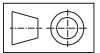




# Hydraulic Vertical Swing Cylinders

## TYPE 2 - Double Acting (Manifold port)



**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 with Manifold Port
- Min. Working pressure : 5 kg/cm<sup>2</sup>
- Max. Working pressure : 70 kg/cm<sup>2</sup>
- Compact body, high rigidity.

**Application**

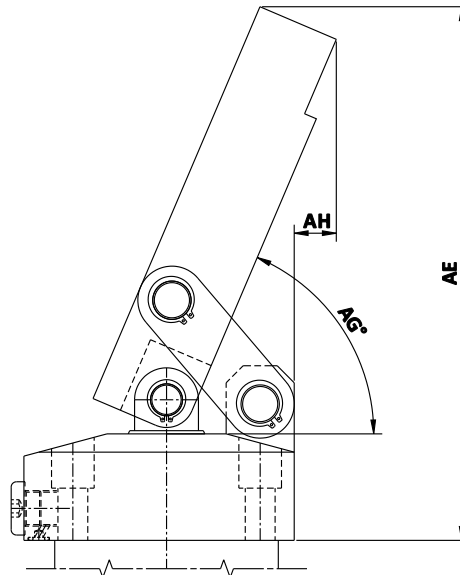
- Hydraulic swing cylinders are used for clamping where it is necessary to keep the clamping area clear for unrestricted loading and unloading of work pieces.

**Important Notes**

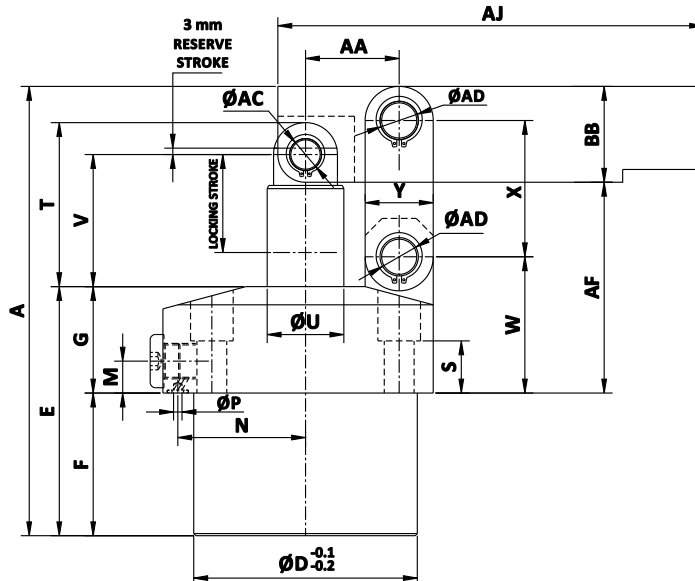
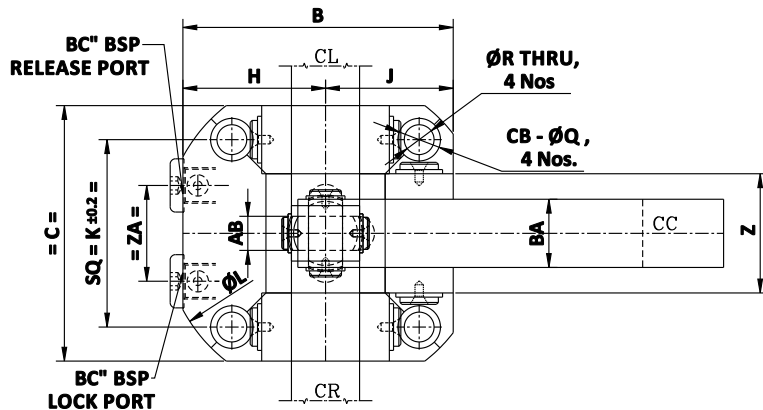
- Clamping Strap to be ordered separately. For details refer 4.193.
- For seal kits, add prefix SK to part no.

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

\* DIMENSIONS ON NEXT PAGE \*



**UNCLAMPED CONDITION**



**CLAMPED CONDITION**

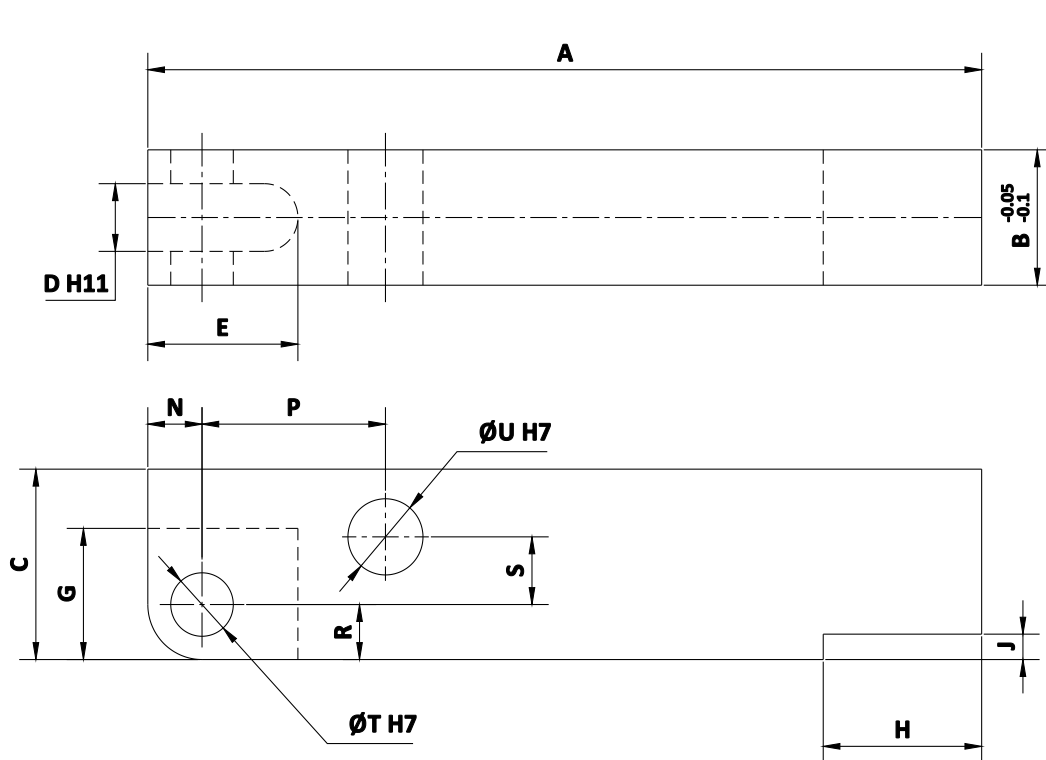
# Specifications for Hydraulic Vertical Swing Cylinders

## TYPE 2 - Double Acting (Manifold port)



DIMENSIONAL DETAILS								
SIZE	1	2	3	4	5	6	7	8
A	83.5	89.5	101	112.5	129.5	153	182	211
B	50	54	61	69	81	94.5	111	127
C	41	45	51	60	70	85	100	120
D	36	40	48	55	65	75	90	105
E	52.5	56	62	67	75.5	86	103	117
F	27.5	31	34	39	45.5	49	63	67
G	25	25	28	28	30	37	40	50
H	29.5	31.5	35.5	39	46	52	61	67
BC	1/8"	1/8"	1/8"	1/8"	1/4"	1/4"	1/4"	3/8"
J	20.5	22.5	25.5	30	35	42.5	50	60
K	31.5	34	40	47	55	63	75	88
L	68	73	83	88	106	116	136	152
M	9	9	11	11	12	12	12	15
N	23.5	26	30	33.5	39.5	45	52.5	60
P	3	3	3	3	3	3	3	4
Q	7.5	9.5	9.5	11	11	14	17.5	20
R	4.5	5.5	5.5	6.8	6.8	9	11	14
S	18	15	17.5	15	15.5	19.5	19	24.5
T	27	30.5	35	37.5	45	55	65.5	77
U	10	12	14	16	18	22	28	36
V	22.5	25	29	31.5	37	45	52	62
W	30	30.5	34.5	35.5	39	48	52.5	64
X	20	22	26	30	35.5	43.5	52.5	64
Y	10	12	13	16	19	25	28	32
Z	19	21	21	28	37	40	49	60
ZA	16	18	22	24	30	32	37	45
AA	14.5	16	18.5	21	24.5	30	36	44
AB	5	5	6	8	10	11	13	16
AC	5	5	6	6	8	10	12	15
AD	6	6	6	8	10	12	15	18
AE	96	100.6	114.5	120.3	137.4	151.1	192.8	250.6
AF	43	44.5	51	53.5	59	72	81	99
AG	68	68	71	70	68	69	68	67
AH	6.1	6.6	3.4	1.4	4.7	1.3	7.6	19.8
AJ	70	75	85	90	105	110	150	200
BA	10	12	12	16	19	22	25	32
BB	13	14	16	20	25	32	38	45
LOCK CYL AREA (cm <sup>2</sup> )	3.14	4.9	7.06	9.6	15.9	23.8	33.2	44.2
FULL STROKE (mm)	18.5	20	23.5	26	29.5	35	41	49
LOCKING STROKE (mm)	15.5	17	20.5	23	26.5	32	38	46
RESERVE STROKE (mm)	3	3	3	3	3	3	3	3
CYL VOL @ LOCK (cm <sup>3</sup> )	4.867	8.33	16.48	22.08	42.14	76.16	126.16	203.32
CYL VOL @ RELEASE (cm <sup>3</sup> )	3.65	6.42	13.3	17.5	35.4	63.86	102.6	156.4
CLAMP FORCE (kg)	55	93	154	207	354	694	764	877
CLAMP ARM @ CENTRE	4171-121-C	4171-221-C	4171-321-C	4171-421-C	4171-521-C	4171-621-C	4171-721-C	4171-821-C
CLAMP ARM @ LEFT	4171-121-L	4171-221-L	4171-321-L	4171-421-L	4171-521-L	4171-621-L	4171-721-L	4171-821-L
CLAMP ARM @ RIGHT	4171-121-R	4171-221-R	4171-321-R	4171-421-R	4171-521-R	4171-621-R	4171-721-R	4171-821-R

# Clamping Strap for Hydraulic Vertical Swing Cylinders (4171)



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

DIMENSIONAL DETAILS								
SIZE	1	2	3	4	5	6	7	8
A	70	75	85	90	105	110	150	200
B	10	12	12	16	19	22	25	32
C	13	14	16	20	25	32	38	45
D	5	5	6	8	10	11	13	16
E	13	14.5	16	17	22	26	31	36
G	10	12	13	17	18	22	26	31
H	10.5	13	13	17	22	25	31	38
J	3	3	3	4	5	5	6	6
N	4.5	5.5	6	6	8	10	11	13
P	14.5	16	18.5	21	24.5	30	36	44
R	4.5	5.5	6	6	8	10	11	13
S	2.5	2.5	3.5	6	7.5	9.5	13	16
T	5	5	6	6	8	10	12	15
U	6	6	6	8	10	12	15	18
PART NO	4193-152	4193-252	4193-352	4193-452	4193-552	4193-652	4193-752	4193-852