

LUKAS

Passion makes the difference!

Hydraulic Tools



500 bar
700 bar
1000 – 5000 bar

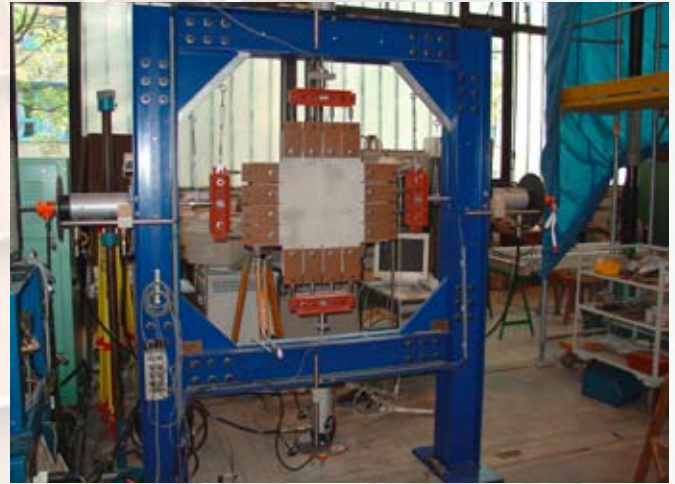
LUKAS Hydraulic tools



The steel construction serves as an end trestle for the round steel containers which are full of filling material. LUKAS high tonnage cylinders are pressing it against the tunnel exit applying a defined pressure. With this pressure drag the tunnel end can be bored safely and smooth. When the procedure is finished, the container is removed and the excavated earth is taken away.

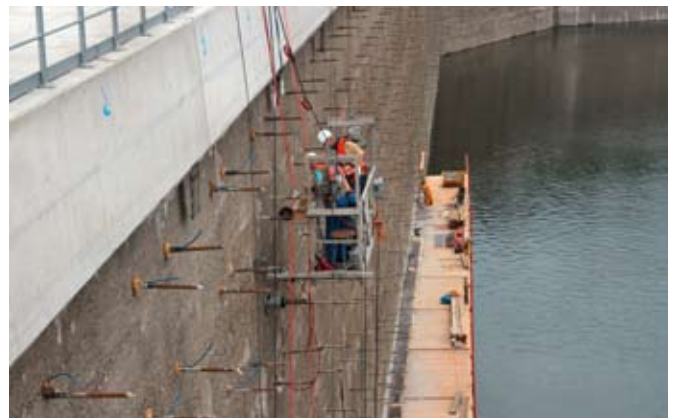
400 ton LUKAS multistage lifters are used to lift and stabilize strip mining excavators.

- versatile equipment for workshops and construction sites



Material testing institutes are using LUKAS Hydraulic Cylinders for analyzing the stability of different constructional elements. The stability of a concrete beam is tested. A tension test is carried out with a component.

Two new bridge parts made of reinforced concrete are built up to replace an old brick railroad bridge. Each part of the bridge is lifted with LUKAS high tonnage locknut cylinders and positioned onto the traversing units. After the demolition of the old bridge the new bridge parts are shifted from the left and the right into a perfect position. Then the rail network can be open again.



Through the gigantic water filled steel construction runs the traffic of inland vessels.
 A number of LUKAS high tonnage locknut cylinders with a lifting capacity of 1100 tons each are used for testing and maintenance of the expansion bearings.

In order to secure the structure, tension anchors have been installed. Their stability is tested with LUKAS hollow piston cylinders. Afterwards safety plates are tightened.

LUKAS Hydraulic Cylinders set the standard in quality and long service life



- ① Cylinder body with metric collar thread, with inch thread dimensions or without collar thread
- ② Corrosion resistant cylinder body made of high strength light alloy
- ③ Wide guiding area for high stability against lateral load
- ④ LUKAS Quick-connect couplings for short set-up time
- ⑤ Scraper ring prevents pollution and wear
- ⑥ Wide guiding ring for a fully loadable stroke limitation
- ⑦ Fast piston return through strong spring
- ⑧ Grooved ring seals reliably under all working conditions

Hydraulic tools

Working with hydraulic tools

1. Operating pressure

The oil pressure to extend the cylinders is produced by LUKAS hand or motor pumps. The oil pressure should be not more than the operating pressure of cylinders, hoses and connection parts. All components of LUKAS 500 bar und 700 bar program are designed for the max. operating pressure.

2. Required oil quantity

The required oil quantity can be calculated by the multiplication of the area of the piston and the piston stroke. The usable oil quantity of the oil tank shall be 20% higher than the required oil quantity of the cylinder(s) in use.

3. Force of cylinder

The force can be calculated by multiplication of the effective area of the piston and the operating pressure.

4. Lifting and lowering a load

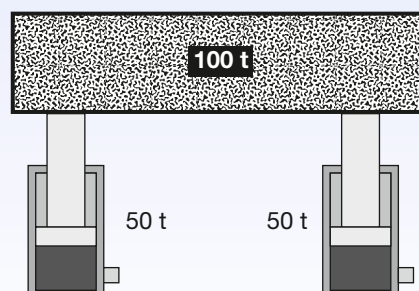
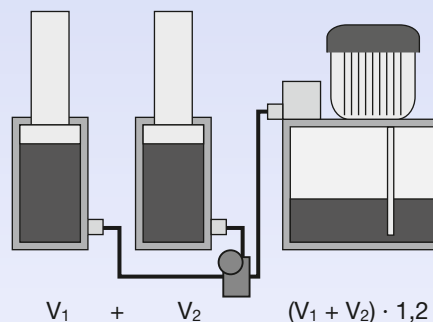
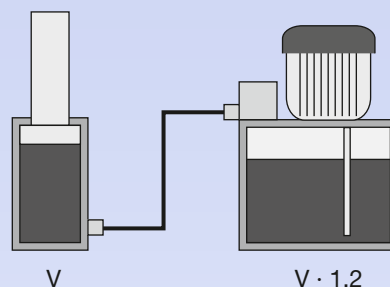
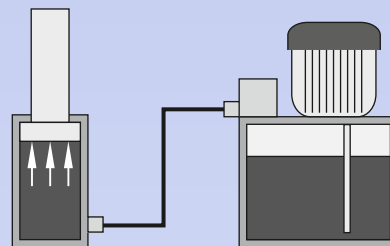
The force of the cylinder must exceed the weight of the load. The force of cylinders can be welded to a total for lifting a load.

5. Lifting with several cylinders

For simultaneous lifting and lowering a load with 2 or more cylinders each cylinder must be controlled by a distributor valve.

6. LUKAS Quick Stop

The StMu-61-M socket of the LUKAS quick connect coupler system provides a unique quick stop function against unintended drop of the load in case of sudden pressure loss.



500 bar

Cylinders and accessories	9 – 23
Hand pumps, Foot pumps and accessories	24 – 30
Air hydraulic pumps	31
Motor pumps and accessories	32 – 42
Hydraulic oil	43
Pressure gauges, Pressure gauge connectors, Pressure gauge units	44 – 45
Quick couplers, hoses, Screw connectors	46 – 47
Distributor valves, ADV 1, hand operated valves	48 – 50
Precision drain valve, Suction device	51
Pullers, Puller sets	52 – 53
Hydraulic cylinders HZ for continuous operation	54 – 58

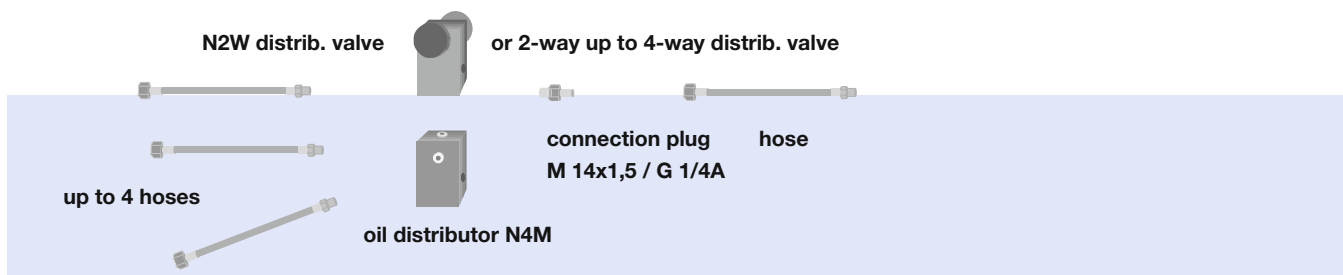
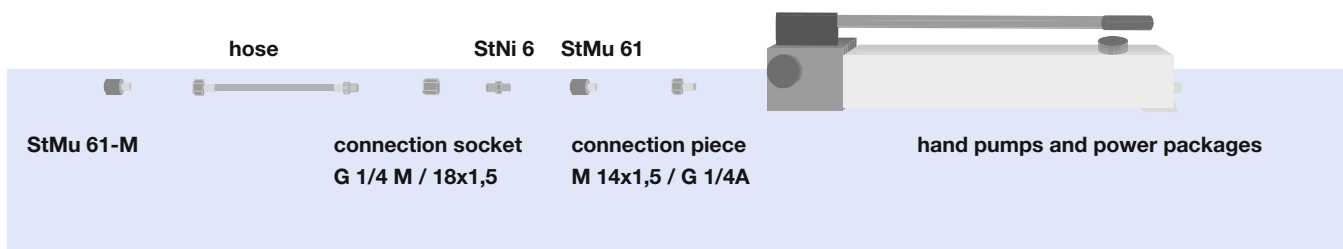
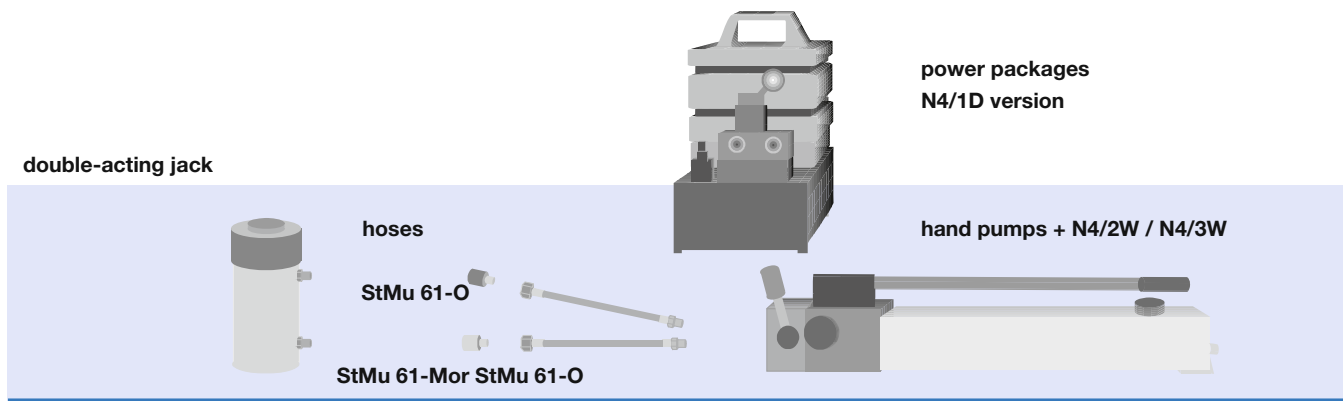
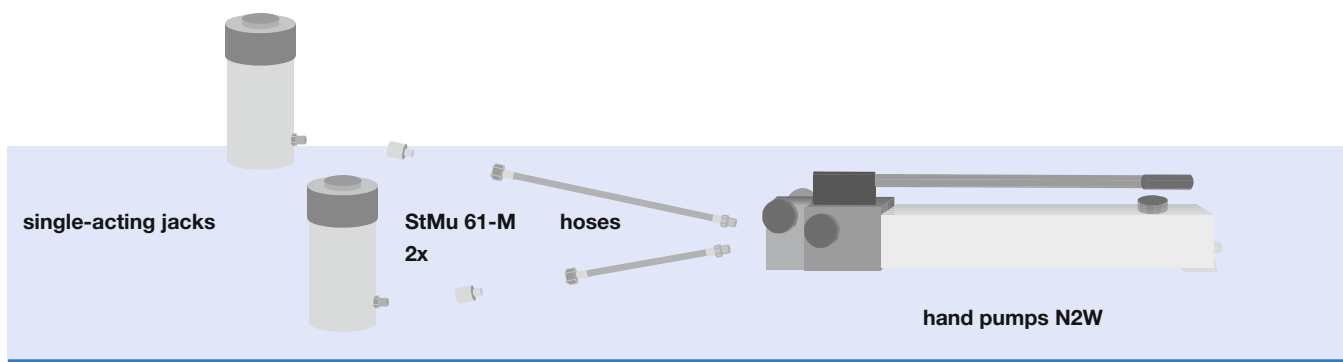
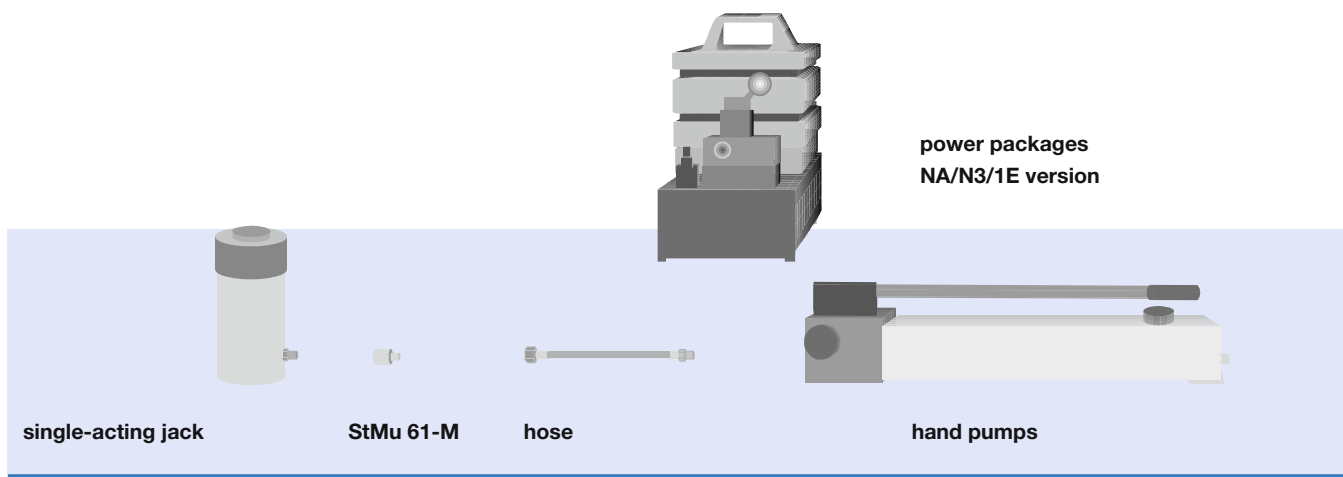
700 bar

Cylinders and accessories	61 – 89
Hand pumps, Foot pumps and accessories	90 – 96
Air hydraulic pumps	97
Motor pumps and accessories	98 – 108
Hydraulic oil	109
Micro Power Pack	110 – 111
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Screw couplers, hoses, Screw connectors	114 – 115
Distributor valves, ADV 1, hand operated valves	116 – 117
Mini cutter set and spreading wedge	118 – 119
Pullers, Puller sets	120 – 121
Workshop presses	122 – 123

1000 – 5000 bar

Cylinders and accessories	126 – 127
Quick couplers, hoses, Screw connectors, hydraulic oil	128 – 129
Pressure multipliers	130 – 131

Connection versions



Single-acting light-alloy cylinders with spring return 6 t up to 100 t

500 bar



LFO, LFM, LFZ cylinders are made of high strength light alloy and are easy to transport due to their low weight. They are mainly used on construction sites and for repair work in factories and workshops.

The LF. cylinder series is distinguished by flexible design of the differently equipped versions. This means greater flexibility when installing in machines and plants. The cylinders can be supplied without a collar thread, with metric or inch thread dimensions. Further options are fixing bores in the bottom of the cylinder and the piston rod.

Features & Benefits:

- ▲ Resistant against lateral load
- ▲ Scraper rings against pollution and wear
- ▲ Fully loadable stroke limitation
- ▲ Strong return spring - fast piston retraction even with large cylinders
- ▲ Flexibility for external thread and connecting bore
- ▲ Equipped with LUKAS quick coupler
- ▲ On request: fixing bores in the cylinder base and internal threads in the piston rod
- ▲ Cylinder accessories rated for 100% cylinder capacity

LFO without collar thread and pressure port M 18x1,5

type	order no.	lifting cap. kN	stroke mm	effective area cm ²	oil cap. l	A mm	B Ø mm	C Ø mm	D Ø mm	E mm	F=B Ø mm	G mm	H mm	J mm	weight kg
LFO 6/20	85144/1704	63	20	12,6	0,03	65	56	32	16	21	56	---	16	5	0,9
LFO 6/50	85144/1808	63	50	12,6	0,06	160	58	32	16	23	58	---	20	5	1,4
LFO 6/160	85144/1813	63	160	12,6	0,20	270	58	32	16	23	58	---	20	5	2,5
LFO 10/50	85144/2208	98	50	19,6	0,10	186	70	40	16	23	70	---	29	6	2,7
LFO 10/160	85144/2213	98	160	19,6	0,31	296	70	40	16	23	70	---	29	6	4,2
LFO 16/50	85144/2608	156	50	31,2	0,16	205	85	50	25	40	85	---	30	7	5,2
LFO 16/160	85144/2613	156	160	31,2	0,50	315	85	50	25	40	85	---	30	7	6,4
LFO 25/50	85144/3008	251	50	50,3	0,25	215	127	63	25	40	127	---	30	7	9
LFO 25/100	85144/3011	251	100	50,3	0,50	265	127	63	25	40	127	---	30	7	11
LFO 25/200	85144/3014	251	200	50,3	1,01	365	127	63	25	40	127	---	30	7	15
LFO 40/50	85144/3408	393	50	78,5	0,39	224	146	90	25	30	146	---	30	9	11
LFO 40/200	85144/3414	393	200	78,5	1,57	374	146	90	25	30	146	---	30	9	17
LFO 63/50	85144/3808	614	50	122,7	0,61	225	175	110	25	41	175	---	30	9	15,5
LFO 63/160	85144/3813	614	160	122,7	1,96	341	175	110	25	41	175	---	30	9	22,5
LFO 63/200	85144/3814	614	200	122,7	2,45	384	175	110	25	41	175	---	30	9	25
LFO 100/32*	85144/4106	1005	32	201	0,65	125	220	140	40	25	---	---	25	-	35
LFO 100/50	85144/4208	1005	50	201	1,01	265	220	140	40	55	220	---	30	9	29,5
LFO 100/200	85144/4214	1005	200	201	4,02	415	220	140	40	55	220	---	30	9	44

*Steel cylinder without spring return

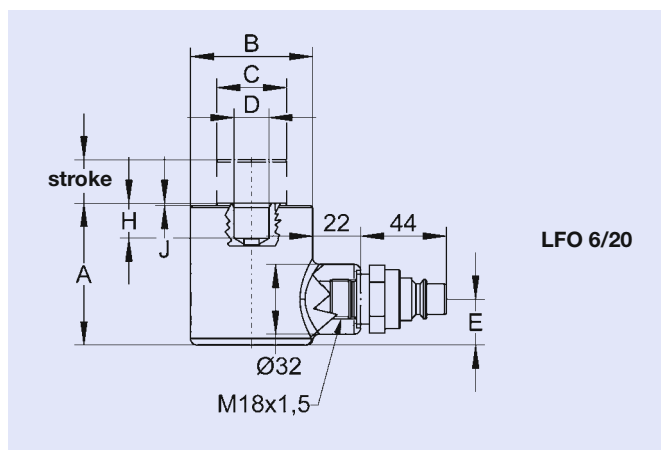
LFM with metric collar thread and pressure port M 18x1,5

type	order no.	lifting cap. kN	stroke mm	effective area cm ²	oil cap. l	A mm	B Ø mm	C Ø mm	D Ø mm	E mm	F Ø mm	G mm	H mm	J mm	weight kg
LFM 6/50	85145/1808	63	50	12,6	0,06	160	58	32	16	23	M55x2	42	16	5	1,4
LFM 6/160	85145/1813	63	160	12,6	0,20	270	58	32	16	23	M55x2	42	20	5	2,5
LFM 10/50	85145/2208	98	50	19,6	0,10	186	70	40	16	23	M68x2	50	29	6	2,7
LFM 10/160	85145/2213	98	160	19,6	0,31	296	70	40	16	23	M68x2	50	29	6	4,2
LFM 16/50	85145/2608	156	50	31,2	0,16	205	85	50	25	40	M85x2	60	30	7	5,2
LFM 16/160	85145/2613	156	160	31,2	0,50	315	85	50	25	40	M85x2	60	30	7	6,4
LFM 25/25*	85145/3005	251	25	50,3	0,15	101	110	63	25	21	M110x3	55	25	1	6,7
LFM 25/50	85145/3008	251	50	50,3	0,25	215	127	63	25	40	M120x3	70,5	30	7	9
LFM 25/100	85145/3011	251	100	50,3	0,50	265	127	63	25	40	M120x3	70,5	30	7	11
LFM 25/200	85145/3014	251	200	50,3	1,01	365	127	63	25	40	M120x3	70,5	30	7	15
LFM 40/50	85145/3408	393	50	78,5	0,39	224	146	90	25	30	M140x3	70,5	30	9	11
LFM 40/200	85145/3414	393	200	78,5	1,57	374	146	90	25	30	M140x3	70,5	30	9	17
LFM 63/50	85145/3808	614	50	122,7	0,61	225	175	110	25	41	M170x3	70,5	30	9	15,5
LFM 63/160	85145/3813	614	160	122,7	1,96	341	175	110	25	41	M170x3	70,5	30	9	22,5
LFM 63/200	85145/3814	614	200	122,7	2,45	384	175	110	25	41	M170x3	70,5	30	9	25
LFM 100/50	85145/4208	1005	50	201	1,01	265	220	140	40	55	M220x4	70	30	9	29,5
LFM 100/200	85145/4214	1005	200	201	4,02	415	220	140	40	55	M220x4	70	30	9	44

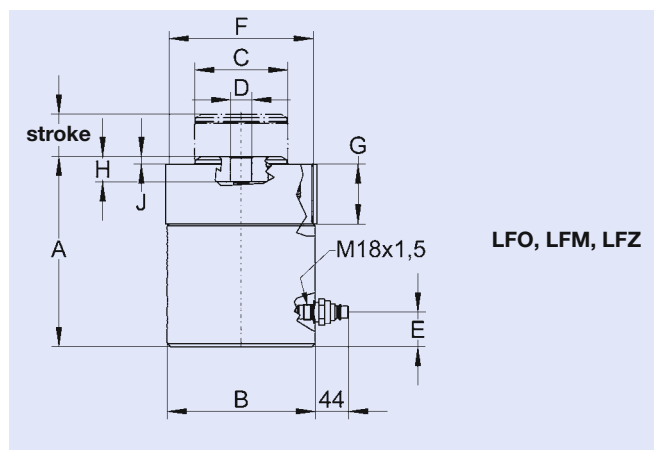
*without spring return

LFZ mit inch(Zoll) Außengewinde und Kupplungsanschluss M 18x1,5

type	order no.	lifting cap. kN	stroke mm	effective area cm ²	oil cap. l	A mm	B Ø mm	C Ø mm	D Ø mm	E mm	F Ø mm	G mm	H mm	J mm	weight kg
LFZ 6/50	85134/1808	63	50	12,6	0,06	160	58	32	16	23	2¼"-14 UNS	43,1	16	5	1,4
LFZ 6/160	85134/1813	63	160	12,6	0,20	270	58	32	16	23	2¼"-14 UNS	43,1	20	5	2,5
LFZ 10/50	85134/2208	98	50	19,6	0,10	186	70	40	16	23	2¾"-16 UNS	50,9	29	6	2,7
LFZ 10/160	85134/2213	98	160	19,6	0,31	296	70	40	16	23	2¾"-16 UNS	50,9	29	6	4,2
LFZ 16/50	85134/2608	156	50	31,2	0,16	205	85	50	25	40	3⅝"-12 UNS	59,8	30	7	5,2
LFZ 16/160	85134/2613	156	160	31,2	0,50	315	85	50	25	40	3⅝"-12 UNS	59,8	30	7	6,4
LFZ 25/50	85134/3008	251	50	50,3	0,25	215	127	63	25	40	5"-12 UN	74	30	7	9
LFZ 25/100	85134/3011	251	100	50,3	0,50	265	127	63	25	40	5"-12 UN	74	30	7	11
LFZ 25/200	85134/3014	251	200	50,3	1,01	365	127	63	25	40	5"-12 UN	74	30	7	15
LFZ 40/50	85134/3408	393	50	78,5	0,39	224	146	90	25	30	5¾"-12 UN	73,5	30	9	11
LFZ 40/200	85134/3414	393	200	78,5	1,57	374	146	90	25	30	5¾"-12 UN	73,5	30	9	17
LFZ 63/50	85134/3808	614	50	122,7	0,61	225	175	110	25	41	6⅞"-12 UN	72,8	30	9	15,5
LFZ 63/160	85134/3813	614	160	122,7	1,96	341	175	110	25	41	6⅞"-12 UN	72,8	30	9	22,5
LFZ 63/200	85134/3814	614	200	122,7	2,45	384	175	110	25	41	6⅞"-12 UN	72,8	30	9	25
LFZ 100/50	85134/4208	1005	50	201	1,01	265	220	140	40	55	8½"-12 UN	71	30	9	29,5
LFZ 100/200	85134/4214	1005	200	201	4,02	415	220	140	40	55	8½"-12 UN	71	30	9	44



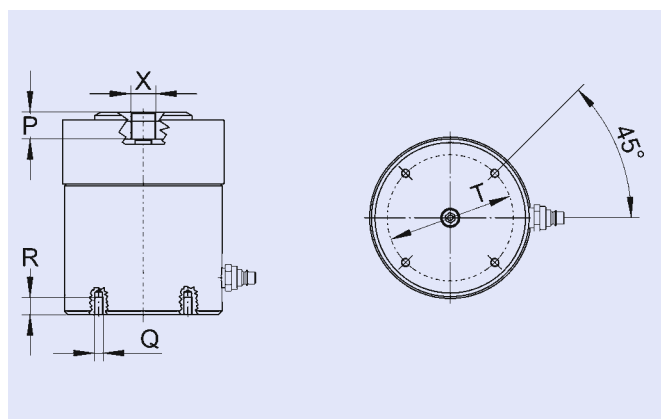
LFO 6/20



LFO, LFM, LFZ

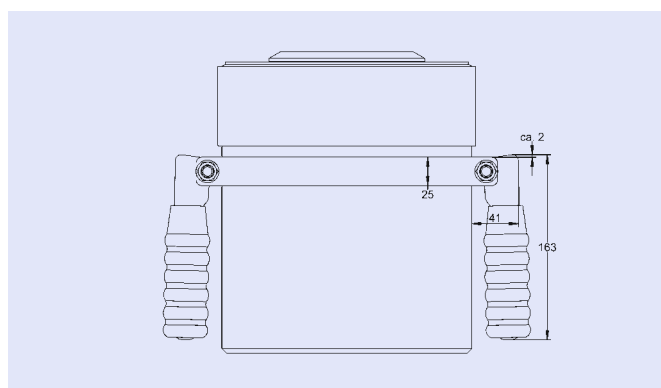
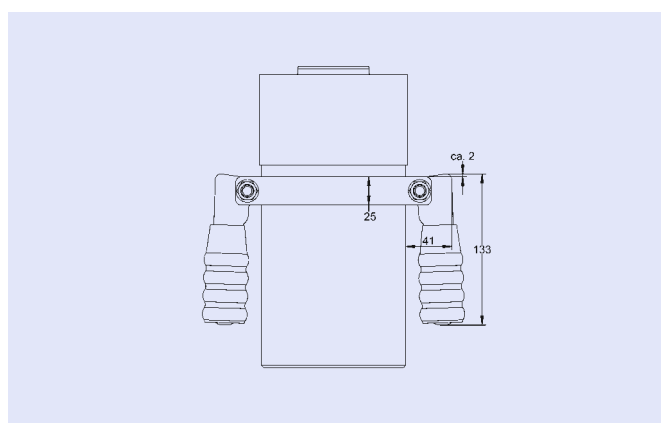
500 bar

Optionally with fixing holes in the piston rod and the cylinder base.



	X	P	Q	R	T
LFO 6/20	M 18 x 1,5	10 mm	--	--	--
LF. 6/..	M 18 x 1,5	13,5 mm	M 6	10 mm	35 mm
LF. 10/..	M 18 x 1,5	22,5 mm	M 6	10 mm	50 mm
LF. 16/..	M 27 x 2	22,5 mm	M 8	13 mm	66 mm
LF. 25/..	M 27 x 2	24 mm	M 8	13 mm	88 mm
LF. 40/..	M 27 x 2	30 mm	M 10	19 mm	110 mm
LF. 63/..	M 27 x 2	30 mm	M 10	19 mm	140 mm
LF. 100/..	--	--	M 12	24 mm	185 mm

Handles



for	order no.	weight
LF. 25/50	83145/3066	0,9 kg
LF. 25/100	83145/3066	0,9 kg
LF. 25/200	83145/3066	0,9 kg
LF. 40/50	83145/3466	0,9 kg
LF. 40/200	83145/3466	0,9 kg
LF. 63/50	83148/3966	1,0 kg
LF. 63/160	83148/3966	1,0 kg
LF. 63/200	83148/3966	1,0 kg



for	order no.	weight
LF. 100/50	83145/4266	1,2 kg
LF. 100/200	83145/4266	1,2 kg

Cylinder Accessories LFM, LFZ

100% loadable

For better protection of the piston we recommend to use **piston saddles** or other special saddles.

Prism saddles are used for pushing special-shaped material.

Tilting saddles are put on the piston for compensating arc movements, e. g. when a load is lifted only on one side. As the tilting saddle is a piston-side accessory.

Base plates increase the cylinder area for better stability.

Use extensions only with centre power transfer!
 Never put two extensions one upon another!

	mm	mm	weight kg	order no.
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(1) piston saddles for

LF. 6, LF. 10	17	40	0,2	84128/5002
LF. 16, LF. 25	20	63	0,6	84128/5004
LF. 40	24	80	1,0	84128/5005
LF. 63	24	110	1,9	84128/5006
LF. 100	28	120	2,7	84128/5007

(2) Spherical saddles for

LF. 6, LF. 10	15	32	0,1	84128/1509
LF. 16	10	48	0,35	84128/1513
LF. 25	15	60	0,45	84128/1514

(3) Prism saddles for

LF. 6, LF. 10	31	46	0,3	84031/77
LF. 16, LF. 25	45	70	0,9	84031/52

(4) (5) Tilting saddles for

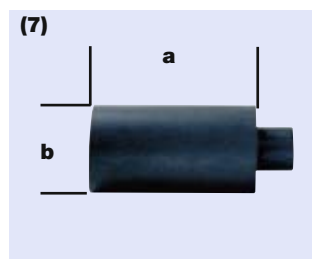
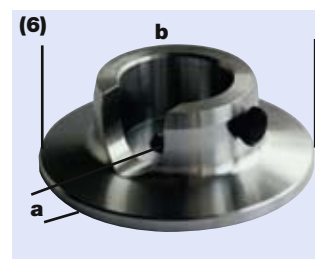
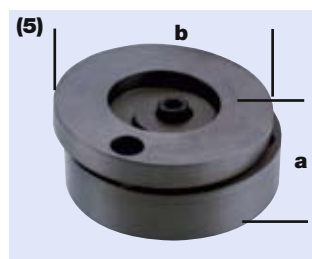
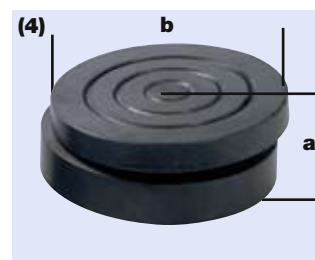
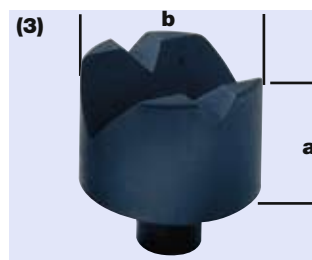
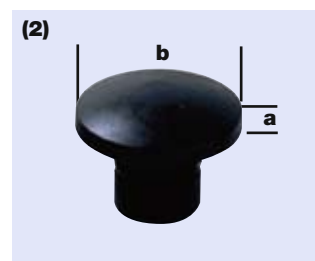
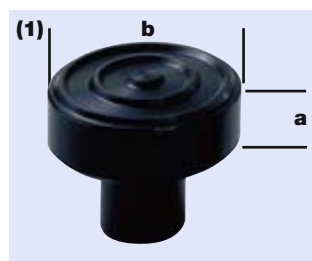
LF. 6, LF. 10	20	50	0,3	84128/5063
LLF. 16, LF. 25	20	63	0,3	84128/5062
LF. 40	29	80	1,1	84128/5065
LF. 63	45	110	3,0	84128/1624

(6) Base plates for

LF. 6	10	118	0,6	83145/0605
LF. 10	16	138	1,0	83145/0606
LF. 16	17	158	1,3	84128/0607
LF. 25	23	198	2,3	83145/0608
LF. 40	27	218	3,9	83145/0609
LF. 63	20	300	7,4	83145/1319
LF. 100	20	300	9,0	84128/1320

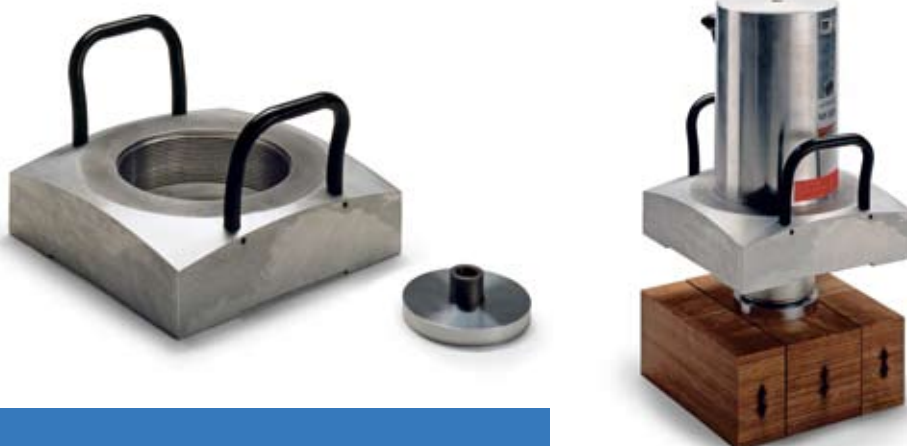
(7) Extensions for

LF. 6, LF. 10	100	32	0,63	84031/8101
LF. 16, LF. 25	100	50	4,0	84031/07
LF. 16, LF. 25	200	50	8,0	84031/08



Support frames and support blocks for multistage lifters

500 bar



Cylinder types LFM 63/200 resp. LFM 100/200 are screwed into the threaded bore of the support frame. By alternate supporting of the support frame (cylinder is extended) and the piston (cylinder is retracted again) it is possible to lift a load step by step up to 4 times of the piston stroke. For stabilizing LUKAS offers stable and

rugged sets of support blocks. Every set consists of three support blocks, two for the frame and one for supporting the piston. For sufficient stability we recommend to use no more than three sets.

Support frame set incl. piston guard plate

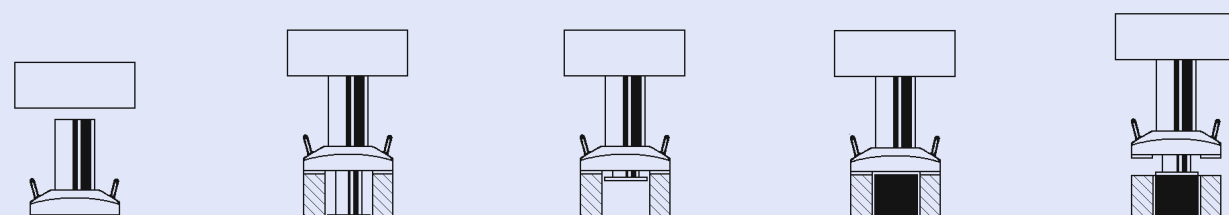
for single-acting cylinder	dimensions lxwxh	weight	order no.
LFM 63/200	350 x 350 x 100 mm	27,5 kg	84143/3890
LFM 100/200	350 x 350 x 100 mm	23,5 kg	84143/4290

for double-acting cylinder	dimensions lxwxh	weight	order no.
LDM 100-40/200	350 x 350 x 100 mm	23,5 kg	84143/4395

Set of support blocks

for single-acting cylinder	height	weight	order no.
LFM 63/200	150 mm	30,1 kg	84072/1255
LFM 100/200	150 mm	24,2 kg	84098/5650

for double-acting cylinder	height	weight	order no.
LDM 100-40/200	150 mm	24,2 kg	84098/5650



Hollow piston cylinders



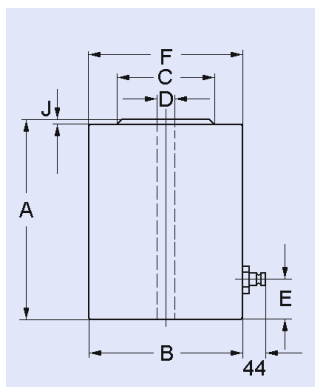
Hollow piston cylinders have pistons with through bores. Besides normal lifting works they are mainly employed for pulling in connection with a rod accommodated by the through bore. Thus they can be used for

mounting or dismounting of bearings or for tensioning steel wire ropes.

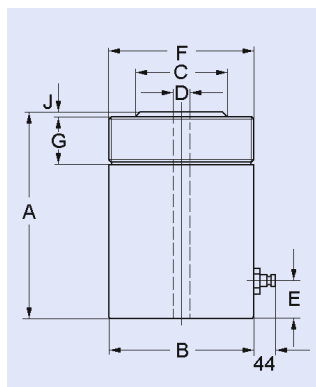
They are made of high-strength light metal alloy for lowest possible weight and corrosion resistance.

Features & Benefits:

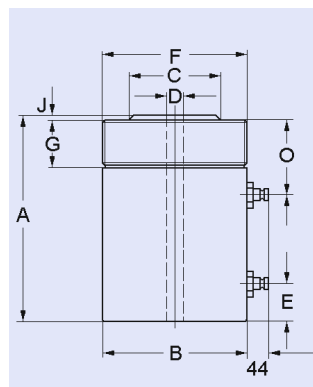
- ▲ High lateral load tolerance
- ▲ Scraper ring against pollution and wear
- ▲ Fully loadable stroke limitation
- ▲ Spring return for fast piston retraction of smaller models
- ▲ Pistons of large models are retracted hydraulically
- ▲ Automatic overload protection of the rod side through safety couplers StNi 6-D
- ▲ LZMH cylinders with external metric thread
- ▲ On request threaded fixing bores in the cylinder base



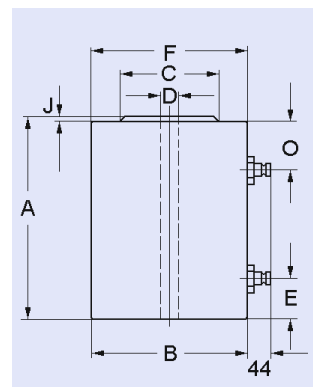
LZOH single-acting
(without external thread)



LZMH single-acting
(with external thread)



LZMH double-acting
(with external thread)

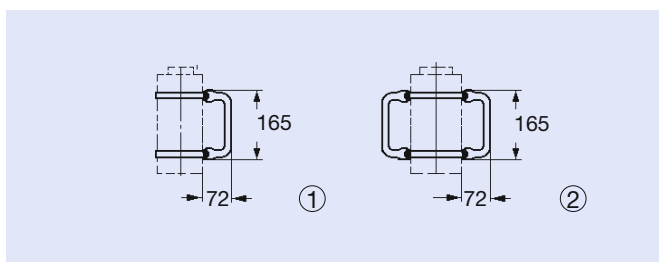


LZOH double-acting
(without external thread)

type	Order no.	Lifting cap.	Stroke	Eff. area	Oil cap.	A	B	C	D	E	F	G	J	O	weight
		kN	mm	cm ²	l	mm	Ø mm	Ø mm	Ø mm	mm	mm	mm	mm	mm	kg
single-acting															
LZOH 10/50-20,5	84142/2108	120	50	24,1	0,1	147	85	45	20,5	22	--	--	2	--	3,2
LZMH 25/50-33	84142/3008	238	50	47,7	0,25	225	125	63	33	23	M 100x2	50	10	--	7,9
LZMH 25/100-33	84142/6011	238	100	47,7	0,5	285	125	63	33	23	M 100x2	50	10	--	10,0
LZMH 40/100-37	84142/6411	377	100	75,4	0,8	275	150	80	37	23	M 150x3	50	14	--	13,2
double-acting															
LZMH 40/200-37	84142/3414	377	200	75,4	0,6*)	375	150	80	37	23	M 150x3	50	14	70	16,5
LZMH 63/200-59	84142/3814	632	200	126,5	1,1*)	415	205	115	59	30	M 205x4	60	15	85	34,0
LZOH 100/200-74	84142/4114	1178	200	235,6	2,5*)	435	270	160	74	30	--	--	17	90	63,0

*) effective oil capacity

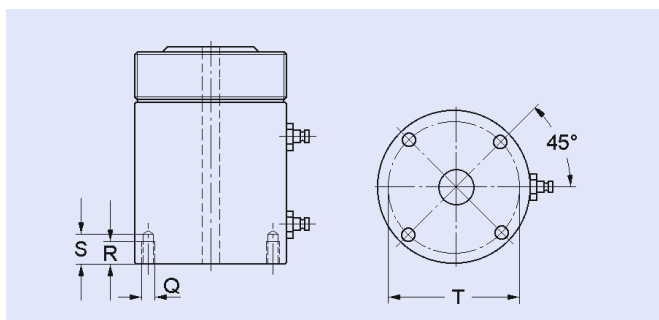
Handles



Equipped with handles: LZMH 40/100-37,
LZMH 40/200-37 and LZMH 63/200-59

for	order no.	weight kg
LZMH 40/100-37 ①	84128/0403	0,4
LZMH 40/200-37 ①	84128/0403	0,4
LZMH 63/200-59 ②	84128/0405	0,7
LZOH 100/200-74 ②	84128/0407	0,7

Optionally with fixing bores in the cylinder base



	Q	R	S	T
LZOH 10/50-20,5	M 8	13	18	66
LZMH 25/50-33	M 8	13	18	100
LZMH 25/100-33	M 8	13	18	100
LZMH 40/100-37	M 8	13	18	125
LZMH 40/200-37	M 8	13	18	125
LZMH 63/200-59	M 10	19	24,5	175
LZOH 100/200-74	M 12	24	30	240

Double-acting light-alloy cylinders 10 t up to 100 t



LUKAS LDO, LDM, LDZ cylinders are made of high strength light alloy and are easy to transport due to their low weight. They are mainly used on construction sites and for repair work in factories and workshops.

The LD... cylinder series is distinguished by flexible design of the differently equipped versions. This means

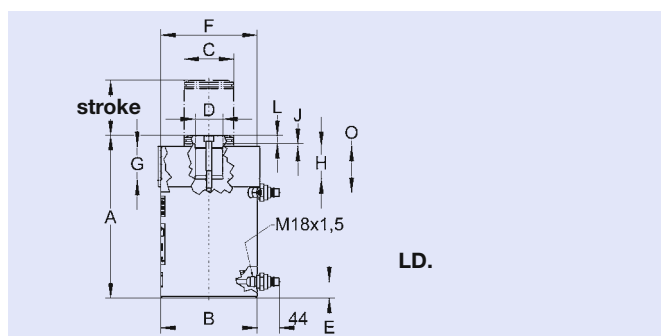
greater flexibility when installing in machines and plants. The cylinders can be supplied without a collar thread, with metric or inch thread dimensions. Further options are fixing bores in the bottom of the cylinder.

Features & Benefits:

- ▲ Resistant against lateral load
- ▲ Scraper rings against pollution and wear
- ▲ Fully loadable stroke limitation
- ▲ Hydraulic return can also be used for pulling operations
- ▲ Flexibility for collar thread and pressure port thread
- ▲ Equipped with LUKAS quick couplers

Technical specifications of all versions

types	lifting cap. kN	pulling cap. kN	stroke mm	eff. area (pushing) cm ²	effective area (pulling) cm ²	required oil cap. l	weight kg
LDO/LDM/LDZ 10-5/200	98	47	200	19,6	9,5	0,20	9
LDO/LDM/LDZ 25-12/200	251	128	200	50,3	25,6	0,49	14
LDO/LDM/LDZ 40-20/100	393	200	100	78,5	40,1	0,38	15
LDO/LDM/LDZ 40-20/150	393	200	150	78,5	40,1	0,58	17
LDO/LDM/LDZ 40-20/200	393	200	200	78,5	40,1	0,77	19
LDO/LDM/LDZ 63-30/100	614	296	100	122,7	59,1	0,64	22
LDO/LDM/LDZ 63-30/150	614	296	150	122,7	59,1	0,95	24
LDO/LDM/LDZ 63-30/200	614	296	200	122,7	59,1	1,27	27
LDO/LDM/LDZ100-40/150	1005	440	150	201,1	88,0	1,70	40
LDO/LDM/LDZ100-40/200	1005	440	200	201,1	88,0	2,26	45



LDO without collar thread and pressure port M 18 x 1,5

type	order-nr.	A mm	B Ø mm	C Ø mm	D	E mm	F = B Ø mm	G	H mm	J mm	L mm	O mm
LDO 10-5/200	85148/2314	330	100	36	M20x1,5	25,5	100	---	48	5	10	54,4
LDO 25-12/200	85148/3114	370	130	56	M33x1,5	27	130	---	48	5	10	70
LDO 40-20/100	85148/3511	280	150	70	M36x1,5	27	150	---	53	5	15	74,5
LDO 40-20/150	85148/3513	330	150	70	M36x1,5	27	150	---	53	5	15	74,5
LDO 40-20/200	85148/3514	380	150	70	M36x1,5	27	150	---	53	5	15	74,5
LDO 63-30/100	85148/3911	295	175	90	M50x1,5	30	175	---	59	5	15	83,5
LDO 63-30/150	85148/3913	345	175	90	M50x1,5	30	175	---	59	5	15	83,5
LDO 63-30/200	85148/3914	395	175	90	M50x1,5	30	175	---	59	5	15	83,5
LDO100-40/150	85148/4313	360	225	120	M80x2	30	225	---	68	5	15	92
LDO100-40/200	85148/4314	410	225	120	M80x2	30	225	---	68	5	15	92

LDM with metric collar thread and pressure port M 18 x 1,5

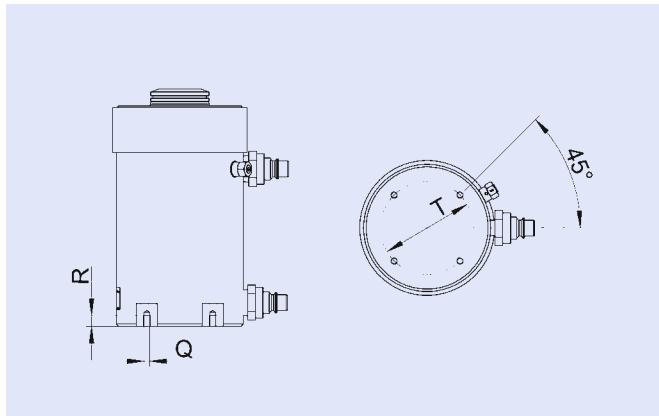
type	order-nr.	A mm	B Ø mm	C Ø mm	D	E mm	F	G mm	H mm	J mm	L mm	O mm
LDM 10-5/200	85149/2314	330	100	36	M20x1,5	25,5	M100x2	35,1	48	5	10	54,4
LDM 25-12/200	85149/3114	370	130	56	M33x1,5	27	M130x2	49,5	48	5	10	70
LDM 40-20/100	85149/3511	280	150	70	M36x1,5	27	M150x3	52,6	53	5	15	74,5
LDM 40-20/150	85149/3513	330	150	70	M36x1,5	27	M150x3	52,6	53	5	15	74,5
LDM 40-20/200	85149/3514	380	150	70	M36x1,5	27	M150x3	52,6	53	5	15	74,5
LDM 63-30/100	85149/3911	295	175	90	M50x1,5	30	M175x3	61,6	59	5	15	83,5
LDM 63-30/150	85149/3913	345	175	90	M50x1,5	30	M175x3	61,6	59	5	15	83,5
LDM 63-30/200	85149/3914	395	175	90	M50x1,5	30	M175x3	61,6	59	5	15	83,5
LDM100-40/150	85149/4313	360	225	120	M80x2	30	M220x4	70,9	68	5	15	92
LDM100-40/200	85149/4314	410	225	120	M80x2	30	M220x4	70,9	68	5	15	92

LDZ with inch size collar thread and pressure port M 18 x 1,5

type	order-nr.	A mm	B Ø mm	C Ø mm	D	E mm	F	G mm	H mm	J mm	L mm	O mm
LDZ 10-5/200	85138/2314	330	100	36	M20x1,5	25,5	3 7/8"-12 UN	35,1	48	5	10	54,4
LDZ 25-12/200	85138/3114	370	130	56	M33x1,5	27	5"-12 UN	49,5	48	5	10	70
LDZ 40-20/100	85138/3511	280	150	70	M36x1,5	27	5 3/4"-12 UN	52,6	53	5	15	74,5
LDZ 40-20/150	85138/3513	330	150	70	M36x1,5	27	5 3/4"-12 UN	52,6	53	5	15	74,5
LDZ 40-20/200	85138/3514	380	150	70	M36x1,5	27	5 3/4"-12 UN	52,6	53	5	15	74,5
LDZ 63-30/100	85138/3911	295	175	90	M50x1,5	30	6 7/8"-12 UN	61,6	59	5	15	83,5
LDZ 63-30/150	85138/3913	345	175	90	M50x1,5	30	6 7/8"-12 UN	61,6	59	5	15	83,5
LDZ 63-30/200	85138/3914	395	175	90	M50x1,5	30	6 7/8"-12 UN	61,6	59	5	15	83,5
LDZ100-40/150	85138/4313	360	225	120	M80x2	30	8 1/2"-12 UN	70,9	68	5	15	92
LDZ100-40/200	85138/4314	410	225	120	M80x2	30	8 1/2"-12 UN	70,9	68	5	15	92

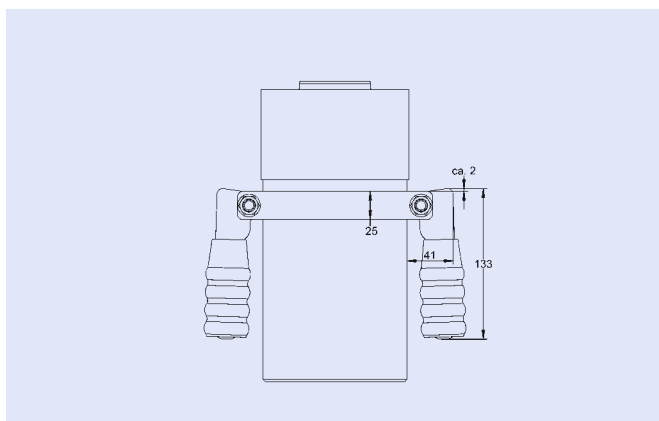
500 bar

Optionally with fixing holes in the cylinder base.

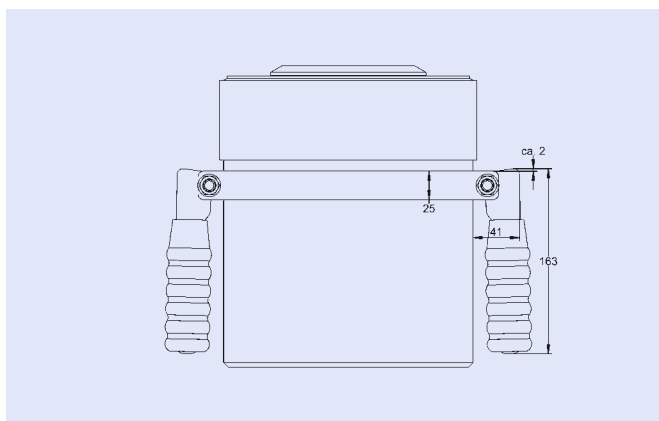


	Q	R	T
LDO / LDM / LDZ 15/...	M 6	10 mm	50 mm
LDO / LDM / LDZ 25/...	M 8	13 mm	88 mm
LDO / LDM / LDZ 40/...	M 10	19 mm	110 mm
LDO / LDM / LDZ 63/...	M 10	19 mm	140 mm
LDO / LDM / LDZ 100/...	M 12	24 mm	185 mm

Handles

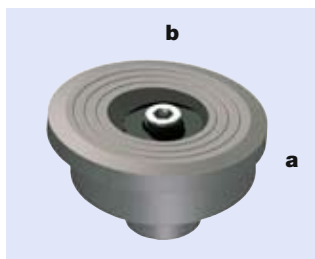


for	order no.	weight
LDO / LDM / LDZ 63-40/100	83148/3966	1,0 kg
LDO / LDM / LDZ 63-40/150	83148/3966	1,0 kg
LDO / LDM / LDZ 63-40/200	83148/3966	1,0 kg



for	order no.	weight
LDO / LDM / LDZ 25-15/200	83148/3166	1,0 kg
LDO / LDM / LDZ 40-25/100	83148/3566	1,0 kg
LDO / LDM / LDZ 40-25/150	83148/3566	1,0 kg
LDO / LDM / LDZ 40-25/200	83148/3566	1,0 kg
LDO / LDM / LDZ 100-60/150	83148/4366	1,2 kg
LDO / LDM / LDZ 100-60/200	83148/4366	1,2 kg

Tilting Saddles



Tilting saddles are put on the piston for compensating arc movements, e. g. when a load is lifted only on one side. As the tilting saddle is a piston-side accessory.

Tilting Saddle for	Bestell-Nr.	a mm	b Ø mm	tilting angle	weight
LDO / LDM / LDZ 10	83148/1623	24	50	5°	0,4 kg
LDO / LDM / LDZ 25	83148/1631	20	75	5°	0,6 kg
LDO / LDM / LDZ 40	83148/1635	32	95	5°	1,4 kg
LDO / LDM / LDZ 63	83148/1639	45	135	5°	3,9 kg
LDO / LDM / LDZ 100	83148/1643	45	155	5°	6,2 kg

Flat cylinders

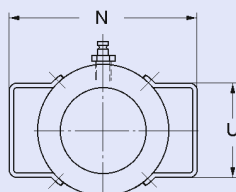
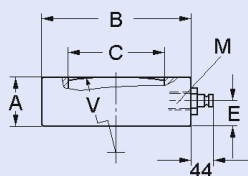
500 bar



LUKAS flat cylinders LZF are made of high-quality steel. With their extremely short collapsed height they can be used even with applications having almost no clearance at the lift points.

They are used for initial lifting of various heavy loads or machines so that those can be further lifted by larger jacks.

Further field of application: bridge building and bridge maintenance. As the flat design does not allow the use of wide guide rings lateral load should be avoided.

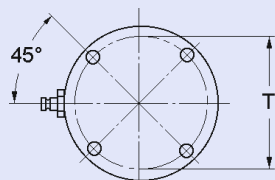
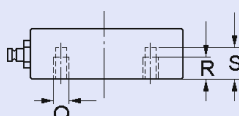


Models LZF 100/16 and LZF 160/16 are equipped with handles.

type	order no.	lifting cap. max. kN	stroke mm	effective cm ²	oil cap. l	A mm	B ø mm	C ø mm	E mm	M	N mm	U mm	V mm	weight kg
LZF 25/10	84141/2901	251	10	50,3	0,05	37	130	70	15,5	G 1/4	--	--	600	3,7
LZF 40/10	84141/3301	393	10	78,5	0,08	41	156	90	17,5	G 1/4	--	--	1000	5,9
LZF 63/10	84141/3701	613	10	122,7	0,12	46	188	115	21	G 1/4	--	--	1500	9,8
LZF 100/16	84141/4103	1005	16	201,1	0,32	59	250	150	25	M 18 x 1,5	372	152	1800	22,5
LZF 160/16	84141/4503	1571	16	314,2	0,5	73	300	185	30	M 18 x 1,5	430	152	2000	39,8

Models LZF 25/10, LZF 40/10 and LZF 63/10 are equipped with 0,5 m hose and quick couplers StNi 61.

Models LZF 100/16 and LZF 160/16 are equipped with quick couplers StNi 6.



Optionally with fixing holes in the cylinder base.

	Q	R mm	S mm	T ø mm
LZF 25/10	M 6	10	14,5	118
LZF 40/10	M 8	13	18	140
LZF 63/10	M 8	13	18	170
LZF 100/16	M 10	15	20,5	230
LZF 160/16	M 12	18	24,5	275

Telescopic cylinders



The **LUKAS telescopic cylinders** are made of high-strength light metal alloy for lowest possible weight. With their telescopic design they combine the advantages of large lifting height with those of short retracted length: even loads having low jacking points can be lifted up to 450mm in just one step. The cylinders are available in single-acting and double-acting version. Single-acting models have piston gravity return, pistons of double acting models are retracted hydraulically.

Features & Benefits:

- ▲ Corrosion resistant, robust and long service life
- ▲ Fully loadable stroke limiter for added safety
- ▲ High lateral load tolerance through wide guiding rings
- ▲ Scraper rings to prevent pollution and wear
- ▲ Quick connect couplings with automatic overload protection for high volume oil flow
- ▲ Quick stop safety function when coupling sleeve StMu 61-M is mounted on the pressure hose
- ▲ Accessory stacking sets available to increase the total lifting height

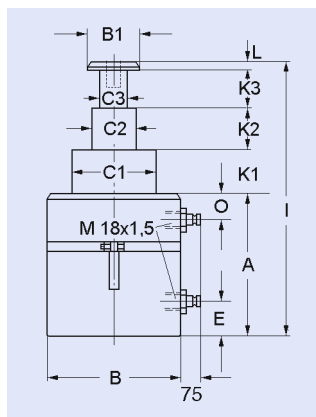
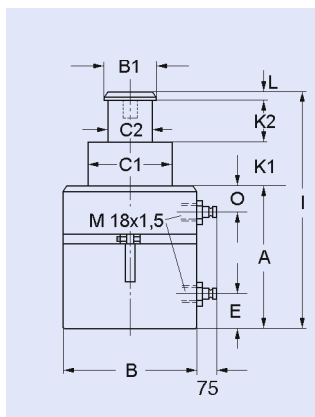
Single-acting version

type	order no.	lifting capacity piston max.			total stroke mm	retracted height with piston guard plate mm	effective piston area			oil volume l	weight kg
		1	2	3			1	2	3		
		kN						cm ²			
HP 10/T 280E	84072/4680 N	614	284	98	278	215	122,7	56,8	19,7	1,8	14,4
HP 25/T 185E	84072/1580 N	614	284	--	184	215	122,7	56,8	--	1,65	14,0
HP 25/T 450E	84072/3780 N	614	284	--	450	380	122,7	50,3	--	3,85	24,0
HP 50/T 185E	84072/8280 N	1005	475	--	185	234	201,1	95,0	--	2,7	24,0
HP 50/T 400E	84072/8080 N	1005	475	--	399	400	201,1	95,0	--	5,9	41,0
HP 65/T 400E	84072/1080 N	1571	664	--	397	400	314,2	132,7	--	8,9	63,0

Double-acting version

type	order no.	lifting capacity piston max.			total stroke mm	retracted height with piston guard plate mm	effective piston area			oil volume l	weight kg
		1	2	3			1	2	3		
		kN						cm ²			
HP 10/T 280R	84072/4670 N	614	284	98	278	215	122,7	56,8	19,7	1,4	14,4
HP 25/T 185R	84072/1570 N	614	284	--	184	215	122,7	56,8	--	1,3	14
HP 25/T 450R	84072/3770 N	614	251	--	450	380	122,7	50,3	--	2,8	24
HP 50/T 185R	84072/8270 N	1005	475	--	185	234	201,1	95,0	--	2,0	24
HP 50/T 400R	84072/8070 N	1005	475	--	399	400	201,1	95,0	--	4,3	41
HP 65/T 400R	84072/1070 N	1571	664	--	397	400	314,2	132,7	--	7,0	63

500 bar

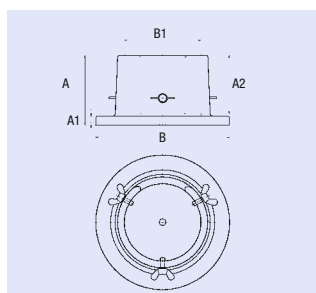


All telescopic rams are equipped with carrying handles and piston guard plates.

In single-acting version without coupling on the piston rod side!

type		A	B	B1	C1	C2	C3	E	I	K1	K2	K3	L	O
		mm	Ø mm	Ø mm	Ø mm	Ø mm	Ø mm	mm	mm	mm	mm	mm	mm	mm
HP 10/T 280	(E+R)	200	170	98	110	75	40	25	492	90	95	95	15	52
HP 25/T 185	(E+R)	200	170	98	110	75	--	25	399	95	90	--	15	52
HP 25/T 450	(E+R)	365	170	98	110	63	--	38	827	220	227	--	15	52
HP 50/T 185	(E+R)	218	220	139	140	90	--	32	384	89	96	--	20	55
HP 50/T 400	(E+R)	380	220	139	140	90	--	38	799	195	205	--	20	70
HP 65/T 400	(E+R)	380	270	139	180	110	--	48	799	200	200	--	20	78

Base plates



Base plates increase the cylinder basis for more stability. We recommend to use base plates for all lifting operations.

base plate for	order no.	A	A1	A2	B	B1	weight
		mm	mm	mm	mm	mm	kg
HP 10/T... and HP 25/T...	84128/1319	155	20	135	300	172	10,8
HP 50/T...	84128/1320	155	20	135	300	222	14,7

Baseplate for HP 65 on request

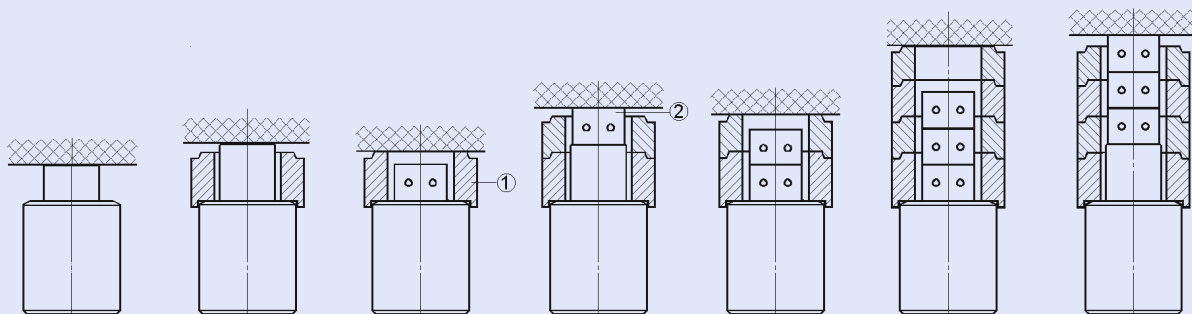
Stacking sets for Telescopic Rams



If there is only space for low-stroke telescopic cylinders below a load, the lifting height, which can be reached, is increased up to 275 mm by using stacking sets. The increase of the lifting height results from the amount and heights of the piston plates and stacking rings.

During lifting piston plates and stacking rings are used stepwise, i.e. when the piston is fully extended a stacking ring is placed on the cylinder body and the load is lowered onto it. The piston is retracted so that the piston plate can be inserted. Now lifting can be started again.

stacking set for		order no.	stacking ring ① quantity/height mm	piston plate ② quantity/height mm	piston guard plate quantity/height mm	fork lever quantity	extension of lifting height max. mm	total weight kg
HP 10 / T...	(R)	84072/8863	4 / 65	3 / 65 + 1 / 45	1 / 17	1	240	14,5
HP 25 / T...	(R)	84072/8863	4 / 65	3 / 65 + 1 / 45	1 / 17	1	240	14,5
HP 50 / T185	(R)	84072/8763	4 / 65	3 / 65 + 1 / 45	1 / 20	1	240	21
HP 50 / T400	(R)	84072/8263	2 / 150	1 / 150 + 1 / 123	1 / 20	1	273	22,2
HP 65 / T...	(R)	84072/8463	3 / 133,4	2 / 135 + 1 / 100	1 / 20	1	490	41



Pulling cylinder

500 bar

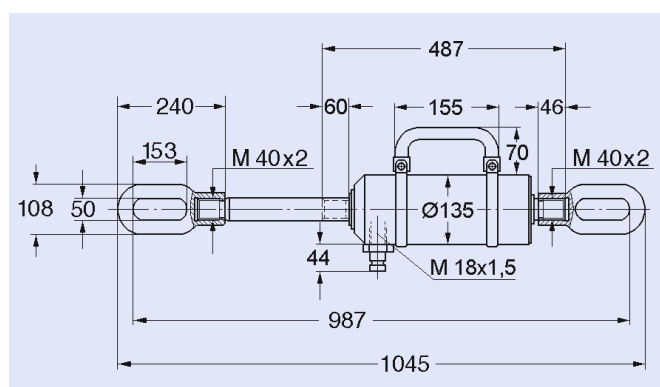


The **LUKAS pulling cylinder HP 30/Z 200** is used for precision pulling work e.g. in shipyards or on construction sites. With its long stroke of 200 mm this model is the ideal tool for drawing together prefabricated metal modules for welding. The light metal cylinder body makes the ram very light so that the application is considerably facilitated.

For high lateral load tolerance the cylinder is equipped with a wide guiding ring which serves also as a fully loadable stroke limitation.

When the pulling job is finished the piston is spring-retracted to its initial (extended) position.

type	order no.	pulling force	stroke	effective area	oil capacity.	weight
HP 30/Z 200	84183/2-2010	313 kN	200 mm	62,6 cm ²	1,25 l	23,8 kg



The pulling ram is equipped with a carrying handle.

Hand pumps LH 1/LH 2 for single- and double-acting cylinders

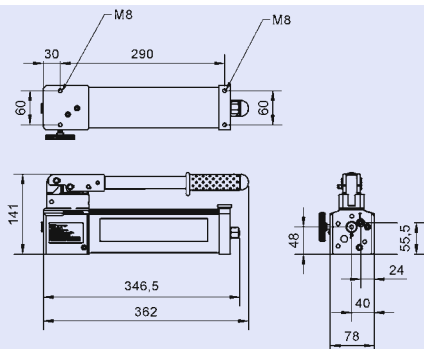


Robust two-stage hand pumps with automatic switch-over from low to high pressure. They can be used in horizontal and vertical position with the pump head facing

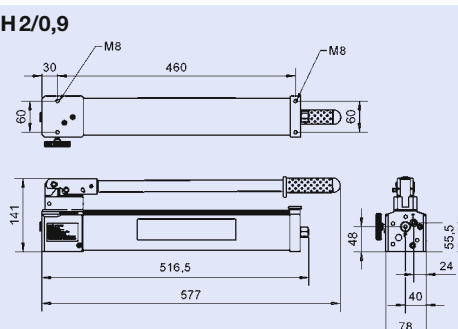
downwards. Precise lowering of a lifted load is possible with the hand wheel on the drain valve.

type	order no.	oil capacity l	usable oil capacity l	delivery per stroke low pressure cm ³	automatic switchover at MPa (bar)	delivery per stroke high pressure cm ³	weight kg
LH 1/0,5-50	84129/1120	0,7	0,47	6,0	2 (20)	0,8	4,0
LH 1/0,9-50	84129/1130	1,3	0,9	6,0	2 (20)	0,8	5,2
LH 2/0,9-50	84129/2130	1,3	0,9	17,0	2 (20)	1,7	5,2
LH 2/1,8-50	84129/2140	2,3	1,8	17,0	2 (20)	1,7	6,5
LH 2/3,8-50	84129/2150	4,5	3,8	17,0	2 (20)	1,7	10,8

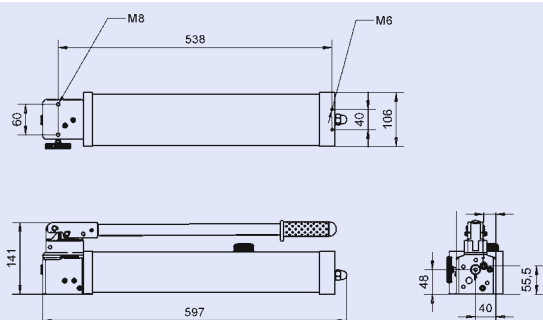
LH1/0,5



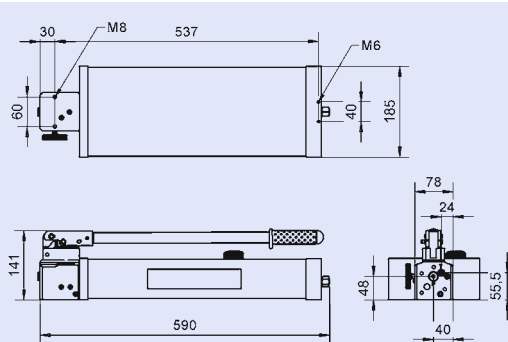
LH1/0,9 · LH2/0,9



LH2/1,8



LH2/3,8



Accessories for hand pumps



N4/3W



N2W



N4M

500 bar



MA3

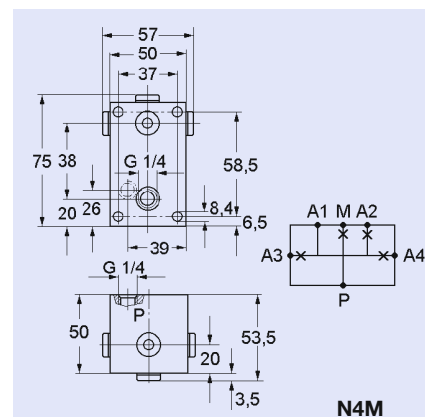
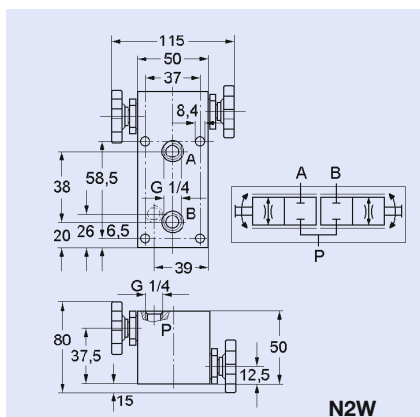
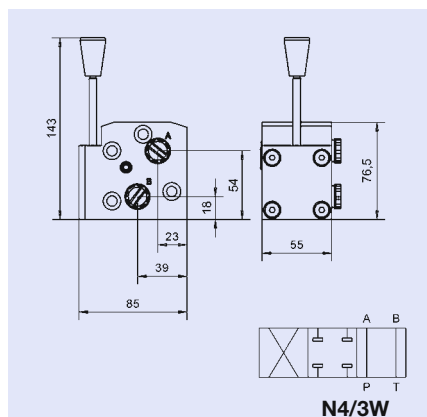
**Connection plate ASP2
for N2W and N4M**



Conversion sets suitable for LH1, LH2

type	order no.	dimensions (l x w x h) mm	weight kg	
4/3-way valve N4/2W	84129/7110	55 x 85 x 143	1,5	Control valve for one double-acting cylinder
2-way distributor valve N2W	84148/9903*	115 x 80 x 114	2,1	Distributor valve used to divide one oil flow into two individual flows. Both oil flows can be regulated and matched to one another.
Connection plate ASP2	84129/7413	68 x 76,5 x 20	0,3	please order separately
Oil distributor with pressure gauge connection N4M	84148/9905*	57 x 54 x 75	1,4	To divide one flow oil into 5 individual oil flows; e.g. 4 tool connections and 1 pressure gauge adapter (MA2).
Connection plate ASP2	84129/7413	68 x 76,5 x 20	0,3	please order separately
Pressure gauge connector MA3	84126/5232		0,8	Position of pressure gauge 30° resp. 90°

* can be mounted in a hose- resp. a tube system



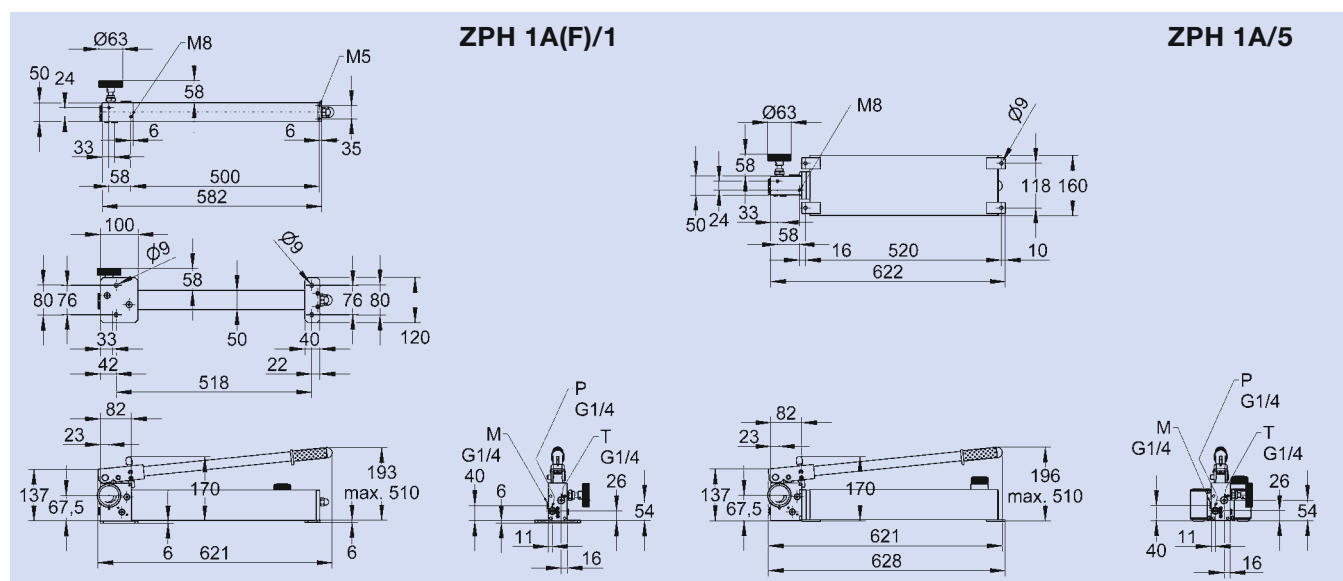
Hand pumps ZPH 1A./... for single- and double-acting cylinders



LUKAS hand pumps ZPH 1A./... are robust and easy to operate two-stage pumps with automatic switch-over from low pressure (LP) to high pressure (HP) mode. The basic version is suitable for operation of a single-acting cylinder.

Features & Benefits:

- ▲ High LP/HP switch-over pressure for fast extension of a cylinder without load
- ▲ Modular valve kits for easy upgrading to operation of one double-acting or several single-acting cylinders
- ▲ Precise lowering of a load by means of hand operated drain valve
- ▲ Usable in horizontal and vertical (pump head facing downwards) position



type	order no.	hand lever force at 50 MPa	oil capacity l	usable oil capacity l	delivery per stroke low pressure cm ³	automatic switchover at MPa (bar)	delivery per stroke high pressure cm ³	weight kg
ZPH 1A/1	84120/0120	26 kg	1,3	1,1	10	10 (100)	1,6	7,7
ZPH 1AF/1*	84120/3120	26 kg	1,3	1,1	10	10 (100)	1,6	7,9
ZPH 1A/5	84120/0122	26 kg	5,2	4,5	10	10 (100)	1,6	13,1

*ZPH 1AF/1 with stable base plate · ZPH 1A/1 mounting version without base plate

500 bar



N4/2W



N2W



N4M



NFP

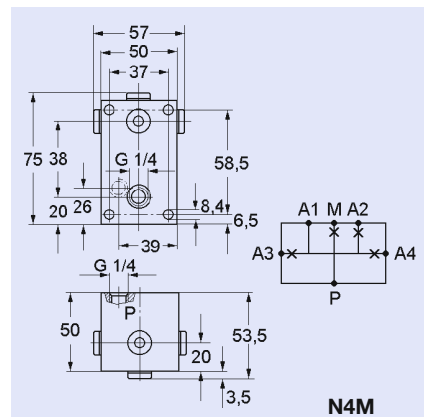
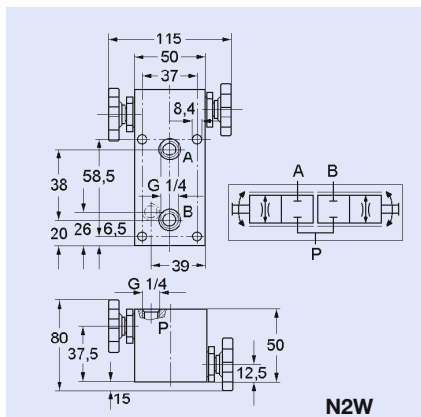
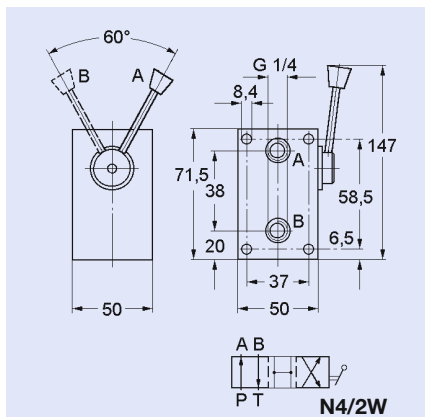
**MA3**

MA2

Conversion sets suitable for ZPH 1A./...

type	order no.	dimensions (l x w x h) mm	weight kg	
4/2-way valve N4/2W	84111/9848	80 x 50 x 147	1,5	Control valve for one double-acting cylinder
2-way distributor valve N2W	84148/9903*	115 x 80 x 114	2,1	Distributor valve used to divide one oil flow into two individual flows. Both oil flows can be regulated and matched to one another.
Oil distributor with pressure gauge connection N4M	84148/9905*	57 x 54 x 75	1,4	To divide one flow oil into 5 individual oil flows; e.g. 4 tool connections and 1 pressure gauge adapter (MA2).
Pressure gauge connector MA3	84126/5232		0,8	Position of pressure gauge 30° resp. 90°
Pressure gauge connector MA2	84126/5231		0,15	Pressure gauge laterally on pump head
Foot pump NFP	84120/2-0001	--	0,6	Conversion set for foot operation.

* can be mounted in a hose- resp. a tube system



Hand pumps ZPH 3/... for single- and double-acting cylinders with large oil volume

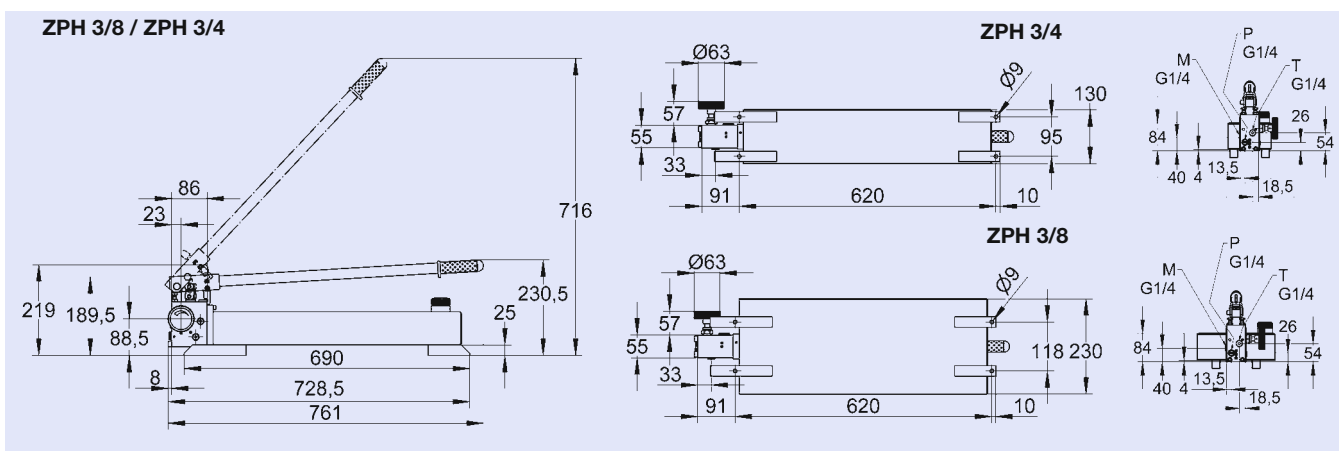


LUKAS Handpumps ZPH 3... are robust and easy to operate two-stage pumps with automatic switch-over from low pressure (LP) to high pressure (HP) mode. The basic version is suitable for operation of a single-acting cylinder.

Features & Benefits:

▲ Modular valve kits for easy upgrading to operation of one double-acting or several single-acting cylinders

- ▲ Big oil container
- ▲ High LP/HP switch-over pressure for fast extension of a cylinder without load
- ▲ High HP oil delivery for fast extension of a cylinder with load
- ▲ Precise lowering of a load by means of hand operated drain valve
- ▲ Usable in horizontal and vertical (pump head facing downwards) position



type	order no.	hand lever force at 50 MPa	oil capacity l	usable oil capacity l	delivery per stroke low pressure cm ³	automatical switch over at MPa (bar)	delivery per stroke high pressure cm ³	weight kg
ZPH 3/4	84120/0410	54 kg	5,25	4	10,8	18 (180)	4,2	11
ZPH 3/8	84120/0420	54 kg	10,5	8	10,8	18 (180)	4,2	15,4

Accessories for hand pumps

500 bar



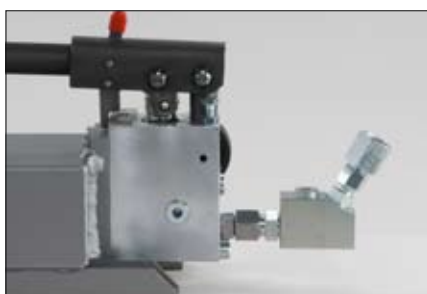
N4/2W



N2W



N4M



MA3



MA3 with pressure gauge

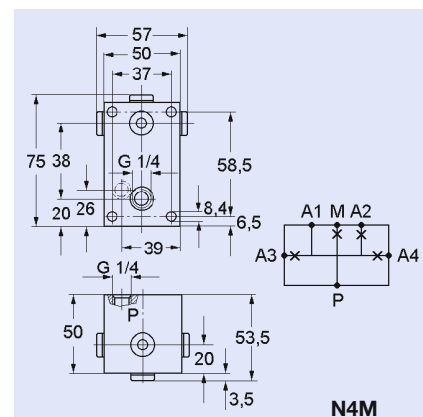
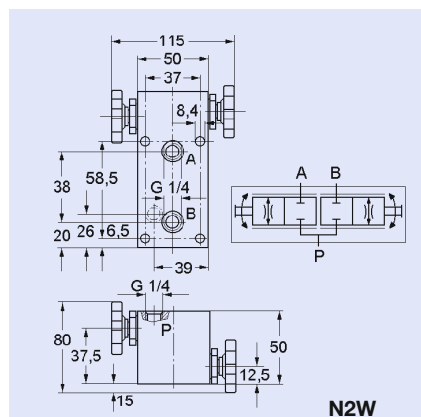
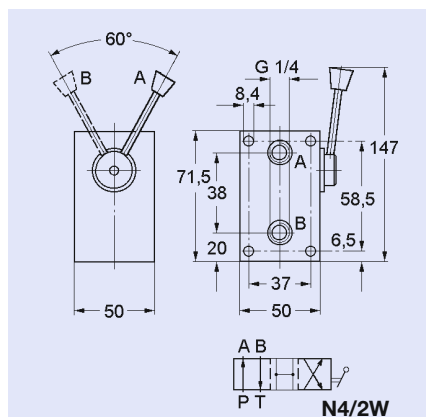


MA2

Conversion sets suitable for ZPH 3/...

type	order no.	dimensions (l x w x h) mm	weight kg	
4/2-way valve N4/2W	84111/9848	80 x 50 x 147	1,5	Control valve for one double-acting cylinder
2-way distributor valve N2W	84148/9903*	115 x 80 x 114	2,1	Distributor valve used to divide one oil flow into two individual flows. Both oil flows can be regulated and matched to one another.
Oil distributor with pressure gauge connection N4M	84148/9905*	57 x 54 x 75	1,4	To divide one flow oil into 5 individual oil flows; e.g. 4 tool connections and 1 pressure gauge adapter (MA2).
Pressure gauge connector MA3	84126/5232		0,8	Position of pressure gauge 30° resp. 90°
Pressure gauge connector MA2	84126/5231		0,15	Pressure gauge laterally on pump head

* can be mounted in a hose- resp. a tube system



Foot pump LFP 2 for single-acting cylinders

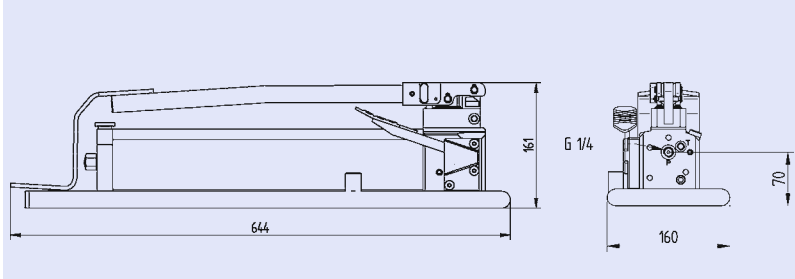


Robust two-stage foot pump with automatic switch-over from low to high pressure mode. For increased stability the pump is mounted on a tube frame. The foot lever would function as a carry handle once it is latched in

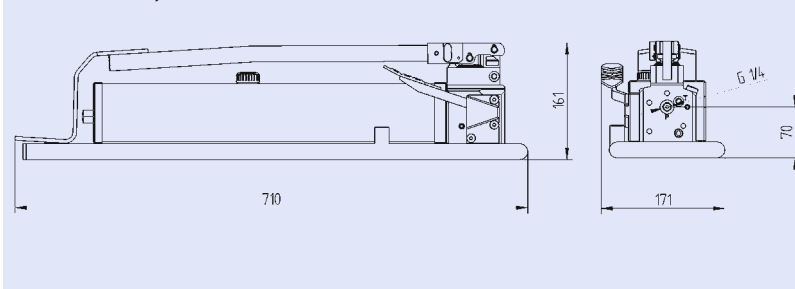
horizontal position. Precise lowering of a lifted load is possible with the foot-operated drain valve.

type	order no.	oil capacity l	usable oil capacity l	delivery per stroke low pressure cm ³	automatical switchover at MPa (bar)	delivery per stroke high pressure cm ³	weight kg
LFP 2/0,9-50	HR 1494 63325	1,3	0,9	17,0	2 (20)	1,7	8,0
LFP 2/1,8-50	HR 1494 63328	2,3	1,8	17,0	2 (20)	1,7	10,0

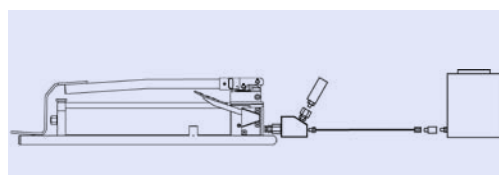
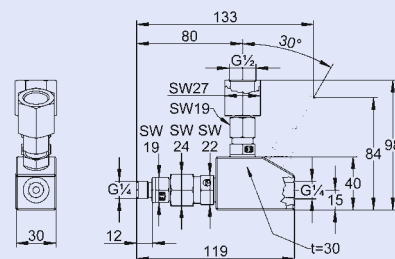
LFP 2/0,9



LFP 2/1,8



Pressure gauge connector for LFP 2



type	order no.	weight
MA 3	84126/5232	0,8 kg

Air Hydraulic Pumps AHP 2 Series



double-acting cylinder

single-acting cylinder

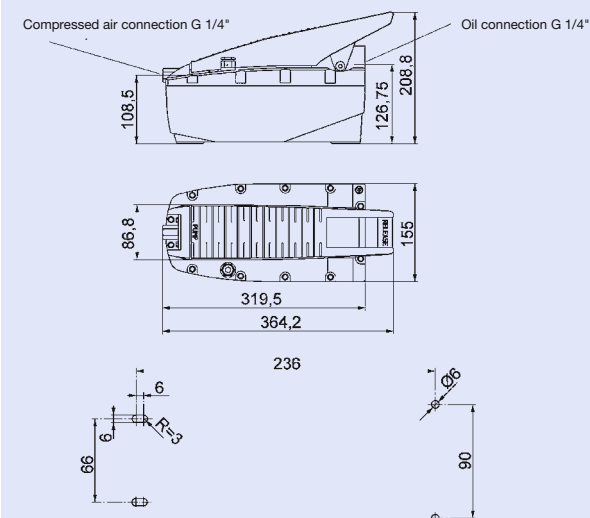
Technical Data

Type	AHP 2-1E-502 AHP 2-1D-502	AHP 2-1E-505 AHP 2-1D-505
Oil tank	2,4 l	5 l
Max. working pressure	500 bar	500 bar
Output flow rate (without load)	1,1 l/min	1,1 l/min
Output flow rate (with load)	0,15 l/min	0,15 l/min
Useable oil capacity	2,1 l	4,5 l
Air pressure range	2,8 – 10 bar	2,8 – 10 bar
Air consumption	340 l/min	340 l/min
Compressed air connection	G 1/4"	G 1/4"
Oil connection	G 1/4"	G 1/4"
Weight	6,3 kg	8,8 kg

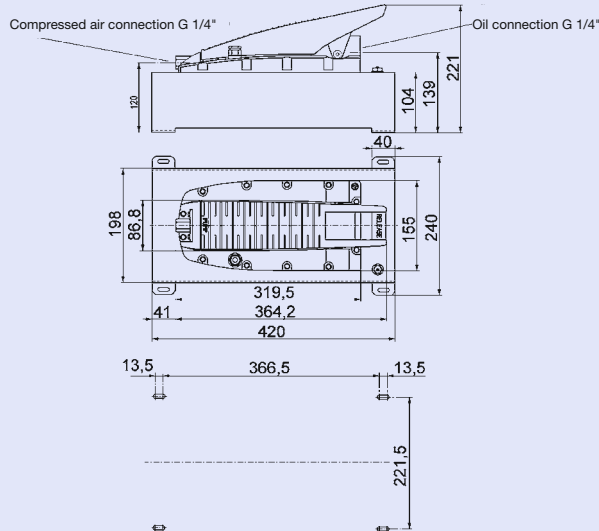
- ▲ suitable for operation of single-acting rams (1E) and double-acting rams (1D)
- ▲ can be driven by normal shop air
- ▲ operates in horizontal and vertical position
- ▲ easy operation by foot pedal with 3 positions: advance – hold – retract
- ▲ Extremely low noise level (75 dBA)
- ▲ Reciprocating pressure intensifier (air/oil) produces oil pressure proportionally to primary air pressure
- ▲ internal relief valve protects automatically against overload

The AHP 2-1E should not be used in combination with the quick connect socket St Mu-61. If it is necessary to use the quick stop socket, we recommend to control the return oil flow with the throttle check valve ADV1.

AHP 2 - 2,4 l



AHP 2 - 5 l



500 bar	oil tank	order no.	type
AHP 2-1E-502	2,4 l	HR 1494 63 251	single-acting cylinder
AHP 2-1E-505	5 l	HR 1494 63 252	single-acting cylinder
AHP 2-1D-502	2,4 l	HR 1494 63 255	double-acting cylinder
AHP 2-1D-505	5 l	HR 1494 63 256	double-acting cylinder

500 bar

Hydraulic power packages **PO 6/GO 6 for all cylinders**



PO6-1E-10



GO6-1E-10



PO6-2E-10



GO6-2E-10



PO6-1D-10



GO6-1D-10

The **PO 6 models** are powerful two-stage motor pumps for use in intermittent mode. Thanks to the high LP/HP switch-over pressure (16 MPa = 160 bar) they provide in the low pressure mode a faster working speed than traditional motor pumps.

The units will be delivered with a basic oil filling of 7,5 l resp. 15 l. If necessary oil can be filled up to 10 l resp. 24 l. A carry frame kit is available as separate accessory.

Features & Benefits:

- ▲ LUKAS radial piston pump with patented suction valve for maximum efficiency
- ▲ Constant high pressure oil delivery up to the max. working pressure 70 MPa
- ▲ Available with electric motor (PO) or gasoline engine (GO)
- ▲ Compact design and light weight for easy transport



PO6-1E-10



GO6-1E-10



PO6-2E-25



PO6-1D-25

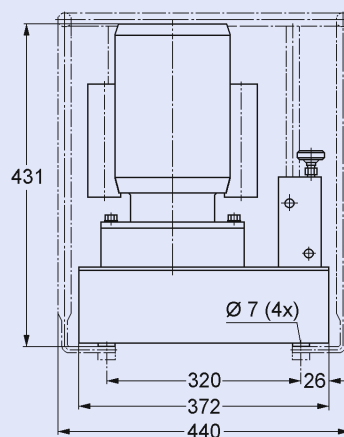
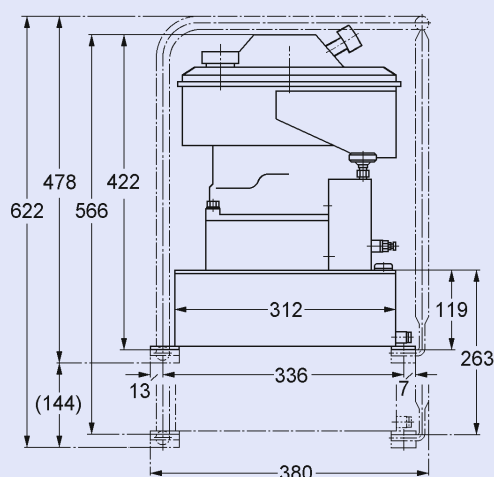


GO6-1E-25



GO6-2E-25

Hydraulic power packages PO 6/GO 6 for all cylinders



500 bar

type	order no.	oil capacity standard-max. l	usable oil cap. standard-max. l	delivery low pressure l/min	switchover pressure MPa	delivery high pressure l/min	motor	electr. protect. acc. to DIN 40050	weight approx. kg
PO6-1E-10-50	84112/5607	7,5 - 10	6 - 8,5	4,4		1,4			41
PO6-2E-10-50	84112/5608	7,5 - 10	6 - 8,5	4,4		1,4	electric motor		43,5
PO6-1D-10-50	84112/5609	7,5 - 10	6 - 8,5	4,4	16	1,4	230 V/50 Hz	IP 54	42
PO6-1E-25-50	84112/5627	15 - 24	10 - 19	4,4		1,4	2,2 kW		54,0
PO6-2E-25-50	84112/5628	15 - 24	10 - 19	4,4		1,4			56,5
PO6-1D-25-50	84112/5629	15 - 24	10 - 19	4,4		1,4			55
GO6-1E-10-50	84112/5610	7,5 - 10	6 - 8,5	4,7		1,45			38
GO6-2E-10-50	84112/5611	7,5 - 10	6 - 8,5	4,7		1,45	4 stroke		40,5
GO6-1D-10-50	84112/5612	7,5 - 10	6 - 8,5	4,7	16	1,45	gasoline engine		39
GO6-2E-25-50	84112/5631	15 - 24	10 - 19	4,7		1,45	2,6 kW/3200 min ⁻¹		51,5
GO6-1D-25-50	84112/5632	15 - 24	10 - 19	4,7		1,45			50

* with basic oil filling

Accessories

Carry frame for 10 l oil container order no. V 84150/7601-03

Carry frame for 25 l oil container order no. V 84072/9230-06

Function of valve versions:

PO6-1E for 1 single-acting cylinder:

Piston movement under load is controlled by switching the motor on or off. When lowering the load, precise speed control through drain valve with hand wheel.

GO6-1E for 1 single-acting cylinder:

Same hydraulic function as PO6-1E; however gasoline engine doesn't start under full load.

PO6/GO6-2E for 2 single-acting cylinders:

Precise speed control of each cylinder when lifting or lowering with and without load.

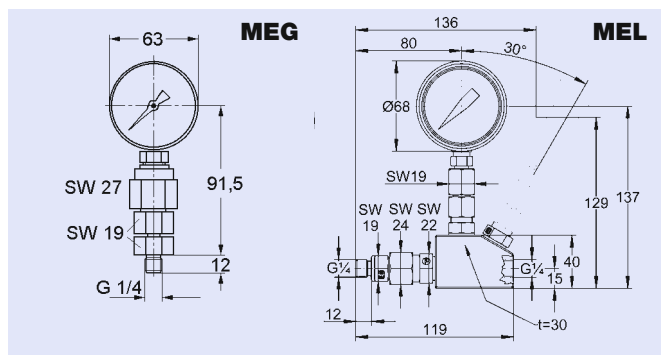
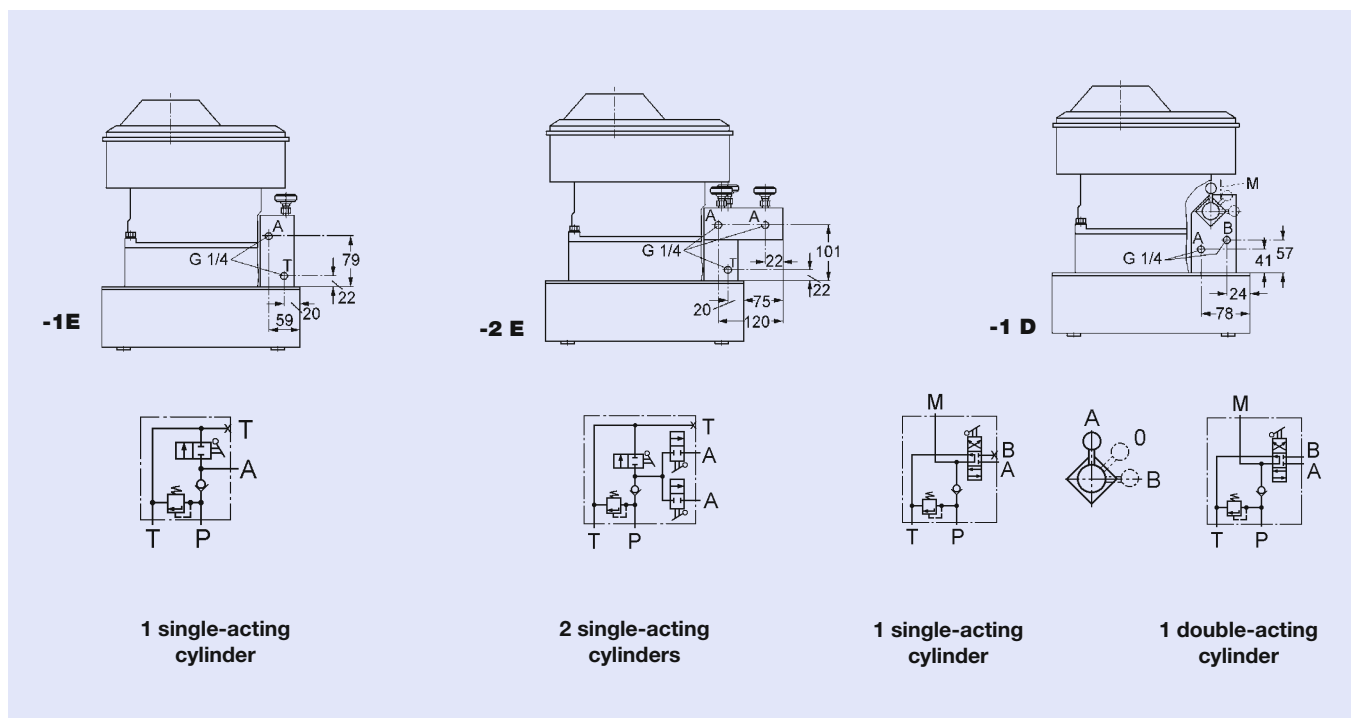
PO6/GO6-1D for 1 double-acting cylinder:

Precise speed control when lifting or lowering with and without load. When lowering the motor must stay switched on.

PO6/GO6-1D for 1 single-acting cylinder:

Precise speed control when lifting or lowering with and without load.

Hydraulic power packages PO 6/GO 6 for all cylinders



Pressure gauge units liquid filled

type	order no.	for version	weight
MEG 500	84112/0601	-1D	0,6 kg
MEL 500N	84112/0106	-1E/-2E	1,0 kg

GO6-1E with MEL 500 N



GO6-2E with MEL 500 N



GO6-1D with MEG 500



Low-noise hydraulic power packages PO 6S for all cylinders



PO6S-1E-10



PO6S-2E-10



PO6S-1D-10



PO6S-1E-25



PO6S-2E-25



PO6S-1D-25



PO6S-1D-10



PO6S-2E-25

500 bar

Noise level only 66 db(A) under full load!

The ideal power unit for indoor use

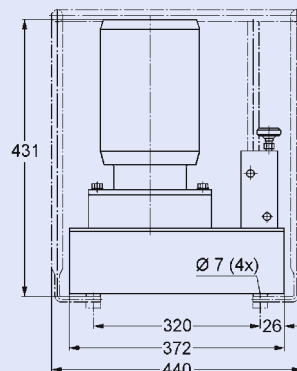
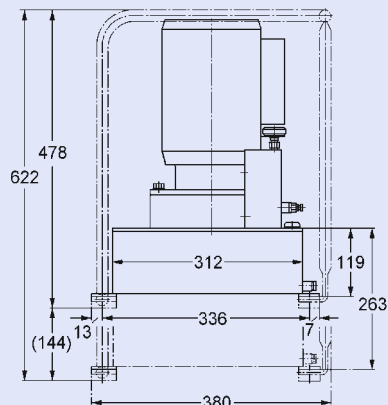
The **PO 6S** models are powerful two-stage motor pumps for use in intermittent mode. Thanks to the high LP/HP switch-over pressure (16 MPa = 160 bar) they provide in the low pressure mode a faster working speed than traditional motor pumps.

The units will be delivered with a basic oil filling of 7,5 l resp. 15 l. If necessary oil can be filled up to 10 l resp. 24 l.

Features & Benefits:

- ▲ LUKAS radial piston pump with patented suction valve for maximum efficiency
- ▲ Constant high pressure oil delivery up to the max. working pressure 70 MPa
- ▲ Available with electric motor (PO)
- ▲ Compact design and light weight for easy transport
- ▲ Optionally equipped with carry frame

Low-noise hydraulic power packages PO 6S for all cylinders



type	order no.	oil capacity standard-max. l	usable oil cap. standard-max. l	delivery low pressure l/min	switchover pressure MPa	delivery high pressure l/min	motor	electr. protect. acc. to	weight* approx. kg
PO 6S-1E-10-50	84112/5407	7,5 - 10	6 - 8,5	2,2	16	0,7	electric motor		37,0
PO 6S-2E-10-50	84112/5408	7,5 - 10	6 - 8,5	2,2	16	0,7	230 V/50 Hz		39,5
PO 6S-1D-10-50	84112/5409	7,5 - 10	6 - 8,5	2,2	16	0,7	1,1 kW	IP 54	38,0
PO 6S-2E-25-50	84112/5410	15 - 24	10 - 19	2,2	16	0,7	1500 rpm		52,5
PO 6S-1D-25-50	84112/5411	15 - 24	10 - 19	2,2	16	0,7			51,0

* with basic oil filling

Accessories

Carry frame for 10 l oil container order no. V 84150/7601-03

Carry frame for 25 l oil container order no. V 84072/9230-06

Function of valve versions:

PO 6S-1E for 1 single-acting cylinder:

Piston movement under load is controlled by switching the motor on or off. When lowering the load, precise speed control through drain valve with hand wheel.

PO 6S-2E for 2 single-acting cylinders:

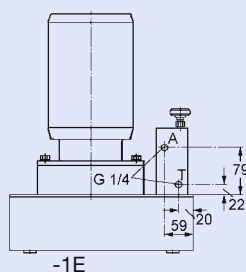
Precise speed control of each cylinder when lifting or lowering with and without load.

PO 6S-1D for 1 double-acting cylinder:

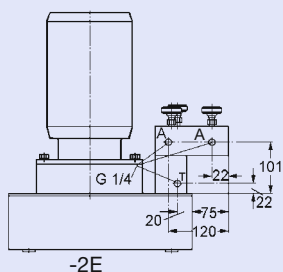
Precise speed control when lifting or lowering with and without load. When lowering the motor must stay switched on.

PO 6S-1D for 1 single-acting cylinder:

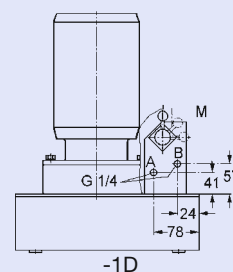
Precise speed control when lifting or lowering with and without load.



1 single-acting cylinder

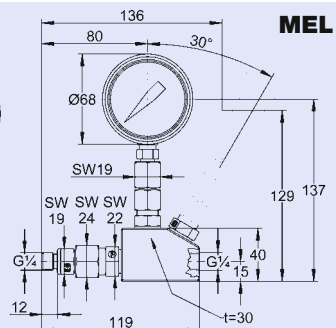
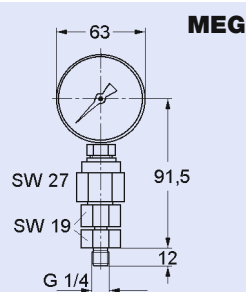
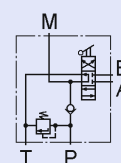
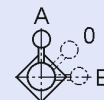
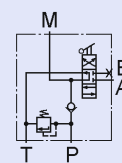
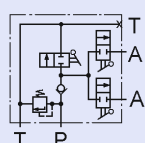
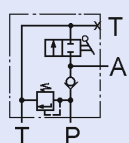


2 single-acting cylinders



1 single-acting cylinder

1 double-acting cylinder



Pressure gauge units liquid filled

type	order no.	for version	weight
MEG 500	84112/0601	-1D	0,6 kg
MEL 500N	84112/0106	-1E/-2E	1,0 kg

PO6S-1E with MEL 500 N



PO6S-2E with MEL 500 N



PO6S-1D with MEG 500



Hydraulic Power Units tailor made for your application



PO6-M4/3-25-50-230V50Hz-F



PO6-4E-25-50-230V50Hz-F



PO6-8D-100-50-230V50Hz-F

LUKAS PO 6 models are powerful two-stage motor pumps. Thanks to the high LP/HP switchover pressure 16 MPa (160 bar) they provide in the low pressure mode a faster working speed than traditional motor pumps.

The following spread shows the numerous models, which can be manufactured. These Power Units will be assembled using the well known LUKAS high quality modules.

Features & Benefits:

- ▲ LUKAS radial piston pump with patented suction valve for maximum efficiency
- ▲ Constant high pressure oil delivery up to the maximum working pressure of 70 MPa
- ▲ Available with electric motor (PO6) or electric silent motor (PO6S)
- ▲ Compact design and light weight for easy transport

Models with manual valves can be provided with combustion engine on request.

Available models

type	valve assembly	oil capacity l	max. operating pressure MPa	motor	pressure limiting valve
PO 6	-	1 E	-	230 V, 50 Hz	-
PO 6S	-	2 E	50	230 V, 60 Hz	F = fix adjustment
	4 E	40		400 V, 50 Hz	R = adjustable
	6 E	50		115 V, 60 Hz	
	8 E	75			
	1 D	100			
	2 D	150			
	4 D				
	6 D				
	8 D				
	G 2/2				
	L 2/2				
	M 4/3				

PO 6 Power packages

delivery low pressure	l/min	4,4
switchover pressure	MPa/bar	16 (160)
delivery high pressure	l/min	1,4

Motor types

elektric motor 230 V 50Hz,	2,2 kW
elektric motor 230 V 60Hz,	
elektric motor 400 V 50Hz,	
elektric motor 115 V 60Hz,	

PO 6 S low-noise power packages

Noise level only 66 db (A) under full load

delivery low pressure	l/min	2,2
switchover pressure	MPa/bar	16 (160)
delivery high pressure	l/min	0,7

Motor types

elektric motor 230 V 50Hz,	1,1 kW
elektric motor 230 V 60Hz,	
elektric motor 400 V 50Hz,	
elektric motor 115 V 60Hz,	

Oil Capacity/Usable Oil capacity

Oil capacity	10 l	usable oil capacity	8,5 l
Oil capacity	24 l	usable oil capacity	19 l
Oil capacity	40 l	usable oil capacity	33 l
Oil capacity	50 l	usable oil capacity	41 l
Oil capacity	75 l	usable oil capacity	61 l
Oil capacity	100 l	usable oil capacity	85 l
Oil capacity	150 l	usable oil capacity	125 l

Function of the valve versions :

Manual valves

1E – 8E

for one up to eight single-acting cylinders:

Piston movement under load is controlled by switching the motor on or off. When lowering the load, precise speed control through drain valve with hand wheel.

1D – 8D

for one up to eight double-acting cylinders:

Precise speed control when lifting or lowering with and without load. When lowering the motor must stay switched on.

1D – 8D

for one up to eight single-acting cylinders:

Precise speed control when lifting or lowering with and without load

Solenoid valves

L 2/2

without load holding function

Motor starts when remote control button is pushed, solenoid valve closes. - The connected hydraulic cylinder advances as long as the button is pushed. - For retracting release the button, motor stops, valve is set to „open“, piston returns.

G 2/2

with load holding function:

Remote control with 3 - position switch

- Position „1“ = motor on, valve closed, cylinder advances
- Middle position „0“ = motor off, valve closed, load is held
- Position „2“ = motor off, valve set to open, piston returns

M 4/3

with remote control and solenoid valves for one double acting or single acting cylinder. Load holding function when the motor is switched on or off.

Hydraulic power packages PO 4 for small and medium size cylinders



The powerful 2-stage **hydraulic pumps PO 4** are compact and light and can be transported easily. They reach a long operation time in intermittent duty meeting the highest quality and technology requirements.

The remote control version (F) can be operated by just pushing a button on the ergonomic control panel. The remote control cable is 3 m long.

Features & Benefits:

- ▲ Long service life through genuine LUKAS radial piston pump
- ▲ high switch-over pressure for fast piston advance without load
- ▲ constant high pressure oil delivery up to the max. working pressure
- ▲ maximum effective oil delivery through patented LUKAS suction valves
- ▲ The max. oil delivery is always available, regardless of the temperature

Function of valve versions:

Version NA for single-acting cylinders:

Extending - holding load, when motor is switched off – retracting, when motor is switched on or off (pressureless oil flow).

Version N3 for single-acting cylinders:

Sensitive extending and positioning of load – holding load also when motor is switched on (pressureless oil flow) – retracting when motor is switched on or off.

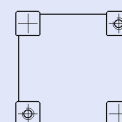
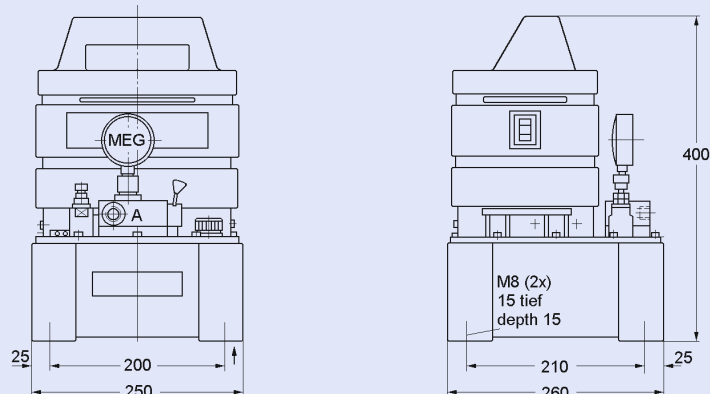
Version N4 for double-acting cylinders:

Extending – holding load also when motor is switched on (pressureless oil flow) – retracting when motor is switched on.

type	order no.	usable oil capacity l	weight kg
PO4-4-NA 500	84112/12	4 l	22,0 kg
PO4-4-NA 500 F	84112/14	4 l	22,5 kg
PO4-4-N3/N4 500	84112/13	4 l	22,2 kg
PO4-4-N3/N4 500 F	84112/15	4 l	22,7 kg
delivery low pressure		2,1 l/min	
switchover pressure		5 MPa (50 bar)	
delivery high pressure		0,24 l/min	
oil capacity		5 l	
power		0,55 kW	
voltage		230 V/50 Hz	
electr. protection acc. to DIN 40050		IP 20	

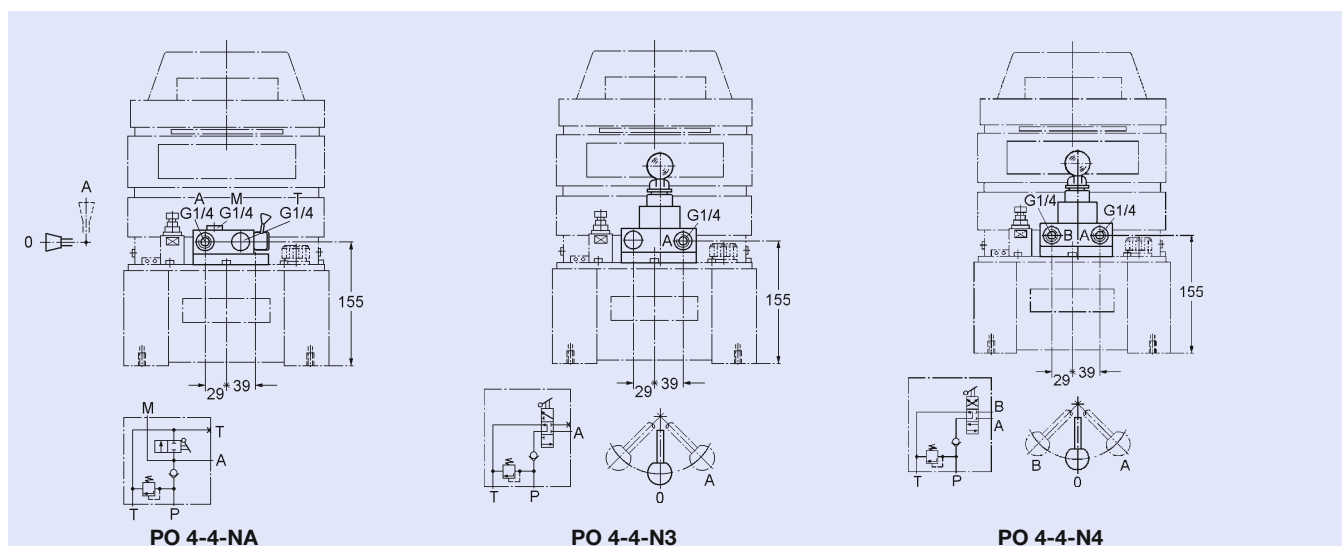
Hydraulic power packages PO 4 for small and medium size cylinders

PO 4-4-NA 500 (with accessory MEG 500)

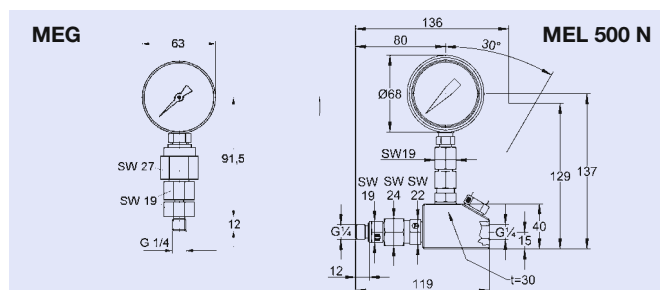


thread position in direction of arrow

500 bar



Pressure gauge units



type	order no.	for version	weight
MEG 500	84112/0601	-NA	0,6 kg
MEL 500 N	84112/0106	-NA/-N3/-N4	1,0 kg

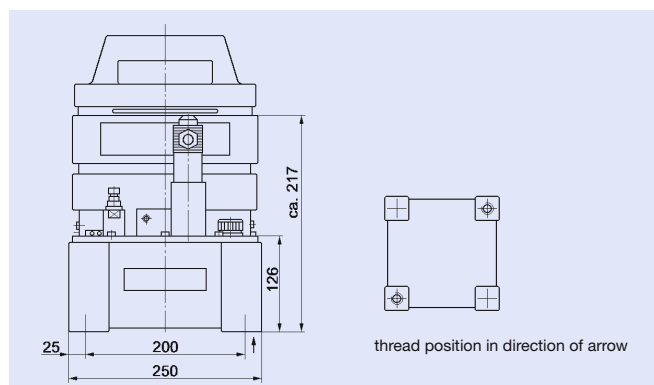
PO4-4-NA with MEL 500 N or MEG 500



PO4-4-N3/N4 with MEL 500 N



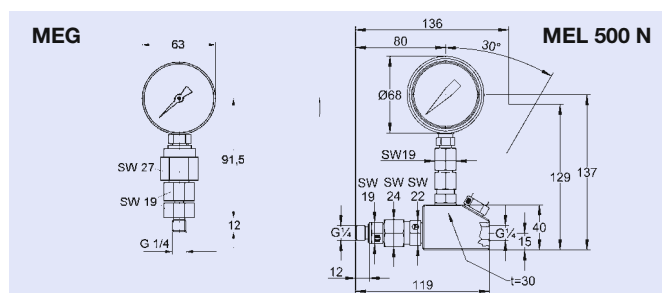
Hydraulic power packages PO 4 with solenoid valve and remote control



PO 4 pumps with solenoid valves are especially suitable for operation such as pressing, cutting, crimping etc. With the included remote control (cable length 3 m) both motor and solenoid valve can be activated.

type	order no.	useable oil capacity l	weight kg
PO4-4-L2/2 500 F	84112/2403	4 l	23 kg
PO4-4-G2/2 500 F	84112/2503	4 l	23 kg
delivery low pressure		2,1 l/min	
switchover pressure		5 MPa (50 bar)	
delivery high pressure		0,24 l/min	
oil capacity		5 l	
power		0,55 kW	
voltage		230 V/50 Hz	
electr. protection acc. to DIN 40050		IP 20	

Pressure gauge units



PO4 G2/2 and PO4 L 2/2 with MEL 500 N or MEG 500



Available with two valve versions:

Model L 2/2 without load holding function

Motor starts when remote control button is pushed, solenoid valve closes. - The connected hydraulic cylinder advances as long as the button is pushed. - For retracting release the button, motor stops, valve is set to „open“, piston returns.

Model G 2/2 with load holding function:

Remote control with 3 - position switch

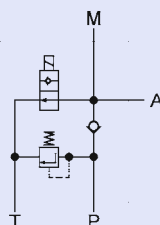
- Position „1“ = motor on, valve closed, cylinder advances
- Middle position „0“ = motor off, valve closed, load is held
- Position „2“ = motor off, valve set to open, piston returns

Power units equipped with solenoid valves should not be used in combination with the quick connect socket St Mu-61.

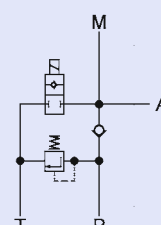
If it is necessary to use the quick stop socket, we recommend to control the return oil flow with the throttle check valve ADV1.

type	order no.	weight
MEG 500	84112/0601	0,6 kg
MEL 500 N	84112/0106	1,0 kg

Hydraulic diagrams L 2/2



G 2/2



LUKAS hydraulic oil



500 bar

Mineral oil acc. to DIN 51524

LUKAS hydraulic oil on mineral oil basis has excellent oxidation resistance and outstanding anti-wear performance.

HLP 10 is recommended for all climatic conditions.

class of viscosity	size of can	order no.	temperature range oil
HLP 10	1 l	84117/2-0001	- 18 ... + 50°C
HLP 10	5 l	84117/2-0002	- 18 ... + 50°C
HLP 10	10 l	84117/2-0003	- 18 ... + 50°C

Biodegradable synthetic oil

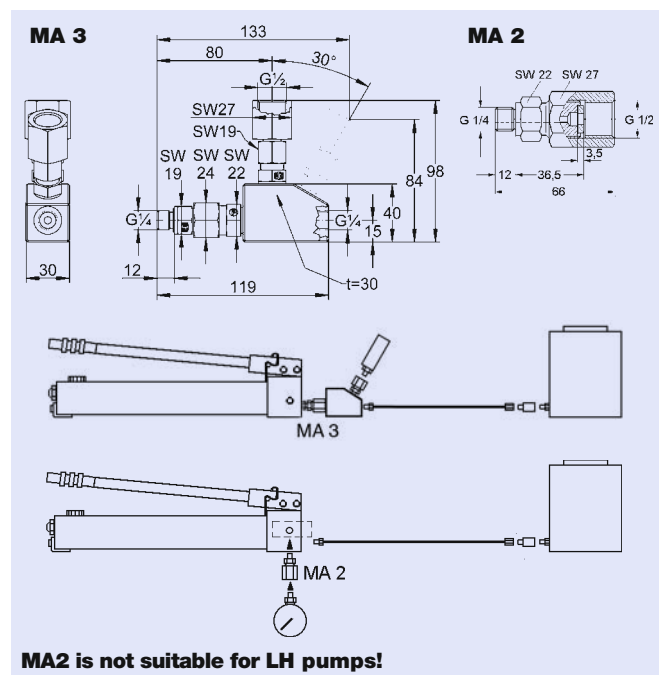
LUKAS biodegradable **HF-E** synthetic oil can be mixed with all normal hydraulic oils on mineral basis. For reason of environment protection it is recommended however, prior to switching to the biodegradable type to flush oil reservoir, hoses and hydraulic cylinders and to clear them.

class of viscosity	size of can	order no.	temperature range oil
HF-E 15	5 l	84117/2-0008	- 8 ... + 70°C

Pressure gauge connectors



The **MA 3 pressure gauge adapter** allows pressure gauges to be mounted vertically or at a 30° angle. The installation position can be adjusted and so the pressure gauge can be put at the optimal angle for being read off. The MA 3 can be fitted to all LUKAS hand pumps. The **MA 2** is used for mounting the pressure gauge laterally on pump heads of ZPH pumps.



Pressure gauge connectors for hand pumps

type	order no.	weight
MA 3	84126/5232	0,8 kg
MA 2	84126/5231	0,15 kg



Pressure gauges

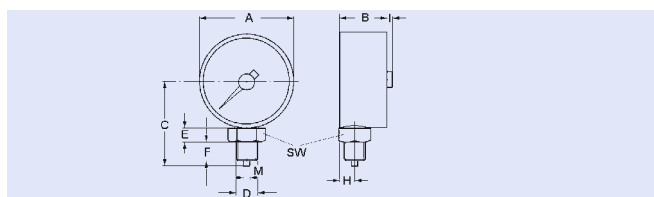


Pressure gauges with scale indicating pressure up to 60 MPa (600 bar)

The gauges are meant for visual reading of the **pressure** prevailing in a hydraulic system. They can be connected to a LUKAS hydraulic pumps via pressure gauge adaptor. They have a maximum force indication pointer which has to be reset to „zero“ manually. The precision pressure gauge has a more precise scale and a larger diameter.

type	A mm	B mm	C mm	D	E mm	F ø mm	H mm	I mm	M ø mm	SW
M 110..	100	49	92	G 1/2	15	20	15,5	5	6	22
M 116..	160	75,5	123	G 1/2	15	20	24	--	6	22

Dimension I only for pressure gauges with drag pointer.



Pressure gauges with scale indicating forces

These pressure gauges are meant for visual reading of the force of a hydraulic cylinder. Each gauge model is **calibrated to match specific cylinders depending on their individual piston diameter**. The gauges are connected to a hand pump via pressure gauge adaptors MA 3 or MA 2. They have a maximum force indication pointer which has to be reset to „zero“ manually.

type	order no.	for cylinder	weight
M 110E-0063	KT 1493 76252	LF 6/...	
M 110E-0100	KT 1493 76254	LF 10/...	
M 110E-0160	KT 1493 76255	LF 16/...	
M 110E-0250	KT 1493 76257	LF 25/...	0,6 kg
M 110E-0400	KT 1493 76263	LF 40/...	
M 110E-0630	KT 1493 76270	LF 63/...	
M 110E-1000	KT 1493 76277	LF 100/...	

type	order no.	weight
M 110	drag pointer	KT1493 76250 0,6 kg
M 110G	filled with liquid	KT1493 76047 1,2 kg
M 116F	precision press. gauge	KT1493 76065 1,2 kg

Pressure gauge units MEG and MEL

500 bar



MEG



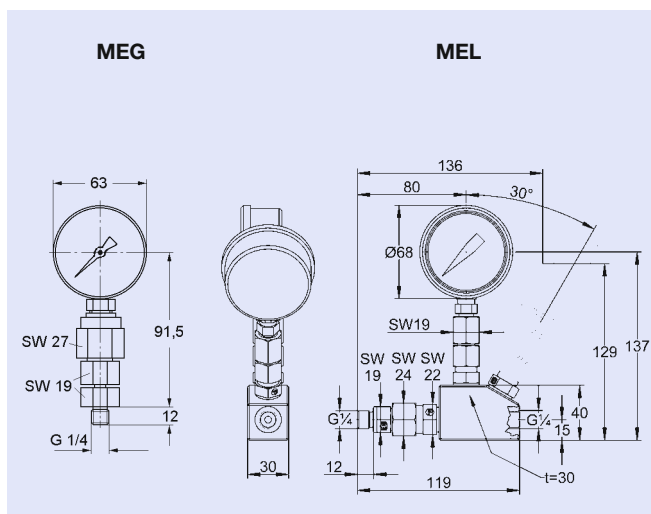
MEL



The **MEL pressure gauge unit** allows pressure gauges to be mounted vertically or at a 30° angle. The installation position can be adjusted and so the pressure gauge can be put at the optimal angle for being read off.

The MEL can be fitted to the most LUKAS hydraulic pumps. PO6-1D / PO6S-1D can be used only with **MEG**.

type	order no	weight
MEL 500 N	84112/0106	1,0 kg
MEG 500	84112/0601	0,6 kg



PO6-1D/PO6S-1D



Quick-connect couplings System 500 bar

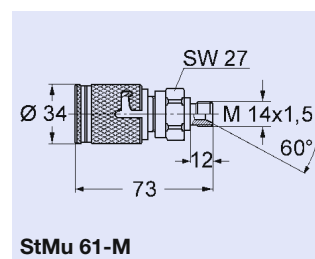
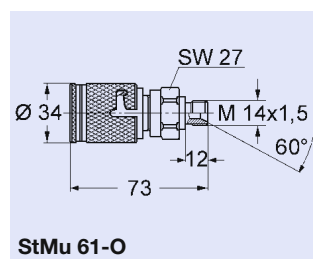
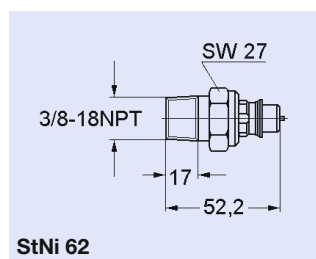
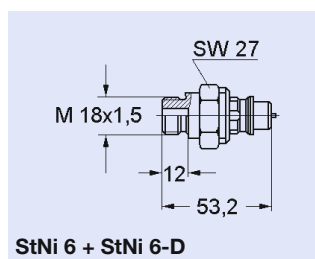


With **LUKAS quick-connect couplings** hydraulic lines can be connected easily by just plugging-in the coupling halves. They can be secured against disconnection with a locking ring. Plug and socket are protected by dust caps against the ingress of dirt.

All **LUKAS cylinders** are supplied completely mounted with quick-connect plugs. Quick-connect sockets are usually mounted to the hydraulic hose.

Quick-connect plugs rated at 70 MPa (700 bar)

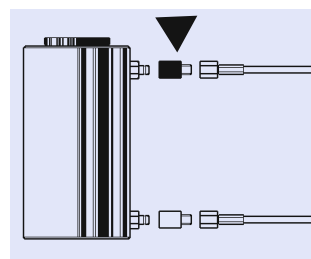
Typ	order nr:	colour	kind of seal	kind of cylinder	weight
StNi 6	84053/13	silver	cutting edge seal	single-acting	0,125 kg
StNi 62	84053/16	silver	cutting edge seal	single-acting	0,120 kg
StNi 6-D	84053/15	golden	cutting edge seal	double-acting and cylinders with hydraul. retraction	0,125 kg



Quick-connect sockets rated at 70 MPa (700 bar)

type	order nr:	colour	weight
StMu 61-M	84053/1270	silver	0,28 kg
StMu 61-O	84053/1470	black	0,28 kg

StMu 61-M socket with quick-stop safety function for single acting cylinders prevents unintended drop of the load in case of hose rupture.



Use only StMu 61-O (black) on the rod side!

Never use StMu 61-M on the rod side of a double-acting cylinder!

StMu 61-O socket without quick-stop for single-acting and double acting cylinders.

Hoses System 500 bar

Screw connectors



length	order no:	weight
500 mm	84071/3320	0,32 kg
2000 mm	84071/3323	0,81 kg
3000 mm	84071/3324	1,14 kg
5000 mm	84071/3326	1,8 kg

Safety factor 4:1

The flexible and bending-resistant **LUKAS high-pressure hoses** offer highest safety due to their superior quality.

They are rated at 70MPa (700bar) working pressure. Internal diameter: 6,3 mm, colour: red.

Hose and threads:

One end retaining nut M 14 x 1,5 with 60° sealing cone for LUKAS quick coupler, other end firmly mounted with G 1/4 screw nipple for connection to a LUKAS pump.

Non standard lengths are available on request.

500 bar

Screw Connectors

They are used for permanent connections between hydraulic hoses or devices. They can also be used for transition between different connection thread sizes or sealing modes.

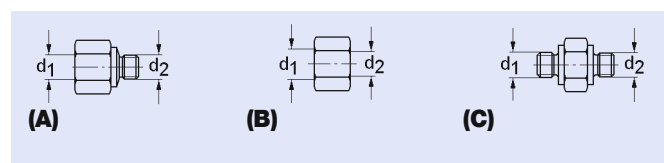


Connection pieces (A)

d1 internal thread	d2 external thread	order no.	weight
M 18 x 1,5	M 14 x 1,5 ²⁾	84126/5206-01	0,1 kg
M 18 x 1,5	ø 12	84071/54	0,18 kg
G 1/4	M 14 x 1,5 ²⁾	84126/5206-08	0,1 kg
M 18 x 1,5	G 1/4A ¹⁾	84126/5206-23	0,1 kg
G 1/4 ¹⁾	G 3/8A ¹⁾	84126/5207-01	0,08 kg
M 14 x 1,5	G 1/4A	84126/5230	0,1 kg
G 1/4	M 14 ¹⁾	84071/3320-02	0,1 kg
M 18 x 1,5	G 3/8A	84126/5227	0,15 kg

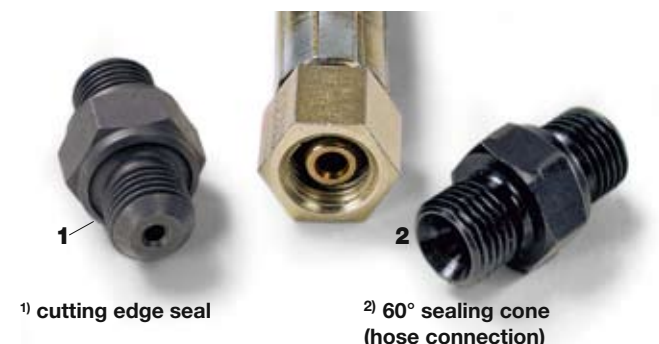
Connection plugs (C)

d1 internal thread	d2 external thread	order no.	weight
G 1/4 A ¹⁾	M 14 x 1,5 ²⁾	84071/23380	0,05 kg
M 14 ¹⁾	M 14 x 1,5 ²⁾	84126/5102-15	0,05 kg
M 14 x 1,5 ²⁾	ø 12	84071/53	0,04 kg
G 3/8A	M 14 x 1,5 ²⁾	84126/5119	0,1 kg
M 18 x 1,5	M 14	84071/80	0,01 kg



Connection sockets (B)

d1	d2	order no:	weight
G 1/4	M 18 x 1,5	84071/79	0,12 kg



¹⁾ cutting edge seal

²⁾ 60° sealing cone
(hose connection)

Distributor Valves



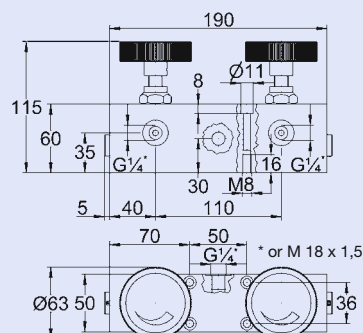
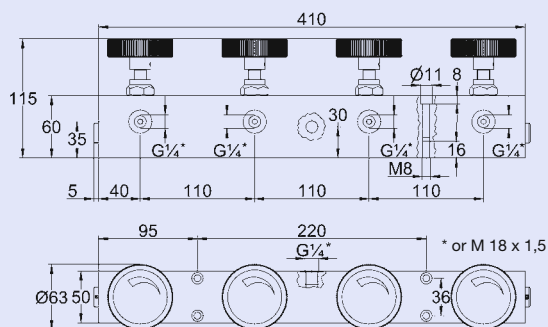
Distributor valves make it possible to divide up one oil flow into several flows which can be individually regulated. By opening or closing the valve, the lifting or lowering speed of several cylinders can be regulated separately and each individual oil flow can be closed.

4-way distributor valve to regulate and close up to four oil flows individually.

2-way distributor valve to regulate and close up to four oil flows individually.

6-way and 8-way distributor valves are available on demand.

type	order no.	Operating pressure max.	Connection thread	Weight
Two-way distributor valve	84112/0722	70 MPa (700 bar)	M 18 x 1,5	4,5 kg
Two-way distributor valve	84112/0720	70 MPa (700 bar)	G 1/4	4,5 kg
Four-way distributor valve	84112/0723	70 MPa (700 bar)	M 18 x 1,5	9,75 kg
Four-way distributor valve	84112/0721	70 MPa (700 bar)	G 1/4	9,75 kg
Fluid	Mineral oil acc. to DIN 51524			
Temperature range of fluid	-30° up to +85° C			
Range of viscosity	2 up to 600 cSt			



Throttle Check Valve ADV-1



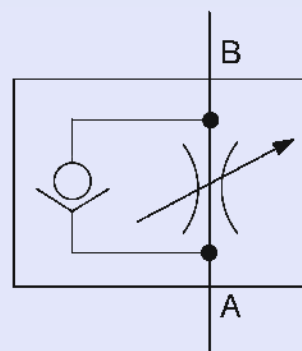
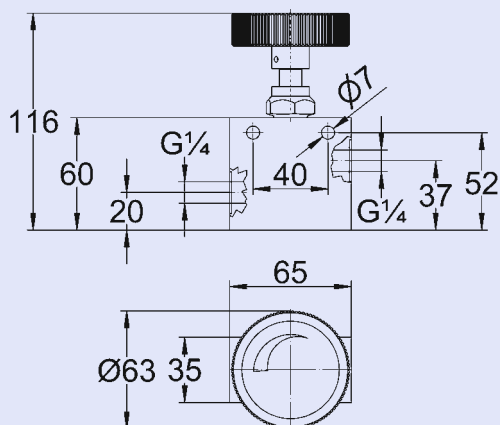
500 bar

A needle valve to close and regulate an oil flow in one flow direction. Depending on the direction of the installation it regulates the out-flow speed or the in-flow speed in a cylinder. This, for example, makes it possible to regulate the speed at which the load is lowered while the out-flow speed remains constant.

Order no. 84148/9914

Oil flow up to 12 l/min
Weight 1,1 kg

Includes hydraulic connectors for mounting on LUKAS hydraulic pumps.



Hydraulik components for tube connection

Hand operated valves

LUKAS W 06 valves serve for controlling hydraulic cylinders operated by a hydraulic power pack with pressureless oil flow (version NA). They are available with ratchet at working positions and partly with spring return to „zero“. The valves can be connected to a power pack by hoses or tubes. The max. permissible pressure is 63 MPa (630 bar).

Extension and retraction of single-acting cylinders

load holding function in zero position when motor pump is switched off.

lever with ratchet: W 06 R - G 3/3,
 order no. 84165/12

Extension and retraction of double-acting cylinders

load holding function in zero position when motor pump is switched off.

lever with ratchet: W 06 R - G 4/3,
 order no. 84165/13

Extension and retraction of single-acting cylinders

load holding function in zero position when motor pump is switched on or off. Also suitable for control of LUKAS suction device or further valves in series.

lever with spring return: W 06 F - L 4/3,
 order no. 84165/05

Extension and retraction of double-acting cylinders

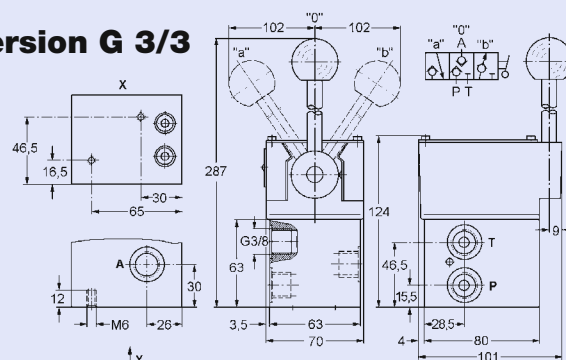
load holding function in zero position when motor pump is switched on or off. Also suitable for control of LUKAS suction device or further valves in series.

lever with spring return: W 06 F - L 5/3,
 order no. 84165/06

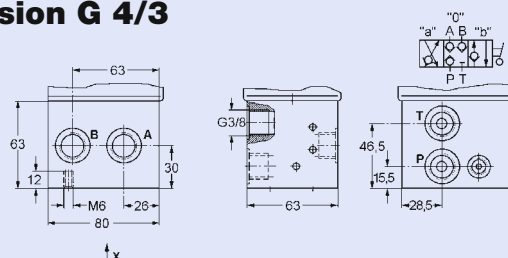
Please contact our sales team for further information!



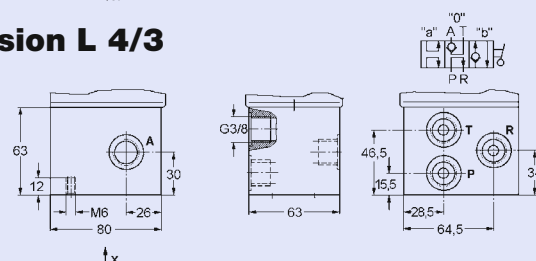
Version G 3/3



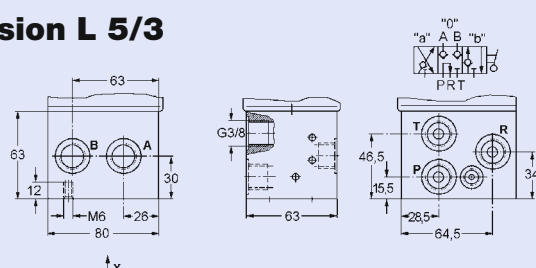
Version G 4/3



Version L 4/3



Version L 5/3



Hydraulic components for tube connection



Precision drain valve

With the **LUKAS precision drain valve** a precise throttling of an oil flow is possible. The device serves for precise and jerk-free lifting and lowering of a load. It is meant to be either coupled into a hose line between a single-acting cylinder and its pump or to be mounted at the cylinder via a transition fitting.



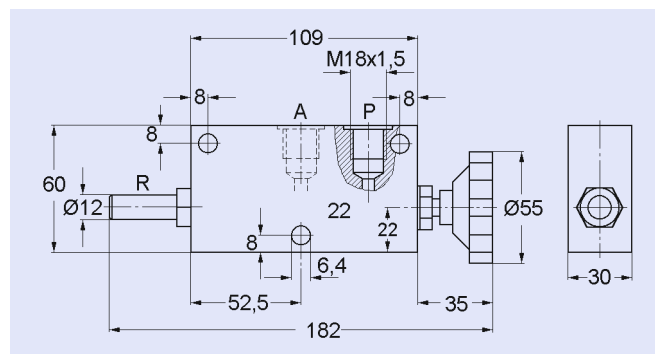
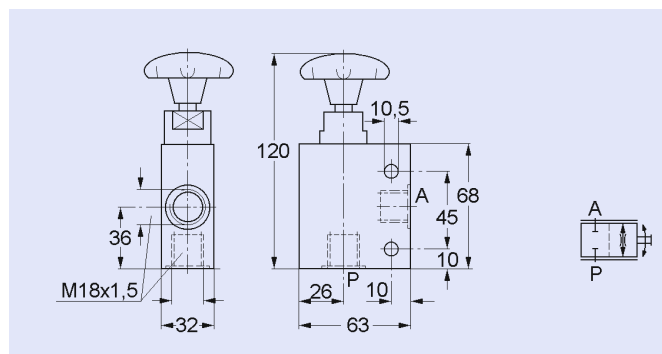
Suction device

LUKAS suction devices are used for fast piston retraction of cylinders without return spring. They are working on the water-jet principle and produce a maximum partial vacuum of up to 0.08 MPa (0.8 bar). Suction devices can be tube mounted to a motor pump. The selection of the nominal size will be determined by the oil delivery of the motor pump.

type	order no:	flow rate max. l/min	weight kg
FAV	84071/13	15	0,75

up to flow rate l/min	order no:	weight kg
1,6	84071/18	
3,2	84071/19	
5	84071/16	1,5
8	84071/21	
12	84071/17	

Please contact our sales team for further information!



Pullers

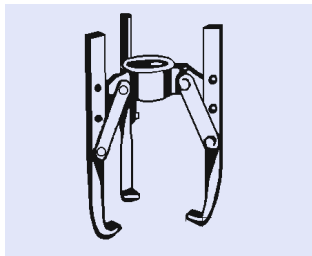


LUKAS universal pullers are consisting of a number of individual components which can be easily combined for a broad range of applications..
 The necessary hydraulic power is supplied by LUKAS hydraulic cylinders.

For pulling forces up to 10 tons complete three-arm pullers are available.

LUKAS pullers are used with all kind of maintenance and for dismounting of e.g. gears, discs, bearings, bushings guide rings and many other components.

Three-arm pullers complete



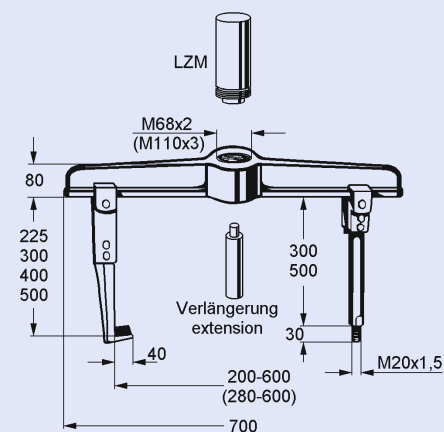
for	span width	span depth	weight	order no.
LZM 10/...	370 mm	200 - 300 mm	8,8 kg	KT 1498 12202
LZM 10/...	370 mm	200 - 500 mm	9,8 kg	KT 1498 12203

Permissible load: 100 kN

Suitable hydraulic cylinder:

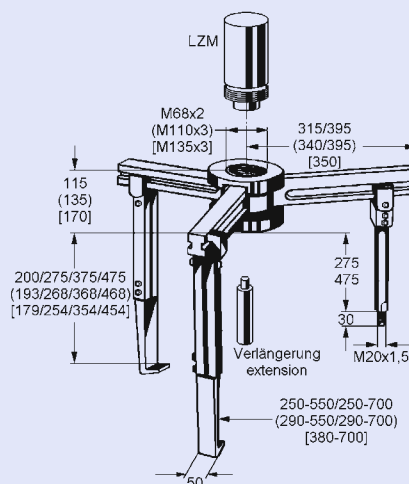
LZM 10/160	order no. 84141/2213	stroke 160 mm	weight 3,8 kg
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two-arm puller

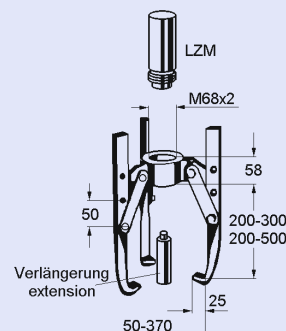


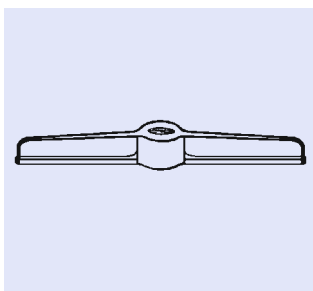
() LZM 25 only; [] LZM 40 only

three-arm universal puller



three-arm pullers complete

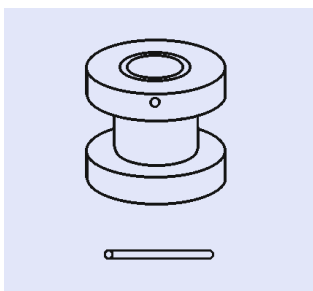




Crosshead for two-arm pullers

for	span width	weight	order no.
LZM 10/...	600 mm	14,7 kg	KT 1498 12114
LZM 25/...	600 mm	28,5 kg	KT 1498 12119

Permissible load: two-arm pullers can be loaded up to max. 150 kN.



Components for three-arm and four-arm universal pullers

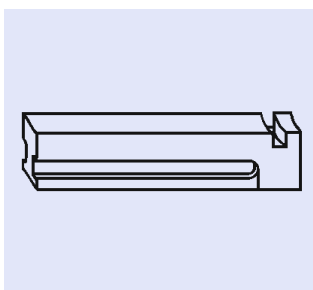
Traverse with locking ring

for	weight	order no.
LZM 10/...	9,6 kg	KT 1498 12309
LZM 25/...	14,4 kg	KT 1498 12317
LZM 40/...	41,0 kg	KT 1498 12321

Tightening bolt

weight	order no.
0,1 kg	KT 1498 12852
0,1 kg	KT 1498 12850
0,3 kg	KT 1498 12851

Permissible load: three-arm universal pullers can be loaded up to max. 250 kN, four-arm pullers up to max. 400 kN.



Crosshead arms

for	span width	weight	order no.
LZM 10/...	550 mm	5,5 kg	KT 1498 12355
LZM 25/...	550 mm	5,5 kg	KT 1498 12363
LZM 10/...	700 mm	6,5 kg	KT 1498 12356
LZM 25/...	700 mm	6,1 kg	KT 1498 12364
LZM 40/...	700 mm	12,1 kg	KT 1498 12371

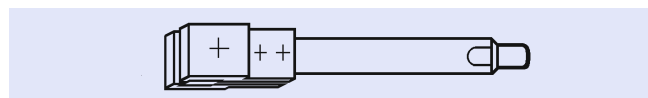
Suitable hydraulic cylinders:

LZM 10/160	order no. 84141/2213	stroke 160 mm	weight 3,8 kg
LZM 25/100	order no. 84141/3011	stroke 100 mm	weight 8,9 kg
LZM 25/200	order no. 84141/3014	stroke 200 mm	weight 12,0 kg
LZM 40/200	order no. 84141/3414	stroke 200 mm	weight 14,7 kg

Pull-off hooks and pulling rods for universal pullers and two arm pullers



span depth	weight	order no.
225 mm	2,3 kg	KT 1498 12163
300 mm	3,2 kg	KT 1498 12170
400 mm	4,1 kg	KT 1498 12175
500 mm	5,1 kg	KT 1498 12180

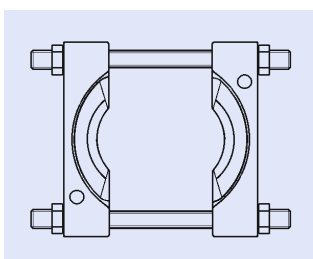


span depth	weight	order no.
300 mm	2,0 kg	KT 1498 12839
500 mm	2,6 kg	KT 1498 12845

Permissible load of pull-off hooks:

with 2-arm puller	max. 150 kN
with 3-arm universal puller	max. 250 kN
with 4-arm universal puller	max. 400 kN
Permissible load of pulling rods:	max. 100 kN/pair

Please use a pressure gauge with the hydraulic pump for measuring its working pressure and make sure that the cylinder force does not exceed the permissible load of pulling accessories.



Separating device 100 kN

order no.	weight
KT 1498 12802	11,4 kg

The separating device is specially suitable for extracting pressed-on parts, such as ball or roller bearings in a range of 45 to 220 mm dia.

Hydraulic cylinders type HZ operating pressure 450 bar double acting



- ▲ suitable for continuous operation even under roughest conditions
- ▲ statically absolutely leak-proof
- ▲ high buckling strength
- ▲ absorption of transverse forces through firm guidance
- ▲ hard-chromium plated piston rods
- ▲ 6 different ways of fixing
- ▲ area ratio 2 : 1

Type code

HZ	450	L	100	/	70	/	250	-
----	-----	---	-----	---	----	---	-----	---

hydraulic cylinder double-acting	operating pressure 450 bar	type of construction (fixing method)	piston diameter (mm)	piston rod diameter (mm)	250 = stroke in mm
		O = without flange	40	28	
		K = with top flange	50	36	
		B = with bottom flange	63	45	
		Z = with threaded bottom flange	80	56	
			100	70	
		L = with swivel eye type SL	125	90	
		G = with swivel eye type SG	160	110	
			200	140	
			250	180	
			320	220	

The max. permissible strokes depend on cylinder version and operating pressure.

Technical data

characteristics	unit	
fluid		mineral oil according to DIN 51524, (standard version)
temperature range of fluid	°C	-20 ... +100
viscosity range	mm ² /s	2,8 ... 380
stroke speed	m/s	... 0,5 (depending on connection thread)
weight	kg	see next page

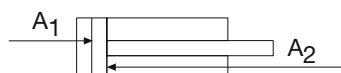
Other characteristics upon request!

Calculations

The necessary compressive/traction forces can be calculated as follows:

compressive force (Piston side): $F_1 = \frac{A_1 \times p}{10}$ (kN) F = compressive/traction force in kN
traction force (rod side): $F_2 = \frac{A_2 \times p}{10}$ (kN) A = pressurized area in cm²

p = pressure MPa



	HZ 40/28/...	HZ 50/36/...	HZ 63/45/...	HZ 80/56/...	HZ 100/70/...	HZ 125/90/...	HZ 160/110/...	HZ 200/140/...	HZ 250/180/...	HZ 320/220/...
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piston area A ₁ cm ²	12,56	19,63	31,17	50,27	78,54	122,72	201,06	314,16	490,87	804,25
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rod side area A ₂ cm ²	6,41	9,46	15,27	25,64	40,06	59,10	106,03	160,22	236,40	380,12
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	HZ 40/28/...	HZ 50/36/...	HZ 63/45/...	HZ 80/56/...	HZ 100/70/...	HZ 125/90/...	HZ 160/110/...	HZ 200/140/...	HZ 250/180/...	HZ 320/220/...
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compressive force F ₁ kN	56	88	140	226	353	552	905	1414	2209	3619
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traction force F ₂ kN	28	42	69	115	180	266	477	721	1064	1908
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1 MPa = 10 bar
1 bar = 1,019 kp/cm² = 10 N/cm²
1 Newton (N) = 0,1019 kp

Weight of cylinders

Weight in kg at zero stroke

Typ	HZ 40/28/...	HZ 50/36/...	HZ 63/45/...	HZ 80/56/...	HZ 100/70/...	HZ 125/90/...	HZ 160/110/...	HZ 200/140/...	HZ 250/180/...	HZ 320/220/...
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O	5	7	11	17	33	44	109	190	354	475
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K	7	10	14	21	40	55	129	214	390	528
---	---	----	----	----	----	----	-----	-----	-----	-----

B	6,5	9	13	21	40,5	57,5	134	249	438	607
---	-----	---	----	----	------	------	-----	-----	-----	-----

Z	5	7,5	12,5	19,5	38	54	126	224	413	575
---	---	-----	------	------	----	----	-----	-----	-----	-----

L	5,5	8	13	21	41	58,5	138	260	460	680
---	-----	---	----	----	----	------	-----	-----	-----	-----

G	5,5	8	13	21	41	59	139	260	468	700
---	-----	---	----	----	----	----	-----	-----	-----	-----

weight per 1 mm stroke in kg	0,015	0,019	0,031	0,042	0,078	0,128	0,213	0,334	0,540	0,750
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Accessories - swivel eye types SL and SG

Zylindertyp	HZ 40/28/...	HZ 50/36/...	HZ 63/45/...	HZ 80/56/...	HZ 100/70/...	HZ 125/90/...	HZ 160/110/...	HZ 200/140/...	HZ 250/180/...	HZ 320/220/...
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swivel eye	SL 6	SL 9	SL 14	SL 22	SL 35	SL 55	SL 90	SL 140	SL 220	SL 360
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weight in kg	0,5	0,75	1,3	2,6	5,3	9,5	19	44	85	155
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swivel eye	SG 6	SG 9	SG 14	SG 22	SG 35	SG 55	SG 90	SG 140	SG 220	SG 360
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weight in kg	0,5	0,75	1,4	2,7	5,5	10	20	45	93	175
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ordering example: swivel eye SL 14

Dimensions

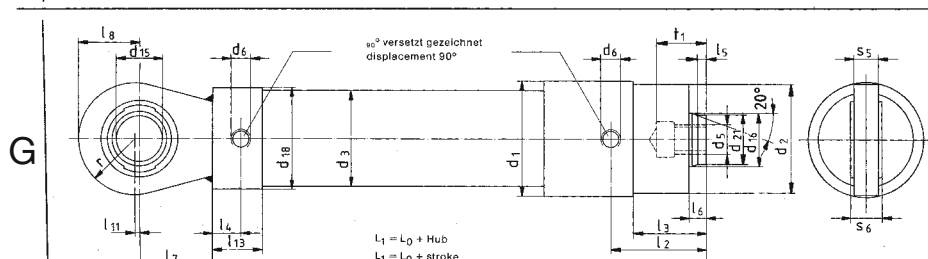
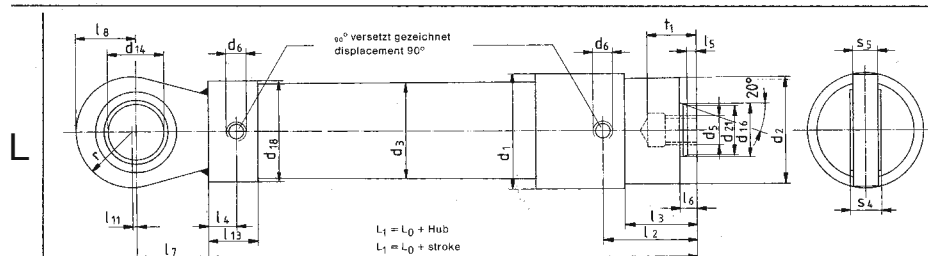
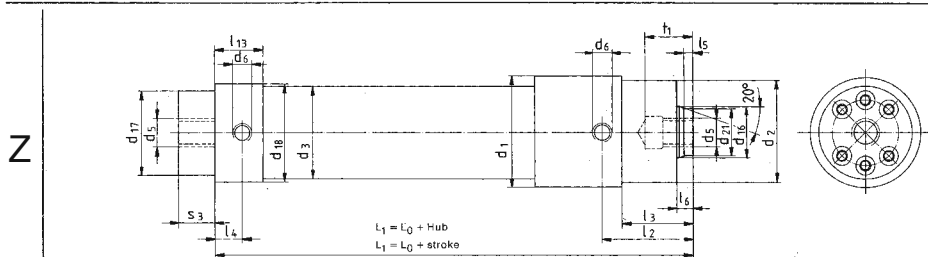
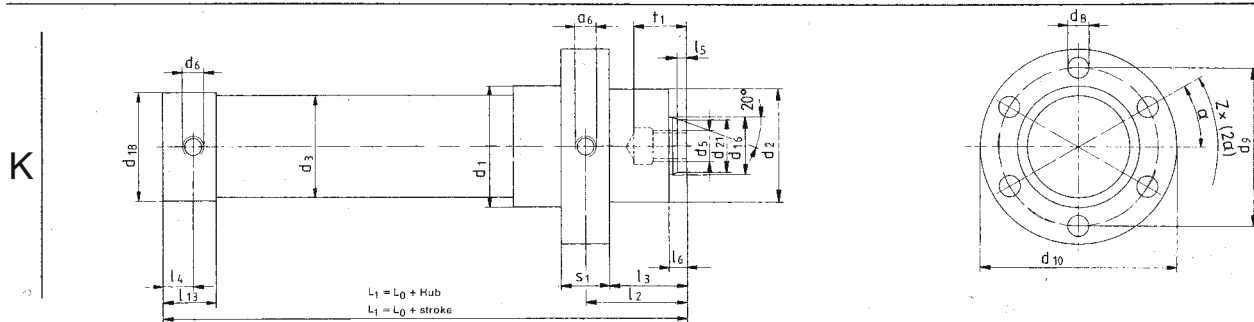
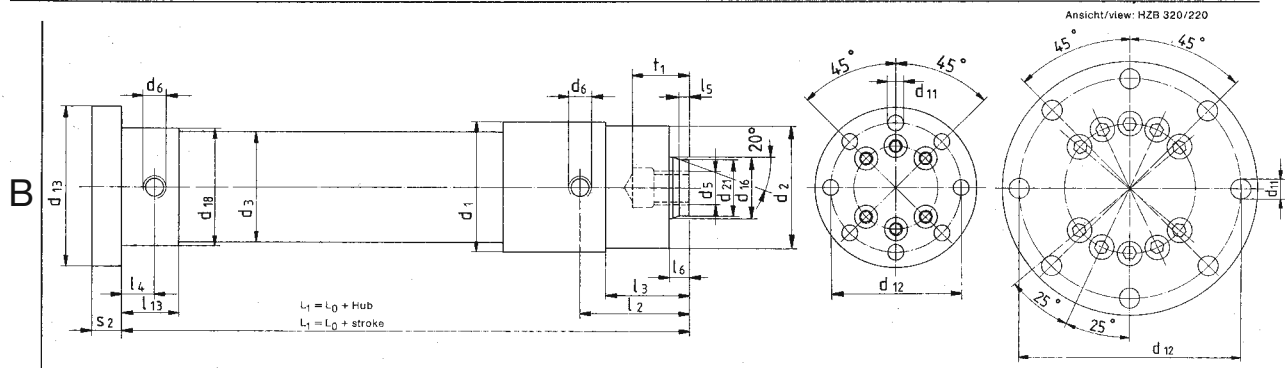
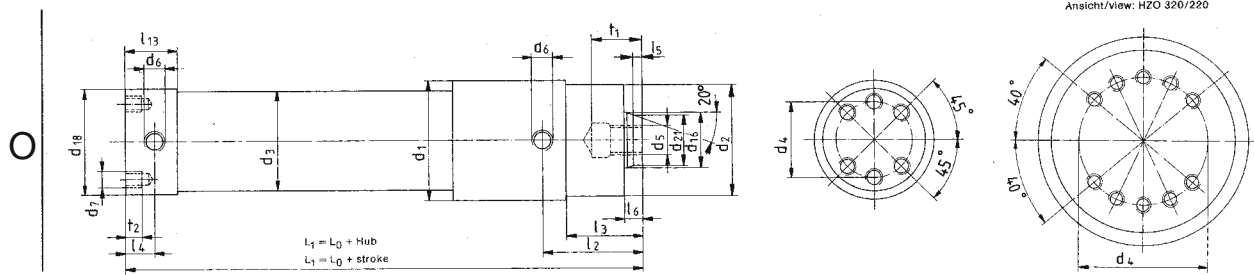
type	HZ 40/28/...	HZ 50/36/...	HZ 63/45/...	HZ 80/56/...	HZ 100/70/...	HZ 125/90/...	HZ 160/110/...	HZ 200/140/...	HZ 250/180/...	HZ 320/220/...
l ₀	212	212	220	240	310	350	405	450	542	490
l ₂	80	83	85	96	121	145	157	174	217	180
l ₃	65	65	65	76	96	120	122	139	179	145
l ₄	24	24	25	25	35	35	45	45	65	60
l ₅	11	11	11	11	16	16	16	16	20	20
l ₆	15	15	15	15	20	25	25	25	32	30
l ₇	50	60	75	90	115	145	180	240	290	375
l ₈	37	40	54	65	81	102	126	173	212	284
l ₁₀	40	43	48	53	71	92	113	145	182	255
l ₁₁	0	0	4	5	6	7	8	10	12	14
l ₁₂	50	55	60	70	90	115	140	180	230	320
l ₁₃	44	44	44	44	56	60	70	85	105	90
d ₁ Ø	78	85	102	125	155	200	255	320	390	480
d ₂ Ø	78	85	95	120	135	170	190	250	310	340
d ₃ Ø	55	65	85	105	135	170	225	280	345	420
d ₄ Ø	40	48	65	80	100	128	160	200	240	290
d ₅	M 18 x 1,5	M 22 x 1,5	M 27 x 1,5	M 36 x 1,5	M 45 x 1,5	M 56 x 2	M 68 x 2	M 90 x 2	M 115 x 3	M 150 x 4
d ₆ ¹⁾	M 18 x 1,5	M 18 x 1,5	M 18 x 1,5	M 18 x 1,5	M 27 x 2	M 27 x 2	M 27 x 2	M 27 x 2	M 33 x 2	M 33 x 2
d ₇	M 8	M 8	M 10	M 12	M 16	M 20	M 24	M 30	M 36	M 36
d ₈ Ø	11	13,5	18	18	22	26	33	33	39	45
d ₉ Ø	100	110	135	160	195	240	310	375	455	550
d ₁₀ Ø	120	135	165	190	230	290	360	430	515	620
d ₁₁ Ø	9	9	11	14	18	22	26	33	39	45
d ₁₂ Ø	75	85	105	128	163	205	267	335	410	495
d ₁₃ Ø	90	100	125	152	191	240	311	390	470	570
d ₁₄ Ø ¹	²⁾ 40	²⁾ 45	50	63	80	100	125	160	200	250
d ₁₅ Ø ²	³⁾ 30	³⁾ 35	40	50	60	80	100	140	180	240
d ₁₆ Ø	28	36	45	56	70	90	110	140	180	220
d ₁₇ Ø	55	65	85	105	130	165	205	253	305	362
d ₁₈ Ø	55	65	85	105	135	170	225	280	345	420
d ₁₉ Ø	47 ^{H7}	55 ^{H7}	58 ^{H7}	75 ^{H7}	95 ^{H7}	115 ^{H7}	140 ^{H7}	180 ^{H7}	220 ^{H7}	280 ^{H7}
d ₂₀ Ø	47 ^{M6}	55 ^{M6}	62 ^{M6}	75 ^{M6}	90 ^{M6}	120 ^{M6}	150 ^{M6}	210 ^{M6}	260 ^{M6}	340 ^{M6}
d ₂₁	27	34,5	43	54	68	88	108	138	178	217
r	37	40	50	60	75	95	118	163	200	270
S ₁	30	35	40	40	50	50	60	60	70	70
S ₂	19	19	23	28	35	40	45	55	65	70
S ₃	24	27	33	43	55	66	71	91	120	150
S ₄	22	25	28	36	45	56	70	90	110	140
S ₅	18	20	22	28	36	45	55	70	80	100
S ₆	22	25	28	35	44	55	70	90	105	140
b ₁	23	25	32	42	54	59	63	83	110	145
t ₁	27	35	44	52	63	75	82	102	130	150
t ₂	12	12	14	16	24	27	32	32	42	42
a	30°	30°	30°	22,5°	22,5°	18°	18°	12°	12°	10°
Z x (2α)	6	6	6	8	8	10	10	15	15	18

¹⁾ connection thread optionally G 1/2 to G 1 1/2

²⁾ recommended shaft tolerance: k 6 or m 6

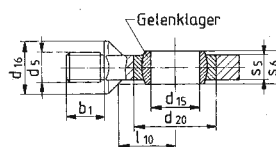
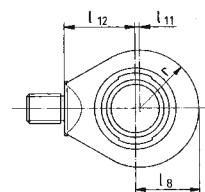
³⁾ recommended shaft tolerance: f 7 or f 8

Dimensions

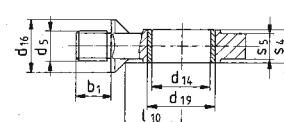
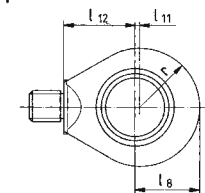


Schwenkauge
swivel eye

Type SG

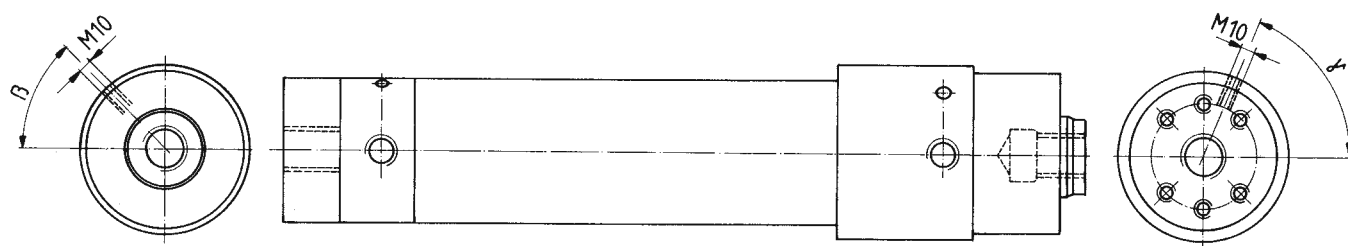


Type SL

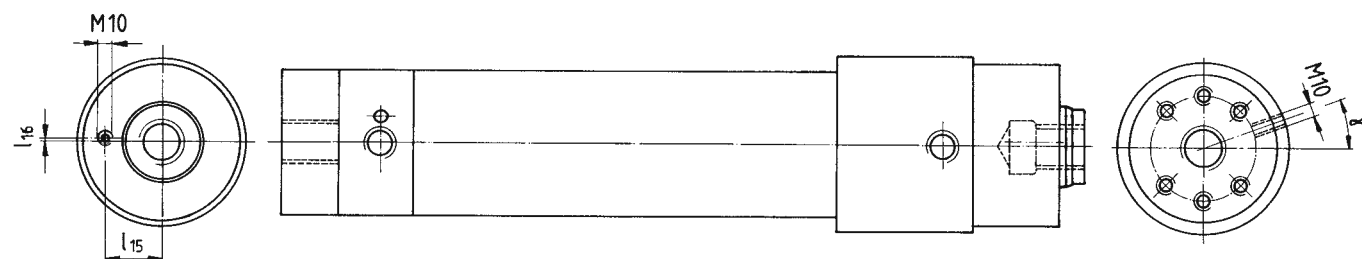


500 bar

Venting bores



type	HZ 40/28	HZ 50/36	HZ 63/45	HZ 80/56	HZ 100/70	HZ 125/90
β	60°	60°	60°	45°	45°	36°
γ	67°30'	67°30'	67°30'	67°30'	67°30'	20°



type	HZ 160/110		HZ 200/140		HZ 250/180		HZ 320/220	
type of construction	K	G, L, O, B, Z	K	G, L, O, B, Z	K	G, L, O, B, Z	K	G, L, O, B, Z
γ	15°	15°	12°	12°	12°	12°	10°	10°
l ₁₅	120	102,5	165	135	197,5	163	230	180
l ₁₆	7	12	7	12	9	15	9	9

LUKAS

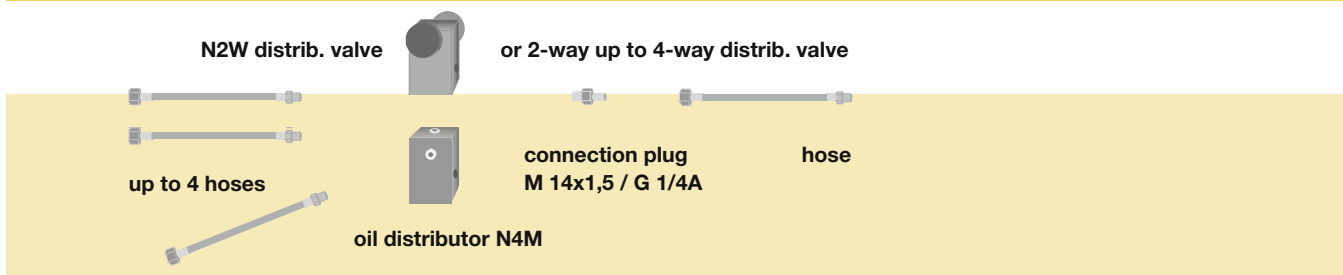
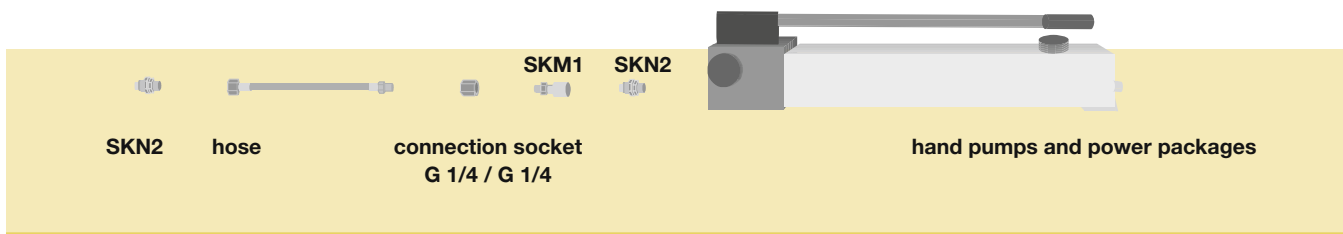
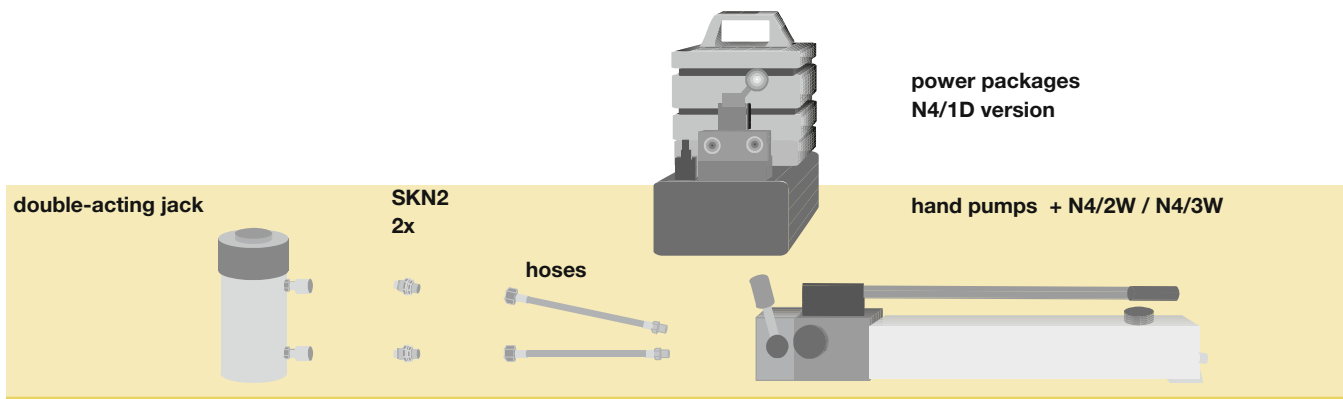
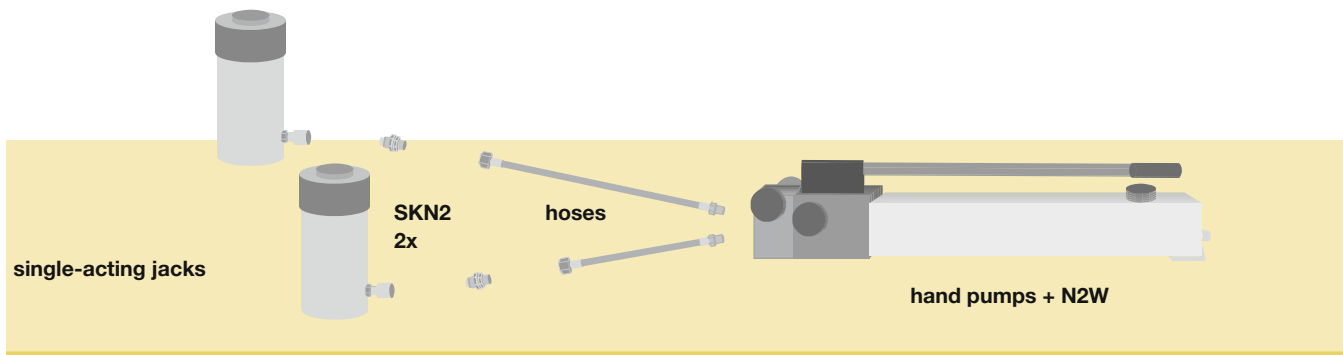
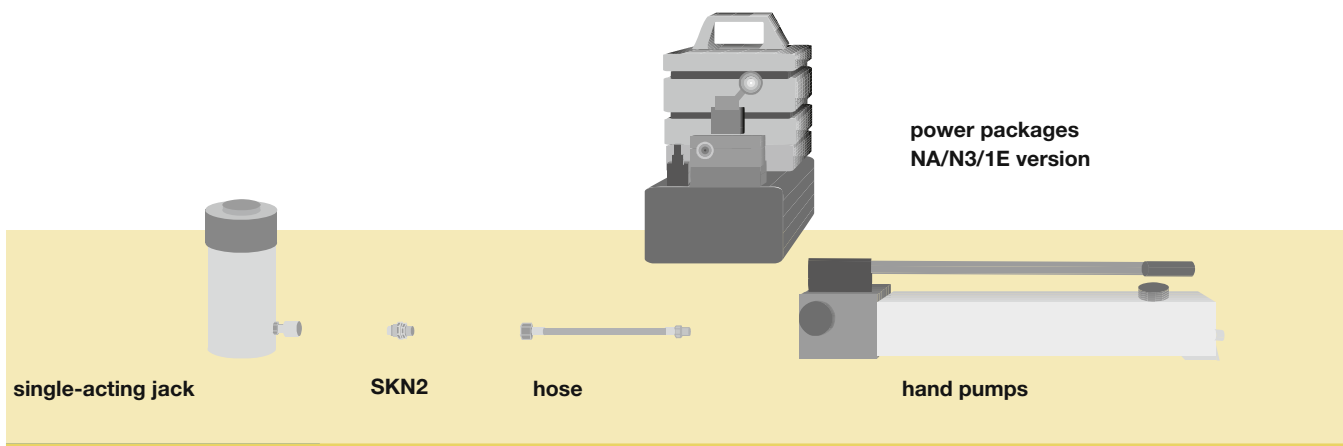
Passion makes the difference!

Hydraulic Tools



700 bar

Connection versions



Single-acting light-alloy cylinders with spring return 9 t up to 140 t

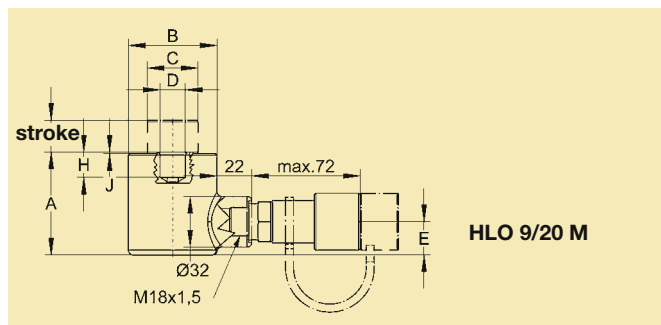


LUKAS HLO, HLM, HLZ cylinders are made of high strength light alloy and are easy to transport due to their low weight. They are mainly used on construction sites and for repair work in factories and workshops.

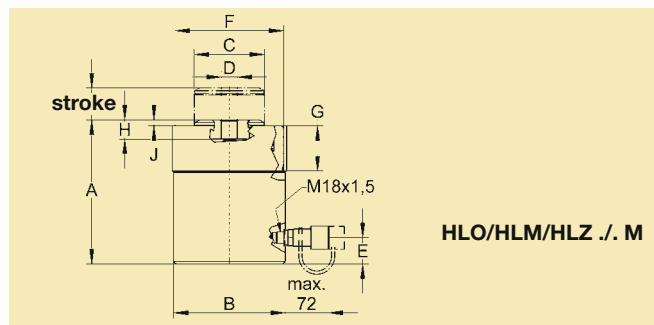
The HL. cylinder series is distinguished by flexible design of the differently equipped versions. This means greater flexibility when installing in machines and plants. The cylinders can be supplied without a collar thread, with metric or inch thread dimensions. M 18 x 1.5 and 3/8-18 NPT are available as connection threads. Further options are fixing bores in the bottom of the cylinder and the piston rod.

Features & Benefits:

- ▲ Resistant against lateral load
- ▲ Scraper rings against pollution and wear
- ▲ Fully loadable stroke limitation
- ▲ Strong return spring – fast piston retraction even with large cylinders
- ▲ Flexibility for external thread and connecting bore
- ▲ Equipped with internationally used screw couplers
- ▲ Can be re-equipped with LUKAS quick couplers



HLO 9/20 M



HLO/HLM/HLZ ./. M

HLO without collar thread and pressure port M 18 x 1,5

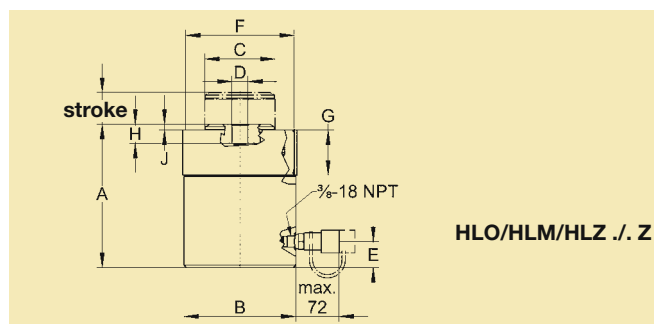
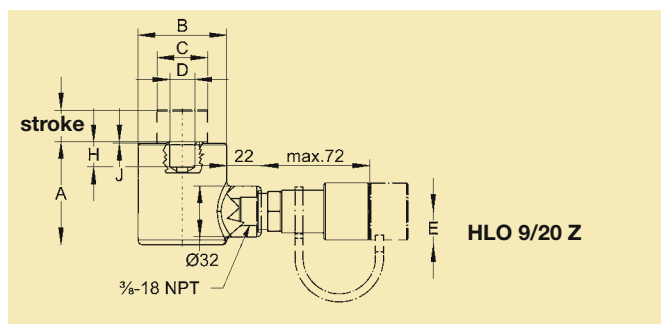
type	order no.	lifting cap. kN	stroke mm	effective area cm ²	oil capacity l	A mm	B Ø mm	C Ø mm	D Ø mm	E mm	F=B Ø mm	G mm	H mm	J mm	weight kg
HLO 9/20 M	83144/1704	88	20	12,6	0,03	65	56	32	16	21	56	---	16	5	0,9
HLO 9/50 M	83144/1808	88	50	12,6	0,06	160	58	32	16	23	58	---	16	5	1,4
HLO 9/160 M	83144/1813	88	160	12,6	0,20	270	58	32	16	23	58	---	20	5	2,5
HLO 14/50 M	83144/2208	137	50	19,6	0,10	186	70	40	16	23	70	---	29	6	2,7
HLO 14/160 M	83144/2213	137	160	19,6	0,31	296	70	40	16	23	70	---	29	6	4,2
HLO 22/50 M	83144/2608	218	50	31,2	0,16	205	85	50	25	40	85	---	30	7	5,2
HLO 22/160 M	83144/2613	218	160	31,2	0,50	315	85	50	25	40	85	---	30	7	6,4
HLO 35/50 M	83144/3008	352	50	50,3	0,25	215	127	63	25	40	127	---	30	7	9
HLO 35/100 M	83144/3011	352	100	50,3	0,50	265	127	63	25	40	127	---	30	7	11
HLO 35/200 M	83144/3014	352	200	50,3	1,01	365	127	63	25	40	127	---	30	7	15
HLO 55/50 M	83144/3408	550	50	78,5	0,39	224	146	90	25	30	146	---	30	9	11
HLO 55/200 M	83144/3414	550	200	78,5	1,57	374	146	90	25	30	146	---	30	9	17
HLO 85/50 M	83144/3808	859	50	122,7	0,61	225	175	110	25	41	175	---	30	9	15,5
HLO 85/160 M	83144/3813	859	160	122,7	1,96	341	175	110	25	41	175	---	30	9	22,5
HLO 85/200 M	83144/3814	859	200	122,7	2,45	384	175	110	25	41	175	---	30	9	25
HLO 140/50 M	83144/4208	1407	50	201	1,01	265	220	140	40	55	220	---	30	9	29,5
HLO 140/200 M	83144/4214	1407	200	201	4,02	415	220	140	40	55	220	---	30	9	44

HLM with metric collar thread and pressure port M 18 x 1,5

type	order no.	lifting cap. kN	stroke mm	effective area cm ²	oil capacity l	A mm	B Ø mm	C Ø mm	D Ø mm	E mm	F mm	G mm	H mm	J mm	weight kg
HLM 9/50 M	83145/1808	88	50	12,6	0,06	160	58	32	16	23	M 55x2	42	16	5	1,4
HLM 9/160 M	83145/1813	88	160	12,6	0,20	270	58	32	16	23	M 55x2	42	20	5	2,5
HLM 14/50 M	83145/2208	137	50	19,6	0,10	186	70	40	16	23	M 68x2	50	29	6	2,7
HLM 14/160 M	83145/2213	137	160	19,6	0,31	296	70	40	16	23	M 68x2	50	29	6	4,2
HLM 22/50 M	83145/2608	218	50	31,2	0,16	205	85	50	25	40	M 85x2	60	30	7	5,2
HLM 22/160 M	83145/2613	218	160	31,2	0,50	315	85	50	25	40	M 85x2	60	30	7	6,4
HLM 35/50 M	83145/3008	352	50	50,3	0,25	215	127	63	25	40	M 120x3	70,5	30	7	9
HLM 35/100 M	83145/3011	352	100	50,3	0,50	265	127	63	25	40	M 120x3	70,5	30	7	11
HLM 35/200 M	83145/3014	352	200	50,3	1,01	365	127	63	25	40	M 120x3	70,5	30	7	15
HLM 55/50 M	83145/3408	550	50	78,5	0,39	224	146	90	25	30	M 140x3	70,5	30	9	11
HLM 55/200 M	83145/3414	550	200	78,5	1,57	374	146	90	25	30	M 140x3	70,5	30	9	17
HLM 85/50 M	83145/3808	859	50	122,7	0,61	225	175	110	25	41	M 170x3	70,5	30	9	15,5
HLM 85/160 M	83145/3813	859	160	122,7	1,96	341	175	110	25	41	M 170x3	70,5	30	9	22,5
HLM 85/200 M	83145/3814	859	200	122,7	2,45	384	175	110	25	41	M 170x3	70,5	30	9	25
HLM 140/50 M	83145/4208	1407	50	201	1,01	265	220	140	40	55	M 220x4	70	30	9	29,5
HLM 140/200 M	83145/4214	1407	200	201	4,02	415	220	140	40	55	M 220x4	70	30	9	44

HLZ with inch size collar thread and pressure port M 18 x 1,5

type	order no.	lifting cap. kN	stroke mm	effective area cm ²	oil capacity l	A mm	B Ø mm	C Ø mm	D Ø mm	E mm	F mm	G mm	H mm	J mm	weight kg
HLZ 9/50 M	83134/1808	88	50	12,6	0,06	160	58	32	16	23	2 1/4"-14 UNS	43,1	16	5	1,4
HLZ 9/160 M	83134/1813	88	160	12,6	0,20	270	58	32	16	23	2 1/4"-14 UNS	43,1	20	5	2,5
HLZ 14/50 M	83134/2208	137	50	19,6	0,10	186	70	40	16	23	2 3/4"-16 UNS	50,9	29	6	2,7
HLZ 14/160 M	83134/2213	137	160	19,6	0,31	296	70	40	16	23	2 3/4"-16 UNS	50,9	29	6	4,2
HLZ 22/50 M	83134/2608	218	50	31,2	0,16	205	85	50	25	40	3 5/8"-12 UNS	59,8	30	7	5,2
HLZ 22/160 M	83134/2613	218	160	31,2	0,50	315	85	50	25	40	3 5/8"-12 UNS	59,8	30	7	6,4
HLZ 35/50 M	83134/3008	352	50	50,3	0,25	215	127	63	25	40	5"-12 UN	74	30	7	9
HLZ 35/100 M	83134/3011	352	100	50,3	0,50	265	127	63	25	40	5"-12 UN	74	30	7	11
HLZ 35/200 M	83134/3014	352	200	50,3	1,01	365	127	63	25	40	5"-12 UN	74	30	7	15
HLZ 55/50 M	83134/3408	550	50	78,5	0,39	224	146	90	25	30	5 3/4"-12 UN	73,5	30	9	11
HLZ 55/200 M	83134/3414	550	200	78,5	1,57	374	146	90	25	30	5 3/4"-12 UN	73,5	30	9	17
HLZ 85/50 M	83134/3808	859	50	122,7	0,61	225	175	110	25	41	6 7/8"-12 UN	72,8	30	9	15,5
HLZ 85/160 M	83134/3813	859	160	122,7	1,96	341	175	110	25	41	6 7/8"-12 UN	72,8	30	9	22,5
HLZ 85/200 M	83134/3814	859	200	122,7	2,45	384	175	110	25	41	6 7/8"-12 UN	72,8	30	9	25
HLZ 140/50 M	83134/4208	1407	50	201	1,01	265	220	140	40	55	8 1/2"-12 UN	71	30	9	29,5
HLZ 140/200 M	83134/4214	1407	200	201	4,02	415	220	140	40	55	8 1/2"-12 UN	71	30	9	44



HLO without collar thread and pressure port M 18x1,5

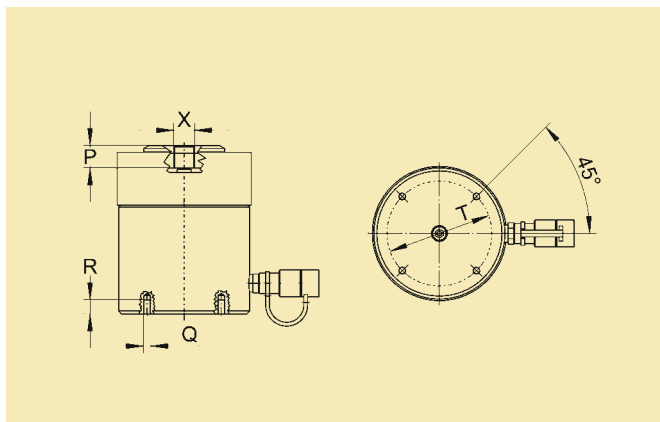
type	order no.	lifting cap. kN	stroke mm	effective area cm ²	oil capacity l	A mm	B Ø mm	C Ø mm	D Ø mm	E mm	F=B Ø mm	G mm	H mm	J mm	weight kg
HLO 9/20 Z	84144/1704	88	20	12,6	0,03	65	56	32	16	21	56	---	16	5	0,9
HLO 9/50 Z	84144/1808	88	50	12,6	0,06	160	58	32	16	23	58	---	16	5	1,4
HLO 9/160 Z	84144/1813	88	160	12,6	0,20	270	58	32	16	23	58	---	20	5	2,5
HLO 14/50 Z	84144/2208	137	50	19,6	0,10	186	70	40	16	23	70	---	29	6	2,7
HLO 14/160 Z	84144/2213	137	160	19,6	0,31	296	70	40	16	23	70	---	29	6	4,2
HLO 22/50 Z	84144/2608	218	50	31,2	0,16	205	85	50	25	40	85	---	30	7	5,2
HLO 22/160 Z	84144/2613	218	160	31,2	0,50	315	85	50	25	40	85	---	30	7	6,4
HLO 35/50 Z	84144/3008	352	50	50,3	0,25	215	127	63	25	40	127	---	30	7	9
HLO 35/100 Z	84144/3011	352	100	50,3	0,50	265	127	63	25	40	127	---	30	7	11
HLO 35/200 Z	84144/3014	352	200	50,3	1,01	365	127	63	25	40	127	---	30	7	15
HLO 55/50 Z	84144/3408	550	50	78,5	0,39	224	146	90	25	30	146	---	30	9	11
HLO 55/200 Z	84144/3414	550	200	78,5	1,57	374	146	90	25	30	146	---	30	9	17
HLO 85/50 Z	84144/3808	859	50	122,7	0,61	225	175	110	25	41	175	---	30	9	15,5
HLO 85/160 Z	84144/3813	859	160	122,7	1,96	341	175	110	25	41	175	---	30	9	22,5
HLO 85/200 Z	84144/3814	859	200	122,7	2,45	384	175	110	25	41	175	---	30	9	25
HLO 140/50 Z	84144/4208	1407	50	201	1,01	265	220	140	40	55	220	---	30	9	29,5
HLO 140/200 Z	84144/4214	1407	200	201	4,02	415	220	140	40	55	220	---	30	9	44

HLM with metric collar thread and pressure port M 18x1,5

type	order no.	lifting cap. kN	stroke mm	effective area cm ²	oil capacity l	A mm	B Ø mm	C Ø mm	D Ø mm	E mm	F mm	G mm	H mm	J mm	weight kg
HLM 9/50 Z	84145/1808	88	50	12,6	0,06	160	58	32	16	23	M 55x2	42	16	5	1,4
HLM 9/160 Z	84145/1813	88	160	12,6	0,20	270	58	32	16	23	M 55x2	42	20	5	2,5
HLM 14/50 Z	84145/2208	137	50	19,6	0,10	186	70	40	16	23	M 68x2	50	29	6	2,7
HLM 14/160 Z	84145/2213	137	160	19,6	0,31	296	70	40	16	23	M 68x2	50	29	6	4,2
HLM 22/50 Z	84145/2608	218	50	31,2	0,16	205	85	50	25	40	M 85x2	60	30	7	5,2
HLM 22/160 Z	84145/2613	218	160	31,2	0,50	315	85	50	25	40	M 85x2	60	30	7	6,4
HLM 35/50 Z	84145/3008	352	50	50,3	0,25	215	127	63	25	40	M 120x3	70,5	30	7	9
HLM 35/100 Z	84145/3011	352	100	50,3	0,50	265	127	63	25	40	M 120x3	70,5	30	7	11
HLM 35/200 Z	84145/3014	352	200	50,3	1,01	365	127	63	25	40	M 120x3	70,5	30	7	15
HLM 55/50 Z	84145/3408	550	50	78,5	0,39	224	146	90	25	30	M 140x3	70,5	30	9	11
HLM 55/200 Z	84145/3414	550	200	78,5	1,57	374	146	90	25	30	M 140x3	70,5	30	9	17
HLM 85/50 Z	84145/3808	859	50	122,7	0,61	225	175	110	25	41	M 170x3	70,5	30	9	15,5
HLM 85/160 Z	84145/3813	859	160	122,7	1,96	341	175	110	25	41	M 170x3	70,5	30	9	22,5
HLM 85/200 Z	84145/3814	859	200	122,7	2,45	384	175	110	25	41	M 170x3	70,5	30	9	25
HLM 140/50 Z	84145/4208	1407	50	201	1,01	265	220	140	40	55	M 220x4	70	30	9	29,5
HLM 140/200 Z	84145/4214	1407	200	201	4,02	415	220	140	40	55	M 220x4	70	30	9	44

HLZ with inch size collar thread and pressure port M 18x1,5

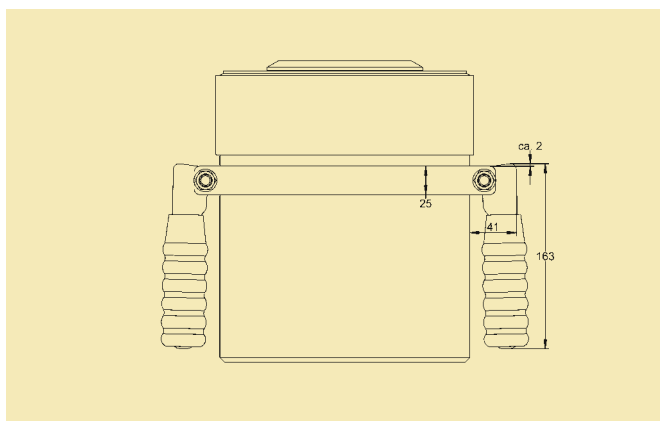
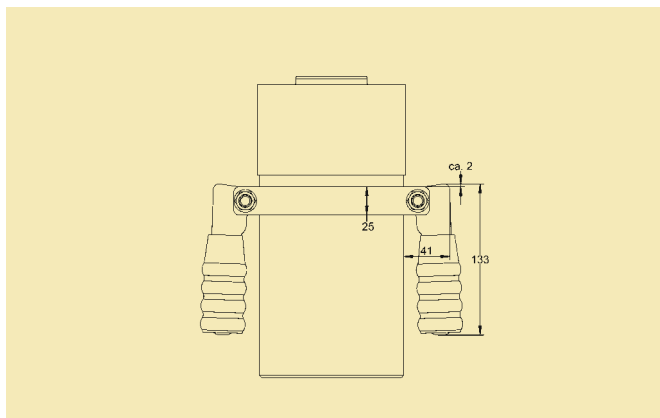
type	order no.	lifting cap. kN	stroke mm	effective area cm ²	oil capacity l	A mm	B Ø mm	C Ø mm	D Ø mm	E mm	F mm	G mm	H mm	J mm	weight kg
HLZ 9/50 Z	84134/1808	88	50	12,6	0,06	160	58	32	16	23	2 1/4"-14 UNS	43,1	16	5	1,4
HLZ 9/160 Z	84134/1813	88	160	12,6	0,20	270	58	32	16	23	2 1/4"-14 UNS	43,1	20	5	2,5
HLZ 14/50 Z	84134/2208	137	50	19,6	0,10	186	70	40	16	23	2 3/4"-16 UNS	50,9	29	6	2,7
HLZ 14/160 Z	84134/2213	137	160	19,6	0,31	296	70	40	16	23	2 3/4"-16 UNS	50,9	29	6	4,2
HLZ 22/50 Z	84134/2608	218	50	31,2	0,16	205	85	50	25	40	3 5/16"-12 UNS	59,8	30	7	5,2
HLZ 22/160 Z	84134/2613	218	160	31,2	0,50	315	85	50	25	40	3 5/16"-12 UNS	59,8	30	7	6,4
HLZ 35/50 Z	84134/3008	352	50	50,3	0,25	215	127	63	25	40	5"-12 UN	74	30	7	9
HLZ 35/100 Z	84134/3011	352	100	50,3	0,50	265	127	63	25	40	5"-12 UN	74	30	7	11
HLZ 35/200 Z	84134/3014	352	200	50,3	1,01	365	127	63	25	40	5"-12 UN	74	30	7	15
HLZ 55/50 Z	84134/3408	550	50	78,5	0,39	224	146	90	25	30	5 3/4"-12 UN	73,5	30	9	11
HLZ 55/200 Z	84134/3414	550	200	78,5	1,57	374	146	90	25	30	5 3/4"-12 UN	73,5	30	9	17
HLZ 85/50 Z	84134/3808	859	50	122,7	0,61	225	175	110	25	41	6 7/8"-12 UN	72,8	30	9	15,5
HLZ 85/160 Z	84134/3813	859	160	122,7	1,96	341	175	110	25	41	6 7/8"-12 UN	72,8	30	9	22,5
HLZ 85/200 Z	84134/3814	859	200	122,7	2,45	384	175	110	25	41	6 7/8"-12 UN	72,8	30	9	25
HLZ 140/50 Z	84134/4208	1407	50	201	1,01	265	220	140	40	55	8 1/2"-12 UN	71	30	9	29,5
HLZ 140/200 Z	84134/4214	1407	200	201	4,02	415	220	140	40	55	8 1/2"-12 UN	71	30	9	44



Optionally with fixing holes in the piston rod and the cylinder base.

	X	P	Q	R	T
HLO 9/20	M 18x1,5	10 mm	--	--	--
HLO/HLM/HLZ 9/..	M 18x1,5	13,5 mm	M 6	10 mm	35 mm
HLO/HLM/HLZ 14/..	M 18x1,5	22,5 mm	M 6	10 mm	50 mm
HLO/HLM/HLZ 22/..	M 27x2	22,5 mm	M 8	13 mm	66 mm
HLO/HLM/HLZ 35/..	M 27x2	24 mm	M 8	13 mm	88 mm
HLO/HLM/HLZ 55/..	M 27x2	30 mm	M 10	19 mm	110 mm
HLO/HLM/HLZ 85/..	M 27x2	30 mm	M 10	19 mm	140 mm
HLO/HLM/HLZ 140/..	—	—	M 12	24 mm	185 mm

Handles



for	order no.	weight
HLO / HLM / HLZ 35/50 M/Z	83145/3066	0,9 kg
HLO / HLM / HLZ 35/100 M/Z	83145/3066	0,9 kg
HLO / HLM / HLZ 35/200 M/Z	83145/3066	0,9 kg
HLO / HLM / HLZ 55/50 M/Z	83145/3466	0,9 kg
HLO / HLM / HLZ 55/200 M/Z	83145/3466	0,9 kg
HLO / HLM / HLZ 85/50 M/Z	83148/3966	1,0 kg
HLO / HLM / HLZ 85/160 M/Z	83148/3966	1,0 kg
HLO / HLM / HLZ 85/200 M/Z	83148/3966	1,0 kg



for	order no.	weight
HLO / HLM / HLZ 140/50 M/Z	83145 / 4266	1,2 kg
HLO / HLM / HLZ 140/200 M/Z	83145 / 4266	1,2 kg

Cylinder Accessories HLO/HLM/HLZ

100% loadable

For better protection of the piston we recommend to use **piston saddles** or other special saddles.

Prism saddles are used for pushing special-shaped material.

Tilting saddles are put on the piston for compensating arc movements, e. g. when a load is lifted only on one side. As the tilting saddle is a piston-side accessory.

Base plates increase the cylinder area for better stability.

Use extensions only with centre power transfer!
Never put two extensions one upon another!

	mm	mm	weight kg	order no.
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(1) Piston saddles for

HL... 9, HL... 14	17	40	0,2	84128/5002
HL... 22, HL... 35	20	63	0,6	84128/5004
HL... 55	24	80	1,0	84128/5005
HL... 85	24	110	1,9	84128/5006
HL... 140	28	120	2,7	84128/5007

(2) Spherical saddles for

HL... 9, HL... 14	15	32	0,1	84128/1509
HL... 22	10	48	0,35	84128/1513
HL... 35	15	60	0,45	84128/1514

(3) Prism saddles for

HL... 9, HL... 14	31	46	0,3	84031/77
HL... 25, HL... 35	45	70	0,9	84031/52

(4) (5) Tilting saddles for

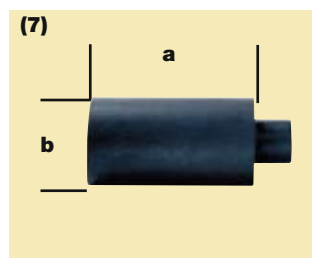
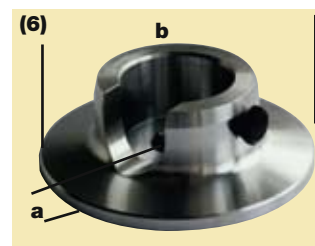
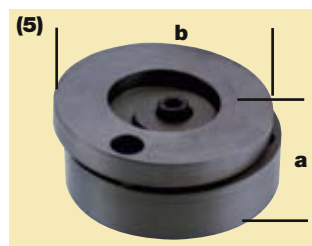
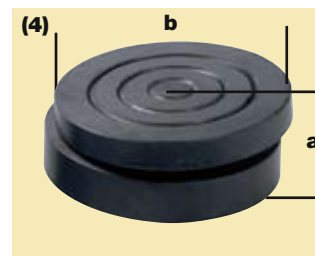
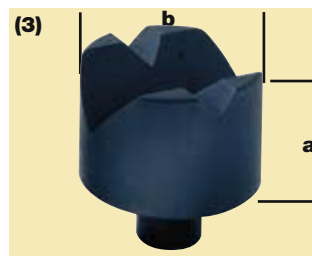
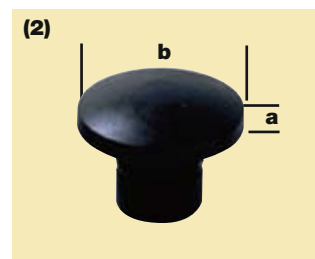
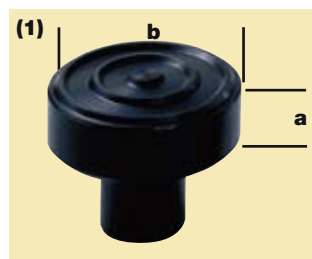
HL... 9, HL... 14	20	50	0,3	84128/5063
HL... 22, HL... 35	20	63	0,3	84128/5062
HL... 55	29	80	1,1	84128/5065
HL... 85 (5)	45	110	3,0	84128/1624

(6) Base plates for

HL... 9	10	118	0,6	83145/0605
HL... 14	16	138	1,0	83145/0606
HL... 22	17	158	1,3	84128/0607
HL... 35	23	198	2,3	83145/0608
HL... 55	27	218	3,9	83145/0609
HL... 85	20	300	7,4	83145/1319
HL... 140	20	300	9,0	84128/1320

(7) Extensions for

HL... 9, HL... 14	100	32	0,63	84031/8101
HL... 22, HL... 35	100	50	4	84031/07
HL... 22, HL... 35	200	50	8	84031/08



700 bar

Double-acting light-alloy cylinders 15 t up to 140 t



LUKAS HLOD, HLMD, HLZD cylinders are made of high strength light alloy and are easy to transport due to their low weight. They are mainly used on construction sites and for repair work in factories and workshops.

The HL.D cylinder series is distinguished by flexible design of the differently equipped versions. This means greater flexibility when installing in machines and plants.

The cylinders can be supplied without a collar thread, with metric or inch thread dimensions. M 18 x 1.5 and 3/8-18 NPT are available as connection threads. Further options are fixing bores in the bottom of the cylinder.

Features & Benefits:

- ▲ Resistant against lateral load
- ▲ Scraper rings against pollution and wear
- ▲ Fully loadable stroke limitation
- ▲ Hydraulic return can also be used for pulling operations
- ▲ Flexibility for collar thread and pressure port thread
- ▲ Equipped with internationally used screw couplers
- ▲ Can be re-equipped with LUKAS quick couplers

Technical specifications of all versions

types	lifting ca. kN	pulling cap. kN	stroke mm	effect. area (pushing) cm ²	effect. area (pulling) cm ²	required oil cap. l	weight kg
HLOD/HLMD/HLZD 15-6/200 M/Z	137	66	200	19,6	9,5	0,20	9
HLOD/HLMD/HLZD 35-15/200 M/Z	352	179	200	50,3	25,6	0,49	14
HLOD/HLMD/HLZD 55-25/100 M/Z	550	280	100	78,5	40,1	0,38	15
HLOD/HLMD/HLZD 55-25/150 M/Z	550	280	150	78,5	40,1	0,58	17
HLOD/HLMD/HLZD 55-25/200 M/Z	550	280	200	78,5	40,1	0,77	19
HLOD/HLMD/HLZD 85-40/100 M/Z	859	414	100	122,7	59,1	0,64	22
HLOD/HLMD/HLZD 85-40/150 M/Z	859	414	150	122,7	59,1	0,95	24
HLOD/HLMD/HLZD 85-40/200 M/Z	859	414	200	122,7	59,1	1,27	27
HLOD/HLMD/HLZD 140-60/150 M/Z	1407	616	150	201,1	88,0	1,70	40
HLOD/HLMD/HLZD 140-60/200 M/Z	1407	616	200	201,1	88,0	2,26	45

HLOD without collar thread and pressure port M 18 x 1,5

type	order no	A mm	B Ø mm	C Ø mm	D	E mm	F = B Ø mm	G	H mm	J mm	L mm	O mm
HLOD 15-6/200 M	83148/2314	330	100	36	M 20x1,5	25,5	100	---	48	5	10	54,4
HLOD 35-15/200M	83148/3114	370	130	56	M 33x1,5	27	130	---	48	5	10	70
HLOD 55-25/100M	83148/3511	280	150	70	M 36x1,5	27	150	---	53	5	15	74,5
HLOD 55-25/150M	83148/3513	330	150	70	M 36x1,5	27	150	---	53	5	15	74,5
HLOD 55-25/200M	83148/3514	380	150	70	M 36x1,5	27	150	---	53	5	15	74,5
HLOD 85-40/100M	83148/3911	295	175	90	M 50x1,5	30	175	---	59	5	15	83,5
HLOD 85-40/150M	83148/3913	345	175	90	M 50x1,5	30	175	---	59	5	15	83,5
HLOD 85-40/200M	83148/3914	395	175	90	M 50x1,5	30	175	---	59	5	15	83,5
HLOD140-60/150M	83148/4313	360	225	120	M 80x2	30	225	---	68	5	15	92
HLOD140-60/200M	83148/4314	410	225	120	M 80x2	30	225	---	68	5	15	92

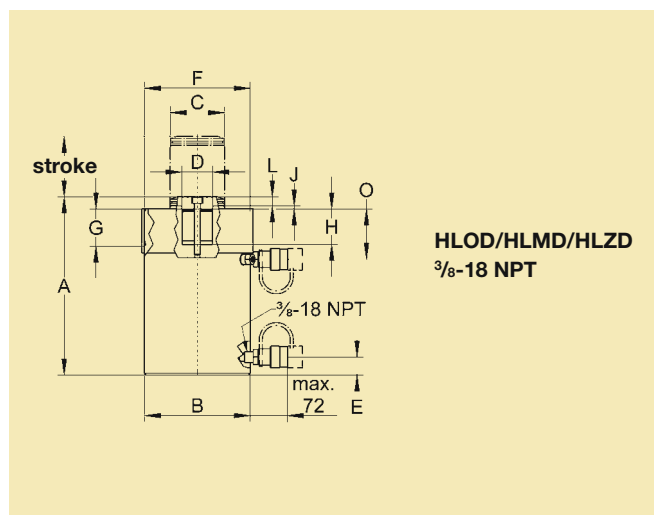
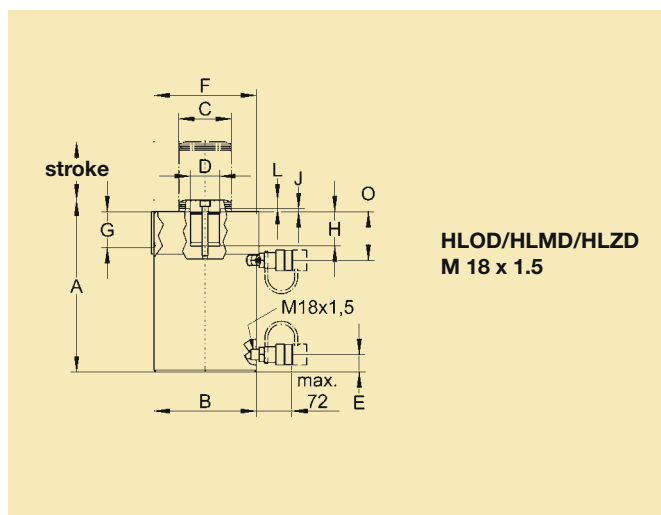
700 bar

HLMD with metric collar thread and pressure port M 18 x 1,5

type	order no	A mm	B Ø mm	C Ø mm	D	E mm	F	G mm	H mm	J mm	L mm	O mm
HLMD 15-6/200 M	83149/2314	330	100	36	M 20x1,5	25,5	M 100x2	35,1	48	5	10	54,4
HLMD 35-15/200M	83149/3114	370	130	56	M 33x1,5	27	M 130x2	49,5	48	5	10	70
HLMD 55-25/100M	83149/3511	280	150	70	M 36x1,5	27	M 150x3	52,6	53	5	15	74,5
HLMD 55-25/150M	83149/3513	330	150	70	M 36x1,5	27	M 150x3	52,6	53	5	15	74,5
HLMD 55-25/200M	83149/3514	380	150	70	M 36x1,5	27	M 150x3	52,6	53	5	15	74,5
HLMD 85-40/100M	83149/3911	295	175	90	M 50x1,5	30	M 175x3	61,6	59	5	15	83,5
HLMD 85-40/150M	83149/3913	345	175	90	M 50x1,5	30	M 175x3	61,6	59	5	15	83,5
HLMD 85-40/200M	83149/3914	395	175	90	M 50x1,5	30	M 175x3	61,6	59	5	15	83,5
HLMD140-60/150M	83149/4313	360	225	120	M 80x2	30	M 220x4	70,9	68	5	15	92
HLMD140-60/200M	83149/4314	410	225	120	M 80x2	30	M 220x4	70,9	68	5	15	92

HLZD with inch size collar thread and pressure port M 18 x 1,5

type	order no	A mm	B Ø mm	C Ø mm	D	E mm	F	G mm	H mm	J mm	L mm	O mm
HLZD 15-6/200 M	83138/2314	330	100	36	M 20x1,5	25,5	3 7/8"-12 UN	35,1	48	5	10	54,4
HLZD 35-15/200M	83138/3114	370	130	56	M 33x1,5	27	5"-12 UN	49,5	48	5	10	70
HLZD 55-25/100M	83138/3511	280	150	70	M 36x1,5	27	5 3/4"-12 UN	52,6	53	5	15	74,5
HLZD 55-25/150M	83138/3513	330	150	70	M 36x1,5	27	5 3/4"-12 UN	52,6	53	5	15	74,5
HLZD 55-25/200M	83138/3514	380	150	70	M 36x1,5	27	5 3/4"-12 UN	52,6	53	5	15	74,5
HLZD 85-40/100M	83138/3911	295	175	90	M 50x1,5	30	6 7/8"-12 UN	61,6	59	5	15	83,5
HLZD 85-40/150M	83138/3913	345	175	90	M 50x1,5	30	6 7/8"-12 UN	61,6	59	5	15	83,5
HLZD 85-40/200M	83138/3914	395	175	90	M 50x1,5	30	6 7/8"-12 UN	61,6	59	5	15	83,5
HLZD140-60/150M	83138/4313	360	225	120	M 80x2	30	8 1/2"-12 UN	70,9	68	5	15	92
HLZD140-60/200M	83138/4314	410	225	120	M 80x2	30	8 1/2"-12 UN	70,9	68	5	15	92



HLOD without external thread and pressure port 3/8-18 NPT

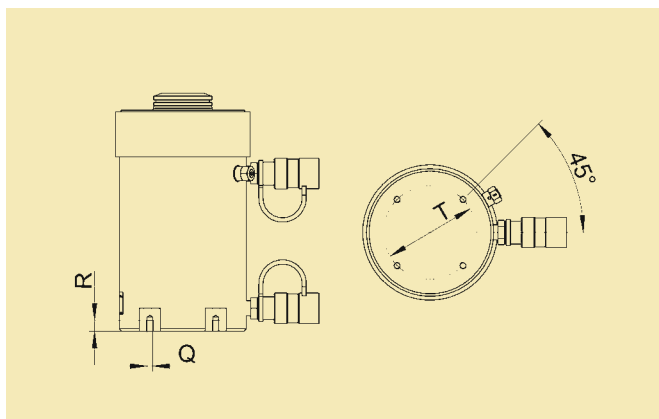
type	order no.	A mm	B Ø mm	C Ø mm	D	E mm	F = B Ø mm	G	H mm	J mm	L mm	O mm
HLOD 15-6/200 Z	84148/2314	330	100	36	M 20x1,5	25,5	100	---	48	5	10	54,4
HLOD 35-15/200Z	84148/3114	370	130	56	M 33x1,5	27	130	---	48	5	10	70
HLOD 55-25/100Z	84148/3511	280	150	70	M 36x1,5	27	150	---	53	5	15	74,5
HLOD 55-25/150Z	84148/3513	330	150	70	M 36x1,5	27	150	---	53	5	15	74,5
HLOD 55-25/200Z	84148/3514	380	150	70	M 36x1,5	27	150	---	53	5	15	74,5
HLOD 85-40/100Z	84148/3911	295	175	90	M 50x1,5	30	175	---	59	5	15	83,5
HLOD 85-40/150Z	84148/3913	345	175	90	M 50x1,5	30	175	---	59	5	15	83,5
HLOD 85-40/200Z	84148/3914	395	175	90	M 50x1,5	30	175	---	59	5	15	83,5
HLOD140-60/150Z	84148/4313	360	225	120	M 80x2	30	225	---	68	5	15	92
HLOD140-60/200Z	84148/4314	410	225	120	M 80x2	30	225	---	68	5	15	92

HLMD with metric collar thread and pressure port 3/8-18 NPT

type	order no.	A mm	B Ø mm	C Ø mm	D	E mm	F	G	H mm	J mm	L mm	O mm
HLMD 15-6/200 Z	84149/2314	330	100	36	M 20x1,5	25,5	M 100x2	35,1	48	5	10	54,4
HLMD 35-15/200Z	84149/3114	370	130	56	M 33x1,5	27	M 130x2	49,5	48	5	10	70
HLMD 55-25/100Z	84149/3511	280	150	70	M 36x1,5	27	M 150x3	52,6	53	5	15	74,5
HLMD 55-25/150Z	84149/3513	330	150	70	M 36x1,5	27	M 150x3	52,6	53	5	15	74,5
HLMD 55-25/200Z	84149/3514	380	150	70	M 36x1,5	27	M 150x3	52,6	53	5	15	74,5
HLMD 85-40/100Z	84149/3911	295	175	90	M 50x1,5	30	M 175x3	61,6	59	5	15	83,5
HLMD 85-40/150Z	84149/3913	345	175	90	M 50x1,5	30	M 175x3	61,6	59	5	15	83,5
HLMD 85-40/200Z	84149/3914	395	175	90	M 50x1,5	30	M 175x3	61,6	59	5	15	83,5
HLMD140-60/150Z	84149/4313	360	225	120	M 80x2	30	M 220x4	70,9	68	5	15	92
HLMD140-60/200Z	84149/4314	410	225	120	M 80x2	30	M 220x4	70,9	68	5	15	92

HLZD with inch size collar thread and pressure port 3/8-18 NPT

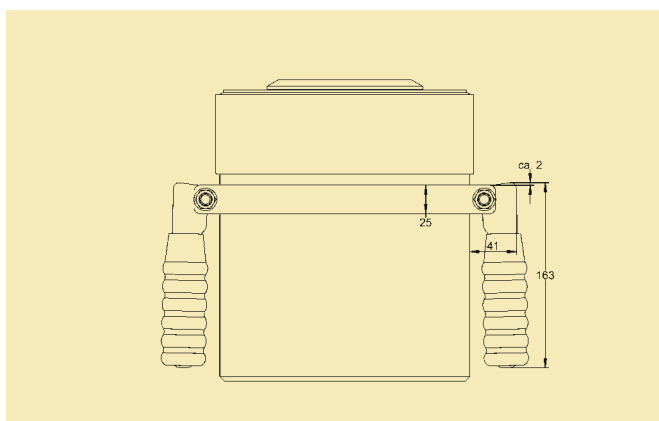
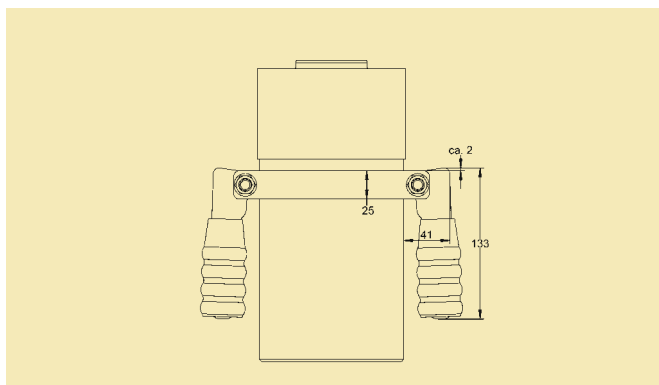
type	order no.	A mm	B Ø mm	C Ø mm	D	E mm	F	G	H mm	J mm	L mm	O mm
HLZD 15-6/200 Z	84138/2314	330	100	36	M 20x1,5	25,5	3/8"-12 UN	35,1	48	5	10	54,4
HLZD 35-15/200Z	84138/3114	370	130	56	M 33x1,5	27	5/8"-12 UN	49,5	48	5	10	70
HLZD 55-25/100Z	84138/3511	280	150	70	M 36x1,5	27	5/8"-12 UN	52,6	53	5	15	74,5
HLZD 55-25/150Z	84138/3513	330	150	70	M 36x1,5	27	5/8"-12 UN	52,6	53	5	15	74,5
HLZD 55-25/200Z	84138/3514	380	150	70	M 36x1,5	27	5/8"-12 UN	52,6	53	5	15	74,5
HLZD 85-40/100Z	84138/3911	295	175	90	M 50x1,5	30	6/8"-12 UN	61,6	59	5	15	83,5
HLZD 85-40/150Z	84138/3913	345	175	90	M 50x1,5	30	6/8"-12 UN	61,6	59	5	15	83,5
HLZD 85-40/200Z	84138/3914	395	175	90	M 50x1,5	30	6/8"-12 UN	61,6	59	5	15	83,5
HLZD140-60/150Z	84138/4313	360	225	120	M 80x2	30	8 1/2"-12 UN	70,9	68	5	15	92
HLZD140-60/200Z	84138/4314	410	225	120	M 80x2	30	8 1/2"-12 UN	70,9	68	5	15	92



Optionally with fixing holes in the cylinder base.

	Q	R	T
HLOD / HLMD / HLZD 15/...	M 6	10 mm	50 mm
HLOD / HLMD / HLZD 35/...	M 8	13 mm	88 mm
HLOD / HLMD / HLZD 55/...	M 10	19 mm	110 mm
HLOD / HLMD / HLZD 85/...	M 10	19 mm	140 mm
HLOD / HLMD / HLZD 140/...	M 12	24 mm	185 mm

Handles

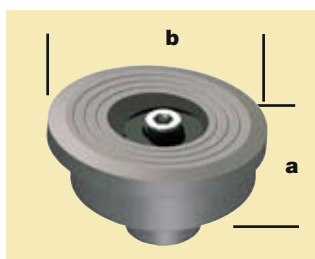


for	order no.	weight
HLOD / HLMD / HLZD 85-40/100 M/Z	83148/3966	1,0 kg
HLOD / HLMD / HLZD 85-40/150 M/Z	83148/3966	1,0 kg
HLOD / HLMD / HLZD 85-40/200 M/Z	83148/3966	1,0 kg



for	order no.	weight
HLOD / HLMD / HLZD 35-15/200 M/Z	83148/3166	1,0 kg
HLOD / HLMD / HLZD 55-25/100 M/Z	83148/3566	1,0 kg
HLOD / HLMD / HLZD 55-25/150 M/Z	83148/3566	1,0 kg
HLOD / HLMD / HLZD 55-25/200 M/Z	83148/3566	1,0 kg
HLOD / HLMD / HLZD 140-60/150 M/Z	83148/4366	1,2 kg
HLOD / HLMD / HLZD 140-60/200 M/Z	83148/4366	1,2 kg

Tilting Saddles



Tilting saddles are put on the piston for compensating arc movements, e. g. when a load is lifted only on one side. As the tilting saddle is a piston-side accessory.

Tilting Saddle for	order no.	mm	Ø mm	tilting angle	weight
HLOD / HLMD / HLZD 15	83148/1623	24	50	5°	0,4 kg
HLOD / HLMD / HLZD 35	83148/1631	20	75	5°	0,6 kg
HLOD / HLMD / HLZD 55	83148/1635	32	95	5°	1,4 kg
HLOD / HLMD / HLZD 85	83148/1639	45	135	5°	3,9 kg
HLOD / HLMD / HLZD 140	83148/1643	45	155	5°	6,2 kg

700 bar

Single-acting stainless steel cylinders with spring return, 10 t up to 63 t



LUKAS stainless steel cylinders ACM are specially designed for applications where highest surface quality is required. Even when employed in an aggressive atmosphere, e.g. in the offshore area, they convince with extreme resistance against corrosion and long service life. After application in a radioactive environment they can be decontaminated much easier than painted cylinders. Of course they can also be used with workshops, on

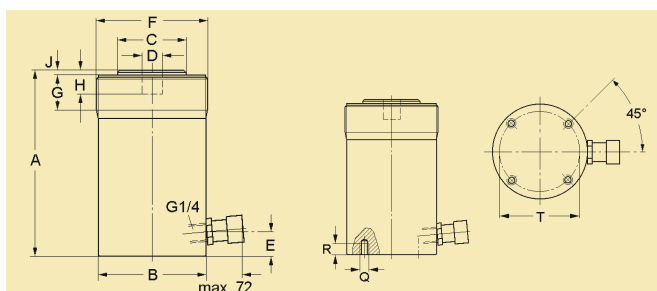
construction sites and on the area of bridge building and bridge maintenance.

Locking sleeves and 100% loadable accessories are available.

For fast piston return without load all models are equipped with a strong retraction spring. ACM cylinders are equipped with screw couplers having dimensions as per international standard.

type	order no.	lifting cap. kN	stroke mm	eff. area cm ²	oil cap. l	A mm	B Ø mm	C Ø mm	D Ø mm	E mm	F	G mm	H mm	J mm	weight kg
ACM 10/50	84140/6208	88	50	12,6	0,06	134	52	32	16	21,5	M 55 x 2	30	12	4	1,9
ACM 10/100	84140/6211	88	100	12,6	0,13	184	52	32	16	21,5	M 55 x 2	30	12	4	2,5
ACM 10/150	84140/6233	88	150	12,6	0,19	234	52	32	16	21,5	M 55 x 2	30	12	4	3
ACM 25/50	84140/6008	219	50	31,2	0,16	139	80	50	16	21	M 85 x 2	34	10	4	4,7
ACM 25/100	84140/6011	219	100	31,2	0,31	189	80	50	16	21	M 85 x 2	34	10	4	5,9
ACM 25/150	84140/6033	219	150	31,2	0,49	239	80	50	16	21	M 85 x 2	34	10	4	7,1
ACM 63/50	84140/6808	550	50	78,5	0,39	160	130	80	25	24	M 135 x 3	50	17	7	14
ACM 63/100	84140/6811	550	100	78,5	0,79	210	130	80	25	24	M 135 x 3	50	17	7	16,8
ACM 63/200	84140/6814	550	200	78,5	1,57	310	130	80	25	24	M 135 x 3	50	17	7	22,4

Models ACM 63/... are equipped with handles.



Optionally with fixing holes in the cylinder base.

	Q	R	T
ACM 10/...	M 6	10	40
ACM 25/...	M 6	10	60
ACM 63/...	M 8	14	110

Cylinder accessories ACM, 100% loadable

LUKAS support tubes are used for 100% stable long-time load support.

For better protection of the piston we recommend to use **piston saddles** or other special saddles.

Tilting saddles are put on the piston for compensating arc movements, e. g. when a load is lifted only on one side. As the tilting saddle is a piston-side accessory, it works perfectly together with a base lifter attached to the same cylinder.

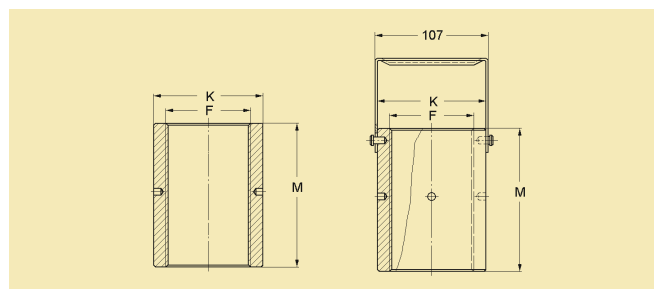
Base plates increase the cylinder area for better stability.



order no.	F	K	M	weight
		Ø mm	mm	kg

Support tubes for

ACM 10/50	84128/5110	M 55 x 2	70	85	1,0
ACM 10/100	84128/5120	M 55 x 2	70	135	1,6
ACM 25/100	84128/5122	M 85 x 2	100	140	2,4
ACM 25/150	84128/5132	M 85 x 2	100	190	3,3



a	b	weight	order no.
mm	mm	kg	

(1) piston saddles for

ACM 10/...	17	40	0,2	84128/5002
ACM 10/...	17	40	0,2	84128/5002
ACM 25/...	17	40	0,2	84128/5002
ACM 63/...	24	80	1,0	84128/5005

(2) Spherical saddles for

ACM 10/...	15	32	0,1	84128/1509
ACM 25/...	10	48	0,1	84128/5013

(3) Tilting saddles for

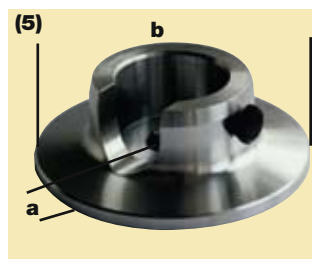
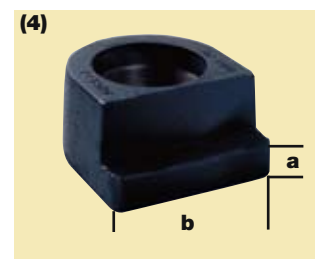
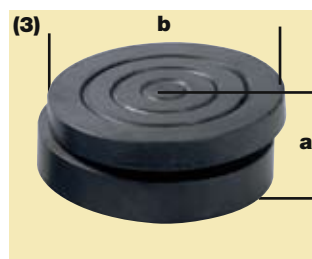
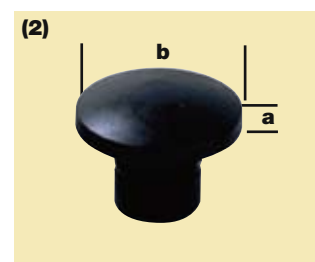
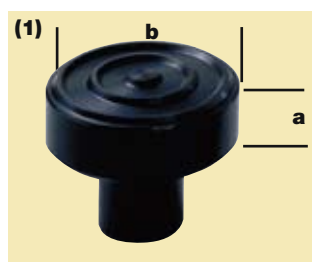
ACM 10/...	20	50	0,3	84128/5063
ACM 25/...	20	50	0,3	84128/5063

(4) Base lifters for

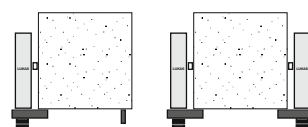
ACM 10/...	26	72	1,3	84128/0501
ACM 25/...	36	125	4,9	84128/0503

(5) Base plates for

ACM 10/...	10	118	0,6	84128/0605
ACM 25/...	17	158	1,3	84128/0607



Working with
LUKAS base lifters



700 bar

Single-acting short stroke stainless steel cylinders with spring return 10 t up to 63 t

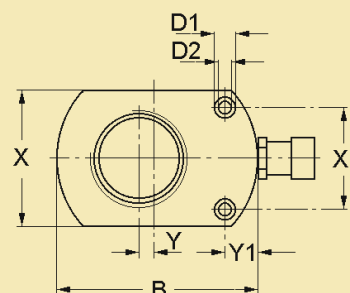
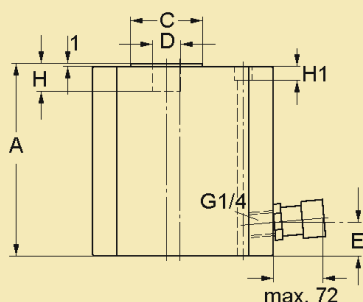


LUKAS stainless steel short-stroke cylinders ACK are specially designed for applications where highest surface quality is required. Even when employed in an aggressive atmosphere, e.g. in the off-shore area, they convince with extreme resistance against corrosion and long service life. After application in a radioactive environment they can be decontaminated much easier than painted cylinders. With their low retracted height ACK models are especially

suitable for lifting of machines and any kind of heavy load, e.g. on the area of bridge building and bridge maintenance.

For fixing ACK cylinders have through bores in the cylinder body. They are equipped with a screw coupler having dimensions as per international standard.

type	order no.	lifting cap.	stroke	eff. area	oil cap.	A	B	C	D	D1	D2	E	H	H1	X	X1	Y	Y1	weight
		kN	mm	cm ²	l	mm			Ø mm						mm				kg
ACK 10/25	84140/6105	88	25	12,6	0,03	77	75	32	16	11	6,6	17	12	6,8	55	37	10	17,5	2,4
ACK 25/25	84140/6905	219	25	31,2	0,08	88	100	50	16	15	9	18,5	10	9	80	50	10	20	4,8
ACK 63/25	84140/6705	550	25	78,5	0,2	118	150	80	25	18	11	24	17	11	125	70	10	25	14,3



Single-acting flat cylinders with spring return 5 t up to 150 t



LUKAS flat cylinders LFC are made of high quality steel and suitable for use even under hardest conditions. Baked enamel finish provides optimum protection against corrosion.

LFC models are combining optimum stroke length with low retracted height. They are recommended for operation in restricted work areas, e.g. for lifting of machines or for change of bridge bearings.

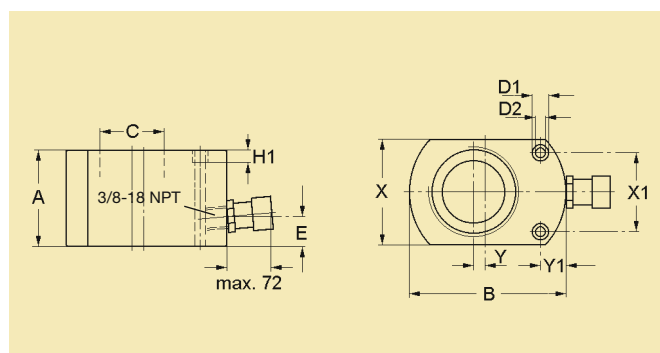
For fast piston return without load all models are equipped with a strong retraction spring.

LFC cylinders are equipped with a screw coupler having dimensions as per international standard. Through bores in the cylinder body can be used for fixing, if required.

700 bar

type	order no.	lifting cap.	stroke	eff. area	oil cap.	A	B	C	D1	D2	E	H1	X	X1	Y	Y1	weight
		kN	mm	cm ²	l	mm	Ø mm	mm	Ø mm	mm	mm	mm	mm	mm	mm	mm	kg
LFC 5/6	84148/5003-01	43	6	6,4	0,01	32,2	60	25	9,5	5,5	16	6	41	28	9	19	0,9
LFC 5/16	84148/5003-02	43	16	6,4	0,01	42,5	60	25	9,5	5,5	16	6	41	28	9	19	1,2
LFC 10/11	84148/5003-03	99	11	14,5	0,01	43	83	38	11	6,5	20	7	56	37	12,5	21	1,6
LFC 23/11	84148/5003-04	227	11	33,2	0,03	52	102	57	14	9	20	9	80	50	10	22	2,8
LFC 30/13	84148/5003-05	287	13	41,9	0,05	59	114	60	17	11	20	11	95	52	10	21	4,1
LFC 50/16	84148/5003-06	486	16	70,9	0,11	68	140	78	19	13	21	13	114	67	12	26	6,6
LFC 75/16	84148/5003-07	712	16	103,8	0,17	79	165	95	20	13	22	13	140	76	12	31	12,5
LFC 100/16	84148/5003-08	953	16	138,9	0,22	87	178	108	20	13	20	13	158	76	10	25	15
LFC 150/16	84148/5003-10	1450	16	211,3	0,33	100	216	134	20	13	25	15	194	117	11	35	25

Models LFC 100/16 and LFC 150/16 are equipped with handles.



All **LFC-cylinders** can be mounted with LUKAS quick couplers so that they can also be integrated into existing LUKAS 50 MPa-systems.

Please order quick coupler **StNi 62 (order no. 84053/16)** separately and change it against the standard coupler.

Single-acting steel cylinders with spring return 5 t up to 220 t



Hydraulic cylinders series LSC are made of high quality steel and suitable for use even under hardest conditions. Baked enamel finish provides optimum protection against corrosion. All cylinders will be delivered complete with piston guard plate and screw coupler. Choose out of the large number of LSC models this one which perfectly meets your requirement, e.g. for repair and maintenance works, for lifting and shifting works and wherever metal components have to be positioned or deformed.

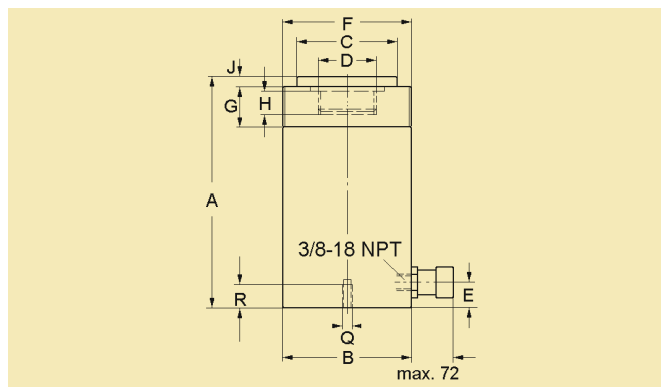
Features & Benefits:

- ▲ Fully loadable stroke limitation
- ▲ Hard-chrome plated piston rods prevent channels and corrosion
- ▲ Scraper rings against pollution and wear
- ▲ External threads for easy mounting
- ▲ Internal threads in the piston rod for taking up additional tools
- ▲ Fixing bores in the cylinder base
- ▲ Couplings comply with international standard

All **LSC-cylinders** can be mounted with LUKAS quick couplers so that they can also be integrated into existing LUKAS 50 MPa-systems.

Please order quick coupler

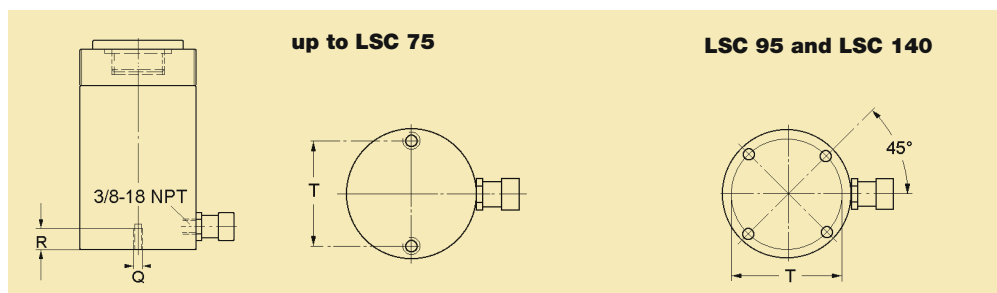
StNi 62 (order no. 84053/16) separately and change it against the standard coupler.



type	order no.	lifting	stroke	eff. area	oil cap.	A	B	C	D	E	F	G	H	J	weight
		kN	mm	cm ²	l	mm	Ømm	Ø mm		mm		mm	mm	mm	kg
LSC 5/25	84148/0901-01	49	25	7,06	0,02	110	40	25	3/4"-16	19	1 1/2"-16	28	14	6	1,0
LSC 5/75	84148/0901-02	49	76	7,06	0,05	168	40	25	3/4"-16	19	1 1/2"-16	28	14	6	1,5
LSC 5/125	84148/0901-03	49	127	7,06	0,09	219	40	25	3/4"-16	19	1 1/2"-16	28	14	6	1,9
LSC 5/180	84148/0901-04	49	180	7,06	0,13	276	40	25	3/4"-16	19	1 1/2"-16	28	14	6	2,4
LSC 5/230	84148/0901-05	49	232	7,06	0,16	328	40	25	3/4"-16	19	1 1/2"-16	28	14	6	2,8
LSC 10/25	84148/0902-01	111	25	15,9	0,04	90	60	36	1"-8	19	2 1/4"-14	32	19	6	1,8
LSC 10/55	84148/0902-02	111	54	15,9	0,09	121	60	36	1"-8	19	2 1/4"-14	32	19	6	2,4
LSC 10/105	84148/0902-03	111	105	15,9	0,17	172	60	36	1"-8	19	2 1/4"-14	32	19	6	3,3
LSC 10/155	84148/0902-04	111	155	15,9	0,25	247	60	36	1"-8	19	2 1/4"-14	32	19	6	4,7
LSC 10/205	84148/0902-05	111	205	15,9	0,33	301	60	36	1"-8	19	2 1/4"-14	32	19	6	5,7
LSC 10/255	84148/0902-06	111	257	15,9	0,41	352	60	36	1"-8	19	2 1/4"-14	32	19	6	6,6
LSC 10/305	84148/0902-07	111	307	15,9	0,49	402	60	36	1"-8	19	2 1/4"-14	32	19	6	7,4
LSC 10/355	84148/0902-08	111	355	15,9	0,57	454	60	36	1"-8	19	2 1/4"-14	32	19	6	8,4
LSC 15/25	84148/0903-01	166	25	23,7	0,06	126	75	45	1"-8	20	2 3/4"-16	32	25	8	4,2
LSC 15/55	84148/0903-02	166	54	23,7	0,13	157	75	45	1"-8	20	2 3/4"-16	32	25	8	5,0
LSC 15/105	84148/0903-03	166	105	23,7	0,25	207	75	45	1"-8	20	2 3/4"-16	32	25	8	6,4
LSC 15/155	84148/0903-04	166	155	23,7	0,37	277	75	45	1"-8	20	2 3/4"-16	32	25	8	8,5
LSC 15/205	84148/0903-05	166	205	23,7	0,49	329	75	45	1"-8	20	2 3/4"-16	32	25	8	10
LSC 15/255	84148/0903-06	166	257	23,7	0,61	381	75	45	1"-8	20	2 3/4"-16	32	25	8	11,5
LSC 15/300	84148/0903-07	166	307	23,7	0,73	428	75	45	1"-8	20	2 3/4"-16	32	25	8	12,8
LSC 15/355	84148/0903-08	166	355	23,7	0,84	479	75	45	1"-8	20	2 3/4"-16	32	25	8	14,2
LSC 25/25	84148/0904-01	231	25	33,1	0,08	144	85	56	1 1/2"-16	25	3 5/8"-12	45	25	10	6,0
LSC 25/50	84148/0904-02	231	51	33,1	0,17	170	85	56	1 1/2"-16	25	3 5/8"-12	45	25	10	7,0
LSC 25/100	84148/0904-03	231	102	33,1	0,34	221	85	56	1 1/2"-16	25	3 5/8"-12	45	25	10	8,9
LSC 25/160	84148/0904-04	231	159	33,1	0,53	281	85	56	1 1/2"-16	25	3 5/8"-12	45	25	10	11,2
LSC 25/210	84148/0904-05	231	210	33,1	0,70	330	85	56	1 1/2"-16	25	3 5/8"-12	45	25	10	13
LSC 25/260	84148/0904-06	231	261	33,1	0,87	383	85	56	1 1/2"-16	25	3 5/8"-12	45	25	10	15
LSC 25/310	84148/0904-07	231	310	33,1	1,03	434	85	56	1 1/2"-16	25	3 5/8"-12	45	25	10	16,9
LSC 25/360	84148/0904-08	231	362	33,1	1,20	484	85	56	1 1/2"-16	25	3 5/8"-12	45	25	10	18,8
LSC 30/60	84148/0905-01	309	60	44,1	0,27	169	100	60	1 1/2"-16	30	3 7/8"-12	48	25	10	9,3
LSC 30/150	84148/0905-02	309	150	44,1	0,66	274	100	60	1 1/2"-16	30	3 7/8"-12	48	25	10	14,6
LSC 30/210	84148/0905-03	309	210	44,1	0,93	344	100	60	1 1/2"-16	30	3 7/8"-12	48	25	10	18,2
LSC 50/60	84148/0906-01	496	60	70,8	0,43	175	127	80	--	35	5"-12	55	--	5	16,4
LSC 50/100	84148/0906-02	496	102	70,8	0,72	226	127	80	--	35	5"-12	55	--	5	20,7
LSC 50/160	84148/0906-03	496	160	70,8	1,13	284	127	80	--	35	5"-12	55	--	5	25,5
LSC 50/335	84148/0906-04	496	339	70,8	2,40	464	127	80	--	35	5"-12	55	--	5	40,4
LSC 75/160	84148/0907-01	727	160	103,8	1,66	284	146	90	--	35	5 3/4"-12	55	--	5	32
LSC 75/330	84148/0907-02	727	330	103,8	3,43	494	146	90	--	35	5 3/4"-12	55	--	5	54
LSC 95/60	84148/0908-01	929	60	132,7	0,80	179	177	110	--	40	6 7/8"-12	55	--	5	32
LSC 95/150	84148/0908-02	929	150	132,7	1,99	299	177	110	--	40	6 7/8"-12	55	--	5	53
LSC 95/260	84148/0908-03	929	260	132,7	3,45	454	177	110	--	40	6 7/8"-12	55	--	5	78,5
LSC 140/60	84148/0909-01	1407	60	201	1,21	189	216	140	--	40	8 1/2"-12	55	--	5	52
LSC 140/150	84148/0909-02	1407	150	201	3,02	319	216	140	--	40	8 1/2"-12	55	--	5	85,7
LSC 140/260	84148/0909-03	1407	260	201	5,23	469	216	140	--	40	8 1/2"-12	55	--	5	124,5
LSC 220/150	84148/0910-01	2199	150	314	4,71	339	250	160	--	40	--	--	--	5	116,5

700 bar

With fixing bores in the cylinder base and piston rod



	Q	R	T
LSC 5/...	1/4"-20	14	25
LSC 10/...	5/16"-18	12	39
LSC 15/...	3/8"-16	12	47
LSC 25/...	1/2"-13	19	58
LSC 30/...	1/2"-13	19	74
LSC 50/...	1/2"-13	19	95
LSC 75/...	3/4"-10	19	115
LSC 95/...	3/4"-10	25	139
LSC 140/...	3/4"-10	25	165
LSC 220/...	--	--	--

Hollow piston steel cylinders single-acting and double-acting, 12 up to 140 t



LUKAS hollow piston cylinders LHC have pistons with through bores. Single-acting models provide force in the advance, double-acting ones in both the advance and the retract cycle.

Besides normal lifting works they are mainly employed for pulling in connection with a rod accommodated by the through bore. Thus they can be used for mounting or dismounting of bearings or for tensioning steel wire ropes.

They are made of high-quality special steel with baked enamel finish for maximum corrosion resistance.

LHC cylinders will be delivered with a saddle with smooth through bore.

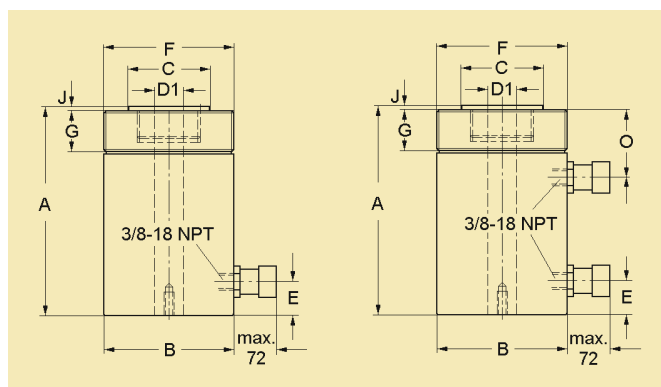
Features & Benefits:

- ▲ High lateral load tolerance
- ▲ Hard-chrome plated piston rods prevent channels and corrosion
- ▲ Scraper rings against pollution and wear
- ▲ Fully loadable stroke limitation
- ▲ External threads for easy mounting
- ▲ Threaded fixing bores in the cylinder base
- ▲ Couplings comply with international standard
- ▲ Double-acting models with safety valve on the piston rod side

All **LHC-cylinders** can be mounted with LUKAS quick couplers so that they can also be integrated into existing LUKAS 50 MPa - systems.

Please order quick coupler

StNi 62 (order no. 84053/16) separately and change it against the standard coupler.



Models with spring return

type	order no.	lifting cap. kN	stroke mm	eff. area cm ²	oil cap l	A mm	B Ø mm	C Ø mm	D1 Ø mm	E mm	F	G mm	J mm	O mm	weight kg
LHC 12/40	84148/4001-01	123	40	17,6	0,07	124	75	40	20,5	19	2 3/4"-16	30	2,5	--	4
LHC 12/75	84148/4001-02	123	76	17,6	0,13	176	75	40	20,5	19	2 3/4"-16	30	2,5	--	5
LHC 12/150	84148/4001-03	123	150	17,6	0,26	300	75	40	20,5	19	2 3/4"-16	30	2,5	--	8,5
LHC 22/50	84148/4002-01	221	50	31,6	0,16	165	105	56	27	23,5	3 7/8"-12	38	2,5	--	9,5
LHC 22/150	84148/4002-02	221	150	31,6	0,47	318	105	56	27	23,5	3 7/8"-12	38	2,5	--	18
LHC 30/50	84148/4003-01	308	50	44	0,22	180	120	68	33,4	27	4 1/2"-12	42	4	--	14
LHC 30/150	84148/4003-02	308	150	44	0,66	322	120	68	33,4	27	4 1/2"-12	42	4	--	23,5
LHC 60/75	84148/4004-01	589	76	84,2	0,64	253	165	95	54	31	6 1/4"-12	48	4	--	35
LHC 60/150	84148/4004-02	589	153	84,2	1,29	341	165	95	54	31	6 1/4"-12	48	4	--	44
LHC 100/80	84148/4005-01	1037	80	148,5	1,19	306	220	130	80	37	8 3/8"-12	60	5	--	73

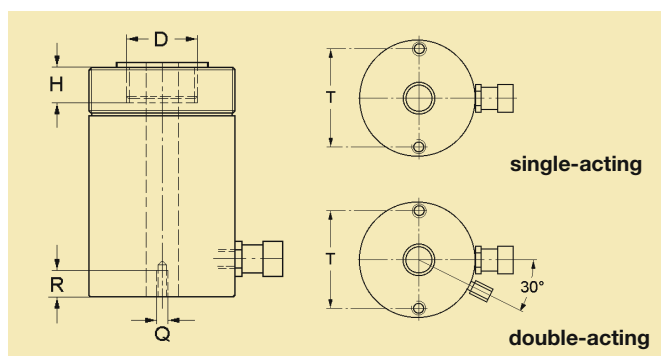
Models with hydraulic piston return

type	order no.	lifting cap. kN	pull. cap. kN	stroke mm	eff. area cm ²	oil cap l	A mm	B Ø mm	C Ø mm	D1 Ø mm	E mm	F	G mm	J mm	O mm	weight kg
LHC 30-17/150	84148/4006-01	308	172	150	44	0,66	300	120	70	33,4	26	4 1/2"-12	42	4	68	22
LHC 30-17/250	84148/4006-02	308	172	250	44	1,10	400	120	70	33,4	26	4 1/2"-12	42	4	68	28
LHC 60-35/80	84148/4007-01	589	355	80	84,2	0,67	249	165	95	54	31	6 1/4"-12	48	5	66	35
LHC 60-35/150	84148/4007-02	589	355	150	84,2	1,26	319	165	95	54	31	6 1/4"-12	48	5	66	42
LHC 60-35/250	84148/4007-03	589	355	250	84,2	2,11	419	165	95	54	31	6 1/4"-12	48	5	66	53
LHC 100-65/35	84148/4008-01	1037	646	38	148,5	0,56	197	220	130	80	37	--	--	5	60	48
LHC 100-65/75	84148/4008-02	1037	646	76	148,5	1,13	255	220	130	80	37	8 3/8"-12	60	5	80	60
LHC 100-65/150	84148/4008-03	1037	646	150	148,5	2,23	335	220	130	80	37	8 3/8"-12	60	5	80	76
LHC 100-65/250	84148/4008-04	1037	646	250	148,5	3,71	465	220	130	80	37	8 3/8"-12	60	5	80	102
LHC 140-55/175	84148/4009-01	1433	566	175	204,8	3,59	350	250	160	80	37	--	--	10	60	110

*) effective oil capacity

700 bar

With fixing bores in the cylinder base and piston



	D	H mm	Q	R mm	T mm
LHC 12	M 28x1,5	18	5/16"-18	12	50,8
LHC 22	1 1/16"-16	20	3/8"-16	15	82,6
LHC 30	1 13/16"-16	22	3/8"-16	17	92,2
LHC 60	2 3/4"-16	22	1/2"-13	14	130,3
LHC 100	4"-16	25	5/8"-11	19	177,7
LHC 140	4 1/4"-12	40	--	--	--

Double-acting steel cylinders, 10 up to 560 t



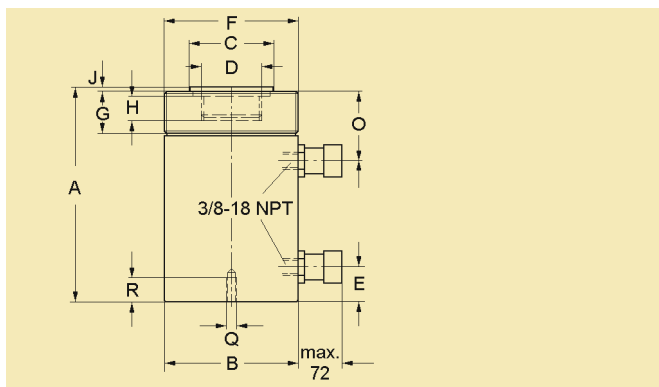
The **double-acting LUKAS LDC cylinders** provide force in both the advance and the retract cycle. The body is made of high quality special steel with baked enamel finish. All cylinders will be delivered with piston guard plates.

Features & Benefits:

- ▲ High lateral load tolerance
- ▲ Hard chrome-plated piston rods prevent channels and corrosion
- ▲ Scraper rings against pollution and wear
- ▲ Fully loadable stroke limitation
- ▲ External threads for easy mounting and maximum versatility
- ▲ Threaded fixing bores in the cylinder base
- ▲ Couplings comply with international standard
- ▲ Overload safety valve on the piston rod side

All **LDC-cylinders** can be mounted with LUKAS quick couplers so that they can also be integrated into existing LUKAS 50 MPa-systems.

Please order quick coupler **StNi 62 (order no. 84053/16)** separately and change it against the standard coupler.

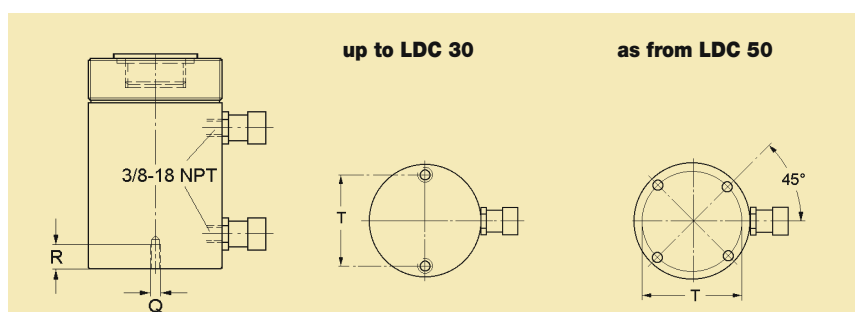


type	order no.	lifting cap. kN	pull. cap. kN	stroke mm	eff. area cm ²	oil cap* l	A mm	B Ø mm	C Ø mm	D	E Ø mm	F	G mm	H mm	J mm	O mm	weight kg
LDC 10-2/160	84148/2101-01	111	20	160	15,9	0,26	317	60	36	1"-8	20	2¼"-14	32	24	7	53,5	6,5
LDC 10-2/250	84148/2101-02	111	20	250	15,9	0,40	407	60	36	1"-8	20	2¼"-14	32	24	7	53,5	8,5
LDC 10-2/320	84148/2101-03	111	20	320	15,9	0,51	477	60	36	1"-8	20	2¼"-14	32	24	7	53,5	9,5
LDC 20-5/160	84148/2102-01	218	53	160	31,1	0,50	328	83	45	1"-8	20	3¼"-12	40	24	8	60	12
LDC 20-5/250	84148/2102-02	218	53	250	31,1	0,78	418	83	45	1"-8	20	3¼"-12	40	24	8	60	15
LDC 20-5/320	84148/2102-03	218	53	320	31,1	1,00	488	83	45	1"-8	20	3¼"-12	40	24	8	60	17
LDC 30-7/160	84148/2103-01	309	68	160	44,1	0,71	345	102	56	1½"-16	26	3⅞"-12	48	25	10	77	19
LDC 30-7/320	84148/2103-02	309	68	320	44,1	1,41	505	102	56	1½"-16	26	3⅞"-12	48	25	10	77	27
LDC 50-7/160	84148/2104-01	496	72	160	70,8	1,13	345	127	80	1¾"-12	28	5"-12	50	25	10	70	31
LDC 50-7/320	84148/2104-02	496	72	320	70,8	2,27	520	127	80	1¾"-12	28	5"-12	50	25	10	85	49
LDC 75-14/160	84148/2105-01	727	140	160	103,8	1,66	348	150	90	1¾"-12	30	5¾"-12	50	25	10	70	42
LDC 75-14/320	84148/2105-02	727	140	320	103,8	3,32	522	150	90	1¾"-12	30	5¾"-12	50	25	10	80	61
LDC 95-19/160	84148/2106-01	929	189	160	132,7	2,12	349	177	100	1¾"-12	38	6⅞"-12	50	30	10	70	64
LDC 95-19/320	84148/2106-02	929	189	320	132,7	4,26	519	177	100	1¾"-12	38	6⅞"-12	50	30	10	84	85
LDC 140-37/50	84148/2107-01	1407	370	50	201	1,01	268	215	110	2½"-12	49	8"-12	55	40	10	85	66
LDC 140-37/150	84148/2107-02	1407	370	150	201	3,02	388	215	110	2½"-12	49	8"-12	55	40	10	85	90
LDC 140-37/300	84148/2107-03	1407	370	300	201	6,03	538	215	110	2½"-12	49	8"-12	55	40	10	85	119
LDC 220-56/50	84148/2108-01	2199	560	50	314,1	1,57	284	265	140	2½"-12	65	9¼"-12	55	60	10	85	112
LDC 220-56/150	84148/2108-02	2199	560	150	314,1	4,71	404	265	140	2½"-12	65	9¼"-12	55	60	10	85	151
LDC 220-56/300	84148/2108-03	2199	560	300	314,1	9,42	554	265	140	2½"-12	65	9¼"-12	55	60	10	85	197
LDC 350-100/50	84148/2109-01	3436	1014	50	490,8	2,45	309	330	160	3"-12	85	12¼"-12	60	70	10	90	189
LDC 350-100/150	84148/2109-02	3436	1014	150	490,8	7,36	429	330	160	3"-12	85	12¼"-12	60	70	10	90	247
LDC 350-100/300	84148/2109-03	3436	1014	300	490,8	14,72	579	330	160	3"-12	85	12¼"-12	60	70	10	90	346
LDC 560-170/50	84148/2110-01	5629	1714	50	804,2	4,02	398	430	200	4"-12	110	15⅝"-8	80	85	15	120	396
LDC 560-170/150	84148/2110-02	5629	1714	150	804,2	12,06	533	430	200	4"-12	110	15⅝"-8	80	85	15	120	504
LDC 560-170/300	84148/2110-03	5629	1714	300	804,2	24,12	683	430	200	4"-12	110	15⅝"-8	80	85	15	120	625

*) effective oil capacity

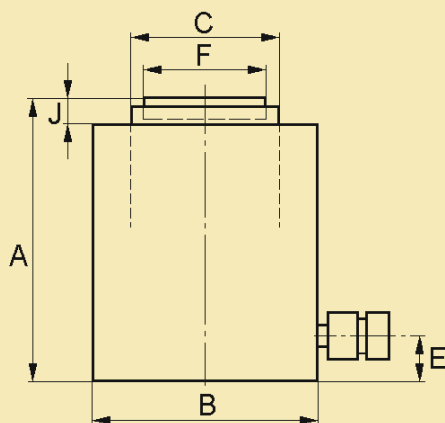
700 bar

With fixing bores in the cylinder base



	Q	R mm	T mm
LDC 10	⅝"-18	14	39
LDC 20	½"-13	15	58
LDC 30	½"-13	15	66
LDC 50	½"-13	15	95
LDC 70	½"-13	18	100
LDC 90	¾"-10	18	139
LDC 140	¾"-16	25	158
LDC 220	1"-8	25	127
LDC 350	1¼"-7	40	158
LDC 560	1¾"-5	55	203

Single-acting low height steel cylinders with and without spring return 10 up to 100 t



LUKAS LLC Cylinders offer very big piston stroke compared to the retracted height. With their special compact design they are meant for use in confined spaces.

- ▲ The piston is grooved so that no extra saddles are required.
- ▲ Models from 30 to 100 tons are optionally available with tilting saddle.
- ▲ Available with load return (models LLC) or spring return (models LLCS) with same outer dimensions.

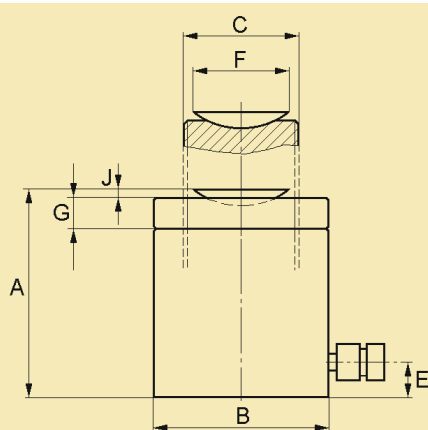
All **LLC(S)-cylinders** can be mounted with LUKAS quick couplers so that they can also be integrated into existing LUKAS 50 MPa-systems.

Please order quick coupler **StNi 62 (order no. 84053/16)** separately and change it against the standard coupler.

type	order no.	lift. cap. kN	stroke mm	eff. area cm ²	oil cap. l	mm	ømm	ømm	mm	ømm	mm	weight kg
without spring return												
LLC 10/40	84148/5000-01	111	40	15,9	0,06	89	66	36	14*	--	2	2,2
LLC 20/40	84148/5000-02	218	40	31,2	0,13	101	90	56	14*	--	2	4,8
LLC 30/60	84148/5000-07	309	60	44,2	0,27	125	102	60	14*	45	2	7,6
LLC 50/60	84148/5000-04	496	60	70,8	0,43	125	127	80	16*	61	2	11,3
LLC 100/60	84148/5000-05	928	60	132,7	0,80	141	175	110	26	88	2	24,7
LLC 100/150	84148/5000-06	928	150	132,7	1,99	254	175	110	26	88	2	43,3
with spring return												
LLCS 10/40	84148/5001-01	111	40	15,9	0,06	89	66	36	14*	--	2	2,2
LLCS 20/40	84148/5001-02	218	40	31,2	0,13	101	90	56	14*	--	2	4,8
LLCS 30/60	84148/5001-07	309	60	44,2	0,27	125	102	60	14*	45	2	7,6
LLCS 50/60	84148/5001-04	496	60	70,8	0,43	125	127	80	16*	61	2	11,3
LLCS 100/60	84148/5001-05	928	60	132,7	0,80	141	175	110	26	88	2	24,7
LLCS 100/150	84148/5001-06	928	150	132,7	1,99	254	175	110	26	88	2	43,3

*) coupler inclined 10°

Single-acting short stroke lock nut cylinders load return 50 up to 550 t



LUKAS HFCL-Cylinders are extremely flat and equipped with lock nuts to sustain loads mechanically over a longer period of time.

- ▲ All models with tilting plates to avoid lateral load
- ▲ Special surface coating to prevent corrosion
- ▲ The ejection hole serves to avoid overtravel and protects the cylinder

Please note! When based on unequal or yielding ground the cylinders must be completely supported with a stable base plate.

700 bar

All **HFCL-cylinders** can be mounted with LUKAS quick couplers so that they can also be integrated into existing LUKAS 50 MPa-systems.

Please order quick coupler **StNi 62 (order no. 84053/16)** separately and change it against the standard coupler.



type	order no.	lift. cap. kN	stroke mm	eff. area cm ²	oil cap. l	A mm	B ømm	C ømm	E mm	F ømm	G mm	J mm	weight kg
HFCL 50/50	84148/9946-90	495	50	70,8	0,36	125	120	Tr 95x4	19	95	21	6	12
HFCL 90/45	84148/9946-91	928	45	132,7	0,60	137	165	Tr130x6	21	126	31	8	23
HFCL 140/45	84148/9946-92	1407	45	201	0,91	148	205	Tr160x6	27	160	38	9	39
HFCL 220/45	84148/9946-93	2198	45	314	1,41	155	255	Tr200x6	28	200	40	10	62
HFCL 350/45	84148/9946-94	3434	45	490,6	2,21	178	320	Tr250x6	35	240	50	11	111
HFCL 550/45	84148/9946-95	5656	45	803,8	3,62	192	405	Tr320x6	38	295	60	10	193

Single-acting high tonnage cylinders load return



The single-acting **heavy-duty cylinder models HSCR** are made of steel. They have chromium plated pistons and are equipped with guide rings. Scraper rings prevent wear of piston rod through pollution.

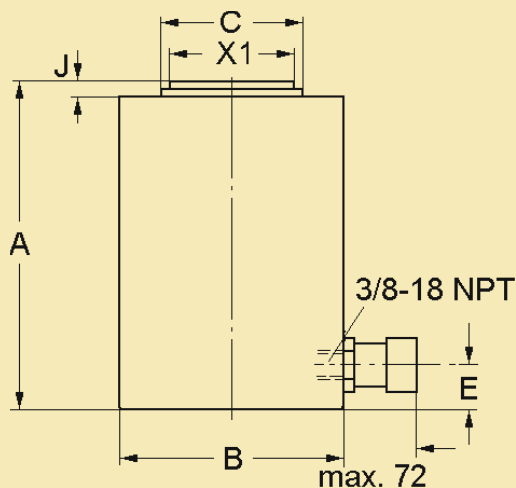
HSCR cylinders are available with lifting forces from 140 t up to 1100 t in strokes from 50 to 300 mm in steps of 50 mm. They are equipped with an ejection hole. Overtravel must be avoided. If necessary, please choose next stroke length.

HSCR cylinders are specially suitable for lifting heaviest loads on the field of surface and underground engineering.

All **HSCR-cylinders** can be mounted with LUKAS quick couplers so that they can also be integrated into existing LUKAS 50 MPa-systems.

Please order quick coupler

StNi 62 (order no. HR 84053/16) separately and change it against the standard coupler.



type	order no.	lifting cap.	stroke	eff. area	oil cap.	A	B	C	E	J	X1	weight
		kN	mm	cm ²	l	mm	Ø mm	Ø mm	mm	mm	mm	kg
HSCR 140/50	84148/9944-15	1407	50	201	1,00	155	200	160	35	6	111,5	38
HSCR 140/100	84148/9944-16	1407	100	201	2,01	205	200	160	35	6	111,5	51
HSCR 140/150	84148/9944-17	1407	150	201	3,01	255	200	160	35	6	111,5	63
HSCR 140/200	84148/9944-18	1407	200	201	4,02	305	200	160	35	6	111,5	75
HSCR 140/250	84148/9944-19	1407	250	201	5,02	355	200	160	35	6	111,5	88
HSCR 140/300	84148/9944-20	1407	300	201	6,03	405	200	160	35	6	111,5	100
HSCR 220/50	84148/9944-25	2199	50	314	1,57	170	250	200	40	7	111,5	64
HSCR 220/100	84148/9944-26	2199	100	314	3,14	220	250	200	40	7	111,5	85
HSCR 220/150	84148/9944-27	2199	150	314	4,71	270	250	200	40	7	111,5	104
HSCR 220/200	84148/9944-28	2199	200	314	6,28	320	250	200	40	7	111,5	123
HSCR 220/250	84148/9944-29	2199	250	314	7,85	370	250	200	40	7	111,5	143
HSCR 220/300	84148/9944-30	2199	300	314	9,42	420	250	200	40	7	111,5	162
HSCR 350/50	84148/9944-35	3436	50	491	2,45	210	310	250	50	7	177,5	123
HSCR 350/100	84148/9944-36	3436	100	491	4,91	260	310	250	50	7	177,5	154
HSCR 350/150	84148/9944-37	3436	150	491	7,36	310	310	250	50	7	177,5	184
HSCR 350/200	84148/9944-38	3436	200	491	9,82	360	310	250	50	7	177,5	213
HSCR 350/250	84148/9944-39	3436	250	491	12,28	410	310	250	50	7	177,5	243
HSCR 350/300	84148/9944-40	3436	300	491	14,73	460	310	250	50	7	177,5	273
HSCR 560/50	84148/9944-45	5629	50	804	4,02	240	390	320	60	7	250	223
HSCR 560/100	84148/9944-46	5629	100	804	8,04	290	390	320	60	7	250	272
HSCR 560/150	84148/9944-47	5629	150	804	12,06	340	390	320	60	7	250	319
HSCR 560/200	84148/9944-48	5629	200	804	16,08	390	390	320	60	7	250	366
HSCR 560/250	84148/9944-49	5629	250	804	20,10	440	390	320	60	7	250	413
HSCR 560/300	84148/9944-50	5629	300	804	24,12	490	390	320	60	7	250	459
HSCR 880/50	84148/9944-55	8759	50	1257	6,28	290	490	400	70	10	290	423
HSCR 880/100	84148/9944-56	8759	100	1257	12,57	340	490	400	70	10	290	503
HSCR 880/150	84148/9944-57	8759	150	1257	18,85	390	490	400	70	10	290	577
HSCR 880/200	84148/9944-58	8759	200	1257	25,14	440	490	400	70	10	290	651
HSCR 880/250	84148/9944-59	8759	250	1257	31,43	490	490	400	70	10	290	725
HSCR 880/300	84148/9944-60	8759	300	1257	37,71	540	490	400	70	10	290	799
HSCR 1100/50	84148/9944-65	11132	50	1590	7,95	415	550	450	80	10	325	766
HSCR 1100/100	84148/9944-66	11132	100	1590	15,90	465	550	450	80	10	325	867
HSCR 1100/150	84148/9944-67	11132	150	1590	23,85	515	550	450	80	10	325	960
HSCR 1100/200	84148/9944-68	11132	200	1590	31,80	565	550	450	80	10	325	1054
HSCR 1100/250	84148/9944-69	11132	250	1590	39,75	615	550	450	80	10	325	1147
HSCR 1100/300	84148/9944-70	11132	300	1590	47,70	665	550	450	80	10	325	1240

Double-acting high tonnage cylinders



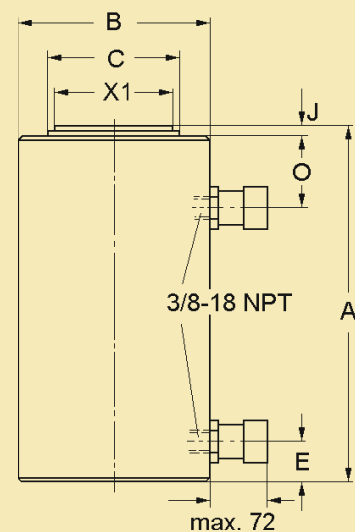
The double-acting **heavy-duty cylinder models HDCR** are made of steel. Pistons are hydraulically retracted without external load.

They have chromium plated pistons and are equipped with guide rings. Scraper rings prevent wear of piston rods through pollution. The guide rings are loadable as stroke limitation.

HDCR cylinders are available with lifting forces from 140 t up to 1100 t in strokes from 50 to 300 mm in steps of 50 mm.

All **HDCR-cylinders** can be mounted with LUKAS quick couplers so that they can also be integrated into existing LUKAS 50 MPa-systems.

Please order quick coupler **StNi 62 (order no. 84053/16)** separately and change it against the standard coupler.



type	order no.	lift. cap.	pull. cap.	stroke	eff. area	oil cap. *)	A	B	C	E	J	O	X1	weight
		kN	kN	mm	cm ²	l	mm	Ø mm	Ø mm	mm	mm	mm	mm	kg
HDCR 140-75/50	84148/9945-10	1407	727	50	201	1,00	201	200	110	35	6	60	88	44
HDCR 140-75/100	84148/9945-11	1407	727	100	201	2,01	251	200	110	35	6	60	88	51
HDCR 140-75/150	84148/9945-12	1407	727	150	201	3,01	306	200	110	35	6	65	88	59
HDCR 140-75/200	84148/9945-13	1407	727	200	201	4,02	356	200	110	35	6	65	88	66
HDCR 140-75/250	84148/9945-14	1407	727	250	201	5,02	411	200	110	35	6	70	88	74
HDCR 140-75/300	84148/9945-15	1407	727	300	201	6,03	461	200	110	35	6	70	88	81
HDCR 220-110/50	84148/9945-20	2199	1099	50	314	1,57	216	250	140	40	6	70	111,5	75
HDCR 220-110/100	84148/9945-21	2199	1099	100	314	3,14	266	250	140	40	6	70	111,5	86
HDCR 220-110/150	84148/9945-22	2199	1099	150	314	4,71	326	250	140	40	6	75	111,5	101
HDCR 220-110/200	84148/9945-23	2199	1099	200	314	6,28	376	250	140	40	6	75	111,5	112
HDCR 220-110/250	84148/9945-24	2199	1099	250	314	7,85	436	250	140	40	6	80	111,5	127
HDCR 220-110/300	84148/9945-25	2199	1099	300	314	9,42	486	250	140	40	6	80	111,5	139
HDCR 265-125/50	84148/9945-30	2660	1229	50	380	1,90	226	270	160	45	6	75	131,5	92
HDCR 265-125/100	84148/9945-31	2660	1229	100	380	3,80	276	270	160	45	6	75	131,5	106
HDCR 265-125/150	84148/9945-32	2660	1229	150	380	5,70	336	270	160	45	6	80	131,5	124
HDCR 265-125/200	84148/9945-33	2660	1229	200	380	7,60	386	270	160	45	6	80	131,5	137
HDCR 265-125/250	84148/9945-34	2660	1229	250	380	9,50	446	270	160	45	6	85	131,5	155
HDCR 265-125/300	84148/9945-35	2660	1229	300	380	11,40	496	270	160	45	6	85	131,5	168
HDCR 350-120/50	84148/9945-40	3436	1212	50	491	2,45	231	310	200	50	6	75	178	127
HDCR 350-120/100	84148/9945-41	3436	1212	100	491	4,91	281	310	200	50	6	75	178	148
HDCR 350-120/150	84148/9945-42	3436	1212	150	491	7,35	341	310	200	50	6	80	178	175
HDCR 350-120/200	84148/9945-43	3436	1212	200	491	9,82	391	310	200	50	6	80	178	195
HDCR 350-120/250	84148/9945-44	3436	1212	250	491	12,28	451	310	200	50	6	85	178	222
HDCR 350-120/300	84148/9945-45	3436	1212	300	491	14,73	501	310	200	50	6	85	178	243
HDCR 430-160/50	84148/9945-50	4310	1617	50	616	3,08	248	340	220	55	8	85	178	164
HDCR 430-160/100	84148/9945-51	4310	1617	100	616	6,16	298	340	220	55	8	85	178	188
HDCR 430-160/150	84148/9945-52	4310	1617	150	616	9,24	353	340	220	55	8	85	178	215
HDCR 430-160/200	84148/9945-53	4310	1617	200	616	12,32	403	340	220	55	8	85	178	239
HDCR 430-160/250	84148/9945-54	4310	1617	250	616	15,40	458	340	220	55	8	85	178	266
HDCR 430-160/300	84148/9945-55	4310	1617	300	616	18,48	508	340	220	55	8	85	178	290
HDCR 560-215/50	84148/9945-60	5629	2150	50	804	4,02	268	390	250	65	8	90	200	234
HDCR 560-215/100	84148/9945-61	5629	2150	100	804	8,04	318	390	250	65	8	90	200	266
HDCR 560-215/150	84148/9945-62	5629	2150	150	804	12,06	373	390	250	65	8	90	200	301
HDCR 560-215/200	84148/9945-63	5629	2150	200	804	16,08	423	390	250	65	8	90	200	332
HDCR 560-215/250	84148/9945-64	5629	2150	250	804	20,10	488	390	250	65	8	100	200	377
HDCR 560-215/300	84148/9945-65	5629	2150	300	804	24,12	538	390	250	65	8	100	200	408
HDCR 670-240/50	84148/9945-70	6734	2377	50	962	4,81	283	430	280	65	8	95	200	304
HDCR 670-240/100	84148/9945-71	6734	2377	100	962	9,62	333	430	280	65	8	95	200	343
HDCR 670-240/150	84148/9945-72	6734	2377	150	962	14,43	398	430	280	65	8	100	200	400
HDCR 670-240/200	84148/9945-73	6734	2377	200	962	19,24	448	430	280	65	8	100	200	439
HDCR 670-240/250	84148/9945-74	6734	2377	250	962	24,05	508	430	280	65	8	105	200	490
HDCR 670-240/300	84148/9945-75	6734	2377	300	962	28,86	558	430	280	65	8	105	200	530
HDCR 880-310/50	84148/9945-80	8759	3104	50	1257	6,28	310	490	320	70	10	115	250	434
HDCR 880-310/100	84148/9945-81	8759	3104	100	1257	12,57	360	490	320	70	10	115	250	485
HDCR 880-310/150	84148/9945-82	8759	3104	150	1257	18,85	420	490	320	70	10	115	250	551
HDCR 880-310/200	84148/9945-83	8759	3104	200	1257	25,14	470	490	320	70	10	115	250	602
HDCR 880-310/250	84148/9945-84	8759	3104	250	1257	31,43	530	490	320	70	10	115	250	668
HDCR 880-310/300	84148/9945-85	8759	3104	300	1257	37,71	580	490	320	70	10	115	250	719
HDCR 1100-400/50	84148/9945-90	11132	3929	50	1590	7,95	330	550	360	80	10	125	325	584
HDCR 1100-400/100	84148/9945-91	11132	3929	100	1590	15,90	380	550	360	80	10	125	325	648
HDCR 1100-400/150	84148/9945-92	11132	3929	150	1590	23,85	440	550	360	80	10	125	325	731
HDCR 1100-400/200	84148/9945-93	11132	3929	200	1590	31,80	490	550	360	80	10	125	325	795
HDCR 1100-400/250	84148/9945-94	11132	3929	250	1590	39,75	550	550	360	80	10	125	325	878
HDCR 1100-400/300	84148/9945-95	11132	3929	300	1590	47,70	600	550	360	80	10	125	325	943

*) effective oil capacity

700 bar

Single-acting cylinders with locking collar, load return

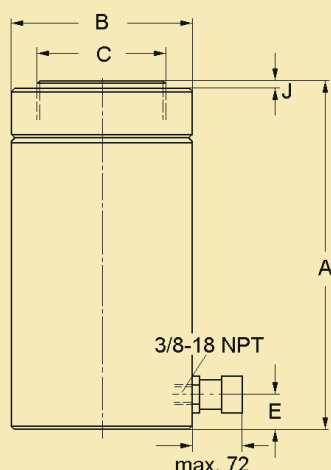


These cylinders are built for safe support of heaviest loads. They have a threaded piston with locking collar to sustain a load mechanically over a longer period of time. Available with lifting forces from 30 t up to 1100 t in strokes from 50 to 250 mm resp. 300 mm.

Cylinders series HLC are equipped with an ejection hole. Overtravel must be avoided. If necessary, please choose next stroke length. Suitable for high off-center load through hard-textile guiding bands.

All **HLC-cylinders** can be mounted with LUKAS quick couplers so that they can also be integrated into existing LUKAS 50 MPa-systems.

Please order quick coupler **StNi 62 (order no. 84053/16)** separately and change it against the standard coupler.



type	order no.	lifting cap.	stroke	eff. area	oil cap.	A	B	C	E	J	weight
		kN	mm	cm ²	l	mm	Ø mm		mm	mm	kg
HLC 30/50	84148/9946-50	309	50	44,15	0,22	169	100	Tr75x4	25	3	10,5
HLC 30/100	84148/9946-51	309	100	44,15	0,44	219	100	Tr75x4	25	3	13,5
HLC 30/200	84148/9946-52	309	200	44,15	0,88	314	100	Tr75x4	25	3	19,5
HLC 30/300	84148/9946-53	309	300	44,15	1,33	419	100	Tr75x4	25	3	26
HLC 50/50	84148/9946-54	496	50	70,84	0,36	185	125	Tr95x4	30	3	17,5
HLC 50/100	84148/9946-55	496	100	70,84	0,71	235	125	Tr95x4	30	3	22
HLC 50/200	84148/9946-56	496	200	70,84	1,42	335	125	Tr95x4	30	3	32
HLC 50/300	84148/9946-57	496	300	70,84	2,13	435	125	Tr95x4	30	3	41,5
HLC 100/50	84148/9946-58	929	50	132,6	0,66	200	180	Tr130x6	30	3	40
HLC 100/100	84148/9946-59	929	100	132,6	1,33	250	180	Tr130x6	30	3	46
HLC 100/200	84148/9946-60	929	200	132,6	2,65	350	180	Tr130x6	30	3	65
HLC 100/300	84148/9946-61	929	300	132,6	3,98	450	180	Tr130x6	30	3	82
HLC 140/50	84148/9946-62	1407	50	200,9	1,01	211	215	Tr160x6	39	3	60
HLC 140/100	84148/9946-63	1407	100	200,9	2,01	259	215	Tr160x6	39	3	73,5
HLC 140/200	84148/9946-64	1407	200	200,9	4,02	359	215	Tr160x6	39	3	102
HLC 140/300	84148/9946-65	1407	300	200,9	6,03	459	215	Tr160x6	39	3	130
HLC 220/50	84148/9946-66	2199	50	314,1	1,57	245	265	Tr200x6	50	3	106
HLC 220/150	84148/9946-67	2199	150	314,1	4,71	345	265	Tr200x6	50	3	149
HLC 220/250	84148/9946-68	2199	250	314,1	7,85	445	265	Tr200x6	50	3	191,5
HLC 350/50	84148/9946-69	3436	50	490,6	2,45	275	330	Tr250x6	59	5	184
HLC 350/150	84148/9946-70	3436	150	490,6	7,36	395	330	Tr250x6	59	5	264
HLC 350/250	84148/9946-71	3436	250	490,6	12,27	495	330	Tr250x6	59	5	330,5
HLC 560/50	84148/9946-72	5629	50	803,8	4,019	345	430	Tr320x6	80	5	390
HLC 560/150	84148/9946-73	5629	150	803,8	12,06	475	430	Tr320x6	80	5	535
HLC 560/250	84148/9946-74	5629	250	803,8	20,10	575	430	Tr320x6	80	5	650
HLC 880/50	84148/9946-75	8756	50	1256	6,28	400	540	Tr400x6	100	5	714
HLC 880/150	84148/9946-76	8756	150	1256	18,84	555	540	Tr400x6	100	5	990
HLC 880/250	84148/9946-77	8756	250	1256	31,40	655	540	Tr400x6	100	5	1170
HLC 1100/50	84148/9946-78	11132	50	1589,6	7,95	440	600	Tr450x6	110	5	969
HLC 1100/150	84148/9946-79	11132	150	1589,6	23,85	595	600	Tr450x6	110	5	1310
HLC 1100/250	84148/9946-80	11132	250	1589,6	39,74	695	600	Tr450x6	110	5	1530

Accessories for steel cylinders

order no.	a	b	c	d	e
	mm	mm	mm		mm

(1) Tilting saddles for

HLC 30/..	84148/0904-13	--	45	36	--	28
LSC 50/.., LSC 75/.., LDC 50/.., LDC 75/..	84148/0906-13	--	61	39	--	36
HLC 50/..	84148/0908-13	--	88	47	--	36
LSC 95/.., LDC 95/.., LDC 140/.., HLC 100/..	84148/0909-13	--	111	52	--	40
HDCR 140/..	84148/0910-13	--	131	57	--	45
LSC 140/.., LDC 220/.., HLC 140/.., HSCR 140/.., HDCR 220/.., HSCR 220/..	84148/2110-13	--	178	67	--	47
LDC 560/.., HSCR 350/.., HLC 350/.., HDCR 350/.., HDCR 420/..	84148/9948-87	--	200	79	--	57
HLC 560/.., HSCR 560/.., HDCR 880/..	84148/9948-88	--	250	105	--	75
HLC 880/.., HSCR 880/..	84148/9946-01	--	290	140	--	100
HLC 1100/.., HSCR 1100/.., HDCR 1100/..	84148/9946-02	--	325	175	--	125

(2) Flanges for

LSC 5/..	84148/0901-12	76	88	25	1½"-16	--
LSC 10/..	84148/0902-12	88	114	30	2¼"-14	--
LSC 15/..	84148/0903-12	114	101	30	2¾"-16	--
LSC 25/..	84148/0904-12	127	127	45	3⅝"-12	--
LSC 30/..	84148/0905-12	135	135	45	3⅞"-12	--

(3) Base lifters for

loadable to 50% of rated cylinder capacity

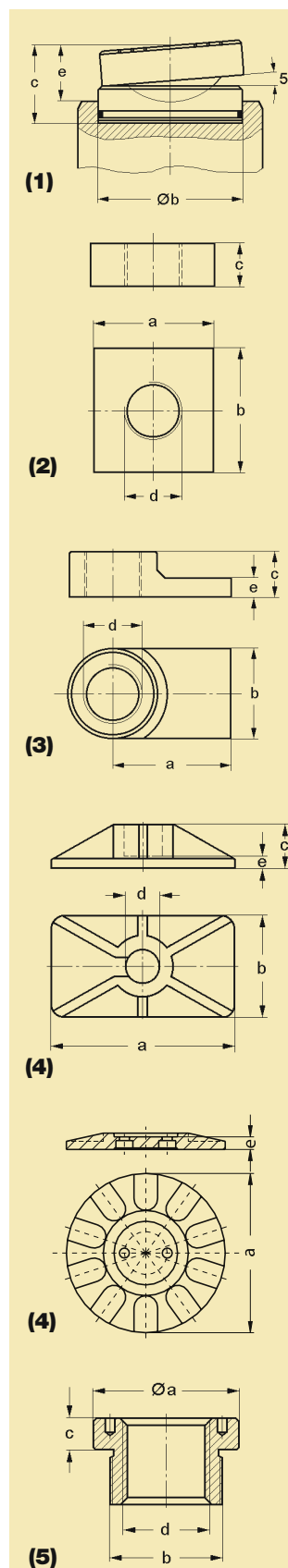
LSC 5/..	84148/0901-11	71	40	30	1½"-16	11
LSC 10/..	84148/0902-11	79	60	37	2¼"-14	12
LSC 25/..	84148/0904-11	105	110	40	3⅝"-12	20

(4) Base plate for

LSC 5/...	84148/0901-10	163	102	31	40,5 mm	20
LSC 10/...	84148/0902-10	180				15
LSC 15/...	84148/0903-10	180				15
LSC 25/...	84148/0904-10	215				17
LSC 30/...	84148/0905-10	215				17
LSC 50/...	84148/0906-10	305				22
LSC 75/...	84148/0907-10	350				32
LSC 95/...	84148/0908-10	400				40

(5) Hollow saddles with internal thread for hollow piston cylinders

LHC 12/..	84148/9946-83	34	M 28 x 1,5	7	¾"-16	--
LHC 22/..	84148/9946-84	48	1⅞"-16	8	1"-8	--
LHC 30/..	84148/9946-85	55	1⅜"-16	9	1¼"-7	--
LHC 60/75, LHC 60/150	84148/9946-86	80	2¾"-16	12	1⅝"-5 ½	--
LHC 100/..	84148/9946-87	116	4"-16	13	2½"-8	--
LHC 140/..	84148/9946-88	135	4¼"-16	20	2½"-8	--



Pulling cylinders

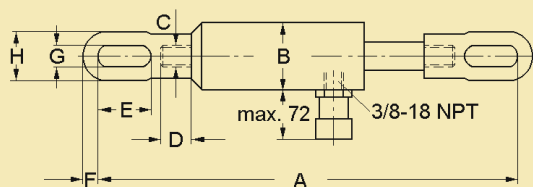


The **LUKAS pulling cylinders LPC** are used for precision pulling work e.g. in shipyards or on construction sites. They are ideal tools for drawing together prefabricated metal modules for welding. They allow a precise working to the mm.

The baked enamel finished cylinder body and the hard-chrome plated plunger provide maximum corrosion resistance and long life.

For high lateral load tolerance the cylinder is equipped with a wide guiding ring which serves also as a fully loadable stroke limitation.

When the pulling job is finished the piston is spring-retracted to its initial (extended) position.



All **LPC-cylinders** can be mounted with LUKAS quick couplers so that they can also be integrated into existing LUKAS 50 MPa-systems.

Please order quick coupler **StNi 62 (order no. 84053/16)** separately and change it against the standard coupler.

Optionally available complete with metal protection cover for the piston rod.

Attention!

Models with this cover have a 30 mm shorter stroke!

type	order no.	pull. cap.	stroke	eff. area	oil cap.	A	B	C	D	E	F	G	H	weight
		kN	mm	cm ²	l	mm	Ø mm		mm	mm	mm	mm	mm	kg
LPC 10/150	84183/2005	94	150	13,5	0,2	726	86	M 30 x 2	25	109	30,5	46	107	12
LPC 30/150	84183/2015	307	150	43,9	0,7	873	125	M 40 x 2	45	153	29	50	108	32
LPC 50/150	84183/2020	492	150	70,3	1,1	907	148	M 52 x 2	60	150	70	50	130	60

700 bar

Hand pumps LH 1/LH 2 for single- and double-acting cylinders

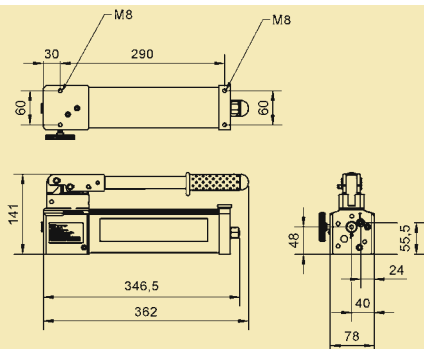


Robust two-stage hand pumps with automatic switch-over from low to high pressure. They can be used in horizontal and vertical position with the pump head facing

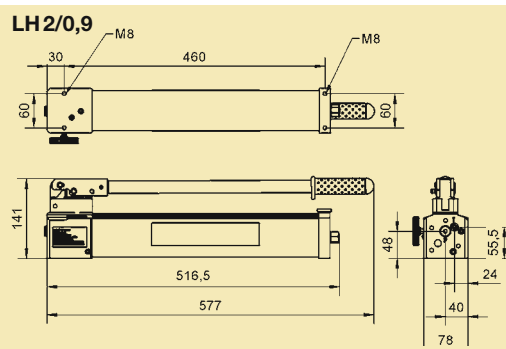
downwards. Precise lowering of a lifted load is possible with the hand wheel on the drain valve.

type	order no.	oil capacity	usable oil capacity	delivery per stroke low pressure	automatic switchover at	delivery per stroke high pressure	weight
		l	l	cm ³	MPa (bar)	cm ³	kg
LH 1/0,5-70	84129/1220	0,7	0,47	6,0	2 (20)	0,8	4,0
LH 1/0,9-70	84129/1230	1,3	0,9	6,0	2 (20)	0,8	5,2
LH 2/0,9-70	84129/2230	1,3	0,9	17,0	2 (20)	1,7	5,2
LH 2/1,8-70	84129/2240	2,3	1,8	17,0	2 (20)	1,7	6,5
LH 2/3,8-70	84129/2250	4,5	3,8	17,0	2 (20)	1,7	10,8

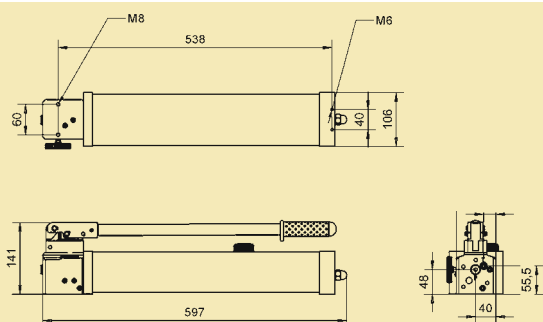
LH1/0,5



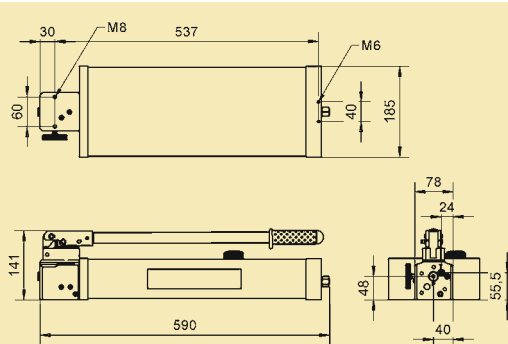
LH1/0,9 · LH2/0,9



LH2/1,8



LH2/3,8



Accessories for hand pumps



N4/3W



N2W



N4M



MA3

**Connection plate ASP2
for N2W and N4M**

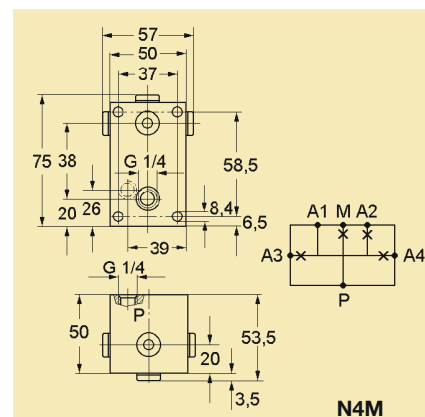
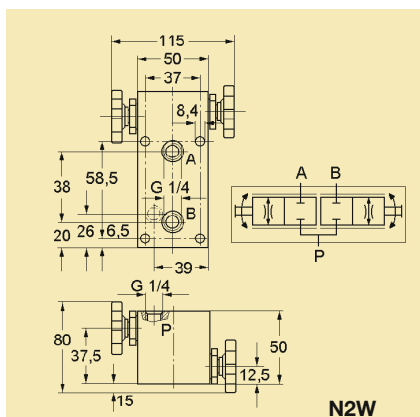
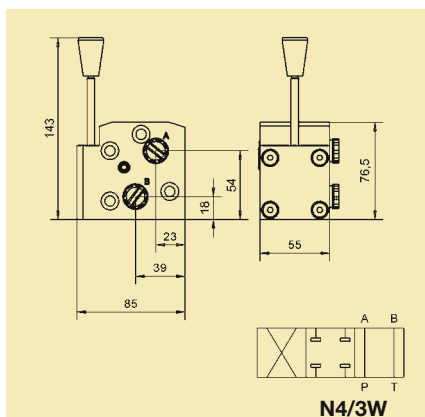


Conversion sets suitable for LH1, LH2

type	order no.	dimensions (l x w x h) mm	weight kg	
4/3-way valve N4/2W	84129/7110	55 x 85 x 143	1,5	Control valve for one double-acting cylinder
2-way distributor valve N2W	84148/9903*	115 x 80 x 114	2,1	Distributor valve used to divide one oil flow into two individual flows. Both oil flows can be regulated and matched to one another.
Connection plate ASP2	84129/7413	68 x 76,5 x 20	0,3	please order separately
Oil distributor with pressure gauge connection N4M	84148/9905*	57 x 54 x 75	1,4	To divide one flow oil into 5 individual oil flows; e.g. 4 tool connections and 1 pressure gauge adapter (MA2).
Connection plate ASP2	84129/7413	68 x 76,5 x 20	0,3	please order separately
Press. gauge connector MA3	84126/5232		0,8	Position of pressure gauge 30° resp. 90°

* can be mounted in a hose- resp. a tube system

700 bar



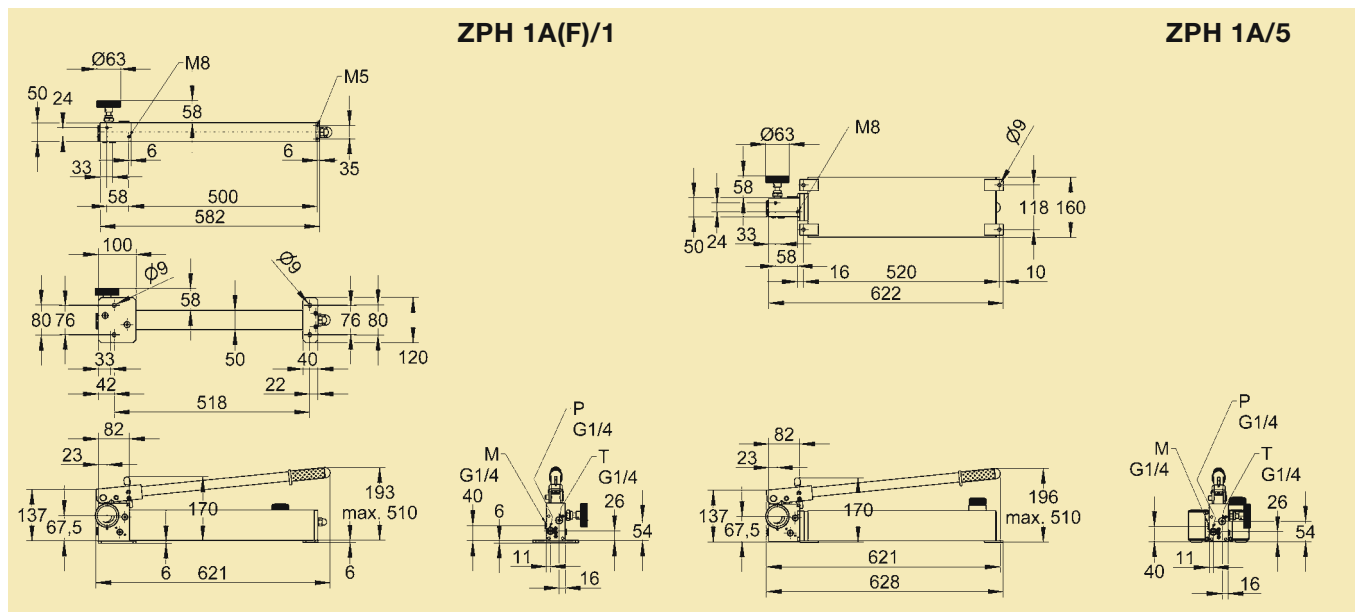
Hand pumps ZPH 1A./... for single- and double-acting cylinders



LUKAS hand pumps ZPH 1A./... are robust and easy to operate two-stage pumps with automatic switch-over from low pressure (LP) to high pressure (HP) mode. The basic version is suitable for operation of a single-acting cylinder.

Features & Benefits:

- ▲ High LP/HP switch-over pressure for fast extension of a cylinder without load
- ▲ Modular valve kits for easy upgrading to operation of one double-acting or several single-acting cylinders
- ▲ Precise lowering of a load by means of hand operated drain valve
- ▲ Usable in horizontal and vertical (pump head facing downwards) position



type	order no.	hand lever force at 70 MPa	oil capacity l	usable oil capacity l	delivery per stroke low pressure cm³	automatical switchover at MPa (bar)	delivery per stroke high pressure cm³	weight kg
ZPH 1A/1	84120/0179	36 kg	1,3	1,1	10	10 (100)	1,6	7,7
ZPH 1AF/1	84120/3179	36 kg	1,3	1,1	10	10 (100)	1,6	7,9
ZPH 1A/5	84120/0180	36 kg	5,2	4,5	10	10 (100)	1,6	13,1

*ZPH 1AF/1 with stable base plate · ZPH 1A/1 mounting version without base plate

Accessories for hand pumps



N4/2W



N2W



N4M



NFP



MA3

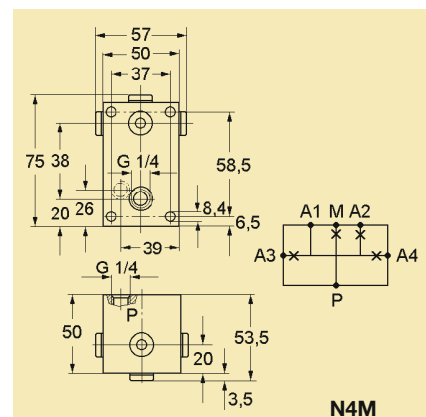
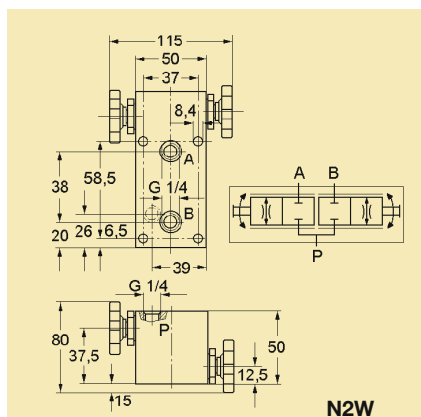
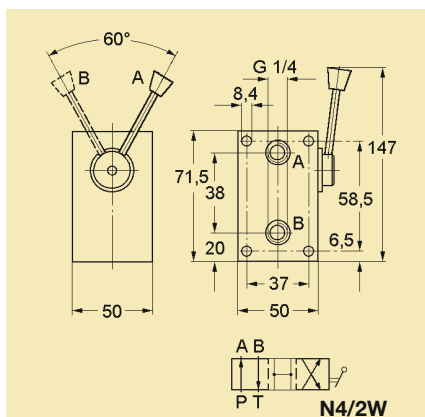


MA2

Conversion sets suitable for ZPH 1A./...

type	order no.	dimensions (l x w x h) mm	weight kg	
4/2-way valve N4/2W	84111/9848	80 x 50 x 147	1,5	Control valve for one double-acting cylinder
2-way distributor valve N2W	84148/9903*	115 x 80 x 114	2,1	Distributor valve used to divide one oil flow into two individual flows. Both oil flows can be regulated and matched to one another.
Oil distributor with pressure gauge connection N4M	84148/9905*	57 x 54 x 75	1,4	To divide one flow oil into 5 individual oil flows; e.g. 4 tool connections and 1 pressure gauge adapter (MA2).
Press. gauge connector MA3	84126/5232		0,8	Position of pressure gauge 30° resp. 90°
Press. gauge connector MA2	84126/5231		0,15	Connection of pressure gauge laterally on pump head
Foot pump NFP	84120/2-0001	--	0,6	Conversion set for foot operation.

* can be mounted in a hose- resp. a tube system



Hand pumps ZPH 3/... for single- and double-acting cylinders with large oil volume

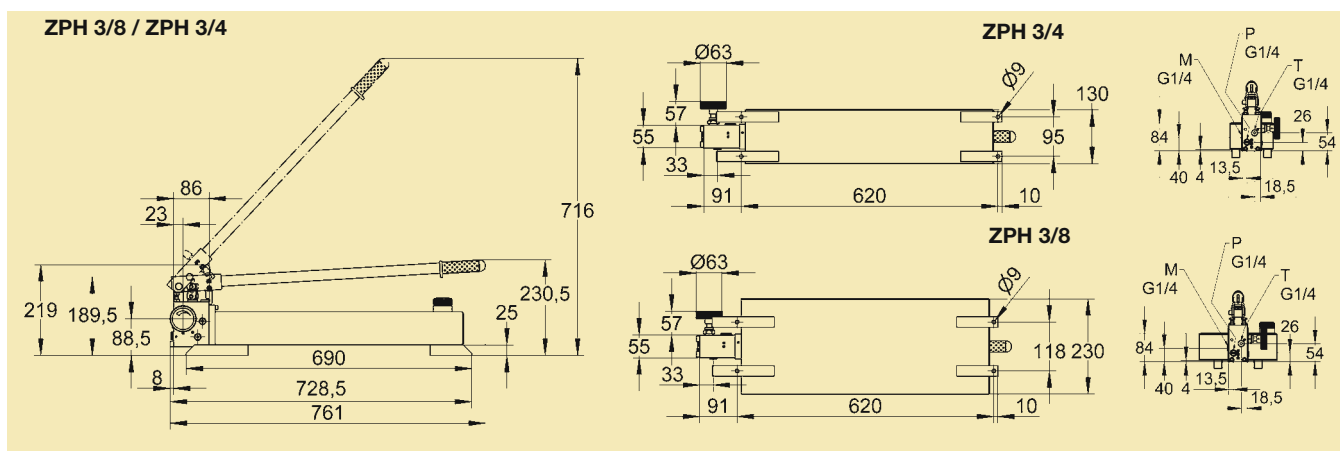


LUKAS Handpumps ZPH 3... are robust and easy to operate two-stage pumps with automatic switch-over from low pressure (LP) to high pressure (HP) mode. The basic version is suitable for operation of a single-acting cylinder.

Features & Benefits:

- ▲ Modular valve kits for easy upgrading to operation of one double-acting or several single-acting cylinders

- ▲ Big oil container
- ▲ High LP/HP switch-over pressure for fast extension of a cylinder without load
- ▲ High HP oil delivery for fast extension of a cylinder with load
- ▲ Precise lowering of a load by means of hand operated drain valve
- ▲ Usable in horizontal and vertical (pump head facing downwards) position



type	order no.	hand lever force at 70 MPa	oil capacity l	usable oil capacity l	delivery per stroke low pressure cm ³	automatical switch over at MPa (bar)	delivery per stroke high pressure cm ³	weight kg
ZPH 3/4	84120/0415	62 kg	5,25	4	10,8	18 (180)	4,2	11
ZPH 3/8	84120/0425	62 kg	10,5	8	10,8	18 (180)	4,2	15,4

Accessories for hand pumps



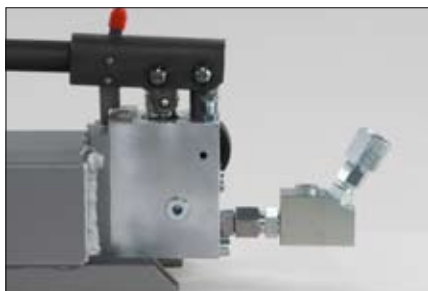
N4/2W



N2W



N4M



MA3



MA3 with pressure gauge

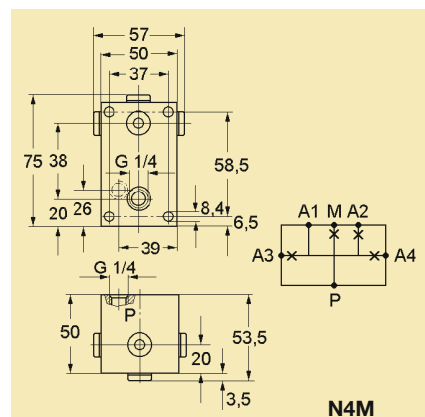
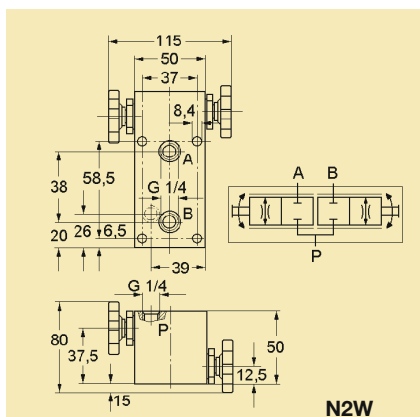
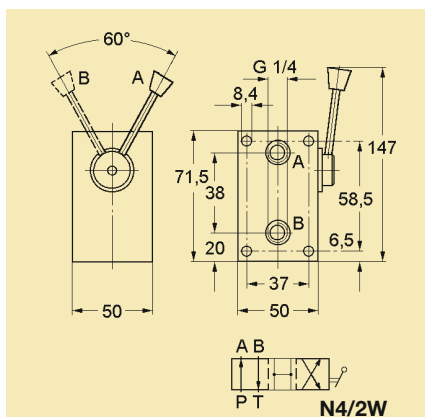


MA2

Conversion sets suitable for ZPH 3/...

type	order no.	dimensions (l x w x h) mm	weight kg	
4/2-way valve N4/2W	84111/9848	80 x 50 x 147	1,5	Control valve for one double-acting cylinder
2-way distributor valve N2W	84148/9903*	115 x 80 x 114	2,1	Distributor valve used to divide one oil flow into two individual flows. Both oil flows can be regulated and matched to one another.
Oil distributor with pressure gauge connection N4M	84148/9905*	57 x 54 x 75	1,4	To divide one flow oil into 5 individual oil flows; e.g. 4 tool connections and 1 pressure gauge adapter (MA2).
Press. gauge connector MA3	84126/5232		0,8	Position of pressure gauge 30° resp. 90°
Press. gauge connector MA2	84126/5231		0,15	Connection of pressure gauge laterally on pump head

* can be mounted in a hose- resp. a tube system,



700 bar

Foot pump LFP 2 for single-acting cylinders

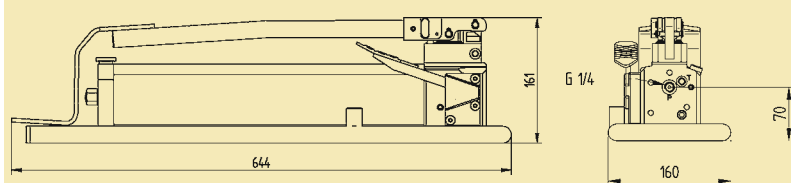


Robust two-stage foot pump with automatic switch-over from low to high pressure mode. For increased stability the pump is mounted on a tube frame. The foot lever would function as a carry handle once it is latched in

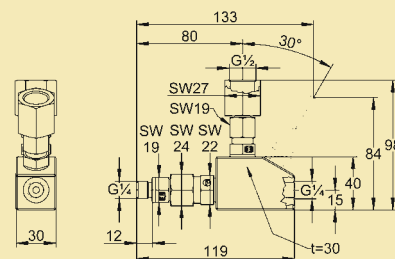
horizontal position. Precise lowering of a lifted load is possible with the foot-operated drain valve.

type	order no.	oil capacity l	usable oil capacity l	delivery per stroke low pressure cm ³	automatic switchover at MPa (bar)	delivery per stroke high pressure cm ³	weight kg
LFP 2/0,9-70	HR 1494 63327	1,3	0,9	17,0	2 (20)	1,7	8,0
LFP 2/1,8-70	HR 1494 63329	2,3	1,8	17,0	2 (20)	1,7	10,0

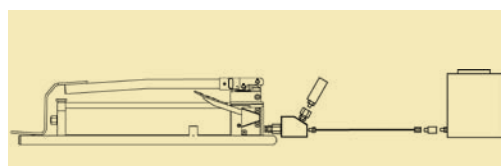
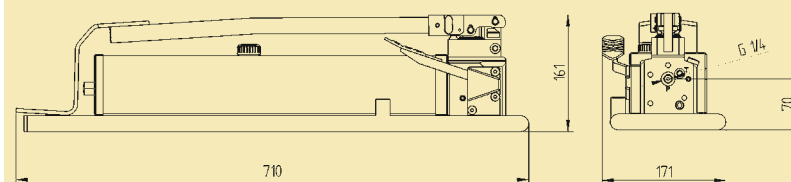
LFP 2/0,9



Pressure gauge connector for LFP 2



LFP 2/1,8



type	order no.	weight
MA 3	84126/5232	0,8 kg

Air Hydraulic Pumps AHP 2 Series



for double acting cylinders

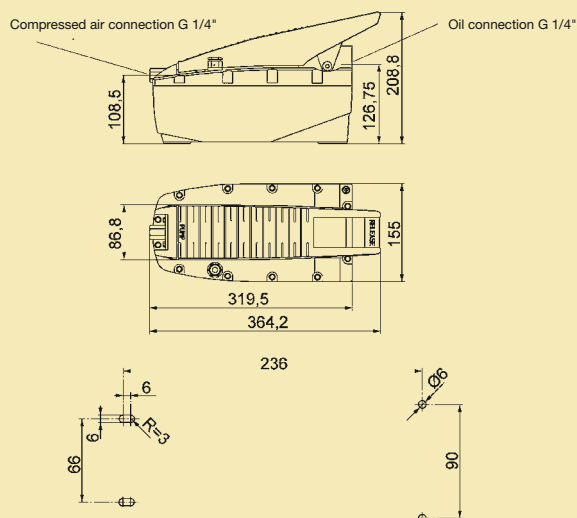
for single acting cylinders

Technical Data

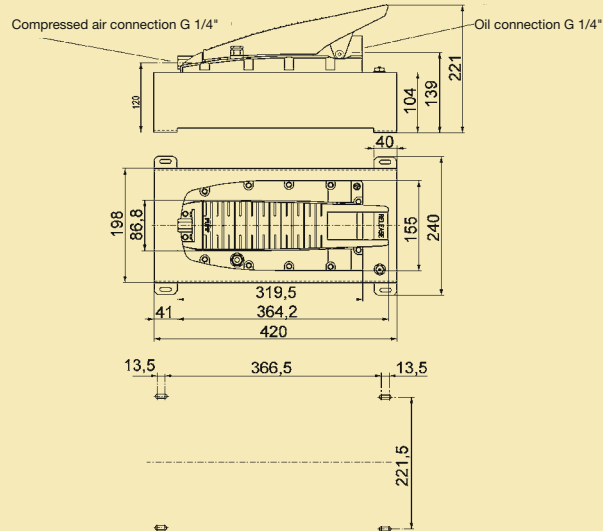
Type	AHP 2-1E-702	AHP 2-1E-705
	AHP 2-1D-702	AHP 2-1D-705
Oil tank	2,4 l	5 l
Max. working pressure	500 bar	500 bar
Output flow rate (without load)	1,1 l/min	1,1 l/min
Output flow rate (with load)	0,15 l/min	0,15 l/min
Useable oil capacity	2,1 l	4,5 l
Air pressure range	2,8 – 10 bar	2,8 – 10 bar
Air consumption	340 l/min	340 l/min
Compressed air connection	G 1/4"	G 1/4"
Oil connection	G 1/4"	G 1/4"
Weight	6,3 kg	8,8 kg

- ▲ suitable for operation of single-acting rams (1E) and double-acting rams (1D)
- ▲ can be driven by normal shop air
- ▲ operates in horizontal and vertical position
- ▲ easy operation by foot pedal with 3 positions: advance – hold – retract
- ▲ Extremely low noise level (75 dBA)
- ▲ Reciprocating pressure intensifier (air/oil) produces oil pressure proportionally to primary air pressure
- ▲ internal relief valve protects automatically against overload

AHP 2 - 2,4 l



AHP 2 - 5 l



500 bar	oil tank	order no.	type
AHP 2-1E-702	2,4 l	HR 1494 63 253	single-acting cylinder
AHP 2-1E-705	5 l	HR 1494 63 254	single-acting cylinder
AHP 2-1D-702	2,4 l	HR 1494 63 257	double-acting cylinder
AHP 2-1D-705	5 l	HR 1494 63 258	double-acting cylinder

700 bar

Hydraulic power packages **PO 6/GO 6 for all cylinders**



PO6-1E-10



GO6-1E-10



PO6-2E-10



GO6-2E-10



PO6-1D-10



GO6-1D-10

The **PO 6 models** are powerful two-stage motor pumps for use in intermittent mode. Thanks to the high LP/HP switch-over pressure (16 MPa = 160 bar) they provide in the low pressure mode a faster working speed than traditional motor pumps.

The units will be delivered with a basic oil filling of 7,5 l resp. 15 l. If necessary oil can be filled up to 10 l resp. 24 l. A carry frame kit is available as separate accessory.

Features & Benefits:

- ▲ LUKAS radial piston pump with patented suction valve for maximum efficiency
- ▲ Constant high pressure oil delivery up to the max. working pressure 70 MPa
- ▲ Available with electric motor (PO) or gasoline engine (GO)
- ▲ Compact design and light weight for easy transport



PO6-1E-10



GO6-1E-10



PO6-2E-25



PO6-1D-25

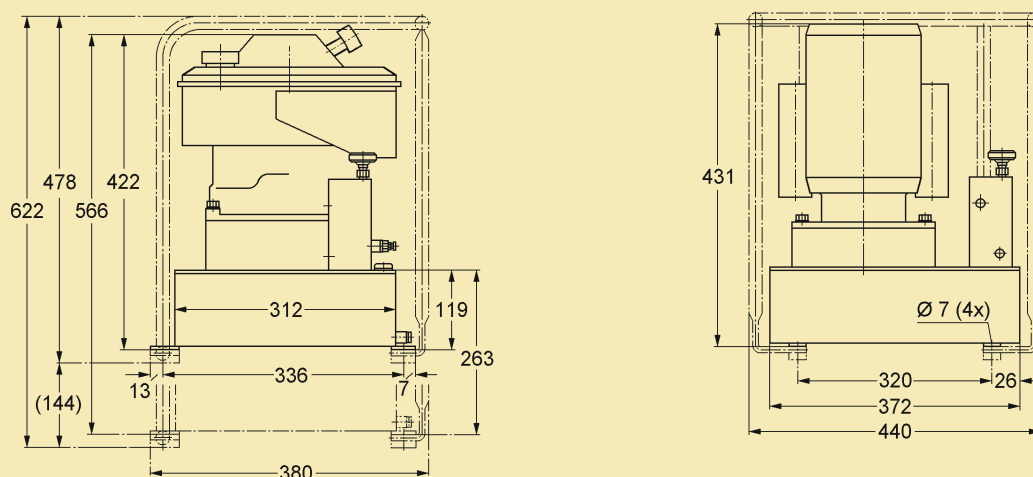


GO6-1E-25



GO6-2E-25

Hydraulic power packages PO 6/GO 6 for all cylinders



type	order no.	oil capacity standard-max. 	usable oil cap. standard-max. 	delivery low pressure l/min	switchover pressure MPa	delivery high pressure l/min	motor	electr. protect. acc. to DIN 40050	weight* approx. kg
PO6-1E-10-70	84112/5601	7,5 - 10	6 - 8,5	4,4		1,4	electric motor		41
PO6-2E-10-70	84112/5602	7,5 - 10	6 - 8,5	4,4		1,4	230 V/50 Hz		43,5
PO6-1D-10-70	84112/5603	7,5 - 10	6 - 8,5	4,4	16	1,4	2,2 kW	IP 54	42
PO6-1E-25-70	84112/5621	15 - 24	10 - 19	4,4		1,4			54
PO6-2E-25-70	84112/5622	15 - 24	10 - 19	4,4		1,4			56,5
PO6-1D-25-70	84112/5623	15 - 24	10 - 19	4,4		1,4			55
GO6-1E-10-70	84112/5604	7,5 - 10	6 - 8,5	4,7		1,45	4 stroke		38
GO6-2E-10-70	84112/5605	7,5 - 10	6 - 8,5	4,7		1,45	gasoline engine		40,5
GO6-1D-10-70	84112/5606	7,5 - 10	6 - 8,5	4,7	16	1,45	2,6 kW/3200 rpm		39
GO6-1E-25-70	84112/5624	15 - 24	10 - 19	4,7		1,45			49
GO6-2E-25-70	84112/5625	15 - 24	10 - 19	4,7		1,45			51,5
GO6-1D-25-70	84112/5626	15 - 24	10 - 19	4,7		1,45			50

* with basic oil filling

Accessories

Carry frame for 10 l oil container order no. V 84150/7601-03

Carry frame for 25 l oil container order no. V 84072/9230-06

Function of valve versions:

PO6-1E for 1 single-acting cylinder:

Piston movement under load is controlled by switching the motor on or off. When lowering the load, precise speed control through drain valve with hand wheel.

GO6-1E for 1 single-acting cylinder:

Same hydraulic function as PO6-1E; however gasoline engine doesn't start under full load.

PO6/GO6-2E for 2 single-acting cylinders:

Precise speed control of each cylinder when lifting or lowering with and without load.

PO6/GO6-1D for 1 double-acting cylinder:

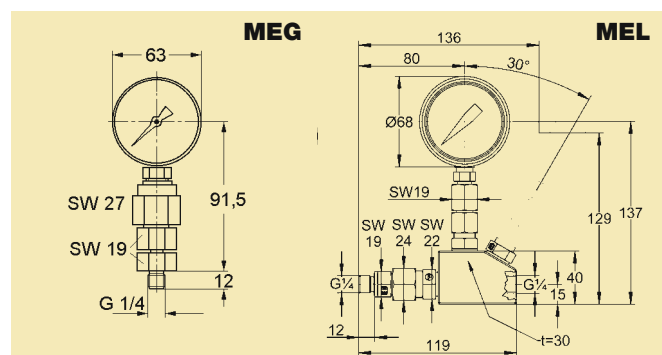
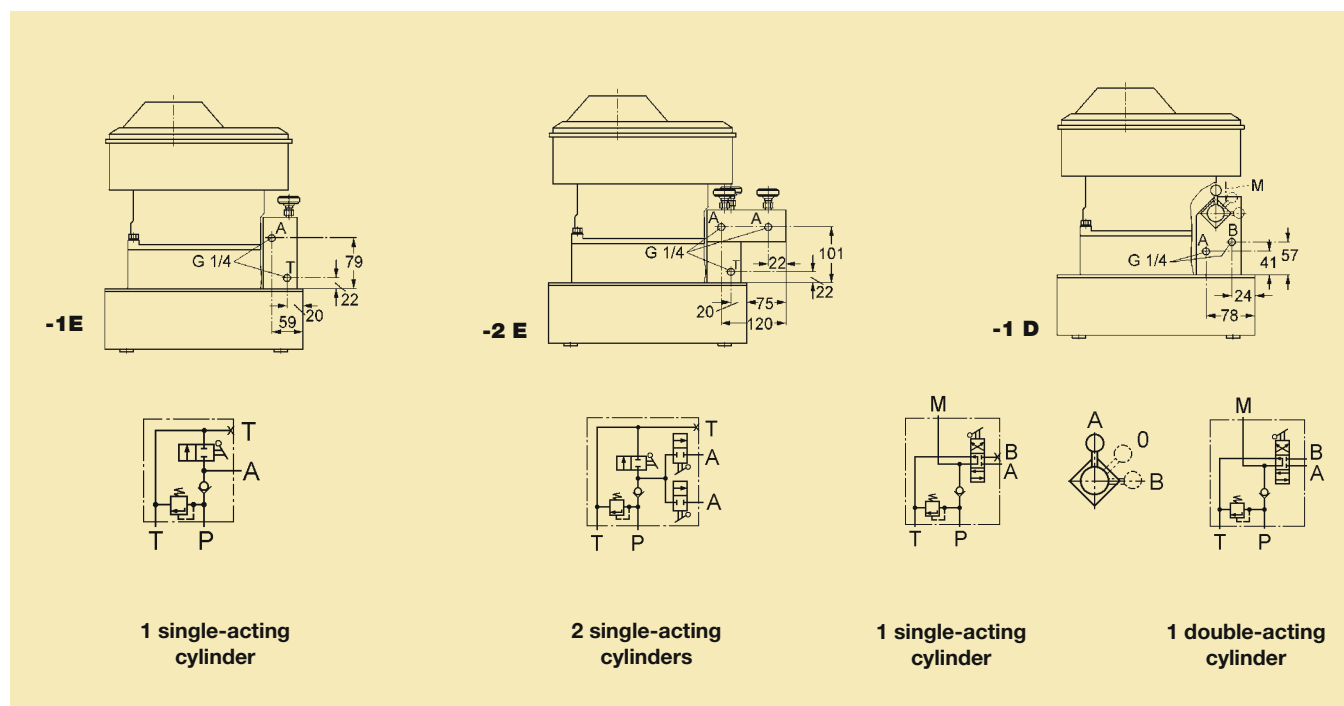
Precise speed control when lifting or lowering with and without load. When lowering the motor must stay switched on.

PO6/GO6-1D for 1 single-acting cylinder:

Precise speed control when lifting or lowering with and without load.

700 bar

Hydraulic power packages PO 6/GO 6 for all cylinders



Pressure gauge units liquid filled

type	order no.	for version	weight
MEG 700	84112/0105	-1D	0,6 kg
MEL 700 N	84112/0109	-1E/-2E	1,0 kg

GO6-1E with MEL 700 N



GO6-2E with MEL 700 N



GO6-1D with MEG 700



Low-noise hydraulic power packages PO 6S for all cylinders



PO6S-1E-10



PO6S-2E-10



PO6S-1D-10



PO6S-1E-25

Noise level only 66 db(A) under full load!

The ideal power unit for indoor use

The **PO 6S** models are powerful two-stage motor pumps for use in intermittent mode. Thanks to the high LP/HP switch-over pressure (16 MPa = 160 bar) they provide in the low pressure mode a faster working speed than traditional motor pumps.

The units will be delivered with a basic oil filling of 7,5 l resp. 15 l. If necessary oil can be filled up to 10 l resp. 24 l.

Features & Benefits:

- ▲ LUKAS radial piston pump with patented suction valve for maximum efficiency
- ▲ Constant high pressure oil delivery up to the max. working pressure 70 MPa
- ▲ Available with electric motor (PO)
- ▲ Compact design and light weight for easy transport
- ▲ Optionally equipped with carry frame



PO6S-2E-25



PO6S-1D-25



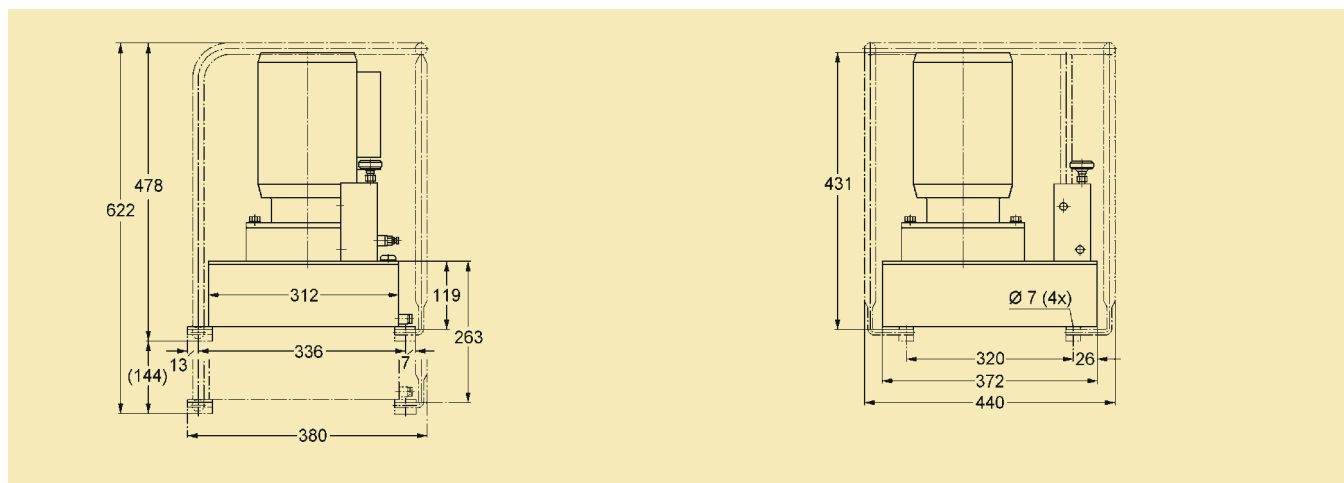
PO6S-1D-10



PO6S-2E-25

700 bar

Low-noise hydraulic power packages P0 6S for all cylinders



type	order no.	oil capacity standard-max. 	usable oil cap. standard-max. 	delivery low pressure l/min	switchover pressure MPa	delivery high pressure l/min	motor	electr. protect. acc. to	weight approx. kg
PO 6S-1E-10-70	84112/5401	7,5 - 10	6 - 8,5	2,2	16	0,7	electric motor		37
PO 6S-2E-10-70	84112/5402	7,5 - 10	6 - 8,5	2,2	16	0,7	230 V/50 Hz		39,5
PO 6S-1D-10-70	84112/5403	7,5 - 10	6 - 8,5	2,2	16	0,7	1,1 kW	IP 54	38
PO 6S-2E-25-70	84112/5404	15 - 24	10 - 19	2,2	16	0,7	1500 rpm		52,5
PO 6S-1D-25-70	84112/5405	15 - 24	10 - 19	2,2	16	0,7			51

* with basic oil filling

Accessories

Carry frame for 10 l oil container order no. V 84150/7601-03

Carry frame for 25 l oil container order no. V 84072/9230-06

Function of valve versions:

PO 6S-1E for 1 single-acting cylinder:

Piston movement under load is controlled by switching the motor on or off. When lowering the load, precise speed control through drain valve with hand wheel.

PO 6S-2E for 2 single-acting cylinders:

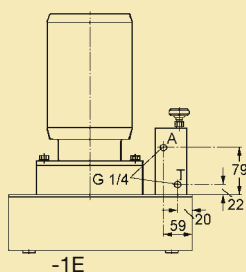
Precise speed control of each cylinder when lifting or lowering with and without load.

PO 6S-1D for 1 double-acting cylinder:

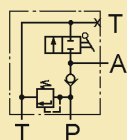
Precise speed control when lifting or lowering with and without load. When lowering the motor must stay switched on.

PO 6S-1D for 1 single-acting cylinder:

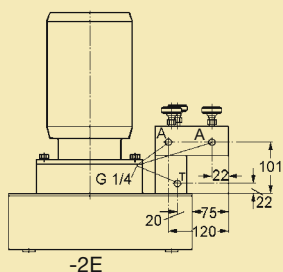
Precise speed control when lifting or lowering with and without load.



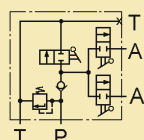
-1E



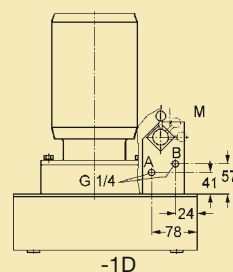
1 single-acting cylinder



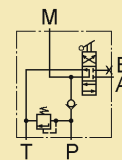
-2E



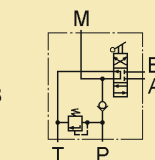
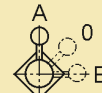
2 single-acting cylinders



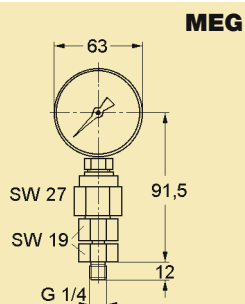
-1D



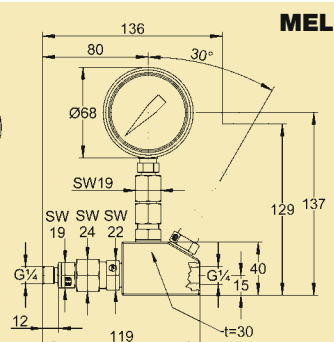
1 single-acting cylinder



1 double-acting cylinder



MEG



MEL

Pressure gauge units liquid filled

type	order no.	for version	weight
MEG 700	84112/0105	-1D	0,6 kg
MEL 700 N	84112/0109	-1E/-2E	1,0 kg

PO6S-1E with MEL 700 N



PO6S-2E with MEL 700 N



PO6S-1D with MEG 700



700 bar

Hydraulic Power Units tailor made for your application



PO6-M4/3-25-70-230V50Hz-F

PO6-4E-25-70-230V50Hz-F

PO6-8D-100-70-230V50Hz-F

Features & Benefits:

LUKAS PO 6 models are powerful two-stage motor pumps. Thanks to the high LP/HP switchover pressure 16 MPa (160 bar) they provide in the low pressure mode a faster working speed than traditional motor pumps.

The following spread shows the numerous models which can be manufactured. These Power Units will be assembled using the well known LUKAS high quality modules.

- ▲ LUKAS radial piston pump with patented suction valve for maximum efficiency
- ▲ Constant high pressure oil delivery up to the maximum working pressure of 70 MPa
- ▲ Available with electric motor (PO6) or electric silent motor (PO6S)
- ▲ Compact design and light weight for easy transport

Models with manual valves can be provided with combustion engine on request.

Available models

type	valve assembly		oil capacity l	max. operating pressure MPa		motor	pressure limiting valve	
PO 6	-	1 E	-	10	-	230 V, 50 Hz	-	F = fix adjustment
PO 6S		2 E		25		230 V, 60 Hz		R = adjustable
		4 E		40		400 V, 50 Hz		
		6 E		50		115 V, 60 Hz		
		8 E		75				
		1 D		100				
		2 D		150				
		4 D						
		6 D						
		8 D						
		G 2/2						
		L 2/2						
		M 4/3						

PO6 Power packages

delivery low pressure	l/min	4,4
switchover pressure	MPa/bar	16 (160)
delivery high pressure	l/min	1,4

Motor types

elektric motor 230 V 50Hz,	2,2 kW
elektric motor 230 V 60Hz,	
elektric motor 400 V 50Hz,	
elektric motor 115 V 60Hz,	

PO 6 S low-noise

power packages

Noise level only 66 db (A) under full load

delivery low pressure	l/min	2,2
switchover pressure	MPa/bar	16 (160)
delivery high pressure	l/min	0,7

Motor types

elektric motor 230 V 50Hz,	1,1 kW
elektric motor 230 V 60Hz,	
elektric motor 400 V 50Hz,	
elektric motor 115 V 60Hz,	

Oil Capacity/Usable Oil capacity

Oil capacity	10 l	usable oil capacity	8,5 l
Oil capacity	24 l	usable oil capacity	19 l
Oil capacity	40 l	usable oil capacity	33 l
Oil capacity	50 l	usable oil capacity	41 l
Oil capacity	75 l	usable oil capacity	61 l
Oil capacity	100 l	usable oil capacity	85 l
Oil capacity	150 l	usable oil capacity	125 l

Function of the valve versions:

Manual valves

1E – 8E

for one up to eight single-acting cylinders:

Piston movement under load is controlled by switching the motor on or off. When lowering the load, precise speed control through drain valve with hand wheel.

1D – 8D

for one up to eight double-acting cylinders:

Precise speed control when lifting or lowering with and without load. When lowering the motor must stay switched on.

1D – 8D

for one up to eight single-acting cylinders:

Precise speed control when lifting or lowering with and without load

Solenoid valves

L 2/2

without load holding function

Motor starts when remote control button is pushed, solenoid valve closes. - The connected hydraulic cylinder advances as long as the button is pushed. - For retracting release the button, motor stops, valve is set to „open“, piston returns.

G 2/2

with load holding function:

Remote control with 3 - position switch

- Position „1“ = motor on, valve closed, cylinder advances
- Middle position „0“ = motor off, valve closed, load is held
- Position „2“ = motor off, valve set to open, piston returns

M 4/3

with remote control and solenoid valves for one double acting or single acting cylinder. Load holding function when the motor is switched on or off.

Hydraulic power packages PO 4 for small and medium size cylinders



The powerful 2-stage **hydraulic pumps PO 4** are compact and light and can be transported easily. They reach a long operation time in intermittent duty meeting the highest quality and technology requirements.

The remote control version (F) can be operated by just pushing a button on the ergonomic control panel. The remote control cable is 3 m long.

Features & Benefits:

- ▲ Long service life through genuine LUKAS radial piston pump
- ▲ high switch-over pressure for fast piston advance without load
- ▲ constant high pressure oil delivery up to the max. working pressure
- ▲ maximum effective oil delivery through patented LUKAS suction valves
- ▲ The max. oil delivery is always available, regardless of the temperature

Function of valve versions:

Version NA for single-acting cylinders:

Extending - holding load, when motor is switched off – retracting, when motor is switched on or off (pressureless oil flow).

Version N3 for single-acting cylinders:

Sensitive extending and positioning of load – holding load also when motor is switched on (pressureless oil flow) – retracting when motor is switched on or off.

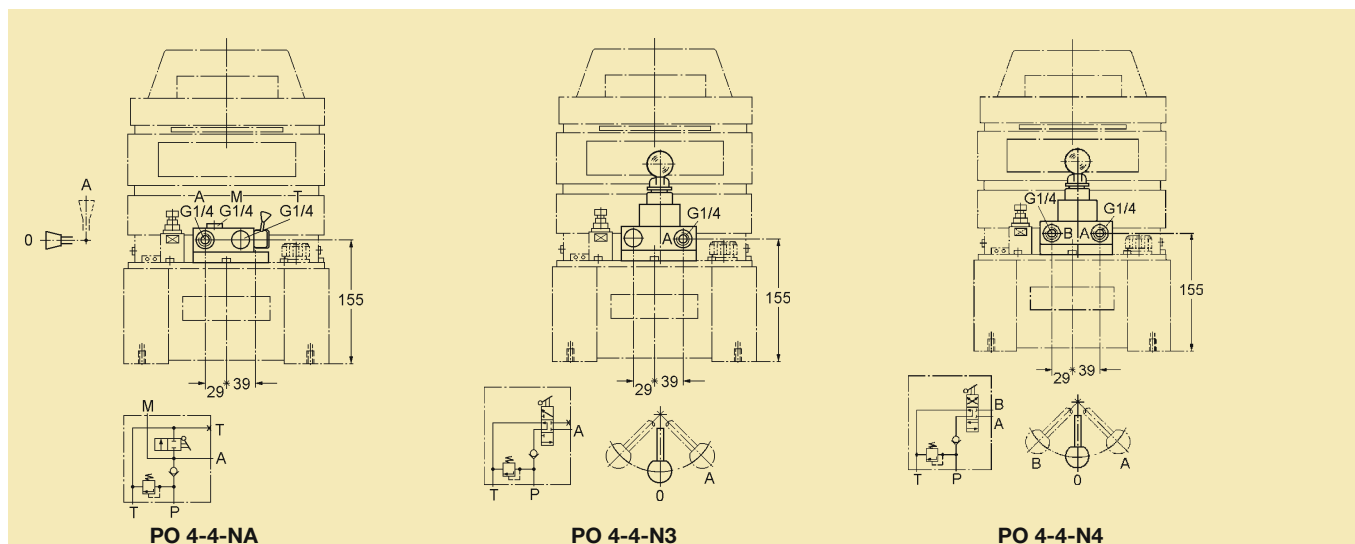
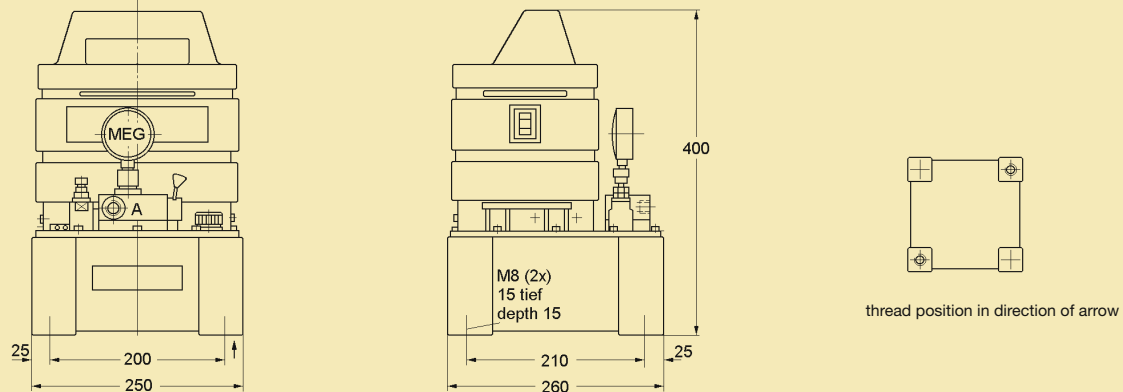
Version N4 for double-acting cylinders:

Extending – holding load also when motor is switched on (pressureless oil flow) – retracting when motor is switched on.

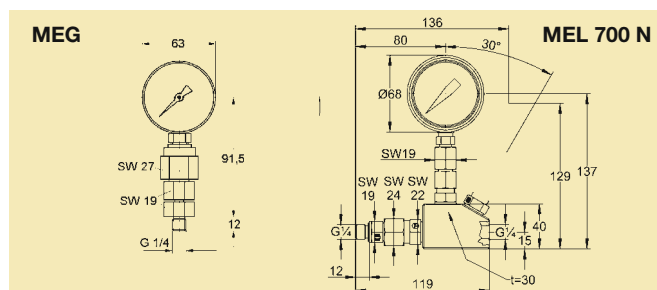
type	order no.	usable oil capacity l	weight kg
PO4-4-NA 700	84112/22	4	22,0
PO4-4-NA 700 F	84112/24	4	22,5
PO4-4-N3/N4 700	84112/23	4	22,2
PO4-4-N3/N4 700 F	84112/25	4	22,7
delivery low pressure		2,1 l/min	
switchover pressure		5 MPa (50 bar)	
delivery high pressure		0,24 l/min	
oil capacity		5 l	
power		0,55 kW	
voltage		230 V/50 Hz	
electr. protection acc. to DIN 40050		IP 20	

Hydraulic power packages PO 4 for small and medium size cylinders

PO 4-4-NA 700 (with accessory MEG 700)



Pressure gauge units



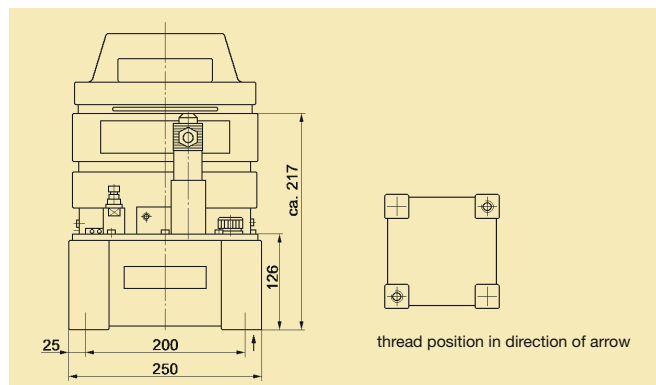
type	order no.	for version	weight
MEG 700	84112/0105	-NA	0,6 kg
MEL 700 N	84112/0109	-NA/-N3/-N4	1,0 kg

PO4-4-NA with MEL 700 N or MEG 700

PO4-4-N3/N4 with MEL 700 N



Hydraulic power packages PO 4 with solenoid valve and remote control

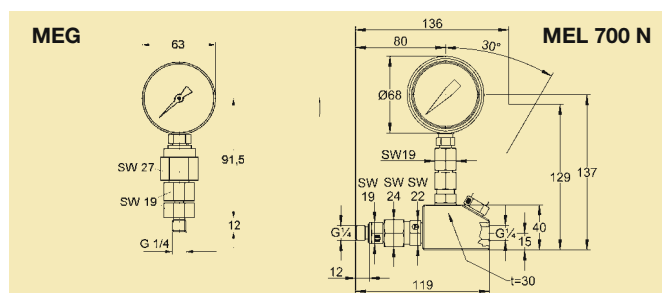


PO 4 pumps with solenoid valves are especially suitable for operation such as pressing, cutting, crimping etc. With the included remote control (cable length 3 m) both motor and solenoid valve can be activated.

type	order no.	useable oil capacity l	weight kg
PO4-4-L2/2 700 F	84112/2401	4	23
PO4-4-G2/2 700 F	84112/2501	4	23

delivery low pressure	2,1 l/min
switchover pressure	5 MPa (50 bar)
delivery high pressure	0,24 l/min
oil capacity	5 l
power	0,55 kW
voltage	230 V/50 Hz
electr. protection acc. to DIN 40050	IP 20

Pressure gauge units



PO4 G2/2 and PO4 L2/2 with MEL 700 N or MEG 700



Available with two valve versions:

Model L 2/2 without load holding function

Motor starts when remote control button is pushed, solenoid valve closes. - The connected hydraulic cylinder advances as long as the button is pushed. - For retracting release the button, motor stops, valve is set to „open“, piston returns.

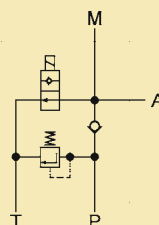
Model G 2/2 with load holding function:

Remote control with 3 - position switch

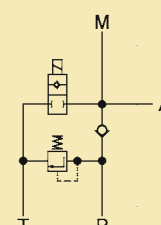
- Position „1“ = motor on, valve closed, cylinder advances
- Middle position „0“ = motor off, valve closed, load is held
- Position „2“ = motor off, valve set to open, piston returns

type	order no.	weight
MEG 700	84112/0105	0,6 kg
MEL 700 N	84112/0109	1,0 kg

Hydraulic diagrams L 2/2



G 2/2



LUKAS hydraulic oil



Mineral oil acc. to DIN 51524

LUKAS hydraulic oil on mineral oil basis has excellent oxidation resistance and outstanding anti-wear performance.

HLP 10 is recommended for all climatic conditions.

class of viscosity	size of can	order no.	temperature range oil
HLP 10	1 l	84117/2-0001	- 18 ... + 50°C
HLP 10	5 l	84117/2-0002	- 18 ... + 50°C
HLP 10	10 l	84117/2-0003	- 18 ... + 50°C

Biodegradable synthetic oil

LUKAS biodegradable **HF-E** synthetic oil can be mixed with all normal hydraulic oils on mineral basis. For reason of environment protection it is recommended however, prior to switching to the biodegradable type to flush oil reservoir, hoses and hydraulic cylinders and to clear them.

class of viscosity	size of can	order no.	temperature range oil
HF-E 15	5 l	84117/2-0008	- 8 ... + 70°C

Micro Power Pack



Version S



Version F

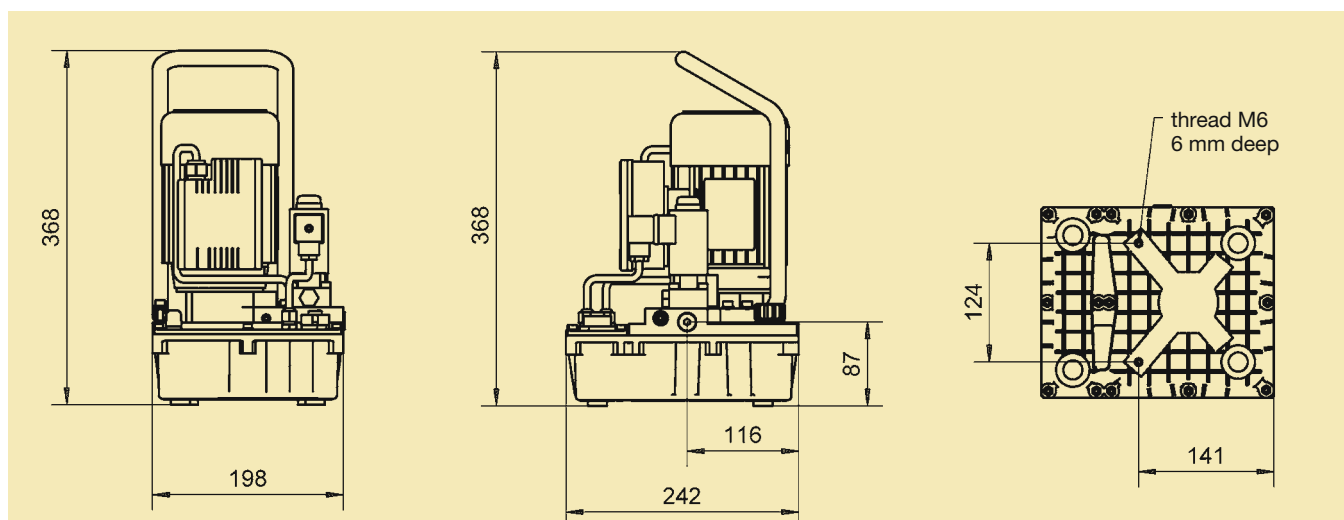
The **LUKAS Micro Power Pack** has been designed to operate single acting hydraulic tools such as pressing tools, spreading wedges, or nut splitters. Two versions of the power unit are available: With electric switch directly beside the hydraulic coupler (version S) or with separate remote control (version F, cable length 3 m). A solenoid valve controls the extending/retracting function.

The Micro power unit is especially suitable for use on construction sites due to its robust design, small dimensions and low weight. A single stage hydraulic pumps provides constantly high oil flow up to 70 MPa (700 bar) operating pressure.

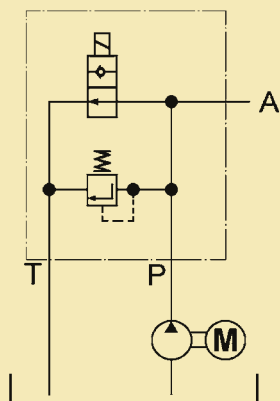
type	order no.	usable oil capacity	weight
P02-L2/2 700 S	84112/5201	0,8 l	11,4 kg
P02-L2/2 700 F	84112/5202	0,8 l	9,8 kg
delivery		0,26 l/min	
oil capacity tank		1,1 l	
power		0,26 kW	
voltage		230 V/50 Hz	
electr. protection acc. to DIN 40050		IP 54	

Function

Motor starts when remote control button is pushed, solenoid valve closes. - The connected hydraulic tool advances as long as the button is pushed. - For retracting release the button, motor switches off, valve is set to „open“, tool becomes pressureless or is retracted by spring.

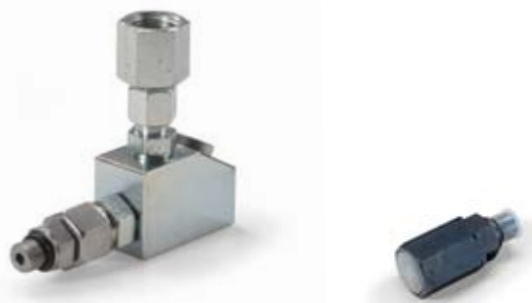


Hydraulic diagram

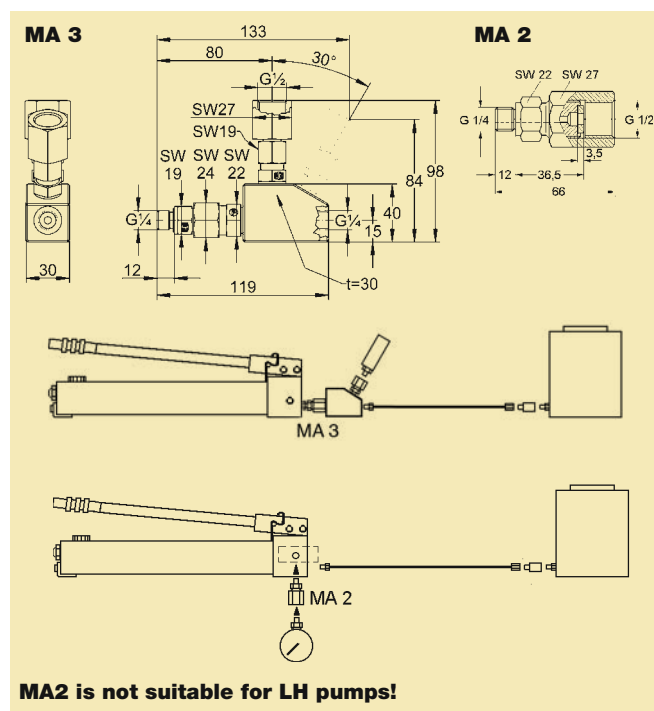


700 bar

Pressure gauge connectors



The **MA 3 pressure gauge adapter** allows pressure gauges to be mounted vertically or at a 30° angle. The installation position can be adjusted and so the pressure gauge can be put at the optimal angle for being read off. The MA 3 can be fitted to all LUKAS hand pumps. The **MA 2** is used for mounting the pressure gauge laterally on pump heads of ZPH pumps.



Pressure gauge connectors for hand pumps

type	order no.	weight
MA 3	84126/5232	0,8 kg
MA 2	84126/5231	0,15 kg



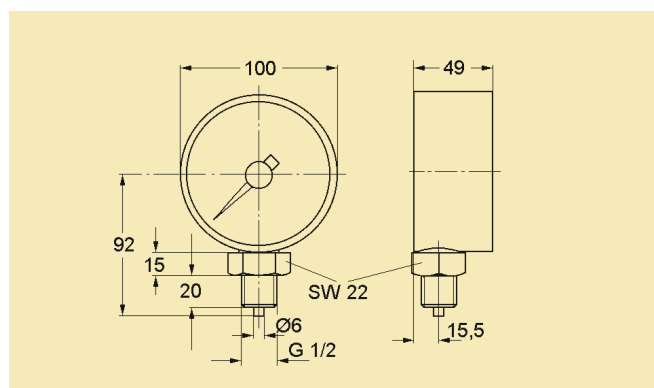
Pressure gauges



Pressure gauges with scale indicating pressure up to 100 MPa (1000 bar)

The gauges are meant for visual reading of the pressure prevailing in a hydraulic system. They can be connected to a LUKAS hydraulic pump via pressure gauge adaptor.

type		order no.	weight
M 210		KT1493 76188	0,6 kg
M 210G	filled with liquid	KT1493 76189	1,2 kg



Pressure gauges with scale indicating forces

These pressure gauges are meant for visual reading of the **force** of a hydraulic cylinder. Each gauge model is **calibrated to match specific cylinders depending on their individual piston diameter**. The gauges are connected to a hand pump via pressure gauge adaptors MA 3 or MA 2.

type	order no.	for cylinder	weight
M 210E-0050	KT 1493 76150	LSC 5/...	
M 210E-0100	KT 1493 76151	LSC 10/...	
M 210E-0150	KT 1493 76152	LSC 15/...	
M 210E-0250	KT 1493 76153	LSC 23/...	
M 210E-0500	KT 1493 76154	LSC 50/...	0,6 kg
M 210E-0750	KT 1493 76155	LSC 75/...	
M 210E-1000	KT 1493 76156	LSC 100/...	
M 210E-0090	KT 1493 76281	AC 10/...	
M 210E-0220	KT 1493 76283	AC 25/...	
M 210E-0560	KT 1493 76285	AC 63/...	

Pressure gauge units MEG and MEL



MEG



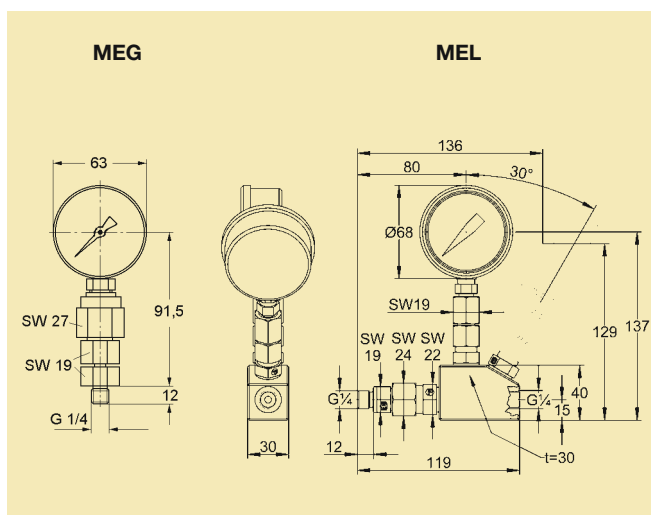
MEL



The **MEL pressure gauge unit** allows pressure gauges to be mounted vertically or at a 30° angle. The installation position can be adjusted and so the pressure gauge can be put at the optimal angle for being read off.

The MEL can be fitted to the most LUKAS hydraulic pumps. PO6-1D / PO6S-1D can be used only with **MEG**.

type	order no	weight
MEL 700 N	84112/0109	1,0 kg
MEG 700	84112/0105	0,6 kg



PO6-1D/PO6S-1D



Screw couplers System 700 bar



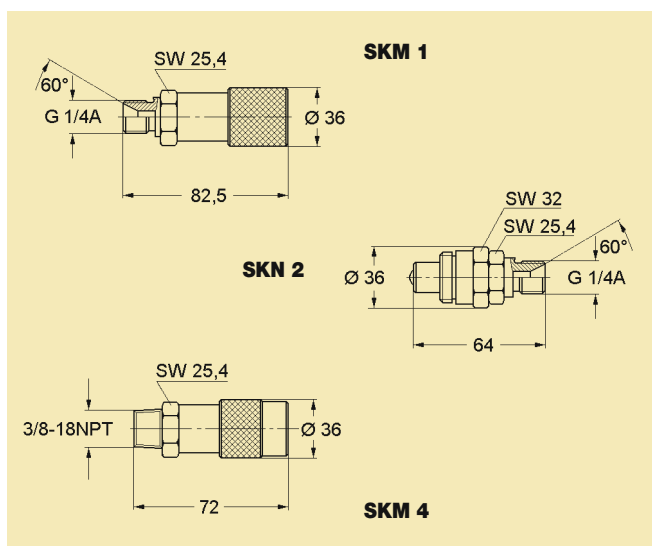
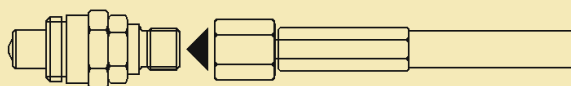
LUKAS screw couplers provide maximum oil flow up to 20 l/min. They allow safe and easy connection and disconnection of hydraulic hoses.

Female screw couplers are standard with all single- and double-acting LUKAS 700 cylinders. The male coupler is to be fitted to the hydraulic hose and must be ordered separately.

(Double acting LUKAS cylinders have built-in safety valve to prevent accidental over-pressurization.)

type	order no.	name	weight
SKM 1	84053/3510	socket	0,4 kg
SKM 4	HR 1495 39393	socket	0,4 kg
SKN 2	84053/3520	plug	0,2 kg

LUKAS 700 bar Cylinders can be mounted with comfortable LUKAS Quick Couplers.



Hoses, System 700 bar Screw connectors



length	order no.	weight
500 mm	KT 1495 36280	0,32 kg
2000 mm	KT 1495 36283	0,81 kg
5000 mm	KT 1495 36285	1,8 kg

Safety factor 4:1

The flexible and bending-resistant **LUKAS high-pressure hoses** offer highest safety due to their superior quality.

They are rated at 70 MPA (700 bar) working pressure. Internal diameter: 6,3 mm, colour: black.

Hose and threads:

One end retaining nut G 1/4 with 60° sealing cone for LUKAS screw coupler, other end firmly mounted with G 1/4 screw nipple with cutting edge for connection to a LUKAS pump.

Non standard lengths are available on request.

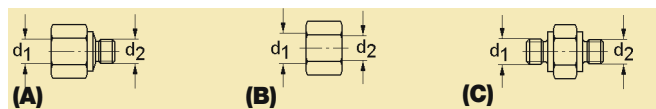
Screw Connectors

They are used for permanent connections between hydraulic hoses or devices. They can also be used for transition between different connection thread sizes or sealing modes.



Connection pieces (A)

d1 internal thread	d2 external thread	order no.	weight
M 18 x 1,5	M 14 x 1,5 ²⁾	84126/5206-01	0,1 kg
M 18 x 1,5	ø 12	84071/54	0,18 kg
G 1/4	M 1,4 x 1,5 ²⁾	84126/5206-08	0,1 kg
M 18 x 1,5	G 1/4A ¹⁾	84126/5206-23	0,1 kg
G 1/4	G 3/8A ¹⁾	84126/5207-01	0,08 kg
M 14 x 1,5	G 1/4A	84126/5230	0,1 kg
G 1/4	M 14 ¹⁾	84071/3320-02	0,1 kg
M 18 x 1,5	G 3/8A	84126/5227	0,15 kg
G 1/4	3/8-18 NPT	84126/5225-01	0,1 kg

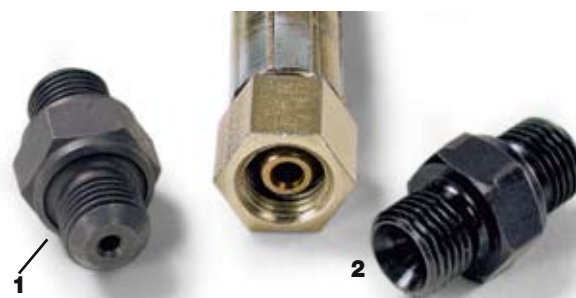


Connection sockets (B)

d1	d2	order no.	weight
G 1/4	M 18 x 1,5	84071/79	0,12 kg

Connection plugs (C)

d1 internal thread	d2 external thread	order no.	Masse
G 1/4 A ¹⁾	M 14 x 1,5 ²⁾	84071/23380	0,05 kg
M 14 ¹⁾	M 14 x 1,5 ²⁾	84126/5102-15	0,05 kg
M 14 x 1,5 ²⁾	ø 12	84071/53	0,04 kg
G 3/8A	M 14 x 1,5 ²⁾	84126/5119	0,1 kg
M 18 x 1,5	M 14	84071/80	0,01 kg



¹⁾ cutting edge seal

²⁾ 60° sealing cone
(hose connection)

700 bar

Distributor Valves



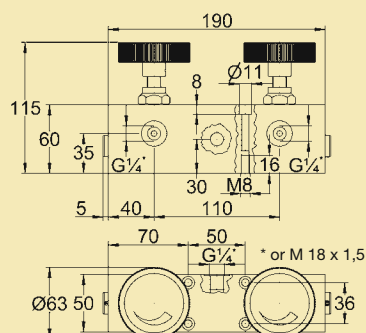
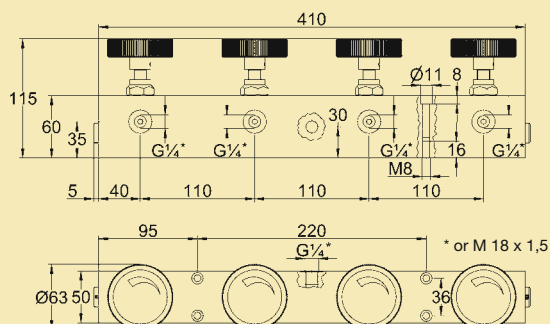
Distributor valves make it possible to divide up one oil flow into several flows which can be individually regulated. By opening or closing the valve, the lifting or lowering speed of several cylinders can be regulated separately and each individual oil flow can be closed.

4-way distributor valve to regulate and close up to four oil flows individually.

2-way distributor valve to regulate and close up to four oil flows individually.

6-way and 8-way distributor valves are available on demand.

type	order no.	Operating pressure max.	Connection thread	Weight
Two-way distributor valve	84112/0722	70 MPa (700 bar)	M 18 x 1,5	4,5 kg
Two-way distributor valve	84112/0720	70 MPa (700 bar)	G 1/4	4,5 kg
Four-way distributor valve	84112/0723	70 MPa (700 bar)	M 18 x 1,5	9,75 kg
Four-way distributor valve	84112/0721	70 MPa (700 bar)	G 1/4	9,75 kg
Fluid	Mineral oil acc. to DIN 51524			
Temperature range of fluid	-30° up to +85° C			
Range of viscosity	2 up to 600 cSt			



Throttle Check Valve ADV-1

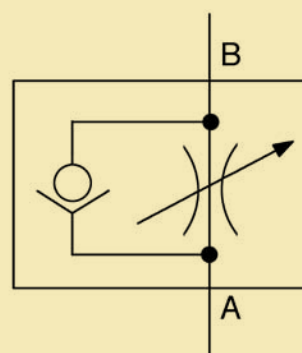
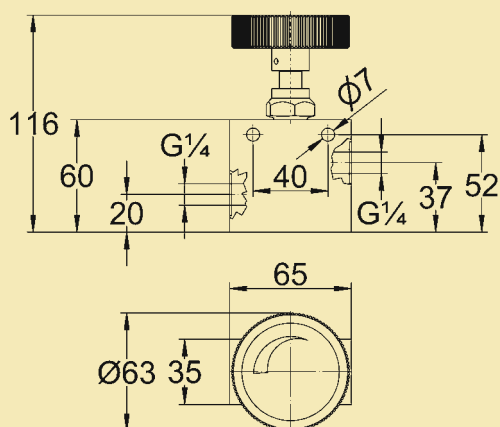


A needle valve to close and regulate an oil flow in one flow direction. Depending on the direction of the installation it regulates the out-flow speed or the in-flow speed in a cylinder. This, for example, makes it possible to regulate the speed at which the load is lowered while the out-flow speed remains constant.

Order no. 84148/9914

Oil flow up to 12 l/min
Weight 1,1 kg

Includes hydraulic connectors for mounting on LUKAS hydraulic pumps.



700 bar

Mini cutter set LSH 4



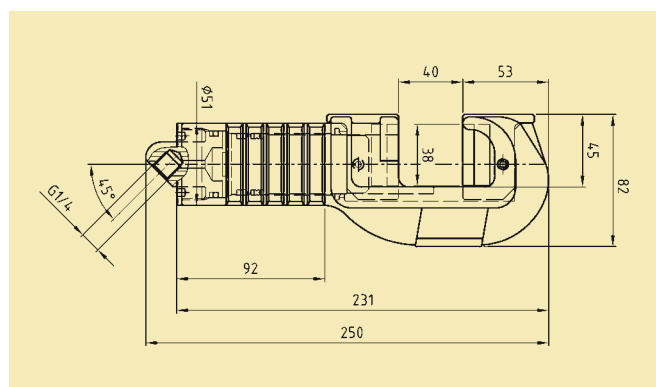
LUKAS Mini Cutter

The tool is available as a **cutter set LSH 4** (70 MPa working pressure) consisting of:
 mini cutter, hand pump LH 1/0,5, 2 m hydraulic hose with screw couplers and sheet transport case.

The small and light cutter offers very high cutting force. It is used for cutting e.g. steel parts, cables or ropes. The single-acting device has a piston spring retraction. For operation only LUKAS hand pumps must be used due to safety reason; the use of motor pumps is not permitted.

LSH 4 Cutter Set

order no.	cutting force	operating press.	weight
84150/6468	75 kN	70 MPa (700bar)	8,8 kg



LC 75 Mini Cutter

(with screw coupler)

order no.	cutting force	operating pressure	oil cap.	weight
84150/6431	75 kN	70 MPa (700 bar)	24 cm ³	2,8 kg

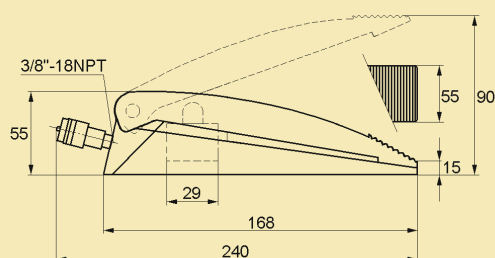
Spreading wedge SP 91



Due to its small size combined with large tip opening model **SP 91** is the ideal tool for working in confined space. It is used e.g. for spreading, displacing and wedging. The spreading wedge is closed automatically by spring return.

For operation we recommend **LUKAS hand pump LH 1**. Of course all other **LUKAS 70 MPa hand pumps** can be used as well.

order no.	max. spread. cap.	oil capacity	weight
84190/1310	9,8 kN	0,01 l	2 kg



Connection scheme



700 bar

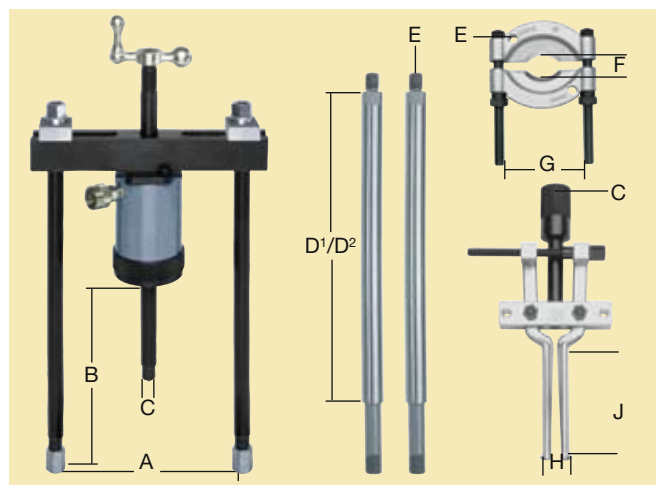
The **spreading wedge** can be mounted with LUKAS quick couplers so that they can also be integrated into existing LUKAS 50 MPa systems.

Please order quick coupler **StNi 62 (order no. 84053/16)** separately and change it against the standard coupler.

Yoke puller sets



Shown with recommended hydraulic equipment.



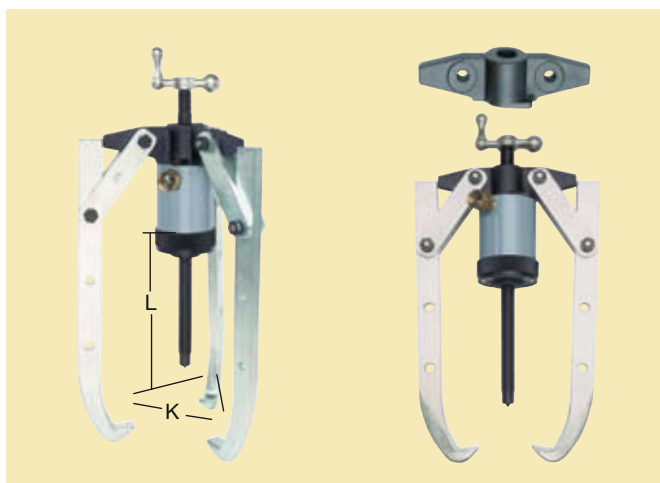
LUKAS yoke puller sets can be used with all kind of maintenance and for dismounting of e.g. gears, disks, bearings, bushings or guide rings.

The necessary hydraulic power is supplied by **LUKAS hollow piston cylinders**. Cylinder, hand pump and further hydraulic components must be ordered separately. The recommended hydraulic equipment can be stored in the transport case of the respective puller set.

Yoke puller sets without hydraulics order no.	ASH 2011 (20 t)	ASH 3011 (30 t)	ASH 5011 (50 t)
	84148/9986	84148/9987	84148/9988
Puller unit *)			
A span width:	135 - 300 mm	180 - 420 mm	235 - 540 mm
B span depth up to:	300 mm	330 mm	400 mm
C thread dimensions	1" - 8	1¼" - 7	1⅝" - 5½
2 Pulling rods			
D ¹ length:	240 mm	205 mm	865 mm
2 Pulling rods			
D ² length:	420 mm	460 mm	610 mm
2 Pulling rods			
D ³ length:	570 mm	710 mm	-
E thread dimensions	⅝" - 18	1" - 14	1¼" - 12
Separating device			
F span width:	25 - 155 mm	30 - 250 mm	75 - 330 mm
G span depth up to:	152 mm	250 mm	330 mm
E thread dimensions:	⅝" - 18	1" - 14	1¼" - 12
Bearing cup puller			
H span width:	30 - 180 mm	75 - 230 mm	75 - 230 mm
J span depth up to:	140 mm	150 mm	150 mm
C thread dimensions	1" - 8	1¼" - 7	1⅝" - 5½
Sheet steel case	810 x 410 x 230 mm	910 x 590 x 275 mm	1140 x 730 x 280 mm
total weight (without hydraulics)	40 kg	102 kg	168 kg

*) The puller unit includes all accessories required in practice: spindle, crank, quick-adjust nut, one of each pressure piece with and without thread, 2 pulling rod connection nuts, 2 support nuts for pulling rods, 2 cylinder fixing screws.

Three-arm pullers



The **LUKAS three-arm pullers** can be used as separate tools with independent hydraulic equipment. They are also an ideal complement of the yoke puller sets. An additional crosshead for two-arm pulling increases the versatility with various applications.

The 3-arm puller includes also: 1 two-arm crosshead, 1 spindle, 1 crank, 1 pressure piece with thread, 2 cylinder fixing screws.

Three-arm pullers with add. two-arm crosshead	AV 20 (20 t)	AV 30 (30 t)	AV 50 (50 t)
order no.	84148/9965	84148/9966	84148/9967
K span width:	500 mm	900 mm	1200 mm
L span depth up to:	300 mm	520 mm	700 mm
total weight (without hydraulic)	21 kg	48 kg	96 kg

Maximum permissible load of the yoke and 3-arm pullers

with nominal forces	20 t	30 t	50 t
three-arm puller	20 t	30 t	50 t
two-arm puller	15 t	25 t	45 t
puller only with pulling rods	15 t	25 t	35 t
puller with separating device	15 t	20 t	30 t
puller with bearing cup puller	10 t	20 t	25 t

Recommended hydraulic equipment

recommended hydraulic equipment for	ASH 2011 AV 20	ASH 3011 AV 30	ASH 5011 AV 50
hollow piston cylinder	LHC 22/50	LHC 30/50	LHC 60/75
hand pump	LH 1	LH 1	ZPH 1AF/1 / LH 2
hydraulic hose	2 m	2 m	2 m
screw coupler	SKN 2	SKN 2	SKN 2
pressure gauge	M 210	M 210	M 210
pressure gauge connector	MA 3	MA 3	MA 3

Workshop presses



LUKAS workshop presses are operated by hand or motor pumps. Presses with hand pumps are equipped with single acting cylinders, presses with motor pumps are equipped with double acting cylinders. Motor pumps are delivered with a 230/400 V – 50 Hz 3-phase electric motor. Maximum pressure safety valves are standard with each motor pump. The press force can directly be read on the pressure gauge.

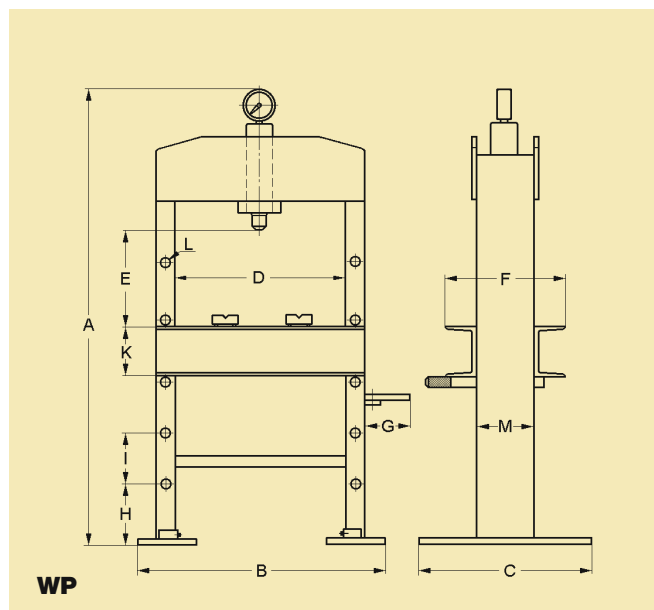
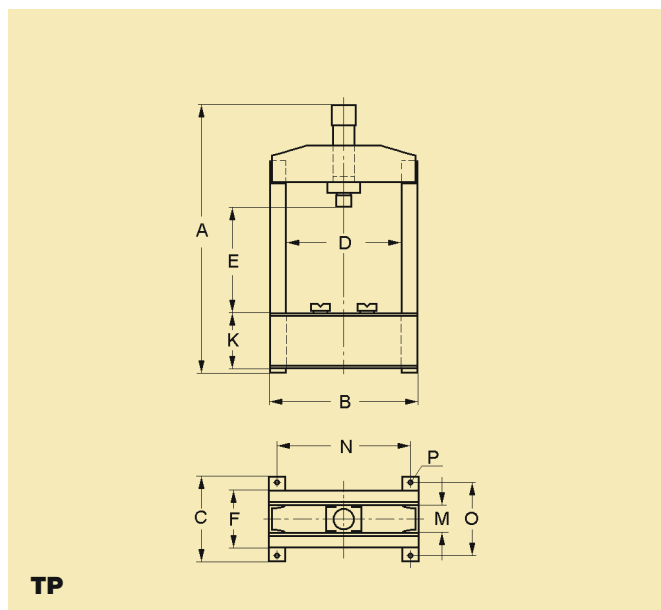
All models with motor pump are equipped with remote control for motor on/off switching.

The 50 t and 120 t presses are fitted with an extra winch for lifting and lowering the table. With the 250 t model the table is lifted with the built-in cylinder and additional chains and ropes. The V-blocks are included with all models.

LUKAS bench presses are completely equipped with single acting rams, pressure gauge indicating pressing forces, hand pumps and hoses with coupler. Two V-blocks are also included.



Workshop presses



type	order no.	pressing capacity	type of pump		stroke	weight	extension speed	
			hand	electric			without load	with load
					mm	kg		
TP 10 M	84128/1810	100 kN	X		130	40	2	2
TP 20 M	84128/1820	200 kN	X		130	85	0,7	0,7
WP 30 M	84128/1840	300 kN	X		125	111	3	0,5
WP 30 EEC	84128/1855	300 kN		X	160	135	11	2
WP 60 M	84128/1860	600 kN	X		180	426	1,5	0,25
WP 60 EEC	84128/1875	600 kN		X	180	426	5,7	1
WP 120 EEC	84128/1885	1200 kN		X	180	720	3	0,5
WP 250 EEC	84128/1890	2500 kN		X	300	2100	1,7	1

*) Hand pumps mm/stroke, Electric pumps mm/sec.

type	A	B	C	D	E _{max.}	E _{min.}	F	G	H	I	K	L	M	N	O	P
TP 10 M	714	440	220	350	352	--	170	-	-	-	80	--	80	400	198	12
TP 20 M	785	610	325	500	350	--	240	-	-	-	140	--	120	570	285	12
WP 30 M	1780	698	650	500	930	30	245	120	275	150	140	27	120	--	--	--
WP 30 EEC	1780	698	650	500	930	30	245	275	275	165	140	27	120	--	--	--
WP 60 M	1967	1150	800	860	940	110	386	150	237	165	260	41	200	--	--	--
WP 60 EEC	1967	1150	800	860	940	110	386	275	237	165	260	41	200	--	--	--
WP 120 EEC	2010	1240	800	880	900	260	508	275	265	165	300	51	308	--	--	--
WP 250 EEC	2256	1640	1000	1080	1022	124	486	-	130	225	487	80	318	--	--	--

700 bar

A steel giant resting on four „tiny“ LUKAS cylinders



As the deadline was very close only the front part of the ship's body has been welded by one of the most modern Baltic Sea dockyards. After an unusual journey through the Baltic Sea it has been combined with the rear part in Finland.

LUKAS

Passion makes the difference!

High pressure components



1000 up to 5000 bar

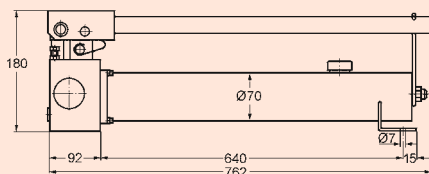
LUKAS High Pressure hand pumps



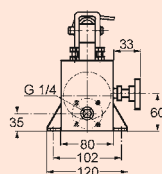
The **LUKAS HKP** High Pressure hand pumps are especially suitable for

- hydraulic assembly / disassembly
- work in test laboratories (e.g. tightness tests or material tests)
- widening of pressed-on components
- operation of tension elements

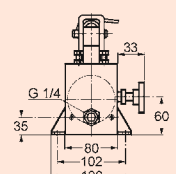
The single-stage pumps produce a constant oil delivery up to the respective maximum pressure. The hand lever forces are very low (e.g. 36 kg at 250 MPa.)



HKP 10 / HKP 8



HKP 6



type	order no.	hand lever force at	oil capacity	usable oil capacity	delivery per stroke	weight
HKP 10 - 1,5	84091/30	42 kg / 100 MPa	1,7 l	1,5 l	1,97 cm ³	9,8 kg
HKP 8 - 1,5	84091/3010	40 kg / 160 MPa	1,7 l	1,5 l	1,26 cm ³	9,8 kg
HKP 6 - 1,5	84091/3020	36 kg / 250 MPa	1,7 l	1,5 l	0,71 cm ³	9,8 kg

Accessories for high pressure pumps



1) + 2) HKP 10 bzw. HKP 8 with front mounted pressure gauge

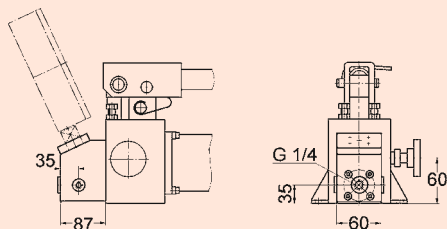
Pressure gauges

The gauges are meant for visual reading of the pressure prevailing in a hydraulic system. They can be connected to a LUKAS hand pump via pressure gauge adaptor.

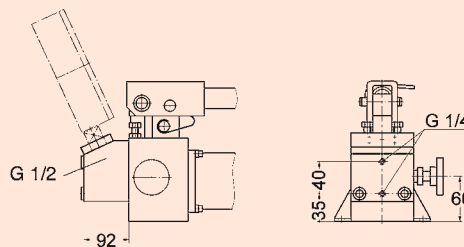
pressure gauge type	pressure gauge dia. Ø mm	A mm	B mm
M 210, M 210/G	100	145	18
M 316	160	200	48
M 416	160	200	48

operating pressure 1000 bar		
type	weight	order no.
M 210	0,6 kg	KT 1493 76 188
M 210/G*	1,2 kg	KT 1493 76 189
operating pressure 1600 bar		
type	weight	order no.
M 316	1,6 kg	KT 1493 76 081
operating pressure 2500 bar		
type	weight	order no.
M 416	1,6 kg	KT 1493 76 096

*) Filled with liquid



front connection HKP 10, HKP 8



front connection HKP 6

Pressure gauge connectors

For connection of the pressure gauges to LUKAS high pressure hand pumps.

order no. 84183/2510	frontconnection HKP 10, HKP 8
order no. 84180/8320	frontconnection HKP 6

LUKAS Components for connection

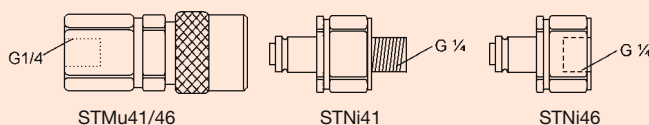


High pressure hoses

The flexible and bending-resistant **LUKAS high pressure hoses** offer highest safety due to their superior quality. The safety factor of the hose nominal size 04 (for HKP 10 and HKP 8) is $> 5 : 1$ related to 100 MPa working pressure and $> 3 : 1$ related to 160 MPa. All hoses have on both ends retaining nuts M 14 x 1.5. Two connection plugs M 14 x 1.5 / G 1/4 A are also included.

Quick connectors

With **LUKAS quick - connect couplings** hydraulic hoses can be connected easily by just plugging – in the coupling halves. They can be secured against disconnection. Plug and socket are protected by dust caps against the ingress of dirt.



Quick-connect socket

Quick connect-plugs

max. pressure	length	order no.	weight
160 MPa	2000 mm	84071/3313	0,70 kg
	5000 mm	84071/3316	1,40 kg
250 MPa	2000 mm	84071/3373	1,20 kg
	5000 mm	84071/3376	2,30 kg

Quick-connect plugs

type	order no.	press. up to	application
StNi 41	84053/5050	100 MPa	Standard
StNi 41-M	84053/5051	100 MPa	Quick stop
StNi 46	84053/5030	160 Mpa	Standard

Quick-connect sockets

type	order no.	press. up to	application
StMu 41	84053/5052	100 MPa	universal
StMu 46	84053/5040	160 MPa	standard

LUKAS Srew connectors, hydraulic oil



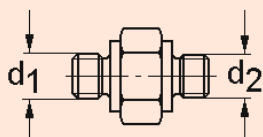
Screw connectors

They are used for permanent connections between hydraulic hoses or devices. They can also be used for transition between different connection thread sizes or sealing modes.

Hydraulic oil

Mineral oil acc. to DIN 51524

LUKAS hydraulic oil on mineral oil basis has excellent oxidation resistance and outstanding anti - wear performance. **HLP 46** is recommended for all LUKAS high pressure hand pumps.



Class of viscosity

HLP 46	1 l	5 l	10 l
order no.	84117/ 2-0004	84117/ 2-0005	84117/ 2-0006

pressure up to order no.

G 1/4 A	G 1/4 A	160 MPa	84126/5102-02
M 14 x 1,5	G 1/4 A	160 MPa	V 84071/3380-01
M 14 x 1,5	G 1/4 A	250 MPa	84071/3370-01

LUKAS Pressure multiplier



LUKAS multipliers boost the input pressure (primary pressure) of max. 45 MPa up with a ratio of 1:6,7, resp. 1:11,1. The max. output pressure (secondary pressure) therefore is 300 MPa (3000 bar) resp. 500 MPa (5000 bar).

The multiplier is used for removing pressed - on components by widening the parts to be removed, e.g. bearings, wheels or gears.

The device is screwed with its secondary side directly into the shaft on which the part to be removed is sitting.

The operator produces the primary pressure with the hand pump.

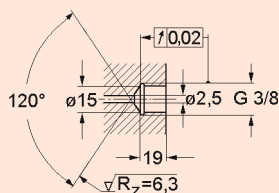
During working the oil volume on the secondary side can be refilled as often as necessary. For this purpose the oil flow is directed by the hand valve mounted on the pump.

The multiplier sets consists of :

A multiplier 300 MPa (3000 bar) resp. 500 MPa (5000 bar), a hand pump ZPH 1AF/1 adjusted to 45 MPa (450 bar), pressure gauge, hand valve, hoses with couplings and transport case.

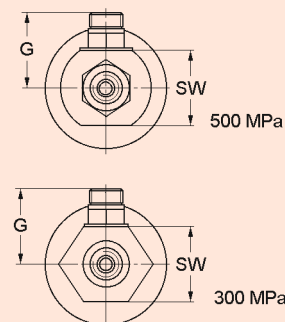
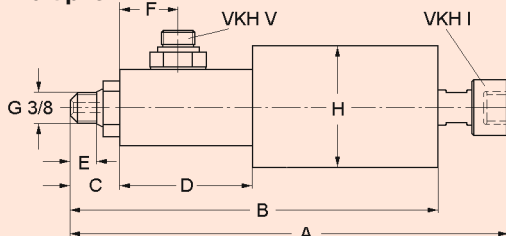
Multipliers can be supplied also as separate units.

Workpiece Inside connection



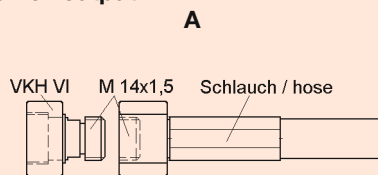
Thread groove acc. to DIN 3852 sheet 2

Multiplier

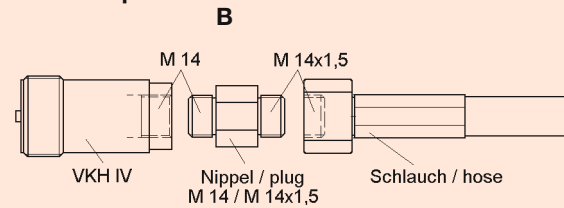


multiplier	order no.	pressure primary	pressure secondary	stroke volume secondary	A	B	C	D	E	F	G	H	SW	weight
		MPa	MPa	cm ³	mm	mm	mm	mm	mm	mm	mm	Ø mm		kg
300 MPa	84074	45	300	15,1	270	227	26	76	20	42	48	68	46	3
500 MPa	84018/01	45	500	15,7	312	269	40	95	18	42	52,5	86	55	4,8

Connection oil output



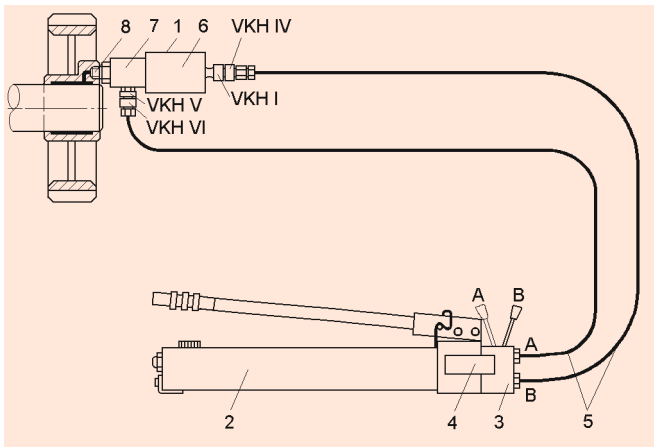
Connection oil input



multiplier set	order no.	dimensions l x w x h	weight
300 MPa	84032/8115	830 x 400 x 220 mm	28 kg
500 MPa	84032/8025	830 x 400 x 220 mm	30 kg

- A** Coupling VKH VI, order no. 85053/ 09
+ LUKAS connection hose
- B** Coupling VKH IV, order no. 85053/ 07
+ plug M 14/ M 14x1,5, order no. 84126/ 5102-15
+ LUKAS connection hose

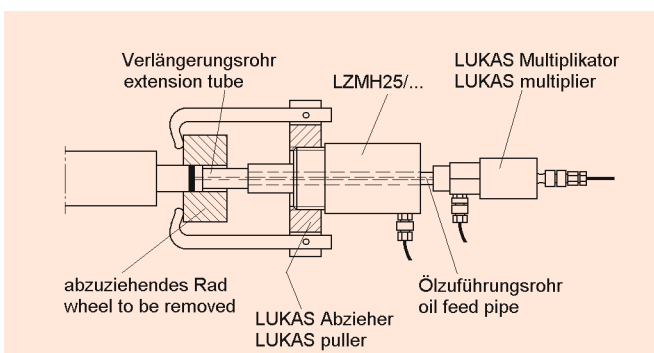
Extending a gear wheel with the multiplier set



Mode of operation of multiplier sets

- Multiplier
- Hand pump 45 MPa (450 bar)
- 3/2 - way valve
position A: filling of volume 7
position B: filling of volume 6
- Pressure gauge
- High pressure hoses
- Volume, large piston
- Volume, small piston
- Thread for workpiece inside connection

Removing a wheel with multiplier set and puller



ERN-BRUCK



MEIN
LUKAS

HEBT
DRÜCKT
SCHIEBT
PRESST
ZIEHT
BIEGT
ALLES



BIS 10000 KILOGR.
BIS 20000 KILOGR.

LUKAS im Instrumentarium, in Mischbänken und bei Einbau in Pressen aller Art

LUKAS bei Fußballern.

LUKAS bei Feuerwehre, Polizei und Eisenbahn

LUKAS in Klein- und Großserien

Die Universalhydraulikpumpe „JUKAS“ ist eine kompakte, handliche, leicht zu transportierende Einheit für alle kleinen, mittleren und großen Baustellen. Der „JUKAS“ eignet sich für mechanische Baugrubenarbeiten, das Bergwerk, den Anlagenbau, die Straßen- und Brückenbau, das Großhandels- und Gewerbe.

Der große Vorteil des „JUEAT“ liegt in der Trennung von Pressen und Ölpumpe. Die Verbindungsstücke, die in jeder beliebigen Länge geliefert wird, gesteuert eine besonders vielseitige Verwendung der Presse. Es handelt sich hier um einen gummielastischen Hochdruck-Öl- und Luftschlauch, der mit der Presse durch einen Druck von 1000 bis 2000 kg/cm² verbunden ist.

Sicherheitsventil an der Presse selbst verhindert auch bei Zweitschlägen des Abzinsens der Last.

Als Oligomere wird eine Weichschal-Polymer-Pumpe (DAB) getrieben. Das größere Kolben-Werkzeug macht die 1,100-PS-Pressen zum Anzug an. Wird der Druck zu stark, schließt die Pumpenbremse gerade auch ein. Das Hand-Drücken ist, wenn sich durch einleuchtende Umwandlung der Kolben in kleinen Durchmesser in Funktion. So wird von Hand ein Druck bis 1000 kg oder 1000 kg erreicht.

Im Kolben des 1,100-PS-Druckes

in eine Bohrung im Fuß und im Kniebereich eingesetzt können die verschiedensten Werkzeuge eingesetzt werden, wie kleine und große, runde, schmale oder breite Füße, ferner feststehende oder bewegliche Grundplatten, sowie Stäbe jeder Form.

Druckbereich 4 bis 100 mm
eine Doppelventilgruppe
wechselbarem
Lage-Typen

Werkstoffbezeichnung (WZ) mit Anschluss- verhältnissen „LUXAS“-Typen	10 x	Halbbreite	50 mm	Stärke	Gewicht
HYDRO-PRESS „LUXAS“	HP 10/50	Drylakelung	10 x	50	17 kg
	HP 10/100	10 x	100	19 kg	
	HP 10/1300	10 x	1300	als Teleskop	8 kg
	HP 30/50	20 x	50	17 kg	
	HP 30/100	20 x	100	20 kg	
	HP 30/1300	20 x	1300	als Teleskop	8 kg

Einige Zubehörtelle:



L 04.09 HY e

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