

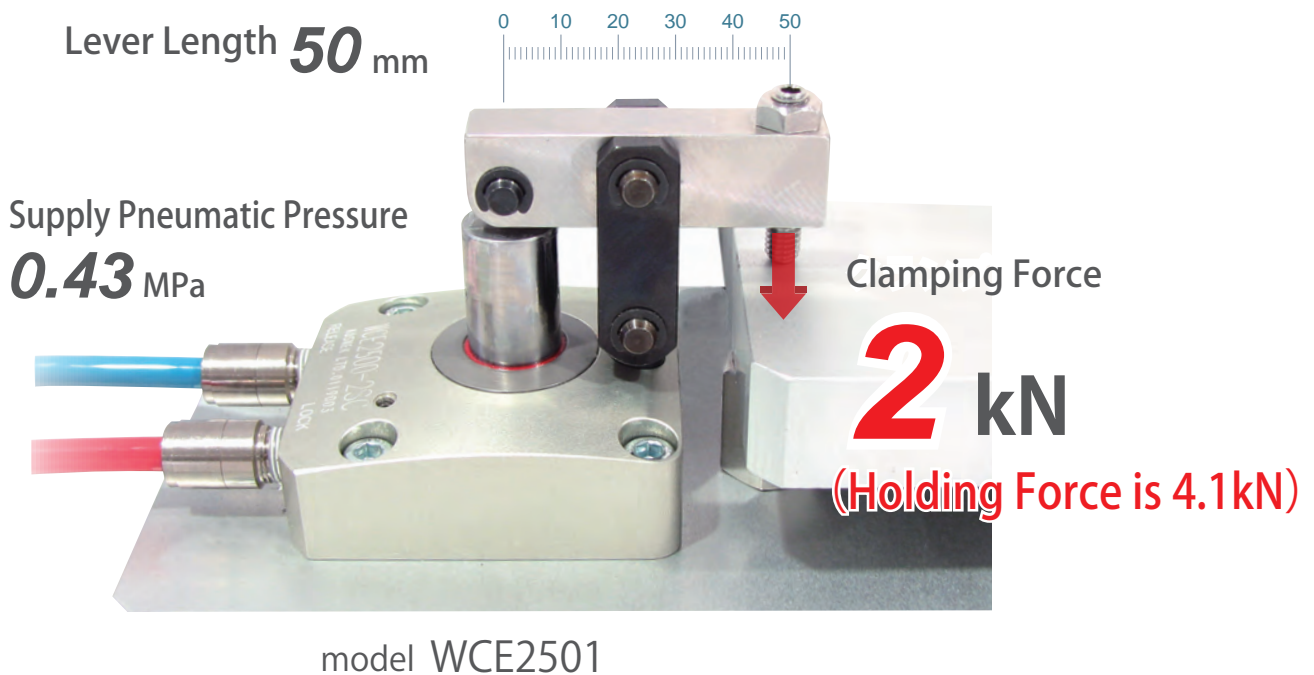
# High-Power Pneumatic Link Clamp

Model WCE



Clamping force which replaces hydraulic clamp  
Development of high power pneumatic link clamp

PAT. P.



Clamping Force  
(Compared with conventional WCA model)

**About 2.5 Times**

Available in five body sizes.

Cylinder force is **0.30 ~ 4.04 kN**

**High-Power Series**

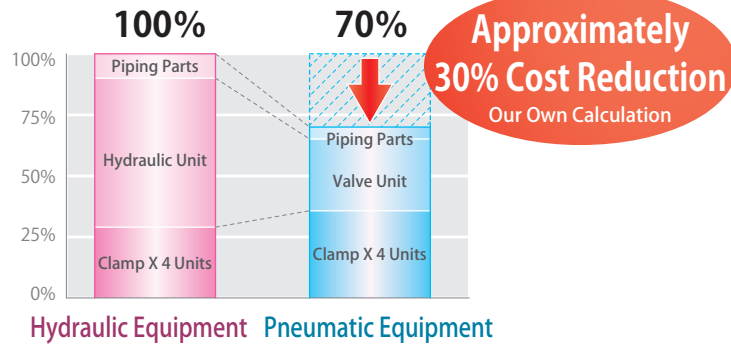
- Pneumatic Series
- Hydraulic Series
- Valve / Coupler Hydraulic Unit
- Manual Operation Accessories
- Cautions / Others

- 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

## ● Elimination of Hydraulics

The hydraulic power pack and clamping systems can be eliminated by using pneumatic systems.

Implementation Cost Comparison

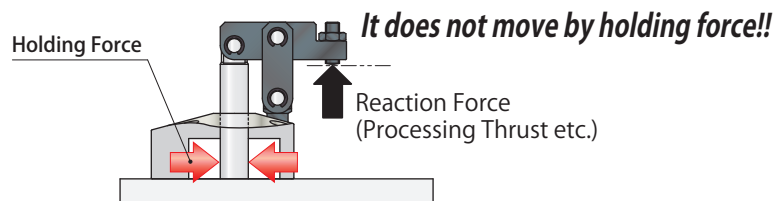


## ● Holding Force

Clamping force is suppressed to necessary minimum by the powerful holding force beyond clamping force, and work distortion can be decreased.

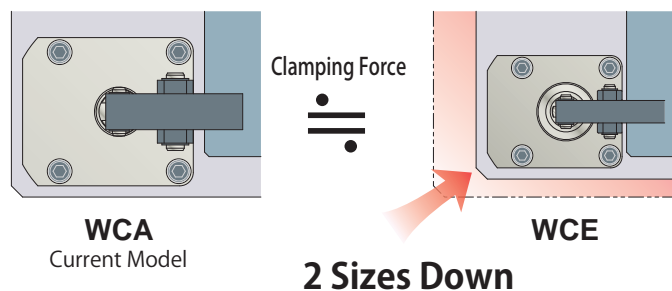
※ 1. It change with the working pressure and lever length.

Holding force is 3 times the clamping force by a mechanical lock. ※1



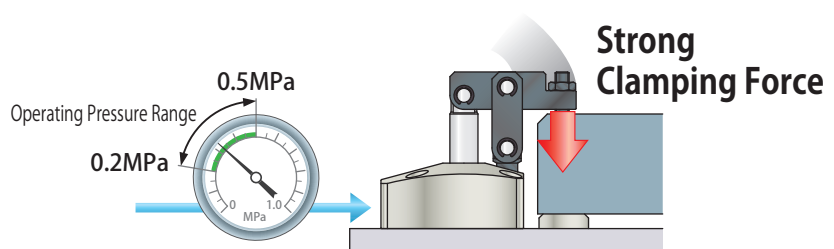
## ● Space-Saving

Equivalent clamping force by 2 size down than current WCA.

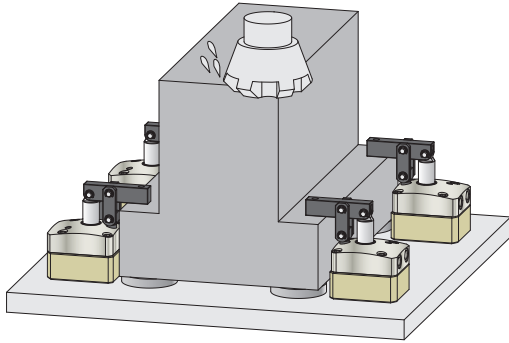


## ● Energy Saving

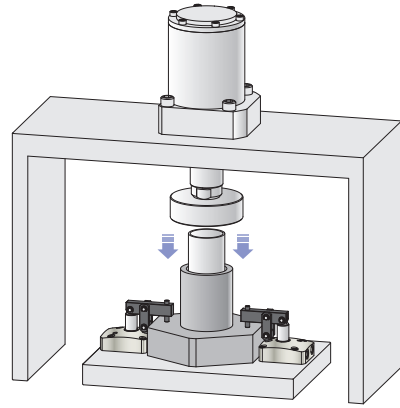
Higher clamping force is achieved by low operating pressure.



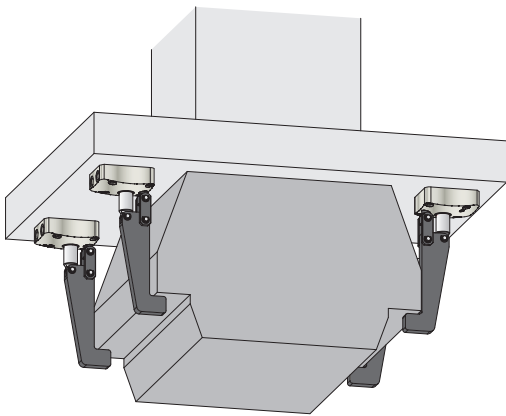
● Application Examples



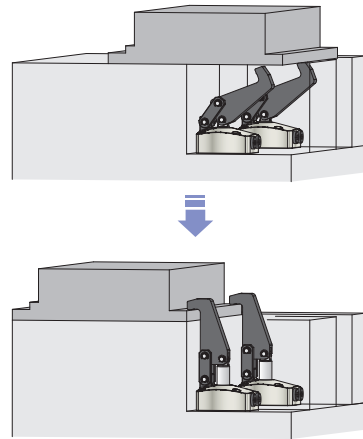
<Machining Process>



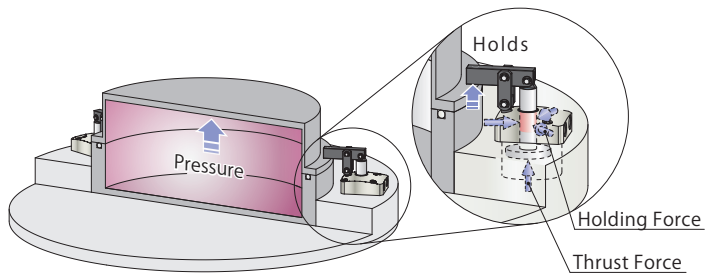
<Press Fit Process>



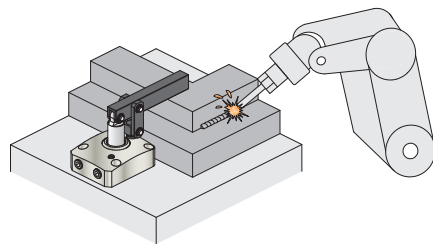
<Transportation • Gantry loader>



<Interference Prevention>



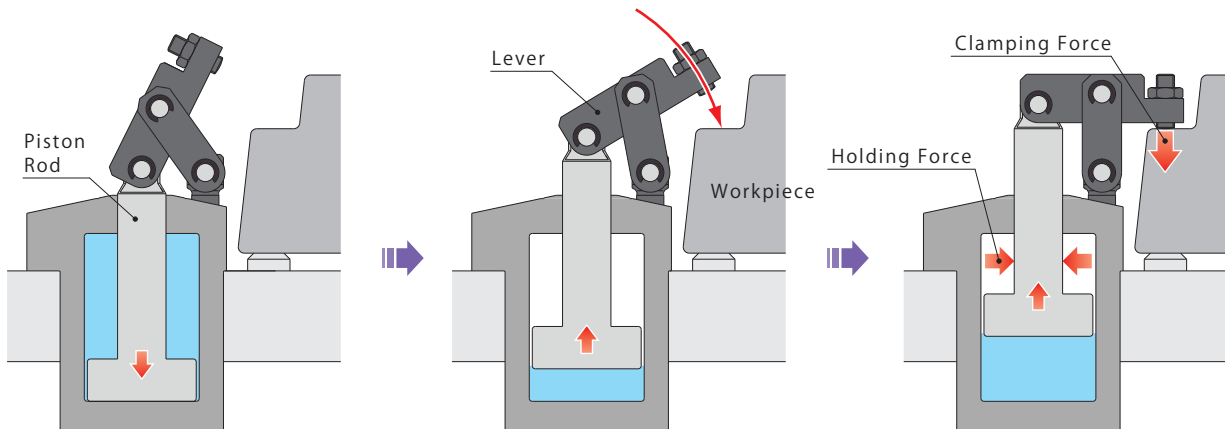
<Air Leak Tester>



<Welding Process>

※ For details, please do not hesitate to contact us.

**Action Description** ※Configuration of parts shown in this simplified drawing is different from that of an actual product.



Release Air Pressure : ON  
Lock Air Pressure : OFF  
  
Piston rod retreated.

Release Air Pressure : OFF  
Lock Air Pressure : ON  
(In the middle of pressure rising)  
  
Piston goes up until lever clamps the work.

Release Air Pressure : OFF  
Lock Air Pressure : ON  
(Pressure rising completion)  
  
Work is clamped.  
The internal mechanical lock operates and clamping force and holding force achieved.  
※ When pneumatic pressure becomes zero in this state, holds at lock state with an internal mechanical lock. (Clamping force and holding force decline.)

**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

**Standard Model**

Model **WCE**

External Dimensions  
→ P.115

Clamping with link mechanism

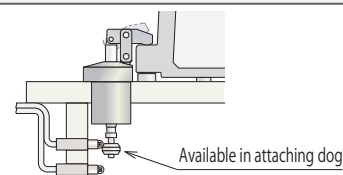


**Double End Rod Option for Dog**

Model **WCE-D**

External Dimensions  
→ P.117

Clamped condition can be detected by switch etc

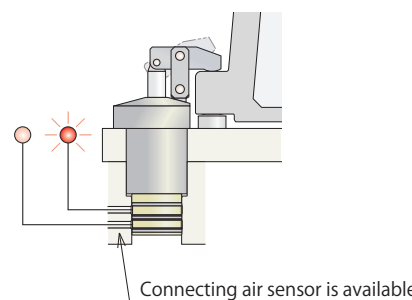


**Air Sensing Manifold Option**

Model **WCE-M**

External Dimensions  
→ P.119

Clamping action is possible to confirm with air catch sensor

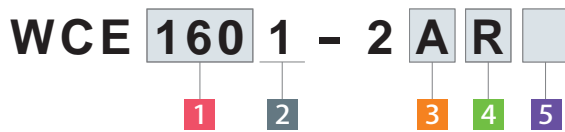


**Air Sensing Piping Option**

Model **WCE-N**

External Dimensions  
→ P.121

## Model No. Indication



### 1 Cylinder Force

- 060** : Cylinder Force 0.6kN (Pneumatic Pressure 0.5MPa)
  - 100** : Cylinder Force 1.0kN (Pneumatic Pressure 0.5MPa)
  - 160** : Cylinder Force 1.6kN (Pneumatic Pressure 0.5MPa)
  - 250** : Cylinder Force 2.5kN (Pneumatic Pressure 0.5MPa)
  - 400** : Cylinder Force 4.0kN (Pneumatic Pressure 0.5MPa)
- ※ Cylinder force differs from clamping force and holding force.

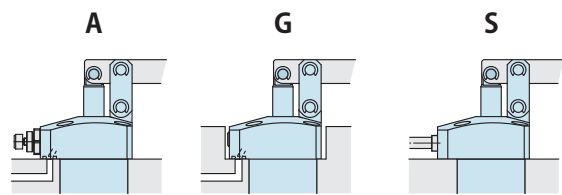
### 2 Design No.

**1** : Revision Number

### 3 Piping Method

- A** : Gasket Option (with Ports for Speed Controller)
- G** : Gasket Option (with R Thread Plug)
- S** : Piping Option (Rc Thread)

※ Speed control valve (BZW) is sold separately.  
Refer to the P.213 for detail.



Gasket Option

Piping Option

With Ports for Speed Controller  
Includes R Thread Plug  
(order speed controller separately)

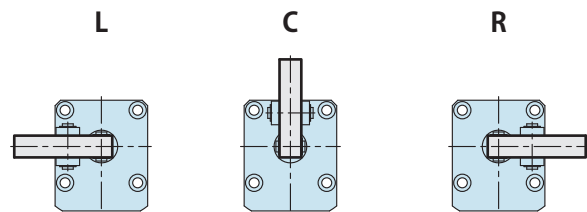
with R Thread Plug

Rc Thread  
No Gasket Port

### 4 Lever Direction

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

※ This images show the lever direction when the piping port is placed in front of you.



### 5 Action Confirmation Method

- Blank** : Standard
- D** : Double End Rod Option for Dog
- M** : Air Sensing Manifold Option
- N** : Air Sensing Piping Option

## Specifications

Model No.		WCE0601-2□□□	WCE1001-2□□□	WCE1601-2□□□	WCE2501-2□□□	WCE4001-2□□□	
Cylinder Force (at 0.5MPa)	kN	0.6	1.0	1.6	2.5	4.0	
Clamping Force		Refer to "Clamping Force Curve" on P.107					
Holding Force		Refer to "Holding Force Curve" on P.109					
Clamping Force and Holding Force at 0MPa		Refer to "Clamping Force and Holding Force Curve at 0 MPa" on P.111					
Full Stroke	mm	19.5	22	23.5	27.5	33	
(Break down)	Idle Stroke	mm	16	18	19.5	23.5	29
	Lock Stroke <sup>※1</sup>	mm	3.5	4	4	4	4
Cylinder Capacity	Lock	5 when Blank is chosen	11.2	21.2	34.8	55.2	94.2
		5 when D/M/N is chosen	10.2	19.5	33.0	52.1	90.5
	Release		9.7	17.8	30.1	48.2	81.7
Spring Force	N	37.6 ~ 57.6	58.9 ~ 97.8	80.5 ~ 141.1	142.8 ~ 219.2	228.9 ~ 335.1	
Max. Operating Pressure	MPa	0.5					
Min. Operating Pressure <sup>※2</sup>	MPa	0.2					
Withstanding Pressure	MPa	0.75					
Operating Temperature	°C	0 ~ 70					

### Notes

- ※1. The specification value of cylinder force, clamping force and holding force is fulfilled only when clamping within the lock stroke range.
- ※2. Minimum pressure to operate the clamp without load.
  1. Please see the external dimension if you need the information of mass.

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

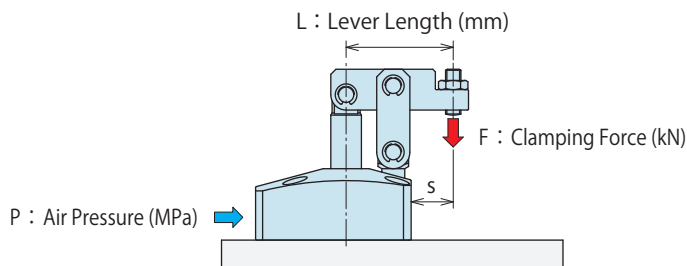
High-Power Pneumatic Work Support

WNC

High-Power Pneumatic Pallet Clamp

WVS

## Clamping Force Curve



(How to read the clamping force curve)

When using WCE2501-2□□□

Supply Air Pressure 0.3MPa

Lever Length L=50mm

Clamping force is about 1.48kN.

### Notes

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

1. Tables and graphs shown are the relationship between the clamping force(kN) and supply air pressure (MPa).

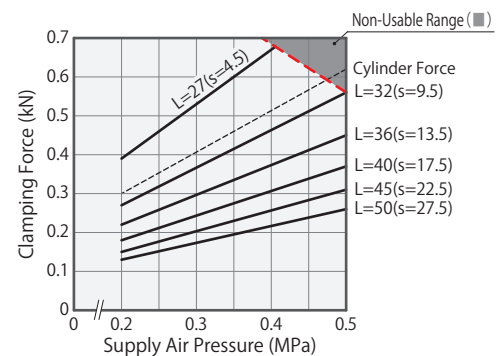
2. Cylinder output(When L=0) cannot be calculated from the calculation formula of clamping force.

3. Clamping force shows capability when a lever locks in a horizontal position.

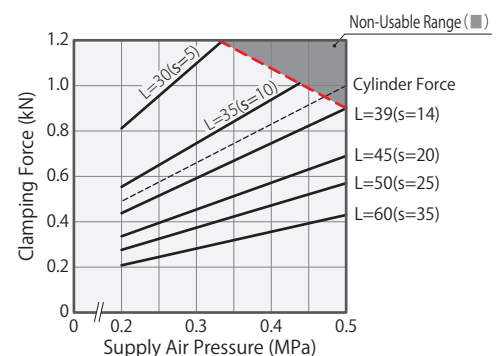
4. The clamping force varies as per the lever length. Please use it with supply pneumatic pressure suitable for lever length.

5. Operation in the non-usable range can damage the clamp and lead to fluid leakage.

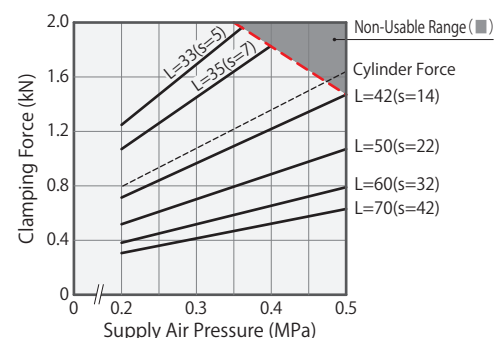
WCE0601-2□□□		Clamping Force Calculation Formula※1 (kN)		$F = \frac{15.5 \times P + 1.2}{L - 16}$				
Air Pressure (MPa)	Cylinder Force (kN)	Clamping Force (kN) Non-Usable Range (■)						Min. Lever Length (mm)
		Lever Length L (mm)						
		27	32	36	40	45	50	
0.5	0.62	■	0.56	0.45	0.37	0.31	0.26	32
0.4	0.51	0.67	0.46	0.37	0.31	0.26	0.22	27
0.3	0.41	0.53	0.37	0.29	0.24	0.20	0.17	24
0.2	0.30	0.39	0.27	0.22	0.18	0.15	0.13	21
Max. Operating Pressure (MPa)		0.40	0.50	0.50	0.50	0.50	0.50	



WCE1001-2□□□		Clamping Force Calculation Formula※1 (kN)		$F = \frac{29.9 \times P + 2.6}{L - 19.5}$				
Air Pressure (MPa)	Cylinder Force (kN)	Clamping Force (kN) Non-Usable Range (■)						Min. Lever Length (mm)
		Lever Length L (mm)						
		30	35	39	45	50	60	
0.5	1.00	■	■	0.90	0.69	0.58	0.43	39
0.4	0.83	■	0.94	0.75	0.57	0.48	0.36	33
0.3	0.66	1.10	0.75	0.59	0.45	0.38	0.29	29
0.2	0.49	0.82	0.55	0.44	0.34	0.28	0.21	26
Max. Operating Pressure (MPa)		0.33	0.43	0.50	0.50	0.50	0.50	



WCE1601-2□□□		Clamping Force Calculation Formula※1 (kN)		$F = \frac{53.1 \times P + 4.4}{L - 21}$				
Air Pressure (MPa)	Cylinder Force (kN)	Clamping Force (kN) Non-Usable Range (■)						Min. Lever Length (mm)
		Lever Length L (mm)						
		33	35	42	50	60	70	
0.5	1.64	■	■	1.47	1.07	0.79	0.63	42
0.4	1.36	■	■	1.22	0.88	0.66	0.52	36
0.3	1.08	1.69	1.45	0.97	0.70	0.52	0.41	31
0.2	0.79	1.25	1.07	0.72	0.52	0.39	0.31	28
Max. Operating Pressure (MPa)		0.36	0.39	0.50	0.50	0.50	0.50	



**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

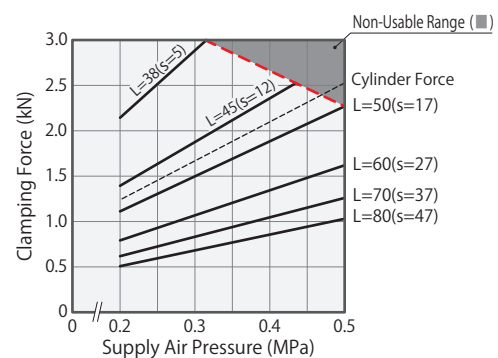
High-Power Pneumatic Work Support

WNC

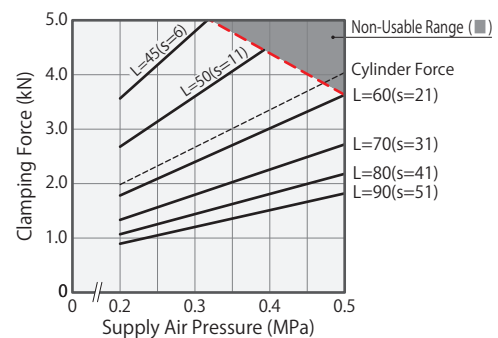
High-Power Pneumatic Pallet Clamp

WVS

<b>WCE2501-2</b> □□□□		Clamping Force Calculation Formula <sup>**1</sup> (kN) $F = \frac{96.7 \times P + 8.1}{L - 25}$						
Air Pressure (MPa)	Cylinder Force (kN)	Clamping Force (kN) Non-Usable Range (■)						Min. Lever Length (mm)
		Lever Length L (mm)						
		38	45	50	60	70	80	
0.5	2.53	■	■	2.26	1.61	1.25	1.03	50
0.4	2.10	■	2.34	1.87	1.34	1.04	0.85	42
0.3	1.67	2.85	1.86	1.48	1.06	0.82	0.67	37
0.2	1.24	2.11	1.37	1.10	0.78	0.61	0.50	33
Max. Operating Pressure (MPa)		0.31	0.43	0.50	0.50	0.50	0.50	

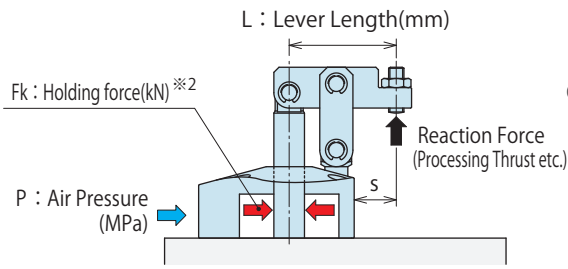


<b>WCE4001-2</b> □□□□		Clamping Force Calculation Formula <sup>**1</sup> (kN) $F = \frac{184.7 \times P + 16.5}{L - 30}$						
Air Pressure (MPa)	Cylinder Force (kN)	Clamping Force (kN) Non-Usable Range (■)						Min. Lever Length (mm)
		Lever Length L (mm)						
		45	50	60	70	80	90	
0.5	4.04	■	■	3.63	2.72	2.18	1.81	60
0.4	3.35	■	■	3.01	2.26	1.81	1.51	51
0.3	2.67	4.79	3.60	2.40	1.80	1.44	1.20	44
0.2	1.98	3.56	2.67	1.78	1.34	1.07	0.89	39
Max. Operating Pressure (MPa)		0.31	0.39	0.50	0.50	0.50	0.50	



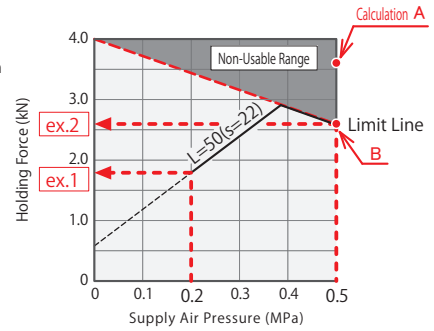


## ● Holding Force Curve



(Reading of holding force: example1)  
 When WCE1601-2□□□ is used.  
 Supply Air Pressure 0.2MPa, Lever Length L=50mm  
 Holding force is about 1.79kN.

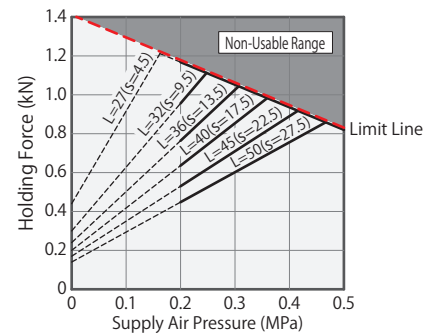
(Reading of holding force: example2)  
 In the case of using WCE1601-2□□□  
 Supply Air Pressure 0.5MPa, Lever Length L= 50 mm  
 A calculated value becomes the holding force.  
 The value of tolerance part B which met the  
 limit line becomes holding force which can  
 counter to reaction force, and holding force  
 becomes about 2.58 kN(s).



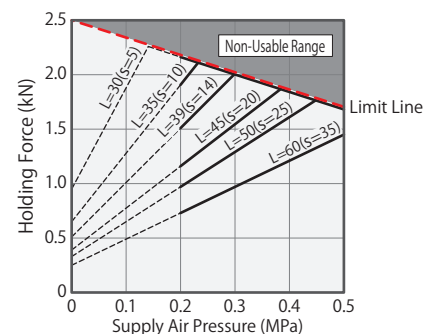
### Notes

- ※2. Holding force shows the force which can counter to reaction force in the clamping state, and differ from clamp force. Moreover, keep in mind that it may produce displacement depending on lever rigidity even if it is the reaction force below holding force. (When slight displacement is also not allowed, please keep the reaction force beyond clamp force from being added.)
- ※3. Fk : Holding force (kN) , P : Supply air pressure (MPa) , L : Lever length (mm).  
 When a holding force calculated value exceeds the value of a limit line, holding force becomes a value of a limit line.
  1. This table and the graph show the relation between holding force(kN) and supply pneumatic pressure(MPa).
  2. Holding force shows capability when a lever locks in a horizontal position.
  3. Holding force changes with lever length. Please use it with supply pneumatic pressure suitable for lever length.
  4. Operation in the non-usable range can damage the clamp and lead to fluid leakage.

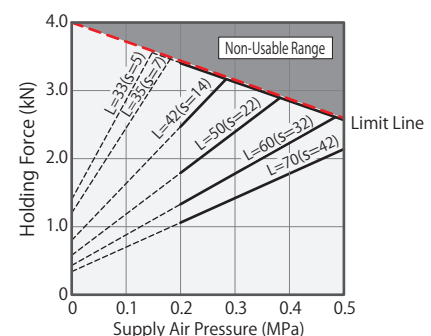
WCE0601-2□□□		Holding Force Formula ※3 (kN) (Fk ≤ Limit Line Value)		$Fk = \frac{52.4 \times P + 4.8}{L - 16}$				
Supply Air Pressure (MPa)	Holding Force (kN) Non-Usable Range (■)						Non-Usable Range Limit Line Value (kN)	
	Lever Length L (mm)							
	27	32	36	40	45	50		
0.5	■	0.82	0.82	0.82	0.82	0.82	0.82	
0.4	0.94	0.94	0.94	0.94	0.89	0.76	0.94	
0.3	1.05	1.05	1.03	0.86	0.71	0.60	1.05	
0.2	1.17	0.96	0.76	0.64	0.53	0.45	1.17	



WCE1001-2□□□		Holding Force Formula ※3 (kN) (Fk ≤ Limit Line Value)		$Fk = \frac{97.6 \times P + 10.0}{L - 19.5}$				
Supply Air Pressure (MPa)	Holding Force (kN) Non-Usable Range (■)						Non-Usable Range Limit Line Value (kN)	
	Lever Length L (mm)							
	30	35	39	45	50	60		
0.5	■	■	1.67	1.67	1.67	1.45	1.67	
0.4	■	1.84	1.84	1.84	1.61	1.21	1.84	
0.3	2.01	2.01	2.01	1.54	1.29	0.97	2.01	
0.2	2.18	1.90	1.51	1.16	0.97	0.73	2.18	



WCE1601-2□□□		Holding Force Formula ※3 (kN) (Fk ≤ Limit Line Value)		$Fk = \frac{175.2 \times P + 16.8}{L - 21}$				
Supply Air Pressure (MPa)	Holding Force (kN) Non-Usable Range (■)						Non-Usable Range Limit Line Value (kN)	
	Lever Length L (mm)							
	33	35	42	50	60	70		
0.5	■	■	2.58	2.58	2.58	2.13	2.58	
0.4	■	■	2.86	2.86	2.23	1.77	2.86	
0.3	3.14	3.14	3.14	2.39	1.78	1.42	3.14	
0.2	3.42	3.42	2.47	1.79	1.33	1.06	3.42	



**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**

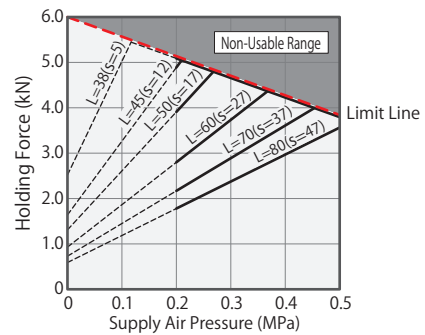
High-Power Pneumatic Work Support

WNC

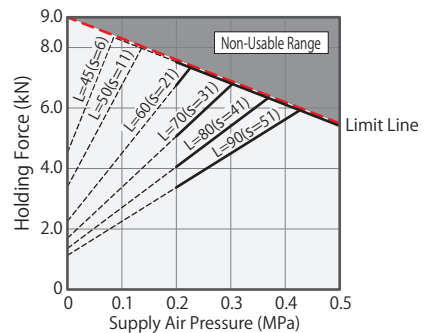
High-Power Pneumatic Pallet Clamp

WVS

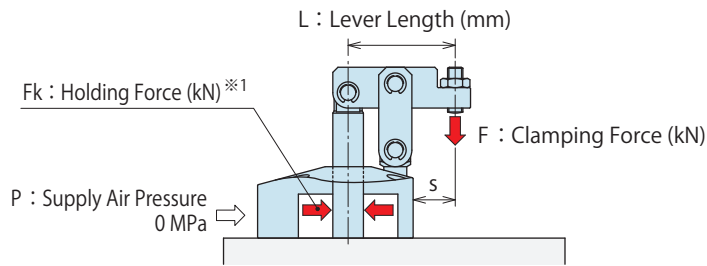
WCE2501-2□□□□		Holding Force Formula <sup>**3</sup> (kN) $F_k = \frac{325.6 \times P + 32.6}{L - 25}$ ( $F_k \leq$ Limit Line Value)					
Supply Air Pressure (MPa)	Holding Force (kN) Non-Usable Range (■)						Non-Usable Range Limit Line Value (kN)
	Lever Length L (mm)						
	38	45	50	60	70	80	
0.5	■	■	3.81	3.81	3.81	3.55	3.81
0.4	■	4.24	4.24	4.24	3.62	2.96	4.24
0.3	4.67	4.67	4.67	3.72	2.90	2.37	4.67
0.2	5.10	4.89	3.91	2.79	2.17	1.78	5.10



WCE4001-2□□□□		Holding Force Formula <sup>**3</sup> (kN) $F_k = \frac{673.9 \times P + 68}{L - 30}$ ( $F_k \leq$ Limit Line Value)					
Supply Air Pressure (MPa)	Holding Force (kN) Non-Usable Range (■)						Non-Usable Range Limit Line Value (kN)
	Lever Length L (mm)						
	45	50	60	70	80	90	
0.5	■	■	5.48	5.48	5.48	5.48	5.48
0.4	■	■	6.16	6.16	6.16	5.63	6.16
0.3	6.85	6.85	6.85	6.75	5.40	4.50	6.85
0.2	7.53	7.53	6.76	5.07	4.06	3.38	7.53



## Clamping Force and Holding Force Curve at 0MPa



(Reading of the clamping force and holding force curve at zero pneumatic pressure)

When using WCE1601-2□□□

When pneumatic supply is severed from clamping state:

Supply Pneumatic Pressure = 0MPa

Lever Length L = 50 mm

Clamping force becomes about 0.15 kN.

Holding force becomes about 0.58 kN.

### Notes

※1. Holding force shows the force which can counter to reaction force in the clamping state, and differ from clamp force.

Moreover, keep in mind that it may produce displacement depending on lever rigidity even if it is the reaction force below holding force.

(When slight displacement is also not allowed, please keep the reaction force beyond clamp force from being added.)

※2. F : Clamping force (kN) , Fk : Holding force (kN) , L : Lever length (mm).

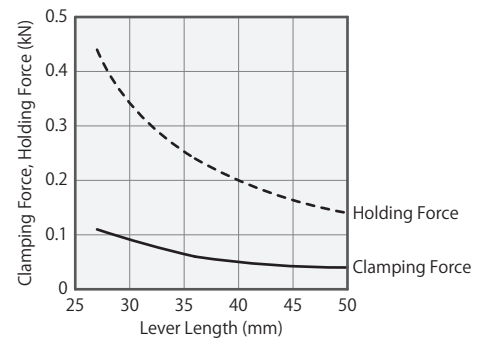
1. This table and the graph show the relation between lever length(mm) and the clamping force(kN) and holding force(kN) at the time of 0MPa.

2. The clamping force and holding force at the time of zero pneumatic pressure show capability when a lever locks in a level position.

3. Clamping force and holding force change with lever length.

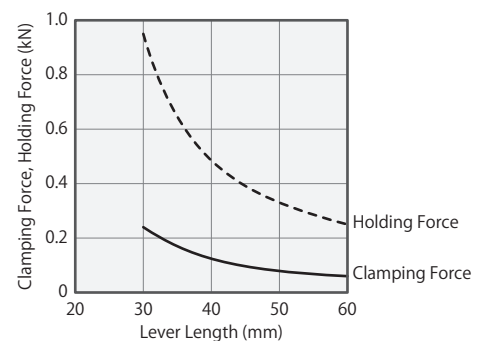
### WCE0601-2□□□

Clamping Force Formula at 0MPa Pneumatic Pressure ※2 (kN)	$F = \frac{1.2}{L - 16}$					
Holding Force Formula at 0MPa Pneumatic Pressure ※2 (kN)	$Fk = \frac{4.8}{L - 16}$					
Lever Length (mm)	27	32	36	40	45	50
Clamping Force Reference Value at 0MPa (kN)	0.11	0.08	0.06	0.05	0.04	0.04
Holding Force Reference Value at 0MPa (kN)	0.44	0.30	0.24	0.20	0.17	0.14



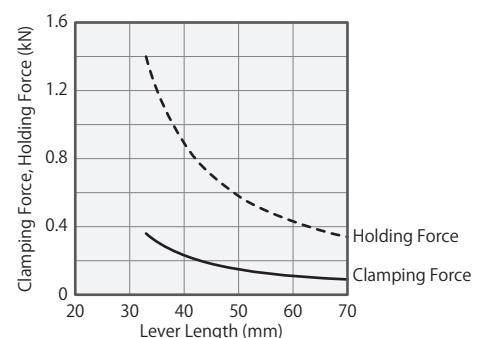
### WCE1001-2□□□

Clamping Force Formula at 0MPa Pneumatic Pressure ※2 (kN)	$F = \frac{2.6}{L - 19.5}$					
Holding Force Formula at 0MPa Pneumatic Pressure ※2 (kN)	$Fk = \frac{10.0}{L - 19.5}$					
Lever Length (mm)	30	35	39	45	50	60
Clamping Force Reference Value at 0MPa (kN)	0.25	0.17	0.13	0.10	0.09	0.06
Holding Force Reference Value at 0MPa (kN)	0.95	0.65	0.51	0.39	0.33	0.25



### WCE1601-2□□□

Clamping Force Formula at 0MPa Pneumatic Pressure ※2 (kN)	$F = \frac{4.4}{L - 21}$					
Holding Force Formula at 0MPa Pneumatic Pressure ※2 (kN)	$Fk = \frac{16.8}{L - 21}$					
Lever Length (mm)	33	35	42	50	60	70
Clamping Force Reference Value at 0MPa (kN)	0.37	0.31	0.21	0.15	0.11	0.09
Holding Force Reference Value at 0MPa (kN)	1.40	1.20	0.80	0.58	0.43	0.34



**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

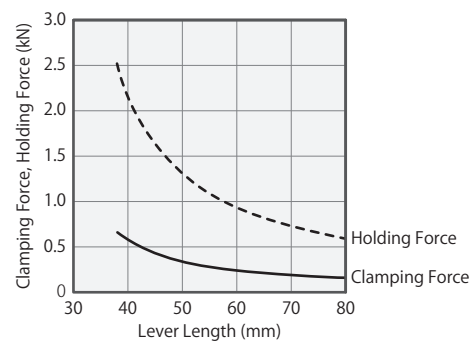
WNC

High-Power Pneumatic Pallet Clamp

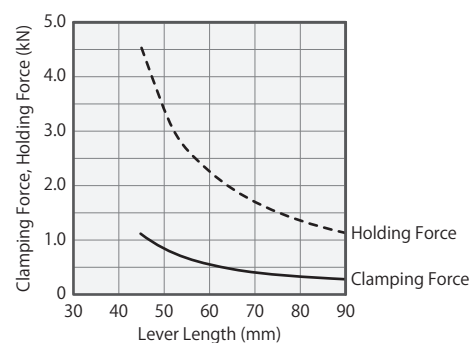
WVS

**WCE2501-2□□□**

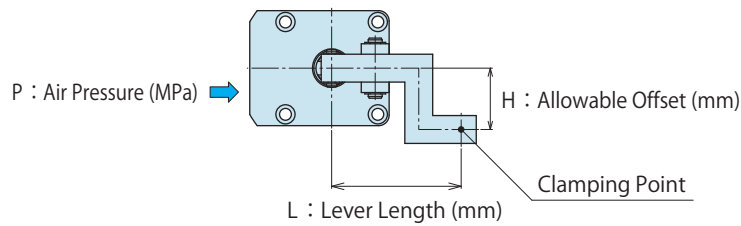
Clamping Force Formula at OMPa Pneumatic Pressure ※2 (kN)	$F = \frac{8.1}{L - 25}$						
Holding Force Formula at OMPa Pneumatic Pressure ※2 (kN)	$Fk = \frac{32.6}{L - 25}$						
Lever Length (mm)	38	45	50	60	70	80	
Clamping Force Reference Value at OMPa (kN)	0.62	0.41	0.32	0.23	0.18	0.15	
Holding Force Reference Value at OMPa (kN)	2.51	1.63	1.30	0.93	0.72	0.59	


**WCE4001-2□□□**

Clamping Force Formula at OMPa Pneumatic Pressure ※2 (kN)	$F = \frac{16.5}{L - 30}$						
Holding Force Formula at OMPa Pneumatic Pressure ※2 (kN)	$Fk = \frac{68.0}{L - 30}$						
Lever Length (mm)	45	50	60	70	80	90	
Clamping Force Reference Value at OMPa (kN)	1.10	0.83	0.55	0.41	0.33	0.28	
Holding Force Reference Value at OMPa (kN)	4.53	3.40	2.27	1.70	1.36	1.13	



## Allowable Offset Graph



(Reading of the Allowable Offset Graph)

When using WCE2501-2□□□

Supply Air Pressure 3.0MPa,

Lever Length L=50mm,

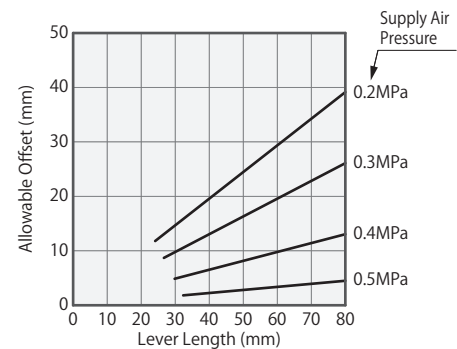
Allowable Offset is about 18mm.

### Notes

1. Tables and graphs shown are the relationships between the lever length (mm) for supply pneumatic 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.

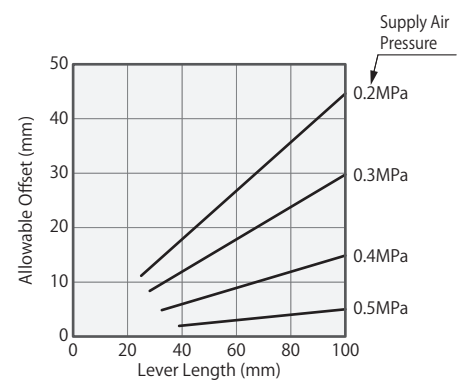
### WCE0601-2□□□

Supply Air Pressure (MPa)	Allowable Offset H (mm) Non-Usable Range (■)					
	L=27	L=32	L=36	L=40	L=45	L=50
0.5	■	2	2	2	3	3
0.4	4	5	6	7	7	8
0.3	9	10	12	13	15	16
0.2	13	16	18	20	22	24



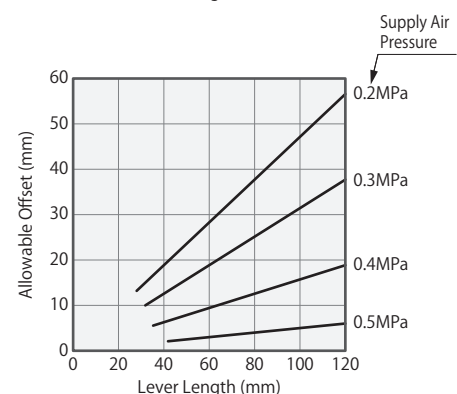
### WCE1001-2□□□

Supply Air Pressure (MPa)	Allowable Offset H (mm) Non-Usable Range (■)					
	L=30	L=35	L=39	L=45	L=50	L=60
0.5	■	■	2	2	3	3
0.4	■	5	6	7	7	9
0.3	9	10	12	13	15	18
0.2	13	16	17	20	22	27



### WCE1601-2□□□

Supply Air Pressure (MPa)	Allowable Offset H (mm) Non-Usable Range (■)					
	L=33	L=35	L=42	L=50	L=60	L=70
0.5	■	■	2	3	3	4
0.4	■	■	7	8	9	11
0.3	10	11	13	16	19	22
0.2	16	17	20	24	28	33



**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

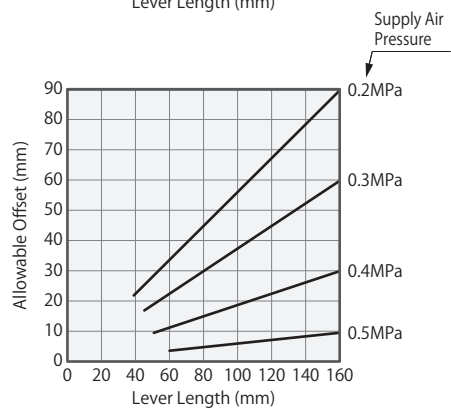
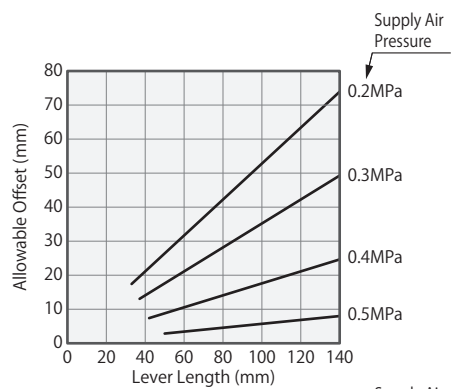
WVS

**WCE2501-2□□□**

Supply Air Pressure (MPa)	Allowable Offset H (mm)						Non-Usable Range (■)					
	L=38	L=45	L=50	L=60	L=70	L=80						
0.5	■	■	3	3	4	5						
0.4	■	8	9	11	12	14						
0.3	13	16	18	21	25	28						
0.2	20	24	26	32	37	42						

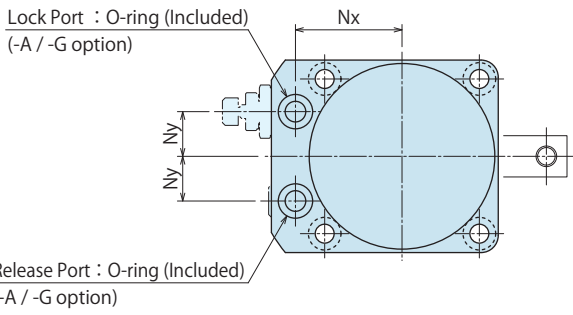
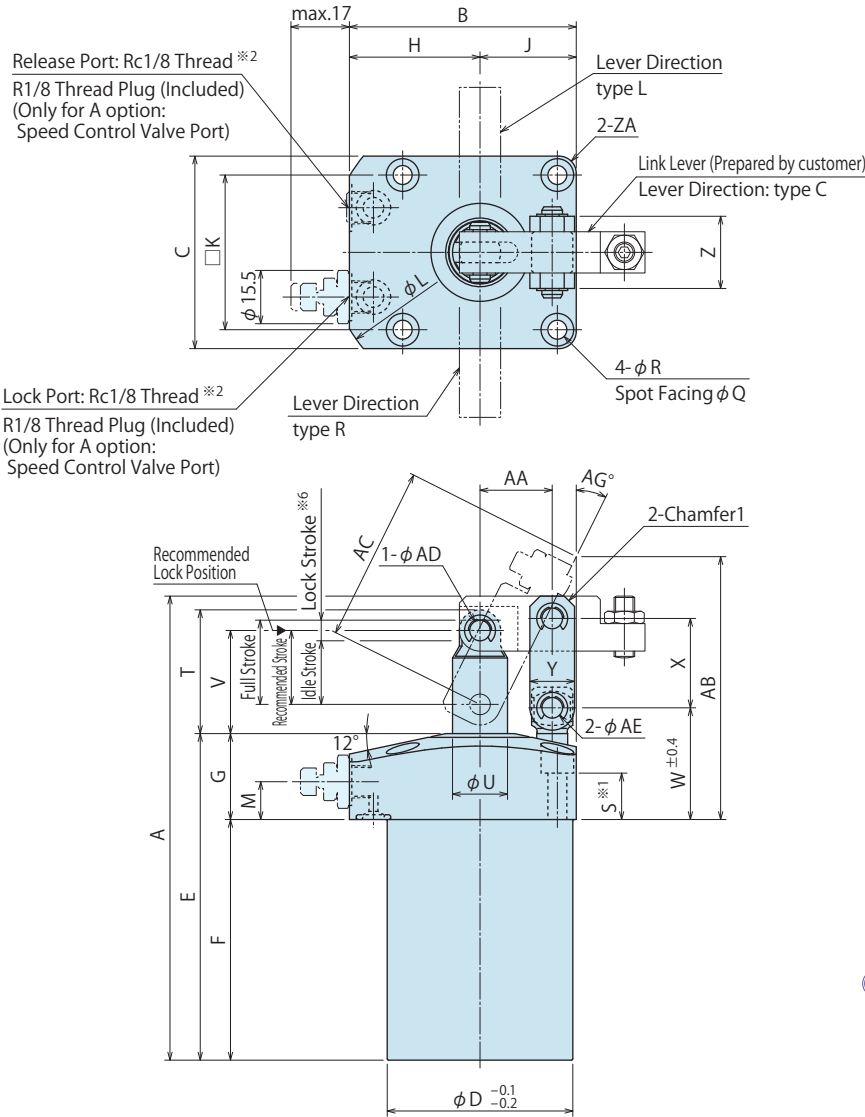
**WCE4001-2□□□**

Supply Air Pressure (MPa)	Allowable Offset H (mm)						Non-Usable Range (■)					
	L=45	L=50	L=60	L=70	L=80	L=90						
0.5	■	■	4	4	5	5						
0.4	■	■	11	13	15	17						
0.3	17	19	22	26	30	34						
0.2	25	28	34	39	45	50						



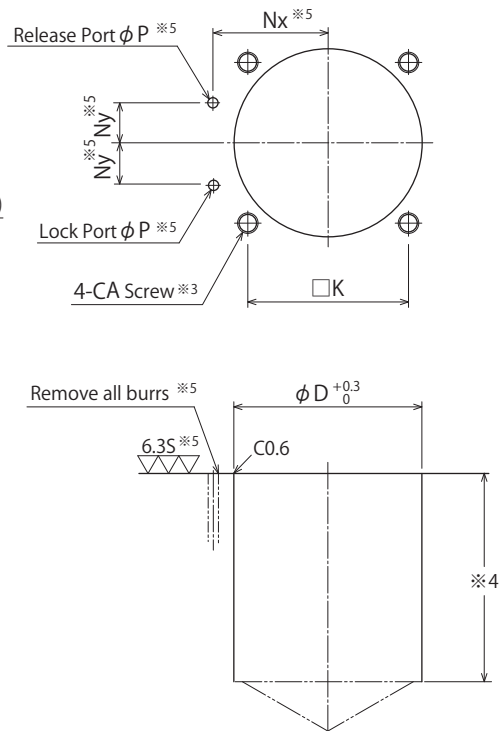
External Dimensions

A : Gasket Option  
 (Speed Control Valve Corresponding Option, Include R Thread Plug)  
 ※The drawing shows the locked state of WCE-2AC.



- Notes
- ※1. Mounting bolts are not provided. Customer should prepare based on dimension "S".
  - ※2. Speed control valves are not provided. Please order separately (see P.213).
  - 1. Please use the pin supplied (equivalent to φADf6, φAEf6, HRC60) for mounting pin for lever.

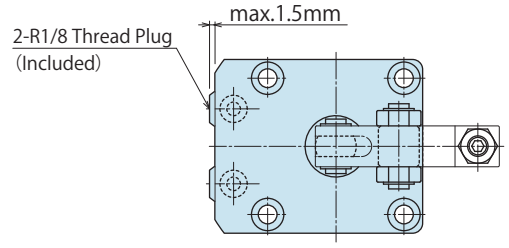
Machining Dimensions of Mounting Area



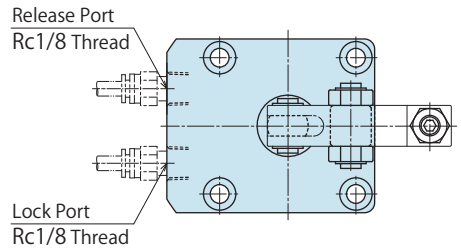
- Notes
- ※3. The CA thread depth of the mounting bolt should be decided based on the mounting height with reference to S size.
  - ※4. The φD depth of the body mounting hole should be decided based on the mounting height with reference to F size.
  - ※5. This process indicates -A/-G:Gasket option.

Piping Method

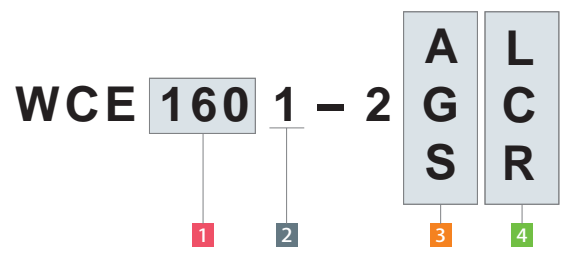
G : Gasket Option (with R Thread Plug)  
 ※The drawing shows the locked state of WCE-2GC.



S : Piping Option (Rc Thread)  
 ※The drawing shows the locked state of WCE-2SC.



### Model No. Indication



(Format Example : WCE1001-2AR, WCE2501-2SL)

- 1 Cylinder Force
- 2 Design No.
- 3 Piping Method
- 4 Lever Direction
- 5 Action Confirmation (When Blank is chosen)

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

### External Dimensions and Machining Dimensions for Mounting

Model No.	WCE0601-2□□	WCE1001-2□□	WCE1601-2□□	WCE2501-2□□	WCE4001-2□□
Full Stroke	19.5	22	23.5	27.5	33
(Break down) Idle Stroke	16	18	19.5	23.5	29
Lock Stroke ※6	3.5	4	4	4	4
Recommended Stroke	17.5	20	21.5	25.5	31
A	111.5	123	134.5	157.5	184
B	54	60	66	76	87
C	45	50	56	66	78
D	40	46	54	64	77
E	79.5	88	94.5	109.5	124.5
F	54.5	63	69.5	79.5	94.5
G	25	25	25	30	30
H	31.5	35	38	43	48
J	22.5	25	28	33	39
K	34	39	45	53	65
L	72	79	88	98	113
M	11	11	11	11	11
Nx	26	28	31	36	41
Ny	9	10	13	15	20
P	max. φ3	max. φ5	max. φ5	max. φ5	max. φ5
Q	9.5	9.5	9.5	11	11
R	5.5	5.5	5.5	6.8	6.8
S	15.5	14	13.5	16	15
T	28.5	31.5	36	40	50.5
U	10	14	16	18	22
V	24	27	30	34	42.5
W	31	31	32.5	37.5	40.5
X	20.5	23.5	26	32.5	39.5
Y	11	11	13	16	18
Z	19	19	21	28	37
Chamfer 1	C2.5	C2.5	C3	C3	C5
AA	16	19.5	21	25	30
AB	76.1	72	76.5	92.2	105.7
AC	49.8	46.9	50.9	62.7	74.7
AD	5	5	6	6	8
AE	5	5	6	8	10
AG	21.6°	26.5°	26.4°	26.1°	25.2°
CA (Nominal × Pitch)	M5×0.8	M5×0.8	M5×0.8	M6×1	M6×1
ZA (Chamfer)	C3	R5	R5	R6	R6
O-ring (-A/-G option)	1BP5	1BP7	1BP7	1BP7	1BP7
Mass ※7 kg	0.5	0.6	0.9	1.4	2.3

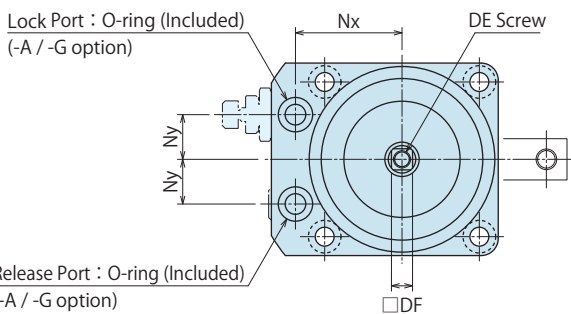
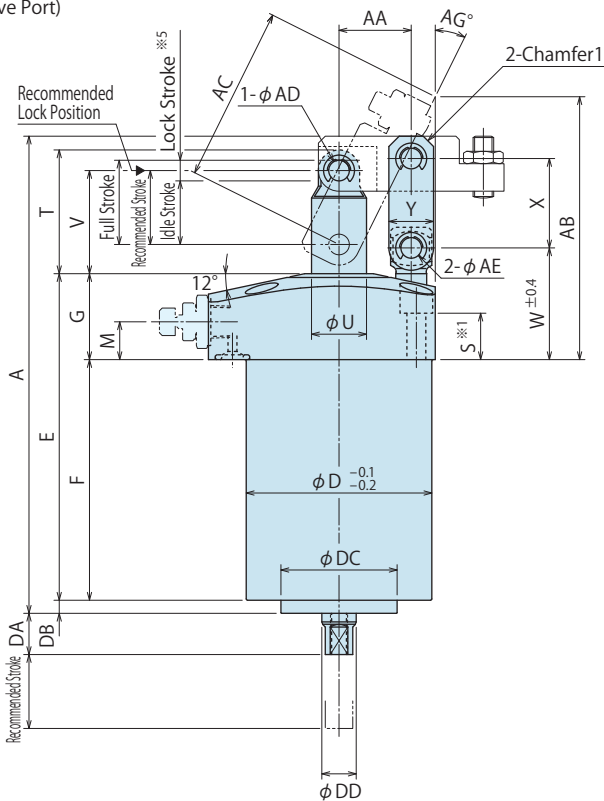
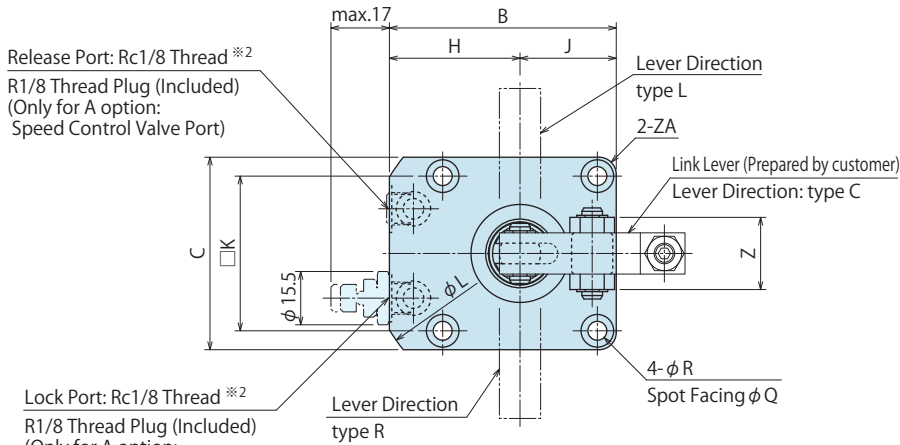
- High-Power Hydraulic Swing Clamp
- LHE
- High-Power Hydraulic Link Clamp
- LKE
- High-Power Pneumatic Hole Clamp
- SWE
- High-Power Pneumatic Swing Clamp
- WHE
- High-Power Pneumatic Link Clamp
- WCE
- High-Power Pneumatic Work Support
- WNC
- High-Power Pneumatic Pallet Clamp
- WVS

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 range of idle stroke.)  
 ※7. Mass of single clamp without the link lever.



External Dimensions

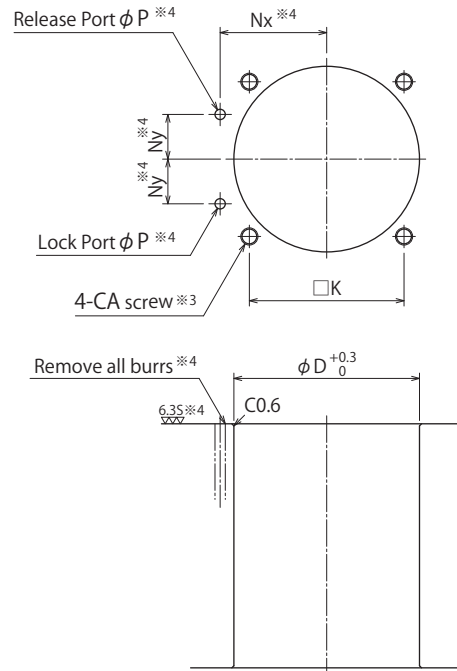
A : Gasket Option  
(Speed Control Valve Corresponding Option, Include R Thread Plug)  
※The drawing shows the locked state of WCE-2ACD.



Notes

- ※1. Mounting bolts are not provided. Customer should prepare based on dimension "S".
- ※2. Speed control valves are not provided. Please order separately (see P.213).
- 1. Please use the pin supplied (equivalent to φADf6, φAEf6, HRC60) for mounting pin for lever.

Machining Dimensions of Mounting Area

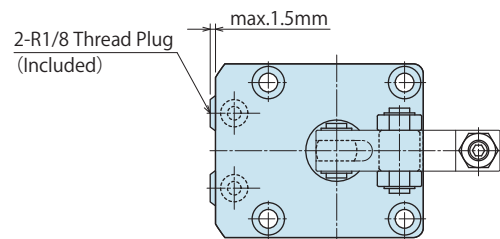


Notes

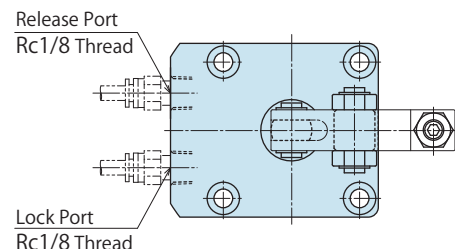
- ※3. The CA thread depth of the mounting bolt should be decided based on the mounting height with reference to S size.
- ※4. This process indicates -C/-G: Gasket option.

Piping Method

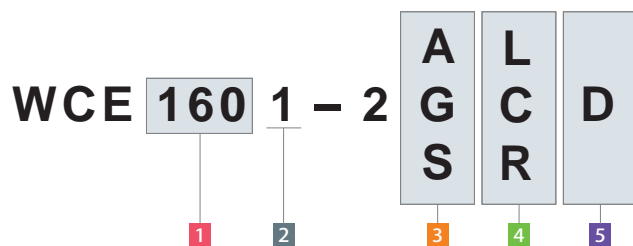
G : Gasket Option (with R Thread Plug)  
※The drawing shows the locked state of WCE-2GCD.



S : Piping Option (Rc Thread)  
※The drawing shows the locked state of WCE-2SCD.



## Model No. Indication



(Format Example : WCE1001-2ARD, WCE2501-2SLD)

- 1 Cylinder Force
- 2 Design No.
- 3 Piping Method
- 4 Lever Direction
- 5 Action Confirmation (When D is chosen)

- 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 and Machining Dimensions for Mounting

(mm)

Model No.	WCE0601-2□□D	WCE1001-2□□D	WCE1601-2□□D	WCE2501-2□□D	WCE4001-2□□D
Full Stroke	19.5	22	23.5	27.5	33
(Break down) Idle Stroke	16	18	19.5	23.5	29
Lock Stroke <sup>※5</sup>	3.5	4	4	4	4
Recommended Stroke	17.5	20	21.5	25.5	31
A	115.5	127	138.5	162.5	188.5
B	54	60	66	76	87
C	45	50	56	66	78
D	40	46	54	64	77
E	79.5	88	94.5	109.5	124.5
F	54.5	63	69.5	79.5	94.5
G	25	25	25	30	30
H	31.5	35	38	43	48
J	22.5	25	28	33	39
K	34	39	45	53	65
L	72	79	88	98	113
M	11	11	11	11	11
Nx	26	28	31	36	41
Ny	9	10	13	15	20
P	max. φ3	max. φ5	max. φ5	max. φ5	max. φ5
Q	9.5	9.5	9.5	11	11
R	5.5	5.5	5.5	6.8	6.8
S	15.5	14	13.5	16	15
T	28.5	31.5	36	40	50.5
U	10	14	16	18	22
V	24	27	30	34	42.5
W	31	31	32.5	37.5	40.5
X	20.5	23.5	26	32.5	39.5
Y	11	11	13	16	18
Z	19	19	21	28	37
Chamfer 1	C2.5	C2.5	C3	C3	C5
AA	16	19.5	21	25	30
AB	76.1	72	76.5	92.2	105.7
AC	49.8	46.9	50.9	62.7	74.7
AD	5	5	6	6	8
AE	5	5	6	8	10
AG	21.6°	26.5°	26.4°	26.1°	25.2°
CA (Nominal × Pitch)	M5×0.8	M5×0.8	M5×0.8	M6×1	M6×1
DA	11.5	12	12	12	12
DB	4	4	4	5	4.5
DC	22.5	28	33.8	41.6	54
DD	8	10	10	12	12
DE (Nominal×Pitch×Depth)	M4×0.7×10	M5×0.8×12	M5×0.8×12	M6×1×15	M6×1×15
DF	6	8	8	10	10
ZA (Chamfer)	C3	R5	R5	R6	R6
O-ring (-A/-G option)	1BP5	1BP7	1BP7	1BP7	1BP7
Mass <sup>※6</sup> kg	0.5	0.6	0.9	1.4	2.3

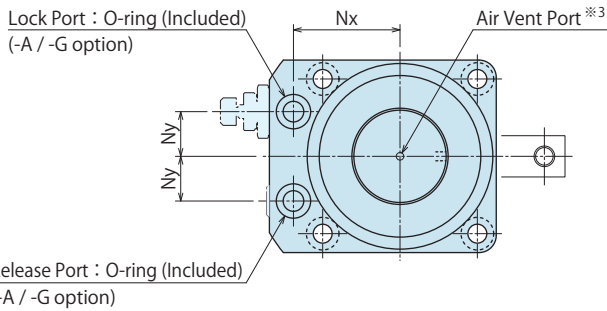
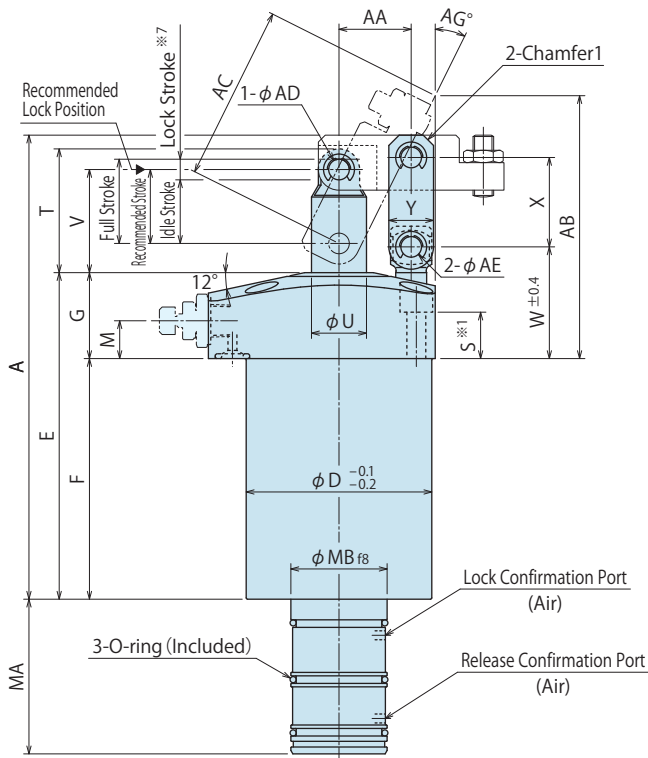
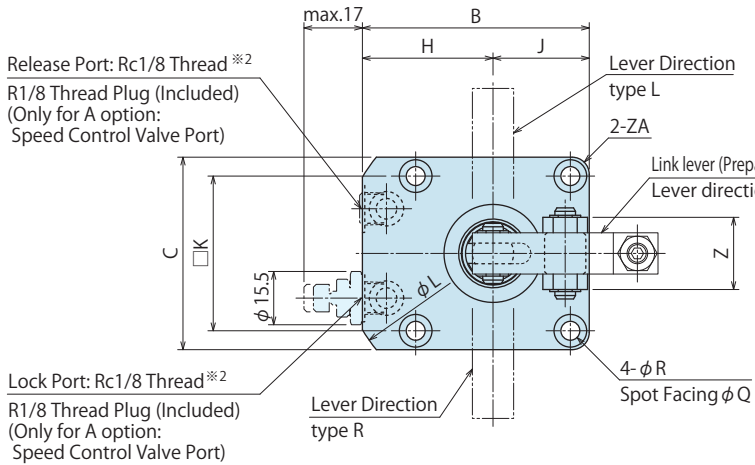
Notes <sup>※5</sup>. The specification value of cylinder force, clamping force and holding force is fulfilled only when clamping within the lock stroke range.

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

<sup>※6</sup>. Mass of single clamp without the link lever.

External Dimensions

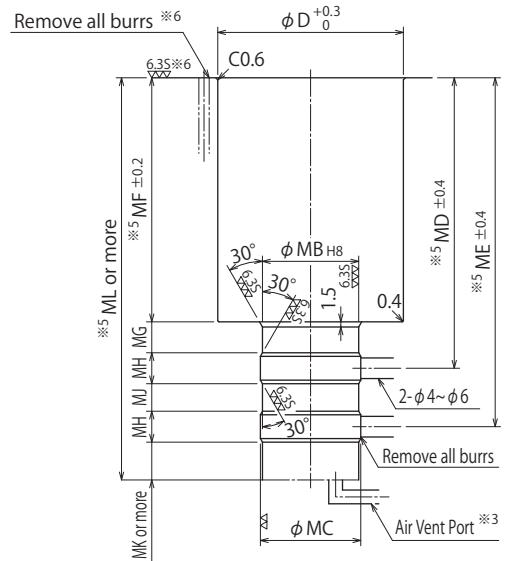
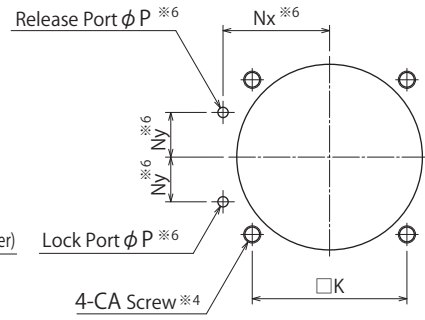
A : Gasket Option  
 (Speed Control Valve Corresponding Option, Include R Thread Plug)  
 ※The drawing shows the locked state of WCE-2ACM.



Notes

- ※1. Mounting bolts are not provided. Customer should prepare based on dimension "S".
- ※2. Speed control valves are not provided. Please order separately (see P.213).
  1. Please use the pin supplied (equivalent to φADf6, φAEf6, HRC60) for mounting pin for lever.
  2. Please refer to P.123~124 about air sensing chart.

Machining Dimensions of Mounting Area



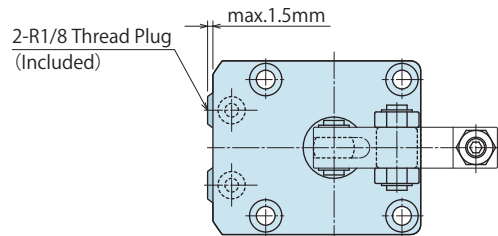
Notes

- ※3. Air venting port must be open to the atmosphere and kept free of coolant, chips or other debris.
- ※4. The CA thread depth of the mounting bolt should be decided based on the mounting height with reference to S size.
- ※5. The dimensions indicate those under the flange.
- ※6. This process indicates -A/-G:Gasket option.

Piping Method

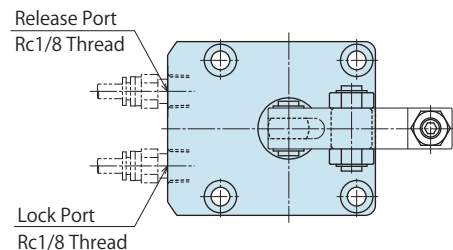
G : Gasket Option (with R Thread Plug)

※The drawing shows the locked state of WCE-2GCM.

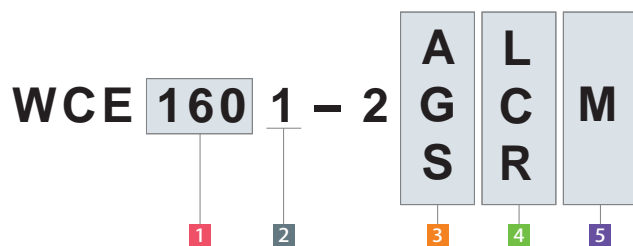


S : Piping Option (Rc Thread)

※The drawing shows the locked state of WCE-2SCM.



## Model No. Indication



(Format Example : WCE1001-2ARM, WCE2501-2SLM)

- 1** Cylinder Force
- 2** Design No.
- 3** Piping Method
- 4** Lever Direction
- 5** Action Confirmation (When M is chosen)

## External Dimensions and Machining Dimensions for Mounting

(mm)

Model No.	WCE0601-2□□M	WCE1001-2□□M	WCE1601-2□□M	WCE2501-2□□M	WCE4001-2□□M
Full Stroke	19.5	22	23.5	27.5	33
(Break down) Idle Stroke	16	18	19.5	23.5	29
Lock Stroke <sup>※7</sup>	3.5	4	4	4	4
Recommended Stroke	17.5	20	21.5	25.5	31
A	111.5	123	134.5	157.5	184
B	54	60	66	76	87
C	45	50	56	66	78
D	40	46	54	64	77
E	79.5	88	94.5	109.5	124.5
F	54.5	63	69.5	79.5	94.5
G	25	25	25	30	30
H	31.5	35	38	43	48
J	22.5	25	28	33	39
K	34	39	45	53	65
L	72	79	88	98	113
M	11	11	11	11	11
Nx	26	28	31	36	41
Ny	9	10	13	15	20
P	max. φ3	max. φ5	max. φ5	max. φ5	max. φ5
Q	9.5	9.5	9.5	11	11
R	5.5	5.5	5.5	6.8	6.8
S	15.5	14	13.5	16	15
T	28.5	31.5	36	40	50.5
U	10	14	16	18	22
V	24	27	30	34	42.5
W	31	31	32.5	37.5	40.5
X	20.5	23.5	26	32.5	39.5
Y	11	11	13	16	18
Z	19	19	21	28	37
Chamfer <sup>1</sup>	C2.5	C2.5	C3	C3	C5
AA	16	19.5	21	25	30
AB	76.1	72	76.5	92.2	105.7
AC	49.8	46.9	50.9	62.7	74.7
AD	5	5	6	6	8
AE	5	5	6	8	10
AG	21.6°	26.5°	26.4°	26.1°	25.2°
CA (Nominal × Pitch)	M5×0.8	M5×0.8	M5×0.8	M6×1	M6×1
MA	40	43.5	45	50	55
MB <sub>f8</sub>	20 <sup>-0.020</sup> / <sub>-0.053</sub>	28 <sup>-0.020</sup> / <sub>-0.053</sub>	28 <sup>-0.020</sup> / <sub>-0.053</sub>	38 <sup>-0.025</sup> / <sub>-0.064</sub>	38 <sup>-0.025</sup> / <sub>-0.064</sub>
MB <sub>H8</sub>	20 <sup>+0.033</sup> / <sub>0</sub>	28 <sup>+0.033</sup> / <sub>0</sub>	28 <sup>+0.033</sup> / <sub>0</sub>	38 <sup>+0.039</sup> / <sub>0</sub>	38 <sup>+0.039</sup> / <sub>0</sub>
MC	21.2	29.2	29.2	39.2	39.2
MD	68	77.5	84	95	112
ME	82	92.5	101	115	134
MF	55.5	64	70.5	80.5	95.5
MG	8	9	9	10	12
MH	9	9	9	9	9
MJ	5	6	8	11	13
MK	10	11.5	11	12	13
ML	96.5	108.5	116.5	131.5	151.5
ZA (Chamfer)	C3	R5	R5	R6	R6
O-ring (-A/-G option)	1BP5	1BP7	1BP7	1BP7	1BP7
3-O-ring	AS568-016 (70°)	AS568-021 (70°)	AS568-021 (70°)	AS568-028 (70°)	AS568-028 (70°)
Mass <sup>※8</sup>	kg 0.6	0.7	1.0	1.6	2.5

Notes <sup>※7</sup>. 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 range of idle stroke.)  
<sup>※8</sup>. 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

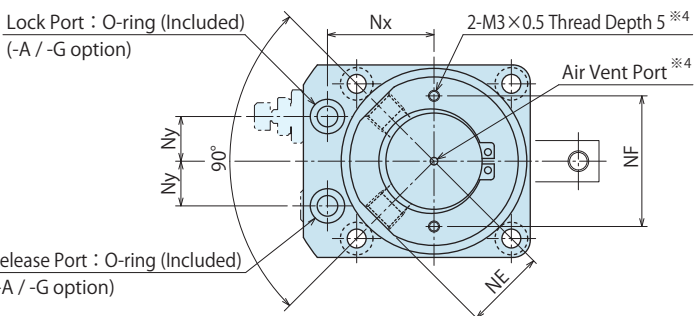
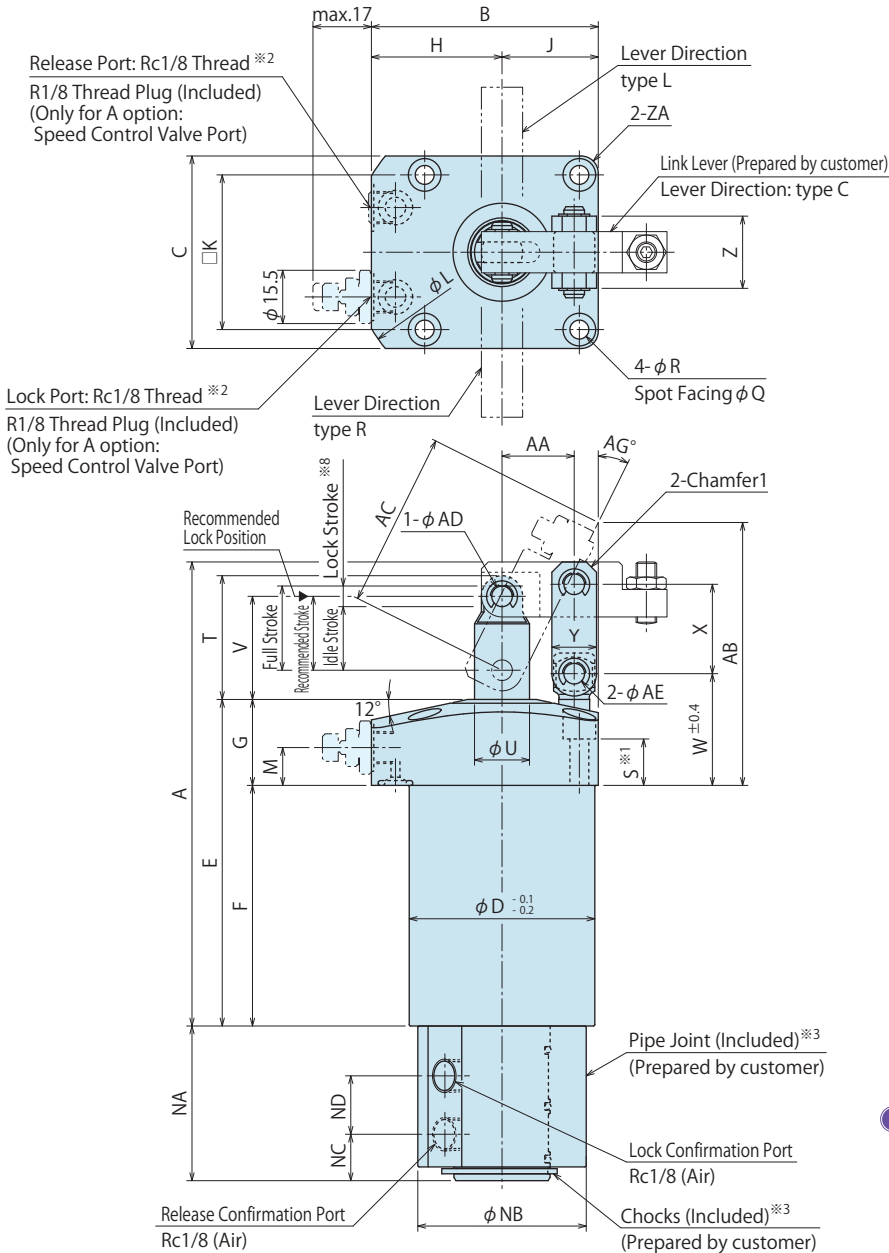
WNC

High-Power Pneumatic Pallet Clamp

WVS

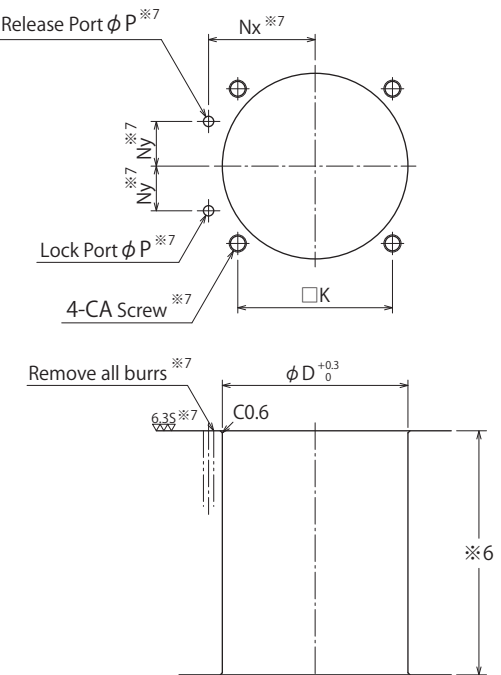
External Dimensions

A : Gasket Option  
 (Speed Control Valve Corresponding Option, Include R Thread Plug)  
 ※The drawing shows the locked state of WCE-2ACN (mounting state of pipe joint).



- Notes
- ※1. Mounting bolts are not provided. Customer should prepare based on dimension "S".
  - ※2. Speed control valves are not provided. Please order separately (see P.213).
  - ※3. We bundle it and ship plumbing joint and chocks without attaching it. Please attach plumbing joint and chocks with caution in order of, ① plumbing joint, ② chocks not to damage an O-ring from a cylinder bottom. (The plumbing joint does the M3 screw side downward, and, please attach it.)After only WCE 0601 and WCE1001 got the main body, please attach plumbing joint and chocks.
  - 1. Please use the pin supplied (equivalent to φ Adf6, φ AEF6, HRC60) for mounting pin for lever.
  - 2. Please refer to P.123~ 124 about air sensing chart.

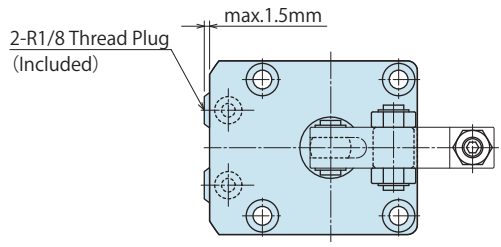
Machining Dimensions of Mounting Area



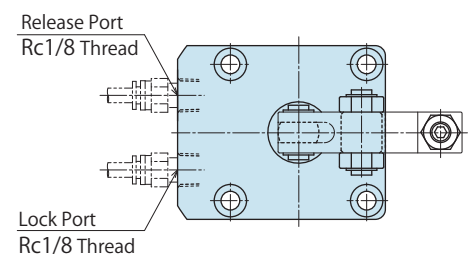
- Notes
- ※4. Air venting port must be open to the atmosphere and kept free of coolant, chips or other debris. If the port might be exposed to coolant or debris a filter mechanism should be attached using tapped holes M3 screw. Be sure not to block the air vent port.
  - ※5. The CA thread depth of the mounting bolt should be decided based on the mounting height with reference to S size.
  - ※6. The φD depth of the body mounting hole of WCE0601 and WCE1001 should be set less than the value of dimension "F".
  - ※7. This process indicates -A/-G : Gasket option.

Piping Method

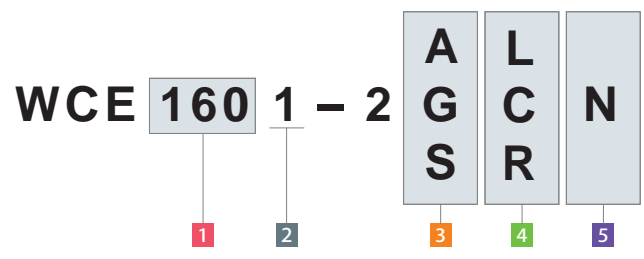
G : Gasket Option (with R Thread Plug)  
 ※The drawing shows the locked state of WCE-2GCN.



S : Piping Option (Rc Thread)  
 ※The drawing shows the locked state of WCE-2SCN.



### Model No. Indication



(Format Example : WCE1001-2ARN, WCE2501-2SLN)

- 1 Cylinder Force
- 2 Design No.
- 3 Piping Method
- 4 Lever Direction
- 5 Action Confirmation (When N is chosen)

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

### External Dimensions and Machining Dimensions for Mounting

Model No.	WCE0601-2□□N	WCE1001-2□□N	WCE1601-2□□N	WCE2501-2□□N	WCE4001-2□□N
Full Stroke	19.5	22	23.5	27.5	33
(Break down) Idle Stroke	16	18	19.5	23.5	29
Lock Stroke <sup>※8</sup>	3.5	4	4	4	4
Recommended Stroke	17.5	20	21.5	25.5	31
A	111.5	123	134.5	157.5	184
B	54	60	66	76	87
C	45	50	56	66	78
D	40	46	54	64	77
E	79.5	88	94.5	109.5	124.5
F	54.5	63	69.5	79.5	94.5
G	25	25	25	30	30
H	31.5	35	38	43	48
J	22.5	25	28	33	39
K	34	39	45	53	65
L	72	79	88	98	113
M	11	11	11	11	11
Nx	26	28	31	36	41
Ny	9	10	13	15	20
P	max. φ3	max. φ5	max. φ5	max. φ5	max. φ5
Q	9.5	9.5	9.5	11	11
R	5.5	5.5	5.5	6.8	6.8
S	15.5	14	13.5	16	15
T	28.5	31.5	36	40	50.5
U	10	14	16	18	22
V	24	27	30	34	42.5
W	31	31	32.5	37.5	40.5
X	20.5	23.5	26	32.5	39.5
Y	11	11	13	16	18
Z	19	19	21	28	37
Chamferl	C2.5	C2.5	C3	C3	C5
AA	16	19.5	21	25	30
AB	76.1	72	76.5	92.2	105.7
AC	49.8	46.9	50.9	62.7	74.7
AD	5	5	6	6	8
AE	5	5	6	8	10
AG	21.6°	26.5°	26.4°	26.1°	25.2°
CA (Nominal × Pitch)	M5×0.8	M5×0.8	M5×0.8	M6×1	M6×1
NA	40	43.5	45	50	55
NB	42	49	49	59	59
NC	12.5	14	13.5	14.5	15.5
ND	16	15	17	20	22
NE	19.5	23.5	23.5	28.5	28.5
NF	30	38	38	48	48
Chocks (Included)	STW-20	STW-28	STW-28	STW-38	STW-38
ZA (Chamfer)	C3	R5	R5	R6	R6
O-ring (-A/-G option)	1BP5	1BP7	1BP7	1BP7	1BP7
Mass <sup>※9</sup> kg	0.7	0.8	1.1	1.8	2.7

- 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

Notes <sup>※8</sup>. 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 range of idle stroke.)  
<sup>※9</sup>. Mass of single clamp without the link lever.

**● Air Sensing Option** (Action Confirmation Method · · · M : Air Sensing Manifold Option / N : Air Sensing Piping Option)

Action confirmation can be conducted by detecting differential pressure with the air catch sensor connected to lock check port and release check port.

Applicable Model

**WCE 160 1 - 2**



**5** Action Confirmation Method : When M/N is chosen

About Air Catch Sensor

The essential condition: Air catch sensor that have a consumption rate more than 22~25L/min(at 0.2 MPa) is needed.

Recommended Operating Air Pressure : 0.2 MPa

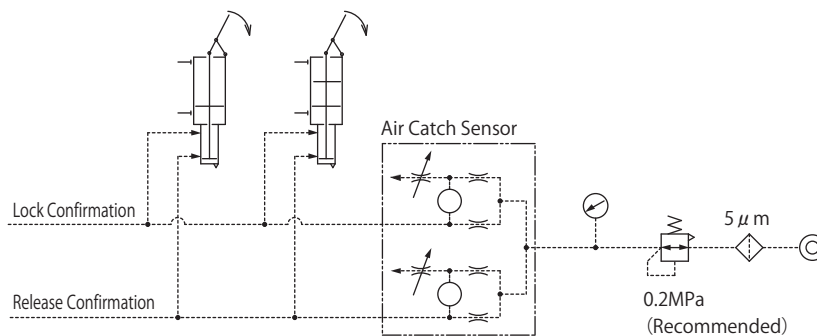
Recommended Air Catch Sensor

Maker	SMC	CKD
Name	Air Catch Sensor	Gap Switch
Model No.	ISA1, ISA2-H	GPS2-07-15

In order to carry out stabilized detection, the number of clamps connected per one air catch sensor should be no more than 4.

The air pressure to the air catch sensor should be 0.2MPa.

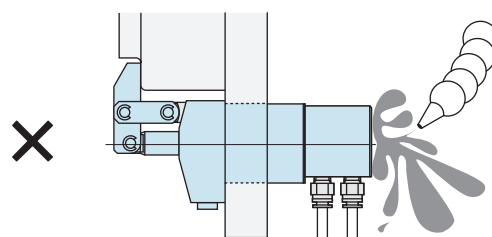
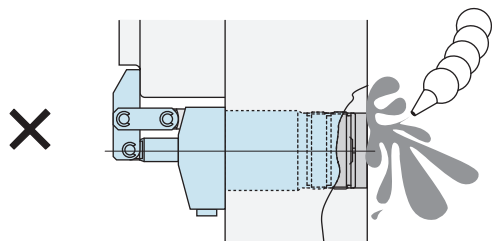
Refer to the drawing below for the pneumatic circuit composition.



Notes for Use and Installation

- Air venting port must be open to the atmosphere and kept free of coolant, chips or other debris. The air catch sensor can malfunction if the air vent port is blocked.

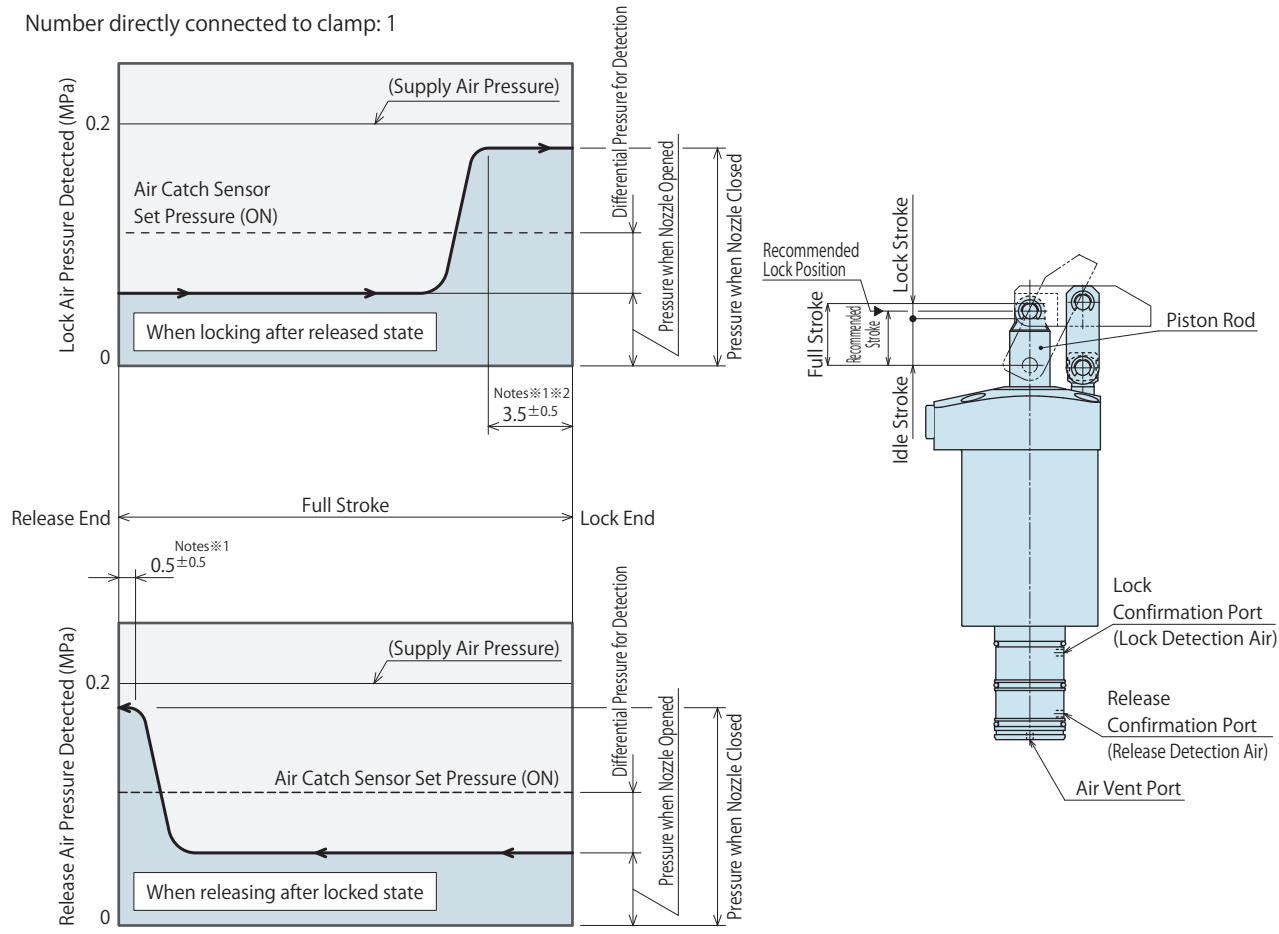
- Grease the O-ring before assembly to fixture. If it is mounted under dry state, the O-ring may have twisting or be defective. If excessive grease is applied, the grease may overflow to block the detection port, resulting in malfunctioning of the air catch sensor.



<b>High-Power Series</b>
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
<b>High-Power Pneumatic Link Clamp</b>
<b>WCE</b>
High-Power Pneumatic Work Support
WNC
High-Power Pneumatic Pallet Clamp
WVS

### Air Sensing Chart

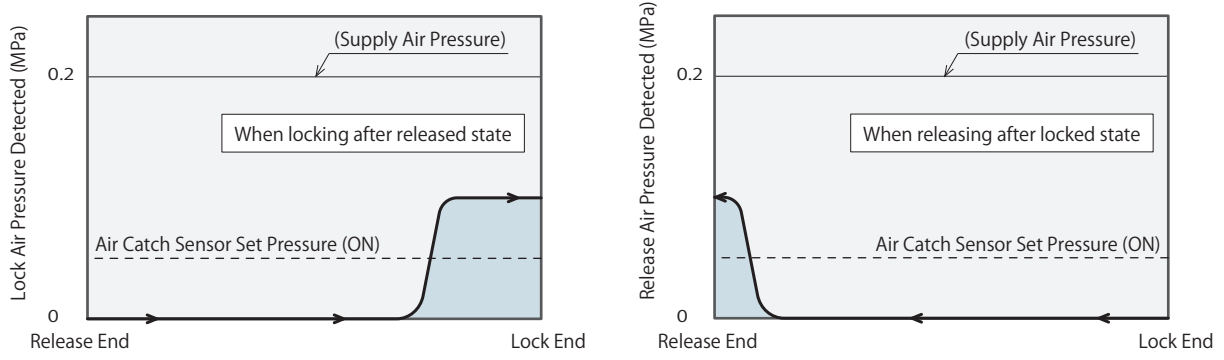
Number directly connected to clamp: 1



- Notes
- Sensing chart shown is the relationship between the cylinder stroke and detection circuit air pressure.
  - The position where the air catch sensor has ON signal output varies as per the sensor setting.
  - The detection pressure varies as per the number of clamps connected per circuit. (Maximum number of clamps connected: 4)
  - The features may vary as per the air circuit structure. Please refer for the details separately.
- ※1. There is certain tolerance with regard to the position where the pressure for fully closing the detection nozzle is reached as per the clamp structure. (Refer to the sensing chart.)
- ※2. WCE0601-2□□M/N: the position where the pressure for fully closing the detection nozzle is 3.0±0.5 mm.

Model No.	WCE0601-2□□M/N	WCE1001-2□□M/N	WCE1601-2□□M/N	WCE2501-2□□M/N	WCE4001-2□□M/N	
Full Stroke	mm	19.5	22	23.5	27.5	33

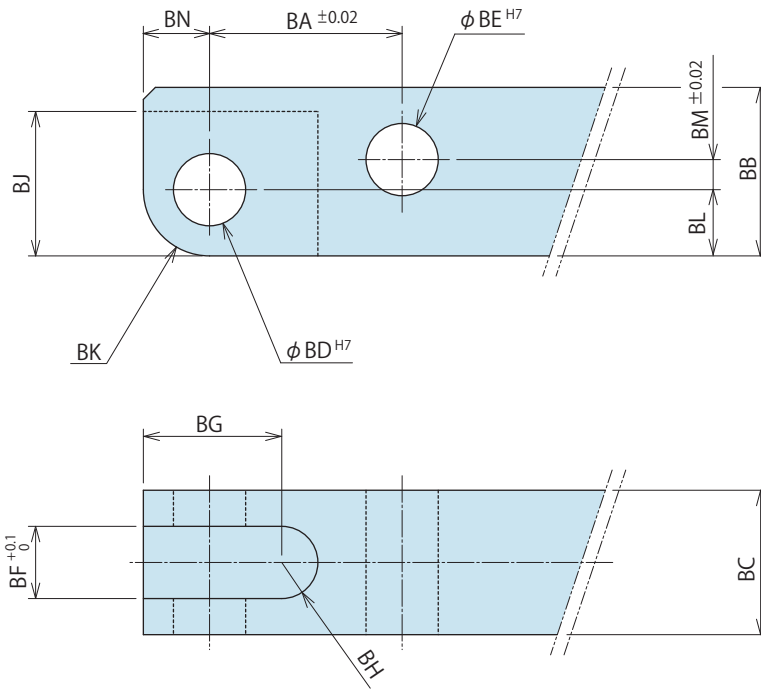
Number directly connected to clamp: 4 (for reference)





**Link Lever Design Dimension**

※ Reference for designing link lever.



**Calculation List of Link Lever Design Dimension**

(mm)

Corresponding Model No.	WCE0601	WCE1001	WCE1601	WCE2501	WCE4001
BA	16	19.5	21	25	30
BB	12.5	12.5	16	20	25
BC	10 <sup>-0.2</sup> <sub>0</sub>	10 <sup>-0.2</sup> <sub>0</sub>	12 <sup>-0.3</sup> <sub>0</sub>	16 <sup>-0.3</sup> <sub>0</sub>	19 <sup>-0.3</sup> <sub>0</sub>
BD	5 <sup>+0.012</sup> <sub>0</sub>	5 <sup>+0.012</sup> <sub>0</sub>	6 <sup>+0.012</sup> <sub>0</sub>	6 <sup>+0.012</sup> <sub>0</sub>	8 <sup>+0.015</sup> <sub>0</sub>
BE	5 <sup>+0.012</sup> <sub>0</sub>	5 <sup>+0.012</sup> <sub>0</sub>	6 <sup>+0.012</sup> <sub>0</sub>	8 <sup>+0.015</sup> <sub>0</sub>	10 <sup>+0.015</sup> <sub>0</sub>
BF	5	5	6	8	10
BG	10	10	13	13	17
BH	R2.5	R2.5	R3	R4	R5
BJ	10	10	13	13	17.5
BK	R4.5	R4.5	R6	R6	R8
BL	4.5	4.5	6	6	8
BM	2.5	2.5	3.5	6	7.5
BN	4.5	4.5	6	6	8

**Notes**

1. Design the link lever length according to the performance graph.
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 φ ADf6, φ AEf6, HRC60) as the mounting pin for lever.  
(Please refer to each external dimension of WCE for the dimensions φ AD and φ AE.)

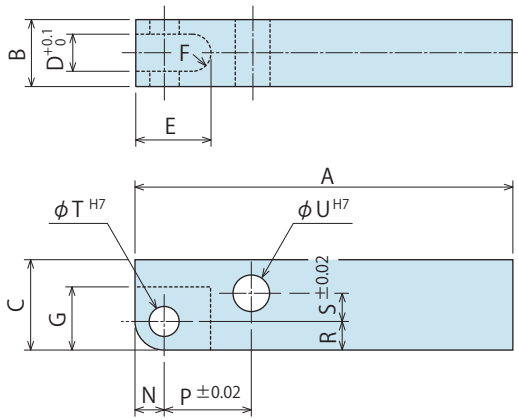
### Accessories : Material Link Lever

Model No. Indication

**WCZ 160 0 - L2**

Size  
(Refer to following table)

Design No.  
(Revision Number)



Model No.	WCZ0600-L2	WCZ1000-L2	WCZ1600-L2	WCZ2500-L2	WCZ4000-L2
Corresponding Model No.	WCE0601	WCE1001	WCE1601	WCE2501	WCE4001
A	80	90	100	115	140
B	10 <sub>-0.2</sub> <sup>0</sup>	10 <sub>-0.2</sub> <sup>0</sup>	12 <sub>-0.3</sub> <sup>0</sup>	16 <sub>-0.3</sub> <sup>0</sup>	19 <sub>-0.3</sub> <sup>0</sup>
C	12.5	12.5	16	20	25
D	5	5	6	8	10
E	12.5	12.5	16	17	22
F	R2.5	R2.5	R3	R4	R5
G	10	10	13	13	17.5
N	4.5	4.5	6	6	8
P	16	19.5	21	25	30
R	4.5	4.5	6	6	8
S	2.5	2.5	3.5	6	7.5
T	5 <sub>0</sub> <sup>+0.012</sup>	5 <sub>0</sub> <sup>+0.012</sup>	6 <sub>0</sub> <sup>+0.012</sup>	6 <sub>0</sub> <sup>+0.012</sup>	8 <sub>0</sub> <sup>+0.015</sup>
U	5 <sub>0</sub> <sup>+0.012</sup>	5 <sub>0</sub> <sup>+0.012</sup>	6 <sub>0</sub> <sup>+0.012</sup>	8 <sub>0</sub> <sup>+0.015</sup>	10 <sub>0</sub> <sup>+0.015</sup>

Notes

1. Material S45C
2. If necessary, the front end should be additionally machined.
3. Please use the attached pin (equivalent to  $\phi$  ADf6,  $\phi$  AEf6, HRC60) as the mounting pin for lever.  
(Refer to the external dimensions for  $\phi$  AD,  $\phi$  AE)

### Accessories : Other

- We offer other accessories shown below.

#### Air Flow Control Valve

Model **BZW-A**

※Please use BZW□-A for WCE.



Refer to P.213 for detail.

#### Manifold Block

Model **WHZ-MD**



Refer to P.1025 for detail.

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**

**Note for Design**

1) Check Specifications

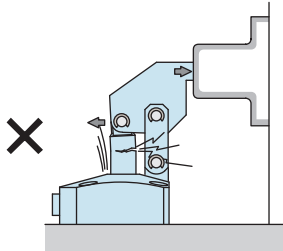
- Please use each product according to the specifications.
- The mechanical lock mechanism of this clamp has the clamping force and holding force even when pneumatic pressure falls to zero. (Refer to clamping force and holding force diagram.)

2) Notes for Circuit Design

- Never supply pressure simultaneously to lock and release ports. If there is something wrong with the circuit design, it leads to get the applications damaged and work wrongly.

3) Notes for Link Lever Design

- Make sure no force is applied to the piston rod except the axial direction. (Make sure the clamp surface and the mounting surface on the workpiece are parallel.) The usage like the one shown in the drawing below will apply a large bending stress to the piston rod and must be avoided.

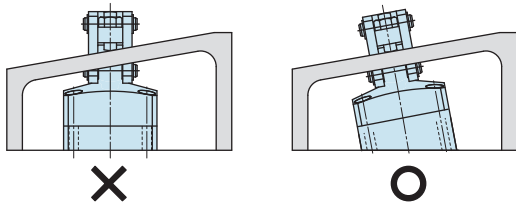


4) When using on a welding fixture, the exposed area of piston rod and link plate should be protected.

- 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.

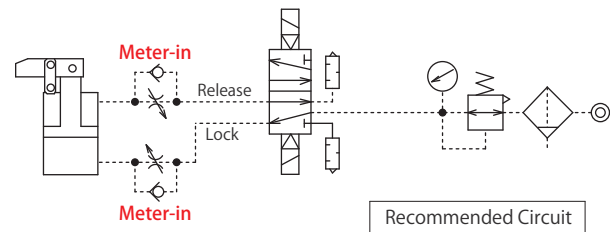


6) When using in a dry environment

- The link pin may dry out. Grease it periodically or use a special pin. Contact us for the specifications of special pins.

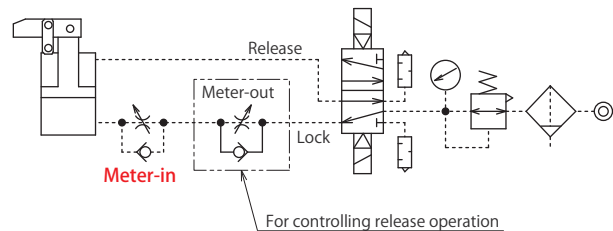
7) Speed adjustment.

- If the clamp operates too fast the parts will wear out and become damaged more quickly leading to equipment failure. Don't adjust the Meter-out valve outside the cylinder because there is an orifice of meter-out connected internally. (The operating time of mechanical locking system will be very long if there is back pressure in the circuit.) Adjust speed control of locking operation speed within 0.5 to 1.0 second by installing Meter-in speed control valve into the lock port. If the adjustment time is longer than 1.0 second, pressure rising will be slow and eventually takes more time to achieve the clamping force corresponding to the catalogue data. Even if there is stiff or sudden movement under low pressure and small volume of air, it isn't malfunction. (Please set under above condition when you have to adjust action movement time over 1 second.)



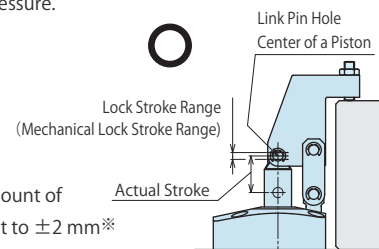
Please set one speed controller for each clamp (meter-in) if multiple clamps are synchronized for action.

When big thrust force occur towards the release direction in release action, please adjust lever speed with Meter-In speed control in 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. Moreover, there will be no clamping or holding force at zero pneumatic pressure.



Please design the amount of actual stroke to be set to  $\pm 2$  mm<sup>※</sup> of recommended lock position.

(The specification value is fulfilled since the center of link pin hole of piston rod is within the lock stroke (mechanical lock stroke) range.

※ For WCE0601, please design the amount of actual stroke to be set to -1.5mm ~ +2mm of recommended lock position.

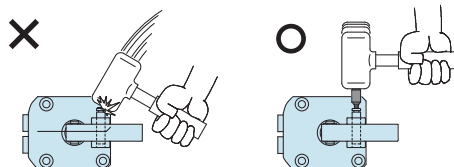
High-Power Series
Pneumatic Series
Hydraulic Series
Valve / Coupler Hydraulic Unit
Manual Operation Accessories
Cautions / Others
High-Power Hydraulic Swing Clamp
LHE
High-Power Hydraulic Link Clamp
LKE
High-Power Pneumatic Hole Clamp
SWE
High-Power Pneumatic Swing Clamp
WHE
High-Power Pneumatic Link Clamp
WCE
High-Power Pneumatic Work Support
WNC
High-Power Pneumatic Pallet Clamp
WVS

## ● Installation Notes

- Check the fluid to use.
  - Please supply filtered clean dry air. (Install the drain removing device.)
  - Oil supply with a lubricator etc. is unnecessary. Oil supply with a lubricator may cause loss of the initial lubricant. The operation under low pressure and low speed may be unstable. (When using secondary lubricant, please supply lubricant continuously. Otherwise, the initial grease applied from KOSMEK will be removed from the secondary lubricant.)
- Procedure before Piping
  - The pipeline, piping connector and fixture circuits should be cleaned and flushed thoroughly. The dust and cutting chips in the circuit may lead to fluid leakage and malfunction.
  - There is no filter provided with this product for prevention of contaminants in the air circuit.
- Applying Sealing Tape
  - Wrap with tape 1 to 2 times following the screwing direction. Wrapping in the wrong direction will cause leaks and malfunction.
  - Pieces of the sealing tape can lead to air leaks and malfunction.
  - When piping, be careful that contaminant such as sealing tape does not enter in products.
- Mounting the Unit
  - When mounting the product use four hexagon socket bolts (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)
WCE0601	M5×0.8	6.3
WCE1001	M5×0.8	6.3
WCE1601	M5×0.8	6.3
WCE2501	M6×1	10
WCE4001	M6×1	10

- Installing Flow Control Valve.
  - Torque to 5 – 7Nm.
- Mounting and removing 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 snap ring groove on the pin.



- Speed Adjustment
  - Please perform speed adjustment by the standard of lock operation within 0.5 to 1.0 second. If the clamp operates too fast the parts will wear out and become damaged more quickly leading to equipment failure.
  - Turn the flow control valve gradually from the low-speed side (small flow) to the high-speed side (large flow) to adjust the speed.

- 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.

- Please do not carry out manual operation of a clamp.**
  - When a piston or a lever raises a piston by manual operation at the time of not supplying pneumatic, if it goes into the range of lock stroke, the mechanical lock mechanism will operate and the piston will operate till a rise to a rise end or locking action completion.**  
Since a hand is pinched and it becomes a cause of an injury, please do not carry out manual operation of a clamp.

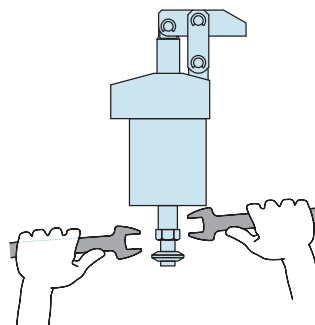
During shipment, clamps are in locked state (with mechanical lock function) to prevent accidents. Even when shipping them to users after installing clamps to fixtures or systems, make sure clamps are in locked state (with mechanical lock function) to prevent accidents.

During locked state, clamps cannot be operated manually because of the mechanical lock. Supply release air pressure to conduct release action.



- The cautions at the time of a test run.
  - If large flow air is supplied right after installation, the action time may become extremely fast, resulting in major clamp damage. Install the speed controller (meter-in) beside the air source and gradually supply air.

- Notes on dual rod type (-D) for dog application.
  - When attaching dog, set up the piston so that it will not turn around. Please secure the dog or cam and prevent any rotation or torque on the piston rod. Torque values for the mounting screw are shown in the table below.



Model No.	Thread Size	Tightening Torque (N·m)
WCE0601-2□□D	M4×0.7	3.2
WCE1001-2□□D	M5×0.8	6.3
WCE1601-2□□D	M5×0.8	6.3
WCE2501-2□□D	M6×1	10
WCE4001-2□□D	M6×1	10

※ Please refer to P.1045 for common cautions.

• Notes on Handling

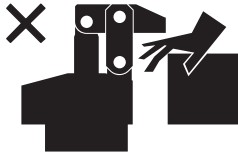
• Maintenance/Inspection

• Warranty

## ● Cautions

### ● Notes on Handling

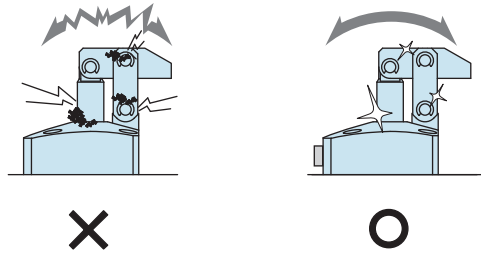
- 1) It should be handled by qualified personnel.
  - The hydraulic machine and air compressor should be handled and maintained by qualified personnel.
- 2) Do not handle or remove the machine unless the safety protocols are ensured.
  - ① The machine and equipment can only be inspected or prepared when 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.



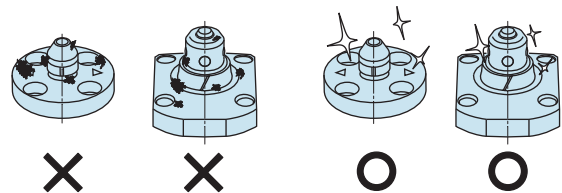
- 4) Do not disassemble or modify.
  - If the equipment is taken apart or modified, the warranty will be voided even within the warranty period.

### ● 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.

## Cautions

[Installation Notes  
\(For Hydraulic Series\)](#)
[Hydraulic Fluid List](#)
[Notes on Hydraulic Cylinder  
Speed Control Circuit](#)
[Notes on Handling](#)
[Maintenance/  
Inspection](#)
[Warranty](#)

## Company Profile

[Company Profile](#)
[Our Products](#)
[History](#)

## Index

[Search by  
Alphabetical Order](#)

## Sales Offices

## ● 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.

# Air Flow Control Valve

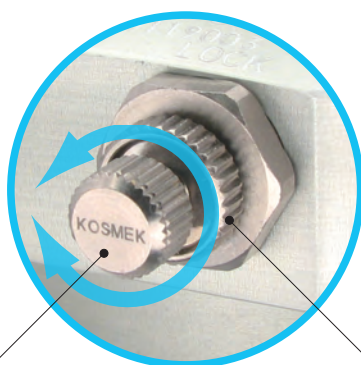
Model BZW



Directly mounted to clamps, easy adjusting

- Directly mounted to clamps

BZW is the flow control valve for Rc thread that enable to mount to the piping type: -A option of WCA/WCE/WHA/WHE. It is best used in a circuit where the flow control valve cannot be mounted or if necessary to synchronize individual speed.



Adjusting Screw

Lock Nut

## Corresponding Product Model

Clamps	BZW Model No.	Clamp Model No.
High-Power Pneumatic Link Clamp	BZW0100-A	WCE□1-2 <b>A</b> □
High-Power Pneumatic Swing Clamp	BZW0100-B	WHE□0-2 <b>A</b> □
Pneumatic Swing Clamp		WHA□0-2 <b>A</b> □
Pneumatic Link Clamp		WCA□1-2 <b>A</b> □

Corresponding to piping method -A option.

※ When mounting BZW to piping method G, take off R thread plug and remove the seal tape not to get inside cylinder.

## Model No. Indication

# BZW 010 0 - B

Control Method  
**B** : Meter-out  
**A** : Meter-in

Design No.  
**0** : Revision Number

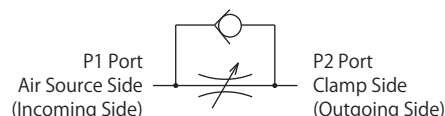
R Thread Size  
**010** : Rc1/8

## Specifications

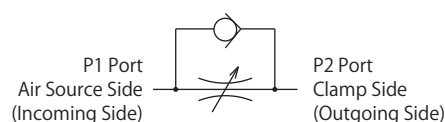
Model No.	BZW0100-B	BZW0100-A
Control Method	Meter-out	Meter-in
Operating Pressure MPa	0.1 ~ 1.0	
Withstanding Pressure MPa	1.5	
Adjust Screw Number of Rotations	10 Rotations	
Tightening Torque N·m	5 ~ 7	
Corresponding Product Model	WHE□0-2A□ WHA□0-2A□ WCA□1-2A□	WCE□1-2A□

## Circuit Symbol

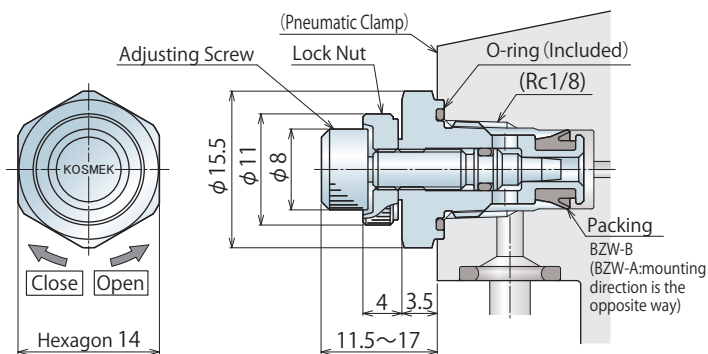
### BZW0100-B : Meter-out



### BZW0100-A : Meter-in

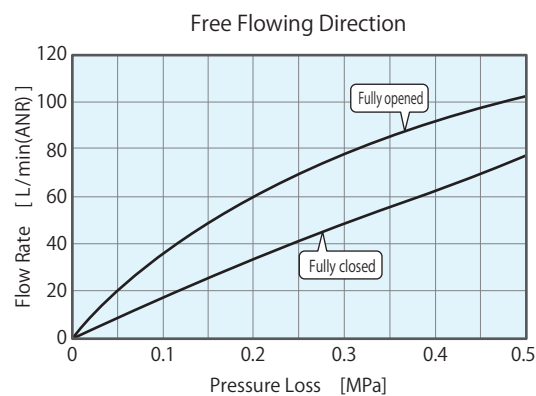
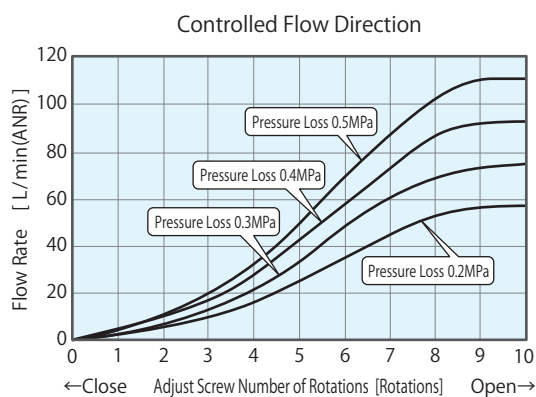


## External Dimensions

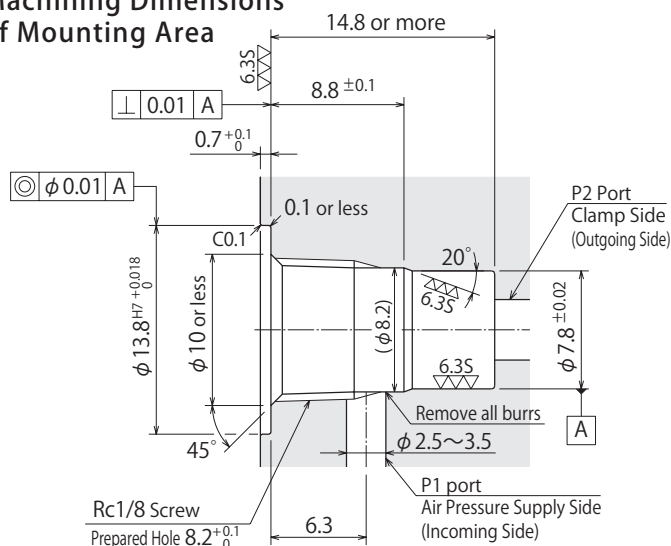


## Flow Rate Graph

### BZW0100-B/BZW0100-A common



## Machining Dimensions of Mounting Area



### Notes

1. As the  $\nabla\nabla\nabla$  area is sealing part, pay attention not to damage it.
2. Pay attention to have no cutting chips and burring at the tolerance part of the machining hole.
3. As shown in the drawing, P1 port is used as the air supply and P2 port as the clamping supply.

High-Power Series

Pneumatic Series

Hydraulic Series

Valve / Coupler Hydraulic Unit

Manual Operation Accessories

Cautions / Others

Pneumatic Hole Clamp

SWH

Pneumatic Swing Clamp

WHA

Pneumatic Link Clamp

WCA

Air Flow Control Valve

BZW

Pneumatic Expansion Locating Pin

WM

WK



# Manifold Block

Model WHZ-MD

Model LZY-MD

Model LZ-MS

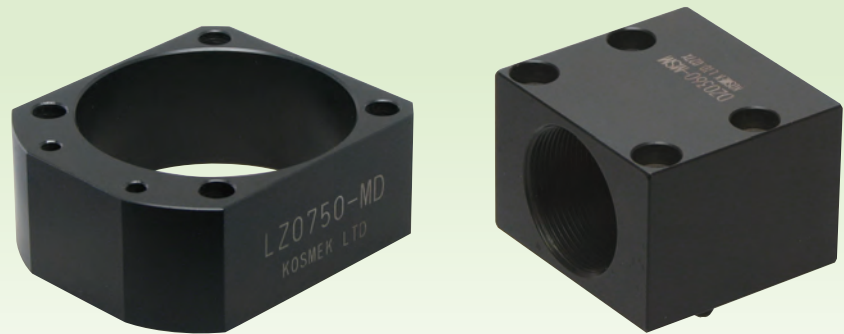
Model LZ-MP

Model TMZ-1MB

Model TMZ-2MB

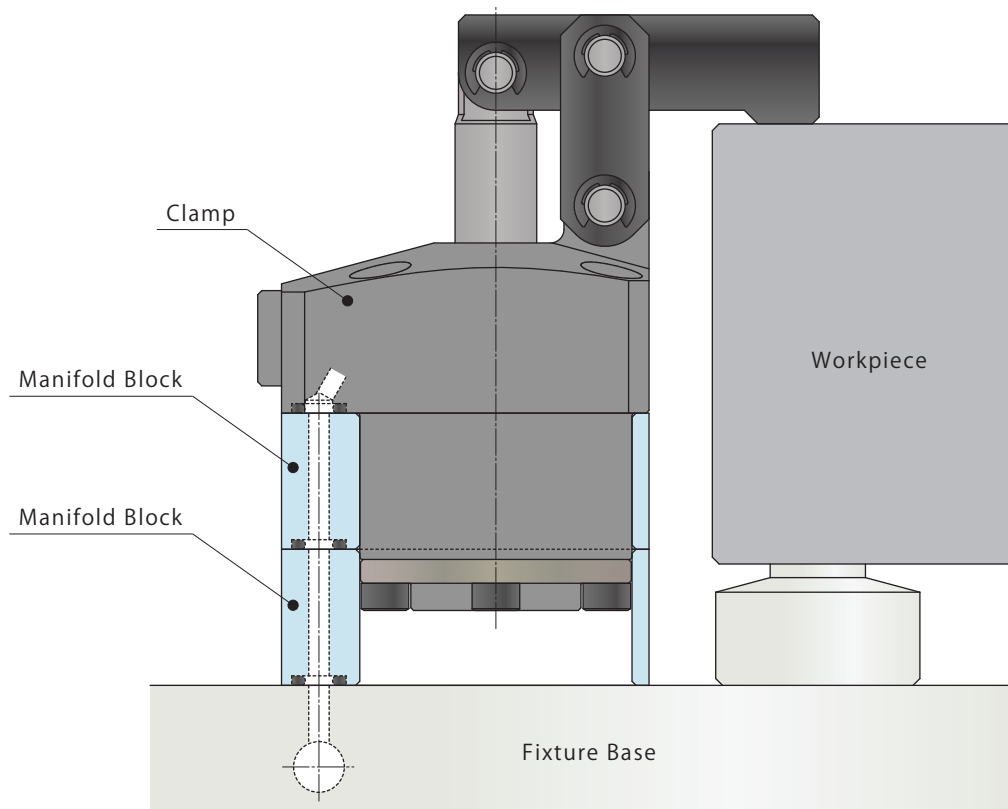
Model DZ-MG

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 <b>WHZ-MD</b>	Model <b>WCA</b> Model <b>WHA</b> Model <b>WCE</b> Model <b>WHE</b>
Model <b>LZY-MD</b>	Model <b>LKA</b> Model <b>LKE</b> Model <b>LHC</b> Model <b>LHS</b> Model <b>LKC</b> Model <b>LHA</b> Model <b>LHE</b> Model <b>LL</b>
Model <b>LZ-MS</b>	Model <b>LM</b> Model <b>LT</b> Model <b>LJ</b> Model <b>LG</b>
Model <b>LZ-MP</b>	Model <b>LC</b> Model <b>TC</b>
Model <b>TMZ-1MB</b>	Model <b>TMA-1</b>
Model <b>TMZ-2MB</b>	Model <b>TMA-2</b>
Model <b>DZ-MG□/MS□</b>	Model <b>DP</b>

- 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

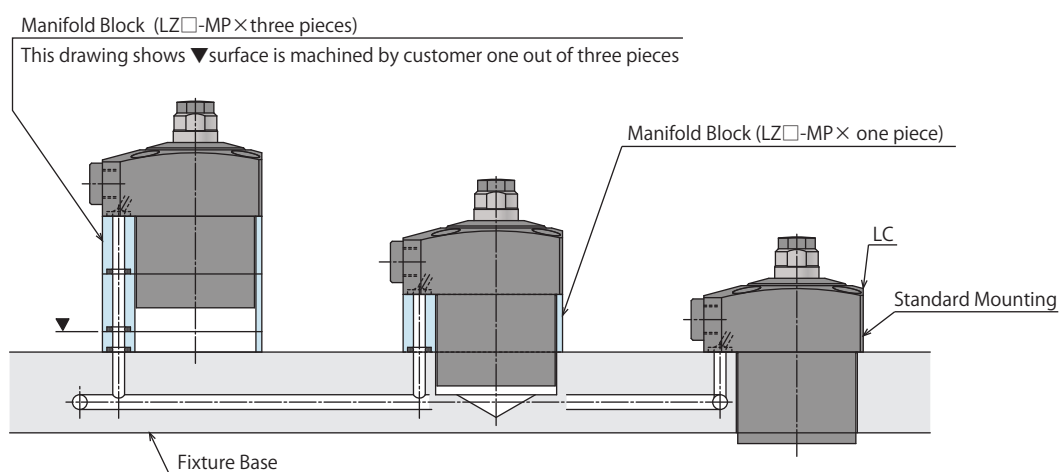
Manifold  
JX

Coupler Switch  
PS

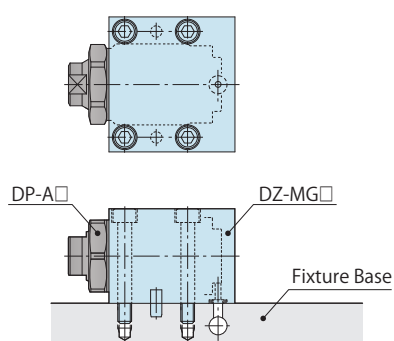
G-Thread Fitting

### Application Examples

#### • Work Support (LC) Application Example



#### • Push Cylinder (DP) Application Example



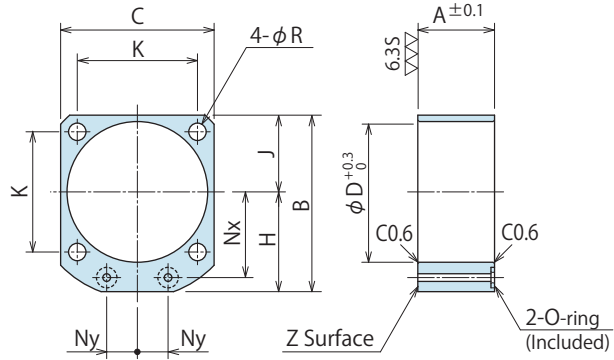
Manifold Block for WCA/WCE/WHA/WHE

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.

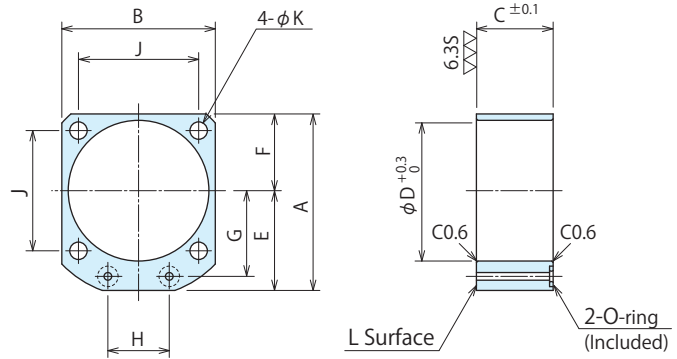
Manifold Block for LKA/LKC/LKE/LHA/LHC/LHE/LHS/LL

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.

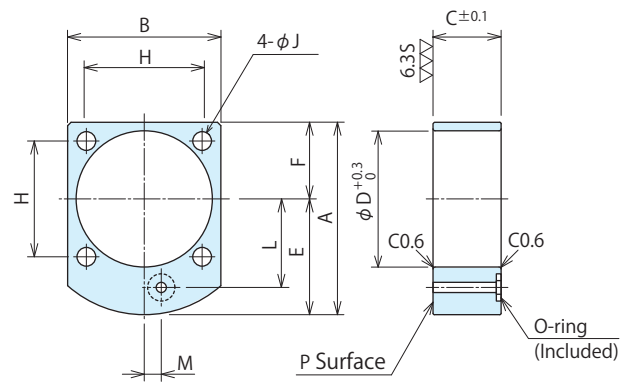
**Manifold Block for LM/LJ/LT/LG**

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.

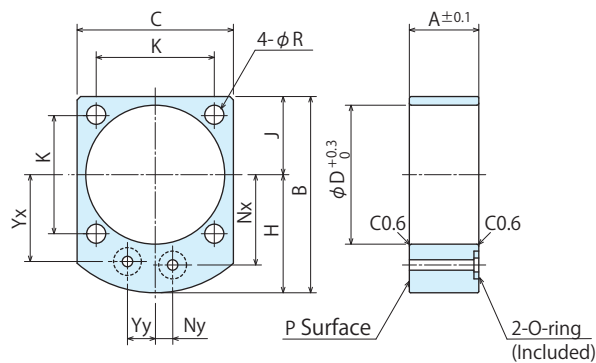
**Manifold Block for LC/TC**

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

## Sales Offices across the World

Japan	<b>TEL. +81-78-991-5162</b>	<b>FAX. +81-78-991-8787</b>
Overseas Sales	KOSMEK LTD. 1-5, 2-chome, Murotani, Nishi-ku, Kobe-city, Hyogo, Japan 651-2241 〒651-2241 兵庫県神戸市西区室谷2丁目1番5号	
USA	<b>TEL. +1-630-241-3465</b>	<b>FAX. +1-630-241-3834</b>
KOSMEK (USA) LTD.	1441 Branding Avenue, Suite 110, Downers Grove, IL 60515 USA	
China	<b>TEL.+86-21-54253000</b>	<b>FAX.+86-21-54253709</b>
KOSMEK (CHINA) LTD. 考世美(上海)貿易有限公司	21/F, Orient International Technology Building, No.58, Xiangchen Rd, Pudong Shanghai 200122., P.R.China 中国上海市浦东新区向城路58号东方国际科技大厦21F室 200122	
Thailand	<b>TEL. +66-2-715-3450</b>	<b>FAX. +66-2-715-3453</b>
Thailand Representative Office	67 Soi 58, RAMA 9 Rd., Suanluang, Suanluang, Bangkok 10250, Thailand	
Taiwan (Taiwan Exclusive Distributor)	<b>TEL. +886-2-82261860</b>	<b>FAX. +886-2-82261890</b>
Full Life Trading Co., Ltd. 盈生貿易有限公司	16F-4, No.2, Jian Ba Rd., Zhonghe District, New Taipei City Taiwan 23511 台湾新北市中和區建八路2號 16F-4 (遠東世紀廣場)	
Philippines (Philippines Exclusive Distributor)	<b>TEL.+63-2-310-7286</b>	<b>FAX. +63-2-310-7286</b>
G.E.T. Inc, Phil.	Victoria Wave Special Economic Zone Mt. Apo Building, Brgy. 186, North Caloocan City, Metro Manila, Philippines 1427	
Europe (Europe Exclusive Distributor)	<b>TEL. +43-463-287587-10</b>	<b>FAX. +43-463-287587-20</b>
KOS-MECH GmbH	Schleppeplatz 2 9020 Klagenfurt Austria	
Indonesia (Indonesia Exclusive Distributor)	<b>TEL. +62-21-5818632</b>	<b>FAX. +62-21-5814857</b>
P.T PANDU HYDRO PNEUMATICS	Ruko Green Garden Blok Z- II No.51 Rt.005 Rw.008 Kedoya Utara-Kebon Jeruk Jakarta Barat 11520 Indonesia	

## Sales Offices in Japan

Head Office	<b>TEL.078-991-5115</b>	<b>FAX.078-991-8787</b>
Osaka Sales Office	〒651-2241 兵庫県神戸市西区室谷2丁目1番5号	
Overseas Sales		
Tokyo Sales Office	<b>TEL.048-652-8839</b>	<b>FAX.048-652-8828</b>
	〒331-0815 埼玉県さいたま市北区大成町4丁目81番地	
Nagoya Sales Office	<b>TEL.0566-74-8778</b>	<b>FAX.0566-74-8808</b>
	〒446-0076 愛知県安城市美園町2丁目10番地1	
Fukuoka Sales Office	<b>TEL.092-433-0424</b>	<b>FAX.092-433-0426</b>
	〒812-0006 福岡県福岡市博多区上牟田1丁目8-10-101	

# Global Network



Asia Detailed Map



● FOR FURTHER INFORMATION ON UNLISTED SPECIFICATIONS AND SIZES, PLEASE CALL US.  
 ● SPECIFICATIONS IN THIS CATALOG ARE SUBJECT TO CHANGE WITHOUT NOTICE.

