

7

## Гидравлические цилиндры

### Hydraulic cylinders

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DESCRIPTION

The hydraulic cylinders transform the kinetic energy of working fluid into a reciprocating movement of the working parts.

The movement of the piston ( or the piston rod in plunger cylinders ) is done by the working fluid pressure.

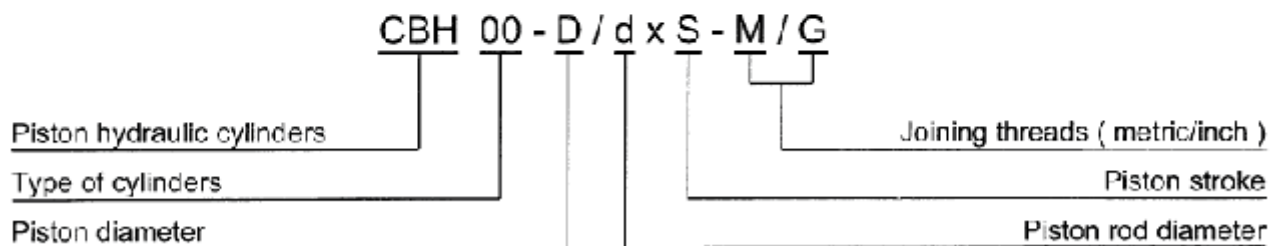
These cylinders are used as working devices in different types hydraulic systems .

Joining to different systems is done by threaded ports ( with metric or inch threads ).

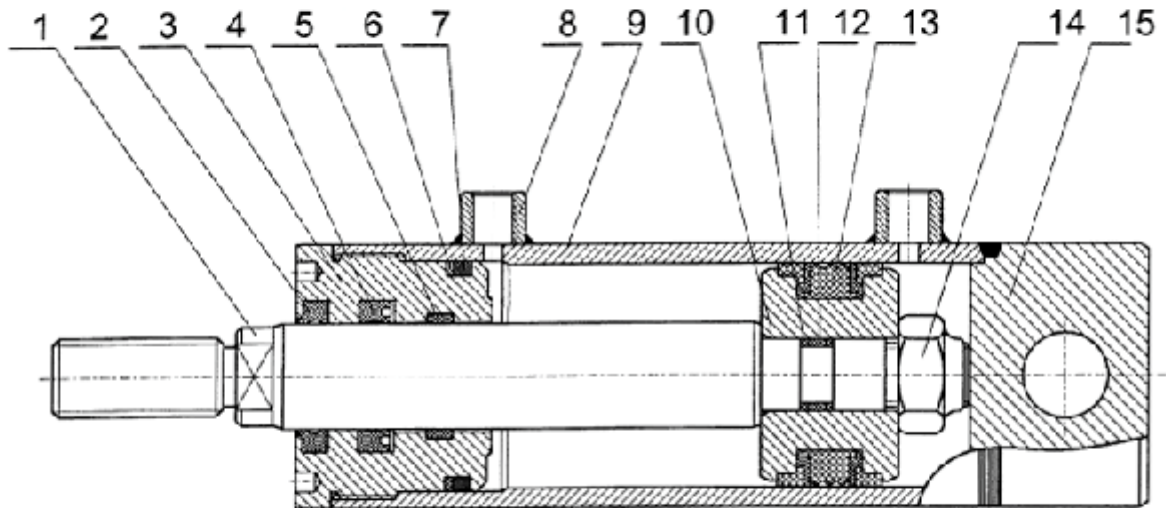
Fastening is done by holes in the bottom cover, bushes, ball bearings, clutches, flanges or other technical versions.

Except the above mentioned cylinders the company designs and produces special types of cylinders with diameters from 20 to 120 mm according to the clients' needs.

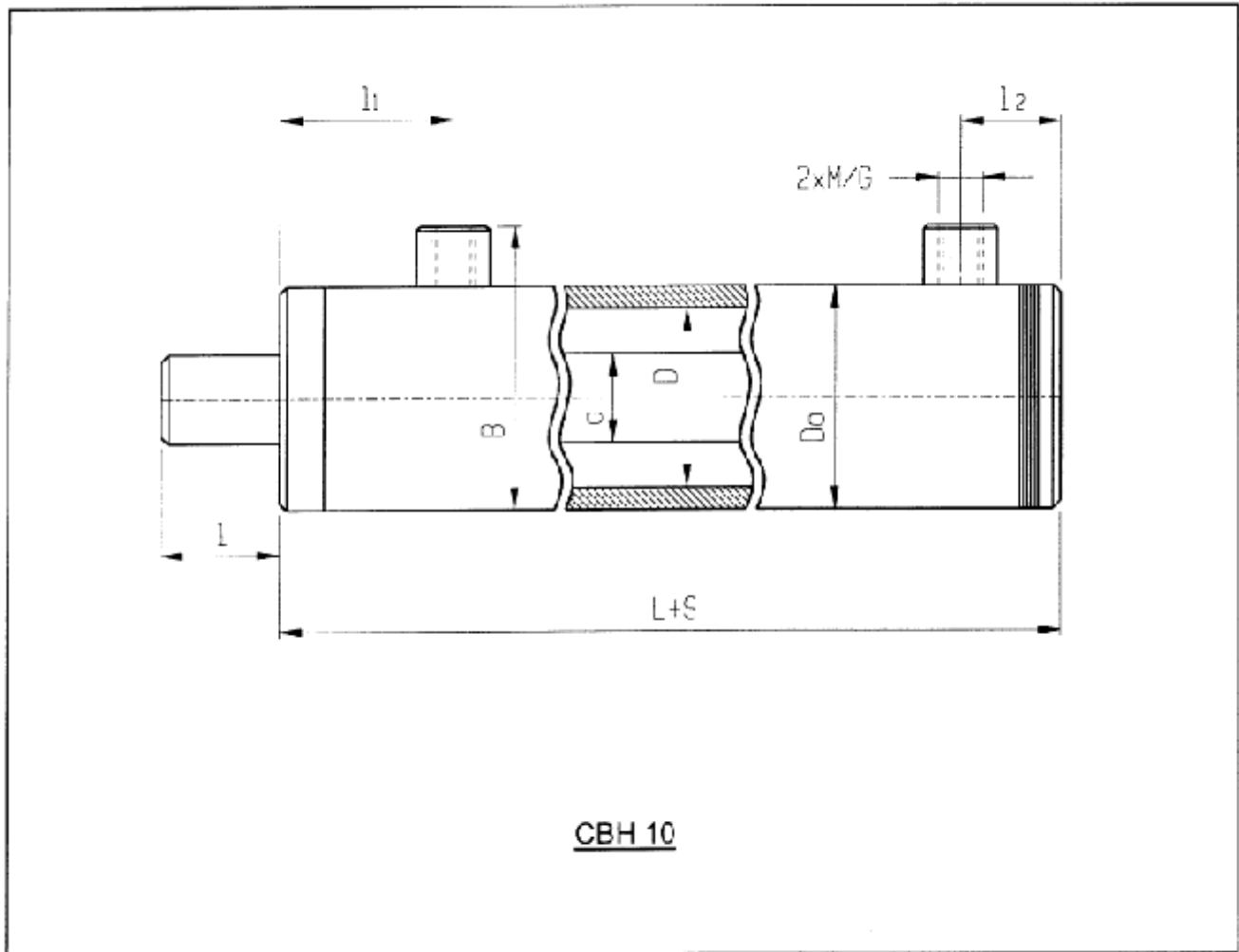
ORDERING :



Technical data	
Nominal pressure	to 25 MPa
Nominal piston speed	0 - 2 m/s
Working fluid	hydraulic oil
Ambient temperature range	from -30 <sup>o</sup> C to 70 <sup>o</sup> C
Seals	BUSAK + SHAMBAN, MERKEL, SEALING PARTS



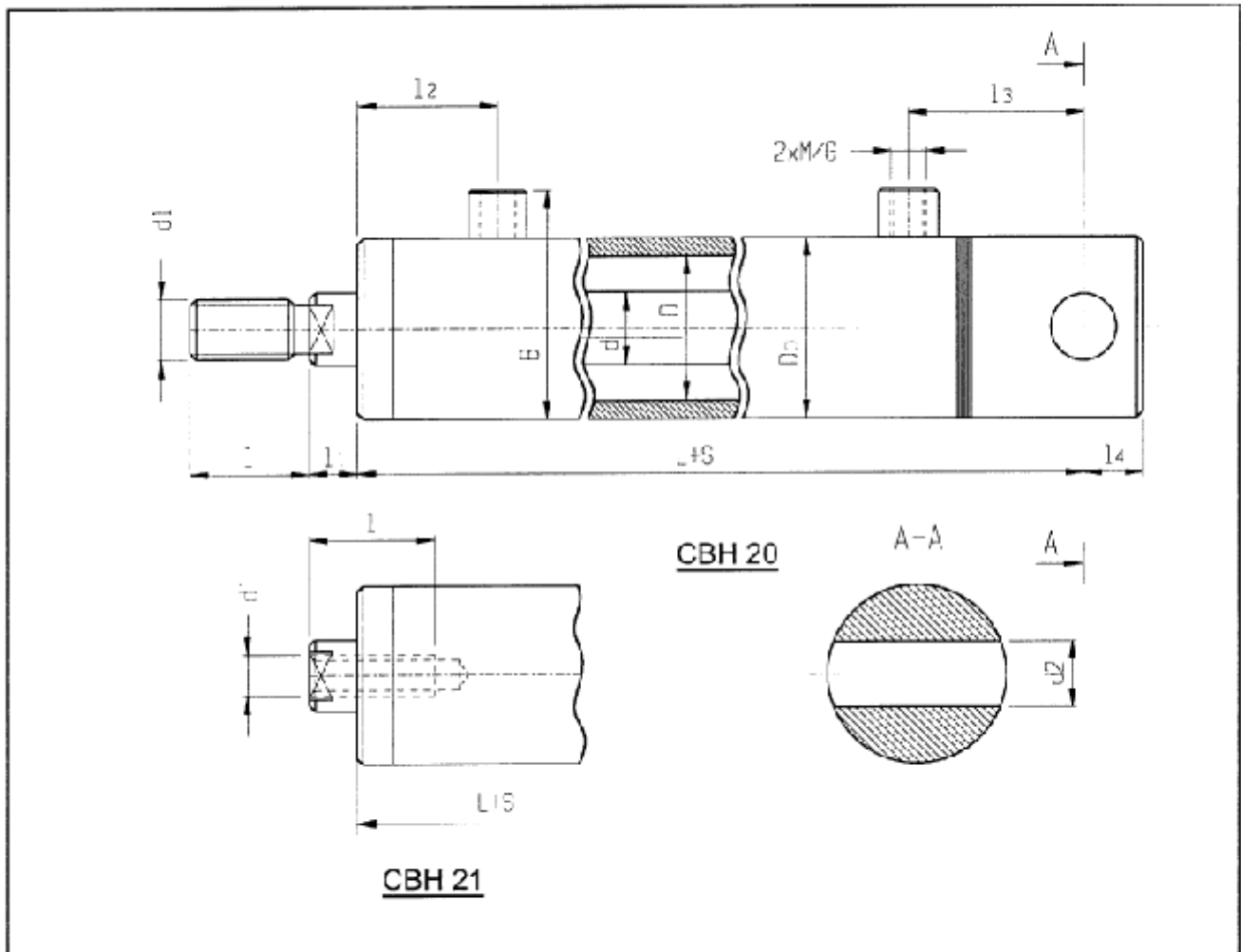
1. Piston rod
2. Wiper ring
3. Cylinder head
4. Piston rod seal
5. Guide ring
6. Guard ring
7. "O" ring
8. Nut
9. Cylinder tube
10. Piston
11. Guard ( piston ) ring
12. "O" ring
13. Piston seal
14. Lock nut
15. Bottom



Double-acting piston cylinder with flat end-plug and smooth piston rod end

\* - M/G

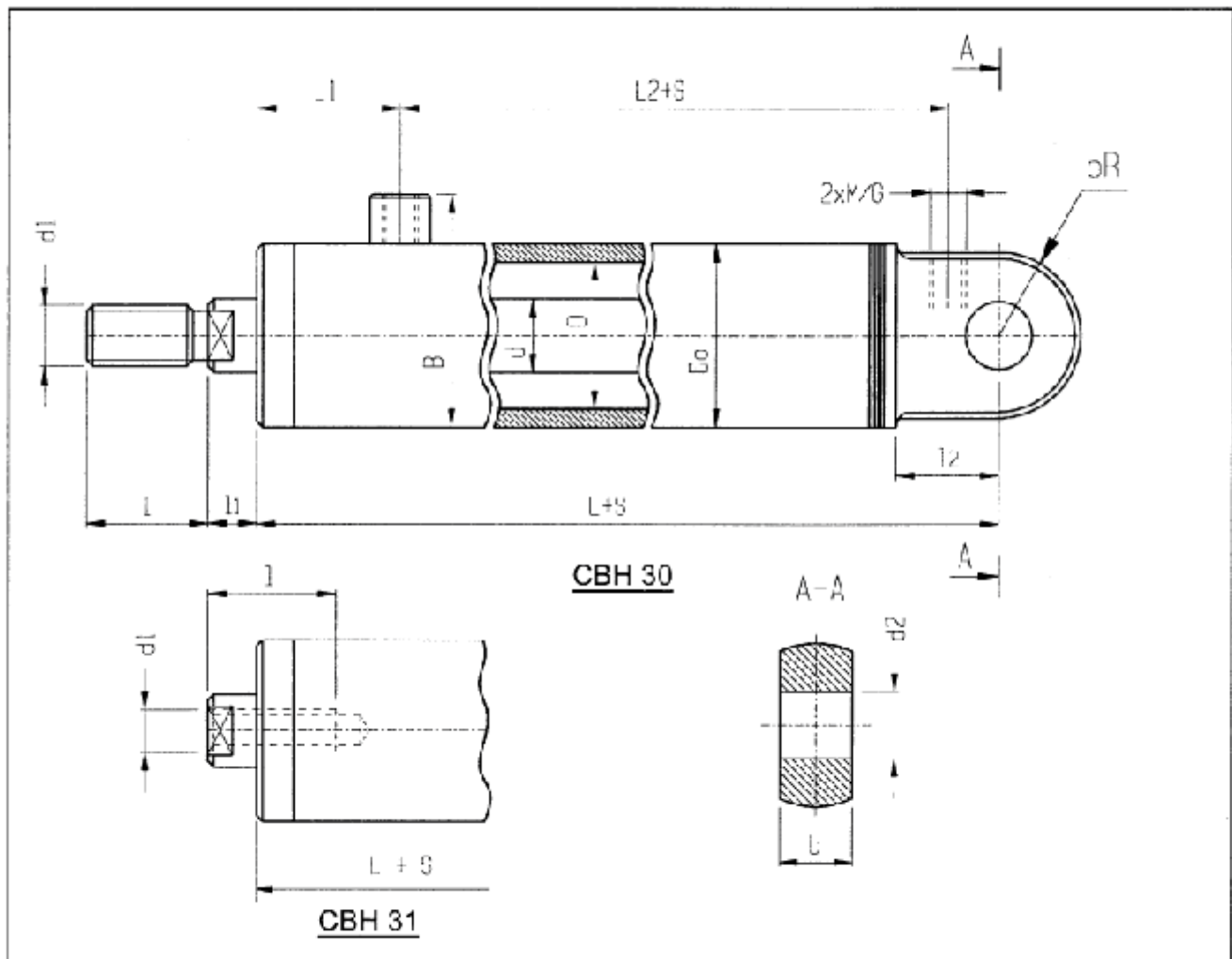
Code	Dimensions								
	D	d	D <sub>0</sub>	B	L	l	l <sub>1</sub>	l <sub>2</sub>	M/G
CBH 10-030 / 16 x S - *	30	16	40	56	63	20	33	22	12 x 1,5 1/4"
CBH 10-032 / 20 x S - *	32	20	42	58	68	20	33	22	16 x 1,5 1/4"
CBH 10-040 / d x S - *	40	20, 22, 25	50	66	110	22	40	25	
CBH 10-050 / d x S - *	50	25, 30	60	77	115	22	43	25	16 x 1,5 3/8"
CBH 10-060 / d x S - *	60	30, 35, 40	70	87	137	23	50	30	
CBH 10-063 / d x S - *	63	30, 35, 40	73	97	137	23	50	30	16 x 1,5 3/8"
CBH 10-070 / d x S - *	70	30, 35, 40	80	97	137	23	50	30	
CBH 10-080 / d x S - *	80	35, 40, 45, 50	92	100	160	25	60	35	22 x 1,5 3/8"
CBH 10-090 / d x S - *	90	40, 45, 50, 60	105	123	162	25	60	35	
CBH 10-100 / d x S - *	100	40, 45, 50, 60	115	135	184	30	62	35	27 x 2 3/8"
CBH 10-110 / d x S - *	110	45, 50, 60, 70	125	145	192	30	62	45	27 x 2 1/2"
CBH 10-120 / d x S - *	120	60, 70	140	160	195	30	62	45	



Double-acting piston cylinder with a cross hole in the end-plug

\* - M/G

Code	Dimensions												
	D	d	D <sub>0</sub>	B	L	l	l <sub>1min</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	d <sub>1</sub>	d <sub>2</sub>	M/G
CBH 00-030 / 16 x S - *	30	16	40	56	92	30	9	33	30	13	12 x 1.5	12.2	12 x 1.5 1/4"
CBH 00-032 / 20 x S - *	32	20	42	58	97	35	9	33	30	13	12 x 1.5	12.2	16 x 1.5 1/4"
CBH 00-040 / d x S - *	40	20, 22, 25	50	66	120	40	11	40	35	15	16 x 1.5	16.2	
CBH 00-050 / d x S - *	50	25, 30	60	77	130	45	11	43	40	20	18 x 1.5	20.25	18 x 1.5 3/8"
CBH 00-060 / d x S - *	50	30, 35, 40	70	87	152.5	50	13	50	45	22.5	24 x 1.5	25.25	
CBH 00-063 / d x S - *	53	30, 35, 40	73	90	152.5	50	13	50	45	22.5	24 x 1.5	25.25	
CBH 00-070 / d x S - *	70	30, 35, 40	80	97	152.5	55	16	50	45	22.5	27 x 2	25.25	16 x 1.5 3/8"
CBH 00-080 / d x S - *	80	35, 40, 45, 50	92	100	182	60	16	60	60	25	30 x 2	30.25	22 x 1.5 3/8"
CBH 00-090 / d x S - *	90	40, 45, 50, 60	105	123	187	70	19	60	60	30	36 x 2	35.25	
CBH 00-100 / d x S - *	100	40, 45, 50, 60	115	135	209	70	22	82	60	30	36 x 2	35.25	27 x 2 3/8"
CBH 00-110 / d x S - *	110	45, 50, 60, 70	125	145	220	80	24	82	70	35	42 x 2	40.25	27 x 2 1/2"
CBH 00-120 / d x S - *	120	60, 70	140	160	220	90	25	82	70	35	48 x 3	40.25	

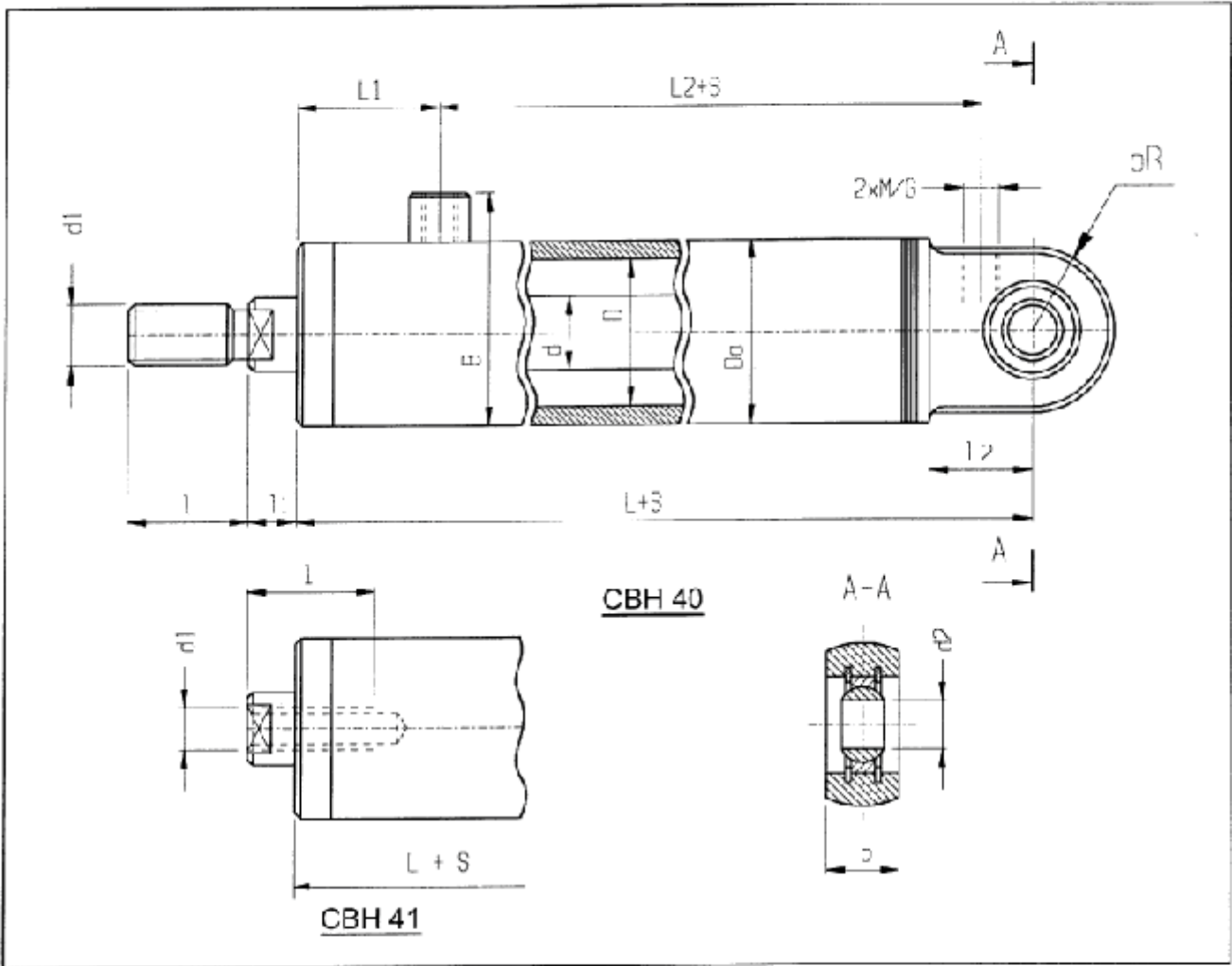


Double-acting piston cylinder with a cross hole in the back eye

\* - M/G

Code	Dimensions														
	D	d	D <sub>0</sub>	L	L <sub>1</sub>	L <sub>2</sub>	l	l <sub>1</sub>	l <sub>2</sub>	R	B	b	d <sub>1</sub>	d <sub>2</sub>	M/G
CBH 00-030 / 16 x S - *	30	16	40	119	33	62	30	9	30	18	56	20	12 x 1,5	15	12 x 1,5 1/4"
CBH 00-032 / 20 x S - *	32	20	42	124	33	67	35	9	30	16	58	20	12 x 1,5	15	16 x 1,5 1/4"
CBH 00-040 / d x S - *	40	20, 22, 25	50	144	40	80	40	11	30	20	66	20	16 x 1,5	15	
CBH 00-050 / d x S - *	50	25 30	60	158	43	85	45	11	40	33	77	25	18 x 1,5	20	18 x 1,5 3/8"
CBH 00-060 / d x S - *	60	30, 35, 40	70	178	50	98	50	13	45	35	87	25	24 x 1,5	25	
CBH 00-063 / d x S - *	63	30, 35, 40	73	178	50	98	50	13	45	35	90	25	24 x 1,5	25	
CBH 00-070 / d x S - *	70	30, 35, 40	80	182	50	100	55	16	50	45	97	35	27 x 2	35	16 x 1,5 3/8"
CBH 00-080 / d x S - *	80	35, 40, 45	92	204	60	112	60	16	55	45	100	35	30 x 2	30	22 x 1,5 3/8"
CBH 00-090 / d x S - *	90	40, 45, 50	105	209	60	109	70	19	55	45	123	35	36 x 2	35	
CBH 00-100 / d x S - *	100	40, 45, 50	115	242	82	117	70	22	62	60	135	40	36 x 1,5	40	27 x 2 3/8"
CBH 00-110 / d x S - *	110	45, 50, 60	125	283	82	132	80	24	78	65	145	50	42 x 2	50	27 x 2 1/2"
CBH 00-120 / d x S - *	120	60, 70	140	283	82	132	90	25	78	65	160	50	48 x 3	50	

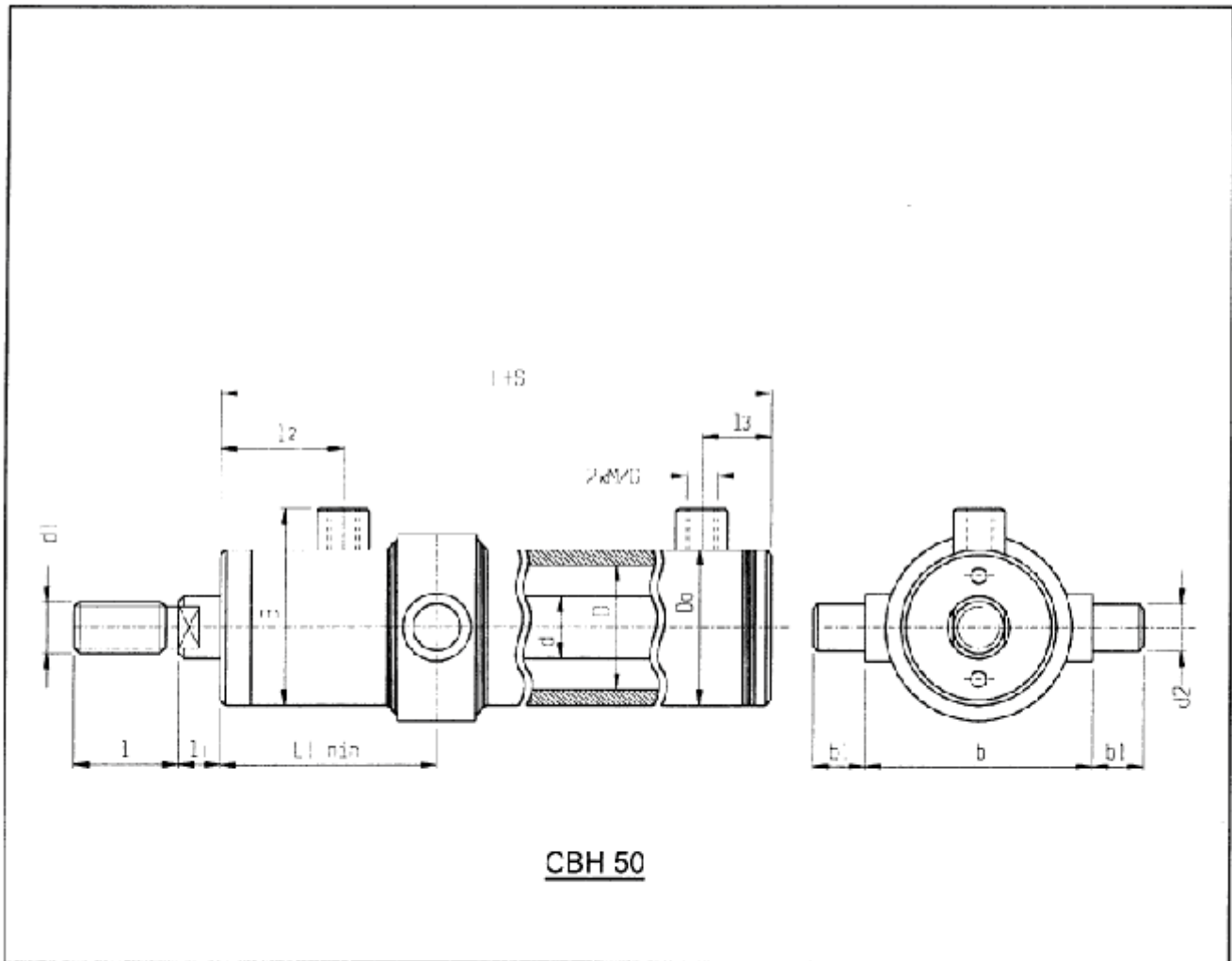
# Hydraulic cylinders



Double-acting piston cylinder with a ball bearing in the back eye

\* - M/G

Code	Dimensions														
	D	d	D <sub>0</sub>	L	L <sub>1</sub>	L <sub>2</sub>	l	l <sub>min</sub>	l <sub>2</sub>	R	B	b	d <sub>1</sub>	d <sub>2</sub>	M/G
CBH 00-030 / 16 x S - *	30	16	40	119	33	62	30	9	30	16	56	20	12 x 1.5	15	12 x 1.5 1/4"
CBH 00-032 / 20 x S - *	32	20	42	124	33	67	35	9	30	16	58	20	12 x 1.5	15	16 x 1.5 1/4"
CBH 00-040 / d x S - *	40	20, 22, 25	50	144	40	80	40	11	30	20	66	20	16 x 1.5	15	
CBH 00-050 / d x S - *	50	25, 30	60	158	43	85	45	11	40	33	77	25	18 x 1.5	20	
CBH 00-060 / d x S - *	60	30, 35, 40	70	178	50	98	50	13	45	35	87	25	24 x 1.5	25	18 x 1.5 3/8"
CBH 00-063 / d x S - *	63	30, 35, 40	73	178	50	98	50	13	45	35	90	25	24 x 1.5	25	
CBH 00-070 / d x S - *	70	30, 35, 40	80	182	50	100	55	16	50	45	97	35	27 x 2	35	16 x 1.5 3/8"
CBH 00-080 / d x S - *	80	35, 40, 45, 50	92	204	60	112	60	16	55	45	100	35	30 x 2	30	22 x 1.5 3/8"
CBH 00-090 / d x S - *	90	40, 45, 50, 60	105	209	60	109	70	19	55	45	123	35	36 x 2	35	
CBH 00-100 / d x S - *	100	40, 45, 50, 60	115	242	82	117	70	22	62	60	135	40	36 x 2	40	27 x 2 3/8"
CBH 00-110 / d x S - *	110	45, 50, 60, 70	126	283	82	132	80	24	78	65	145	50	42 x 2	50	27 x 2 1/2"
CBH 00-120 / d x S - *	120	60, 70	140	283	82	132	90	25	78	65	150	50	48 x 3	50	

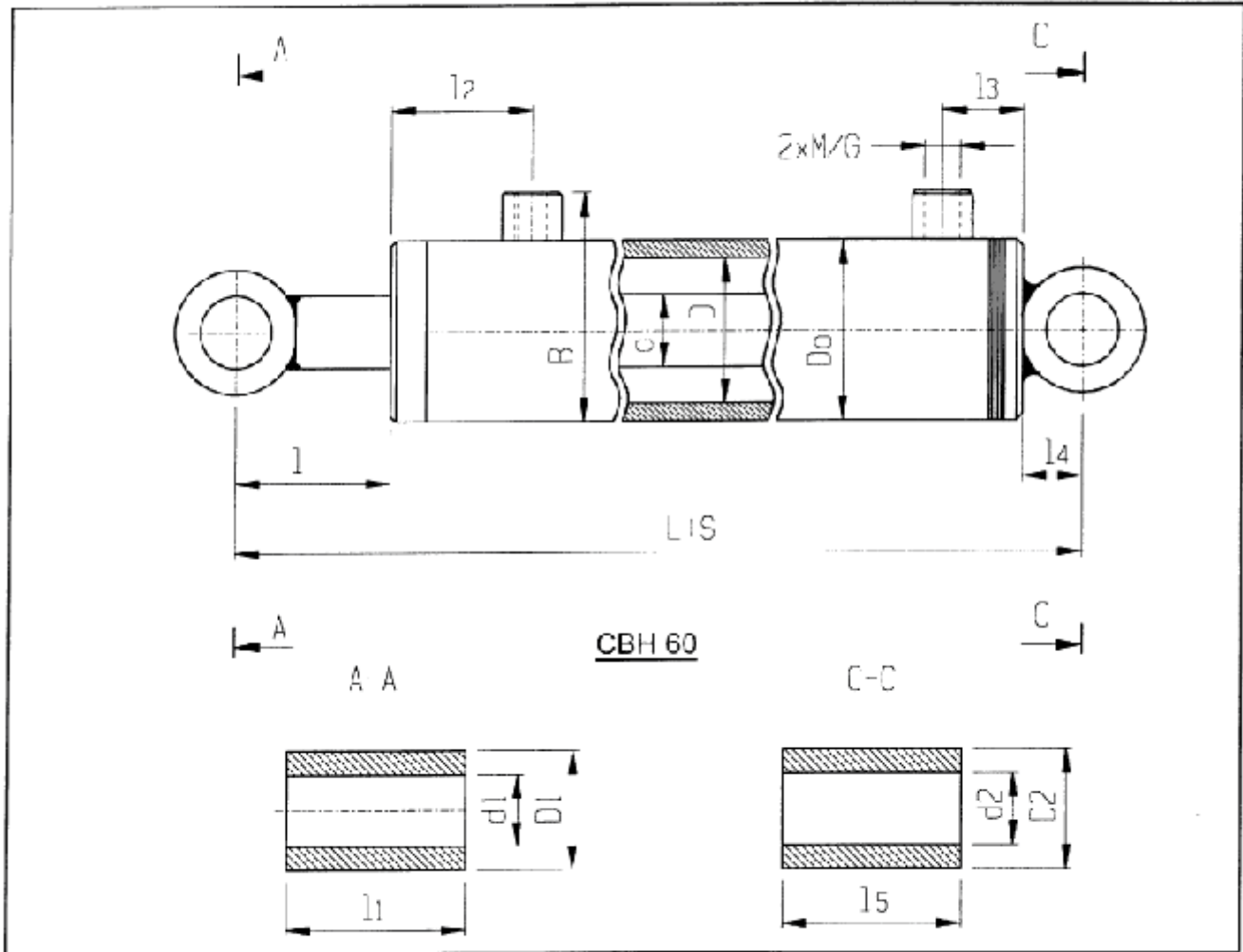


Double-acting piston cylinder with a journal

• - M/G

Code	Dimensions														M/G
	D	d	D <sub>0</sub>	d <sub>2</sub>	B	b	b <sub>1</sub>	L	L <sub>1</sub>	l	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	d <sub>1</sub>	
CBH 50-032 / 20 x S - *	32	20	42	16	58	75	12	88	80	36	9	33	22	12 x 1,6	16 x 1,5 1/4"
CBH 50-040 / 25 x S - *	40	25	50	20	66	90	16	110	90	40	11	40	25	16 x 1,6	
CBH 50-050 / 30 x S - *	50	30	60	25	77	105	20	115	90	45	11	43	25	18 x 1,5	18 x 1,5 3/8"
CBH 50-060 / 40 x S - *	60	40	70	30	87	120	25	137	100	50	13	50	30	24 x 1,5	
CBH 50-063 / 40 x S - *	63	40	73	30	90	120	25	137	100	50	13	50	30	24 x 1,5	16 x 1,5 3/8"
CBH 50-070 / 40 x S - *	70	40	80	35	97	125	25	137	100	55	15	50	30	27 x 2	
CBH 50-080 / 45 x S - *	80	45	92	40	100	135	32	159	120	60	15	60	35	30 x 2	22 x 1,5 3/8"
CBH 50-090 / 50 x S - *	90	50	105	40	123	140	40	162	120	70	19	60	35	36 x 2	
CBH 50-100 / 50 x S - *	100	50	115	50	135	160	40	184	140	70	22	82	35	36 x 2	27 x 2 3/8"
CBH 50-110 / 60 x S - *	110	60	125	50	145	170	45	192	140	80	24	82	45	42 x 2	27 x 2 1/2"
CBH 50-120 / 60 x S - *	120	60	140	60	180	195	50	195	150	90	25	82	45	48 x 3	

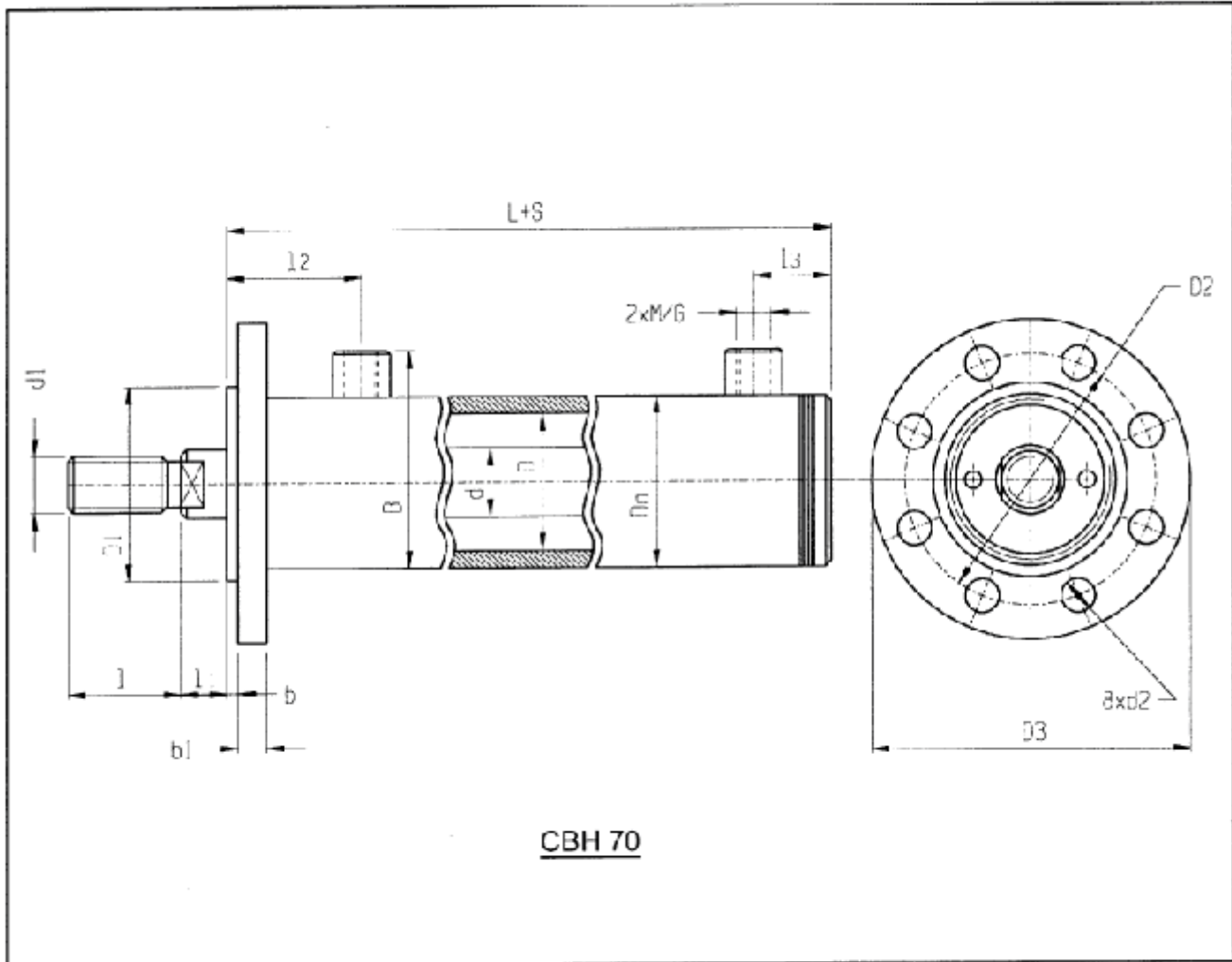




Double-acting piston cylinder with front and back bushes

\* - M/G

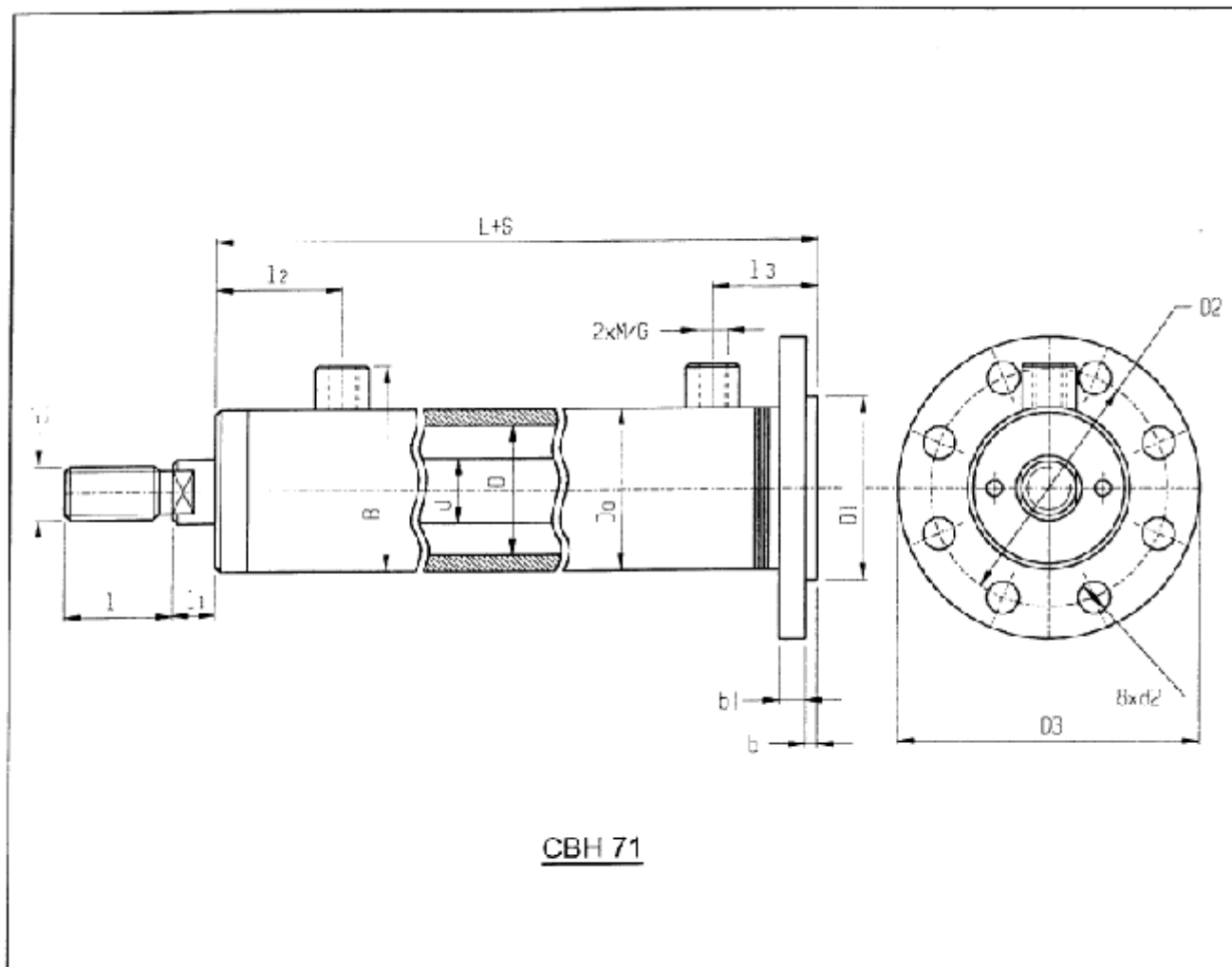
Code	Dimensions													
	D	d	D <sub>0</sub>	B	L	l	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	l <sub>5</sub>	d <sub>1</sub> =d <sub>2</sub>	D <sub>1</sub> =D <sub>2</sub>	M/G
CBH 60-030 / 16 x S - *	30	16	40	56	128	30	25	33	22	15	45	12.2	30	12 x 1.5 1/4"
CBH 60-032 / 20 x S - *	32	20	42	58	133	30	25	33	22	15	50	12.2	30	16 x 1.5 1/4"
CBH 60-040 / d x S - *	40	20, 22, 25	50	66	157.5	30	30	40	25	17.5	60	16.2	35	16 x 1.5 1/4"
CBH 60-050 / d x S - *	50	25, 30	60	77	176	40	40	43	25	20	70	20.25	40	18 x 1.5 3/8"
CBH 60-060 / d x S - *	60	30, 35, 40	70	87	212	50	50	50	30	25	80	25.25	50	18 x 1.5 3/8"
CBH 60-063 / d x S - *	63	30, 35, 40	73	90	212	50	50	50	30	25	80	25.25	50	18 x 1.5 3/8"
CBH 60-070 / d x S - *	70	30, 35, 40	80	97	212	50	50	50	30	25	90	25.25	50	16 x 1.5 3/8"
CBH 60-080 / d x S - *	80	35, 40, 45, 50	92	100	249	60	60	60	35	30	110	30.25	60	22 x 1.5 3/8"
CBH 60-090 / d x S - *	90	40, 45, 50, 60	105	123	267	70	70	60	35	35	130	40.25	70	22 x 1.5 3/8"
CBH 60-100 / d x S - *	100	40, 45, 50, 60	115	135	289	70	70	82	35	35	130	40.25	70	27 x 2 3/8"
CBH 60-110 / d x S - *	110	45, 50, 60, 70	125	145	312	80	80	82	45	40	130	50.25	80	27 x 2 1/2"
CBH 60-120 / d x S - *	120	60, 70	140	160	315	80	80	82	45	40	150	50.25	80	27 x 2 1/2"



Double-acting piston cylinder with a front flange

\* - M/G

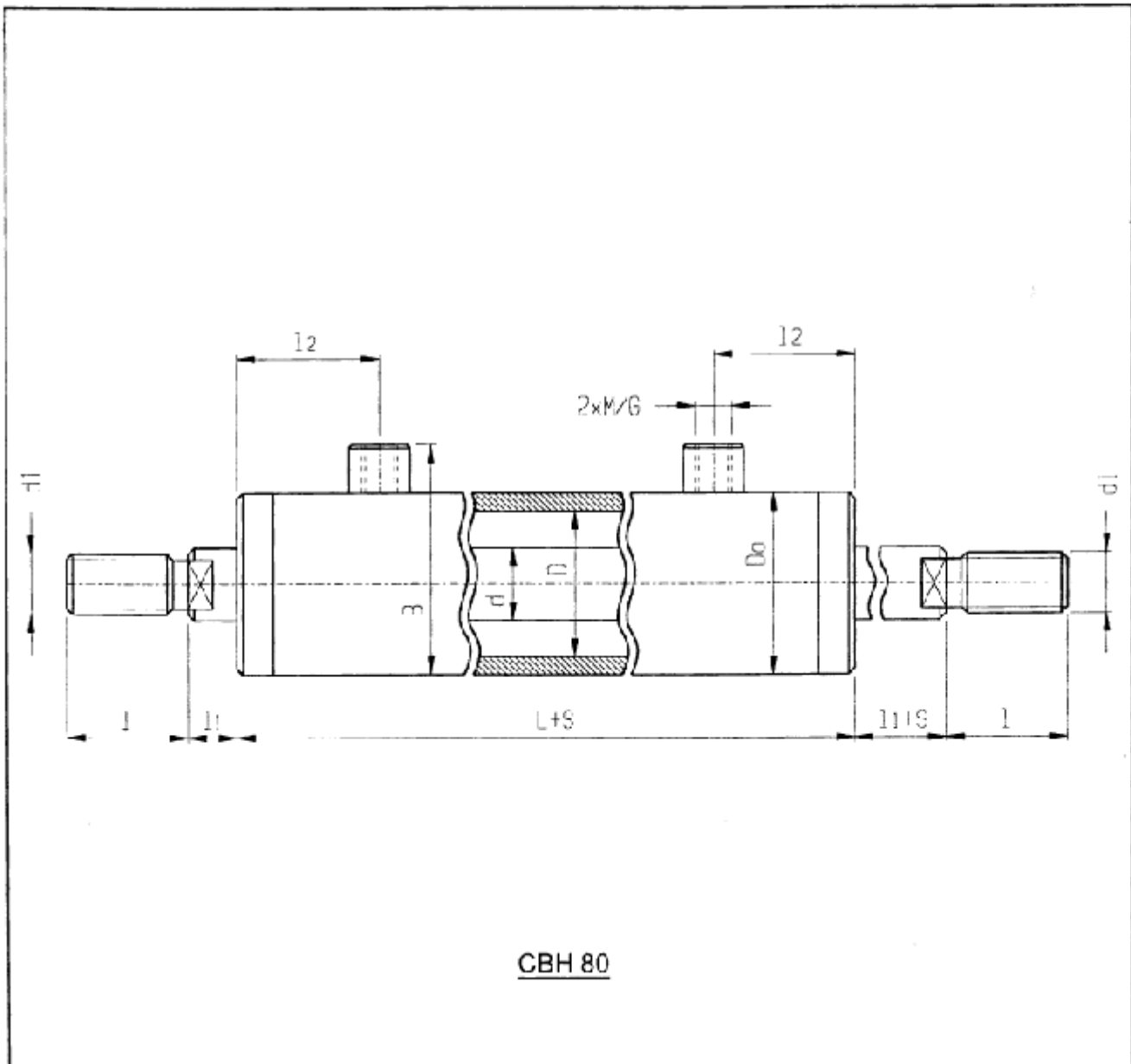
Code	Dimensions																
	D	d	D <sub>0</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	d <sub>1</sub>	d <sub>2</sub>	B	b	b <sub>1</sub>	L	l	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	M/G
CBH 70-030 / 16 x S - *	30	16	40	50	72	84	12 x 1,5	6,6	56	2	6	90	30	9	35	22	12 x 1,5 1 1/4"
CBH 70-032 / 20 x S - *	32	20	42	55	78	90	12 x 1,5	6,6	58	2	6	95	35	9	35	22	16 x 1,5 1 1/4"
CBH 70-040 / 25 x S - *	40	25	50	60	83	95	16 x 1,5	6,6	66	2	6	122	40	11	48	25	13 x 1,5 3/8"
CBH 70-050 / 30 x S - *	50	30	60	70	96	112	18 x 1,5	9	77	4	8	125	45	11	48	25	
CBH 70-060 / 40 x S - *	60	40	70	80	109	125	24 x 1,5	9	87	4	8	148	50	13	48	30	16 x 1,5 3/8"
CBH 70-063 / 40 x S - *	63	40	73	85	114	130	24 x 1,5	9	90	4	10	148	50	13	48	30	
CBH 70-070 / 40 x S - *	70	40	80	90	120	140	27 x 2	11	97	5	13	150	55	16	58	30	16 x 1,5 3/8"
CBH 70-080 / 45 x S - *	80	45	92	105	140	160	30 x 2	11	100	5	13	169	60	16	66	35	22 x 1,5 3/8"
CBH 70-090 / 50 x S - *	90	50	105	115	163	195	36 x 2	17	123	6	14	178	70	19	70	35	27 x 2 3/8"
CBH 70-100 / 50 x S - *	100	50	115	125	173	205	36 x 2	17	135	6	16	192	70	22	85	35	
CBH 70-110 / 60 x S - *	110	60	125	135	190	230	42 x 2	22	145	8	20	200	80	24	85	45	27 x 2 1/2"
CBH 70-120 / 60 x S - *	120	60	140	150	210	250	48 x 3	22	160	8	22	200	90	25	85	45	



Double-acting piston cylinder with a back flange

\* - M/G

Code	Dimensions																
	D	d	D <sub>0</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	d <sub>1</sub>	d <sub>2</sub>	B	b	b <sub>1</sub>	L	l	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	M/G
CBH 71-030 / 16 x S - *	30	16	40	50	72	81	12 x 15	6.6	56	2	6	91	30	9	33	30	12 x 1.5 1/4"
CBH 71-032 / 20 x S - *	32	20	42	55	78	90	12 x 15	6.6	58	2	6	96	35	9	33	30	16 x 1.6 1/4"
CBH 71-040 / 25 x S - *	40	25	50	60	83	95	16 x 15	8.6	66	2	6	118	40	11	40	33	16 x 1.5 3/8"
CBH 71-050 / 30 x S - *	50	30	60	70	96	112	18 x 15	8	77	4	8	127	45	11	43	37	18 x 1.5 3/8"
CBH 71-060 / 40 x S - *	60	40	70	80	103	126	24 x 15	8	87	4	8	149	50	13	50	42	
CBH 71-063 / 40 x S - *	63	40	73	85	114	130	24 x 15	8	90	4	10	151	50	13	50	44	
CBH 71-070 / 40 x S - *	70	40	80	90	120	140	27 x 2	11	97	5	13	156	56	16	50	48	16 x 1.5 3/8"
CBH 71-080 / 45 x S - *	80	45	92	105	140	160	30 x 2	11	100	5	13	177	60	16	60	53	22 x 1.5 3/8"
CBH 71-090 / 50 x S - *	90	50	105	115	163	185	36 x 2	17	123	6	14	182	70	19	60	55	
CBH 71-100 / 50 x S - *	100	50	115	125	173	205	36 x 2	17	135	6	16	206	70	22	62	57	27 x 2 3/8"
CBH 71-110 / 60 x S - *	110	60	125	135	190	230	42 x 2	22	145	8	20	220	80	24	82	73	27 x 2 1/2"
CBH 71-120 / 60 x S - *	120	60	140	150	210	250	48 x 3	22	160	8	22	225	90	25	82	75	

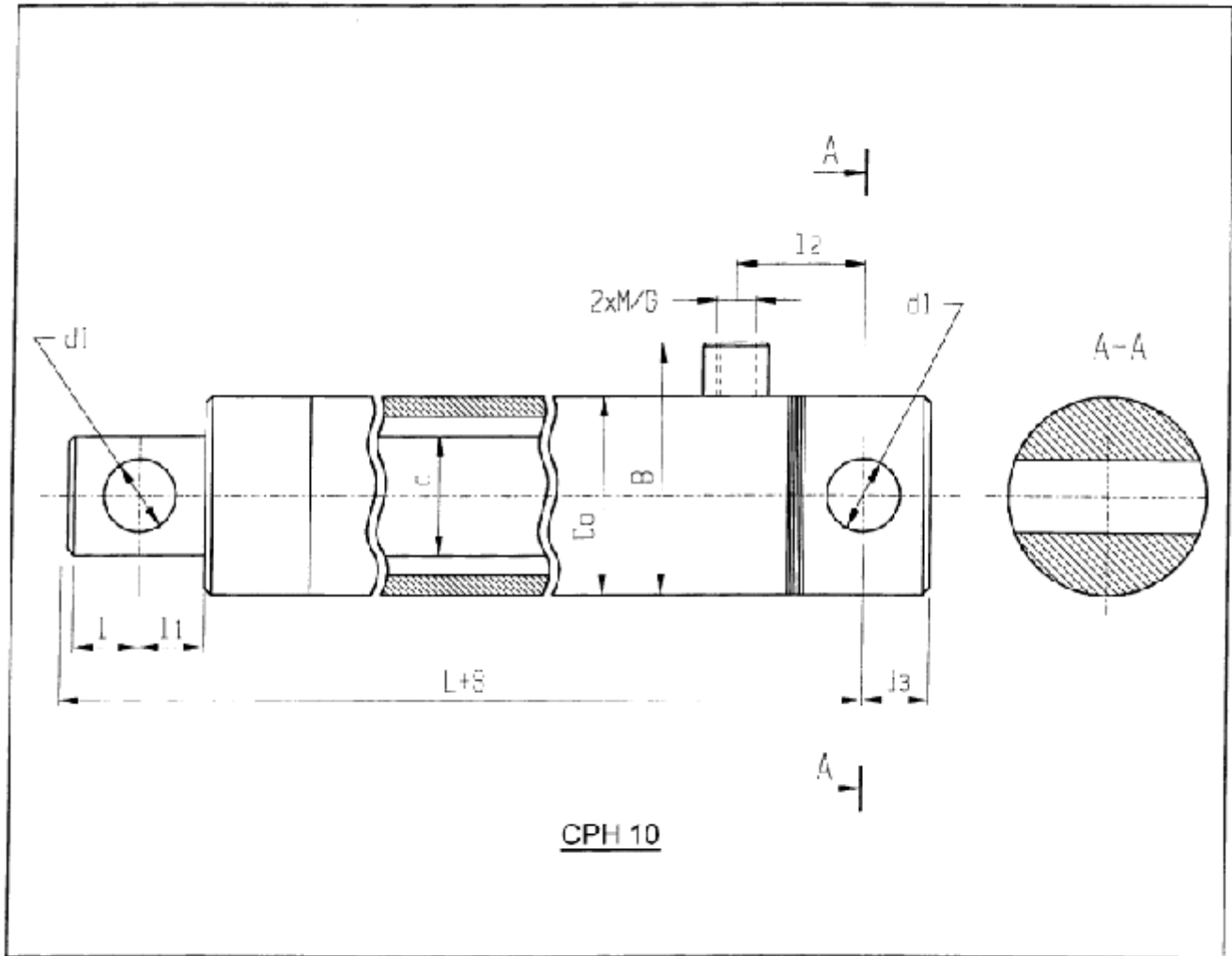


Double-acting piston cylinder with a double-ended piston rod

\* - M/G

Code	Dimensions										M/G
	D	d	D <sub>0</sub>	S <sub>max</sub>	B	L	l	l <sub>1</sub>	l <sub>2</sub>	d <sub>1</sub>	
CBH 80-032 / 16 x S - *	32	16	42	400	58	106	35	9	33	12 x 1,5	16 x 1,5 1 1/4"
CBH 80-040 / 20 x S - *	40	20	50	600	66	120	40	11	40	16 x 1,5	
CBH 80-050 / 25 x S - *	50	25	60	600	77	126	45	11	43	18 x 1,5	
CBH 80-060 / 30 x S - *	60	30	70	700	87	140	50	13	50	24 x 1,5	
CBH 80-063 / 40 x S - *	63	40	73	700	90	140	50	13	50	24 x 1,5	
CBH 80-070 / 35 x S - *	70	35	80	700	97	140	55	16	60	27 x 2	
CBH 80-080 / 40 x S - *	80	40	92	800	100	150	60	16	60	30 x 2	

# Hydraulic cylinders

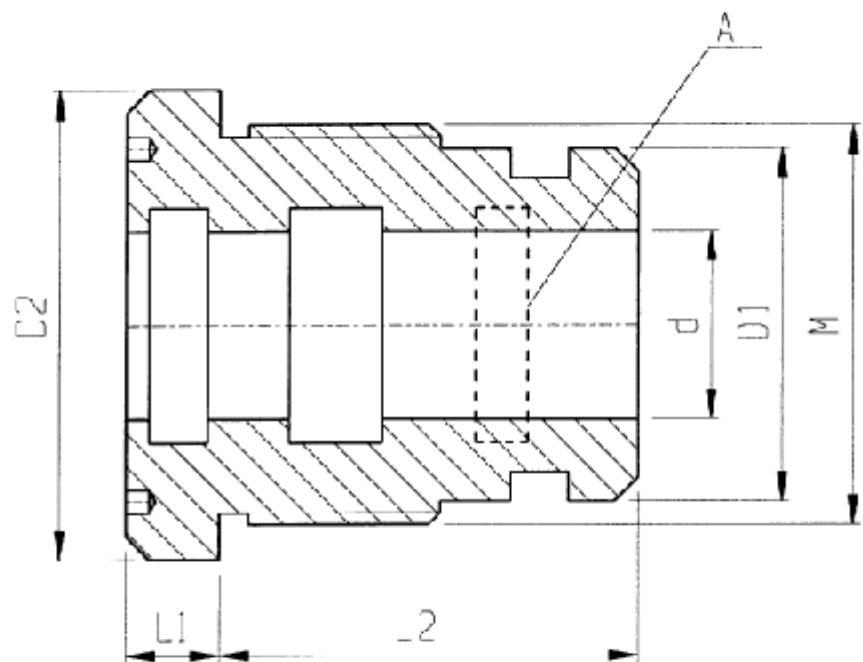


Plunger hydraulic cylinder

- - M/G

Code	Dimensions										M/G
	d	S <sub>max</sub>	D <sub>0</sub>	B	d <sub>1</sub>	L	l	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	
CPH 10-020 x S - *	20	300	40	56	12.2	87	10	20	30	13	18 x 1.5 1/4"
CPH 10-025 x S - *	25	400	40	56	15.2	91	16	24	30	13	
CPH 10-030 x S - *	30	500	50	67	15.2	104	16	24	35	15	
CPH 10-035 x S - *	35	500	60	77	20.25	110	20	25	40	20	
CPH 10-040 x S - *	40	600	60	77	20.25	125	20	25	40	20	
CPH 10-045 x S - *	45	600	70	87	25.25	132.5	25	30	45	22.5	18 x 1.5 3/8"
CPH 10-050 x S - *	50	600	70	87	25.25	157.5	25	30	45	22.5	
CPH 10-060 x S - *	60	700	80	97	25.25	157.5	25	30	45	22.5	
CPH 10-070 x S - *	70	700	92	109	30.25	180	30	35	60	25	
CPH 10-080 x S - *	80	600	116	132	35.25	190	35	40	60	30	
CPH 10-090 x S - *	90	600	126	142	40.25	223	40	50	70	35	
CPH 10-100 x S - *	100	500	140	157	40.25	223	40	50	70	35	

## Head bush



Material : - \*

A - C45

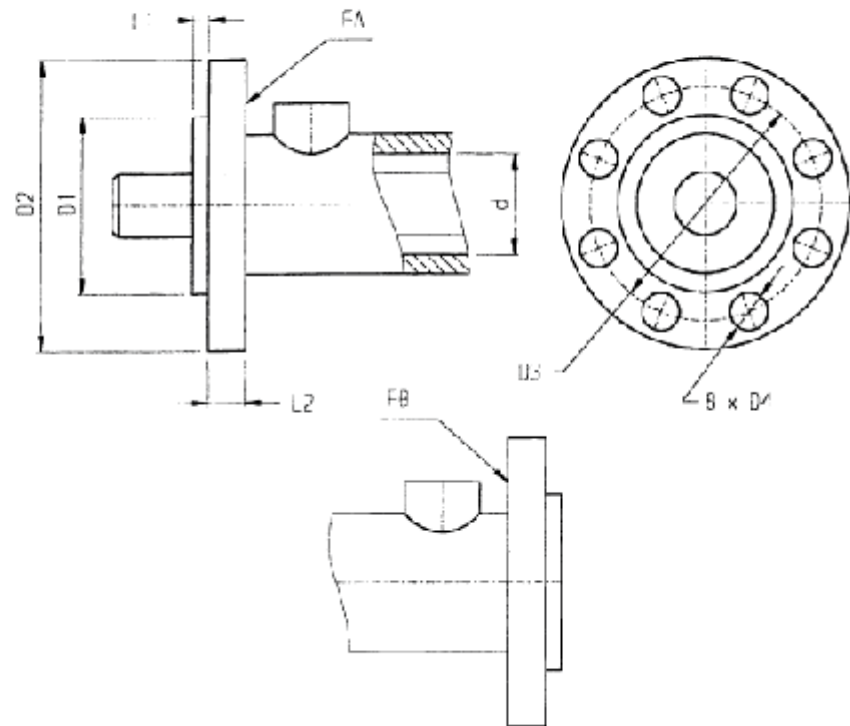
B - cast iron

Code	Dimensions					
	D1	D2	d	M	L1	L2
Z * 030 - 040 - 016	30	40	16	34 x 1.5	6	27
Z * 032 - 045 - 020	32	42	20	36 x 1.5	6	27
Z * 040 - 050 - d	40	50	20, 22, 25	44 x 1.5	8	32
Z * 050 - 060 - d	50	60	25, 30	54 x 1.5	8	36
Z * 060 - 070 - d	60	70	30, 35, 40	64 x 1.5	10	40
Z * 063 - 073 - d	63	73	30, 35, 40	68 x 1.5	10	40
Z * 070 - 080 - d	70	80	30, 35, 40	74 x 1.5	10	40
Z * 080 - 095 - d	80	92	35, 40, 45, 50	86 x 2	10	50
Z * 090 - 105 - d	90	105	40, 45, 50, 60	95 x 2	10	50
Z * 100 - 115 - d	100	115	40, 45, 50, 60	105 x 2	12	70
Z * 110 - 125 - d	110	125	45, 50, 60, 70	115 x 2	12	70
Z * 120 - 140 - d	120	140	60, 70	125 x 2	12	70



Flange

Flange : - \*  
 FA - front flange  
 FB - back flange  
 Material - C45

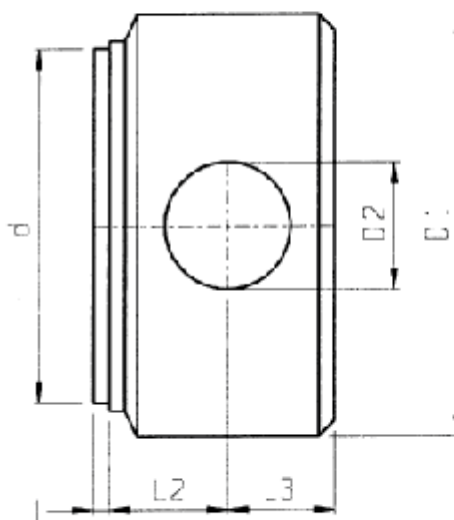


Code	Dimensions						
	D	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	L <sub>1</sub>	L <sub>2</sub>
F * 030-050	30	50	84	72	6.8	2	6
F * 032-055	32	55	90	78	6.5	2	6
F * 040-060	40	60	95	83	6.8	2	6
F * 050-070	50	70	112	96	9	4	8
F * 060-080	60	80	125	109	9	4	8
F * 063-085	63	86	130	114	9	4	10
F * 070-090	70	90	140	120	11	5	13
F * 080-105	80	105	160	140	11	5	13
F * 090-115	90	115	195	163	17	8	14
F * 100-125	100	125	206	173	17	8	16
F * 110-135	110	135	230	190	22	8	20
F * 120-150	120	150	250	210	22	8	22



End-plug with cross hole

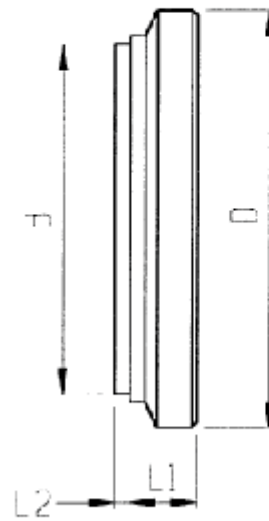
Material - C45



Code	Dimensions					
	d	D1	D2	L1	L2	L3
DB 030-040	30	40	12.2	2	15	13
DB 032-045	32	42	12.2	2	15	13
DB 040-050	40	50	16.2	2	18	15
DB 050-060	50	60	20.25	2	23	20
DB 060-070	60	63	25.25	2	25.5	22.5
DB 063-073	63	73	25.25	2	25.5	22.5
DB 070-080	70	80	25.25	2	25.5	22.5
DB 080-095	80	92	30.25	2	33	25
DB 090-105	90	105	35.25	2	38	30
DB 100-115	100	115	35.25	2	38	30
DB 110-125	110	120	40.25	2	41	35
DB 120-140	120	140	40.25	2	41	35

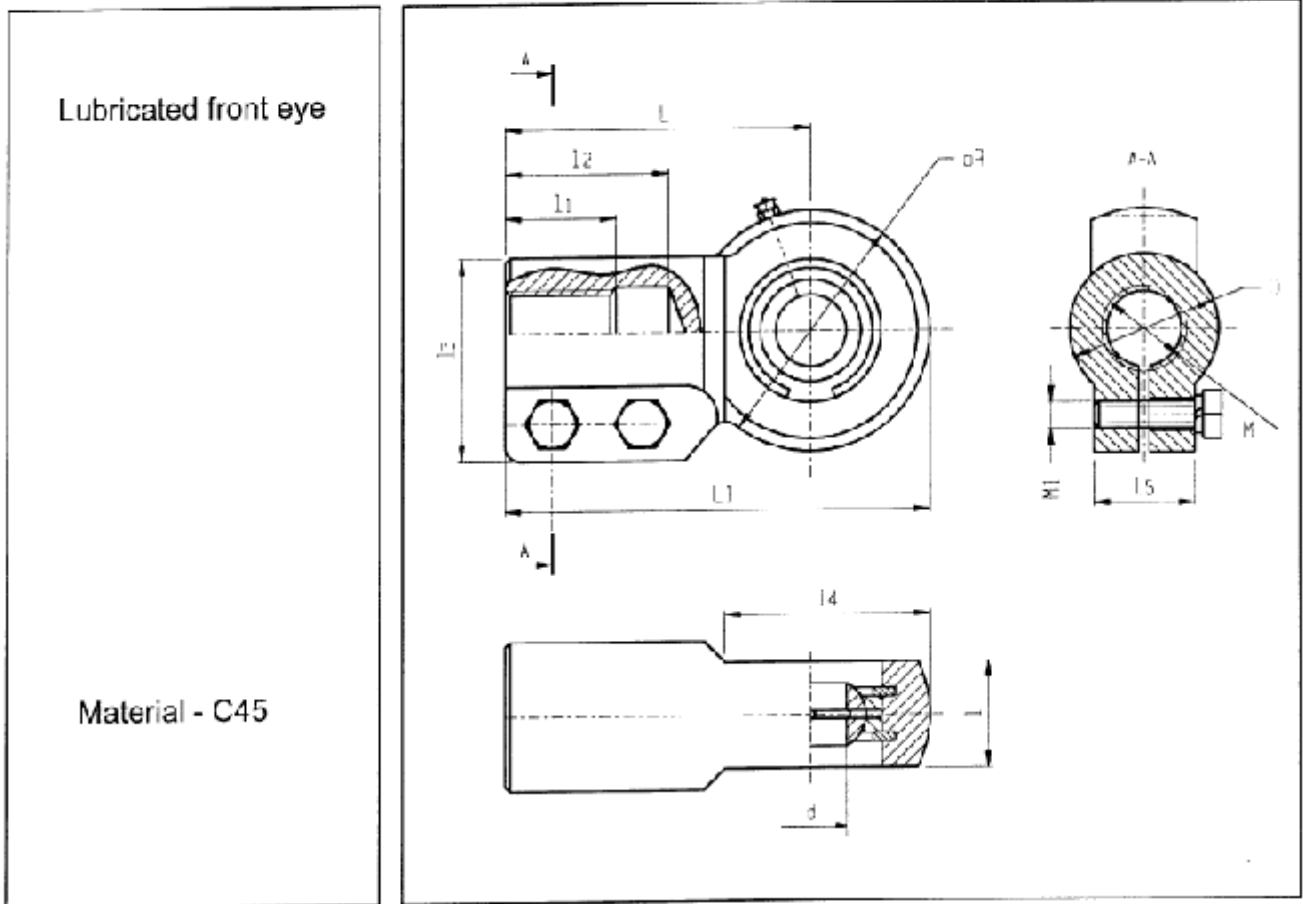
End - plug

Material - C45



Code	Dimensions			
	d	D	L <sub>1</sub>	L <sub>2</sub>
DA 030-040	30	40	6	2
DA 032-042	32	42	6	2
DA 040-050	40	50	8	2
DA 050-060	50	60	8	2
DA 060-070	60	70	10	2
DA 063-073	63	73	10	2
DA 070-080	70	80	10	2
DA 080-095	80	92	10	2
DA 090-105	90	105	13	2
DA 100-115	100	115	13	2
DA 110-125	110	125	13	2
DA 120-140	120	140	16	2

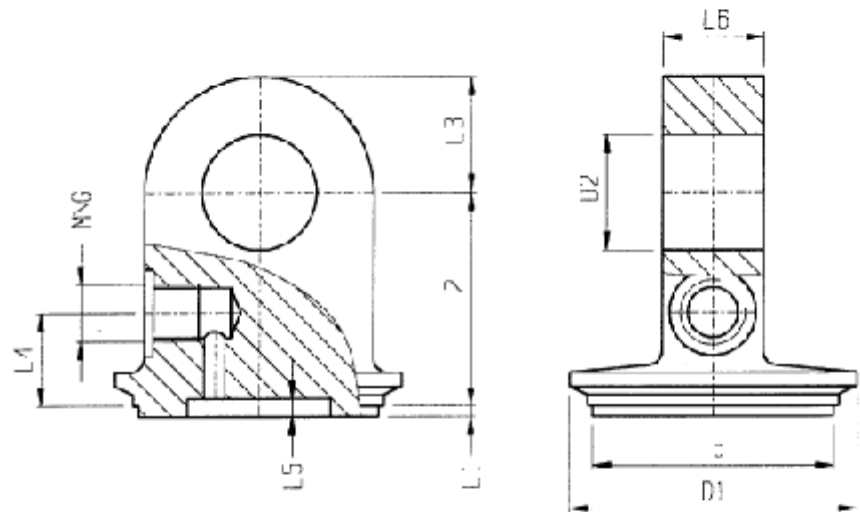
# Hydraulic cylinder parts



Code	Dimensions												
	M	d	L	L1	l	l1	l2	l3	l4	l5	oR	D	M1
LFE 8120 / 18 x 1.5	18 x 1.5	20	81	111	30	25	50	50	55	25	30	36	10
LFE 8120 / 24 x 1.5	24 x 1.5												
LFE 8125 / 18 x 1.5	18 x 1.5	25	81	111	30	25	50	50	55	25	30	36	10
LFE 8125 / 24 x 1.5	24 x 1.5												
LFE 10930 / 27 x 2	27 x 2	30	109	149	36	40	69	84	75	35	40	46	12
LFE 10930 / 30 x 2	30 x 2												
LFE 10935 / 27 x 2	27 x 2	35	109	149	36	40	69	84	75	35	40	46	12
LFE 10935 / 30 x 2	30 x 2												
LFE 10935 / 36 x 2	36 x 2												
LFE 14030 / 27 x 2	27 x 2	30	140	180	35	45	70	85.5	100	35	40	53	12
LFE 14030 / 30 x 2	30 x 2												
LFE 14035 / 27 x 2	27 x 2	35	140	180	35	45	70	85.5	100	35	40	53	12
LFE 14035 / 30 x 2	30 x 2												
LFE 14035 / 36 x 2	36 x 2												

Back eye with cross hole and inlet port

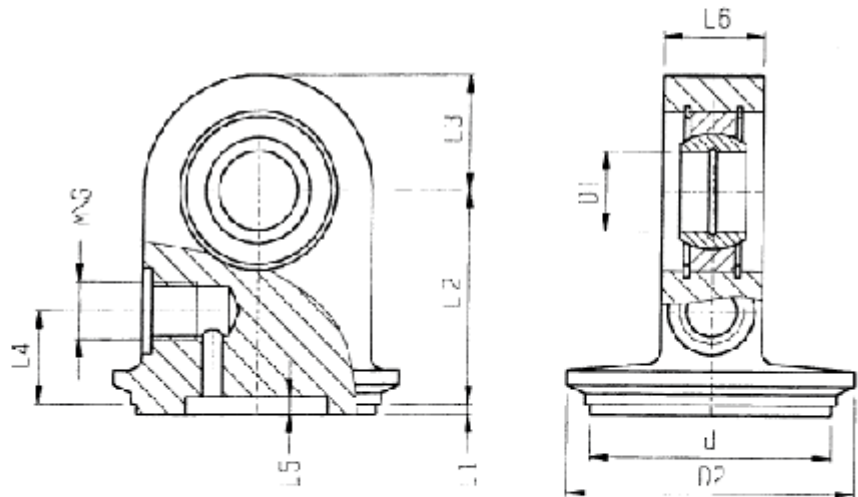
Material - C45



Code	Dimensions											
	d	D1	D2	L1	L2	L3	L4	L5	L6	M/G		
DD 030-040	30	40	12,2	2	48	20	24	6	20	16 x 1,5 1/4"		
DD 032-045	32	42	12,2	2	48					16 x 1,5 1/4"		
DD 040-050	40	50	16,2	2	48					18 x 1,5 3/8"		
DD 050-060	50	60	20,25	2	55	33	25	4	25	18 x 1,5 3/8"		
DD 060-070	60	70	25,25	2	55	35						
DD 063-073	63	73	25,25	2	55	45						
DD 070-080	70	80	30,25	2	63	45	31	8	35	22 x 1,5 3/8"		
DD 080-095	80	92	35,25	2	63		28					
DD 090-105	90	105	35,25	2	68		60					
DD 100-115	100	115	35,25	2	80	60	37	9	40	27 x 2 3/8"		
DD 110-125	110	125	40,25	2	114		45			10	50	27 x 2 1/2"
DD 120-140	120	140	40,25	2	114							

Back eye with ball bearing and intel port

Material - C45



Code	Dimensions											
	d	D <sub>1</sub>	D <sub>2</sub>	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub>	L <sub>5</sub>	L <sub>6</sub>	M/G		
DE 030-040-15	30	15	40	2	48	20	24	6	20	12 x 1.5 1/4"		
DE 032-045-15	32	15	42	2	48					16 x 1.5 1/4"		
DE 040-050-15	40	15	50	2	48							
DE 050-060-D <sub>2</sub>	50	20, 25	60	2	55	35	25	4	25	18 x 1.5 3/8"		
DE 060-070-D <sub>2</sub>	60	20, 25	70	2	55	35						
DE 063-073-D <sub>2</sub>	63	20, 25	73	2	55							
DE 070-080-D <sub>2</sub>	70	30, 35	80	2	63	45	31	8	35	16 x 1.5 3/8"		
DE 080-095-30	80	30	92	2	63		28			22 x 1.5 3/8"		
DE 090-105-35	90	35	105	2	68							
DE 100-115-40	100	40	115	2	80	60	37	9	40	27 x 2 3/8"		
DE 110-125-50	110	50	125	2	114		45			10	50	27 x 1.5 1/2"
DE 120-140-50	120	50	140	2	114							27 x 2 1/2"

Hydraulic cylinders CHB  
 Hydraulik zylinder CHB  
 Стандартные цилиндры ЦХБ

Code Kode Код	D	A	B	G	d	stroke hub ход	L						
CHB50 25 0100	50	22	60	G3/8	25	100	240						
CHB50 ** 0150					25	150	290						
CHB50 ** 0200						200	340						
CHB50 ** 0250						250	390						
CHB50 ** 0300						300	440						
CHB50 ** 0350						350	490						
CHB50 ** 0400						30	400	540					
CHB50 ** 0450							450	590					
CHB50 ** 0500							500	640					
CHB50 ** 0550							550	690					
CHB50 ** 0600							600	740					
CHB50 ** 0800							800	940					
CHB50 ** 1000							1000	1140					
CHB60 ** 0100							60	23	70	G3/8	30/35	100	260
CHB60 ** 0150											30	150	310
CHB60 ** 0200	200	360											
CHB60 ** 0250	250	410											
CHB60 ** 0300	300	460											
CHB60 ** 0350	350	510											
CHB60 ** 0400	35	400	560										
CHB60 ** 0450		450	610										
CHB60 ** 0500		500	660										
CHB60 ** 0550		550	710										
CHB60 ** 0600		600	760										
CHB60 ** 0800		800	960										
CHB60 ** 1000		1000	1160										
CHB70 35 0100		70	23	80	G3/8	35						100	260
CHB70 35 0150						35						150	310
CHB70 ** 0200	200						360						
CHB70 ** 0250	250						410						
CHB70 ** 0300	300						460						
CHB70 ** 0350	350						510						
CHB70 ** 0400	40						400	560					
CHB70 ** 0450							450	610					
CHB70 ** 0500							500	660					
CHB70 ** 0550							550	710					
CHB70 ** 0600							600	760					
CHB70 ** 0800							800	960					
CHB70 ** 1000							1000	1160					
CHB80 ** 0200							80	25	92	G1/2	40	200	380
CHB80 ** 0250												250	430
CHB80 ** 0300	300	480											
CHB80 ** 0400	400	580											
CHB80 ** 0500	500	680											
CHB80 ** 0600	600	780											
CHB80 ** 0800	800	980											
CHB80 ** 1000	1000	1180											
CHB100 50 0200	100	25	115	G1/2	50	200						410	
CHB100 50 0250						250	460						
CHB100 ** 0300						60	300	510					
CHB100 ** 0400							400	610					
CHB100 ** 0500							500	710					
CHB100 ** 0600							600	810					
CHB100 ** 0800							800	1010					
CHB100 ** 1000							1000	1210					

\*\* Rod - Kolbenstange - Шток

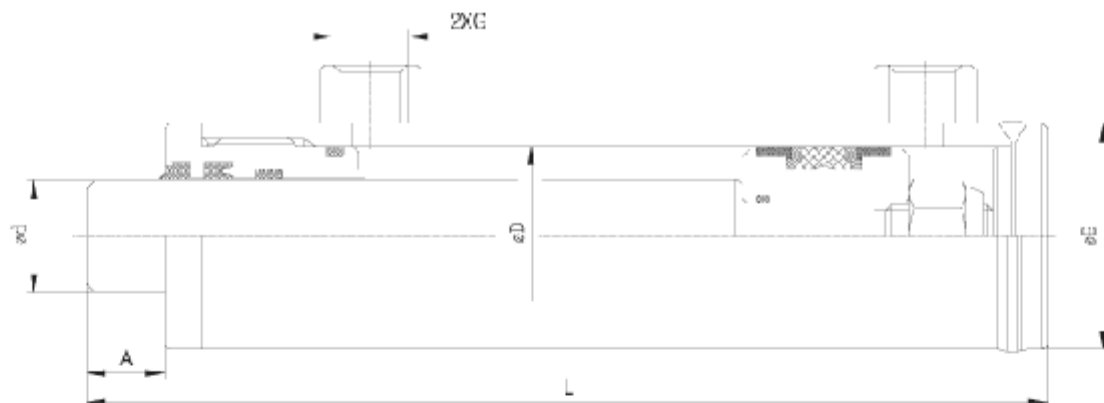
# Hydraulic cylinders CHB Hydraulik zylinder CHB Стандартные цилиндры ЦХБ

## Technical characteristics - Technische eigenschaften - Технические данные

The standard diameters of the bore and rod  
Max working pressure - 200 bar.  
Working temperature: min. -30°C max. +80°C  
Rod max. speed: 0.5m/s  
Fluid: hydraulic oil

Die genormten Durchmesser der Bohrungen  
und Kolbenstange.  
Betriebsdruck max.: 200 bar.  
Betriebstemperatur: min. -30°C max. +80°C  
Max. Stange-Geschwindigkeit: 0.5m/s  
Flüssigkeit Hydrauliköl

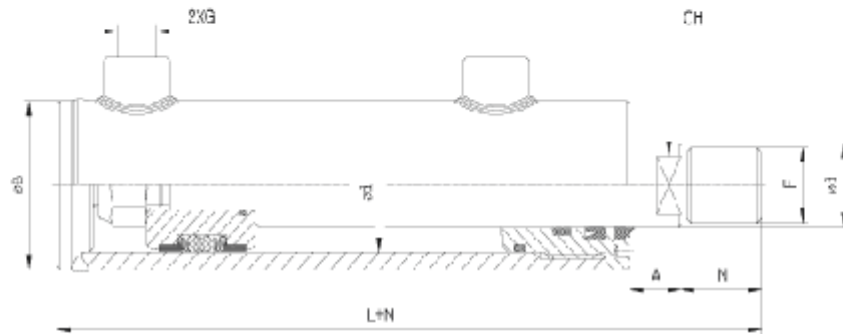
Диаметр цилиндра и штока унифицированные  
Максимальное рабочее давление - 200 бар.  
Рабочая температура: min. -30°C max. +80°C  
Максимальная скорость штока: 0.5 м/с  
Рабочий флуид: гидравлическое масло



Code Kode Код	D	A	B	G	d	stroke hub ход	L
CHB40 20 0100					20	100	230
CHB40 ** 0150						150	280
CHB40 ** 0200						200	330
CHB40 ** 0250						250	380
CHB40 ** 0300	40	22	50	G1/4	20	300	430
CHB40 ** 0350					25	350	480
CHB40 ** 0400						400	530
CHB40 ** 0450						450	580
CHB40 ** 0500						500	630
CHB40 25 0550					25	550	680
CHB40 25 0600						600	730

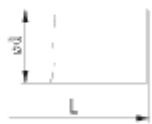
\*\* Rod - Kolbenstange - Шток

# Hydraulic cylinders CHB Hydraulik zylinder CHB Стандартные цилиндры ЦХБ

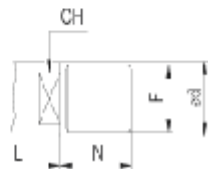


Rod end  
Kolbenstange Ende  
Край штока

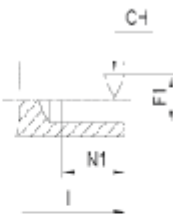
X



Y

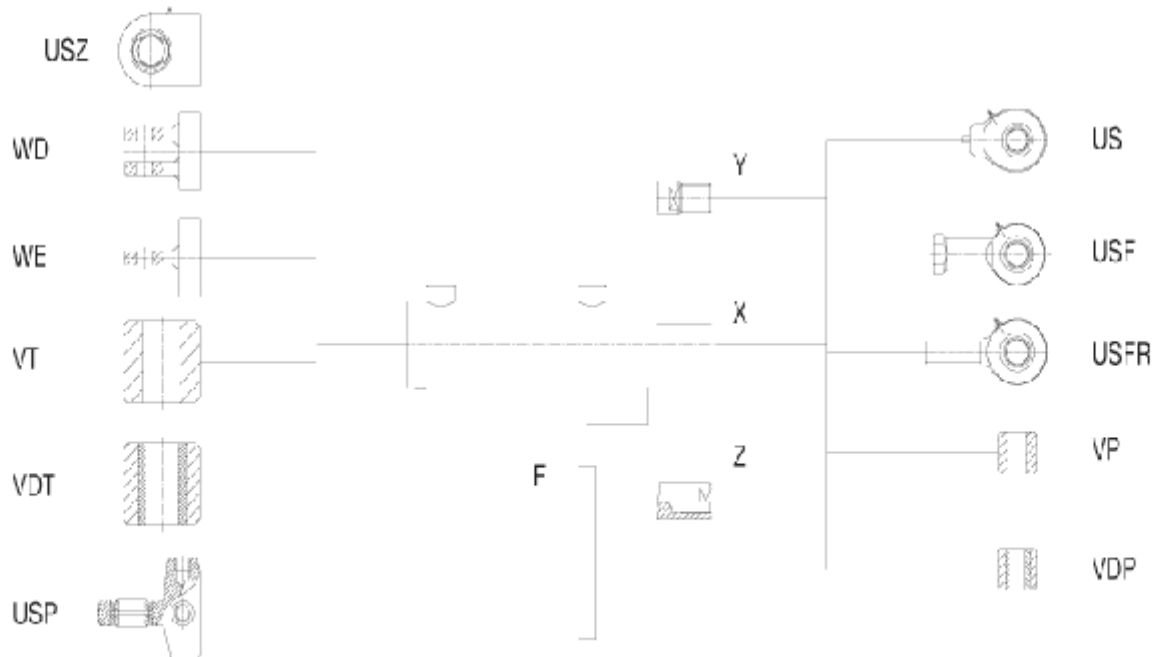


Z



	d	D	F	N	F1	N1	CH
	mm	mm	mm	mm	mm	mm	mm
X	20	40	M16X1.5	36	M12	20	17
	25	40	M16X1.5	36	M14	24	22
50							
Y	30	50	M22X1.5	42	M20X1.5	32	27
		60					
Z	35	60	M26X1.5	50	M24X2	38	30
		70					
		60					
Z	40	70	M28X1.5	58	M30X2	47	36
		80					
		50					
100							
Z	60	100	M45X1.5	68	M42X3	70	50

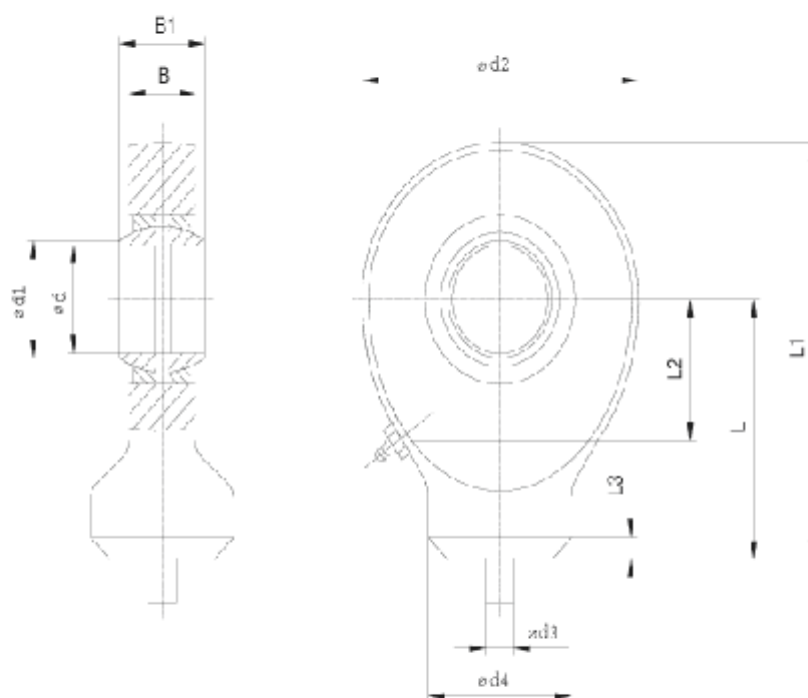
## Mountings - Anschlussbezeichnung - Схема монтажа





Hydraulic cylinders CHB  
 Hydraulik zylinder CHB  
 Стандартные цилиндры ЦХБ

Mountings - Anschlussbezeichnung - Присоединительные элементы

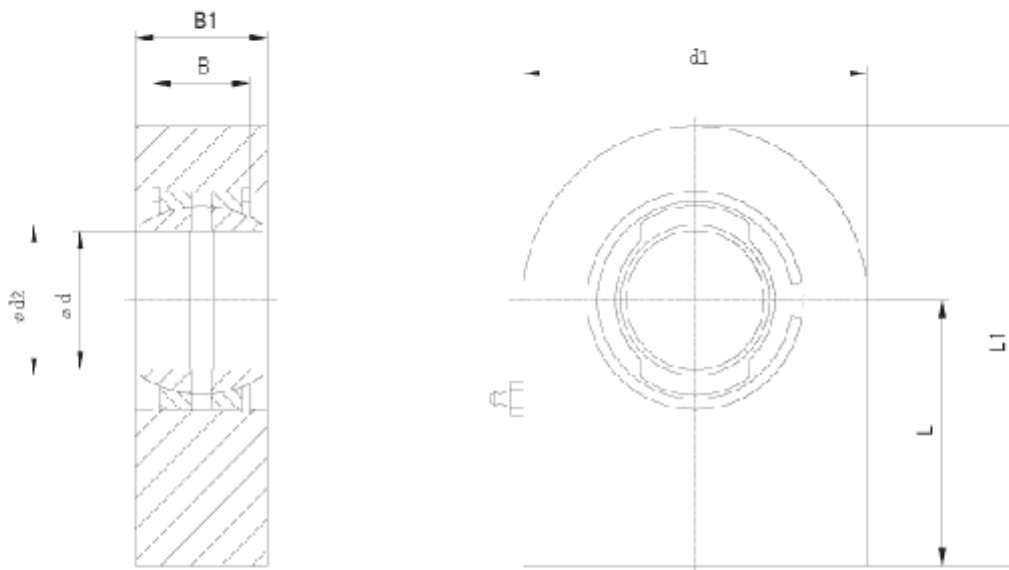


Spherical joint - Kugelgelenk - Сферический подшипник

Code	d	d1	d2	d3	d4	B	B1	L	L1	L2	L3
US15	15	18	40	4	21	10	12	31	51	18	2.5
US20	20	24	53	4	27.5	13	16	38	64.5	23	3
US25	25	29	64	4	33.5	17	20	45	77	27	4
US30	30	34	73	4	40	19	22	51	87.5	30	4
US35	35	39.5	82	4	47	21	25	61	102	37	4
US40	40	45	92	4	52	23	28	69	115	44	5
US45	45	50.5	102	6	58	27	32	77	128	48	5
US50	50	56	112	6	62	30	35	88	144	58	6
US60	50	66.5	135	6	70	38	44	100	167.5	68	8

Hydraulic cylinders CHB  
 Hydraulik zylinder CHB  
 Стандартные цилиндры ЦХБ

Mountings - Anschlussbezeichnung - Присоединительные элементы



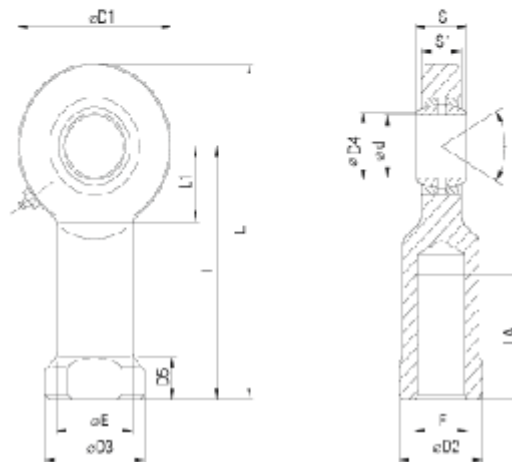
Spherical joint - Kugelgelenk - Сферический подшипник

Code	d	d1	d2	L	L1	B	B1
USZ20	20	50	24	38	63	18	19
USZ25	25	55	29	45	72.5	20	23
USZ30	30	65	34	51	83.5	22	28
USZ35	35	83	39.5	61	102.5	25	30
USZ40	40	100	45	69	119	28	35
USZ45	45	110	50.5	77	132	32	40
USZ50	50	123	56	88	149.5	35	40
USZ60	60	140	66.5	100	170	44	50
USZ70	70	164	77.5	116	197	49	55
USZ80	80	180	89	141	231	55	60

Hydraulic cylinders CHB  
 Hydraulik zylinder CHB  
 Стандартные цилиндры ЦХБ

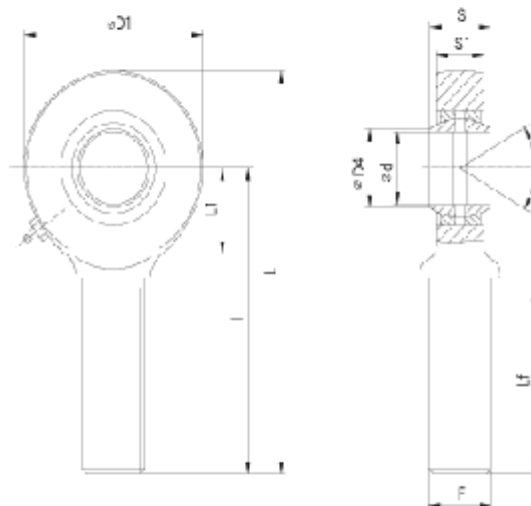
Mountings - Anschlussbezeichnung - Присоединительные элементы

Spherical joint  
 Kugelgelenk  
 Сферический подшипник



Code	d	l	S	LA	D1	E	D2	D3	D4	D5	S1	L	L1	F
USF17	17	67	14	34	46	24	27	30	25	10	11	90	23	M16X1.5
USF20	20	77	16	40	53	27.5	32	35	29	10	13	103.5	27	M22X1.5
USF25	25	94	20	48	64	33.5	36	42	35.5	12	17	126	32	M28X1.5
USF30	30	110	22	56	73	40	41	50	40.7	15	19	146.5	37	M28X1.5
USF35	35	125	25	60	82	47	50	58	47	15	21	166	42	M35X1.5
USF40	40	142	28	65	92	52	55	65	53	18	23	188	48	M45X1.5

Spherical joint  
 Kugelgelenk  
 Сферический подшипник



Code	d	l	S	Lf	D1	D4	S1	L	L1	F
USFR12	12	54	10	28	34	18	8	71	18	M12
USFR15	15	63	12	34	40	22	10	83	20	M14
USFR20	20	78	16	43	53	29	13	104.5	27	20X1.5
USFR25	25	94	20	53	64	35.5	17	126	32	24X2
USFR30	30	110	22	65	73	40.7	19	146.5	37	30X2
USFR35	35	140	25	82	82	47	21	181	42	36X3
USFR45	45	163	32	92	102	60	28	214	52	42X3

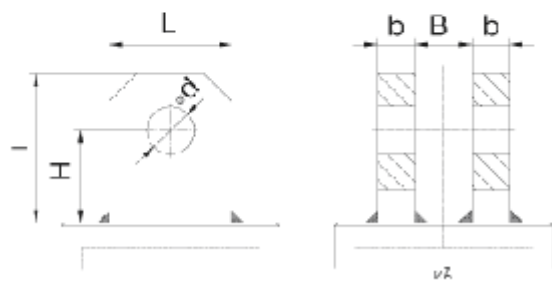
# Hydraulic cylinders CHB

## Hydraulik zylinder CHB

### Стандартные цилиндры ЦХБ

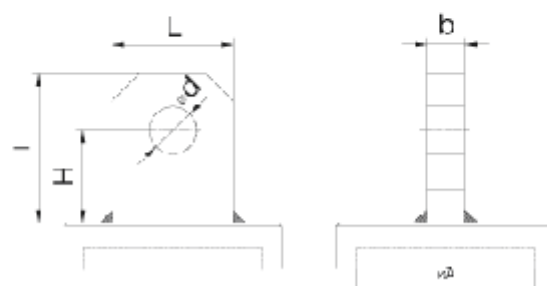
Mountings - Anschlussbezeichnung - Присоединительные элементы

WD



Female hinge for tube  
Aufsteck-Gabelkopfe für Rohr  
Царник внутренним присоединением

WE

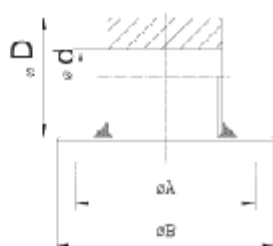


Male hinge for tube  
Einsteck-Gabelkopfe für Rohr  
Царник внешним присоединением

Code (A)	d	H	L	l	b	B
WD40	16	30	36	48	8	20
WD50	20	30	46	50	12	20
WD60	20	30	46	52	12	20
WD70	25	40	60	65	12	25
WD80	30	45	70	75	15	40
WD100	40	70	80	110	20	50

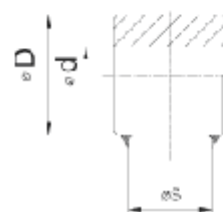
Code (A)	d	H	L	l	b
WE40	16	25	40	43	20
WE50	20	30	50	52	20
WE60	20	30	50	52	30
WE70	25	30	55	57	30
WE80	30	45	60	77	40
WE100	40	70	80	112	50

VT



Bushing for tube  
Busche für Rohr  
Втулка для трусь

VP



Bushing for rod  
Busche für Kolbenstange  
Втулка для штока

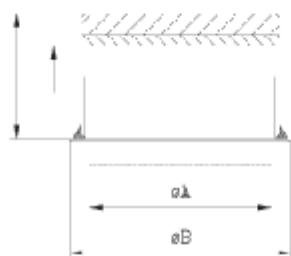
Code (A)	B	d	D	L
VT40	50	20	40	55
VT50	60	25	50	65
VT60	70	30	60	75
VT70	80	35	65	85
VT80	92	40	70	97
VT100	115	50	80	125

Code (S)	S	d	D	L
VP20	20	20	40	40
VP25	25	25	50	50
VP30	30	30	60	50
VP35	35	35	65	60
VP40	40	35	65	60
VP50	50	40	70	70
VP60	60	50	80	80

# Hydraulic cylinders CHB Hydraulik zylinder CHB Стандартные цилиндры ЦХБ

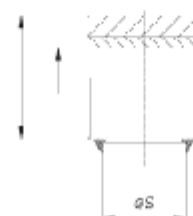
Mountings - Anschlussbezeichnung - Присоединительные элементы

**VDT**



Double bush (internal bronze bush)  
Doppelbusche (Innenbusche vom Bronze)  
Двойная втулка (внутренняя втулка из бронзы)

**VDP**

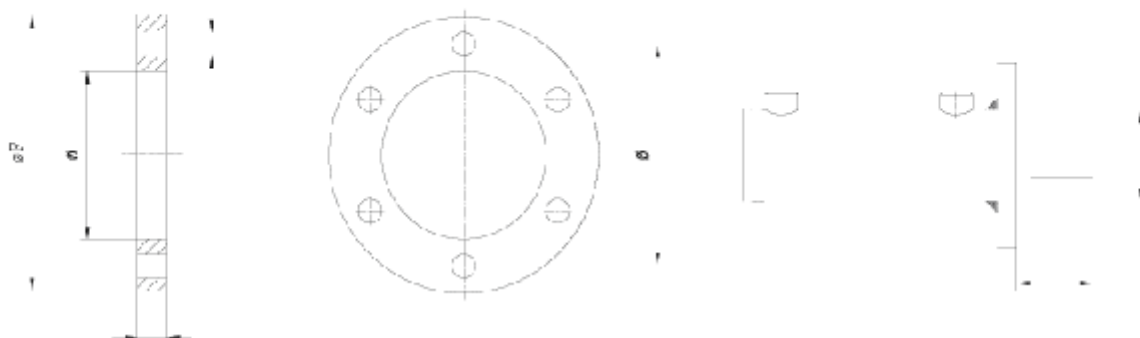


Double bush (internal bronze bush)  
Doppelbusche (Innenbusche vom Bronze)  
Двойная втулка (внутренняя втулка из бронзы)

Code (A)	B	d	D	L
VDT40	50	20	50	55
VDT50	60	25	55	65
VDT60	70	30	60	75
VDT70	80	35	70	85
VDT80	92	40	75	97
VDT100	115	50	85	125

Code (S)	S	d	D	L
VDP20	20	20	45	40
VDP25	25	25	55	50
VDP30	30	30	60	50
VDP35	35	35	70	60
VDP40	40	35	70	60
VDP50	50	40	75	70
VDP60	60	50	85	80

**F**



Round flange - Rundflansch - Фланец

Code (A)	D	F	C	d	b	L
F40	50	115	90	8.5	10	32
F50	60	125	100	8.5	10	32
F60	70	145	116	10.5	12	33
F70	80	155	126	10.5	12	33
F80	92	165	136	10.5	15	35
F100	115	195	180	13	20	35

# Hydraulic cylinders CHB

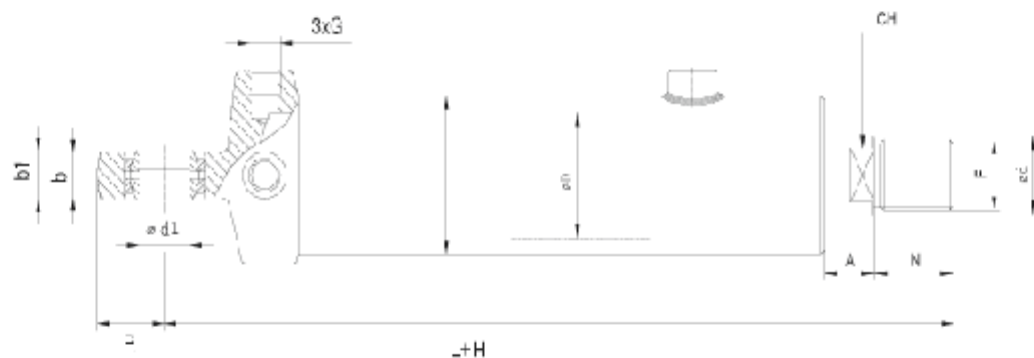
## Hydraulik zylinder CHB

### Стандартные цилиндры ЦХБ

Mountings - Anschlussbezeichnung - Присоединительные элементы

CHB.../\*\*/...+USP

USP



Spherical joint - Kugelgelenk - Сферический подшипник

Code Kode Код	D	A	B	G	d	stroke hub ход	L	F	CH	N	d1	b	R	b1								
CHB60 ** 0100*	60	23	70	G3/8	30/35	100	355/364	M22x1.5	27/30	33/42	25	20	35	23								
CHB60 ** 0150*						150	405/414	M28x1.5														
CHB60 ** 0200*					200	455	M22x1.5	27	33													
CHB60 ** 0250*					250	505																
CHB60 ** 0300*					300	555																
CHB60 ** 0350*					350	605																
CHB60 ** 0400*					60	23	70	G3/8	35	400					664	M28x1.5	30	42				
CHB60 ** 0450*										450					714							
CHB60 ** 0500*									40	500					764	M28x1.5	30	42				
CHB60 ** 0550*																			550	814		
CHB60 ** 0600*																			600	864		
CHB60 ** 0800*																			800	1064		
CHB60 ** 1000*									63	23					73	G3/8	30/35	100	352/361	M22x1.5	27/30	33/42
CHB63 ** 0150*																		150	402/411	M28x1.5		
CHB63 ** 0200*	200	452	M22x1.5	27							33											
CHB63 ** 0250*	250	502																				
CHB63 ** 0300*	300	552																				
CHB63 ** 0350*	350	602																				
CHB63 ** 0400*	63	23	73	G3/8	35	400	661	M28x1.5			30	42										
CHB63 ** 0450*						450	711															
CHB63 ** 0500*					40	500	761	M28x1.5			30	42										
CHB63 ** 0550*													550	811								
CHB63 ** 0600*									600	861												
CHB63 ** 0800*									800	1061												
CHB63 ** 1000*	1000	1261																				

# Hydraulic cylinders CHB Hydraulik zylinder CHB Стандартные цилиндры ЦХБ

## Mountings - Anschlussbezeichnung - Присоединительные элементы



Code Kode Код	d	stroke hub ход	L	B	A	G
CP25/100	25	100	200	42	35	3/8
CP25/200		200	300			
CP25/300		300	400			
CP30/200	30	200	320	50	40	3/8
CP30/300		300	420			
CP30/400		400	520			
CP30/500		500	620			
CP40/200	40	200	340	60	45	3/8
CP40/300		300	440			
CP40/400		400	540			
CP40/500		500	640			
CP40/600		600	740			
CP50/300	50	300	450	70	50	3/8
CP50/400		400	550			
CP50/500		500	650			
CP50/600		600	750			

## Ordering code - Bestellangaben - Способ заявления

CH / / + + -

Hydraulic cylinder  
Hydraulische Zylinder  
Цилиндр гидравлический

Cylinder type  
Zylinder typ  
Тип цилиндра

Piston diameter  
Kolbendurchmesser  
Диаметр поршня

Rod diameter  
Stangendurchmesser  
Диаметр штока

Stroke  
Hub  
Ход

Rod-end type  
Typ der Stangenende  
Тип конца штока

Tube attachments  
Befestigungselemente zum Rohr  
Элементы присоединённые к трубе

Rod attachments  
Befestigungselemente zur Stange  
Элементы присоединённые к штоку

## Order example - Bestellbeispiel - Пример заявления

**CHB 40/20/150 + VT40 + VP20 - X**

Hydraulic piston cylinder with piston diameter 40 mm, rod diameter 20 mm, stroke 150 mm, connected to the tube bushing VT 40, connected to the rod bushing VP20 and rod-end type X

Hydraulischer Kolbenzylinder mit Kolbendurchmesser 40 mm, Stangendiameter 20 mm, hub 150 mm, zum Rohr befestigt Busche VT 40, zur Stange befestigt VP20 und Type der Stangenende X

Цилиндр гидравлический поршневой с диаметром поршня 40 мм, диаметр штока 20 мм, ход штока 150 мм, присоединённые к трубе втулка VT 40 к штоку втулка VP20 и конец штока тип X

# Hydraulic cylinder CHB Hydraulik Zylinder CHB Стандартные цилиндры ЦХБ

Ordering code - Bestellangaben - Способ заивления

CH / / + + -

Hydraulic cylinder  
Hydraulische Zylinder  
Цилиндр гидравлический

Type	Typ	Typ
B-piston cylinder	B-Kolbenzylinder	B-Поршневого
P-plunger cylinder	P-Plungenzylinder	P-Плунжерный

Piston diameter  
Kolbendurchmesser  
Диаметр поршня

Rod diameter  
Stangendurchmesser  
Диаметр штока

Stroke  
Hub  
Ход

Rod-end type  
Typ der Stangenende  
Тип конца штока

Tube attachments  
Befestigungselemente zum Rohr  
Элементы присоединённые к трубе

Rod attachments  
Befestigungselemente zur Stange  
Элементы присоединённые к штоку

Order example - Bestellbeispiel - Пример заивления

**CHB 40/20/150 + VT40 + VP20 - X**

Hydraulic piston cylinder with piston diameter 40 mm, rod diameter 20 mm, stroke 150 mm, connected to the tube bushing VT 40, connected to the rod bushing VP20 and rod-end type X

Hydraulischer Kolbenzylinder mit Kolbendurchmesser 40 mm, Stangendiameter 20 mm, hub 150 mm, zum Rohr befestigt: Busche VT 40, zur Stange befestigt VP20 und Type der Stangenende X

Цилиндр гидравлический поршневого с диаметр поршня 40 mm, диаметр штока 20 mm, ход штока 150 mm, присоединённые к трубе бтушка VT 40, к штоку бтушка VP20 и конец штока тип X