

High-Power Link Clamp

Hydraulic Double Action

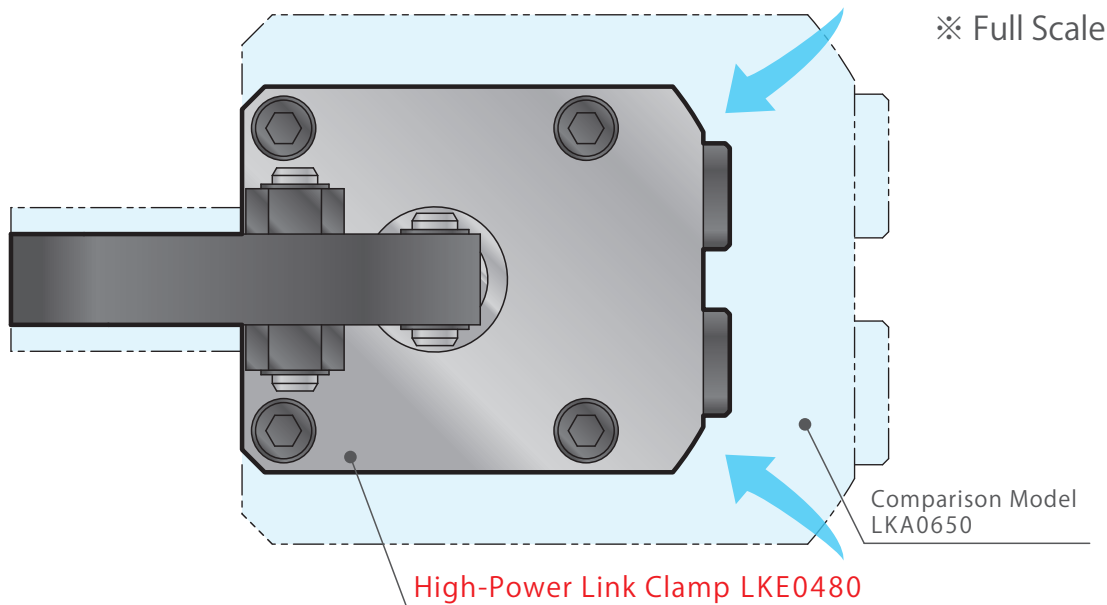
Model LKE



Mechanical Locking System with Hydraulic Force

PAT. P.

Equivalent clamping force, **2 sizes smaller!!**



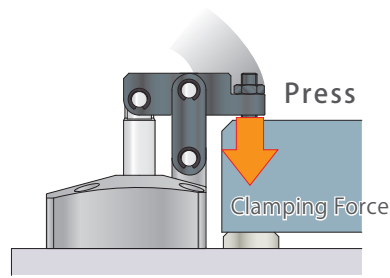
Hydraulic Link Clamp (Comparison Model)
Model LKA0650

New High-Power Link Clamp
Model LKE0480

Clamping Force ※ Hydraulic Pressure at 4MPa	4.4 kN (Lever Length : 56.5mm)	Holding Force Newly Added	4.3 kN (Holding Force 5.5 kN) (Lever Length : 42mm)
Mass ※ Weight of the clamp without clamp lever	2.2 kg	36% Lighter	1.4 kg
Projected Area	5670 mm ² (81×70mm)	45% Smaller	3111 mm ² (61×51mm)
Cylinder Capacity	Lock Side 46.9 cm ³ Release Side 37.7 cm ³	53% Less Volume	Lock Side 21.0 cm ³ Release Side 17.5 cm ³
Exterior Body Diameter	65.0 mm	26% Smaller	48.0 mm

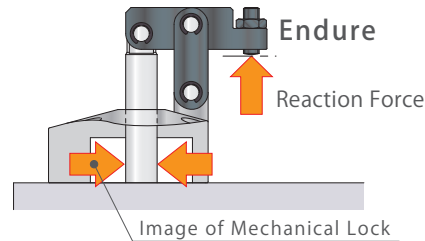
• **Strong Clamping Force with Mechanical Lock**

The mechanical locking system and hydraulic force allows the LKE model to exert **maximum 2.4times** higher clamping force than the same size as the comparison model LKA.



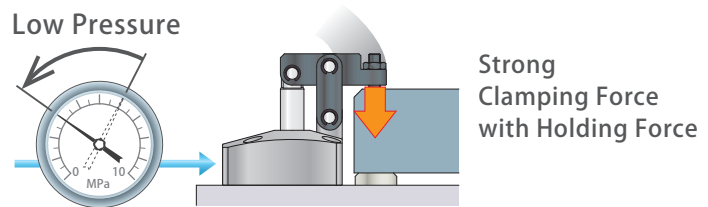
• **Holding Force**

Holding force is the force that endures reaction force (load), not the force that presses a workpiece. The high holding force enables heavy load machining and high accurate machining.



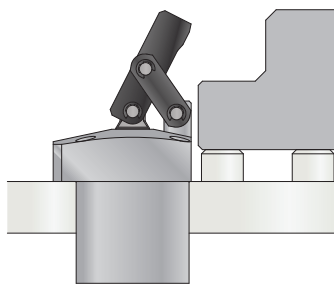
• **Energy-Saving**

LKE exerts high output force even with low pressure. The compact cylinder enables energy-saving by using less amount of oil.



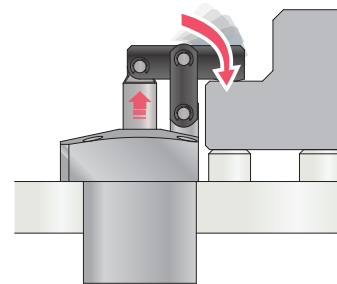
Action Description

Release Hydraulic Pressure : **ON**
Lock Hydraulic Pressure : **OFF**



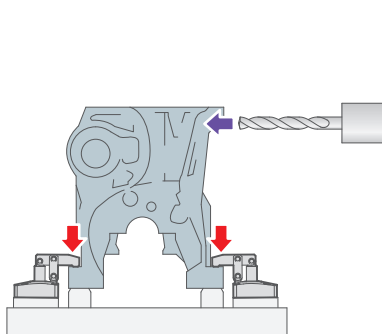
Released State

Release Hydraulic Pressure : **OFF**
Lock Hydraulic Pressure : **ON**

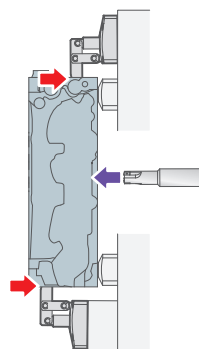


Clamped State

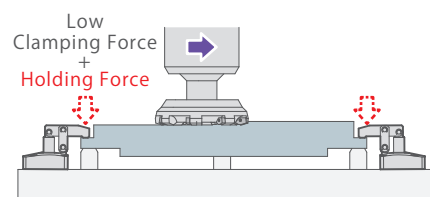
Application Examples



< For Space-Saving • Heavy Load Machining >



< For Backside Machining >



< For High Accurate Machining of Thin Workpiece >
Holding force enables machining workpiece without deformation.

High-Power Series

- Pneumatic Series
- Hydraulic Series
- Valve / Coupler Hydraulic Unit
- Manual Operation Accessories
- Cautions / Others

High-Power Hydraulic Swing Clamp

- LHE

High-Power Hydraulic Link Clamp

- LKE**

High-Power Pneumatic Hole Clamp

- SWE

High-Power Pneumatic Swing Clamp

- WHE

High-Power Pneumatic Link Clamp

- WCE

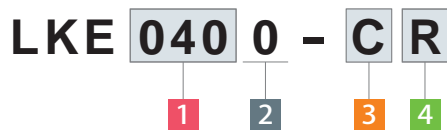
High-Power Pneumatic Work Support

- WNC

High-Power Pneumatic Pallet Clamp

- WVS

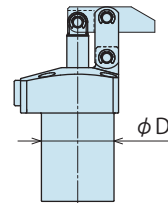
● Model No. Indication



1 Body Size

- 030** : $\phi D=30\text{mm}$
- 036** : $\phi D=36\text{mm}$
- 040** : $\phi D=40\text{mm}$
- 048** : $\phi D=48\text{mm}$
- 055** : $\phi D=55\text{mm}$

※ Outer diameter (ϕD) of the cylinder.



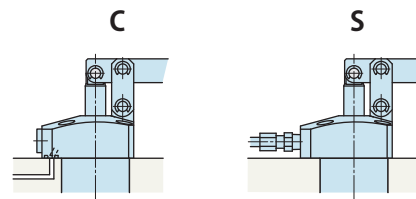
2 Design No.

0 : Revision Number

3 Piping Method

- C** : Gasket Option (With G Thread Plug)
- S** : Piping Option (Rc Thread)

※ Speed control valve (BZL) is sold separately.
Please refer to P.727 .
※ Meter-in circuit should be used for speed control.



Gasket Option

Piping Option

With G Thread Plug
Able to attach
speed control valve

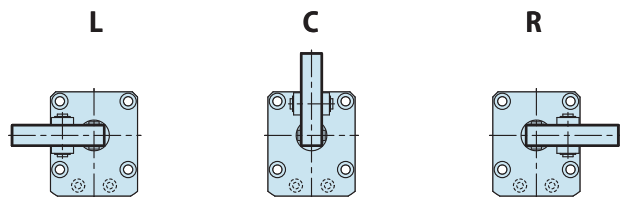
Rc Thread Port
No Gasket Port

4 Lever Direction

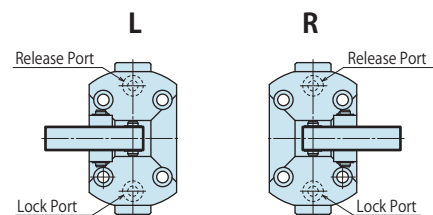
- L** : Left
- C** : Center
- R** : Right

※ For LKE0360~0550: Indicates lever directions seen from piping port side.

※ For LKE0300: Please be careful with the positions of release/lock ports when selecting the lever direction.



LKE0360~LKE0550



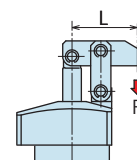
LKE0300

Specifications

Model No.		LKE0300-□□	LKE0360-□□	LKE0400-□□	LKE0480-□□	LKE0550-□□	
Cylinder Force (at 5MPa)	kN	2.6	3.5	4.8	7.6	11.6	
Clamping Force ^{※1} (Calculation Formula)	kN	$F = \frac{5.80 \times P}{L-12.5}$	$F = \frac{9.02 \times P}{L-14.5}$	$F = \frac{13.82 \times P}{L-16}$	$F = \frac{25.41 \times P}{L-18.5}$	$F = \frac{43.93 \times P}{L-21}$	
Holding Force ^{※1} (Calculation Formula)	kN	$F_k = \frac{9.47 \times P}{L-12.5}$	$F_k = \frac{14.31 \times P}{L-14.5}$	$F_k = \frac{21.71 \times P}{L-16}$	$F_k = \frac{38.99 \times P}{L-18.5}$	$F_k = \frac{69.84 \times P}{L-21}$	
Full Stroke	mm	15.5	17.5	19.5	22.5	25	
(Break down)	Idle Stroke	mm	13	14.5	16	18.5	21
	Lock Stroke ^{※2}	mm	2.5	3	3.5	4	4
Cylinder Capacity cm ³	Lock	4.6	7.3	11.5	21.0	33.6	
	Release	3.8	5.9	9.3	17.5	28.6	
Max. Operating Pressure	MPa	6					
Min. Operating Pressure ^{※3}	MPa	0.5					
Withstanding Pressure	MPa	9.0					
Operating Temperature	°C	0 ~ 70					
Usable Fluid		General Hydraulic Oil Equivalent to ISO-VG-32					
Mass	kg	0.5	0.7	0.9	1.4	1.9	

Notes

- ※1. F : Clamping Force (kN), F_k : Holding Force (kN), P : Supply Hydraulic Pressure (MPa),
L : Distance between the piston center and the clamping point (mm).
It might be within the non-usable range depending on the value of P and L, please check the clamping force diagram on P.35 and holding force diagram on P.37 .
- ※2. The specification value of cylinder force, clamping force and holding force is fulfilled only when clamping within the lock stroke range. (The specification value is not fulfilled when clamping within the idle stroke range.)
- ※3. Minimum pressure to operate the clamp without load.
 1. Please refer to P.48 for cautions and tightening torque when mounting the cylinder body and clamp lever.



High-Power Series
Pneumatic Series
Hydraulic Series
Valve / Coupler Hydraulic Unit
Manual Operation Accessories
Cautions / Others

High-Power Hydraulic Swing Clamp

LHE

High-Power Hydraulic Link Clamp

LKE

High-Power Pneumatic Hole Clamp

SWE

High-Power Pneumatic Swing Clamp

WHE

High-Power Pneumatic Link Clamp

WCE

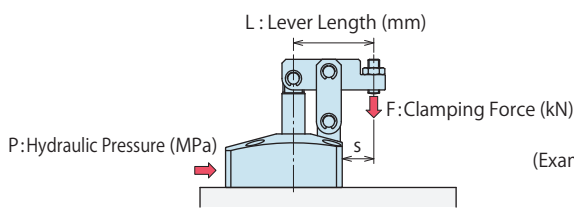
High-Power Pneumatic Work Support

WNC

High-Power Pneumatic Pallet Clamp

WVS

Clamping Force Curve



Applicable Model
LKE 0 - CS LCR
1 Body Size

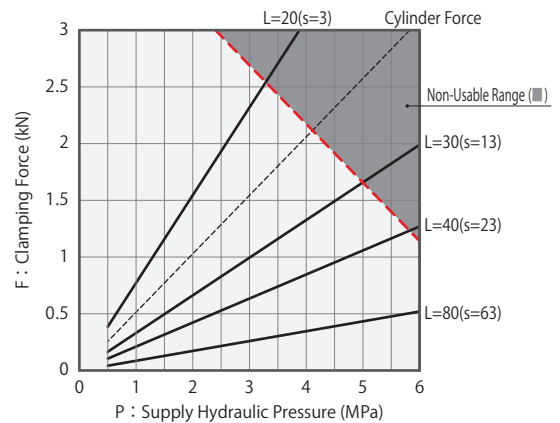
(Example) When using LKE0360
 Supply Hydraulic Pressure 3.0MPa, Lever Length L=33.5mm,
 Clamping force is about 1.4kN.

Notes

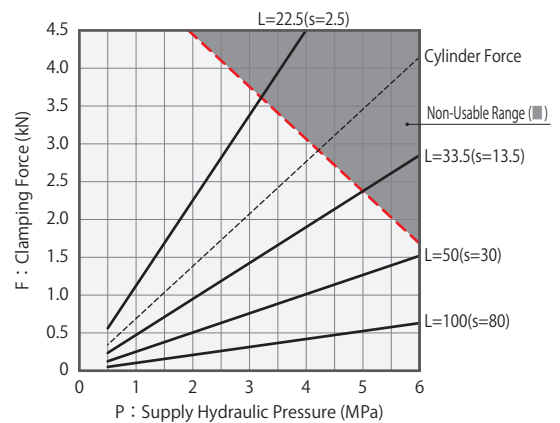
1. Tables and graphs shown are the relationships between the clamping force (kN) and supply hydraulic pressure (MPa).
2. Cylinder output (when L=0) cannot be calculated from the calculation formula of clamping force.
3. Clamping force indicates the value when the lever locks a workpiece in horizontal position.
4. The clamping force varies depending on the lever length. Set the supply hydraulic pressure suitable to the lever length.
5. Using in the non-usable range may damage the clamp and lead to fluid leakage.

※1. F : Clamping Force (kN), P : Supply Hydraulic Pressure (MPa), L : Lever Length (mm).

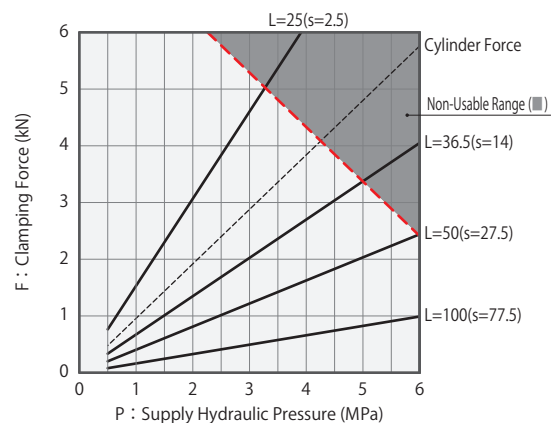
LKE0300-□□		Clamping Force Calculation Formula ※1 (kN) $F = (5.80 \times P) / (L - 12.5)$									
Hydraulic Pressure (MPa)	Cylinder Force (kN)	Clamping Force (kN) Lever Length L (mm)								Non-Usable Range (■)	Min. Lever Length (L) (mm)
		L=20	L=25	L=30	L=40	L=50	L=60	L=80	L=100		
6	3.1					0.9	0.7	0.5	0.4	43	
5.5	2.8				1.2	0.9	0.7	0.5	0.4	35	
5	2.6			1.7	1.1	0.8	0.6	0.4	0.3	30	
4.5	2.3			1.5	0.9	0.7	0.5	0.4	0.3	26	
4	2.1		1.9	1.3	0.8	0.6	0.5	0.3	0.3	23	
3.5	1.8		2.7	1.6	1.2	0.7	0.5	0.4	0.3	21	
3	1.6	2.3	1.4	1.0	0.6	0.5	0.4	0.3	0.2	19	
2.5	1.3	1.9	1.2	0.8	0.5	0.4	0.3	0.2	0.2	17	
2	1.0	1.5	0.9	0.7	0.4	0.3	0.2	0.2	0.1	17	
1.5	0.8	1.2	0.7	0.5	0.3	0.2	0.2	0.1	0.1	17	
1	0.5	0.8	0.5	0.3	0.2	0.2	0.1	0.1	0.1	17	
0.5	0.3	0.4	0.2	0.2	0.1	0.1	0.1	0.0	0.0	17	
Max. Operating Pressure (MPa)		3.7	4.3	5.0	5.8	6.0	6.0	6.0	6.0		



LKE0360-□□		Clamping Force Calculation Formula ※1 (kN) $F = (9.02 \times P) / (L - 14.5)$									
Hydraulic Pressure (MPa)	Cylinder Force (kN)	Clamping Force (kN) Lever Length L (mm)								Non-Usable Range (■)	Min. Lever Length (L) (mm)
		L=22.5	L=27.5	L=33.5	L=40	L=50	L=60	L=80	L=100		
6	4.2					1.5	1.2	0.8	0.6	47	
5.5	3.8				1.9	1.4	1.1	0.8	0.6	39	
5	3.5			2.4	1.8	1.3	1.0	0.7	0.5	34	
4.5	3.1			2.1	1.6	1.1	0.9	0.6	0.5	29	
4	2.8		2.8	1.9	1.4	1.0	0.8	0.6	0.4	26	
3.5	2.4		2.4	1.7	1.2	0.9	0.7	0.5	0.4	24	
3	2.1	3.4	2.1	1.4	1.1	0.8	0.6	0.4	0.3	22	
2.5	1.7	2.8	1.7	1.2	0.9	0.6	0.5	0.3	0.3	20	
2	1.4	2.3	1.4	0.9	0.7	0.5	0.4	0.3	0.2	20	
1.5	1.0	1.7	1.0	0.7	0.5	0.4	0.3	0.2	0.2	20	
1	0.7	1.1	0.7	0.5	0.4	0.3	0.2	0.1	0.1	20	
0.5	0.4	0.6	0.3	0.2	0.2	0.1	0.1	0.1	0.1	20	
Max. Operating Pressure (MPa)		3.2	4.2	5.0	5.6	6.0	6.0	6.0	6.0		

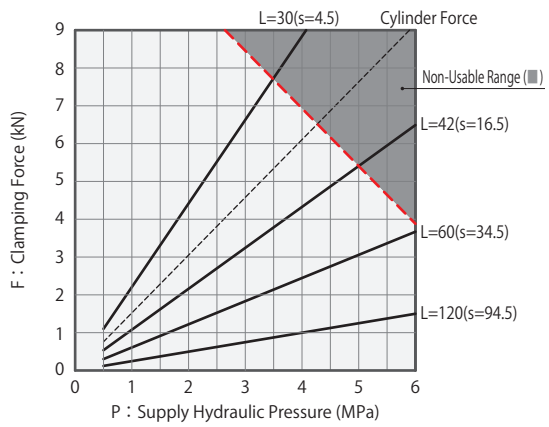


LKE0400-□□		Clamping Force Calculation Formula ※1 (kN) $F = (13.82 \times P) / (L - 16)$									
Hydraulic Pressure (MPa)	Cylinder Force (kN)	Clamping Force (kN) Lever Length L (mm)								Non-Usable Range (■)	Min. Lever Length (L) (mm)
		L=25	L=30	L=36.5	L=40	L=50	L=60	L=80	L=100		
6	5.8					2.4	1.9	1.3	1.0	50	
5.5	5.3					2.2	1.7	1.2	0.9	42	
5	4.8			3.4	2.9	2.0	1.6	1.1	0.8	37	
4.5	4.3			3.0	2.6	1.8	1.4	1.0	0.7	32	
4	3.8		3.9	2.7	2.3	1.6	1.3	0.9	0.7	29	
3.5	3.4		3.5	2.4	2.0	1.4	1.1	0.8	0.6	26	
3	2.9	4.6	3.0	2.0	1.7	1.2	0.9	0.6	0.5	24	
2.5	2.4	3.8	2.5	1.7	1.4	1.0	0.8	0.5	0.4	23	
2	1.9	3.1	2.0	1.3	1.2	0.8	0.6	0.4	0.3	23	
1.5	1.4	2.3	1.5	1.0	0.9	0.6	0.5	0.3	0.2	23	
1	1.0	1.5	1.0	0.7	0.6	0.4	0.3	0.2	0.2	23	
0.5	0.5	0.8	0.5	0.3	0.3	0.2	0.2	0.1	0.1	23	
Max. Operating Pressure (MPa)		3.3	4.2	5.0	5.3	6.0	6.0	6.0	6.0		



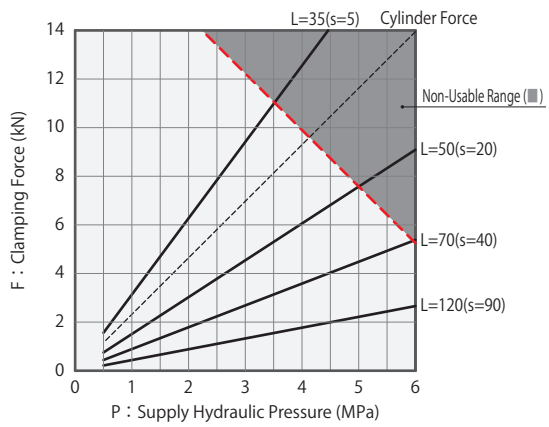
LKE0480-□□ Clamping Force Calculation Formula ^{**1} (kN) $F = (25.41 \times P) / (L - 18.5)$

Hydraulic Pressure (MPa)	Cylinder Force (kN)	Clamping Force (kN)								Non-Usable Range (mm)	Min. Lever Length (L) (mm)
		Lever Length L (mm)									
		L=30	L=35	L=42	L=50	L=60	L=80	L=100	L=120		
6	9.2					3.7	2.5	1.9	1.5	58	
5.5	8.4				4.4	3.4	2.3	1.7	1.4	49	
5	7.6			5.4	4.0	3.1	2.1	1.6	1.3	42	
4.5	6.9		6.9	4.9	3.6	2.8	1.9	1.4	1.1	37	
4	6.1		6.2	4.3	3.2	2.4	1.7	1.2	1.0	33	
3.5	5.3	7.7	5.4	3.8	2.8	2.1	1.4	1.1	0.9	30	
3	4.6	6.6	4.6	3.2	2.4	1.8	1.2	0.9	0.8	28	
2.5	3.8	5.5	3.9	2.7	2.0	1.5	1.0	0.8	0.6	26	
2	3.1	4.4	3.1	2.2	1.6	1.2	0.8	0.6	0.5	26	
1.5	2.3	3.3	2.3	1.6	1.2	0.9	0.6	0.5	0.4	26	
1	1.5	2.2	1.5	1.1	0.8	0.6	0.4	0.3	0.3	26	
0.5	0.8	1.1	0.8	0.5	0.4	0.3	0.2	0.2	0.1	26	
Max. Operating Pressure (MPa)		3.5	4.7	5.0	5.6	6.0	6.0	6.0	6.0		

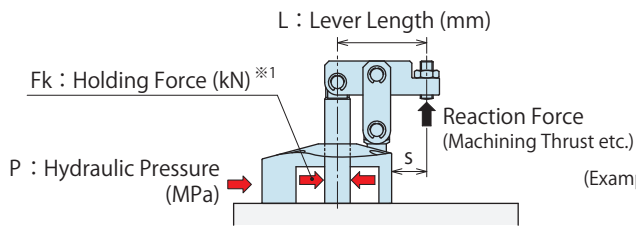


LKE0550-□□ Clamping Force Calculation Formula ^{**1} (kN) $F = (43.93 \times P) / (L - 21)$

Hydraulic Pressure (MPa)	Cylinder Force (kN)	Clamping Force (kN)								Non-Usable Range (mm)	Min. Lever Length (L) (mm)
		Lever Length L (mm)									
		L=35	L=40	L=50	L=60	L=70	L=80	L=100	L=120		
6	14.0					5.4	4.5	3.3	2.7	71	
5.5	12.8				6.2	4.9	4.1	3.1	2.4	59	
5	11.6			7.6	5.6	4.5	3.7	2.8	2.2	50	
4.5	10.5			6.8	5.1	4.0	3.4	2.5	2.0	44	
4	9.3		9.2	6.1	4.5	3.6	3.0	2.2	1.8	39	
3.5	8.1	11.0	8.1	5.3	3.9	3.1	2.6	1.9	1.6	35	
3	7.0	9.4	6.9	4.5	3.4	2.7	2.2	1.7	1.3	32	
2.5	5.8	7.8	5.8	3.8	2.8	2.2	1.9	1.4	1.1	30	
2	4.7	6.3	4.6	3.0	2.3	1.8	1.5	1.1	0.9	30	
1.5	3.5	4.7	3.5	2.3	1.7	1.3	1.1	0.8	0.7	30	
1	2.3	3.1	2.3	1.5	1.1	0.9	0.7	0.6	0.4	30	
0.5	1.2	1.6	1.2	0.8	0.6	0.4	0.4	0.3	0.2	30	
Max. Operating Pressure (MPa)		3.5	4.1	5.0	5.6	6.0	6.0	6.0	6.0		



● Holding Force Curve



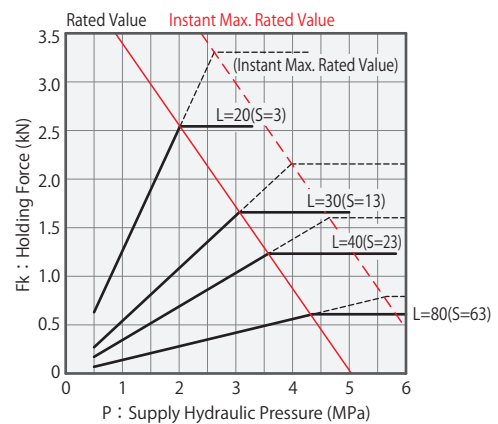
Applicable Model
LKE 0 - CS LCR
■ Body Size

(Example) When using LKE0360
 Supply Hydraulic Pressure 3.0MPa, Lever Length L=33.5mm,
 Holding force is about 2.3kN.

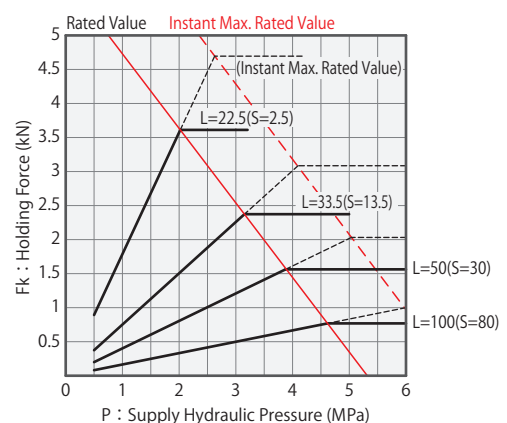
Notes

- ※1. Holding force is the force that counters to reaction force in the clamping state, and differs from clamping force. Please keep in mind that it can produce displacement depending on lever rigidity even if the reaction force is below holding force. (If slight displacement is also not allowed, please keep the reaction force beyond clamp force from being applied.)
 - ※2. Fk : Holding Force (kN), P : Supply Hydraulic Pressure (MPa), L : Lever Length (mm)
 When holding force calculated value exceeds the rated value, holding force will be constant from the point of intersection with the rated value.
1. Tables and graphs shown are the relationships between the holding force (kN) and supply hydraulic pressure (MPa).
 2. Holding force indicates the ability when the lever locks a workpiece in horizontal position.
 3. Holding force varies depending on the lever length and supply hydraulic pressure.
 4. The reaction force beyond holding force shown in the graph can cause deformation, galling and fluid leakage.
 5. Repetitive use at the range of instant maximum rated value will shorten the product life.

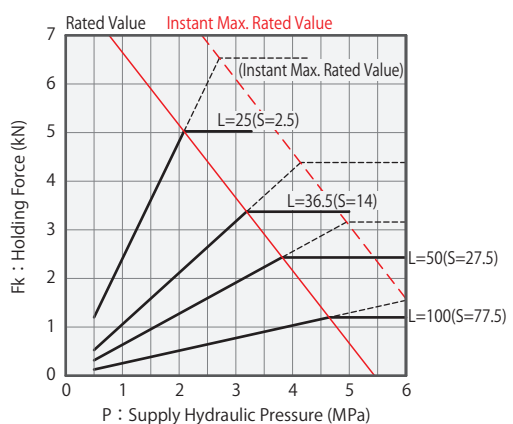
LKE0300-□□	Holding Force Calculation Formula ^{※2} (kN) (Holding Force ≤ Rated Value)							
	$F_k = \frac{9.47 \times P}{L - 12.5}$							
	Hydraulic Pressure(MPa)	Holding Force (kN) Non-Usable Range(■)						
Lever Length L (mm)								
	L=20	L=25	L=30	L=40	L=50	L=60	L=80	L=100
6					1.0	0.8	0.6	0.5
5.5				1.2	1.0	0.8	0.6	0.5
5			1.7	1.2	1.0	0.8	0.6	0.5
4.5			1.7	1.2	1.0	0.8	0.6	0.5
4		2.1	1.7	1.2	1.0	0.8	0.6	0.4
3.5	2.5	2.1	1.7	1.2	0.9	0.7	0.5	0.4
3	2.5	2.1	1.6	1.0	0.8	0.6	0.4	0.3
2.5	2.5	1.9	1.4	0.9	0.6	0.5	0.4	0.3
2	2.5	1.5	1.1	0.7	0.5	0.4	0.3	0.2
1.5	1.9	1.1	0.8	0.5	0.4	0.3	0.2	0.2
1	1.3	0.8	0.5	0.3	0.3	0.2	0.1	0.1
0.5	0.6	0.4	0.3	0.2	0.1	0.1	0.1	0.1
Pressure at the intersection with rated value (MPa)	2.0	2.7	3.1	3.6	3.9	4.1	4.3	4.5



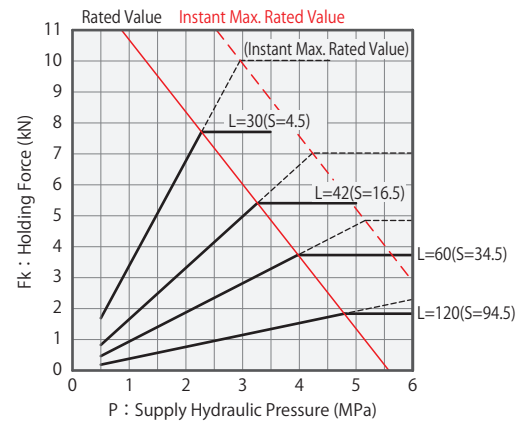
LKE0360-□□	Holding Force Calculation Formula ^{※2} (kN) (Holding Force ≤ Rated Value)							
	$F_k = \frac{14.31 \times P}{L - 14.5}$							
	Hydraulic Pressure(MPa)	Holding Force (kN) Non-Usable Range(■)						
Lever Length L (mm)								
	L=22.5	L=27.5	L=33.5	L=40	L=50	L=60	L=80	L=100
6					1.6	1.3	1.0	0.8
5.5				2.0	1.6	1.3	1.0	0.8
5			2.4	2.0	1.6	1.3	1.0	0.8
4.5			2.4	2.0	1.6	1.3	1.0	0.8
4		3.0	2.4	2.0	1.6	1.3	0.9	0.7
3.5		3.0	2.4	2.0	1.4	1.1	0.8	0.6
3	3.6	3.0	2.3	1.7	1.2	0.9	0.7	0.5
2.5	3.6	2.8	1.9	1.4	1.0	0.8	0.5	0.4
2	3.6	2.2	1.5	1.1	0.8	0.6	0.4	0.3
1.5	2.7	1.7	1.1	0.8	0.6	0.5	0.3	0.3
1	1.8	1.1	0.8	0.6	0.4	0.3	0.2	0.2
0.5	0.9	0.6	0.4	0.3	0.2	0.2	0.1	0.1
Pressure at the intersection with rated value (MPa)	2.0	2.7	3.2	3.5	3.9	4.1	4.4	4.6



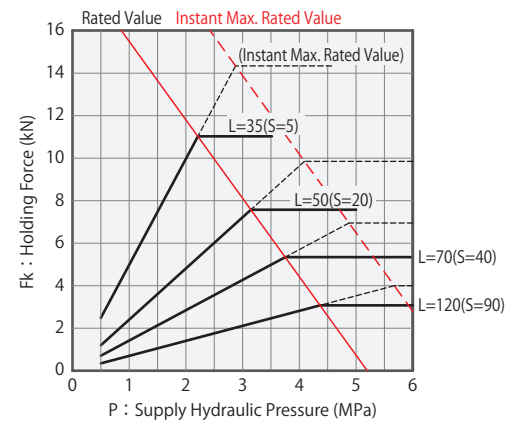
LKE0400-□□	Holding Force Calculation Formula ^{※2} (kN) (Holding Force ≤ Rated Value)							
	$F_k = \frac{21.71 \times P}{L - 16}$							
	Hydraulic Pressure(MPa)	Holding Force (kN) Non-Usable Range(■)						
Lever Length L (mm)								
	L=25	L=30	L=36.5	L=40	L=50	L=60	L=80	L=100
6					2.4	2.0	1.5	1.2
5.5					2.4	2.0	1.5	1.2
5					2.4	2.0	1.5	1.2
4.5			3.4	3.1	2.4	2.0	1.5	1.2
4			3.4	3.1	2.4	2.0	1.4	1.0
3.5		4.2	3.4	3.1	2.4	2.0	1.4	1.0
3		4.2	3.4	3.1	2.2	1.7	1.2	0.9
3	5.1	4.2	3.2	2.7	1.9	1.5	1.0	0.8
2.5	5.1	3.9	2.6	2.3	1.6	1.2	0.8	0.6
2	4.8	3.1	2.1	1.8	1.3	1.0	0.7	0.5
1.5	3.6	2.3	1.6	1.4	1.0	0.7	0.5	0.4
1	2.4	1.6	1.1	0.9	0.6	0.5	0.3	0.3
0.5	1.2	0.8	0.5	0.5	0.3	0.2	0.2	0.1
Pressure at the intersection with rated value (MPa)	2.1	2.7	3.2	3.4	3.8	4.1	4.4	4.6



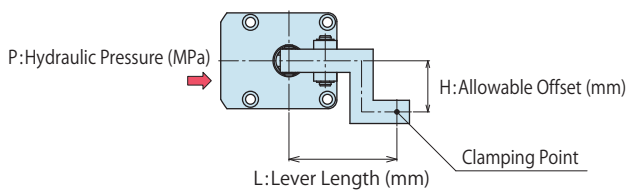
LKE0480-□□	Holding Force Calculation Formula ^{**2} (kN) (Holding Force ≤ Rated Value)		$F_k = \frac{38.99 \times P}{L-18.5}$					
	Hydraulic Pressure(MPa)	Holding Force (kN) Non-Usable Range(■)						
	Lever Length L (mm)							
	L=30	L=35	L=42	L=50	L=60	L=80	L=100	L=120
6	■	■	■	■	3.8	2.8	2.2	1.8
5.5	■	■	■	4.5	3.8	2.8	2.2	1.8
5	■	■	5.5	4.5	3.8	2.8	2.2	1.8
4.5	■	6.6	5.5	4.5	3.8	2.8	2.2	1.7
4	■	6.6	5.5	4.5	3.8	2.5	1.9	1.5
3.5	7.8	6.6	5.5	4.3	3.3	2.2	1.7	1.3
3	7.8	6.6	5.0	3.7	2.8	1.9	1.4	1.2
2.5	7.8	5.9	4.1	3.1	2.3	1.6	1.2	1.0
2	6.8	4.7	3.3	2.5	1.9	1.3	1.0	0.8
1.5	5.1	3.5	2.5	1.9	1.4	1.0	0.7	0.6
1	3.4	2.4	1.7	1.2	0.9	0.6	0.5	0.4
0.5	1.7	1.2	0.8	0.6	0.5	0.3	0.2	0.2
Pressure at the intersection with rated value (MPa)	2.3	2.8	3.3	3.6	4.0	4.4	4.6	4.8



LKE0550-□□	Holding Force Calculation Formula ^{**2} (kN) (Holding Force ≤ Rated Value)		$F_k = \frac{69.84 \times P}{L-21}$					
	Hydraulic Pressure(MPa)	Holding Force (kN) Non-Usable Range(■)						
	Lever Length L (mm)							
	L=35	L=40	L=50	L=60	L=70	L=80	L=100	L=120
6	■	■	■	■	5.3	4.7	3.7	3.1
5.5	■	■	■	6.3	5.3	4.7	3.7	3.1
5	■	■	7.6	6.3	5.3	4.7	3.7	3.1
4.5	■	■	7.6	6.3	5.3	4.7	3.7	3.1
4	■	9.6	7.6	6.3	5.3	4.7	3.5	2.8
3.5	11.0	9.6	7.6	6.3	5.0	4.1	3.1	2.5
3	11.0	9.6	7.2	5.4	4.3	3.6	2.7	2.1
2.5	11.0	9.2	6.0	4.5	3.6	3.0	2.2	1.8
2	10.0	7.4	4.8	3.6	2.9	2.4	1.8	1.4
1.5	7.5	5.5	3.6	2.7	2.1	1.8	1.3	1.1
1	5.0	3.7	2.4	1.8	1.4	1.2	0.9	0.7
0.5	2.5	1.8	1.2	0.9	0.7	0.6	0.4	0.4
Pressure at the intersection with rated value (MPa)	2.2	2.6	3.2	3.5	3.8	3.9	4.2	4.4



Allowable Offset Graph



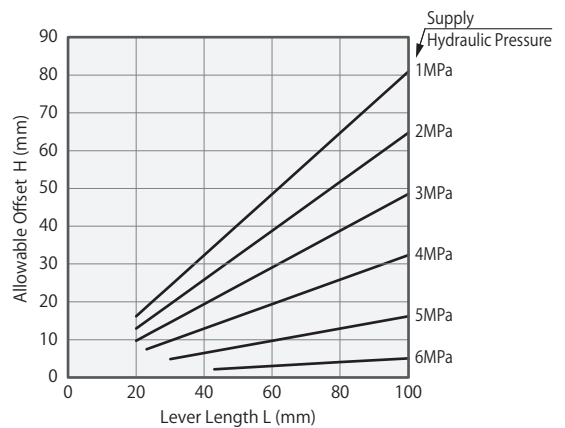
Applicable Model
LKE 0 - CS LCR
1 Body Size

(Example) When using LKE0360
 Supply Hydraulic Pressure 3.0MPa, Lever Length L=33.5mm, Allowable Offset is about 15mm.

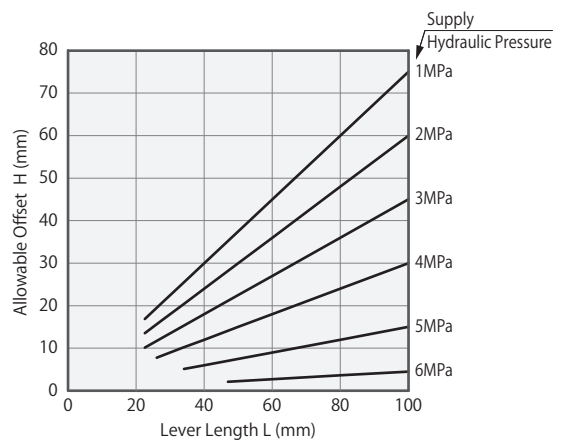
Notes

1. Tables and graphs shown are the relationships between the lever length (mm) for supply hydraulic pressure (MPa) and the allowable offset (mm).
2. Using the lever beyond allowable offset may cause deformation, galling and fluid leakage etc.
3. The tables and graphs are only for reference. The design should be carried out with allowance fully taken into consideration.

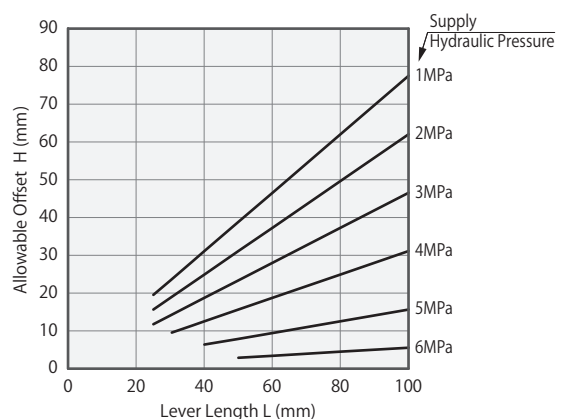
LKE0300-□□		Allowable Offset H (mm)							Non-Usable Range(■)
Hydraulic Pressure (MPa)	Lever Length L(mm)								
	L=20	L=25	L=30	L=40	L=50	L=60	L=80	L=100	
6					3	3	4	5	
5.5				3	4	5	7	8	
5			5	7	8	10	13	16	
4.5			7	10	12	15	19	24	
4		8	10	13	16	19	26	32	
3.5	8	10	12	16	20	24	32	41	
3	10	12	15	19	24	29	39	49	
2.5	11	14	17	23	28	34	45	57	
2	13	16	19	26	32	39	52	65	
1.5	15	18	22	29	37	44	58	73	
1	16	20	24	32	41	49	65	81	



LKE0360-□□		Allowable Offset H (mm)							Non-Usable Range(■)
Hydraulic Pressure (MPa)	Lever Length L(mm)								
	L=22.5	L=27.5	L=33.5	L=40	L=50	L=60	L=80	L=100	
6					2	3	4	5	
5.5				3	4	5	6	8	
5			5	6	8	9	12	15	
4.5			8	9	11	14	18	23	
4		8	10	12	15	18	24	30	
3.5		10	13	15	19	23	30	38	
3	10	12	15	18	23	27	36	45	
2.5	12	14	18	21	26	32	42	53	
2	14	17	20	24	30	36	48	60	
1.5	15	19	23	27	34	41	54	68	
1	17	21	25	30	38	45	60	75	



LKE0400-□□		Allowable Offset H (mm)							Non-Usable Range(■)
Hydraulic Pressure (MPa)	Lever Length L(mm)								
	L=25	L=30	L=36.5	L=40	L=50	L=60	L=80	L=100	
6					3	3	4	5	
5.5					4	5	6	8	
5			6	6	8	9	12	15	
4.5			8	9	12	14	19	23	
4		9	11	12	15	19	25	31	
3.5		12	14	15	19	23	31	39	
3	12	14	17	19	23	28	37	46	
2.5	14	16	20	22	27	32	43	54	
2	15	19	23	25	31	37	50	62	
1.5	17	21	25	28	35	42	56	70	
1	19	23	28	31	39	46	62	77	



High-Power Series

Pneumatic Series

Hydraulic Series

Valve / Coupler Hydraulic Unit

Manual Operation Accessories

Cautions / Others

High-Power Hydraulic Swing Clamp

LHE

High-Power Hydraulic Link Clamp

LKE

High-Power Pneumatic Hole Clamp

SWE

High-Power Pneumatic Swing Clamp

WHE

High-Power Pneumatic Link Clamp

WCE

High-Power Pneumatic Work Support

WNC

High-Power Pneumatic Pallet Clamp

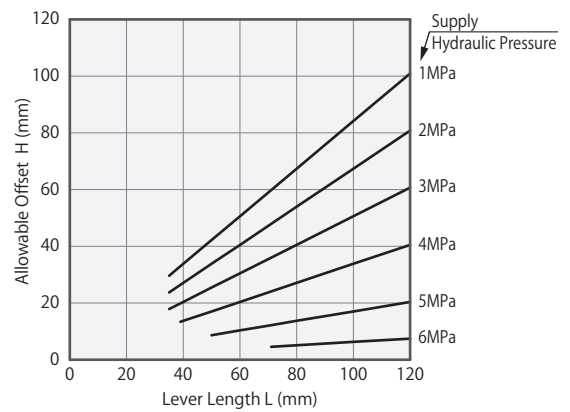
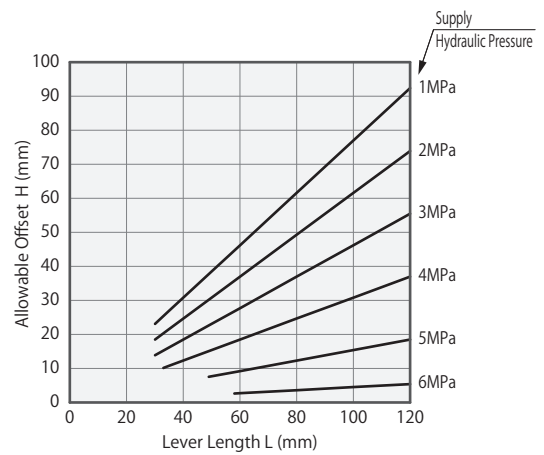
WVS

LKE0480-□□

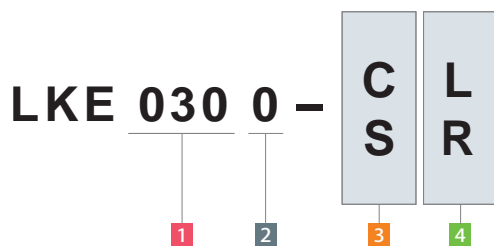
Hydraulic Pressure (MPa)	Allowable Offset H (mm)							Non-Usable Range (■)	
	Lever Length L (mm)								
	L=30	L=35	L=42	L=50	L=60	L=80	L=100		L=120
6					3	4	5	5	
5.5					4	5	6	8	9
5				6	8	9	12	15	18
4.5		8	10	12	14	18	23	28	
4		11	13	15	18	25	31	37	
3.5	12	13	16	19	23	31	39	46	
3	14	16	19	23	28	37	46	55	
2.5	16	19	23	27	32	43	54	65	
2	18	22	26	31	37	49	62	74	
1.5	21	24	29	35	42	55	69	83	
1	23	27	32	39	46	62	77	92	

LKE0550-□□

Hydraulic Pressure (MPa)	Allowable Offset H (mm)							Non-Usable Range (■)	
	Lever Length L (mm)								
	L=35	L=40	L=50	L=60	L=70	L=80	L=100		L=120
6					4	5	6	7	
5.5					5	6	7	8	10
5				8	10	12	13	17	20
4.5			13	15	18	20	25	30	
4		13	17	20	24	27	34	40	
3.5	15	17	21	25	29	34	42	50	
3	18	20	25	30	35	40	50	60	
2.5	21	24	29	35	41	47	59	71	
2	24	27	34	40	47	54	67	81	
1.5	26	30	38	45	53	60	76	91	
1	29	34	42	50	59	67	84	101	



Model No. Indication



(Format Example : LKE0300-CL, LKE0300-SR)

1 Body Size

Please refer to P.43 and P.44 for 036 / 040 / 048 / 055.

2 Design No.

3 Piping Method

4 Lever Direction

Dimensions

(mm)

Model No.	LKE0300-□□	
Full Stroke	15.5	
(Breakdown)	Idle Stroke	13
	Lock Stroke ※6	2.5
Recommended Lock Position	14	
Mass ※7	kg 0.5	

Notes ※6. The specification value of cylinder force, clamping force and holding force is fulfilled only when clamping within the lock stroke range.

(The specification value is not fulfilled when clamping within the idle stroke range.)

※7. Mass of single clamp without the link lever.

High-Power Series

Pneumatic Series

Hydraulic Series

Valve / Coupler Hydraulic Unit

Manual Operation Accessories

Cautions / Others

High-Power Hydraulic Swing Clamp

LHE

High-Power Hydraulic Link Clamp

LKE

High-Power Pneumatic Hole Clamp

SWE

High-Power Pneumatic Swing Clamp

WHE

High-Power Pneumatic Link Clamp

WCE

High-Power Pneumatic Work Support

WNC

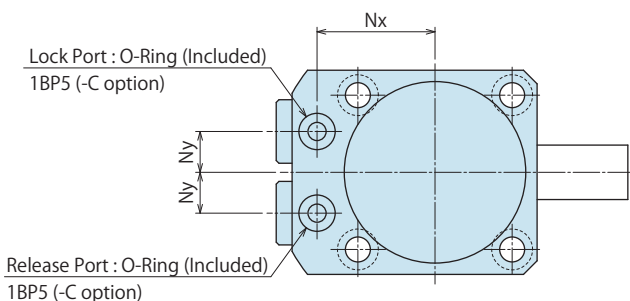
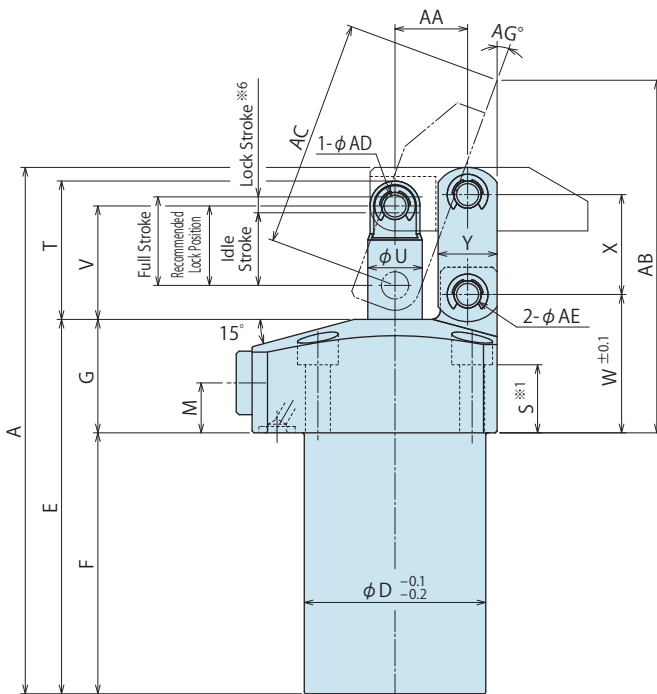
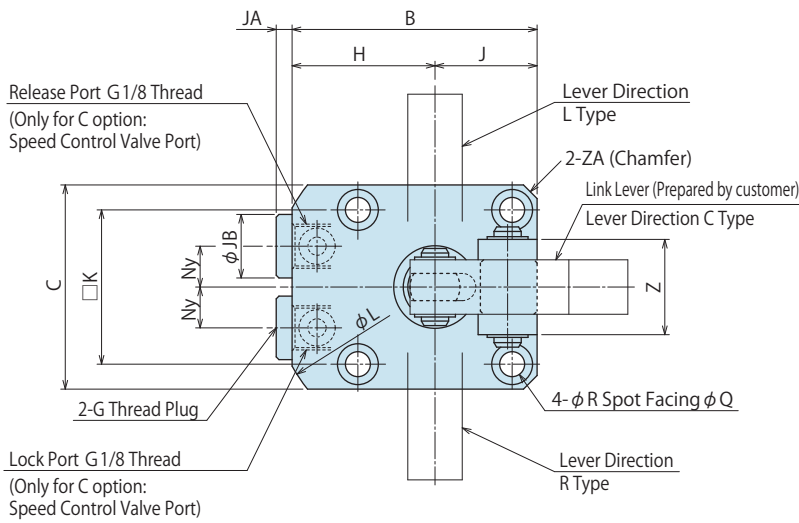
High-Power Pneumatic Pallet Clamp

WVS

External Dimensions (LKE0360/0400/0480/0550-□□)

C : Gasket Option (Speed Control Valve Attachable/With G Thread Plug)

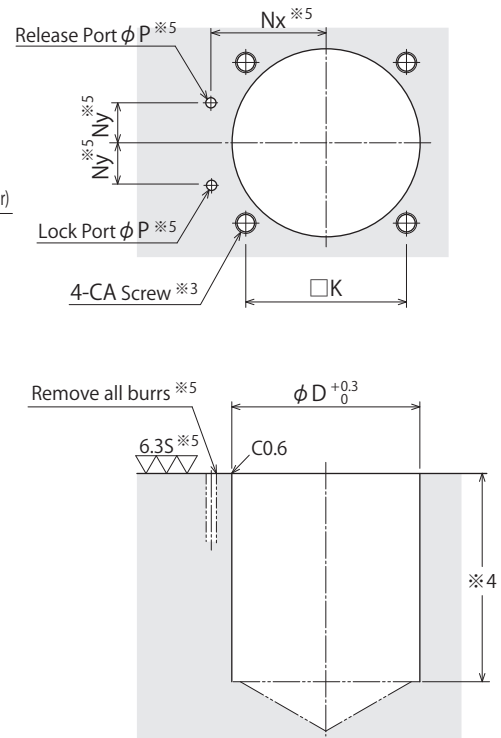
※ The drawing shows the locked state of LKE□□-CC.



Notes

- ※1. Mounting bolts are not provided. Please prepare them based on the dimension 'S'.
- ※2. Speed control valve is sold separately. Please refer to P.727 .
 1. Please use the provided pin (equivalent to φADf6, φAEf6, HRC60) as mounting pin for lever.

Machining Dimensions of Mounting Area



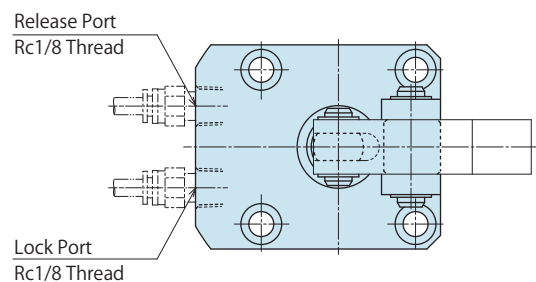
Notes

- ※3. CA tapping depth of the mounting bolt should be decided according to the mounting height referring to dimension 'S'.
- ※4. The depth of the body mounting hole φD should be decided according to the mounting height referring to dimension 'F'.
- ※5. The machining dimension is for -C: Gasket option.

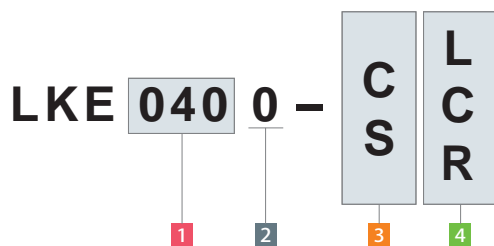
Piping Method

S : Piping Option (Rc Thread)

※ The drawing shows the locked state of LKE□□-SC.



Model No. Indication



(Format Example : LKE0400-CC, LKE0550-SL)

- 1** Body Size
Please refer to P.41 and P.42 for 030.
- 2** Design No.
- 3** Piping Method
- 4** Lever Direction

External Dimensions and Machining Dimensions for Mounting

(mm)

Model No.	LKE0360-□□	LKE0400-□□	LKE0480-□□	LKE0550-□□
Full Stroke	17.5	19.5	22.5	25
(Break down)	Idle Stroke	14.5	16	18.5
	Lock Stroke ※6	3	3.5	4
Recommended Lock Position	16	17.5	20.5	23
A	105	117.5	133	145.5
B	49	54	61	69
C	40	45	51	60
D	36	40	48	55
E	74.5	82.5	92	98.5
F	49.5	57.5	64	70.5
G	25	25	28	28
H	29	31.5	35.5	39
J	20	22.5	25.5	30
K	31.4	34	40	47
L	66	72	81	88
M	11	11	12	12
Nx	23.5	26	30	33.5
Ny	8	9	11	12
P	max.3	max.3	max.3	max.3
Q	7.5	9	9	11
R	4.5	5.5	5.5	6.8
S	15.5	15	16	13.5
T	27	30.5	35	38
U	10	12	14	16
V	22.5	25	29	31.5
W	30	30.5	34.5	35.5
X	20	22	26	30
Y	11	13	14	18
Z	19	21	26	31
AA	14.5	16	18.5	21
AB	74.3	77.7	92.4	101.9
AC	47.3	50.2	61.2	71.7
AD	5	6	6	7
AE	5	6	7	8
AG	19.6	20.2	18.9	19.9
CA (Nominal × Pitch)	M4 × 0.7	M5 × 0.8	M5 × 0.8	M6 × 1
JA	3.5	3.5	3.5	3.5
JB	14	14	14	14
ZA (Chamfer)	C2	C3	C3	C3
Mass ※7 kg	0.7	0.9	1.4	1.9

Notes ※6. The specification value of cylinder force, clamping force and holding force is fulfilled only when clamping within the lock stroke range.

(The specification value is not fulfilled when clamping within the idle stroke range.)

※7. Mass of single clamp without the link lever.

- High-Power Series
- Pneumatic Series
- Hydraulic Series
- Valve / Coupler Hydraulic Unit
- Manual Operation Accessories
- Cautions / Others

High-Power Hydraulic Swing Clamp

LHE

High-Power Hydraulic Link Clamp

LKE

High-Power Pneumatic Hole Clamp

SWE

High-Power Pneumatic Swing Clamp

WHE

High-Power Pneumatic Link Clamp

WCE

High-Power Pneumatic Work Support

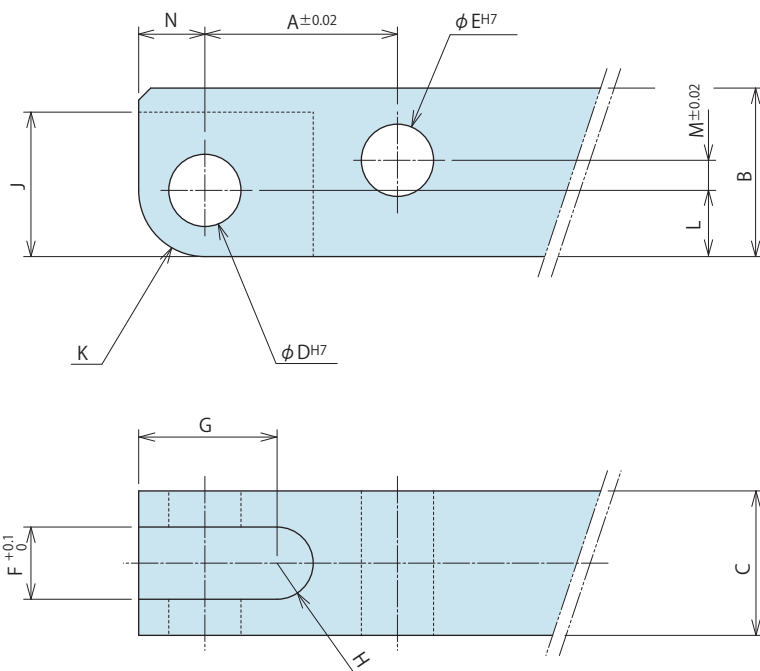
WNC

High-Power Pneumatic Pallet Clamp

WVS

Link Lever Design Dimensions

※ Please refer to this for designing the link lever.



Link Lever Design Dimension List

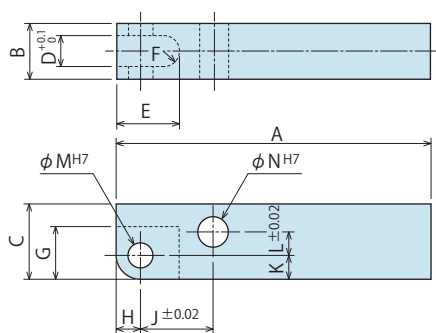
(mm)

Corresponding Model No.	LKE0300	LKE0360	LKE0400	LKE0480	LKE0550
A	12.5	14.5	16	18.5	21
B	11	12.5	15.5	18	21.5
C	9 ⁰ _{-0.1}	10 ⁰ _{-0.2}	12 ⁰ _{-0.3}	12 ⁰ _{-0.3}	16 ⁰ _{-0.3}
D	4 ^{+0.012} ₀	5 ^{+0.012} ₀	6 ^{+0.012} ₀	6 ^{+0.012} ₀	7 ^{+0.015} ₀
E	4 ^{+0.012} ₀	5 ^{+0.012} ₀	6 ^{+0.012} ₀	7 ^{+0.015} ₀	8 ^{+0.015} ₀
F	4.5	5	6	6	8
G	8.5	10	11.5	13	13
H	R2.25	R2.5	R3	R3	R4
J	8.5	10	12	13	13.5
K	R4	R4.5	R5.5	R6	R6
L	4	4.5	5.5	6	6
M	2.5	2.5	2.5	3.5	6
N	4	4.5	5.5	6	6

Notes

1. Please design the link lever length according to the performance curve.
2. If the link lever is not in accordance with the dimension shown above, performance may be degraded and damage can occur.
3. Please use the attached pin (equivalent to φADf6, φAEf6, HRC60) as the mounting pin for lever.
(Please refer to each external dimension of LKE for the dimensions φAD and φAE.)

Accessory : Material Link Lever



Model No. Indication

LZK 040 0 - L2

Size
(Refer to the table)

Design No.
(Revision Number)

(mm)

Model No.	LZK0300-L2	LZK0360-L2	LZK0400-L2	LZK0480-L2	LZK0550-L2
Corresponding Model No.	LKE0300	LKE0360	LKE0400	LKE0480	LKE0550
A	50	65	75	85	90
B	9 ⁰ _{-0.1}	10 ⁰ _{-0.2}	12 ⁰ _{-0.3}	12 ⁰ _{-0.3}	16 ⁰ _{-0.3}
C	11	12.5	15.5	18	21.5
D	4.5	5	6	6	8
E	8.5	12.5	14.5	16	17
F	R2.25	R2.5	R3	R3	R4
G	8.5	10	12	13	13.5
H	4	4.5	5.5	6	6
J	12.5	14.5	16	18.5	21
K	4	4.5	5.5	6	6
L	2.5	2.5	2.5	3.5	6
M	4 ^{+0.012} ₀	5 ^{+0.012} ₀	6 ^{+0.012} ₀	6 ^{+0.012} ₀	7 ^{+0.015} ₀
N	4 ^{+0.012} ₀	5 ^{+0.012} ₀	6 ^{+0.012} ₀	7 ^{+0.015} ₀	8 ^{+0.015} ₀

- Notes
1. Material S50CH
 2. If necessary, the front end should be additionally machined.
 3. Please use the attached pin (equivalent to ϕ ADf6, ϕ AEf6, HRC60) as the mounting pin for lever.

High-Power Series

Pneumatic Series

Hydraulic Series

Valve / Coupler Hydraulic Unit

Manual Operation Accessories

Cautions / Others

High-Power Hydraulic Swing Clamp

LHE

High-Power Hydraulic Link Clamp

LKE

High-Power Pneumatic Hole Clamp

SWE

High-Power Pneumatic Swing Clamp

WHE

High-Power Pneumatic Link Clamp

WCE

High-Power Pneumatic Work Support

WNC

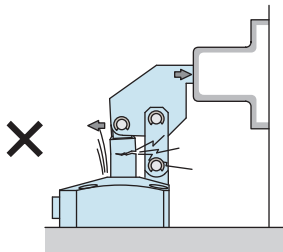
High-Power Pneumatic Pallet Clamp

WVS

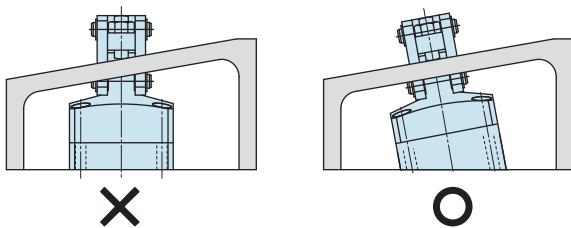
Cautions

Notes for Design

- 1) Check Specifications
 - Please use each product according to the specifications.
- 2) Notes for Circuit Design
 - Please read "Notes on Hydraulic Cylinder Speed Control Circuit" to assist with proper hydraulic circuit designing. Improper circuit design will lead to applications malfunction and damages. (Refer to P.1044)
 - Ensure there is no possibility of supplying hydraulic pressure to the lock and release ports simultaneously.
- 3) Notes for Link Lever Design
 - Make sure no force is applied to the piston rod except the axial direction. The usage like the one shown in the drawing below will apply a large bending stress to the piston rod and must be avoided.



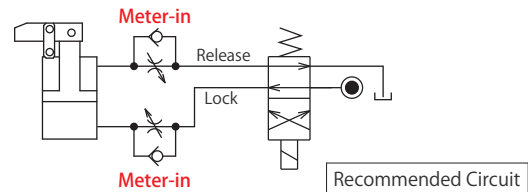
- If offset load is applied on the link part, use it within the allowable range of "Allowable Offset Graph".
- 4) When using on a welding fixture, the exposed area of piston rod and link plate should be protected.
 - If spatter gets onto the sliding surface it may lead to malfunction and fluid leakage.
 - 5) When clamping on a sloped surface of the workpiece
 - Make sure the clamp surface and the mounting surface on the workpiece are parallel.



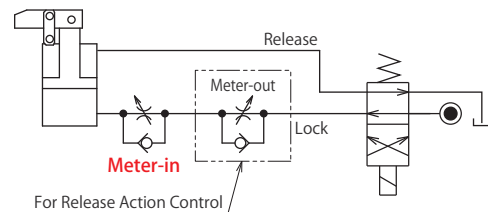
- 6) When using in a dry environment
 - The link pin may dry out. Grease it periodically or use a special pin. Contact us for the specifications of special pins.

7) Speed Adjustment

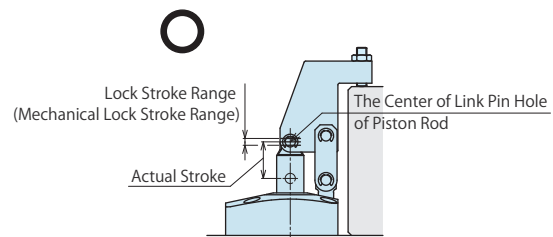
- If the clamp operates too fast the parts will wear out and leads to damage more quickly leading to complete equipment failure. For speed adjustment, please install the speed controller (meter-in) on the lock port side and adjust the locking action to be about 0.5~1.0 seconds.



For multiple clamps operating simultaneously, please install the speed controller (meter-in) to each clamp. Also, when load is applied to the release action direction during release action, adjust the speed by installing the speed controller (meter-out) on the lock port side.



- 8) The specification value is not fulfilled when clamping out of the lock stroke (mechanical lock stroke) range.
 - When the center of link pin hole of piston rod clamps out of the lock stroke range, the mechanical lock function does not work. As a result, the specification value of clamping force and holding force will not be fulfilled.



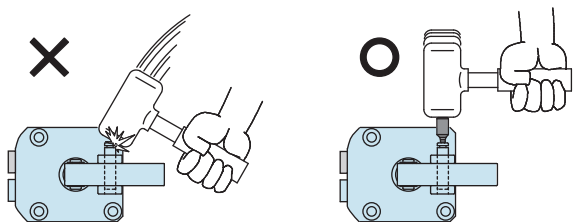
The actual stroke of the piston that ascends from release-end to lock-end should be designed to have the same value as the recommended lock position listed on the external dimensions. (The specification value is fulfilled since the center of link pin hole of piston rod is within the lock stroke (mechanical lock stroke) range.)

● Installation Notes

- 1) Check the Usable Fluid
 - Please use the appropriate fluid by referring to the Hydraulic Fluid List (P.1043).
- 2) Mounting the clamp
 - When mounting the clamp, use hexagon socket bolts as multiple bolt holes for mounting (with tensile strength of 12.9) and tighten them with the torque shown in the chart below. Tightening with greater torque than recommended can depress the seating surface or break the bolt.

Model No.	Thread Size	Tightening Torque (N·m)
LKE0300-□□	M4×0.7	4.0
LKE0360-□□	M4×0.7	4.0
LKE0400-□□	M5×0.8	8.0
LKE0480-□□	M5×0.8	8.0
LKE0550-□□	M6×1	14

- 3) Installation / Removal of the Link Lever
 - When inserting the link pin, do not hit the pin directly with a hammer. When using a hammer to insert the pin, always use a cover plate with a smaller diameter than the spring ring groove on the pin.



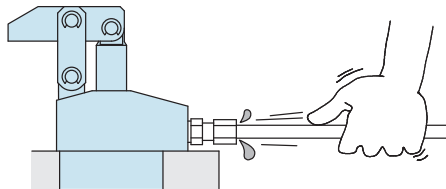
- 4) Speed Adjustment
 - Adjust the speed so that the total operating time is one second or more. If the clamp operates too fast the parts will wear out leading to premature damage and ultimately complete equipment failure.
 - Please make sure to release air from the circuit before adjusting speed. It will be difficult to adjust the speed accurately with air mixed in the circuit.
 - Turn the speed control valve gradually from the low-speed side (small flow) to the high-speed side (large flow) to adjust the speed.

※ Please refer to P.1043 for common cautions. • Installation Notes • Hydraulic Fluid List • Notes on Hydraulic Cylinder Speed Control Circuit
 • Notes on Handling • Maintenance/Inspection • Warranty

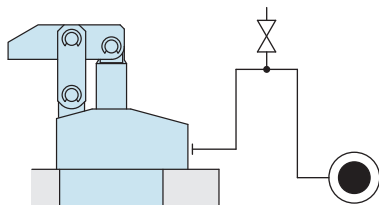
● Cautions

● Installation Notes (For Hydraulic Series)

- 1) Check the Usable Fluid
 - Please use the appropriate fluid by referring to the Hydraulic Fluid List.
- 2) Procedure before Piping
 - The pipeline, piping connector and fixture circuits should be cleaned by thorough flushing.
 - The dust and cutting chips in the circuit may lead to fluid leakage and malfunction.
 - There is no filter provided with Kosmek' s product except for a part of valves which prevents foreign materials and contaminants from getting into the circuit.
- 3) Applying Sealing Tape
 - Wrap with tape 1 to 2 times following the screw direction.
 - Pieces of the sealing tape can lead to oil leakage and malfunction.
 - In order to prevent a foreign substance from going into the product during the piping work, it should be carefully cleaned before working.
- 4) Air Bleeding of the Hydraulic Circuit
 - If the hydraulic circuit has excessive air, the action time may become very long. If air enters the circuit after connecting the hydraulic port or under the condition of no air in the oil tank, please perform the following steps.
 - ① Reduce hydraulic pressure to less than 2MPa.
 - ② Loosen the cap nut of pipe fitting closest to the clamp by one full turn.
 - ③ Wiggle the pipeline to loosen the outlet of pipe fitting.
Hydraulic fluid mixed with air comes out.



- ④ Tighten the cap nut after bleeding.
- ⑤ It is more effective to bleed air at the highest point inside the circuit or at the end of the circuit.
(Set an air bleeding valve at the highest point inside the circuit.)



5) Checking Looseness and Retightening

- At the beginning of the machine installation, the bolt and nut may be tightened lightly. Check the looseness and re-tighten as required.

● Hydraulic Fluid List

Maker	ISO Viscosity Grade ISO-VG-32	
	Anti-Wear Hydraulic Oil	Multi-Purpose Hydraulic Oil
Showa Shell Sekiyu	Tellus S2 M 32	Morlina S2 B 32
Idemitsu Kosan	Daphne Hydraulic Fluid 32	Daphne Super Multi Oil 32
JX Nippon Oil & Energy	Super Hyrando 32	Super Mulpus DX 32
Cosmo Oil	Cosmo Hydro AW32	Cosmo New Mighty Super 32
ExxonMobil	Mobil DTE 24	Mobil DTE 24 Light
Matsumura Oil	Hydol AW-32	
Castrol	Hyspin AWS 32	

Note As it may be difficult to purchase the products as shown in the table from overseas, please contact the respective manufacturer.

- High-Power Series
- Pneumatic Series
- Hydraulic Series
- Valve / Coupler Hydraulic Unit
- Manual Operation Accessories
- Cautions / Others

Cautions

- Installation Notes (For Hydraulic Series)
- Hydraulic Fluid List
- Notes on Hydraulic Cylinder Speed Control Circuit
- Notes on Handling
- Maintenance/Inspection
- Warranty

Company Profile

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Sales Offices

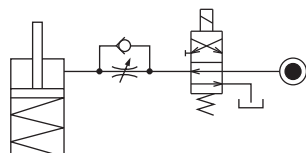
● Notes on Hydraulic Cylinder Speed Control Unit



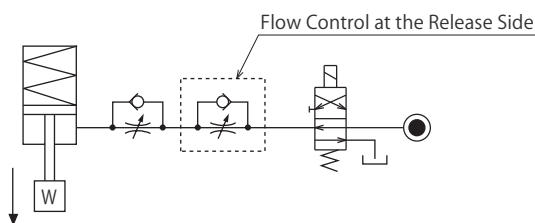
Please pay attention to the cautions below. Design the hydraulic circuit for controlling the action speed of hydraulic cylinder. Improper circuit design may lead to malfunctions and damages. Please review the circuit design in advance.

● Flow Control Circuit for Single Acting Cylinder

For spring return single acting cylinders, restricting flow during release can extremely slow down or disrupt release action. The preferred method is to control the flow during the lock action using a valve that has free-flow in the release direction. It is also preferred to provide a flow control valve at each actuator.



Accelerated clamping speed by excessive hydraulic flow to the cylinder may sustain damage. In this case add flow control to regulate flow. (Please add flow control to release flow if the lever weight is put on at the time of release action when using swing clamps.)



● Flow Control Circuit for Double Acting Cylinder

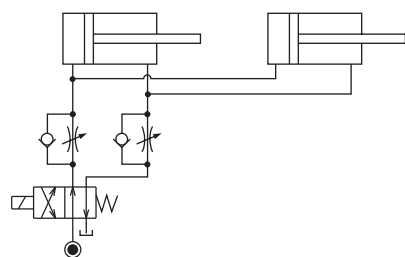
Flow control circuit for double acting cylinder should have meter-out circuits for both the lock and release sides. Meter-in control can have adverse effect by presence of air in the system.

However, in the case of controlling LKE, TMA, TLA, both lock side and release side should be meter-in circuit.

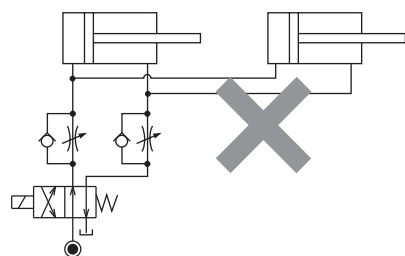
Refer to P.47 for speed adjustment of LKE.

For TMA and TLA, if meter-out circuit is used, abnormal high pressure is created, which causes oil leakage and damage.

【Meter-out Circuit】 (Except LKE/TMA/TLA)

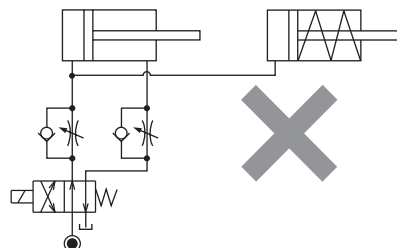


【Meter-in Circuit】 (LKE/TMA/TLA must be controlled with meter-in.)



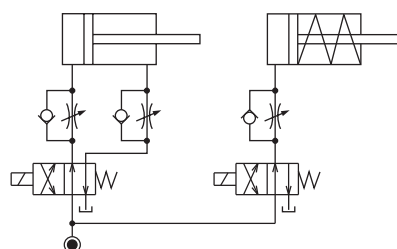
In the case of meter-out circuit, the hydraulic circuit should be designed with the following points.

- ① Single acting components should not be used in the same flow control circuit as the double acting components. The release action of the single acting cylinders may become erratic or very slow.

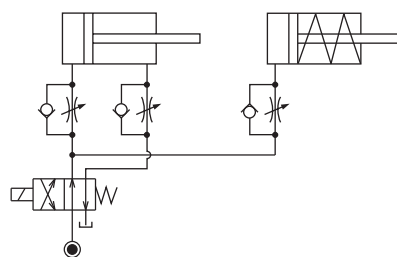


Refer to the following circuit when both the single acting cylinder and double acting cylinder are used together.

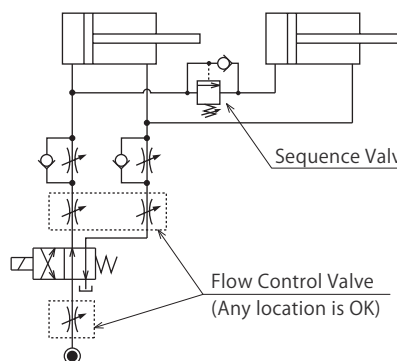
- Separate the control circuit.



- Reduce the influence of double acting cylinder control unit. However, due to the back pressure in tank line, single action cylinder is activated after double action cylinder works.



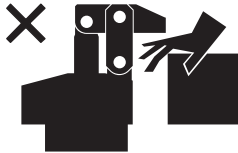
- ② In the case of meter-out circuit, the inner circuit pressure may increase during the cylinder action because of the fluid supply. The increase of the inner circuit pressure can be prevented by reducing the supplied fluid beforehand via the flow control valve. Especially when using sequence valve or pressure switches for clamping detection. If the back pressure is more than the set pressure then the system will not work as it is designed to.



● Cautions

● Notes on Handling

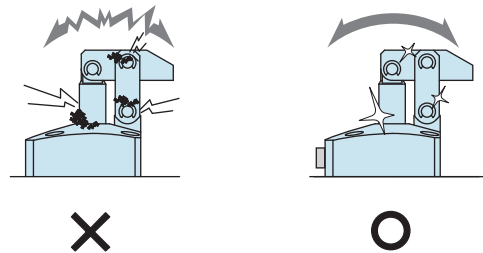
- 1) It should be handled by qualified personnel.
 - The hydraulic machine and air compressor should be handled and maintained by qualified personnel.
- 2) Do not handle or remove the machine unless the safety protocols are ensured.
 - ① The machine and equipment can only be inspected or prepared when it is confirmed that the preventive devices are in place.
 - ② Before the machine is removed, make sure that the above-mentioned safety measures are in place. Shut off the air of hydraulic source and make sure no pressure exists in the hydraulic and air circuit.
 - ③ After stopping the machine, do not remove until the temperature cools down.
 - ④ Make sure there is no abnormality in the bolts and respective parts before restarting the machine or equipment.
- 3) Do not touch clamps (cylinder) while clamps (cylinder) is working. Otherwise, your hands may be injured due to clinching.



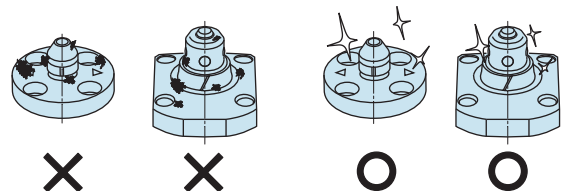
- 4) Do not disassemble or modify.
 - If the equipment is taken apart or modified, the warranty will be voided even within the warranty period.

● Maintenance and Inspection

- 1) Removal of the Machine and Shut-off of Pressure Source
 - Before the machine is removed, make sure that the above-mentioned safety measures are in place. Shut off the air of hydraulic source and make sure no pressure exists in the hydraulic and air circuit.
 - Make sure there is no abnormality in the bolts and respective parts before restarting.
- 2) Regularly clean the area around the piston rod and plunger.
 - If it is used when the surface is contaminated with dirt, it may lead to packing seal damage, malfunctioning, fluid leakage and air leaks.



- 3) Please clean out the reference surface regularly (taper reference surface and seating surface) of locating machine. (VS/VT/VL/VM/VJ/VK/WVS/WM/WK/VX/VXF)
 - Location products, except VX/VXF model, can remove contaminants with cleaning functions. When installing pallets make sure there is no thick sludge like substances on pallets.
 - Continuous use with dirt on components will lead to locating functions not work properly, leaking and malfunction.



- 4) If disconnecting by couplers on a regular basis, air bleeding should be carried out daily to avoid air mixed in the circuit.
- 5) Regularly tighten nuts, bolts, pins, cylinders and pipe line to ensure proper use.
- 6) Make sure the hydraulic fluid has not deteriorated.
- 7) Make sure there is smooth action and no abnormal noise.
 - Especially when it is restarted after left unused for a long period, make sure it can be operated correctly.
- 8) The products should be stored in the cool and dark place without direct sunshine or moisture.
- 9) Please contact us for overhaul and repair.

● Warranty

1) Warranty Period

- The product warranty period is 18 months from shipment from our factory or 12 months from initial use, whichever is earlier.

2) Warranty Scope

- If the product is damaged or malfunctions during the warranty period due to faulty design, materials or workmanship, we will replace or repair the defective part at our expense.

Defects or failures caused by the following are not covered.

- ① If the stipulated maintenance and inspection are not carried out.
- ② If the product is used while it is not suitable for use based on the operator's judgment, resulting in defect.
- ③ If it is used or handled in inappropriate way by the operator.
(Including damage caused by the misconduct of the third party.)
- ④ If the defect is caused by reasons other than our responsibility.
- ⑤ If repair or modifications are carried out by anyone other than Kosmek, or without our approval and confirmation, it will void warranty.
- ⑥ Other caused by natural disasters or calamities not attributable to our company.
- ⑦ Parts or replacement expenses due to parts consumption and deterioration.
(Such as rubber, plastic, seal material and some electric components.)

Damages excluding from direct result of a product defect shall be excluded from the warranty.

Control Valve

Model BZL

Model BZT

Model BZX

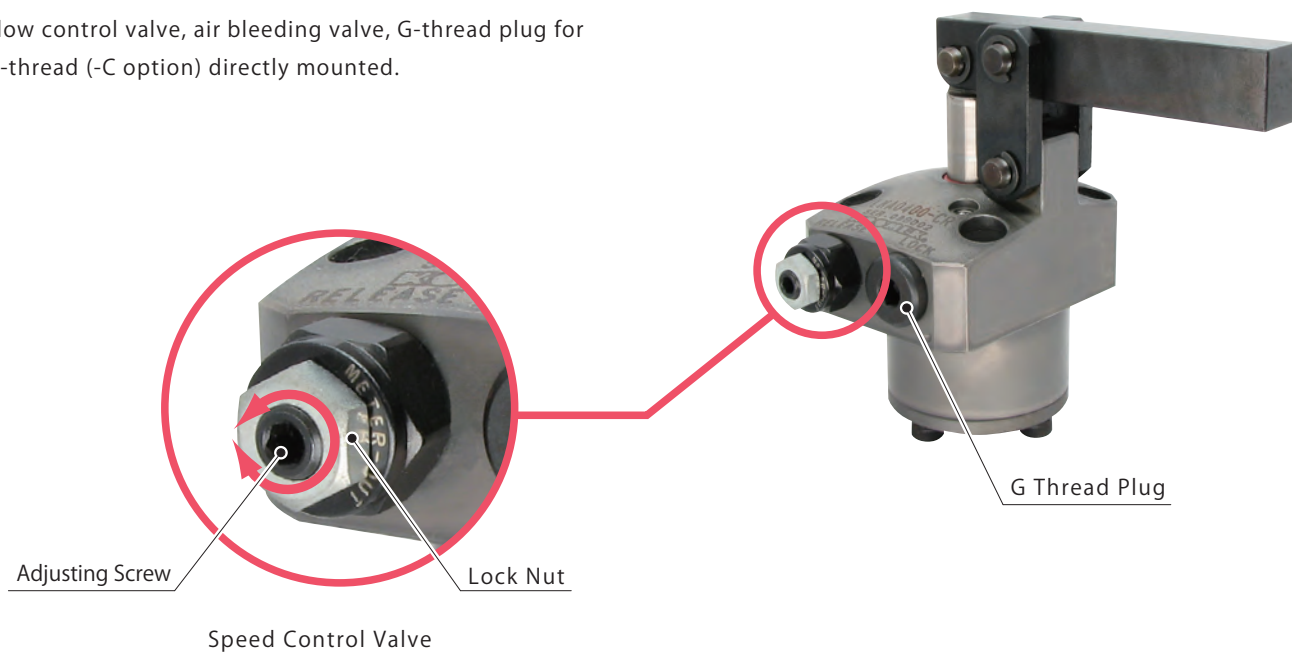
Model JZG


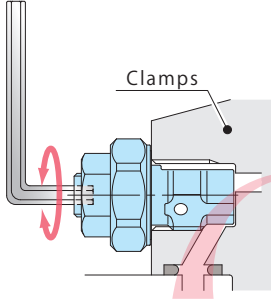
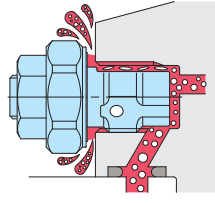

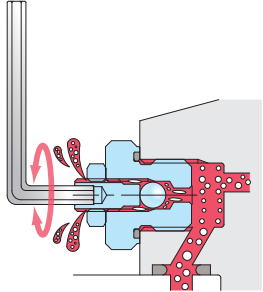

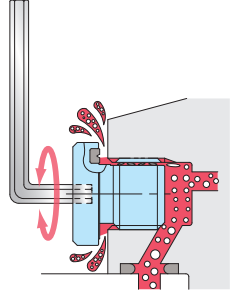


Directly mounted to clamps, flow control valve • Air bleeding • plug

- Directly mounted to clamps

Flow control valve, air bleeding valve, G-thread plug for G-thread (-C option) directly mounted.



	Operating Pressure Range	Action Description
<p>Speed Control Valve (For Low Pressure)</p> <p>Model BZL → P.729</p> 	7MPa or less	<p>Adjust the flow by wrench. It can adjust the clamping action speed individually.</p>  <p>Clamps</p> <p>Flow Control</p>
<p>Speed Control Valve (For High Pressure)</p> <p>Model BZT → P.733</p>	35MPa or less	<p>Air bleeding in the circuit is possible by loosening flow control valve.</p> 
<p>Air Bleed Valve</p> <p>Model BZX → P.735</p> 	25MPa or less	<p>Air bleeding in the circuit is possible by wrench.</p> 
<p>G Thread Plug</p> <p>Model JZG → P.737</p> 	35MPa or less	<p>Air bleeding in the circuit is possible by loosening G thread plug.</p> 

High-Power Series

Pneumatic Series

Hydraulic Series

Valve / Coupler Hydraulic Unit

Manual Operation Accessories

Cautions / Others

Hole Clamp

SFA
SFC

Swing Clamp

LHA
LHC
LHS
LHW
LT/LG
TLA-2
TLB-2
TLA-1

Link Clamp

LKA
LKC
LKW
LM/LJ
TMA-2
TMA-1

Work Support

LD
LC
TNC
TC

Air Sensing Lift Cylinder

LLW

Compact Cylinder

LL
LLR
LLU
DP
DR
DS
DT

Block Cylinder

DBA
DBC

Control Valve

BZL
BZT
BZX/JZG

Pallet Clamp

VS
VT

Expansion Locating Pin

VL
VM
VJ
VK

Pull Stud Clamp

FP
FQ

Customized Spring Cylinder

DWA/DWB

Model No. Indication (Speed Control Valve for Low Pressure)

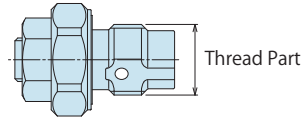
BZL 0 **10** **0** - **B**

1 2 3



1 G Thread Size

- 10 : Thread Part G1/8A Thread
- 20 : Thread Part G1/4A Thread
- 30 : Thread Part G3/8A Thread

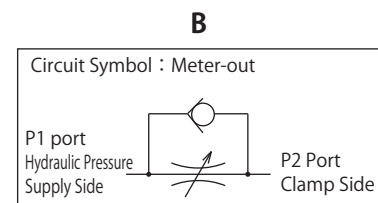
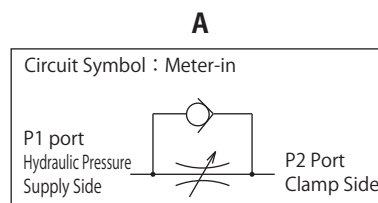


2 Design No.

- 0 : Revision Number

3 Control Method

- A : Meter-in
- B : Meter-out



Specifications

Model No.	BZL0100-A	BZL0200-A	BZL0300-A	BZL0100-B	BZL0200-B	BZL0300-B
Max. Operating Pressure	MPa			7		
Withstanding Pressure	MPa			10.5		
Control Method	Meter-in			Meter-out		
G Thread Size	G1/8A	G1/4A	G3/8A	G1/8A	G1/4A	G3/8A
Cracking Pressure	MPa			0.04		
Max. Passage Area	mm ²	2.6	5.0	11.6	2.6	5.0
Usable Fluid	General Hydraulic Oil Equivalent to ISO-VG-32					
Operating Temperature	°C					
Tightening Torque for Main Body	N·m	10	25	35	10	25
						35

- Notes
1. Minimum passage area when fully opened is the same as the maximum passage area in the table above.
 2. It must be mounted with recommended torque. Because of the structure of the metal seal, if mounting torque is insufficient, the flow control valve may not be able to adjust the flow rate.
 3. Don't use used BZL to other clamps.
Flow control will not be made because the bottom depth difference of G thread makes metal seal insufficient.

Applicable Products

Model No.	DBA (Single Action) Block Cylinder	DBC (Single Action) Block Cylinder	LC (Single Action) Work Support	LHA (Double Action) Swing Clamp	LHC (Double Action) Swing Clamp	LHE (Double Action) High-Power Swing Clamp	LHS (Double Action) Swing Clamp	LHW (Double Action) Swing Clamp
BZL0100-A	(DBA0250-C□) (DBA0320-C□)	(DBC0250-C□) (DBC0320-C□)	LC0402-C□□□ LC0482-C□□□ LC0552-C□□□ LC0652-C□□□	(LHA0360-C□□□) (LHA0400-C□□□) (LHA0480-C□□□) (LHA0550-C□□□)	(LHC0360-C□□□) (LHC0400-C□□□) (LHC0480-C□□□) (LHC0550-C□□□)	/	(LHS0360-C□□□) (LHS0400-C□□□) (LHS0480-C□□□) (LHS0550-C□□□)	(LHW0400-C□□□) (LHW0480-C□□□) (LHW0550-C□□□)
BZL0100-B	DBA0250-C□ DBA0320-C□	DBC0250-C□ DBC0320-C□	/	LHA0360-C□□□ LHA0400-C□□□ LHA0480-C□□□ LHA0550-C□□□	LHC0360-C□□□ LHC0400-C□□□ LHC0480-C□□□ LHC0550-C□□□	LHE0300-C□ LHE0360-C□ LHE0400-C□ LHE0480-C□ LHE0550-C□	LHS0360-C□□□ LHS0400-C□□□ LHS0480-C□□□ LHS0550-C□□□	LHW0400-C□□□ LHW0480-C□□□ LHW0550-C□□□
BZL0200-A	(DBA0400-C□) (DBA0500-C□)	(DBC0400-C□) (DBC0500-C□)	LC0752-C□□□ LC0902-C□□□	(LHA0650-C□□□) (LHA0750-C□□□)	(LHC0650-C□□□)	/	(LHS0650-C□□□) (LHS0750-C□□□)	(LHW0650-C□□□)
BZL0200-B	DBA0400-C□ DBA0500-C□	DBC0400-C□ DBC0500-C□	/	LHA0650-C□□□ LHA0750-C□□□	LHC0650-C□□□	/	LHS0650-C□□□ LHS0750-C□□□	LHW0650-C□□□
BZL0300-A	/	/	/	(LHA0900-C□□□) (LHA1050-C□□□)	/	/	(LHS0900-C□□□) (LHS1050-C□□□)	/
BZL0300-B	/	/	/	LHA0900-C□□□ LHA1050-C□□□	/	/	LHS0900-C□□□ LHS1050-C□□□	/

Model No.	LT/LG (Single Action) Swing Clamp	LKA (Double Action) Link Clamp	LKC (Double Action) Link Clamp	LKE (Double Action) High-Power Link Clamp	LKW (Double Action) Link Clamp	LM/LJ (Single Action) Link Clamp	LL (Double Action) Linear Cylinder	LLR (Double Action) Linear Cylinder
BZL0100-A	LT0360-C□ LT0400-C□ LT0480-C□ LT0550-C□	(LKA0360-C□□□) (LKA0400-C□□□) (LKA0480-C□□□) (LKA0550-C□□□)	(LKC0400-C□□□) (LKC0480-C□□□) (LKC0550-C□□□)	LKE0300-C□ LKE0360-C□ LKE0400-C□ LKE0480-C□ LKE0550-C□	(LKW0400-C□□□) (LKW0480-C□□□) (LKW0550-C□□□)	LM0360-C□ LM0400-C□ LM0480-C□ LM0550-C□	(LL0360-C□□□) (LL0400-C□□□) (LL0480-C□□□) (LL0550-C□□□)	(LLR0360-C□□□□) (LLR0400-C□□□□) (LLR0480-C□□□□) (LLR0550-C□□□□)
BZL0100-B	/	LKA0360-C□□□ LKA0400-C□□□ LKA0480-C□□□ LKA0550-C□□□	LKC0400-C□□□ LKC0480-C□□□ LKC0550-C□□□	/	LKW0400-C□□□ LKW0480-C□□□ LKW0550-C□□□	/	LL0360-C□□□ LL0400-C□□□ LL0480-C□□□ LL0550-C□□□	LLR0360-C□□□□ LLR0400-C□□□□ LLR0480-C□□□□ LLR0550-C□□□□
BZL0200-A	LT0650-C□ LT0750-C□	(LKA0650-C□□□) (LKA0750-C□□□)	(LKC0650-C□□□)	/	(LKW0650-C□□□)	LM0650-C□ LM0750-C□	(LL0650-C□□□) (LL0750-C□□□)	(LLR0650-C□□□□) (LLR0750-C□□□□)
BZL0200-B	/	LKA0650-C□□□ LKA0750-C□□□	LKC0650-C□□□	/	LKW0650-C□□□	/	LL0650-C□□□ LL0750-C□□□	LLR0650-C□□□□ LLR0750-C□□□□
BZL0300-A	LG0900-C□ LG1050-C□	(LKA0900-C□□□) (LKA1050-C□□□)	/	/	/	LJ0902-C□ LJ1052-C□	(LL0900-C□□□) (LL1050-C□□□)	(LLR0900-C□□□□) (LLR1050-C□□□□)
BZL0300-B	/	LKA0900-C□□□ LKA1050-C□□□	/	/	/	/	LL0900-C□□□ LL1050-C□□□	LLR0900-C□□□□ LLR1050-C□□□□

Model No.	LLW (Double Action) Lift Cylinder
BZL0100-A	(LLW0360-C□□□) (LLW0400-C□□□) (LLW0480-C□□□)
BZL0100-B	LLW0360-C□□□ LLW0400-C□□□ LLW0480-C□□□

- Note 1. Flow control circuit for double acting cylinder both should have meter-out circuits for the locking side and release side except model LKE/TLA/TMA.
Meter-in controls can be adversely affected by any air in the system.

High-Power Series

Pneumatic Series

Hydraulic Series

Valve / Coupler Hydraulic Unit

Manual Operation Accessories

Cautions / Others

Hole Clamp

SFA
SFC

Swing Clamp

LHA
LHC
LHS
LHW
LT/LG
TLA-2
TLB-2
TLA-1

Link Clamp

LKA
LKC
LKW
LM/LJ
TMA-2
TMA-1

Work Support

LD
LC
TNC
TC

Air Sensing Lift Cylinder

LLW

Compact Cylinder

LL
LLR
LLU
DP
DR
DS
DT

Block Cylinder

DBA
DBC

Control Valve

BZL
BZT
BZX/JZG

Pallet Clamp

VS
VT

Expansion Locating Pin

VL
VM
VJ
VK

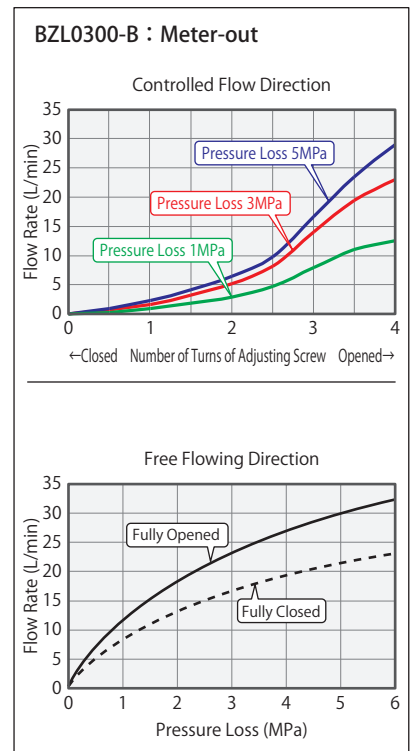
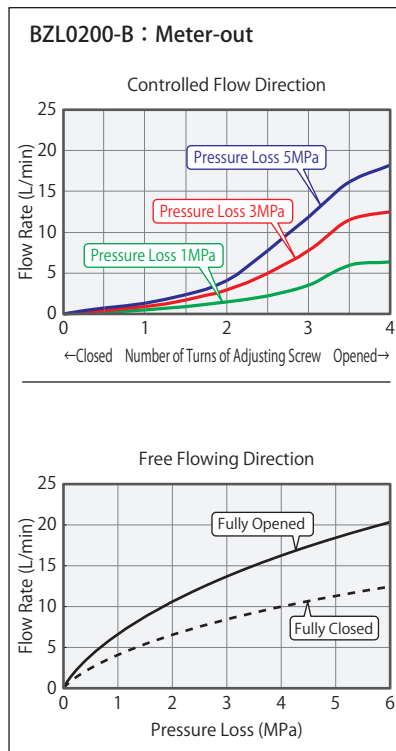
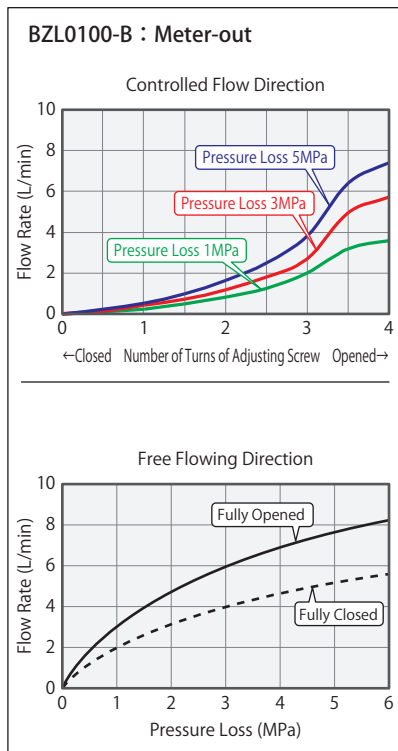
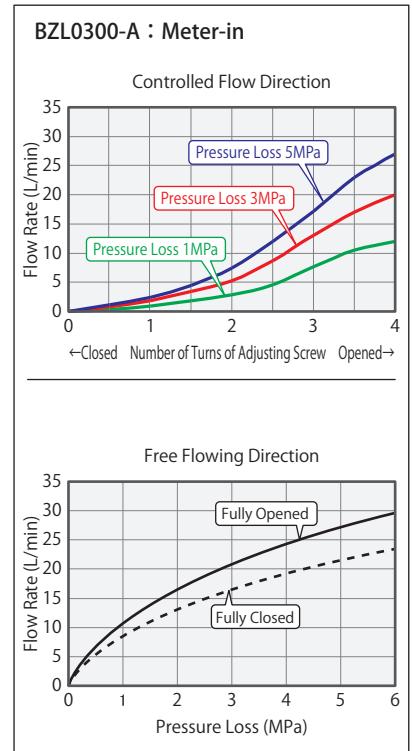
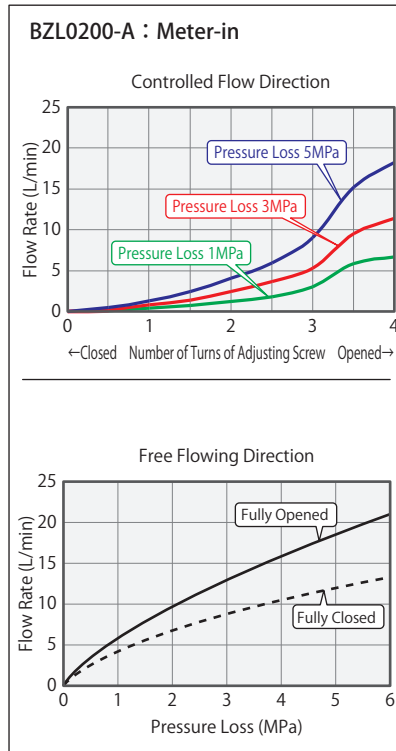
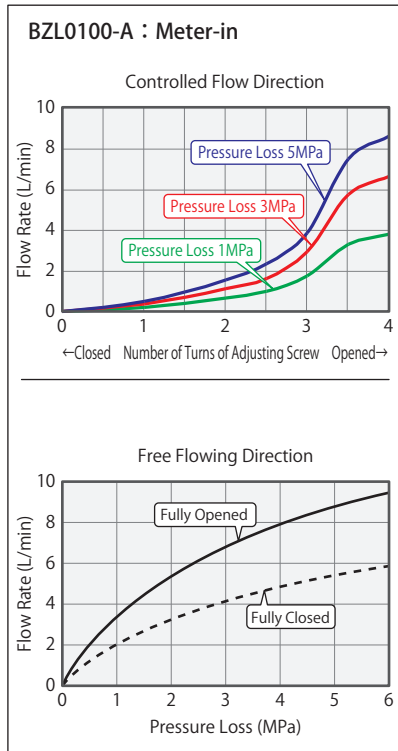
Pull Stud Clamp

FP
FQ

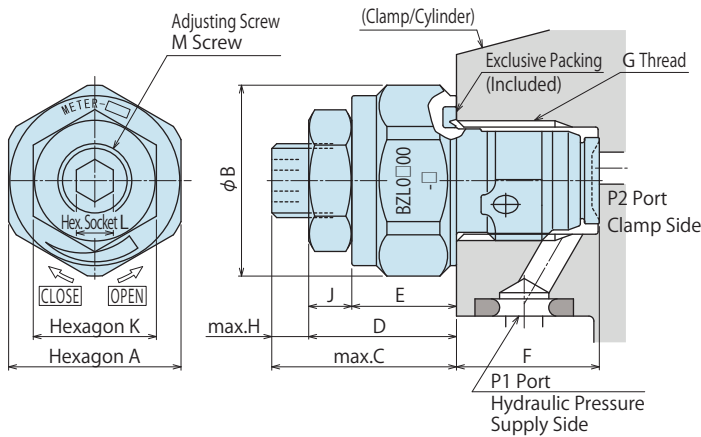
Customized Spring Cylinder

DWA/DWB

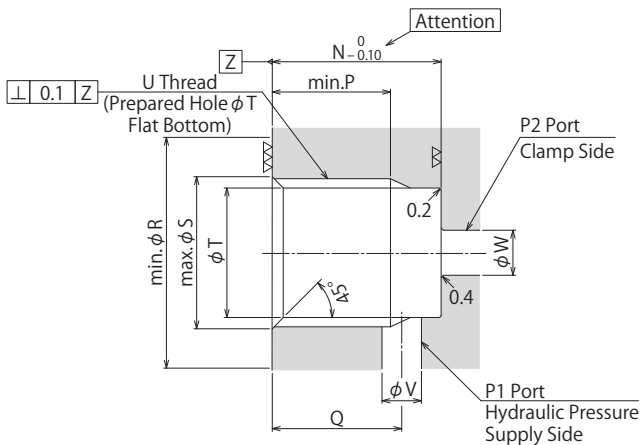
● Flow Rate Graph < Hydraulic Fluids ISO-VG32 (25~35°C) >



External Dimensions



Machining Dimensions of Mounting Area



Notes

1. Since the $\nabla\nabla$ area is sealing part, be careful not to damage it.
2. Since the $\nabla\nabla$ area is the metal sealing part of BZL, be careful not to damage it. (Especially when deburring)
3. No cutting chips or burr should be at the tolerance part of machining hole.
4. As shown in the drawing, P1 port is used as the hydraulic supply and P2 port as the clamp side.
5. If mounting plugs or fittings with G thread specification available in the market, the dimension '※1' should be 12.5.

Notes

1. Please read "Notes on Hydraulic Cylinder Speed Control Circuit" to assist with proper hydraulic circuit design.
If there is something wrong with the circuit design, it leads to the applications malfunction and damage. (Refer to P.1044)
2. It is dangerous to air bleed during operation under high pressure. It must be done under lower pressure.
(For reference: the minimum operating range of the product within the circuit.)

(mm)

Model No.	BZL0100-□	BZL0200-□	BZL0300-□
A	14	18	22
B	15.5	20	24
C	15	16	19
D	12	13	16
E	8.5	9.5	11
F	(11.6)	(15.1)	(17.6)
G	G1/8	G1/4	G3/8
H	3	3	3
J	3.5	3.5	5
K	10	10	13
L	3	3	4
M	M6×0.75	M6×0.75	M8×0.75
N	11.5	15	17.5
P	8.5	11※1	13
Q	9	11.5	13
R (Flat Surface Area)	16	20.5	24.5
S	10	13.5	17
T	8.7	11.5	15
U	G1/8	G1/4	G3/8
V	2 ~ 3	3 ~ 4	4 ~ 5
W	2.5 ~ 5	3.5 ~ 7	4.5 ~ 9

High-Power Series

Pneumatic Series

Hydraulic Series

Valve / Coupler Hydraulic Unit

Manual Operation Accessories

Cautions / Others

Hole Clamp

SFA
SFC

Swing Clamp

LHA
LHC
LHS
LHW
LT/LG
TLA-2
TLB-2
TLA-1

Link Clamp

LKA
LKC
LKW
LM/LJ
TMA-2
TMA-1

Work Support

LD
LC
TNC
TC

Air Sensing Lift Cylinder

LLW

Compact Cylinder

LL
LLR
LLU
DP
DR
DS
DT

Block Cylinder

DBA
DBC

Control Valve

BZL
BZT
BZX/JZG

Pallet Clamp

VS
VT

Expansion Locating Pin

VL
VM
VJ
VK

Pull Stud Clamp

FP
FQ

Customized Spring Cylinder

DWA/DWB

Model No. Indication (Air Bleed Valve)

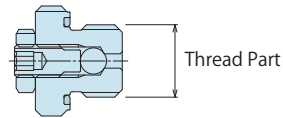
BZX0 1 0

1 2



1 G Thread Size

- 1 : Thread Part G1/8A Thread
- 2 : Thread Part G1/4A Thread
- 3 : Thread Part G3/8A Thread



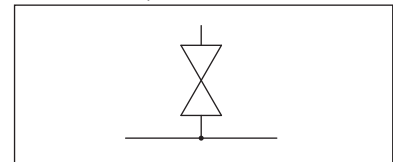
2 Design No.

- 0 : Revision Number

Specifications

Model No.	BZX010	BZX020	BZX030
Max. Operating Pressure MPa	25		
Withstanding Pressure MPa	37.5		
G Thread Size	G1/8A	G1/4A	G3/8A
Usable Fluid	General Hydraulic Oil Equivalent to ISO-VG-32		
Operating Temperature °C	0 ~ 70		
Tightening Torque for Main Body N·m	10	25	35

Circuit Symbol



- Notes
- Do not over loosen the plug during air venting.
(Do not loosen for more than 2 turns from the fully closed position.)
 - It is dangerous to have air venting operation under high pressure. It must be done under lower pressure.
(For reference: the minimum operation pressure range of the product within the circuit)
 - Refer to the processing dimensions for BZL mounting area.

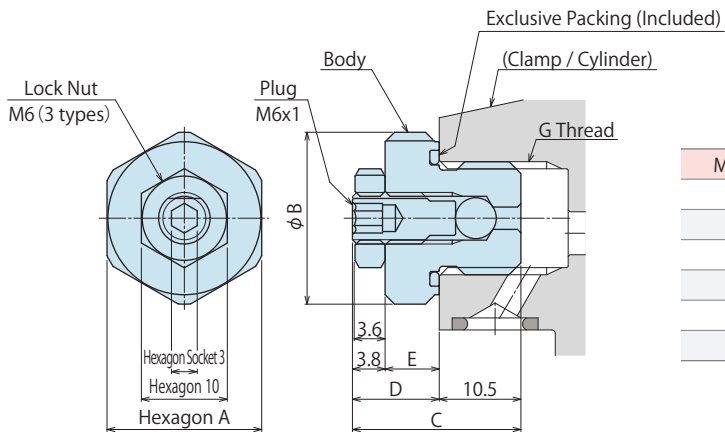
Applicable Products

Model No.	DBA (Single Action) Block Cylinder	DBC (Single Action) Block Cylinder	LC (Single Action) Work Support	LHA (Double Action) Swing Clamp	LHC (Double Action) Swing Clamp	LHE (Double Action) High-Power Swing Clamp	LHS (Double Action) Swing Clamp	LHW (Double Action) Swing Clamp
BZX010	DBA0250-C□ DBA0320-C□	DBC0250-C□ DBC0320-C□	LC0402-C□□□ LC0482-C□□□ LC0552-C□□□ LC0652-C□□□	LHA0360-C□□□ LHA0400-C□□□ LHA0480-C□□□ LHA0550-C□□□	LHC0360-C□□□ LHC0400-C□□□ LHC0480-C□□□ LHC0550-C□□□	LHE0300-C□ LHE0360-C□ LHE0400-C□ LHE0480-C□ LHE0550-C□	LHS0360-C□□□ LHS0400-C□□□ LHS0480-C□□□ LHS0550-C□□□	LHW0400-C□□□ LHW0480-C□□□ LHW0550-C□□□
BZX020	DBA0400-C□ DBA0500-C□	DBC0400-C□ DBC0500-C□	LC0752-C□□□ LC0902-C□□□	LHA0650-C□□□ LHA0750-C□□□	LHC0650-C□□□		LHS0650-C□□□ LHS0750-C□□□	LHW0650-C□□□
BZX030				LHA0900-C□□□ LHA1050-C□□□			LHS0900-C□□□ LHS1050-C□□□	

Model No.	LT/LG (Single Action) Swing Clamp	LKA (Double Action) Link Clamp	LKC (Double Action) Link Clamp	LKE (Double Action) High-Power Link Clamp	LKW (Double Action) Link Clamp	LM/LJ (Single Action) Link Clamp	LL (Double Action) Linear Cylinder	LLR (Double Action) Linear Cylinder
BZX010	LT0360-C□ LT0400-C□ LT0480-C□ LT0550-C□	LKA0360-C□□□ LKA0400-C□□□ LKA0480-C□□□ LKA0550-C□□□	LKC0400-C□□□ LKC0480-C□□□ LKC0550-C□□□	LKE0300-C□ LKE0360-C□ LKE0400-C□ LKE0480-C□ LKE0550-C□	LKW0400-C□□□ LKW0480-C□□□ LKW0550-C□□□	LM0360-C□ LM0400-C□ LM0480-C□ LM0550-C□	LL0360-C□□□ LL0400-C□□□ LL0480-C□□□ LL0550-C□□□	LLR0360-C□□□□ LLR0400-C□□□□ LLR0480-C□□□□ LLR0550-C□□□□
BZX020	LT0650-C□ LT0750-C□	LKA0650-C□□□ LKA0750-C□□□	LKC0650-C□□□		LKW0650-C□□□	LM0650-C□ LM0750-C□	LL0650-C□□□ LL0750-C□□□	LLR0650-C□□□□ LLR0750-C□□□□
BZX030	LG0900-C□ LG1050-C□	LKA0900-C□□□ LKA1050-C□□□				LJ0902-C□ LJ1052-C□	LL0900-C□□□ LL1050-C□□□	LLR0900-C□□□□ LLR1050-C□□□□

Model No.	LLW (Double Action) Lift Cylinder
BZX010	LLW0360-C□□□ LLW0400-C□□□ LLW0480-C□□□

External Dimensions



Model No.	BZX010	BZX020	BZX030
A	14	18	22
B	15.5	20	24
C	19.8	20.6	20.6
D	9.3	10.1	10.1
E	5.5	6.3	6.3
G	G1/8	G1/4	G3/8

(mm)

High-Power
Series

Pneumatic Series

Hydraulic Series

Valve / Coupler
Hydraulic UnitManual Operation
Accessories

Cautions / Others

Hole Clamp

SFA
SFC

Swing Clamp

LHA
LHC
LHS
LHW
LT/LG
TLA-2
TLB-2
TLA-1

Link Clamp

LKA
LKC
LKW
LM/LJ
TMA-2
TMA-1

Work Support

LD
LC
TNC
TCAir Sensing
Lift Cylinder

LLW

Compact Cylinder

LL
LLR
LLU
DP
DR
DS
DT

Block Cylinder

DBA
DBC

Control Valve

BZL
BZT

BZX/JZG

Pallet Clamp

VS
VTExpansion
Locating PinVL
VM
VJ
VK

Pull Stud Clamp

FP
FQCustomized
Spring Cylinder

DWA/DWB

Model No. Indication (G Thread Plug with Air Bleeding Function)

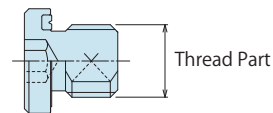
JZG0 1 0

1 2



1 G Thread Size

- 1 : Thread Part G1/8A Thread
- 2 : Thread Part G1/4A Thread
- 3 : Thread Part G3/8A Thread



2 Design No.

- 0 : Revision Number

Specifications

Model No.	JZG010	JZG020	JZG030
Max. Operating Pressure MPa	35		
Withstanding Pressure MPa	42		
G Thread Size	G1/8A	G1/4A	G3/8A
Usable Fluid	General Hydraulic Oil Equivalent to ISO-VG-32		
Operating Temperature °C	0 ~ 70		
Tightening Torque for Main Body N·m	10	25	35

- Notes
- It is dangerous to have air venting operation under high pressure. It must be done under lower pressure.
(For reference: the minimum operation pressure range of the product within the circuit)
 - Refer to the processing dimensions for BZL mounting area.

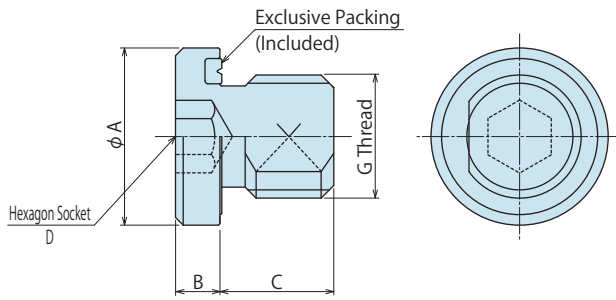
Applicable Products

Model No.	DBA (Single Action) Block Cylinder	DBC (Single Action) Block Cylinder	LC (Single Action) Work Support	LHA (Double Action) Swing Clamp	LHC (Double Action) Swing Clamp	LHE (Double Action) High-Power Swing Clamp	LHS (Double Action) Swing Clamp	LHW (Double Action) Swing Clamp
JZG010	DBA0250-C□ DBA0320-C□	DBC0250-C□ DBC0320-C□	LC0402-C□□□ LC0482-C□□□ LC0552-C□□□ LC0652-C□□□	LHA0360-C□□□ LHA0400-C□□□ LHA0480-C□□□ LHA0550-C□□□	LHC0360-C□□□ LHC0400-C□□□ LHC0480-C□□□ LHC0550-C□□□	LHE0300-C□ LHE0360-C□ LHE0400-C□ LHE0480-C□ LHE0550-C□	LHS0360-C□□□ LHS0400-C□□□ LHS0480-C□□□ LHS0550-C□□□	LHW0400-C□□□ LHW0480-C□□□ LHW0550-C□□□
JZG020	DBA0400-C□ DBA0500-C□	DBC0400-C□ DBC0500-C□	LC0752-C□□□ LC0902-C□□□	LHA0650-C□□□ LHA0750-C□□□	LHC0650-C□□□		LHS0650-C□□□ LHS0750-C□□□	LHW0650-C□□□
JZG030				LHA0900-C□□□ LHA1050-C□□□			LHS0900-C□□□ LHS1050-C□□□	

Model No.	LT/LG (Single Action) Swing Clamp	LKA (Double Action) Link Clamp	LKC (Double Action) Link Clamp	LKE (Double Action) High-Power Link Clamp	LKW (Double Action) Link Clamp	LM/LJ (Single Action) Link Clamp	LL (Double Action) Linear Cylinder	LLR (Double Action) Linear Cylinder
JZG010	LT0360-C□ LT0400-C□ LT0480-C□ LT0550-C□	LKA0360-C□□□ LKA0400-C□□□ LKA0480-C□□□ LKA0550-C□□□	LKC0400-C□□□ LKC0480-C□□□ LKC0550-C□□□	LKE0300-C□ LKE0360-C□ LKE0400-C□ LKE0480-C□ LKE0550-C□	LKW0400-C□□□ LKW0480-C□□□ LKW0550-C□□□	LM0360-C□ LM0400-C□ LM0480-C□ LM0550-C□	LL0360-C□□□ LL0400-C□□□ LL0480-C□□□ LL0550-C□□□	LLR0360-C□□□□□ LLR0400-C□□□□□ LLR0480-C□□□□□ LLR0550-C□□□□□
JZG020	LT0650-C□ LT0750-C□	LKA0650-C□□□ LKA0750-C□□□	LKC0650-C□□□		LKW0650-C□□□	LM0650-C□ LM0750-C□	LL0650-C□□□ LL0750-C□□□	LLR0650-C□□□□□ LLR0750-C□□□□□
JZG030	LG0900-C□ LG1050-C□	LKA0900-C□□□ LKA1050-C□□□				LJ0902-C□ LJ1052-C□	LL0900-C□□□ LL1050-C□□□	LLR0900-C□□□□□ LLR1050-C□□□□□

Model No.	LLW (Double Action) Lift Cylinder	TLA-2 (Double Action) Swing Clamp	TLB-2 (Double Action) Swing Clamp	TLA-1 (Single Action) Swing Clamp	TMA-2 (Double Action) Link Clamp	TMA-1 (Single Action) Link Clamp
JZG010	LLW0360-C□□□□□ LLW0400-C□□□□□ LLW0480-C□□□□□	TLA0401-2C□□□ TLA0601-2C□□□ TLA0801-2C□□□ TLA1001-2C□□□ TLA1601-2C□□□	TLB0401-2C□□□ TLB0601-2C□□□ TLB0801-2C□□□ TLB1001-2C□□□ TLB1601-2C□□□	TLA0402-1C□ TLA0602-1C□ TLA0802-1C□ TLA1002-1C□ TLA1602-1C□	TMA0250-2C□ TMA0400-2C□ TMA0600-2C□ TMA1000-2C□	TMA0250-1C□ TMA0400-1C□ TMA0600-1C□ TMA1000-1C□
JZG020		TLA2001-2C□□□ TLA2501-2C□□□ TLA4001-2C□□□	TLB2001-2C□□□ TLB2501-2C□□□ TLB4001-2C□□□	TLA2002-1C□ TLA2502-1C□ TLA4002-1C□	TMA1600-2C□ TMA2500-2C□ TMA3200-2C□	TMA1600-1C□ TMA2500-1C□ TMA3200-1C□

External Dimensions



Model No.	JZG010	JZG020	JZG030
A	14	18	22
B	3.5	4.5	4.5
C	8	9	10
D	5	6	8
G	G1/8A	G1/4A	G3/8A

(mm)

High-Power
Series

Pneumatic Series

Hydraulic Series

Valve / Coupler
Hydraulic UnitManual Operation
Accessories

Cautions / Others

Hole Clamp

SFA
SFC

Swing Clamp

LHA
LHC
LHS
LHW
LT/LG
TLA-2
TLB-2
TLA-1

Link Clamp

LKA
LKC
LKW
LM/LJ
TMA-2
TMA-1

Work Support

LD
LC
TNC
TCAir Sensing
Lift Cylinder

LLW

Compact Cylinder

LL
LLR
LLU
DP
DR
DS
DT

Block Cylinder

DBA
DBC

Control Valve

BZL
BZT**BZX/JZG**

Pallet Clamp

VS
VTExpansion
Locating PinVL
VM
VJ
VK

Pull Stud Clamp

FP
FQCustomized
Spring Cylinder

DWA/DWB

Manifold Block

Model WHZ-MD

Model LZY-MD

Model LZ-MS

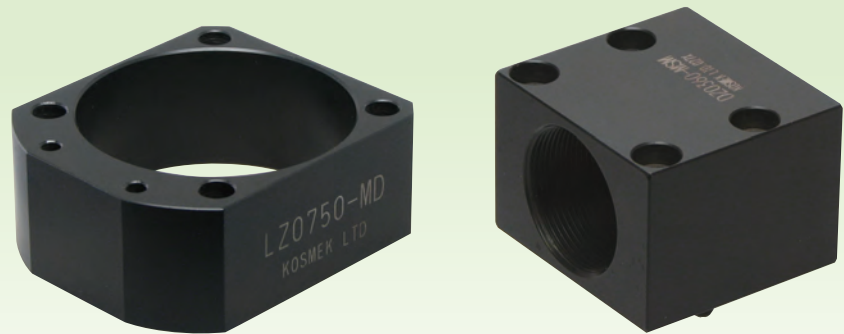
Model LZ-MP

Model TMZ-1MB

Model TMZ-2MB

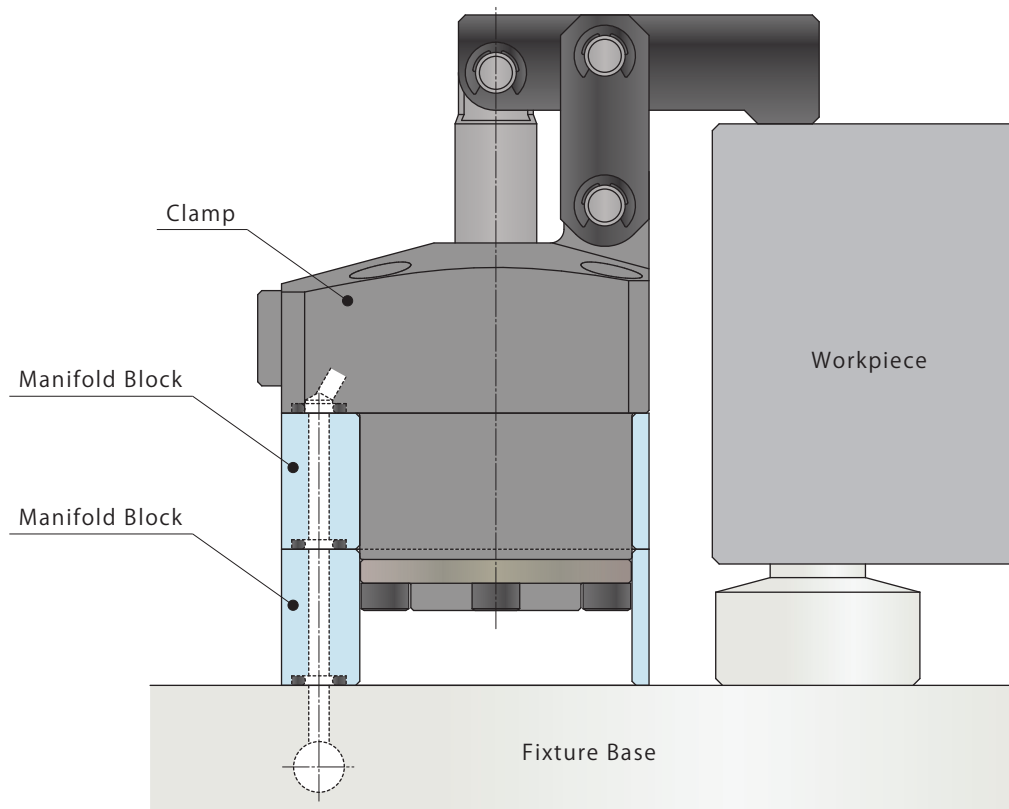
Model DZ-MG

Model DZ-MS



- **Manifold Block**

The mounting height of clamp is adjustable with the manifold block.



Applicable Model

Manifold Block Model No.	Corresponding Item Model No.
Model WHZ-MD	Model WCA Model WHA Model WCE Model WHE
Model LZY-MD	Model LKA Model LKE Model LHC Model LHS Model LKC Model LHA Model LHE Model LL
Model LZ-MS	Model LM Model LT Model LJ Model LG
Model LZ-MP	Model LC Model TC
Model TMZ-1MB	Model TMA-1
Model TMZ-2MB	Model TMA-2
Model DZ-MG□/MS□	Model DP

- High-Power Series
- Pneumatic Series
- Hydraulic Series
- Valve / Coupler Hydraulic Unit
- Manual Operation Accessories**
- Cautions / Others

Screw Locator
VXF

Manual Expansion Locating Pin
VX

Manifold Block

- WHZ-MD
- LZY-MD
- LZ-MS
- LZ-MP
- TMZ-1MB
- TMZ-2MB
- DZ-M

Manifold Block / Nut

- DZ-R
- DZ-C
- DZ-P
- DZ-B
- LZ-S
- LZ-SQ
- TNZ-S
- TNZ-SQ

Pressure Switch
JB

Pressure Gauge
JGA/JGB

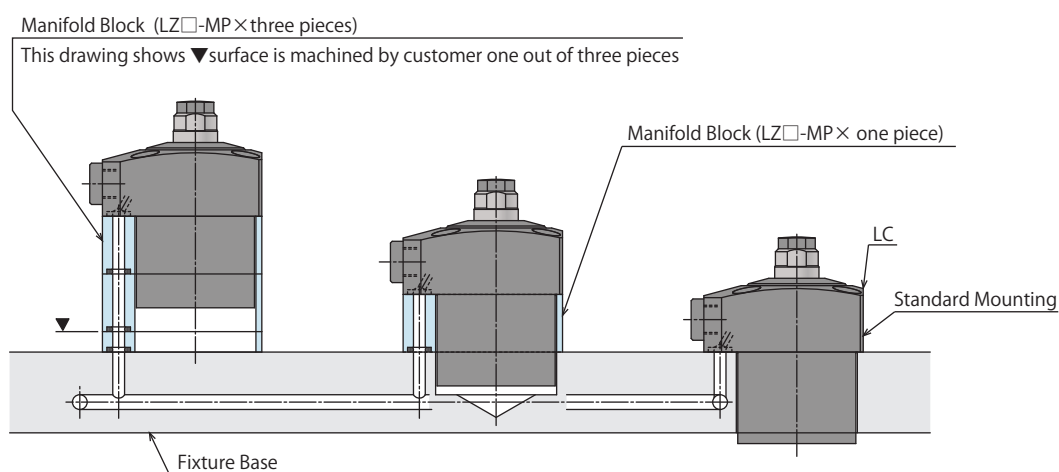
Manifold
JX

Coupler Switch
PS

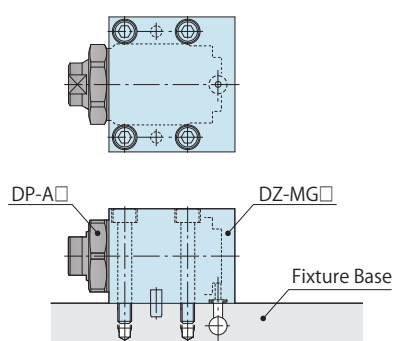
G-Thread Fitting

Application Examples

• Work Support (LC) Application Example



• Push Cylinder (DP) Application Example



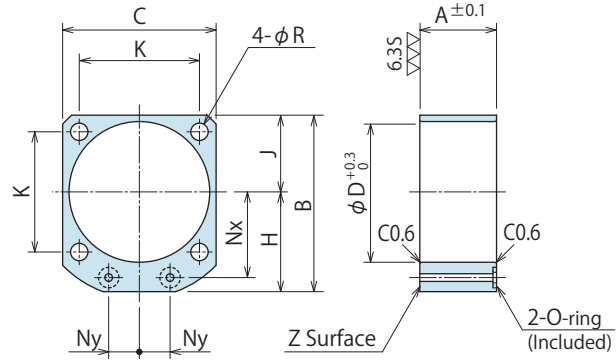
Manifold Block for WCA/WCE/WHA/WHE

Model No. Indication

WHZ 048 0 - MD

Size
(Refer to following table)

Design No.
(Revision Number)



(mm)

Model No.	WHZ0600-MD	WHZ0320-MD	WHZ0400-MD	WHZ0500-MD	WHZ0630-MD
Corresponding Item Model Number	WCE0601 WHE0600	WCA0321 WHA0320	WCE1001 WHE1000	WCA0401 WHA0400	WCE1601 WHE1600
A	23	25	27	31	35
B	54	60	67	77	88.5
C	45	50	58	68	81
D	40	46	54	64	77
H	31.5	35	38	43	48
J	22.5	25	29	34	40.5
K	34	39	45	53	65
Nx	26	28	31	36	41
Ny	9	10	13	15	20
R	5.5	5.5	5.5	6.5	6.5
O-ring	1BP5	1BP7	1BP7	1BP7	1BP7
Mass kg	0.1	0.1	0.1	0.2	0.2

- Notes
1. Material: A2017BE-T4
 2. Mounting bolts are not provided. Prepare mounting bolts according to the mounting height using the A dimensions as a reference.
 3. If thickness other than A is required, perform additional machining on surface Z. Please refer to the drawing.

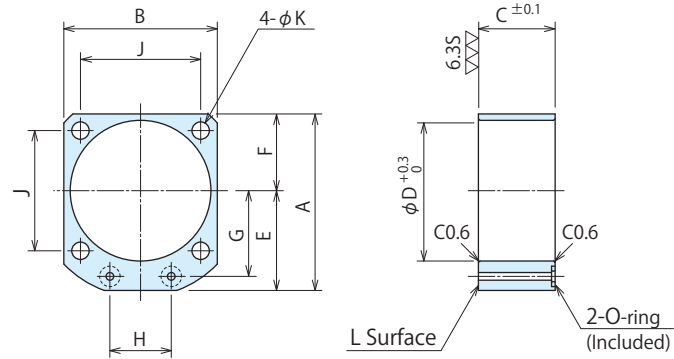
Manifold Block for LKA/LKC/LKE/LHA/LHC/LHE/LHS/LL

Model No. Indication

LZY 048 0 - MD

Size
(Refer to following table)

Design No.
(Revision Number)



(mm)

Model No.	LZY0360-MD	LZY0400-MD	LZY0480-MD	LZY0550-MD	LZY0650-MD	LZY0750-MD	LZY0900-MD	LZY1050-MD
Corresponding Item Model Number	LKA0360 / LKE0360 LHA0360 / LHC0360 LHE0360 / LHS0360 LLO360	LKA0400 / LKC0400 LKE0400 / LHA0400 LHC0400 / LHE0400 LHS0400 / LLO400	LKA0480 / LKC0480 LKE0480 / LHA0480 LHC0480 / LHE0480 LHS0480 / LLO480	LKA0550 / LKC0550 LKE0550 / LHA0550 LHC0550 / LHE0550 LHS0550 / LLO550	LKA0650 / LKC0650 LHA0650 / LHC0650 LHS0650 LLO650	LKA0750 LHA0750 LHS0750 LLO750	LKA0900 LHA0900 LHS0900 LLO900	LKA1050 LHA1050 LHS1050 LLO1050
A	49	54	61	69	81	92	107	122
B	40	45	51	60	70	80	95	110
C	20	20	27	30	32	37	45	50
D	36	40	48	55	65	75	90	105
E	29	31.5	35.5	39	46	52	59.5	67
F	20	22.5	25.5	30	35	40	47.5	55
G	23.5	26	30	33.5	39.5	45	52.5	60
H	16	18	22	24	30	32	37	45
J	31.4	34	40	47	55	63	75	88
K	4.5	5.5	5.5	6.8	6.8	9	11	14
O-ring	1BP5	1BP5	1BP5	1BP5	1BP7	1BP7	1BP7	1BP7
Mass kg	0.2	0.2	0.3	0.4	0.5	0.8	1.2	1.7

- Notes
1. Material: S45C
 2. Mounting bolts are not provided. Prepare mounting bolts according to the mounting height using the C dimensions as a reference.
 3. If thickness other than C is required, perform additional machining on surface L. Please refer to the drawing.

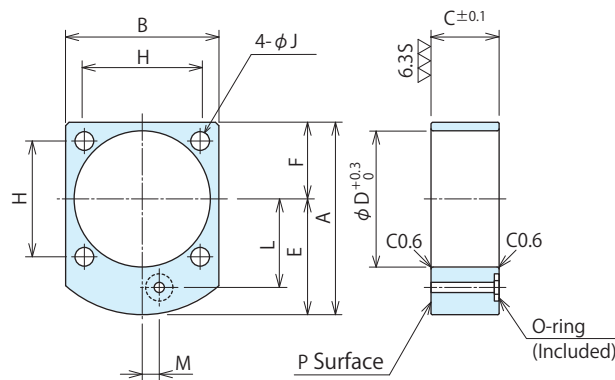
Manifold Block for LM/LJ/LT/LG

Model No. Indication

LZ 048 0 - MS

Size
(Refer to following table)

Design No.
(Revision Number)



(mm)

Model No.	LZ0360-MS	LZ0400-MS	LZ0480-MS	LZ0550-MS	LZ0650-MS	LZ0750-MS	LZ0900-MS	LZ1050-MS
Corresponding Item	LT0360	LT0400	LT0480	LT0550	LT0650	LT0750	LG0900	LG1050
Model Number	LM0360	LM0400	LM0480	LM0550	LM0650	LM0750	LJ0902	LJ1052
A	51.5	56.5	62	70	82	93	107	122
B	40	45	51	60	70	80	95	110
C	20	20	27	30	32	37	45	50
D	36	40	48	55	65	75	90	105
E	31.5	34	36.5	40	47	53	59.5	67
F	20	22.5	25.5	30	35	40	47.5	55
H	31.4	34	40	47	55	63	75	88
J	4.5	5.5	5.5	6.8	6.8	9	11	14
L	23.5	26	30	33.5	39.5	45	52.5	60
M	5	5	0	0	0	0	0	0
O-ring	1BP5	1BP5	1BP5	1BP5	1BP7	1BP7	1BP7	1BP7
Mass kg	0.2	0.2	0.3	0.4	0.5	0.8	1.2	1.7

- Notes
1. Material: S45C
 2. Mounting bolts are not provided. Prepare mounting bolts according to the mounting height using the C dimensions as a reference.
 3. If thickness other than C is required, perform additional machining on surface L. Please refer to the drawing.

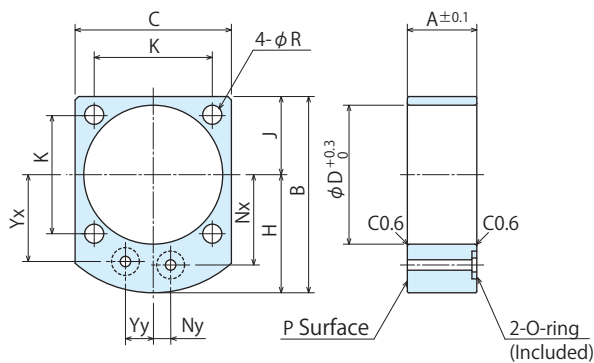
Manifold Block for LC/TC

Model No. Indication

LZ 048 0 - MP

Size
(Refer to following table)

Design No.
(Revision Number)



(mm)

Model No.	LZ0400-MP	LZ0480-MP	LZ0550-MP	LZ0650-MP	LZ0750-MP	LZ0900-MP
Corresponding Item	LC0402	LC0482	LC0552	LC0652	LC0752	LC0902
Model Number	TC0402	TC0482	TC0552	TC0652	TC0752	
A	20	27	30	32	37	45
B	56.5	62	70	82	93	107
C	45	51	60	70	80	95
D	40	48	55	65	75	90
H	34	36.5	40	47	53	59.5
J	22.5	25.5	30	35	40	47.5
K	34	40	47	55	63	75
Nx	26	30	33.5	39.5	45	52.5
Ny	5	0	0	0	0	0
R	5.5	5.5	6.8	6.8	9	11
Yx	25	28	31	37	42.5	50
Yy	8	11	13	14	15	15
O-ring	1BP5	1BP5	1BP5	1BP7	1BP7	1BP7
Mass kg	0.2	0.3	0.4	0.5	0.8	1.2

- Notes
1. Material: S45C
 2. Mounting bolts are not provided. Prepare mounting bolts according to the mounting height using the A dimensions as a reference.
 3. If thickness other than A is required, perform additional machining on surface P. Please refer to the drawing.

- High-Power Series
- Pneumatic Series
- Hydraulic Series
- Valve / Coupler Hydraulic Unit
- Manual Operation Accessories
- Cautions / Others
- Screw Locator
 - VXF
- Manual Expansion Locating Pin
 - VX
- Manifold Block
 - WHZ-MD
 - LZY-MD
 - LZ-MS
 - LZ-MP
 - TMZ-1MB
 - TMZ-2MB
 - DZ-M
- Manifold Block / Nut
 - DZ-R
 - DZ-C
 - DZ-P
 - DZ-B
 - LZ-S
 - LZ-SQ
 - TNZ-S
 - TNZ-SQ
- Pressure Switch
 - JB
- Pressure Gauge
 - JGA/JGB
- Manifold
 - JX
- Coupler Switch
 - PS
- G-Thread Fitting

Sales Offices

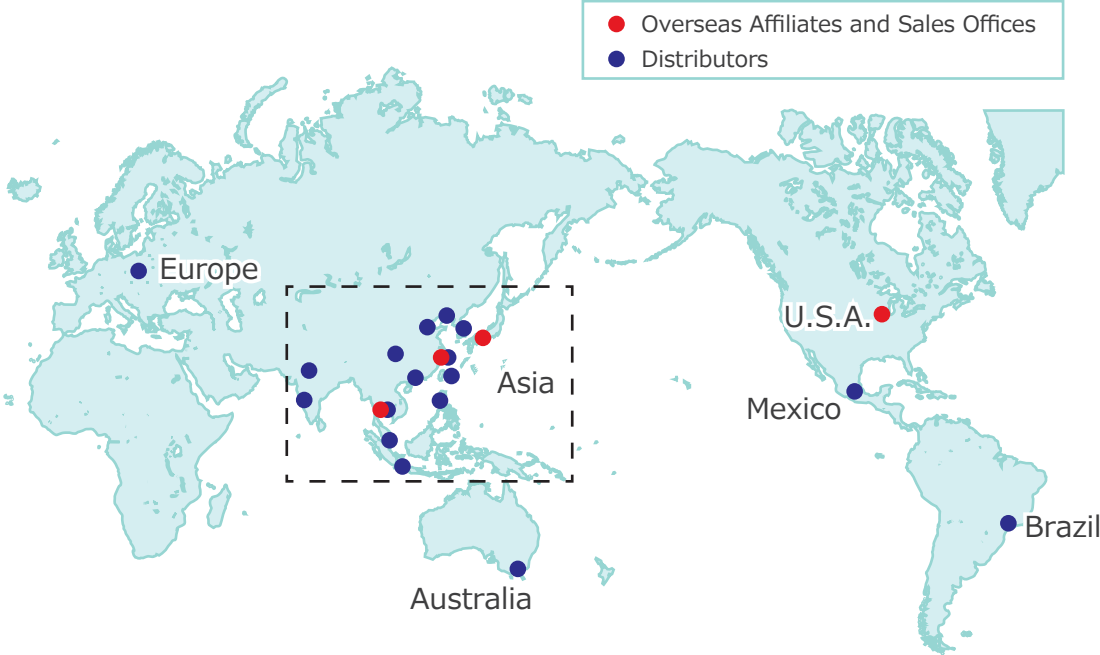
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Global Network



Asia Detailed Map



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