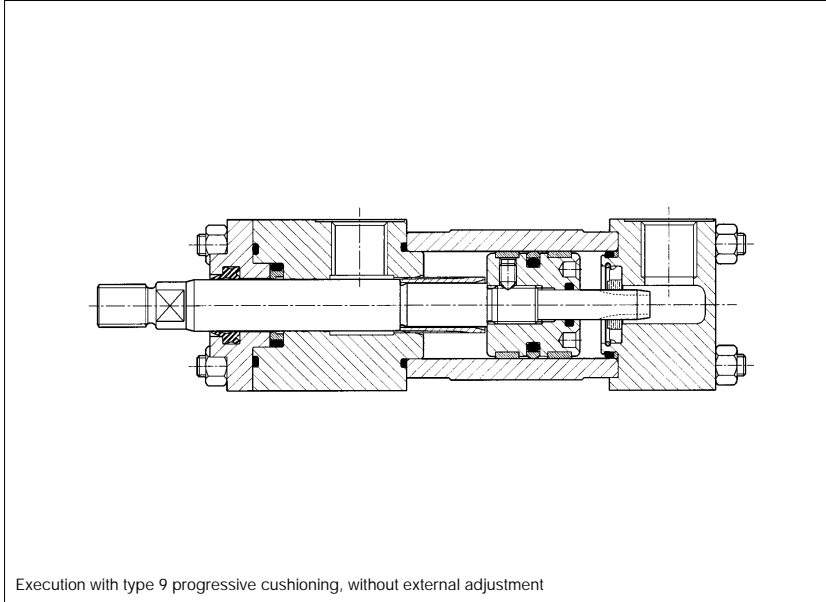


Hydraulic cylinders series CE • light duty - standard square heads

double acting - nominal pressure 100 bar - design 10



This series is designed for low duty applications (nominal pressure 100 bar) particularly for oleohydraulic systems on machines tool, loaders and light machinery.

- **Five bore diameters, from 25 to 63 mm.**
- **Standard square heads assembled with tie-rods.**
- **Strokes up to 5000 mm available on request.**
- **Normalized strokes: 25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 630, 800, 1000, 1250; (bold character = quick delivery);**
- **Seals with seats to ISO 7425.**

- Available options: progressive cushionings - no need of external adjustment.
- Modular attachments: some of them also available as loose elements, see section 7 and 8:
 - type A, C, E interchangeable with series CL (tab. B020).
 - type N with front flange according to standards **JIC / NFPA**
- Rod attachments: see tab. B500.

1 MODEL CODE FOR THE CYLINDER

CE	-	50	/	22	*	0500	-	N	7	0	8	H	10	
Cylinder series CE = light series 100 bar												Design number Please quote the design number, printed on the label, when ordering spare parts.		
Piston diameter [mm] 5 diameters from 25 to 63 mm For technical characteristics see tab. B005.												ROD END OPTIONS: H = rod end with threaded connection interchangeable with series CL. Available only for CE 50 and 63 - see section 5.		
Rods (rods) diameter [mm] For general characteristics see tab. B005												Seals: 8 = (NITRILE + ELASTOMER): low-friction for mineral oil, water-glycol with water percentage not higher than 45% and synthetic organic esters based fluids. Maximum speed for this kind of cylinders is 0,5 m/s. For other characteristics see tab. B005.		
Stroke [mm] Max. stroke 5000 mm For longer strokes consult our technical office For tolerance and further information see tab. B005. Normalized strokes according to ISO-4393 25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 630, 800, 1000, 1250 Standard strokes for quick delivery: 25, 50, 100, 160, 200, 250, 320, 400, 500												Spacers: 2 = 50 mm 4 = 100 mm 6 = 150 mm 8 = 200 mm See note at section 3 for the recommended dimensions according to the stroke. For further information see tab. B005		
Attachments - sez. 7 and 8		According to:												
		ISO 6020-2	JIC/NFPA	series CL										
A = square front flange (only CE-25 and 32)		-	-	yes										
C = rear female clevis ISO MF1		yes	-	yes										
E = front feet		-	-	yes										
N = front flange ISO MF1		-	yes	-										
X = basic configuration		yes	-	-										
Y = extended front tie-rods ISO MX3		yes	-	-										
Z = front tapped holes		yes	-	-										
Cushioning - no external adjustment														
0 = without cushioning														
7 = rear only														
8 = front only														
9 = front and rear														
For manufacture characteristics and performances see tab. B005 and B015														

2 MODEL CODE FOR THE LOOSE ATTACHMENTS - for dimensions see section 7 and 8

C - CE	-	25	-	E
Cylinder series		Type of loose attachment:		
Piston diameter [mm]: 25, 32, 40, 50, 63		A = square front flange (only for CE-25 and 32)		
		E = front feet		
		N = front flange ISO MF1		
		Z = flange with front tapped holes (only CE -25, 32 and 40)		

NOTE: the loose attachments A, N, Z are supplied including the parts in pos. 2 of section 10

3 INSTALLATION DIMENSIONS [mm] - see sections 6, 7 and 8

Ø PISTON	25	32	40	50	63
Ø ROD	12	14	18	22	28
AA	40	47	59	74	91
AO	11,5	11,5	13,5	15	17,5
BB	16	24	35	46	46
BG min	7	8	10	18	18
CB	12	16	20	30	30
CD	10	12	14	20	20
CF	24	32	40	60	60
D	21	21	25	29	29
DD	M5x0,8	M6x1	M8x1	M12x1,25	M12x1,25
E	40	45	63	75	90
EE	1/4"	1/4"	3/8"	1/2"	1/2"
FB	6,5	6,5	11	14,5	14,5
L	13	19	19	32	32
LH	30	35	40	50	60
M	1000	1200	1500	1800	2300
MR max	12	17	17	29	29
MT	4	7	18	70	70
N	45	55	62	72	85
R	27	33	41	52	65
RO	46	56,7	/	/	/
RT	M5x0,8	M6x1	M8x1	M12x1,75	M12x1,75
S	13,5	15	/	/	/
S1	10	10	15	16	16
S2	13	16	18	/	/
SB	7	7	9	11	13
SO	60	76	/	/	/
ST	6	6	8	8	10
TG	28,3	33,2	41,7	52,3	64,3
TO	51	58	87	105	117
TS	25	35	40	45	50
UO	64	70	109	128	142
XS	6	12	6	0	2
Y	50	60	62	67	71

SPACERS: strokes longer than 1000 mm require the insertion of fitting spacers to increase the rod and the piston guide, against overload and early wear.

The table below shows the recommended dimensions according to the stroke: for strokes longer than the ones shown in the table consult our technical office.

Spacers are normally omitted for strokes shorter than 1000 mm and for cylinders working in traction mode.

strokes [mm]	1001 ÷ 1500	1501 ÷ 2000	2001 ÷ 2500	2501 ÷ 3000
spacer code	2	4	6	8
length [mm]	50	100	150	200

Notes:

- **EE:** oil ports and drain are threaded according to BSP standard with counter-bore dimensions **D** according to DIN 3852-2 (wide serie).

- **M:** for strokes longer than M, as indicated in the table at the side, one or more intermediate tie-rod supports are mounted on the housing, with dimensions ExE.

- **MT:** tightening tie-rod values [in Nm] for dry thread.

N.B.: for strokes, consider the following tolerances:

- 0÷1,2 mm for strokes up to 1000 mm;
- 0÷2,5 mm for longer strokes.

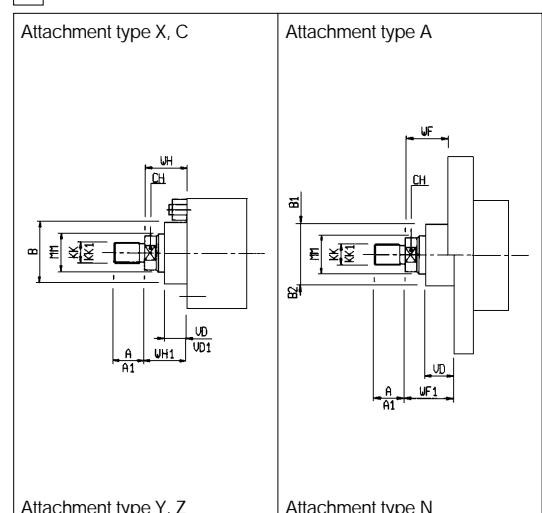
PJ	53	56	73	74	80
SS	124	133	168	184	196
XC	127	147	172	191	200
ZB max	129	144	170	178	192
ZJ	114	128	153	159	168

The values given here besides are always to be added to the stroke and eventual spacers to obtain the real installation dimensions (see drawing sec. 6).
EXAMPLE: Cylinder CE-50/22*1250-N728
 total external overall dimensions:
 A + ZB + stroke + spacers
 = 22 + 178 + 1250 + 50 = 1500 mm

4 DISTANCES RELATIVE TO ROD ENDS [mm] - see fig. section 5

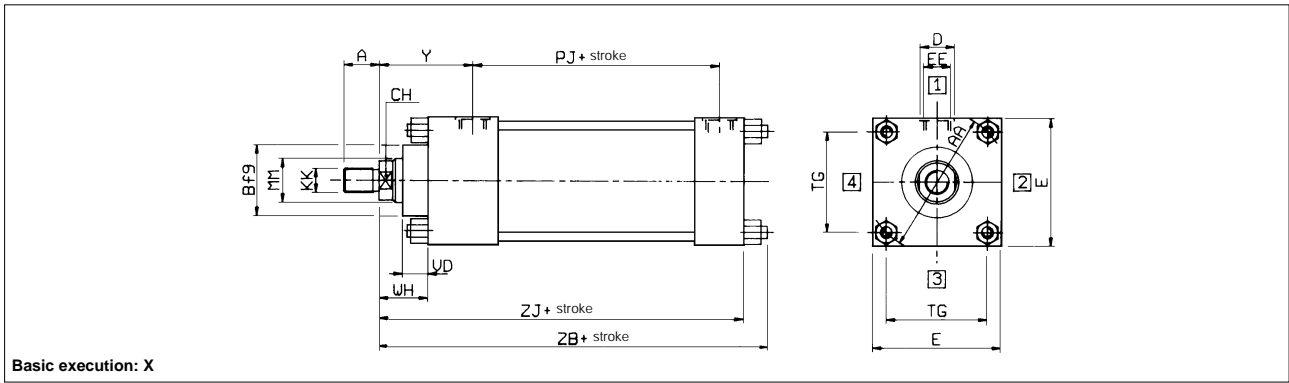
Ø ROD	12	14	18	22	28
A	14	16	18	22	28
A1	/	/	/	24	30
B f9	24	26	30	34	42
B1 f9	23	28	/	/	/
B2 -0,05	25,37	26	28,55	38,07	38,07
CH	10	12	15	19	22
KK	M10x1,25	M12x1,25	M14x1,5	M16x1,5	M20x1,5
KK1	/	/	/	M18x1,5	M22x1,5
VD max	3	3	3	3	3
VD1	/	/	/	9	12
WF	12,5	19	/	/	/
WF1	16	24	19	9	16
WH	19	26	24	25	32
WH1	13	18	16	25	32

5 ROD END - for dimensions see tab. 4

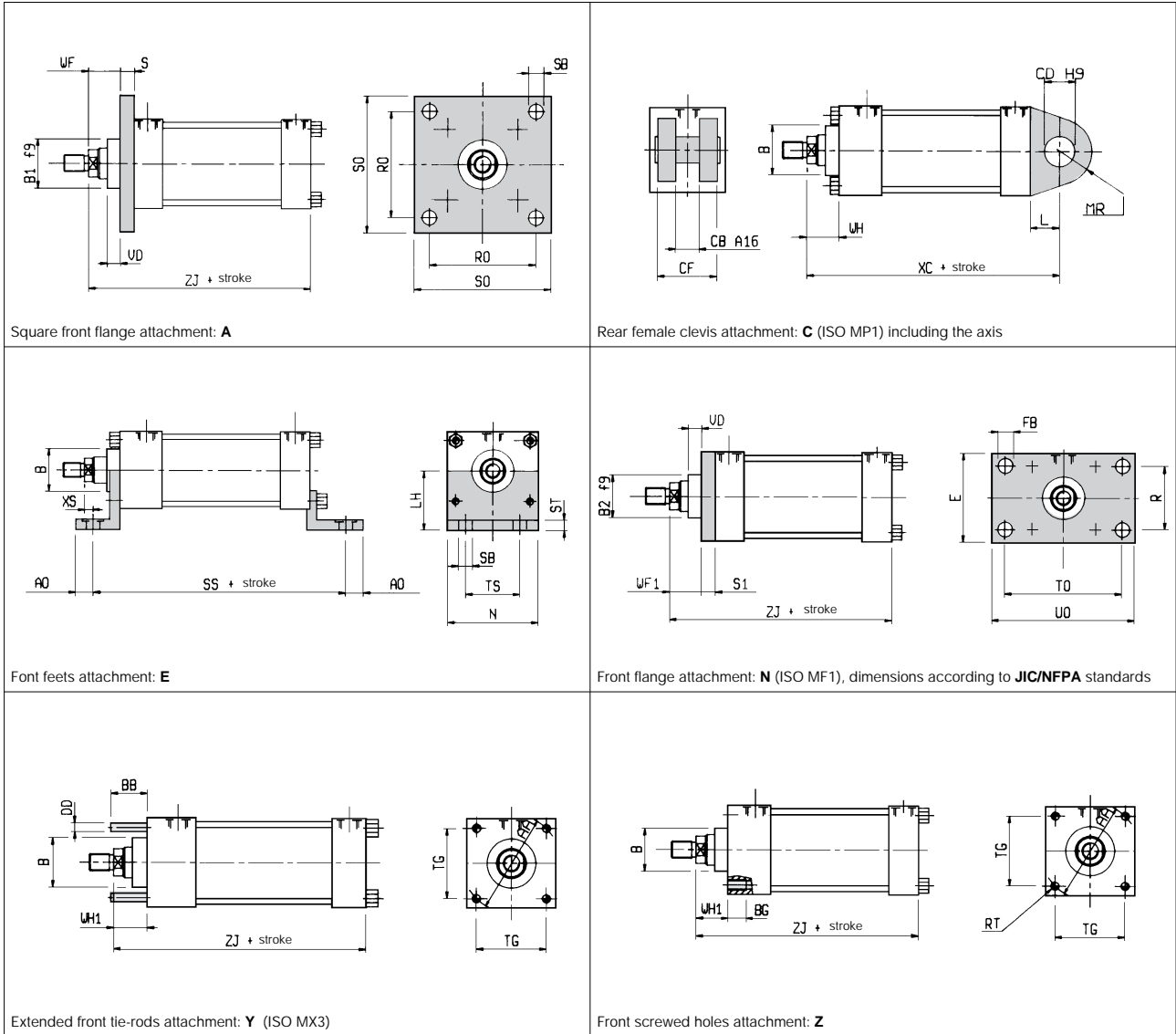


For dimensions related to the attachment E, see section 7

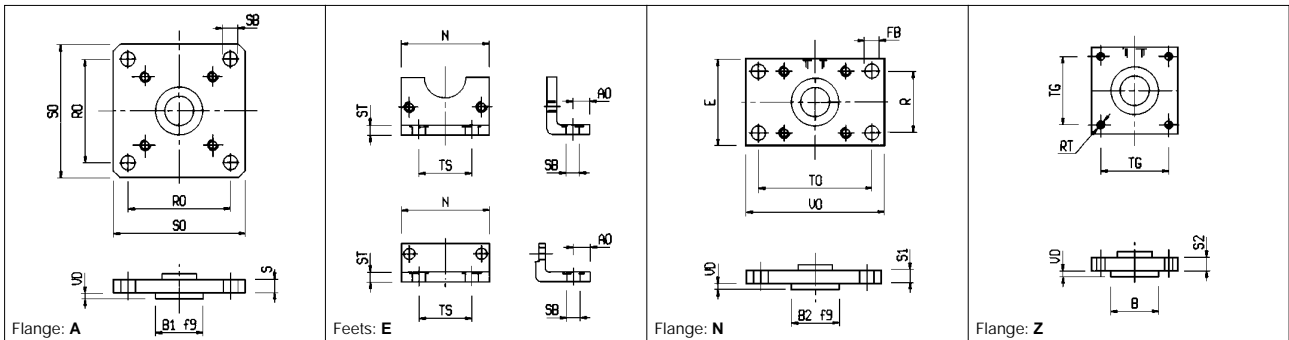
6 CE BASIC CONFIGURATION - dimensions in table 3.



7 ATTACHMENTS - dimensions see tab. 3



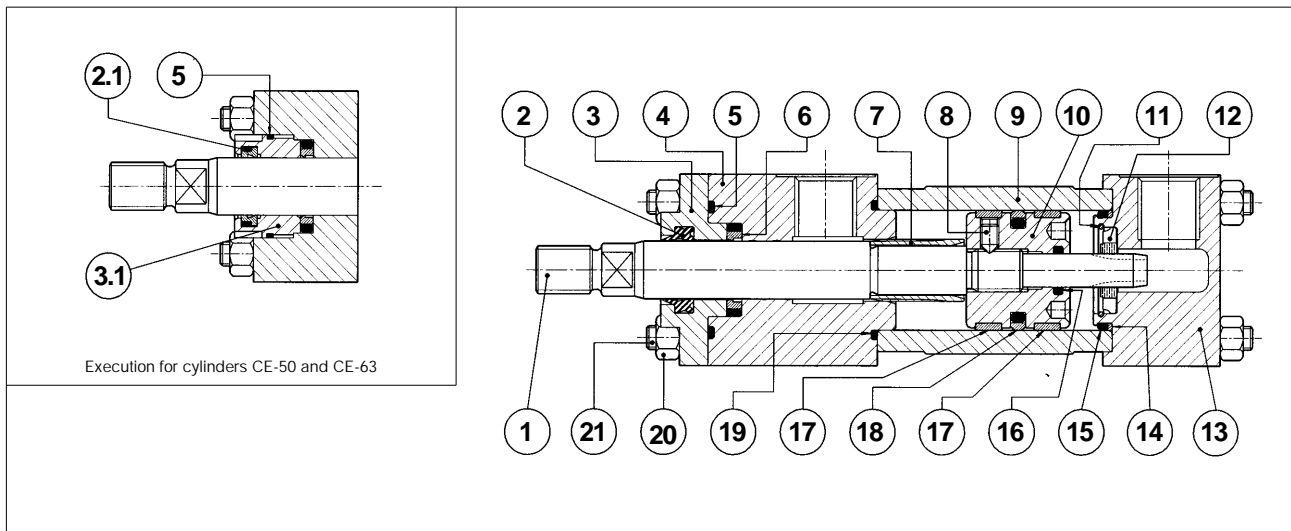
8 ATTACHMENTS AVAILABLE AS LOOSE ELEMENTS - for ordering code see section 2



9 **MASSES OF CE CYLINDERS** in Kg, tolerance $\pm 5\%$

Ø Piston [mm]	Ø Rod [mm]	BASIC MASSES for single rod in X, Z configuration		ADDED MASSES according to attachment and options						
		for 100 mm stroke	each 100 mm more	attachment A	attachment C	attachment E	attachment N	attachment Y	cushioning on one side	25 mm spacer
25	12	1,65	0,52	0,18	0,2	0,20	0,20	0,01	0,03	0,20
32	14	2,23	0,73	0,30	0,32	0,30	0,30	0,02	0,04	0,31
40	18	4,90	0,97	/	1,00	0,60	1,03	0,06	0,07	0,39
50	22	6,40	1,18	/	1,0	0,80	1,39	0,16	0,13	0,56
63	28	8,70	1,62	/	2,0	1,20	1,99	0,16	0,25	0,82

10 **TYPE SECTION CE WITH FRONT AND REAR CUSHIONING**



POS.	DESCRIPTION	MATERIAL	POS.	DESCRIPTION	MATERIAL	POS.	DESCRIPTION	MATERIAL
1	Rod	Chromeplated steel	7	Front cushioning piston	Steel	15	*O* ring seal	Nitrile rubber
2	Wiper	Polyurethane	8	Screw stop pin	Steel	16	*O* ring seal	Nitrile rubber
2,1	Wiper	Nitrile rubber and PTFE	9	Cylinder housing	Steel	17	Low-friction seals	Phenolic resin
3	Flange	Cast iron	10	Piston	Steel	18	Piston seal	Nitrile rubber and ELASTOMER
3,1	Rod guide rings	Bronze	11	Rear stop ring	Steel	19	*O* ring seal	Nitrile rubber
4	Front cylinder head	Cast iron	12	Rear cushioning sleeve	Bronze	20	Nut	Steel
5	*O* ring seal	Nitrile rubber	13	Rear cylinder head	Steel	21	Tie-rod	Steel
6	Rod seal	Nitrile rubber and PTFE	14	Anti-extrusion ring	PTFE	22		

11 **MODEL CODE FOR SPARE PARTS SET OF SEALS**

SP - G8 - CE - 50 / 22 10

Seals type Cylinder series	Design number Rod diameter Piston diameter [mm]
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Note: usually including the low-friction seals pos. 17