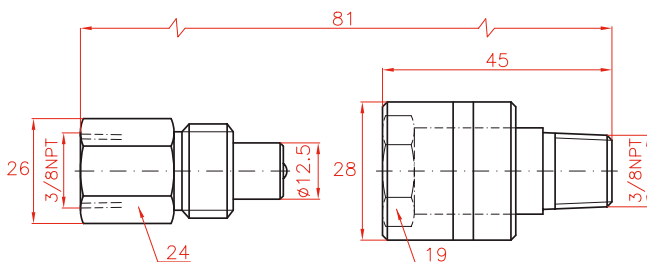
AZ3141



LOW-FLOW COUPLERS 700 BAR

AZ3220

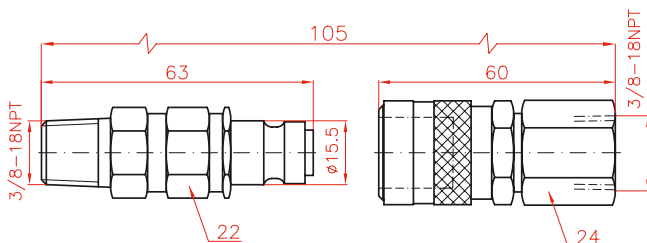
AZ3240



1.000 BAR BALL COUPLERS

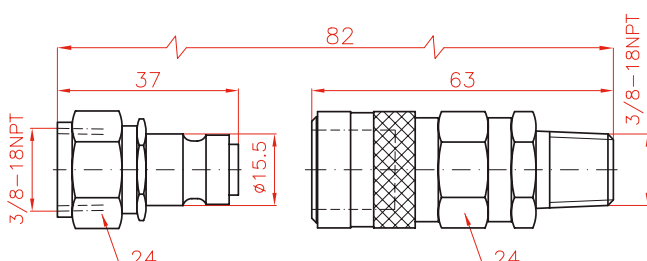
AZ3321

AZ3341



AZ3325

AZ3345



Flow l/min	Coupling	Model	Thread	Pressure
		LARZEP	NPTF	bar
40	Male	AZ3120	Female 3/8"	700
	Female	AZ3140	Male 3/8"	700
	Female	AZ3141	Female 3/8"	700
7	Male	AZ3220	Female 3/8"	700
	Female	AZ3240	Male 3/8"	700
6	Male	AZ3321	Male 3/8"	1.000
	Male	AZ3325	Female 3/8"	1.000
	Female	AZ3341	Female 3/8"	1.000
	Female	AZ3345	Male 3/8"	1.000

FLOW CONTROL VALVES



Model	SNUBBER VALVE	Symbol	
AZ5121	<p>Used for flow control and load holding when closed. Also suitable for use as a gauge snubber.</p>		

Model	MANIFOLD WITH FLOW REGULATING VALVE, 2 OUTLETS	Symbol	
AZ5122	<p>Used for flow control of two outlets from one pressure source.</p>		

Model	MANIFOLD WITH FLOW REGULATING VALVE, 4 OUTLETS	Symbol	
AZ5124	<p>Used for flow control of four outlets from one pressure source.</p>		



- ✓ All flow and pressure control valves are designed for 700 bar working pressure.
- ✓ All valves have 3/8"-NPT pressure ports to prevent leakage.



Type **AZ5**

Capacity -

Max. pressure **700 bar**

Model	MANUALLY OPERATED CHECK VALVE	Symbol	
AZ5200	<p>When open, allows oil flow in both directions.</p> <p>When closed, allows oil flow in one direction only, holding the load in the other one.</p>		

Model	SINGLE WAY FLOW REGULATING VALVE	Symbol	
AZ5255	<p>Similar to AZ5200, allows free oil flow in one direction and in the other, flow can be regulated or completely closed.</p>		

Model	CHECK VALVE	Symbol	
AZ5500	<p>Allows oil flow in one direction only.</p>		

Model	PRESSURE RELIEF VALVE	Symbol	
AZ5600	<p>Regulates the pressure in the hydraulic circuit.</p> <p>From 50 to 700 bar. Supplied with a 0,9 metre return line hose kit.</p>		

Model	PILOT OPERATED CHECK VALVE	Symbol	
AZ5700	<p>Load holding valve used with double-acting cylinders which is released by pilot pressure from the return line.</p>		

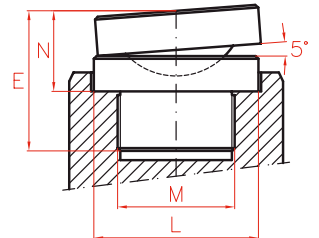
SADDLES



TILTING SADDLES AZ04 - CATS

- ✓ Recommended for high side-load applications.
- ✓ These saddles allow up to 5° tilt angle.
- ✓ Push-in or threaded to suit different cylinder models.

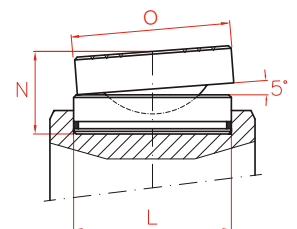
AZ04 THREADED TILTING SADDLES



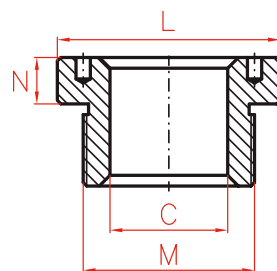
HOLLOW SADDLES AZ05

- ✓ Used in hollow piston cylinders.
- ✓ Specially used in pulling operations and as support.
- ✓ These saddles can be plain, threaded or solid.

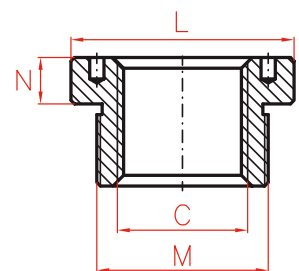
AZ04 - CATS TILTING SADDLES



AZ05 HOLLOW SADDLES



Standard Plain



Optional Internal Thread





Type **AZ04-05, CATS**

Capacity -

Max. pressure

700 bar

AZ04 - THREADED TILTING SADDLES

Model	L	M	N	E	Weight	Cylinder Model
LARZEP	mm		mm	mm	kg	
AZ0420	28	1"-8	29	43	0,2	SM010-D010
AZ0423	35	1"-8	29	49	0,3	SM015-D020
AZ0421	45	1 1/2"-16	28	50	0,4	SM023-SM030-D030
AZ0422	61	1 3/4"-12	38	58	0,7	D050-D075-D100
AZ0424	88	2 1/2"-12	47	82	2,5	D150
AZ0425	111	2 1/2"-12	52	107	4,5	D200
AZ0431	34	M28 x 1,5	29	44	0,3	SH012
AZ0432	48	1 9/16"-16	29	46	0,5	SH022
AZ0433	55	1 13/16"-16	37	57	0,6	SH030-SAH030-DH030-DAH030
AZ0434	80	2 3/4"-16	47	67	2,3	SH060-SAH060-DH060-DAH060
AZ0435	116	2 1/2"-12	52	76	5,5	SH100-SAH100-DH100-DAH100

AZ04 - CATS - TILTING SADDLES

Model	L	N	O	Weight	Cylinder Model
LARZEP	mm	mm	mm	kg	
AZ0401	45	36	-	0,4	SAM030-SP030-SMP030
AZ0402	61	39	-	0,8	SM050-SM075-SAM050-SP050-SMP050-SX050-SX075-DDA050
AZ0404	88	47	-	2,2	SM100-SM140-SAM100-SAM140-SP100-SMP100-SX100-SX150-DDA100
AZ0405	111	52	-	4,0	SM220
CATS50	50	34,0	71	1,0	STC030-STC050-DDC050
CATS100	71	30,0	71	1,5	STC100-DDC100
CATS150	94	39,2	97	3,0	STC140-SSC140-DDC140
CATS200	113	43,0	126	4,4	STC220-SSC220-DDC220
CATS300	140	68,5	175	10,3	STC300-SSC300-DDC300
CATS400	159	78,0	210	17,0	STC400-SSC400-DDC400
CATS500	179	77,0	230	20,0	STC500-SSC500-DDC500
CATS600	194	81,5	250	24,0	STC600-SSC600-DDC600
CATS800	224	86,5	275	32,0	STC800-SSC800-DDC800
CATS1000	249	105,5	300	46,0	STC1000-SSC1000-DDC1000

AZ05 - HOLLOW SADDLES

Standard Plain					Cylinder Model	Optional Threaded				
Model	C	L	M	N		Model	C	L	M	N
LARZEP	mm	mm		mm		LARZEP		mm		mm
AZ0531	19,5	34	M28 x 1,5	7	SH012	AZ0551	3/4"-16	34	M28 x 1,5	7
AZ0532	27,0	48	1 9/16"-16	8	SH022-SAH022	AZ0552	1"-8	48	1 9/16"-16	8
AZ0533	33,4	55	1 13/16"-16	9	SH030-SAH030-DH030-DAH030	AZ0553	1 1/4"-7	55	1 13/16"-16	9
AZ0536	56,0	80	2 3/4"-16	12	SH060-SAH060-DH060-DAH060	AZ0556	1 5/8"-5 1/2	80	2 3/4"-16	12
AZ0540	81,0	116	4"-16	13	SH100-SAH100-DH100-DAH100	AZ0560	2 1/2"-8	116	4"-16	13
AZ0545	81,0	135	4 1/4"-16	20	DH150	AZ0565	2 1/2"-8	135	4 1/4"-16	20

FITTINGS AND MANIFOLDS

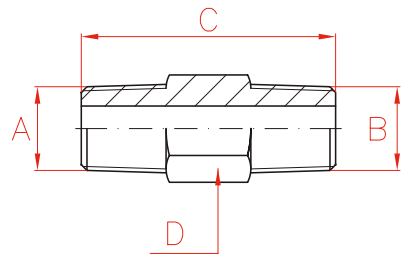


✓ Wide range of fittings and manifolds for multiple applications.

HEXAGON NIPPLE



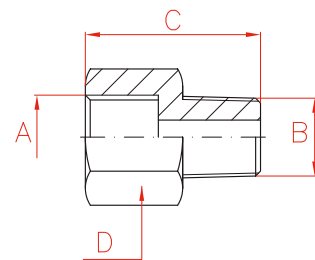
Model	A	B	C	D
LARZEP			mm	mm
AZ1102	3/8"-NPT	3/8"-NPT	45	19
AZ1103	3/8"-NPT	3/8"-NPT	66	19
AZ1104	3/8"-NPT	3/8"-NPT	100	22



ADAPTOR



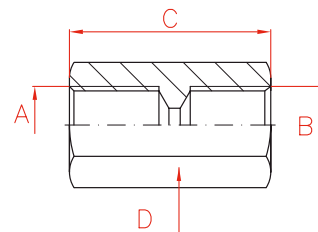
Model	A	B	C	D
LARZEP			mm	mm
AZ1112	3/8"-BSP	3/8"-NPT	36	27
AZ1113	3/8"-NPT	1/4"-BSP	36	27
AZ1114	3/8"-NPT	3/8"-BSP	36	27
AZ1122	1/2"-NPT	3/8"-NPT	43	30
AZ1123	1/2"-NPT	3/8"-BSP	45	30
AZ1124	1/4"-NPT	1/2"-NPT	28	27
AZ1125	1/4"-NPT	3/8"-BSP	36	27
AZ1126	3/8"-BSP	1/2"-NPT	48	24



COUPLING



Model	A	B	C	D
LARZEP			mm	mm
AZ1142	3/8"-NPT	3/8"-BSP	45	27
AZ1143	3/8"-NPT	3/8"-NPT	45	27
AZ1145	3/8"-NPT	1/2"-NPT	45	30





Type

AZ1

Capacity

-

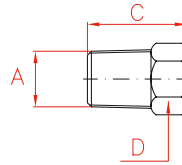
Max. pressure

700 bar

PLUG



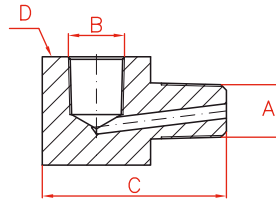
Model	A	C	D
LARZEP		mm	mm
AZ1182	3/8"-NPT	24	18



ADAPTOR ELBOW



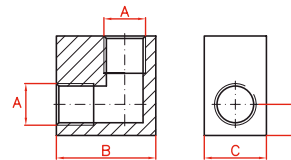
Model	A	B	C	D
LARZEP			mm	mm
AZ1511	3/8"-NPT	3/8"-BSP	51	30
AZ1512	3/8"-NPT	3/8"-NPT	51	30
AZ1513	3/8"-NPT	1/2"-NPT	51	32



ELBOW



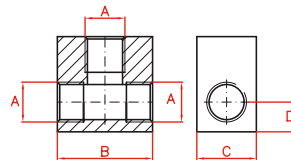
Model	A	B	C	D
LARZEP		mm	mm	mm
AZ1202	3/8"-NPT	40	25	12,5



TEE



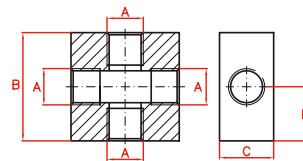
Model	A	B	C	D
LARZEP		mm	mm	mm
AZ1242	3/8"-NPT	40	25	12,5



CROSS



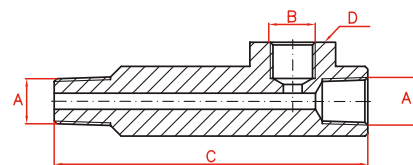
Model	A	B	C	D
LARZEP		mm	mm	mm
AZ1282	3/8"-NPT	50	25	24



GAUGE ADAPTOR



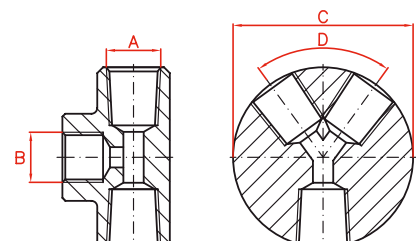
Model	A	B	C	D
LARZEP			mm	mm
AZ1501	3/8"-NPT	3/8"-BSP	117	35
AZ1502	3/8"-NPT	1/4"-NPT	98	35
AZ1504	3/8"-NPT	1/2"-NPT	117	35
AZ1507	3/8"-NPT	1/4"-BSP	98	35



MANIFOLDS



Model	A	B	C	D	Ports
LARZEP			mm	°	No.
AZ1602	3/8"-NPT	1/2"-NPT	62	90°	2
AZ1604	3/8"-NPT	1/2"-NPT	82	60°	4
AZ1606	3/8"-NPT	1/2"-NPT	102	48°	6



PRESSURE GAUGES



- ✓ High accuracy gauges, $\pm 1,6$ % full scale.
- ✓ Essential for monitoring working pressure or force.
- ✓ Glycerine filled gauges.
- ✓ Available as system pressure gauges or as dual scale gauges to measure load on specific cylinders.
- ✓ Digital pressure gauge AVD10008.



AZ1
FITTINGS AND MANIFOLDS



P.92

AP2
Hoses



P.84

PRESSURE GAUGES




Type **AV - AVD - AY**

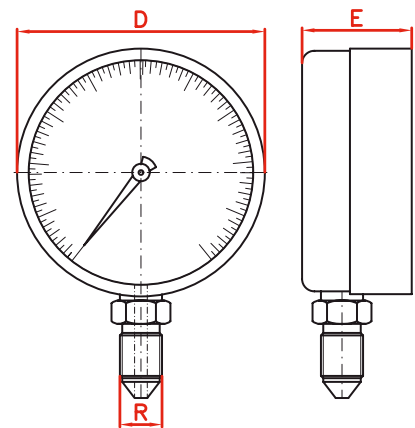
Capacity **10 - 60 ton**

Max. pressure **0 - 1.000 bar**



Digital pressure gauge: **AVD10008**
Thread: 1/4"-BSP
Gauge adaptor: **AZ1507**

 **WARNING**
Do not exceed the 70% of the nominal capacity of the gauge.



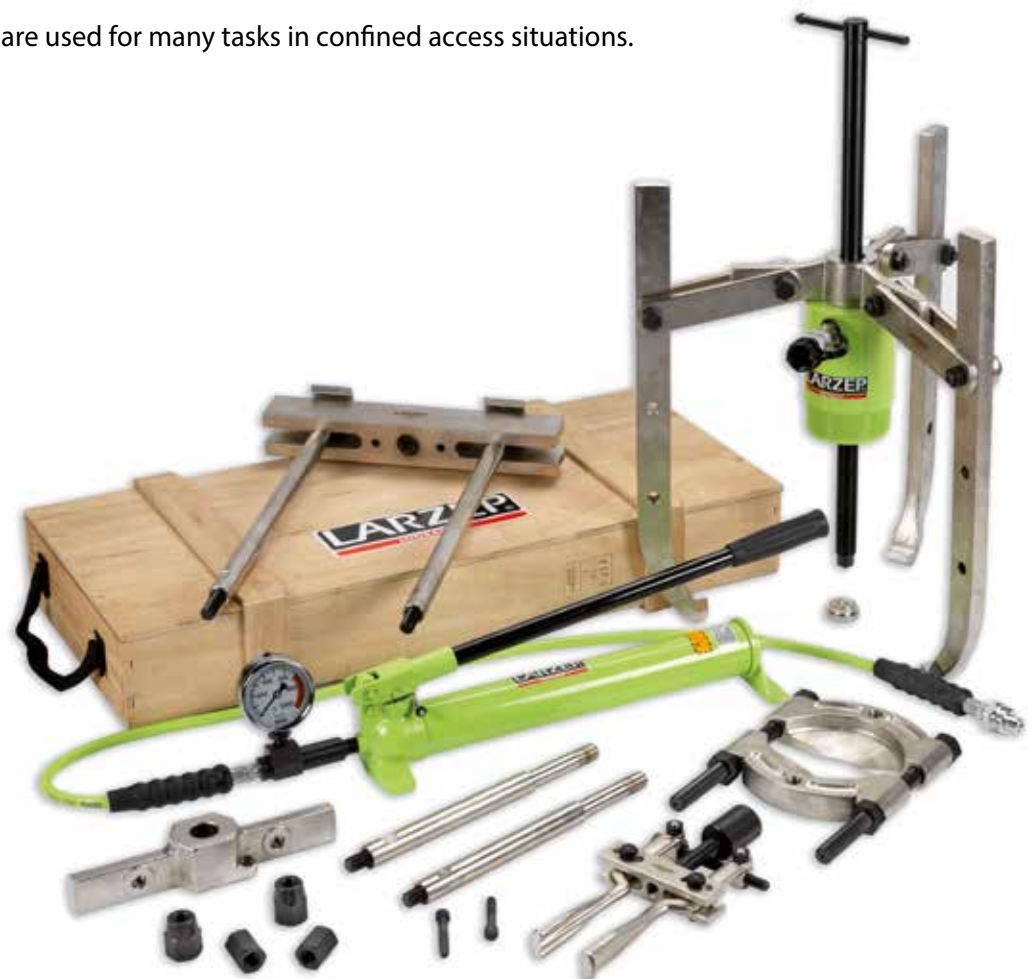
AV-AVD-AY ACCESSORIES

Used with	Model	End of Scale			Scale	D	E	R	Gauge Adaptor
		ton	bar	psi					
All Cylinders	AV10007	-	1.000	14.500	50 bar / 500 psi	63	31	1/4"-NPT	AZ1502
	AV10011	-	1.000	14.500	20 bar / 200 psi	80	35	1/2"-NPT	AZ1504
	AVD10008	-	1.000	14.500	0,1	80	33	1/4"-NPT	AZ1507
Press 10 ton	AY01008	10	-	-	0,5	80	35	3/8"-BSP	AZ1501
Press 20 ton	AY02008	20	-	-	0,5	80	35	3/8"-BSP	AZ1501
Press 30 ton	AY03008	30	-	-	2	80	35	3/8"-BSP	AZ1501
Press 60 ton	AY06010	60	-	-	2	100	35	3/8"-BSP	AZ1501

HYDRAULIC TOOLS







LARZEP offers a wide range of tools for different applications: Chain Cutters, Cable Cutters, Pullers, Presses and Spread Cylinders.

- ✓ Chain cutters designed for chain and high resistance bar cutting.
Available with either built-in pump, or powered by a separate pump.
- ✓ Cable cutters for operation in any place and position, the cable cutters make heavy jobs easier in forced and uncomfortable positions or on difficult access places like poles, shafts or high-voltage towers.
- ✓ Wide range of pullers from 5 to 50 ton to cover most pulling applications.
Available in 2 and 3 Jaws puller, cross bearing puller, bearing cup puller and bearing puller
- ✓ Presses from 10 to 60 ton with extremely sturdy frames.
EC models 10 and 20 ton for bench mount.
- ✓ Spread cylinders are used for many tasks in confined access situations.



TOOLS



Models	Tool type	Capacity ton (kN)		Page
CK	Hydraulic Chain Cutters	13 - 112 (135 - 1.120)		98
CC	Hydraulic Cable Cutters	7 - 43 (70 - 437)		100
FU - FV - FZ	Hydraulic Pullers	5 - 50		102
EC	Bench Presses	10 - 20		105
EE - EM - EZ	Presses	30 - 60		105
CY	Spread Cylinders	0,8 - 15 (8 - 150)		108

HYDRAULIC CHAIN CUTTERS

- ✓ Maximum working pressure 700 bar.
- ✓ CK0016 model includes an integral built-in hand pump.
Other models are powered by an external hand, air, electric, or petrol pump.
- ✓ CK0216, CK0230 and CK0250 models are double acting, for fast retraction.
- ✓ CK0116 and CK0216 are not equipped with handle.
- ✓ All models are provided with standard female coupler AZ3140.

Z12107
Air Hydraulic Pump

P.70

HBM
Manual Powerpack

P.72

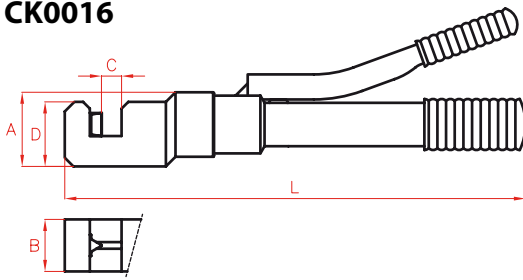
AP
Hydraulic Hoses

P.84

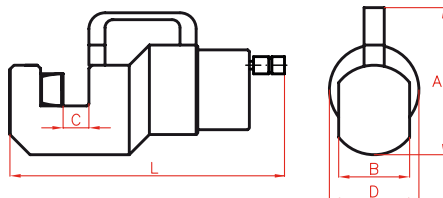


HYDRAULIC CHAIN CUTTERS

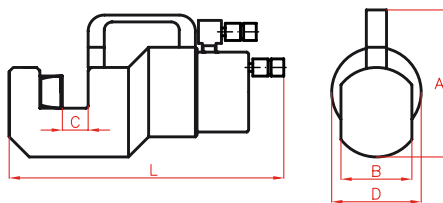
CK0016



CK0116 - CK0130



CK0216 - CK0230 - CK0250



Type	CK
Capacity	13 - 112 ton
Chain	max. 50 mm
Max. pressure	700 bar

Model	Replacement Blades	
	Mobile	Fixed
CK0016	CRK161	CRK162
CK0116	CRK161	CRK162
CK0130	CRK301	CRK302
CK0216	CRK161	CRK162
CK0230	CRK301	CRK302
CK0250	CRK501	CRK502

* maximum ø

Model	Capacity	Oil Cap.	Weight	A	B	C	D	L	Chain *	Strength	Bar *	Strength
LARZEP	kN	cm ³	kg	mm	mm	mm	mm	mm	mm	by grades	mm	N/mm ²
CK0016	135	-	5,8	81,5	54	19,5	68	489	19	28 - 43	19	700
											15	1.000
									14	60 - 80	13	1.400
CK0116	135	38	4,8	81,5	54	19,5	68	290	19	28 - 43	19	700
											15	1.000
									14	60 - 80	13	1.400
CK0130	390	182	16,8	183	88	31	113	360	30	28 - 43	30	700
											25	1.000
									20	60 - 80	20	1.400
CK0216	135	38	8,4	126	54	19,5	81	343	19	28 - 43	19	700
											15	1.000
									14	60 - 80	13	1.400
CK0230	345	161	16,0	183	88	31	113	412	30	28 - 43	30	700
											25	1.000
									20	60 - 80	20	1.400
CK0250	1.120	842	68,0	265	120	52	207	475	50	28 - 43	50	700
											45	1.000
									40	60 - 80	40	1.400
										35	1.600	

HYDRAULIC CABLE CUTTERS



- ✓ CC0260 model is double acting and is especially recommended for sub-sea applications. Optionally we can supply special seal kits for deep water operation.
- ✓ CC0018, CC0040 and CC0075 models are self-contained, with integral built-in pump. These tools are supplied with a relief valve to prevent overload.
- ✓ Single acting models have spring return.
- ✓ Rotating heads for easy operation.
- ✓ Installing replacement blades is a simple operation.
- ✓ All models are provided with with standard female coupler AZ3140.
- ✓ CC0190 and CC01120 are equipped with handle.
- ✓ Carry box included for easy transport and tool protection.

Z12107
Air Hydraulic Pump



P.70

AP
Hydraulic Hoses



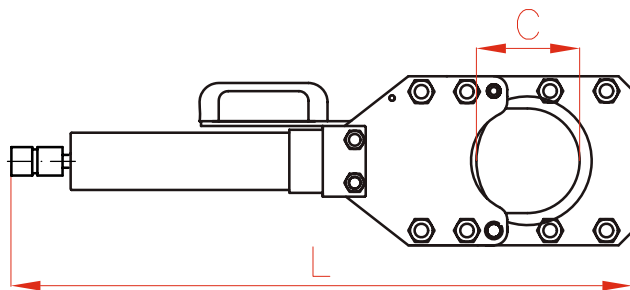
P.84



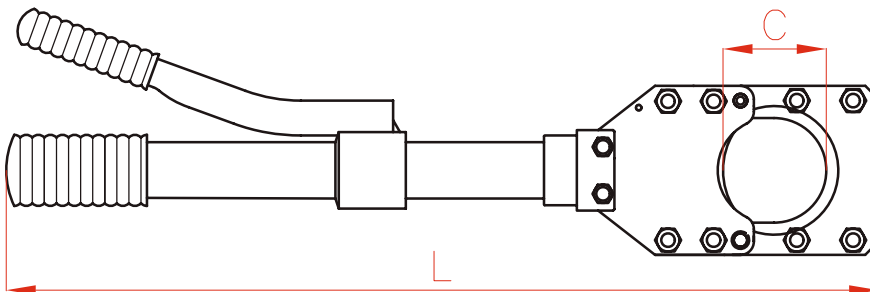


Type	CC
Capacity	7 - 43 ton
Cable	max. 120 mm
Max. pressure	700 bar

CC0118 - CC0140 - CC0160 - CC0175 - CC0190 - CC01120



CC0018 - CC0040 - CC0075



Model	Replacement Blades
LARZEP	LARZEP
CC0018	CRC18
CC0040	CRC35-40
CC0075	CRC75
CC0118	CRC18
CC0140	CRC35-40
CC0160	CRC0160
CC0175	CRC75
CC0190	CRC0190
CC01120	CRC01120
CC0260	CRC0160

Model	Capacity	Oil Capacity	L	C	Weight	Wire Rope Ø (Al)	Cable Ø Shown diameters are only for guidance				Wire Rope Ø (Steel) ¹⁾	
							Cable	Telephone	Lead Shielded	Underground	Cable	Wire
	kN	cm ³	mm	mm	kg	mm	mm	mm	mm	mm	mm	
CC0018	70	-	385	18	2,8	18	18	18	18	18	1	
CC0040	135	-	490	40	5,6	40	40	40	40	32	1	
CC0075	70	-	650	75	6,6	40	75	75	75	*	*	
CC0118	70	24	212	18	2,0	18	18	18	18	18	1	
CC0140	135	86	292	40	5,3	40	40	40	40	32	1	
CC0160	437	420	388	60	15,8	60	60	60	60	60	2	
CC0175	70	74	451	75	5,5	40	75	75	75	*	*	
CC0190	109	149	535	90	10,0	35	90	90	90	*	*	
CC01120	109	203	635	120	11,7	35	120	120	120	*	*	
CC0260	390	431	480	60	24,6	60	60	60	60	60	2	

* This unit is not designed to cut this material. Any attempt to do so may result in personal injury or damage to the unit and will void the warranty.

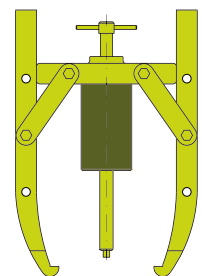
¹⁾ Max. Strength 1.800 N/mm²

HYDRAULIC PULLERS

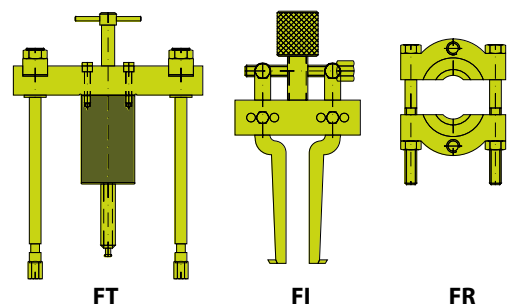


- ✓ Wide range of models from 5 to 50 ton capacity suitable for most maintenance pulling applications.
- ✓ All pullers are delivered in a strong wooden box for ease of transport and storage.
- ✓ Manufactured in high quality forged steel, includes hydraulic and all mechanical components.
- ✓ Hydraulic part includes: cylinder, pump, hose, pressure gauge, gauge adaptor, male coupling and hollow saddle.
- ✓ Mechanic part includes:
 2 jaws puller (FX) / 3 jaws puller (FV)
 Complete cross bearing puller (FZ) that includes:
 Simple cross bearing puller (FT) with long and short extension pieces,
 bearing cup puller (FI), bearing puller (FR)
- ✓ Universal puller (FU), jaws pullers (FX and FV) and cross bearing puller (FT), include hydraulic and mechanical parts.

FX - FV Jaws puller



FZ Cross bearing pullers



HYDRAULIC PULLERS

HYDRAULIC PULLER SETS - FU

(Include hydraulic and mechanic part)

Capacity (ton)	5	10	20	30	50
Model	FU0500	FU1000	FU2000	FU3000	FU5000
Hydraulic Part	JH005181	JH012041	JH022051	JH030051	JH060081
Mechanic Part	FU0500M	FU1000M	FU2000M	FU3000M	FU5000M
Weight (kg)	20	35	80	145	315



Type **FU - FV - FZ**

Capacity **5 - 50 ton**

Max. pressure **700 bar**

PULLER HYDRAULICS

Capacity (ton)	5	10	20	30	50
Model	JH005181	JH012041	JH022051	JH030051	JH060081
Cylinder	SM00518	SH01204	SH02205	SH03006	SH06008
Pump	W20307	W20307	W10607	W20807	W21807
Hose	AP2015	AP2015	AP2015	AP2015	AP2020
Gauge adaptor	AZ1502	AZ1502	AZ1502	AZ1502	AZ1502
Pressure gauge	AV10007	AV10007	AV10007	AV10007	AV10007
Male half coupling	AZ3120	AZ3120	AZ3120	AZ3120	AZ3120
Hollow saddle	-	AZ0551	AZ0552	AZ0553	AZ0556
Weight (kg)	7	8	16	21	34



PULLER MECHANICAL PARTS

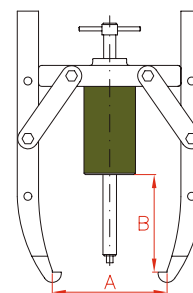
Capacity (ton)	5	10	20	30	50	FV	FX	FZ	FT
Model	FU0500M	FU1000M	FU2000M	FU3000M	FU5000M				
Jaw	FU0507	FU1007	FU2007	FU3007	FU5007	3	2	-	-
3 Jaws crosshead	-	-	FU2008	FU3008	FU5008	✓	-	-	-
2 Jaws crosshead	-	-	FU2009	FU3009	FU5009	✓	✓	-	-
2 and 3 Jaws crosshead	FU0508	FU1008	-	-	-	✓	✓	-	-
Arms	FU0510	FU1010	FU2010	FU3010	FU5010	6	4	-	-
Jaws bolts + Nuts	FU0511	FU1011	FU2011	FU3011	FU5011	6	4	-	-
Slinde + Handle	-	FU1012	FU2012	FU3012	FU5012	✓	✓	✓	✓
Short bolts (2)	-	14A0330	14A0074	14A0075	14A0076	✓	✓	-	-
Bearing puller	FR1000	FR1000	FR2000	FR3000	FR5000	-	-	✓	-
Gross crosshead	FU0517	FU1017	FU2017	FU3017	FU5017	-	-	✓	✓
Blank nuts (2)	FU1018	FU1018	FU2018	FU3018	FU5018	-	-	✓	✓
Washer (2)	FU1019	FU1019	FU2019	FU3019	FU5019	-	-	✓	✓
Slides (2)	FU0520	FU1020	FU2020	FU3020	FU5020	-	-	✓	✓
Fixing nuts (2)	FU0521	FU1021	FU2021	FU3021	FU5021	-	-	✓	✓
Large extenders (2)	FU0522	FU1022	FU2022	FU3022	FU5022	-	-	✓	✓
Short extenders (2)	FU0523	FU1023	FU2023	FU3023	FU5023	-	-	✓	✓
Bearing cup puller	-	FI1000	FI2000	FI3000	FI5000	-	-	✓	-
Point protector	FU0525	FU1025	FU2025	FU5025	FU5025	✓	✓	✓	✓
Connection nuts (2)	14B0050	14B0051	14B0029	14B0030	14B0031	-	-	✓	✓
Long bolts (2)	-	14A0331	14A0098	14A0099	14A0100	-	-	✓	✓
Weight (kg)	11	27	63	123	280				

✓ Included - Not available

JAWS PULLER FX - FV

(Include hydraulic and mechanic part)

Capacity ton	2 JAWS				3 JAWS			
	Model	A max. mm	B max. mm	Weight kg	Model	A max. mm	B max. mm	Weight*
5	FX0500	240	225	15	FX0500	240	225	7
10	FX1000	350	320	15	FX1000	350	320	20
20	FX2000	480	320	34	FX2000	480	320	39
30	FX3000	650	410	49	FX3000	680	390	61
50	FX5000	980	710	109	FX5000	980	710	131



FX - FV

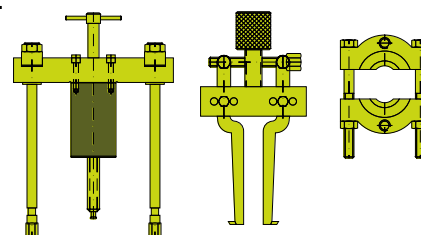
* Total weight

FULL CROSS BEARING PULLER - FZ

(Include hydraulic and mechanic part: FZ = FT + FI + FR)

Capacity ton	Model	Simple Cross Bearing Puller FT	Bearing Cup Puller FI	Bearing Puller FR
5	FZ0500	FT0500	-	FR1000
10	FZ1000	FT1000	FI1000	FR1000
20	FZ2000	FT2000	FI2000	FR2000
30	FZ3000	FT3000	FI3000	FR3000
50	FZ5000	FT5000	FI5000	FR5000

FZ



FT

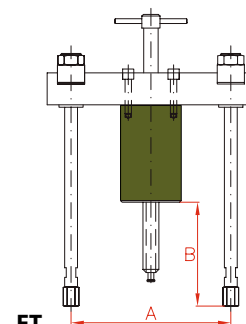
FI

FR

SIMPLE CROSS BEARING PULLER - FT

(Include hydraulic and mechanic part)

Capacity ton	Model	A min. mm	A max. mm	B max. mm	Weight kg
5	FT0500	40	185	170	7
10	FT1000	115	260	300	8
20	FT2000	170	345	265	19
30	FT3000	185	440	284	37
50	FT5000	220	580	447	71

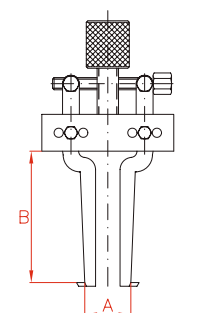


FT

BEARING CUP PULLER - FI

(Only mechanic part)

Capacity ton	Model	A min. mm	A max. mm	B mm	Weight kg
10	FI1000	40	145	115	2,2
20	FI2000	40	145	115	2,4
30	FI3000	60	240	150	6,0
50	FI5000	60	240	150	6,4

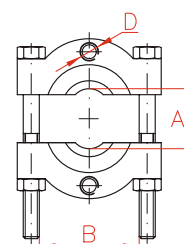


FI

BEARING PULLER - FR

(Only mechanic part)

Capacity ton	Model	A min. mm	A max. mm	B mm	D UN
5 - 10	FR1000	10	110	130	5/8" UNF-18
20	FR2000	12	134	155	5/8" UNF-18
30	FR3000	17	250	260	1" UNF-14
50	FR5000	35	300	300	1 1/4" UNF-12



FR



PRESSES

PRESSES



Type **EC - EE - EM - EZ**

Capacity **10 - 60 ton**

Max. pressure **700 bar**



- ✓ Extremely sturdy frames, made from welded steel profiles, available as bench mount (EC series) and floor mounted H-Frame models.
- ✓ Models are available powered by hand pump, air/hydraulic pump or electric/hydraulic pump. CE versions are fitted with remote motor control.
- ✓ Table height is adjustable on floor mounted models, manually on 30 ton, winch on 60 ton.
- ✓ V-blocks and a pressure gauge reading in tons are supplied as standard on all models.
- ✓ The hydraulic cylinder on the ECM and ECZ bench presses can be easily removed and used in other applications.
- ✓ The EM models incorporate a two-speed hand pump for quick approach of the piston to the work piece.



V-blocks and pressure gauge reading in tons are supplied as standard on all models.

EC-EE-EM-EZ TOOLS

Capacity	Frame		E	H max.	Stroke	Model	Pump Type			
ton	Bench Mount	Floor Mount	mm	mm	mm	LARZEP	Hand	Electric	Air	Model
10	*	-	350	376	155	ECM01115	*	-	-	W10607
	*	-	350	376	155	ECZ01115	-	-	*	Z12107
20	*	-	500	376	159	ECM02015	*	-	-	W10607
	*	-	500	376	159	ECZ02015	-	-	*	Z12107
30	-	*	500	930	150	EM03015	*	-	-	W21807
	-	*	500	930	150	EZ03015	-	-	*	Z12107
	-	*	500	930	160	EE03116	-	*	-	HBM7244
	-	*	500	930	160	EE03116-CE	-	*	-	HBM7244B
60	-	*	860	940	180	EM06018	*	-	-	W21807
	-	*	860	940	180	EZ06018	-	-	*	Z12107
	-	*	860	940	180	EE06018	-	*	-	HBM7244
	-	*	860	940	180	EE06018-CE	-	*	-	HBM7244B

Model	A	B	C	D	E	F	H min.	H max.	I	K	M	N	O
LARZEP	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
ECM01115	819	440	220	80	350	170	-	376	80	-	400	198	12
ECZ01115	819	440	220	80	350	170	-	376	80	-	400	198	12
ECM02015	903	610	325	120	500	240	-	376	140	-	570	285	12
ECZ02015	903	610	325	120	500	240	-	376	140	-	570	285	12
EM03015	1.780	698	650	125	500	245	73	930	140	120	280	150	27
EZ03015	1.780	698	650	125	500	245	73	930	140	-	280	150	27
EE03116	1.780	698	650	125	500	245	73	930	140	275	280	150	27
EE03116-CE	1.780	698	650	125	500	245	73	930	140	275	280	150	27
EM06018	1.960	1.150	800	205	860	385	110	940	260	150	237	165	41
EZ06018	1.960	1.150	800	205	860	385	110	940	260	-	237	165	41
EE06018	1.960	1.150	800	205	860	385	110	940	260	275	237	165	41
EE06018-CE	1.960	1.150	800	205	860	385	110	940	260	275	237	165	41





Type **EC - EE - EM - EZ**

Capacity **10 - 60 ton**

Max. pressure **700 bar**

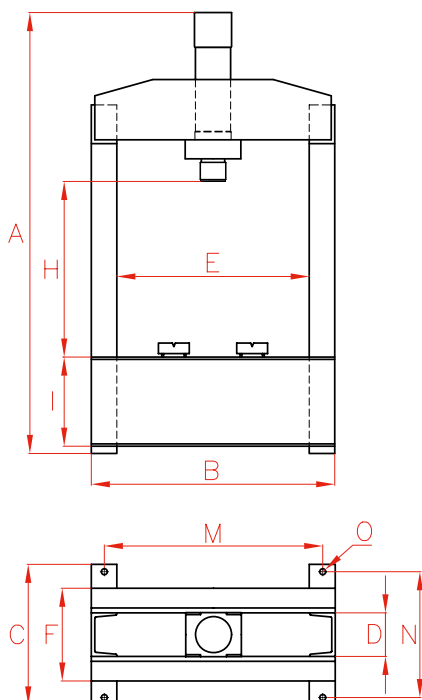
Advance speed
 * Hand Pump (mm/stroke)
 * Electric Pump (mm/sec.)
 * Air Pump (mm/sec.)

Cylinder type			Oil Cap.	Advance speed *		Weight	Model
S/A	D/A	Model	cm ³	Fast	Slow	kg	LARZEP
*	-	SM01015	247	-	1,7	41	ECM01115
*	-	SM01015	247	-	1,8	42	ECZ01115
*	-	SM02315	528	5,5	0,9	85	ECM02015
*	-	SM02315	528	-	1,2	90	ECZ02015
*	-	SM03015	663	2,9	0,6	120	EM03015
*	-	SM03015	663	-	0,6	121	EZ03015
-	*	D03016	707	11,3	2,1	135	EE03116
-	*	D03016	707	11,3	2,1	140	EE03116-CE
*	-	SM06018	1.558	1,5	0,2	455	EM06018
*	-	SM06018	1.558	-	0,4	456	EZ06018
-	*	D06018	1.558	5,7	1,0	480	EE06018
-	*	D06018	1.558	5,7	1,0	485	EE06018-CE

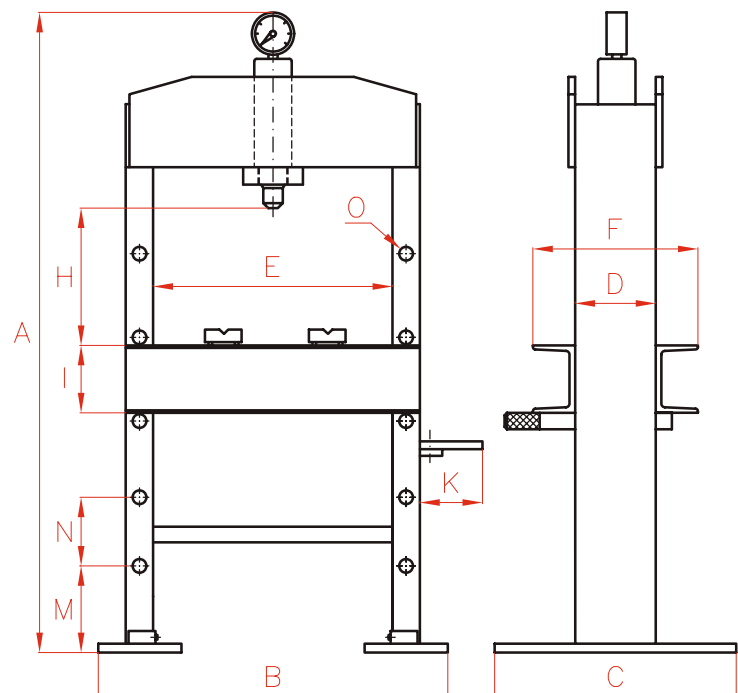


V-blocks and pressure gauge reading in tons are supplied as standard on all models.

10 and 20 ton Presses



30 and 60 ton Presses



WEDGE SPREADER



WEDGE SPREADER

Type

CY

Capacity

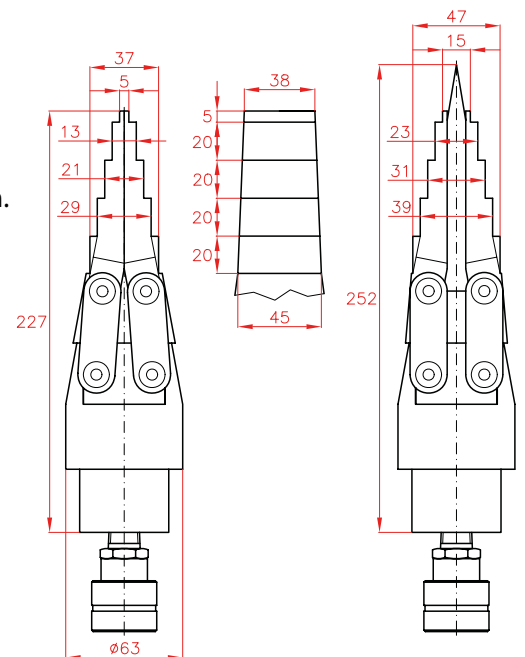
15 ton

Max. pressure

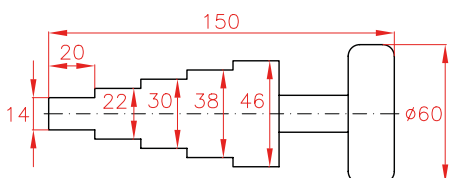
700 bar



- ✓ 15 ton capacity wedge spreader.
- ✓ Lightweight and ergonomic tool. Easy and quick maintenance.
- ✓ Specially designed for pipe and flange repair and maintenance.
Can be used also for seal replacement, removing elbows or heavy equipment maintenance.
- ✓ Required access gap of only 5 mm.
- ✓ Suitable for harsh offshore environment due to corrosion protection.
- ✓ Recommended to be used in pairs.
- ✓ Options: Aluminium Safety block **CY15B**; Handle **CY15H**; Kit **CY1501S**, with pump and 2 wedge spreaders and accessories.



Aluminium Safety Block **CY15B** as option.



Capacity	Model	Oil Capacity	Access Gap	Max. open width	Weight
ton	LARZEP	cm ³	mm	mm	kg
15	CY1501	16	5	47	3,2



Always read the safety instructions.

SPREAD CYLINDERS

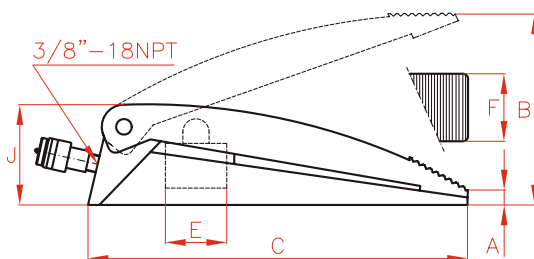


Type	CY
Capacity	0,8 - 1 ton
Max. pressure	700 bar

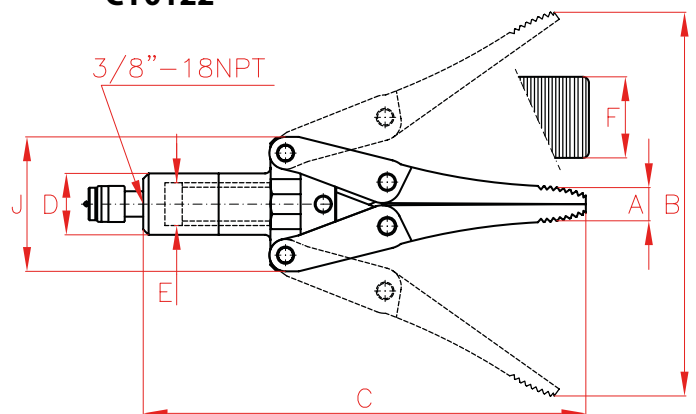


- ✓ CY series spreaders are used for many tasks in confined access situations.
- ✓ CY0109G is used for very confined situations and CY0122 is used for greater spreading distance.
- ✓ CY0109G and CY0122 models are supplied with AZ3140 high-flow female couplers.

CY0109G



CY0122



Capacity		Stroke	Model	Oil Cap.	Area	A	B	C	D	E	F	J	Weight
ton	kN	mm	LARZEP	cm ³	cm ²	mm	mm	mm	mm	mm	mm	mm	kg
1	10	75	CY0109G	10	7	15	90	168	-	29	55	55	2
0,8	8	189	CY0122	63	11,3	31	220	382	50	38	50	124	6

APPLICATIONS AND SPECIAL PRODUCTS

With more than 75 years of experience in the hydraulic sector, LARZEP designs and manufactures high pressure hydraulic equipment for the movement of heavy loads, including cylinders up to 1.000 ton lifting capacity.

All our cylinders are designed according to ANSI B30.1 / EN1494 and manufactured in our production

facility located in Mallabia, in the North of Spain. Our biggest advantage against our competitors is our flexibility and quick delivery time.

Contact our Sales Department to discuss your requirements, indicating type of product, quantity, capacity, stroke, or any another additional feature you may require.



HIGH TONNAGE CYLINDERS



CYLINDERS AND PUMPS



HOLLOW CYLINDER AT CONSTRUCTION SITE



HIGH QUALITY GAUGES

APPLICATIONS



OIL RIG RETRIEVAL

A hanger retrieval system developed with LARZEP products, for a major Oil & Gas operator in the North Sea.

The system consists of 4 double acting 215 ton Hollow Bore Cylinders with 460 mm stroke, completely black nitrided to avoid rust in the North Sea environment and 2 pneumatic powered hydraulic pumps with safety double circuit each.



LIFTING SYSTEM FOR MAINTENANCE

Larzep supplied seven 500 ton lifting cylinders for the tub lift-and-split, and twenty-two 100 ton cylinders to work on the 6400 ton Marion dragline. Also supplied was an electric power pack incorporating electronically controlled valving via a PLC - all controlled by a laptop.

The purpose of the job was to remove the Marion 8750 Series B's tub, weighing 942 ton to allow maintenance to take place. This was considered a world-first for the mining industry. Two jacking frames, each with 1.000 ton working load limit were used for the procedure. Each jacking frame housed two 500 ton Larzep cylinders.



SAFETY INSTRUCTIONS

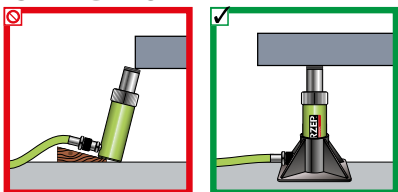
When used correctly, hydraulic power is one of the safest methods of applying force to your work. To that end we offer some **DO's and DON'Ts**, simple common sense points which apply to practically all Larzep hydraulic products.

The illustrations and application photos of Larzep products throughout this catalogue are used to portray how some of our customers have used hydraulics in industry. In designing similar systems, care must be taken to select the proper components that provide safe operation and fit your needs.

Check to see if all safety measures have been adopted to avoid the risk of injury and property damage from your application or system. Larzep cannot be held responsible for damage or injury caused by unsafe use, maintenance or application of its products. Please contact the Larzep office or a representative for guidance when you are in doubt as to the proper safety precautions to be taken in designing and setting up your particular system.

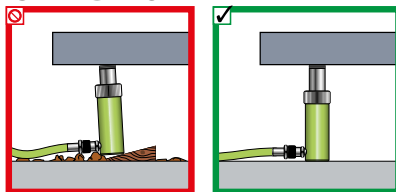
In addition to these tips, every Larzep product comes with specific safety information and instructions. **Please read them carefully.**

CYLINDERS



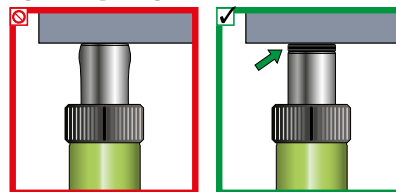
Provide a solid support for the entire cylinder base area. Use cylinder base attachment for more stability.

CYLINDERS



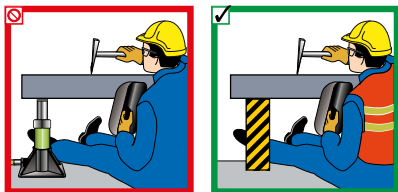
The entire cylinder saddle must be in contact with the load. Movement of the cylinder must be parallel with the movement of the load.

CYLINDERS



Do not use cylinder without saddle. This will cause plunger to "mushroom". Saddles distribute load evenly on the plunger.

CYLINDERS



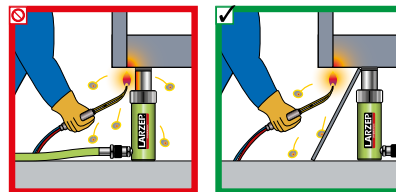
Never place any part of your body under the load. Load must be on cribbing before venturing under.

CYLINDERS



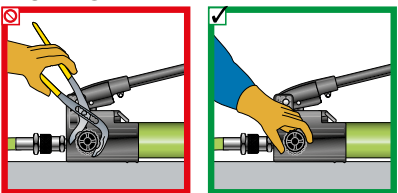
Always protect cylinder threads for use with attachments.

CYLINDERS



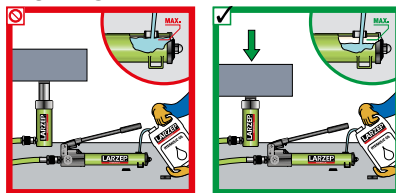
Keep hydraulic equipment away from open fire and temperatures above 65 °C.

PUMPS



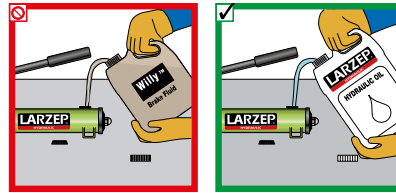
Close release valve hand tight. Using tools will ruin the valve.

PUMPS



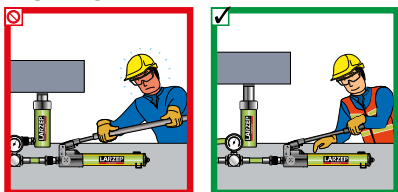
Fill pump only to recommended level. Fill only when connected cylinder is fully retracted.

PUMPS



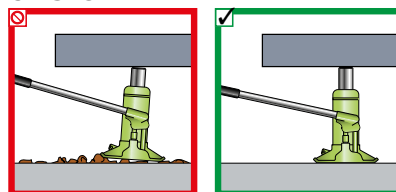
Always use genuine Larzep hydraulic oil.

PUMPS



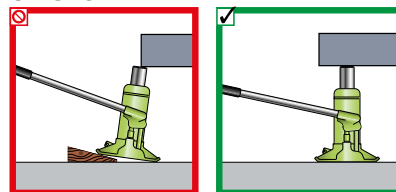
Don't use handle extenders. Hand pumps should be easy to operate when used correctly.

JACKS



Provide a leveled and solid support for the entire jack base area.

JACKS



The entire jack saddle must be in contact with the load. Movement of the load must be in the same direction as jack plunger.

SAFETY

For your application, choose the most suitable model from the wide range available, and make sure that it will **not exceed 80%** of its nominal capacity and stroke during normal operation.

The correct union of a pump to a cylinder via a hydraulic hose constitutes a machine designed for lifting, pulling, folding and retaining operations, etc., that, due to its high thrust capacity requires safe use in order to avoid accident risk.

Use protective goggles for eye protection. Use safety shoes for feet protection. Use protective gloves for hand protection.

Do not modify the device (welded parts, lengthening drive levers, etc.).

Do not use the hoses for transporting the device. Use the handles on the cylinders (when appropriate) and set the pump lever to the transport position.

When filling the pump with oil, use always LARZEP hydraulic oil. Fill only to the indicated level and remember that the cylinder piston should be retracted.

Before using a pump from other manufacturer, contact LARZEP's Technical Department. Otherwise, LARZEP will not be liable for any damage that may arise.

Before starting operation, check that the installation is correct, the operator position is safe and the working zone is out of bounds to all personnel.

In all cases, the operator should have received adequate training regarding the handling of the device and logical safety criteria associated with the movement of heavy loads.

Never exceed the maximum working pressure of the cylinder. Ensure that all the equipment and accessories are suitable for the maximum working pressure.



Always read the safety instructions.



JACKS

Remove the jack handle when it is not being used.

JACKS

Never place any part of your body under the load. Ensure the load is on a solid support before venturing under.

Always read instructions and safety warnings that come with your Larzep hydraulic equipment.

HOSES AND COUPLERS

Clean both coupler parts before connecting. Use dust caps when coupler parts are not connected.

HOSES AND COUPLERS

Keep hoses away from the area beneath loads.

HOSES AND COUPLERS

Don't lift hydraulic equipment by the hoses.

HOSES AND COUPLERS

Detach cylinder only when fully retracted or use shut-off valves or safety valves to lock cylinder pressure.

HOSES AND COUPLERS

Don't kink hoses. Bending radius should be at least 115 mm. Don't drive over or drop heavy objects on hoses.

HOSES AND COUPLERS

Never allow the cylinder to be lifted off of the ground through the couplers.

CYLINDER SELECTION

In order to select the right cylinder according to your needs, please answer these questions:

- Total load to lift: _____ tonne / kg
- Number of cylinders required: _____
- Stroke required: _____ millimetres
- Closed height required: _____ millimetres
- Single or Double acting cylinder: _____
- Hollow or Solid piston: _____
- Spring or Load return: _____
- Push or Pull application: _____
- Locknut is required? _____
- Tilting saddle is required? _____
- Threads, Attachments, are required? _____
- Special treatment is required? _____



**ATTENTION: DO NOT EXCEED
THE 80% OF THE NOMINAL CAPACITY
AND STROKE OF THE CYLINDER**



Taking into account all the above, we will show you all the different options you can use. To choose the cylinder required, keep in mind the type of application.

Our internal sales department can advise and help you with the right choice of cylinders, specific to your project.

Visit our website www.larzep.com and find the applications of each type of cylinder.

SELECTION TABLES

PUMP SELECTION

In order to select the right pump according to your needs, please answer these questions:

HAND PUMPS

Single or Double acting: _____
 Number of cylinders required: _____
 Cylinder capacity: _____ ton
 Cylinder stroke: _____ millimetres
 Total hose length: _____ metres

POWERPACKS

Single or Double acting: _____
 Number of cylinders required: _____
 Cylinder capacity: _____ ton
 Cylinder stroke: _____ millimetres
 Total hose length: _____ metres
 Manual or Solenoid valve: _____
 Load holding is required? _____
 Single or Three phase: _____
 Voltage: _____ V
 Frequency: _____ Hz
 Remote pendant (for HBM) is required? _____
 Roll bar or Pressure gauge are required? _____



1. Select the right cylinder, keeping in mind the recommended use of **80%** of its nominal rating of both, load and stroke.
2. Select the pump according to the oil volume and the number of cylinders in operation.

Use the table below as guideline. It is supposed the use of only one cylinder. For several cylinders, add oil capacities.

Capacity	Stroke (mm)												
	25	50	75	100	125	150	175	200	225	250	300	325	350
5	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Red	Red	Red	Red
10	Blue	Blue	Blue	Blue	Blue	Red	Red	Red	Red	Red	Red	Green	Green
15	Blue	Blue	Red	Red	Red	Red	Red	Red	Red	Red	Green	Green	Green
23	Red	Red	Red	Red	Red	Red	Red	Green	Green	Green	Green	Yellow	Yellow
30	Red	Red	Red	Red	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow
50	Red	Red	Green	Green	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Blue	Blue	Blue
75	Red	Green	Green	Yellow	Yellow	Yellow	Yellow	Blue	Blue	Blue	Blue	Blue	Blue
100	Red	Green	Green	Yellow	Yellow	Yellow	Blue	Blue	Blue	Blue	Blue	Purple	Purple
140	Green	Yellow	Yellow	Blue	Blue	Blue	Blue	Purple	Purple	Purple	Purple	Purple	Purple
220	Green	Yellow	Blue	Blue	Blue	Purple	Purple	Purple	Purple	Purple	Purple	Purple	Purple

- Blue: Single Acting W20307, Double Acting X22607
- Red: Single Acting W10607 - W20807, Double Acting X22607
- Green: Single Acting W11407 - W21807, Double Acting X22607
- Yellow: Single Acting W22607, Double Acting X22607
- Light Blue: Single Acting W24507, Double Acting X24507
- Purple: Single Acting W26507, Double Acting X26507
- Pink: Single Acting HBM, HBE, Double Acting HBM, HBE

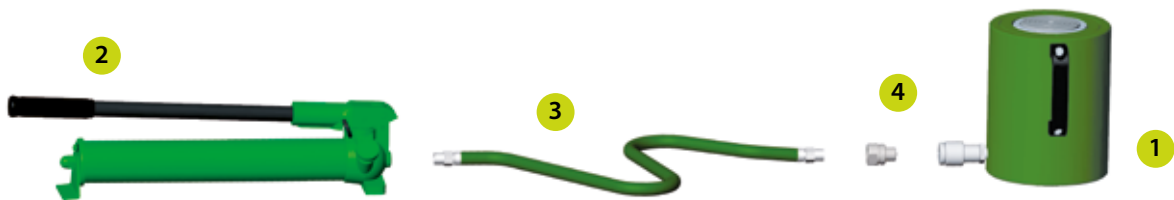
NOTE: Add 35cc of oil per metre of hose used when the internal diameter of the hose is 6,4 mm.

Visit our website www.larzep.com for the online Cylinder or Pump Selection application.

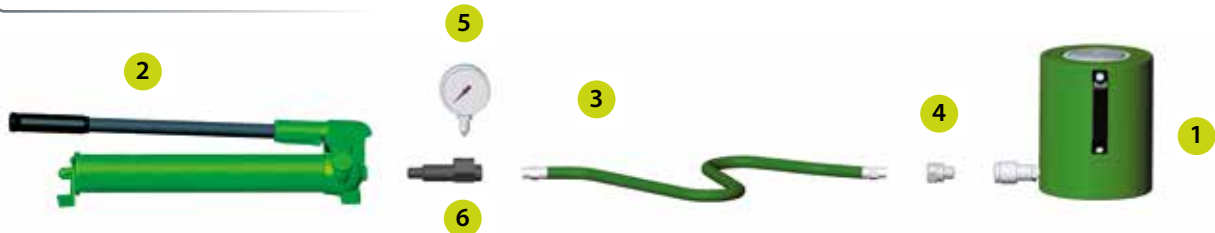
SINGLE ACTING ASSEMBLIES

- 1 Cylinder
 - 2 Pump / Powerpack
 - 3 Hose
 - 4 Male Coupler
 - 5 Pressure Gauge
 - 6 Gauge Adaptor
 - 7 Flow Regulating Valve
 - 8 Check Valve
 - 9 Female Coupler
 - 10 Snubber Valve
 - 11 Pilot Operated Check Valve
 - 12 Tee
- * Optional
+ Female coupler included in the cylinder

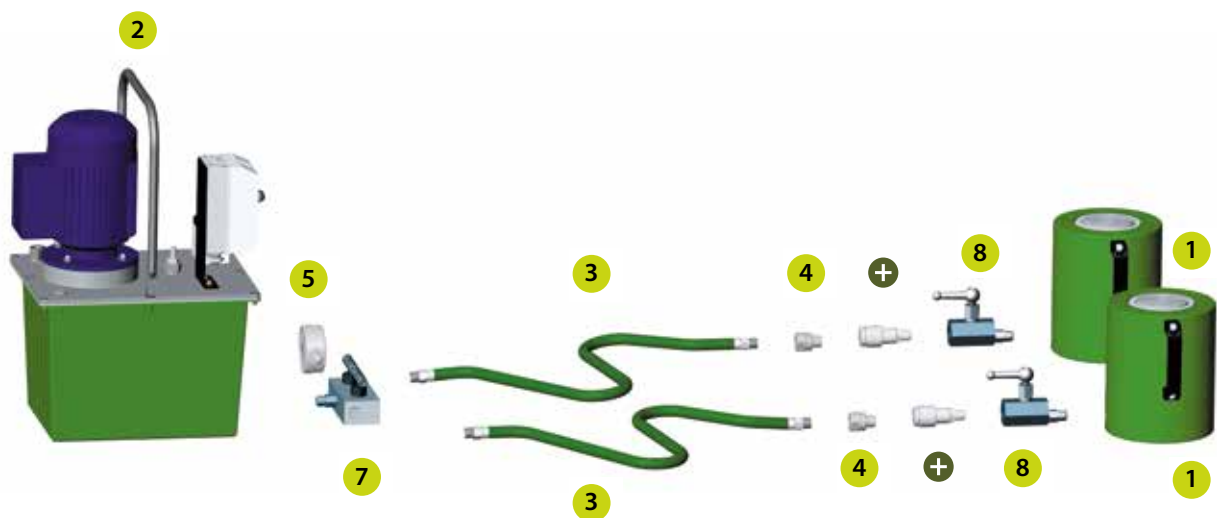
BASIC SYSTEM SETUP



COMPLETE SYSTEM



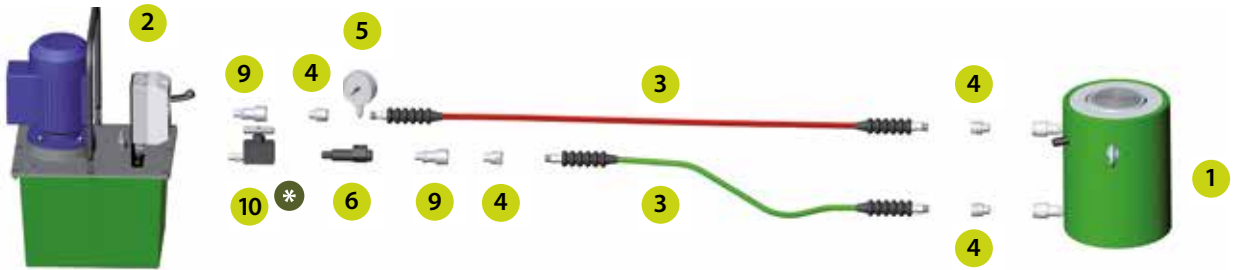
COMPLETE SYSTEM WITH SEVERAL CYLINDERS



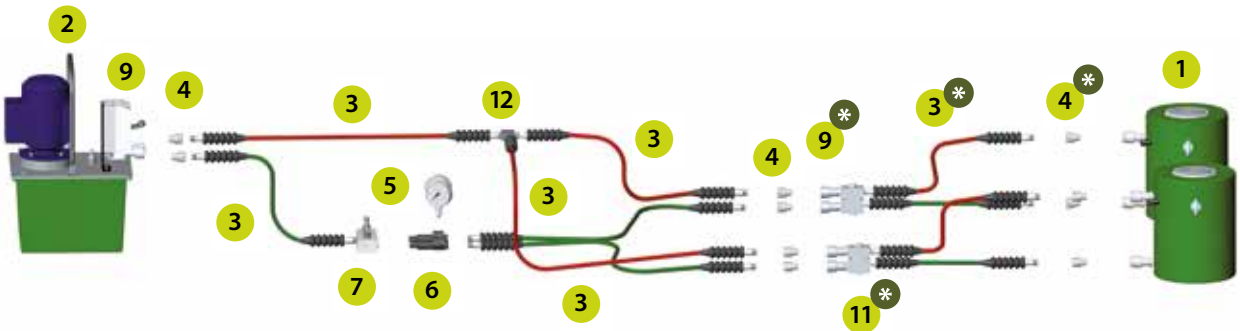
SYSTEM ASSEMBLIES

DOUBLE ACTING ASSEMBLIES

BASIC SYSTEM



COMPLETE SYSTEM WITH SEVERAL CYLINDERS



VALVE INFORMATION

CONTROL OF SINGLE ACTING CYLINDERS

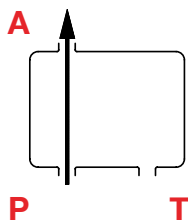
Single acting cylinders require 3-way valve.

3-way valve has 3 ports: P pump, T tank and A cylinder.

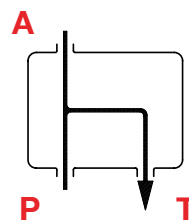
3-way valve can have 2 or 3 positions.

2 position valve can only control the advance or the retraction of the cylinder.

ADVANCE: Oil flows from the pump P to the cylinder A. The cylinder will extend.

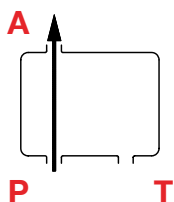


RETRACT: Oil flows from the cylinder A and pump P to the tank T. The cylinder will retract.

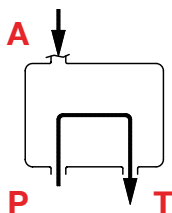


3 position valve controls advance, hold and retraction of the cylinder.

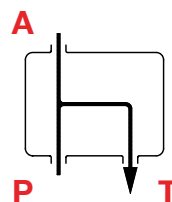
ADVANCE: Oil flows from the pump P to the cylinder A. The cylinder will extend.



HOLD: Oil flows from the pump P to the tank T. A port is closed and holds the pressure maintaining the extended position.



RETRACT: Oil flows from the cylinder A and pump P to the tank T. The cylinder will retract.



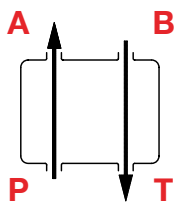
CONTROL OF DOUBLE ACTING CYLINDERS

Double acting cylinders require 4-way valve.

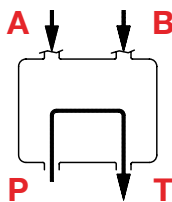
4-way valve has 4 ports: P pressure, T tank, A advance and B retract.

4-way valve has 3 positions. 3 position valve can advance, hold and retract the cylinder.

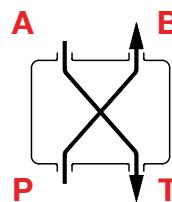
ADVANCE: Oil flows from the pump P to the advance port A and from the return port B to the tank T. The cylinder will extend.



HOLD: Oil flows from the pump P to the tank T. A and B ports are closed and hold the pressure maintaining the extended position.



RETRACT: Oil flows from the pump P to the retract port B and from the advance port A to the tank T. The cylinder will retract.



TECHNICAL INFORMATION

BASIC HYDRAULICS

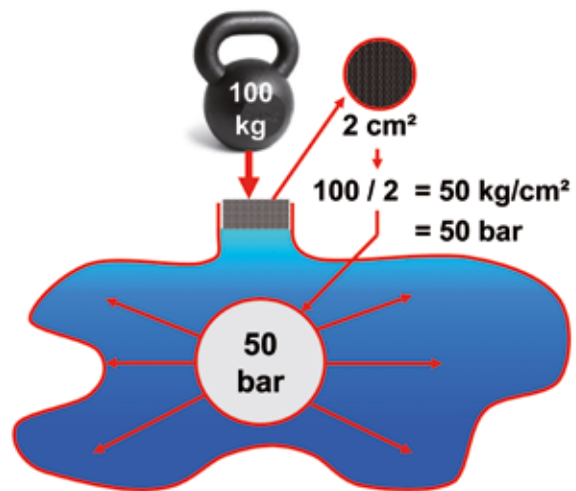
PASCAL'S LAW

Pressure applied at any point upon a confined fluid is transmitted undiminished in all directions.

The hydraulic pressure at any point within the fluid is the same in all directions.

Hydraulic pressure is measured as a force per unit of area:

$$\text{kg} / \text{cm}^2 \approx \text{bar}$$



FORCE

The force that a hydraulic cylinder can apply depends on the effective area of the cylinder and the hydraulic pressure.

Force (kg) = Hydraulic Pressure (bar) x Cylinder Effective Area (cm²)

$$F (\text{kg}) = P (\text{bar}) \times A (\text{cm}^2)$$

OIL CAPACITY

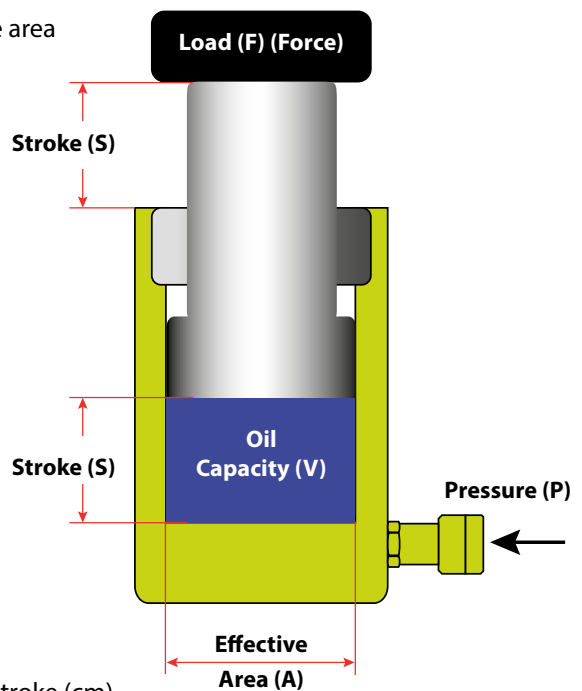
When a hydraulic cylinder is operated by a hand pump, the cylinder plunger moves a certain distance per pump actuation. This distance depends on the cylinder's effective area and on the pump's oil flow per stroke.

Minimum effective tank volume of pump is the sum of the oil volume of all cylinders and all hoses.

The volume of oil required for a cylinder is which need to achieve the full stroke of the cylinder.

Cylinder Oil Capacity (cm³) = Cylinder Effective Area (cm²) x Cylinder Stroke (cm)

$$V (\text{cm}^3) = A (\text{cm}^2) \times S (\text{cm})$$



The oil flow always chooses the line of least resistance in a hydraulic system. When using more than one hydraulic cylinder, each cylinder lifts at its own speed. When the cylinders have the same capacity, it will start moving first the cylinder at the point of the lightest load and last the cylinder at the point of the heaviest load.

To make sure that the oil flow can be controlled to operate all the cylinders uniformly to lift the load horizontally, a control valve or a split-flow pump must be used.

CYLINDER PISTON EXTENDING SPEED

$$\text{Piston Speed } v (\text{mm/s}) = \frac{\text{Pump Oil Flow (cm}^3/\text{min)} \times 10}{\text{Cylinder Effective Area (cm}^2) \times 60}$$

INFORMATION

UNIT CONVERTER

LENGTH	
1 mm	= 0,039 in
1 cm	= 0,393 in
1 m	= 3,28 ft
1 in	= 25,4 mm
1 in	= 0,083 ft
1 ft	= 4 in
1 ft	= 0,305 m

MASS	
1 kg	= 2,205 lb
1 kg	= 35,27 oz
1 ton (metric)	= 1000 kg
1 ton (metric)	= 2205 lb
1 ton (metric)	= 1,1 ton (short)
1 lb	= 0,453 kg
1 ton (short)	= 907,18 kg
1 ton (short)	= 0,907 t
1 ton (short)	= 2000 lb

FORCE	
1 kg	= 9,8 N
1 N	= 0,1019 kg
1 N	= 0,225 lb
1 kN	= 0,1019 t
1 kN	= 224,8 lb
1 lb	= 4,448 N

AREA	
1 cm ²	= 0,155 in ²
1 m ²	= 10,76 ft ²
1 in ²	= 6,45 cm ²
1 in ²	= 645 mm ²

PRESSURE	
1 bar	= 0,1 MPa
1 bar	= 10 N/cm ²
1 bar	= 1,0197 kg/cm ²
1 bar	= 14.5 psi
1 Pa	= 1 N/m ²
1 kPa	= 0,145 psi
1 MPa	= 10 bar
1 N/cm ²	= 0,1 bar
1 kg/cm ²	= 0,98 bar
1 psi	= 0,069 bar
1 psi	= 1 lb/in ²

POWER	
1 kW	= 1.359 hp
1 hp	= 0,735 kW
1 w	= 1 J/s

TEMPERATURE	
(°C x 1,8) + 32	= °F
(°F - 32) / 1,8	= °C

VOLUME	
1 cm ³	= 0,061 in ³
1 m ³	= 1000 l
1 m ³	= 1,3 yard ³
1 ml	= 1 cm ³
1 ml	= 0,035 oz-liq
1 l	= 1000 cm ³
1 l	= 0,264 gal (US)
1 l	= 0,219 gal (UK)
1 l	= 61,023 in ³
1 l	= 0,035 ft ³
1 l	= 1,056 quart
1 in ³	= 16,387 cm ³
1 in ³	= 0,016 l
1 in ³	= 0,576 oz-liq
1 in ³	= 0,017 quart
1 gal (UK)	= 4,546 l
1 gal (US)	= 3,785 l
1 gal (US)	= 3785 cm ³
1 gal (US)	= 231 in ³
1 gal (US)	= 0,133 ft ³
1 quart	= 0,946 l

FLOW	
1 l/min	= 1000 cm ³ /min
1 l/min	= 0,264 gal/min (US)
1 l/min	= 0,22 gal/min (UK)
1 cm ³ /min	= 0,61 in ³ /min
1 in ³ /min	= 16,4 cm ³ /min
1 gal/min (US)	= 3,785 l/min

Visit our website www.larzep.com and use the Unit converter application.



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Performance under Pressure

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