XLC | Hydraulic Link-Clamp Cylinder

Piston: Ø16~Ø40 mm | Pressure Max: 300 bar

Application

- The XLC link-clamp cylinder is primarily used when there is a need for clearance in the space for placing and clamping workpieces. It facilitates easy placement and clamping of the workpiece. The main difference between the XLC link-clamp cylinder series and the HLC series lies in the fact that the XLC series can output 1.3 times the clamping force but does not provide the option to select left or right side downward pressure.

※The product itself does not come with a clamping arm, which needs to be made or ordered separately.

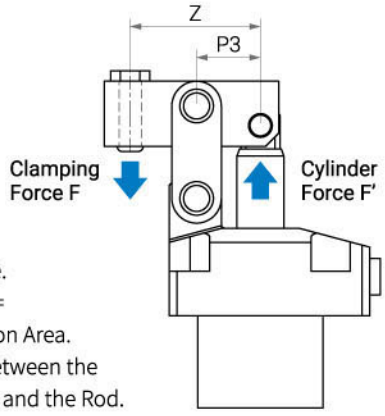
Introduction

- This product follows Japanese specifications but has an output force 1.3 times that of the Japanese standard.
- A dust seal is installed at the rod end to prevent external contaminants from entering the cylinder.
- The maximum operating pressure can reach 300 bar.
- It can be supplied with oil through piping or an oil circuit board.
- The product's oil inlet is equipped with a filter to prevent foreign particles from entering the cylinder.
- This is a double-acting hydraulic cylinder, with both clamping and retracting controlled by hydraulic pressure.

Caution

- There is a minimum recommended value for the length of the clamping arm (please refer to the "Z" pressure plate design specification). Refer to the pressure and pressure plate length relationship table to avoid using a pressure plate that is too short, which could lead to damage to the hydraulic cylinder.
- After the clamping arm has been lowered, ensure that it remains horizontal, with an inclination angle not exceeding ±3°. (Excessive horizontal force can cause damage to the fixing point above the pivot due to generated forces.)
- This product does not come with a Clamping arm. The clamping arm must be fabricated separately, and the specifications of the clamping arm can be found in the specifications.

Output Force Calculation



- F = P3 × F' / (Z-P3).
- F : Clamping Force.
- F': Cylinder Force = Pressure × Piston Area.
- Z : The distance between the clamping point and the Rod.

Part-No.

XLC - M 16

1 2 3

No.	Meaning	Option
1	Series	XLC
2	Version	Space: Pipe Thread / M: Manifold Mounting
3	Piston Diameter	16 / 20 / 25 / 32 /40

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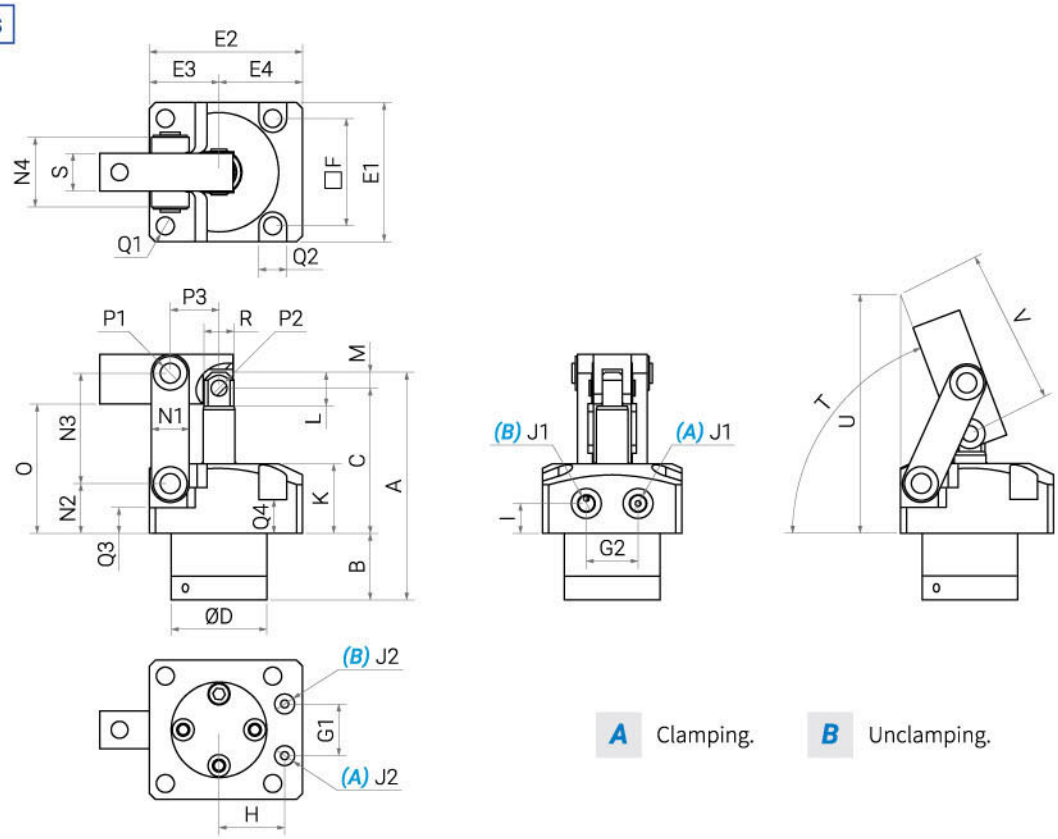
Specifications



A Clamping. **B** Unclamping.

Items	Unit	XLC-16	XLC-20	XLC-25	XLC-32	XLC-40
Clamp Stroke	mm	17.8	20	23	28.5	36.5
Full Stroke	mm	20.8	23	26	31.5	39.5
Safety Stroke	mm	3	3	3	3	3
Rod Diameter	mm	10	16	16	20	25
Piston Diameter	mm	16	20	25	32	40
Effective Area	cm^2	2.01	3.14	4.91	8.04	12.56
Force (200 bar)	kN	4.02	6.28	9.82	16.08	25.12
A	mm	98.2	101.7	114.5	141.5	171.5
B	mm	33.7	29.2	33.5	41.5	50
C	mm	58.5	65.5	73	89	108.5
$D^{-0.1}_{-0.2}$	mm	35	44	48	58	66
E1	mm	50	60	70	86	108
E2	mm	60	69	77	96	110
E3	mm	25	30	35	43	54
E4	mm	35	39	42	53	56
F	mm	40	47	54	65	85
G1	mm	22	23	26	30	40
G2	mm	22	23	26	30	40
H	mm	27.5	30	33	40	43
I	mm	12.5	15	15	17	21
J1	mm	G1/8	G1/8	G1/8	G1/4	G1/4
J2	mm	Ø10, Deep 1.1				
J2-O-ring	mm	Ø7.5×Ø1.5				

Items	Unit	XLC-16	XLC-20	XLC-25	XLC-32	XLC-40
K	mm	26.5	32	35	41	52
L	mm	13	13	17	21.8	27.5
M	mm	6	6	8	11	13
N1	mm	13	15	19	25	32
N2	mm	20	24	25	27	36
N3	mm	42	47.5	55.5	71.5	82
N4	mm	24	32	39	46	56
O	mm	52.5	59.5	65	80	96
P1	mm	6	8	10	14	16
P1 (Snap Ring)	N/A	STW6	STW8	STW8	STW14	STW16
P2	mm	6	6	8	12	14
P2 (Snap Ring)	N/A	STW6	STW6	STW8	STW12	STW14
P3	mm	18.5	21	24.5	30.5	37.5
Q1	mm	5.5	Ø6.8	Ø9	Ø11	Ø14
Q2	mm	10	12	15	18.5	20.5
Q3	mm	12.5	14	13	11.5	17
Q4	mm	18	17	17	20	26
R	mm	9	12	15	18	23
S	mm	12	16	19	22	32
T	deg	70	70	69	70	71
U	mm	91.5	111.3	120.1	151.3	189.4
V	mm	56.1	71.7	78.3	100.5	129.2

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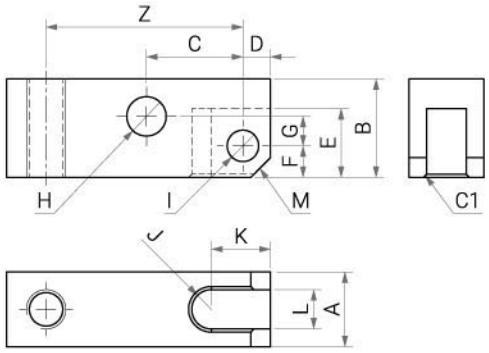
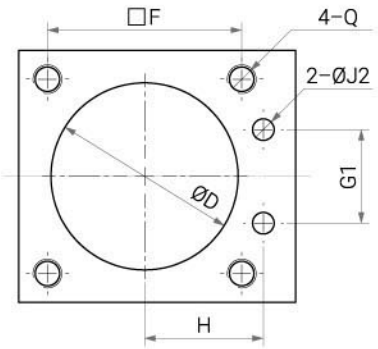
Clamp Arm Details



Unit (mm)

Items	XLC-16	XLC-20	XLC-25	XLC-32	XLC-40
A	12	16	$19^{\ 0}_{-0.1}$	$22^{\ 0}_{-0.1}$	$32^{\ 0}_{-0.1}$
B	16	20	25	31	38
C	18.5	21	24.5	30.5	37.5
D	6	6	7	10	13
E	13.5	13.5	17.5	22	28
F	6	6	8	9	12.5
G	3.5	6	7.5	9.5	9.5
H	$Ø6^{\ +0.02}_{\ 0}$	$Ø8^{\ +0.02}_{\ 0}$	$Ø10^{\ +0.02}_{\ 0}$	$Ø14^{\ +0.02}_{\ 0}$	$Ø16^{\ +0.02}_{\ 0}$
I	$Ø6^{\ +0.02}_{\ 0}$	$Ø6^{\ +0.02}_{\ 0}$	$Ø8^{\ +0.02}_{\ 0}$	$Ø12^{\ +0.02}_{\ 0}$	$Ø14^{\ +0.02}_{\ 0}$
J	R3	R4	R5	R5.5	R8
K	14	13	15	21	28
L	6	$8^{\ +0.1}_{\ 0}$	$10^{\ +0.1}_{\ 0}$	$11^{\ +0.1}_{\ 0}$	$16^{\ +0.1}_{\ 0}$
M	C4	C4	C5	C7	C8
MIN Z (below 300 bar)	40	50	58	67	90
MIN Z (below 250 bar)	35	45	50	62	72
MIN Z (below 200 bar)	30	35	40	55	65
Recommended Material	S45C, RC30°~40°				

Mounting Details



Unit (mm)

Items	XLC-1	XLC-20	XLC-25	XLC-32	XLC-40
D	Max. Ø36	Max. Ø47	Max. Ø52	Max. Ø62	Max. Ø72
F	40	47	54	65	85
G1	22	23	26	30	40
H	27.5	30	33	40	43
J2	Max. Ø6	Max. Ø6	Max. Ø6	Max. Ø6	Max. Ø6
Q	M5	M6	M8	M10	M12