



# Hydraulic Vertical Swing Cylinders

## TYPE 1 - Double Acting



### Description

- This is a double acting cylinder where the job gets clamped in the piston push direction. During de-clamping, the strap is almost vertical, leaving the clamping area clear for easy loading and unloading of work pieces.
- The clamping strap is connected to the piston rod by a linkage mechanism.

### Features

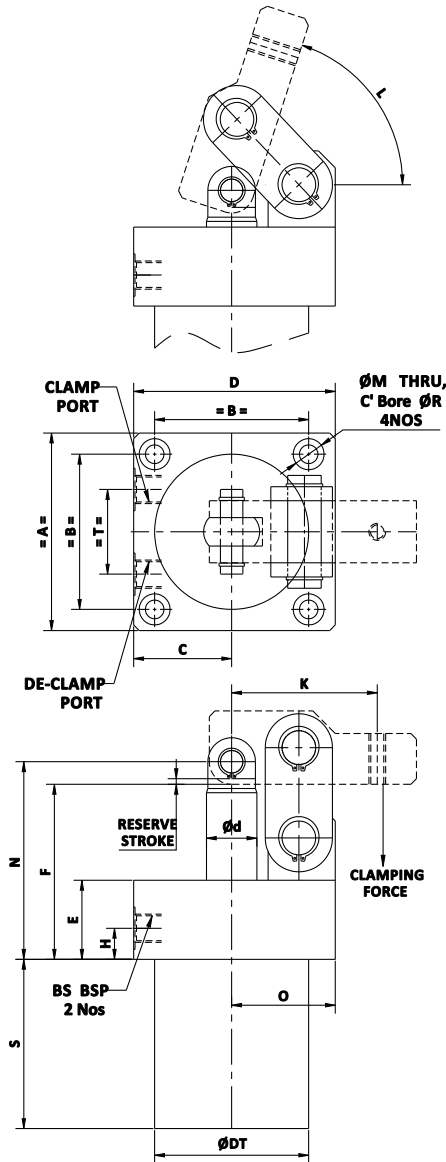
- Type : Double Acting
- Min. Working pressure : 15 kg/cm<sup>2</sup>
- Max. Working pressure : 160 kg/cm<sup>2</sup>
- Compact body, high rigidity.
- Suitable for high clamping forces.

### Application

- Hydraulic swing cylinders are used for clamping where it is necessary to keep the clamping area clear for unrestricted loading and unloading of work pieces.

### Important Notes

- Clamping Strap to be ordered separately. For details refer 4.192.
- For seal kits, add prefix SK to part no.

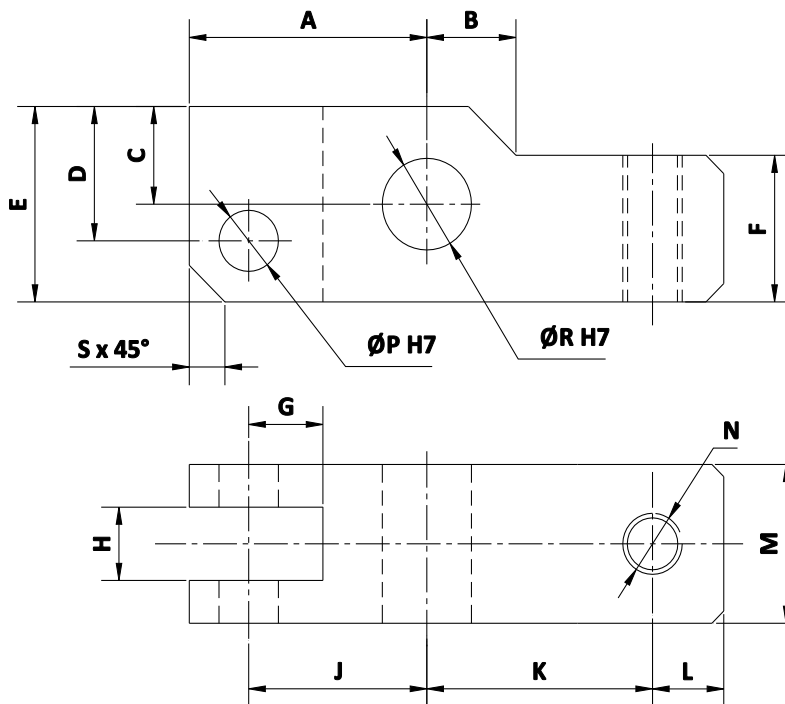


DIMENSIONAL DETAILS						
SIZE	2	3	4	5	6	7
A	51	70	82	88	112	134
B	40	55	63	70	85	100
C	35.5	35.5	41	44	56	67
D	61	72	87	89	128	134
d	14	18	22	30	36	45
E	26	28	30	35	36	48
F	51	62	69	81	97	114
T	22	30	33	36	42	48
H	12	11	12	14	14	19
K	48	52	68	74	113	116
L	72°	72°	75°	80°	75°	77°
N	57	70	79	94	113	134
S	47	60	72	80	102	110
DT	47.8	55	65	80	95	115
O	25.5	37	46	44	72	67
BS	1/8"	1/8"	1/4"	1/4"	3/8"	3/8"
M	5.5	6.6	9	9	13.5	14
R	9.5	11	14.5	14	20	20

- All dimensions are in mm
- Overall dimensional tolerance ±0.5 mm

SPECIFICATIONS								
SIZE	BORE (mm)	CLAMP STROKE (mm)	TOTAL STROKE (mm)	CLAMP FORCE at 160 kg/cm <sup>2</sup> (kgf)	CLAMP VOLUME (cc)	DECLAMP VOLUME (cc)	WEIGHT (kgs)	STANDARD PART No's (Without Clamping Strap)
								DOUBLE ACTING
2	25	22	24	390	12	8	1.5	4170-221
3	32	28	30	880	24	16	2.5	4170-321
4	40	33	36	1270	45	31	4	4170-421
5	50	37	40	1900	78.5	53	8	4170-521
6	63	52	55	2900	171	115	11	4170-621
7	80	57	60	4500	301	206	15	4170-721

# Clamping Strap for Hydraulic Vertical Swing Cylinders (4170)



- All dimensions are in mm
- Overall dimensional tolerance  $\pm 0.5$  mm

DIMENSIONAL DETAILS						
SIZE	2	3	4	5	6	7
A	24.3	32	40	48	64	68
B	16.5	13	15	–	20	–
C	6.5	13	16	13	24	21
D	10	18	22	13	32	21
E	16	26	32	26	48	42
F	8	18	24	26	38	42
G	12	11	12.5	16.5	20.5	25.5
H	6	10.1	12.1	16.5	20.1	25.5
J	18.5	24	30	32	48	48
K	29.5	28	38	42	65	68
L	6	14	12	12	13	12
M	11.8	22	26	32	38	42
N	M6	M6	M10	M12	M16	M16
P	6	8	10	13	16	20
R	6	12	15	13	22	20
S	4	5	6	8	10	12
PART NO.	4192 – 252	4192 – 352	4192 – 452	4192 - 552	4192 – 652	4192 – 752