Air Sensing Lift Cylinder

Hydraulic Double Action

Model LLW

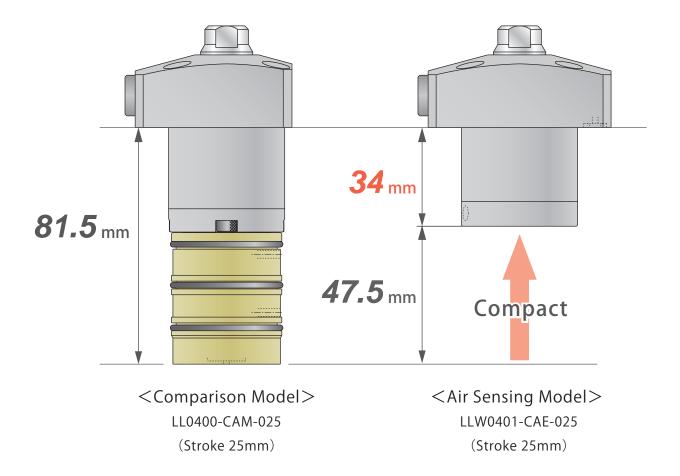


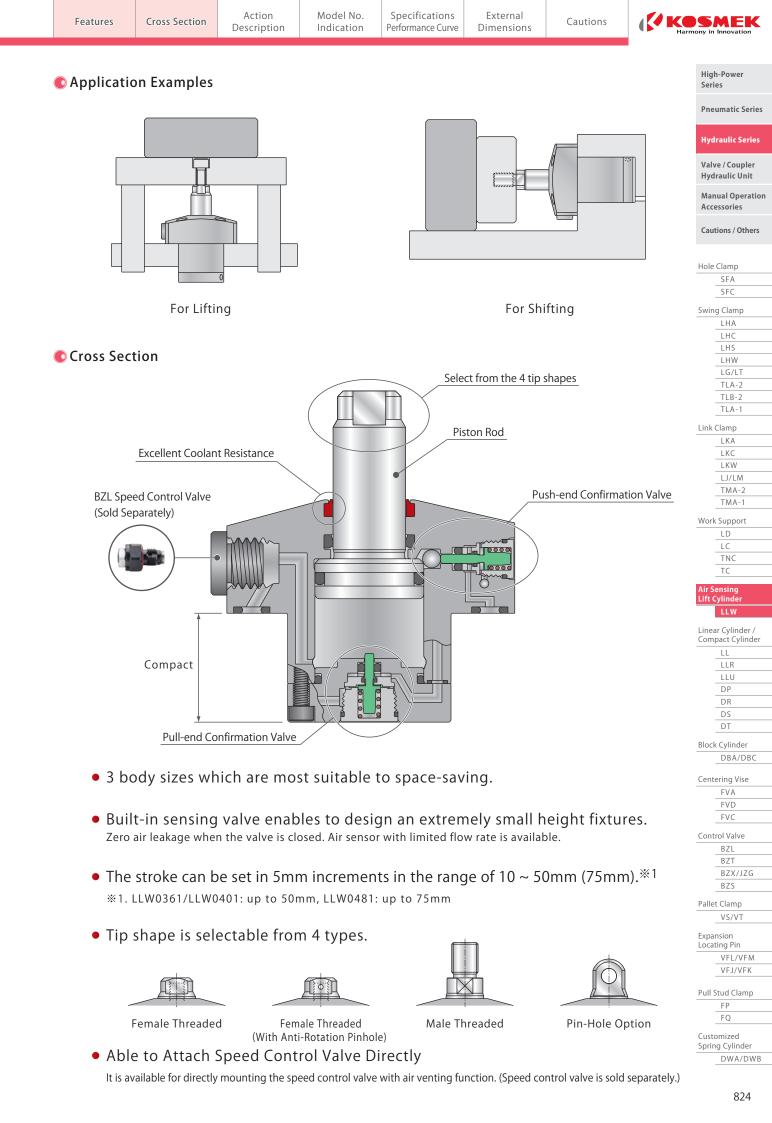
Compact and Space-Saving Lift Cylinder

With built-in action confirmation valve LLW is ideal for automated equipment. The stroke can be set in 5mm increments.

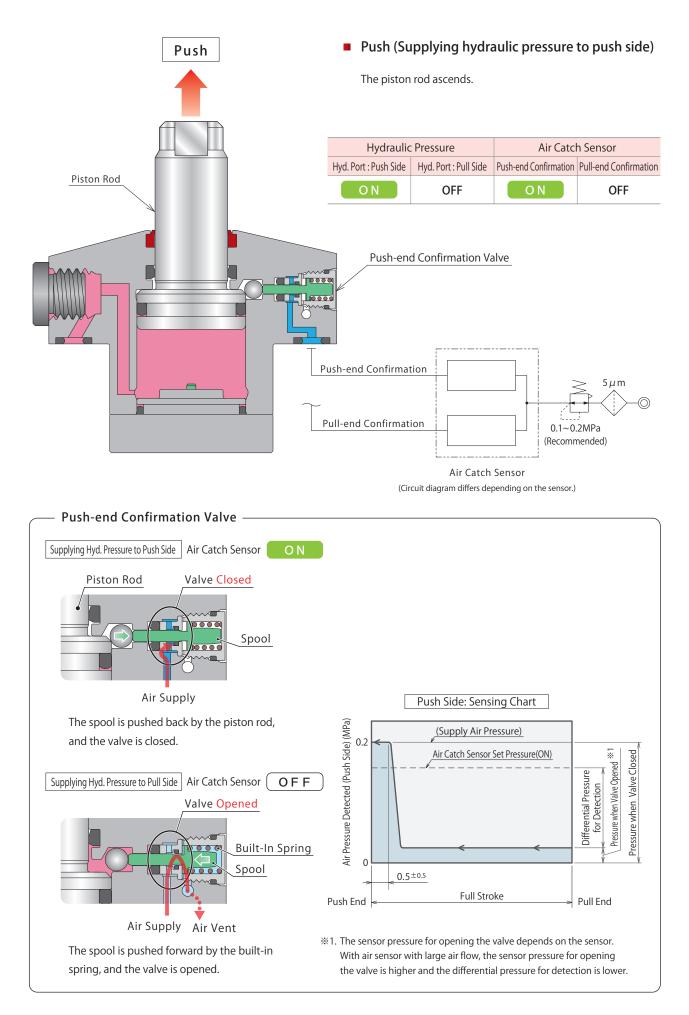
PAT.

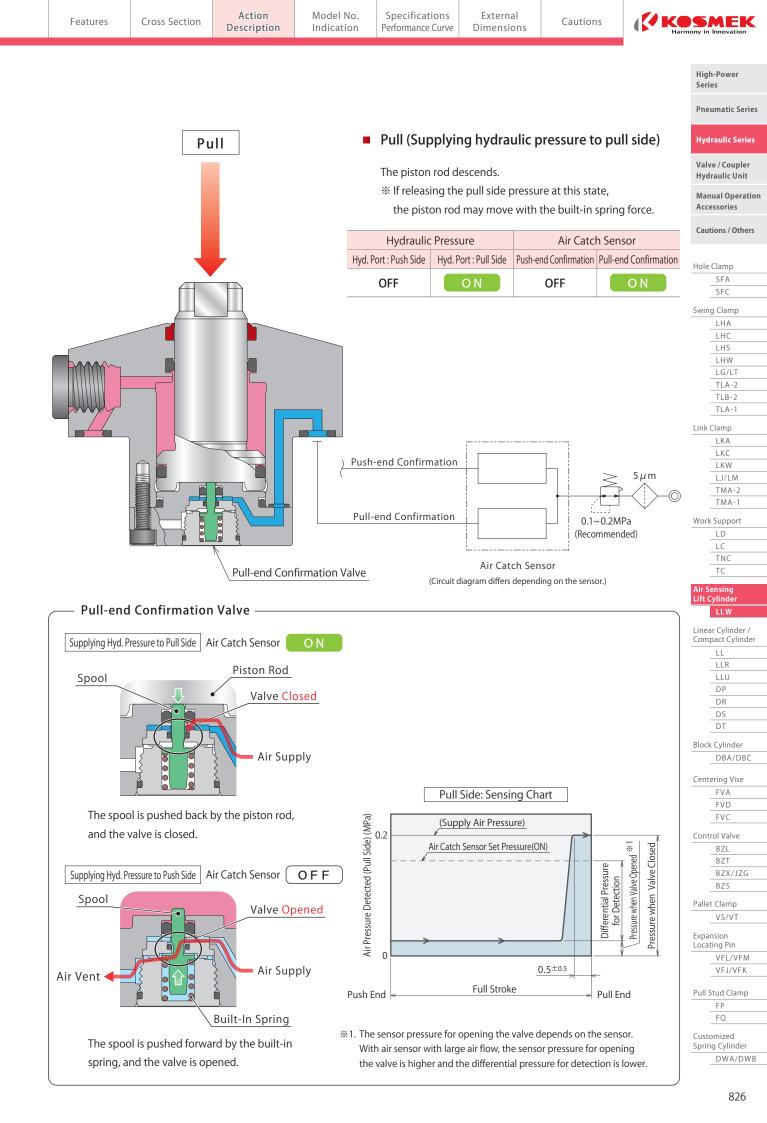
LLW is much more compact than the conventional model LL.





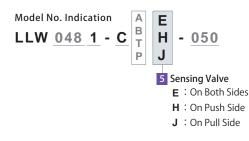
Action Description





Action Description (Explanation about Sensing and Air Sensing Chart)

Action confirmation of the piston rod can be conducted by detecting differential pressure with the air catch sensor connected to the push-end confirmation port and pull-end confirmation port.



Air Catch Sensor

• Air catch sensor is required in order to conduct action confirmation of the piston rod.

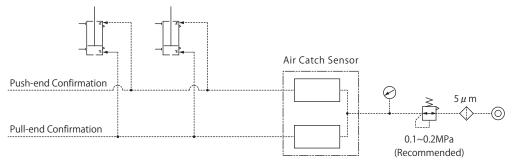
Sensing can be done by the air catch sensor with small air flow (recommended models are in the table below).

Recommended Operating Air Pressure: 0.1 ~ 0.2MPa

Recommended	Air	Catch	Sensor

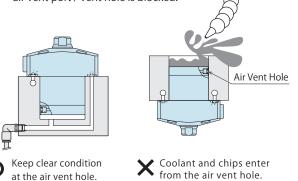
Manufacturer	SMC	CKD
Name	Air Catch Sensor	Gap Switch
Model No.	ISA3-G	GPS3-E

- Please refer to manufacturer's catalog or other documents for the details about the air catch sensor.
- The air pressure to the air catch sensor should be 0.1 ~ 0.2MPa.
- Please keep supplying air pressure when in use.
- Refer to the drawing below for the air circuit structure.

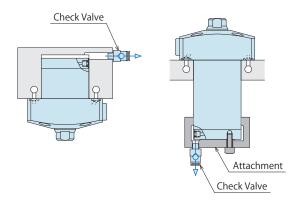


Notes for Design and Installation

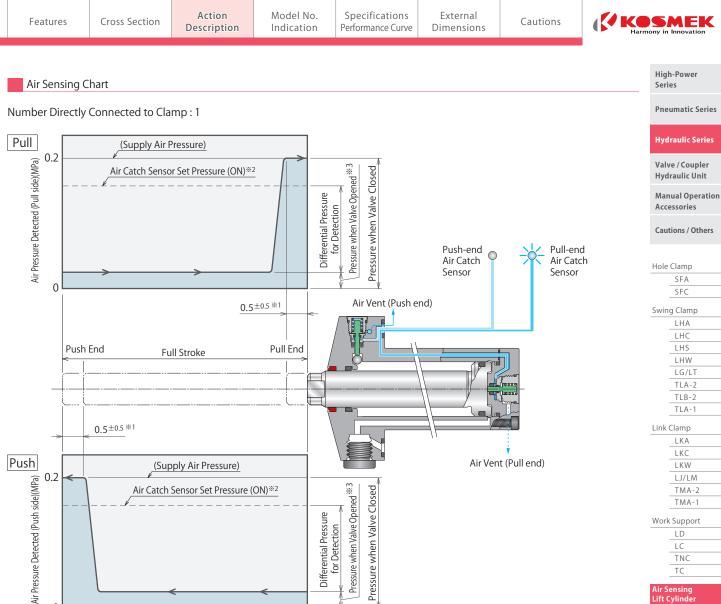
 Please keep clear condition at the air vent port / vent hole, and prevent coolant and chips from entering the port / hole. The air sensor can malfunction if the air vent port / vent hole is blocked.



Prevention of Contaminants to the Air Vent Port / Vent Hole Coolant and chips can be prevented by setting a check valve with low cracking pressure. (Recommended check valve : SMC-made series AKH, cracking pressure : 0.005MPa)



• Keep supplying air pressure to the air port when in use.



Notes :

0

- 1. The sensing chart shows the relationship between the stroke and detection circuit air pressure.
- 2. The specifications may vary depending on the air circuit. The length of hose should be as short as possible. (Suggest shorter than 5m)
- 3. There is only push-end confirmation for sensing valve symbol [H], and only pull-end confirmation for sensing valve symbol [].
- *1. There is a certain tolerance with regard to the position where the pressure for closing the valve is reached depending on the sensor structure. (Refer to the sensing chart.)
- *2. The location of a signal from air sensor output varies depending on the sensor setting.
- ※3. The sensor pressure for opening the valve depends on the sensor.

With air sensor with large air flow, the sensor pressure for opening the valve is higher and the differential pressure for detection is lower.

23/2111
TMA-2
TMA-1
Work Support
LD
LC
TNC
TC
Air Sensing Lift Cylinder
LLW
Linear Cylinder /
Compact Cylinder
LLR
LLU
DP
DR
DS
DT
Block Cylinder
DBA/DBC
Centering Vise
FVA
FVD
FVC
Control Valve
BZL
BZT
BZX/JZG
BZS
Pallet Clamp
VS/VT
Expansion Locating Pin
VFL/VFM
VFJ/VFK
VI J/ VI I/
Pull Stud Clamp
FP

FQ

Model No. Indication



1 Body Size	
036 : <i>ϕ</i> D=36mm	ſŢ
040 : <i>φ</i> D=40mm	
048 : <i>ϕ</i> D=48mm	φD
$\%$ Outer diameter (ϕ D) of the cylinder.	

2 Design No.

1 : Revision Number

3 Piping Method

C : Gasket Option (With G Thread Plug)



With G Thread Plug (able to attach Speed Control Valve) (Order the valve separately Recommended : BZL-B)

* Speed control valve (BZL) is sold separately. Please refer to P.947.

4 Shape of Piston Tip

B Ρ Т Α Α : Female Threaded : Female Threaded (With Anti-Rotation Pinhole) В : Pin-Hole Ρ Т : Male Threaded 5 Sensing Valve Е : Sensing Valves on Both Sides Push-end Confirmation Valve When selecting E, H Н : Sensing Valve on Push Side J : Sensing Valve on Pull Side Pull-end Confirmation Valve When selecting **E**, **J** 6 Stroke Stroke Value : Full Stroke **Full Stroke** Push End Pull End ※ Full stroke is set in 5mm increments. Example: Full Stroke 15mm :015 Full Stroke 50mm : 050 Full Stroke 75mm : 075

Model No.		LLW0361-C	LLW0401-C	LLW0481-C
Full Stroke	mm	$10 \sim 50$ (in 5mm increments)	10~50 (in 5mm increments)	$10 \sim 75$ (in 5mm increments)

Features	Cross Section	Action Description	Model No. Indication	Specifications Performance Curve	External Dimensions	Cautions	

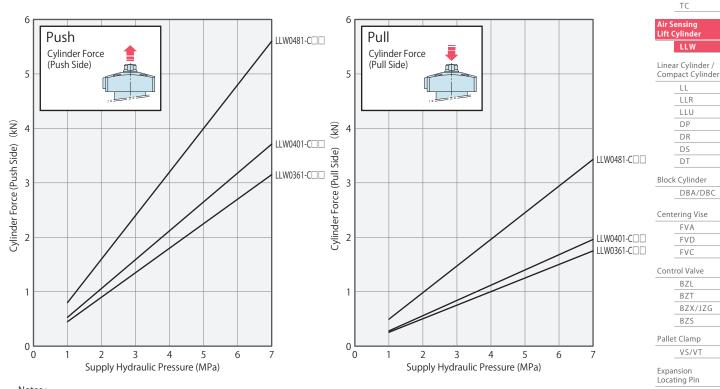


Mode	el No.		LLW0361-C	LLW0401-C	LLW0481-C			
Full St	troke Y	mm	10~50 (in 5mm increments) 10~50 (in 5mm increments)		10~75 (in 5mm increments)			
Culing	der Area cm ²	Push Side	4.5	5.3	8.0			
Cyline		Pull Side	2.5	2.8	4.9			
Cylind	der Force ^{%1} kN	Push Side	$P \times 0.45$	P × 0.53	$P \times 0.80$			
(Calcul	lation Formula)	Pull Side	P × 0.25	P × 0.28	P × 0.49			
Cylind	der Capacity ^{%1} cm ³	Push Side	Y × 0.45	Y × 0.53	Y × 0.80			
(Calcul	(Calculation Formula) Pull Side		Y × 0.25	$Y \times 0.25$ $Y \times 0.28$				
Cylind	Cylinder Inside Diameter mm		φ24 φ26		<i>\$</i> 32			
Rod D	Rod Diameter mm		φ16 φ18		<i>\$</i> 20			
Hyd.	Max. Operating Pres	ssure MPa	7.0					
Pressure	Min. Operating Pres	sure MPa	1.0					
riessuie	Withstanding Press	ure MPa	10.5					
Recom	mended Operating Air P	ressure MPa	0.1 ~ 0.2					
Recon	nmended Air Catch S	Sensor	ISA3-G (SMC) / GPS3-E (CKD)					
Opera	ating Temperature	°C	0 ~ 70					
Weigł	ht	kg	0.6 ~ 0.8	0.7 ~ 0.9	1.0 ~ 1.6			

Note : %1. P:Supply Hydraulic Pressure (MPa) Y:Full Stroke (mm)

Performance Curve

Model No.	Cylinder Force (Push Side) (kN)					Cylinder Force (Pull Side) (kN)								
model No.	1MPa	2MPa	3MPa	4MPa	5MPa	6MPa	7MPa	1MPa	2MPa	3MPa	4MPa	5MPa	6MPa	7MPa
LLW0361-C	0.4	0.9	1.3	1.8	2.2	2.7	3.1	0.2	0.5	0.7	1.0	1.2	1.5	1.7
LLW0401-C	0.5	1.0	1.5	2.1	2.6	3.1	3.7	0.2	0.5	0.8	1.1	1.4	1.6	1.9
LLW0481-C	0.8	1.6	2.4	3.2	4.0	4.8	5.6	0.4	0.9	1.4	1.9	2.4	2.9	3.4



Notes :

1. The chart and graph show the relationship between the cylinder force and supply hydraulic pressure.

2. Cylinder force (kN) is the theoretical value. Actual force may decrease because of friction and pressure loss.

Pull Stud Clamp FΡ FQ

VFL/VFM

VFJ/VFK

Customized Spring Cylinder DWA/DWB

Hydraulic Series Valve / Coupler

High-Power

Pneumatic Series

Series

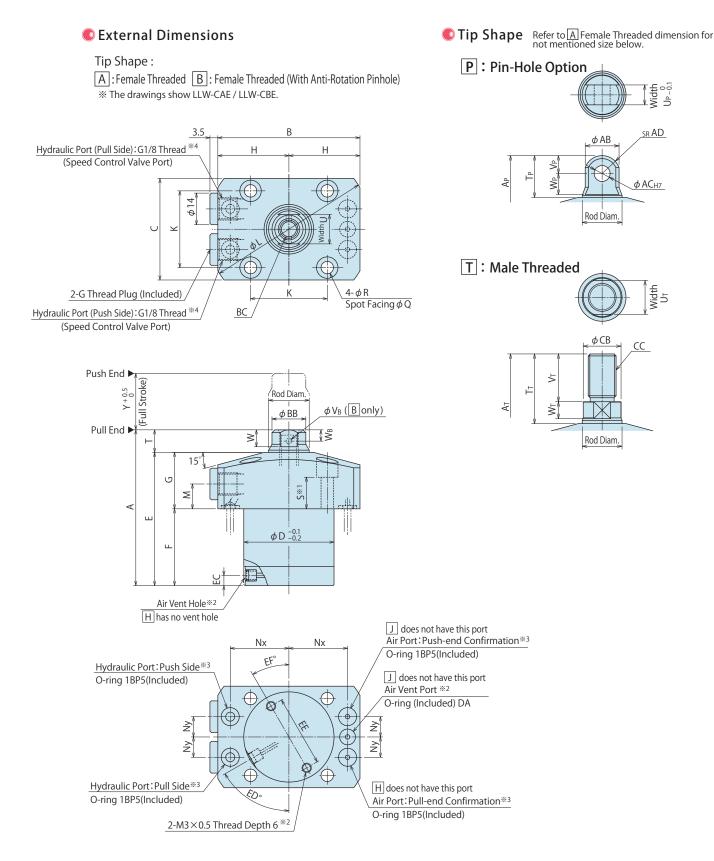
MEK

Hydraulic Unit

Manual Operation Accessories

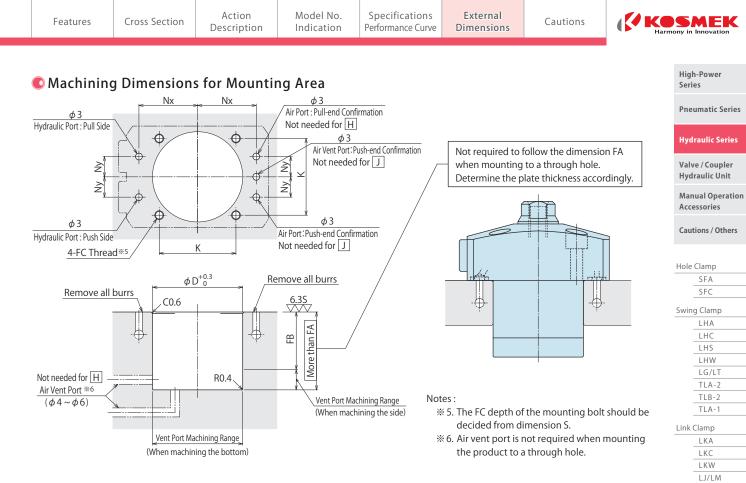
Cautions / Others

LJ/LM TMA-2 TMA-1 Work Support LD LC TNC



Notes :

- % 1. Mounting bolts are not provided. Please prepare based on dimension S.
- %2. Please keep clear condition at the air vent hole, and prevent coolant and chips from entering the hole.
- If exposed to coolant, install an attachment to M3 thread to prevent coolant and chips, but do not block the air vent hole. 3. The port names are marked on the body surface. (PUSH HYD. : Hydraulic port on the push side, PULL HYD. : Hydraulic port on the pull side,
- PUSH CHECK : Air port on the push side, PULL CHECK : Air port on the pull side, VENT : Air vent port)
- %4. Speed control valve is sold separately. Please refer to P.947.



External Dimensions and Machining Dimensions for Mounting

A : Female Threaded B : Female Threaded (With Anti-Rotation Pinhole) (mm)

A Female Inr	eaded	B • Female Inreaded (Wi			(WITH ANTI-ROTATION PINNOIE) (mm)				
Model No	Э.	LLW036	51-CA🗆	LLW040	01-CA🗆	LLW048	LLW0481-CA		
Full Stroke	eΥ	10,15	20~50 (in 5mm increments)	10,15	20~50 (in 5mm increments)	10,15	20~75 (in 5mm increments)		
А		58	Y+43	59	Y+44	62	Y+47		
В		5	8	6	3	7	1		
С		4	0	4	5	5	1		
D		3	6	4	0	4	8		
E		49	Y+34	49	Y+34	51	Y+36		
F		24	Y+9	24	Y+9	23	Y+8		
G		2	5	2	5	2	8		
Н		2	9	31	.5	35	5.5		
K		31	.4	3	4	4	0		
L		6	6	7	3	8	3		
М		1	1	11		12			
Nx		23.5		26		30			
Ny		8		9		11			
Q		7.5		9.5		9.5			
R		4	.5	5.5		5.5			
S		1	6	14		15.5			
Т		9	9	10		11			
U		1	2	13		14			
W		7.	.5	7.5		8.5			
BB		1	4	15		17			
BC (Nominal×Pitch	1 2	M6×	1×12	M8×1.	25×16	M8×1.	25×16		
VB [Bon]		-	2		.5	2	.5		
WB Bonl	у]	5.5		1	5	6	5		
EC		4.5			.5	4	.5		
ED		45°		60	-	6	0°		
EE		30			.6		9		
EF		30°		0°		()°		
FA		24.5	Y+9.5	24.5	Y+9.5	23.5	Y+8.5		
FB		15.5	Y+0.5	15.5	Y+0.5	14.5	Y-0.5		
FC (Nominal×		M4>			×0.8	M5>			
O-ring	DA	AS568-0	006(90°)	AS568-0)07(90°)	1B	1BP5		

(ex.) LLW0361-CA-010 [Y=10, A=58, E=49, F=24] LLW0361-CA-030 [Y=30, A=73, E=64, F=39]

P: Pin-Hole Option Refer to the dimensions of option A for unlisted dimensions. (mm)

Model No.	LLW03	61-CP	LLW04	01-CP🗆	LLW0481-CP	
Full Stroke Y	10,15	20~50 (in 5mm increments)	10,15	20~50 (in 5mm increments)	10,15	20~75 (in 5mm increments)
Ap	64	Y+49	68	Y+53	72	Y+57
AB	1	2	15		17	
AC	(5 ^{+0.012}	8+0.015		8 + 0.015	
AD	(5	8		9	
ТР	1	5	19		21	
Up	6		8		10	
VP	6		8		9	
WP	7	.5	9.5		10.5	

T: Male Threaded	Refer to the dimensions of option A for unlisted dimensions. (mm						
Model No.	LLW036	51-CT 🗆	LLW040	01-CT 🗆	LLW0481-CT 🗌		
Full Stroke Y	10,15	20~50 (in 5mm increments)	10,15	20~50 (in 5mm increments)	10,15	20~75 (in 5mm increments)	
AT	74	Y+59	79	Y+64	86	Y+71	
Ττ	2	5	30		35		
Uτ	1	2	14		17		
VT	1	6	20		24		
Wτ	7.5		7.5		8.5		
CB	14		17		19		
CC (Nominal×Pitch)	M10>	×1.25	M12>	<1.25	M14	M14×1.5	

Customized Spring Cylinder DWA/DWB

	LC				
	TNC				
	ТС				
Air Sensing Lift Cylinder					
	LLW				

LD

TMA-2

TMA-1 Work Support

Compact Cylinder /			
	LL		
	LLR		
	LLU		
	DP		
	DR		
	DS		
	DT		
Block Cylinder			
DBA/DBC			
Centering Vise			

FVA FVD FVC Control Valve BZL BZT BZX/JZG

BZS

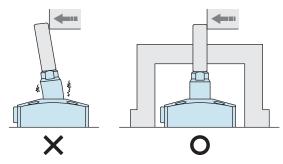
Pallet Clamp VS/VT

Expansion Locating Pin VFL/VFM VFJ/VFK Pull Stud Clamp FP FQ

Cautions

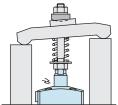
- Notes for Design
- 1) Check Specifications
- Please use each product according to the specifications.
- 2) Notes for Circuit Design
- Please read "Notes on Hydraulic Cylinder Speed Control Unit" for proper hydraulic circuit design. Improper circuit design may lead to malfunctions and damages. (Refer to P.1356)
- Ensure there is no possibility of supplying hydraulic pressure to the push side and the pull side simultaneously.
- 3) Notes for Pipe Design
- It is recommended to select as large diameter pipe as possible.
 The back pressure is proportional to the pipe size, so if the pipes are small the releasing and locking times will be longer.
- Protect the exposed area of the piston rod when using on a welding fixture.
- If spatter attaches to the sliding surface it could lead to malfunction and fluid leakage.
- 5) The Load Direction Given to the Piston Rod
- Make sure no force is applied to the piston rod except from the axial direction. Usage like the one shown in the figure below will apply a large bending stress to the piston rod and must be avoided.

In case a load is applied except from the axial direction



When clamping workpieces of different heights





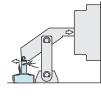
With Spherical Washer

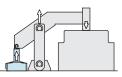
Without Spherical Washer

Х

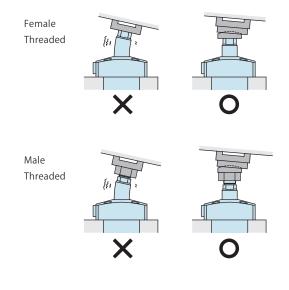


A Combination with Link Mechanism





- 6) When Clamping on a Sloped Surface of a Workpiece
- When clamping an inclined surface, make sure that the clamping area is level when looking from the cylinder side. The clamping surface and the cylinder mounting surface should be parallel. A workpiece may move and a piston rod may slip when a cylinder is used on an inclined surface. (When the workpiece is a casting, it is recommended that a spiked attachment be used for a cylinder on draft angle.)



- 7) Notes on Sensing Valve
- Please refer to the notes for design, installation and use on P. 827.

Features	Cross Section	Action Description	Model No. Indication	Specifications Performance Curve	External Dimensions	Cautions	
							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
LG/LT
TLA-2
TLB-2
TLA-1
Link Clamp

	TLA-2	
	TLB-2	
	TLA-1	
nk	Clamp	
	LKA	
	LKC	

LKC
LKW
LJ/LM
TMA-2
TMA-1

Work	Support	
	LD	

LC	
TNC	
TC	

Lift Cylinder	
LLW	

Linear Cylinder / Compact Cylinder

	LL	
	LLR	
	LLU	
	DP	
	DR	
	DS	
	DT	
lock	Cylinder	
	DBA/DBC	

DB	A/DBC
<i>.</i>	
Centering	i Vise

В

FVA FVD FVC

Control Valve

BZL BZT BZX/JZG BZS

Pallet Clamp

VS/VT

Expansion Locating Pin VFL/VFM

VFJ/VFK Pull Stud Clamp

> FΡ FQ

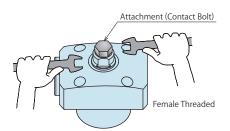
Customized

	Insta	llation	Notes
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- 1) Check the Usable Fluid
- Please use the appropriate fluid by referring to the Hydraulic Fluid List (P.1355).
- 2) Installation of the Cylinder
- When mounting the cylinder, use four hexagonal socket bolts (with tensile strength of 12.9) and tighten them with the torque shown in the table below. Tightening with greater torque than recommended can dent the seating surface or break the bolt.

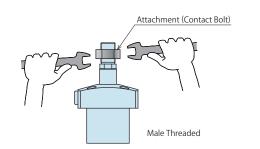
Model No.	Thread Size	Tightening Torque (N · m)
LLW0361	M4×0.7	3.2
LLW0401	M5×0.8	6.3
LLW0481	M5×0.8	6.3

- 3) Installation / Removal of Attachment
- When installing or removing an attachment, always use a wrench on the piston rod to keep it from turning, and tighten it with the torque shown below.



LLW -CA / LLW -CB : Female Threaded

Model No.	Thread Size	Tightening Torque (N·m)
LLW0361-CA/B	M6×1	10
LLW0401-CA/B	M8×1.25	16
LLW0481-CA/B	M8×1.25	16



LLW -CT :: Male Threaded

Model No.	Thread Size	Tightening Torque (N·m)
LLW0361-CT	M10×1.25	40
LLW0401-CT	M12×1.25	63
LLW0481-CT	M14×1.5	80

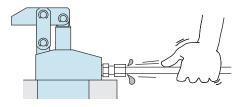
4) Speed Adjustment

• Adjust the rod operating speed of both the push and pull sides to be less than 100mm/sec. Excessive cylinder speed will accelerate wear and lead to component damage.

- Please make sure to release air from the circuit before adjusting the 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.

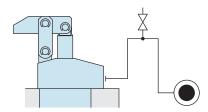
Cautions

- 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.
- Please implement piping construction in a clear environment to prevent anything getting in products.
- 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 Shake the pipeline to loosen the outlet of pipe fitting.Hydraulic fluid mixed with air comes out.



- ④ Tighten the cap nut after bleeding.
- ③ It is more effective to release 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

	19	O Viscosity Grade ISO-VG-32
Maker	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 : Please contact manufacturers when customers require products in the list above.

High-Power Series

Hydraulic Series

Valve / Coupler Hydraulic Unit

Manual Operation Accessories

Cautions / Others

Cautions Notes on Handling

Maintenance Inspection Warranty

Search by Alphabetical Order

Sales Offices

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





Company Profile Company Profile Our Products History

Index

Installation Notes (For Hydraulic Series)

Hydraulic Fluid List

Notes on Hydraulic Cylinder Speed Control Circuit

Notes on Handling Maintenance/Inspection

Warranty

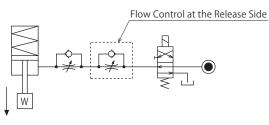
Notes on Hydraulic Cylinder Speed Control Unit

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.

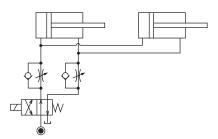
Accelerated clamping speed by excessive hydraulic flow to the cylinder may sustain damage. In this case add flow control to regulate flow. (Please add flow control to release flow if the lever weight is put on at the time of release action when using swing clamps.)



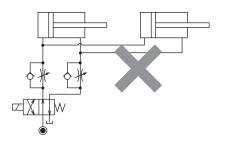
Flow Control Circuit for Double Acting Cylinder Flow control circuit for double acting cylinder should have meter-out circuits for both the lock and release sides. Meter-in control can have adverse effect by presence of air in the system. However, in the case of controlling LKE, TMA, TLA, both lock side and release side should be meter-in circuit. Refer to P.75 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.)

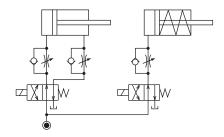


erratic or very slow.

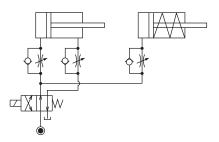
In the case of meter-out circuit, the hydraulic circuit should

be designed with the following points.

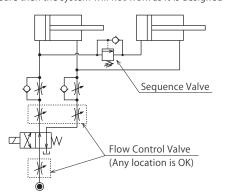
Refer to the following circuit when both the single acting cylinder and double acting cylinder are used together. \bigcirc Separate the control circuit.



○ 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

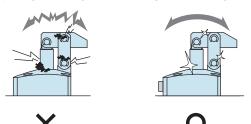
- Notes on Handling
- 1) It should be operated by qualified personnel.
- The hydraulic machine and air compressor should be operated and maintained by qualified personnel.
- 2) Do not operate or remove the product unless the safety protocols are ensured.
- ① The machine and equipment can only be inspected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



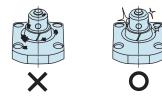
- 4) Do not disassemble or modify.
- If the equipment is taken apart or modified, the warranty will be voided even within the warranty period.

Maintenance and Inspection

- 1) Removal of the Machine and Shut-off of Pressure Source
- Before the machine is removed, make sure that safety devices and preventive devices are in place. Shut off the pressure and power source, and make sure no pressure exists in the air and hydraulic circuits.
- 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 and fluid leakage.



- Please clean out the reference surfaces on a regular basis (taper reference surface and seating surface) of the locating products. (VS/VT/VFL/VFM/VFJ/VFK/WVS/VWM/VWK/VX/VXE/VXF)
- The locating products, except VX/VXE/VXF model, can remove contaminants with cleaning functions. However, hardened cutting chips, adhesive coolant and others may not be removed. Make sure there are no contaminants before installing a workpiece/pallet.
- Continuous use with contaminant on components will lead to locating accuracy failure, malfunction and fluid leakage.



- If disconnecting by couplers, air bleeding should be carried out on a regular basis to avoid air mixed in the circuit.
- 5) Regularly tighten nut, bolt, pin, cylinder, pipe line and others to ensure proper use.
- 6) Make sure the hydraulic fluid has not deteriorated.
- 7) Make sure there is a smooth action without an irregular noise.
- Especially when it is restarted after left unused for a long period, make sure it can be operated correctly.
- 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



High-Power Series

Pneumatic Series

Pheuma

Hydraulic Series

Valve / Coupler Hydraulic Unit

Manual Operation Accessories

Cautions / Others

Cautions

(For Hydraulic Series) Hydraulic Fluid List

> Notes on Hydraulic Cylinder Speed Control Circuit

Notes on Handling

Maintenance/ Inspection Warranty

Company Profile

Our Products History

Index Search by Alphabetical Order

Sales Offices

- Warranty1) 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 operated in an inappropriate way by the operator.
 (Including damage caused by the misconduct of the third party.)
- 3 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 Model BZS

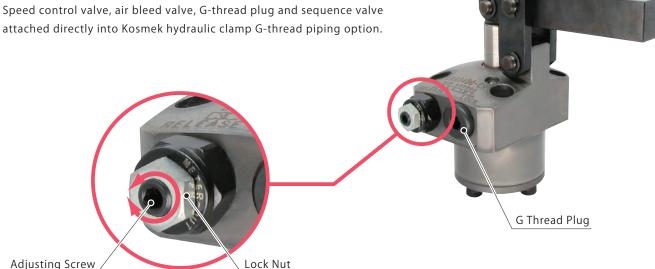


Directly-Attached Speed Control Valve, Air Bleed Valve, G-Thread Plug and Sequence Valve

• Directly Attached to Clamps

Control Valves :

attached directly into Kosmek hydraulic clamp G-thread piping option.



Adjusting Screw

Speed Control Valve



Speed Control Valve

Model BZL Model BZT



Air Bleed Valve

Model **BZX**





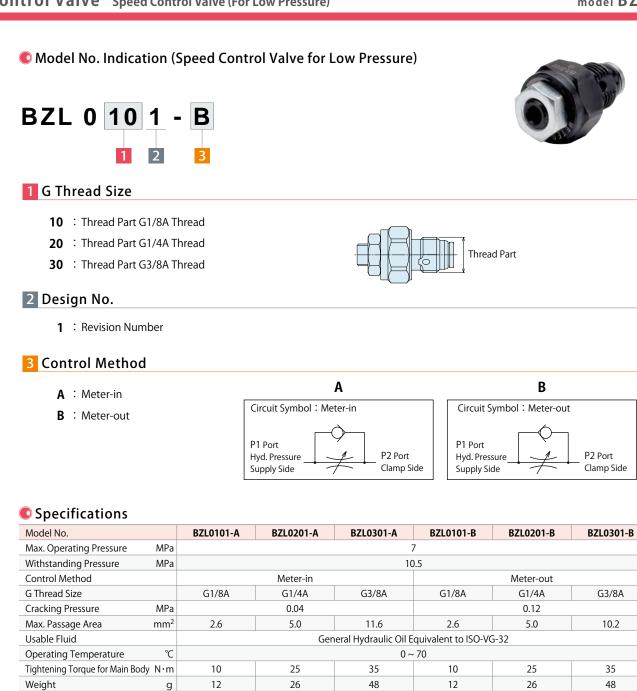
G Thread Plug

Direct-Mount Sequence Valve

Model JZG

Model BZS

	Operating	Action Description	High-Power Series
	Pressure Range	Action Description	Pneumatic Series
Speed Control Valve		Adjust the flow rate with a wrench.	Hydraulic Series
(For Low Pressure)		Able to adjust the clamping speed individually.	Valve / Coupler Hydraulic Unit
		Clamp	Manual Operation
Model BZL	7MPa or less		Accessories
→ P.949		Flow Control	Cautions / Others
			Hole Clamp
	San		SFA SFC
			Swing Clamp
Speed Control Valve (For High Pressure)		Air bleeding in the circuit is possible	LHA
(· - · · · · j . · · · · · · ,		by loosening the speed control valve.	LHS LHW
			LG/LT TLA-2
Model BZT	35MPa or less		TLB-2 TLA-1
→ P.953			Link Clamp
			LKA LKC
			LKW LJ/LM
			TMA-2 TMA-1
Air Bleed Valve		Air bleeding in the circuit is possible by wrench.	Work Support
		- T	LD
			TNC TC
Model BZX			Air Sensing
$\rightarrow P.955$	25MPa or less		Lift Cylinder
•			Linear Cylinder / Compact Cylinder
			LL
			LLU DP
G Thread Plug		Air bleeding in the circuit is possible	DR
		by loosening the G thread plug.	DT
		Π	Block Cylinder DBA/DBC
			Centering Vise
Model JZG → P.957	35MPa or less		FVA FVD
			FVC
			Control Valve BZL
			BZT BZX/JZG
Direct-Mount		Sequence Valve directly attaches to KOSMEK	BZS Pallet Clamp
Sequence Valve		hydraulic clamp's G-thread piping option.	VS/VT
_		Controls the operating sequence of each actuator.	Expansion Locating Pin
	- Her	Hydraulic Clamp	VFL/VFM VFJ/VFK
Model BZS	7MPa or less	nyuraune Clamp	Pull Stud Clamp
→ P.959		Direct-Mount Sequence Valve	FP FQ
-			Customized
			Spring Cylinder DWA/DWB



Notes : 1. 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.

2. Do not attach a used BZL to other clamps.

Flow control will not be made because the bottom depth difference of G thread makes metal seal insufficient.

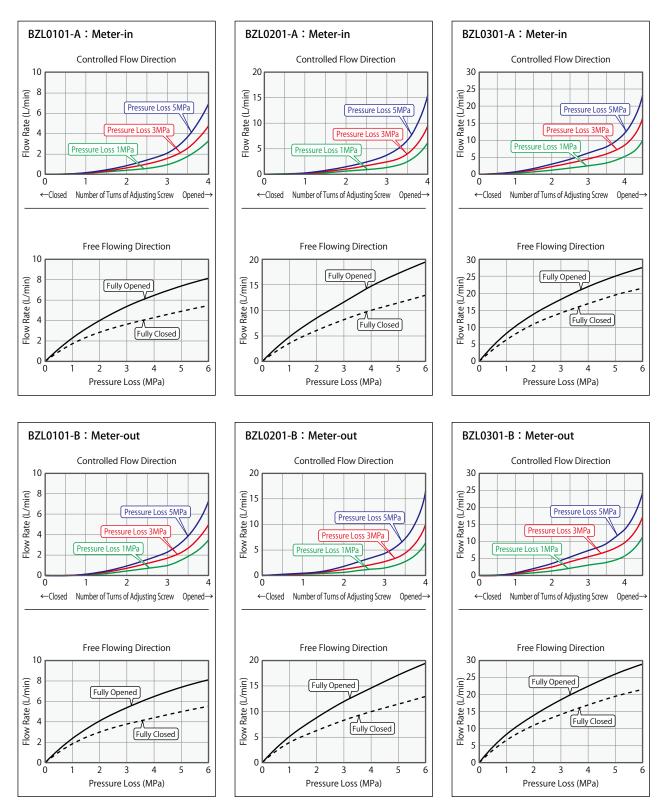
Applicable Products

Model No.	DBA (Double Action)	DBC (Double Action)	FVA (Double Action)	FVC (Double Action)	FVD (Double Action)	LC (Single Action)	LCW (Single Action)
Model No.	Block Cylinder	Block Cylinder	Centering Vise	Centering Vise	Centering Vise	Work Support	Work Support
	(DBA0250-C 🗆)	(DBC0250-C 🗆)	(FVA0401)	(FVC0630)	(FVD1600)	LC0263-C 🗆 -	LCW0363-C
	(DBA0320-C 🗆)	(DBC0320-C 🗆)	(FVA0631)		(FVD2500)	LC0303-C 🗆 -	LCW0403-C
			(FVA1001)			LC0363-C 🗆 -	LCW0483-C
BZL0101-A						LC0403-C 🗆 -	LCW0553-C
						LC0483-C 🗆 -	LCW0653-C
						LC0553-C 🗆 🗆	
						LC0653-C 🗆 🗆 -	
	DBA0250-C	DBC0250-C	FVA0401	FVC0630	FVD1600		
BZL0101-B	DBA0320-C	DBC0320-C	FVA0631		FVD2500		
			FVA1001				
BZL0201-A	(DBA0400-C 🗆)	(DBC0400-C 🗆)		(FVC1000)	(FVD4000)	LC0753-C 🗆 🗆	
BZLUZUT-A	(DBA0500-C 🗆)	(DBC0500-C 🗆)		(FVC1600)		LC0903-C 🗆 🗆 -	
BZL0201-B	DBA0400-C	DBC0400-C		FVC1000	FVD4000		
DZLVZVI-D	DBA0500-C	DBC0500-C		FVC1600			

BZL0101-A BZL0101-A (HA0360-C) (HA0360-C) (HA0360-C) (HA0360-C) (HA0360-C) (HA0360-C) (HA0360-C) (HA0360-C) (HA0360-C) (HA0480-C) (HA0550-C) (HA050-C) (HA050-C) (HA050-C) (HA050-C) (HA050-C) (HA050-C) (HA050-C) (HA050-C) (HA050-C) (HA050-C) (HA050-C) (HA050-C) (HA050-C) (HA050-C) (HA050-C) (HA050-C) (HA050-C) (HA050-C) (HA050-C -			Products	Flow Rate		Dimensions	Ha	mony in Innovation
Model No.LHA (Double Action) Swing ClampLHC (C Swing Swing Swing Swing Swing Swing Swing Swing Swing (HA0360-CII)LHC (G Swing (HA0480-CII)BZL0101-AHA0360-CII1 (HA0480-CII)HA0360-CII1 (HA0480-CII)HC032 (HA0480-CII)BZL0201-A(HA0650-CII1) (HA0550-CII)HA0650-CII1 (HA0550-CII)HC032 (HA0550-CII1)BZL0201-A(HA0650-CII1) (HA050-CII1)HA0650-CII1 (HA050-CII1)HC032 (HA050-CII1)BZL0301-A(HA0900-CII1) (HA1050-CII1)IIModel No.LGV (Single Action) Swing ClampLKA03 (LKA04 (LKA04 (LKA04 (LKA04 (LKA04 (LKA05))BZL0101-ALGV0650-CII-1 (LKA04 (L								High-Power Series
Swing ClampSwingBZL0101-A(HA0360-C]) (HA0400-C]) (HA0480-C]) (HA0550-C]) 		ion) LHE (Double Acti	on) LHS (Double Action)	LHV (Double Action)			LG (Single Action)	Pneumatic Serie
BZL0101-A (LHA0400-CC)-D) (LHC040) BZL0101-B LHA0360-CC)-D) (LHC040) BZL0201-A (LHA0550-CC)-D) (LHC040) LHA0550-CC)-D) (LHC040) (LHC040) BZL0201-A (LHA0550-CC)-D) (LHC040) BZL0301-A (LHA0550-CC)-D) (LHC040) LHA0550-CC)-D) (LHC040) (LHC040) BZL0301-A (LHA0900-CC)-D) (LHC040) LHA0550-CC)-D) (LHC040) (LHC040) BZL0301-A (LHA0900-CC)-D) (LHC040) LHA050-CC)-D) (LHC040) (LHC040) BZL0301-A (LHA0900-CC)-D) (LHC040) LGV0400-CC)-D) (LHC040) (LHC040) BZL0301-A (LGV0400-CC)-D) (LHC040) LGV0480-CC)-D) (LHC040) (LHC040) BZL0101-A LGV0480-CC)-D) (LHC040) BZL0101-A LGV0480-CC)-D) (LHC040) BZL0301-A LGV0650-CC)-D) (LHC040) BZL0301-A LGV040-CC)-D) (LHC040) BZL0301-A LJV0400-CC)-D) (LFW00) BZL01011-B LJV0400-CC)-D)	ng Clamp Swing Clar			Swing Clamp	5 .	Swing Clamp	Swing Clamp	
BZL0101-A(LHA0480-C (LHA0550-C (LHA0550-C LHO400-C LHA0400-C LHA0400-C LHA0400-C LHA0400-C LHA0400-C LHA0550-C LHA0550-C LHA0550-C LHA0550-C BZL0201-ALHA0360-C LHA0550-C LIA050 LGV0480-C LIA0550			(LHS0360-C	(LHV0400-C E-)			LG0301-C	Hydraulic Series
Image: set of the			(LHS0400-C) (LHS0480-C	(LHV0480-C E-) (LHV0550-C E-)			LG0361-C	Valve / Coupler
Image: set of the			(LHS0550-C□□-□)			LT0481-C	LG0401 C	Hydraulic Unit
BZL0101-B LHA0400-CIIIII LHCA44 LHA0480-CIIIIII LHCA44 LHA0550-CIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII			(/				LG0551-C	Manual Operati
BZL0101-B LHA0480-C LHA0550-C LHA0650-C BZL0201-A LHA0550-C LHA0650-C LHA0650-C BZL0301-A LHA0500-C LHA0500-C LHA0500-C BZL0301-A LHA0900-C LHA0500-C LHA0500-C BZL0301-A LHA0900-C LHA050-C LHA050-C BZL0301-A LHA0900-C LHA050-C LHA050-C Model No. LGV (Single Action) LKA04 LGV0400-C LKA04 LKA04 LGV0400-C LKA04 LKA04 BZL0101-A LGV0400-C LKA04 LGV0400-C LKA04 LKA04 LGV0400-C LKA04 LKA04 LGV0400-C LKA04 LKA04 BZL0101-A LGV0650-C LKA04 LGV0750-C LKA04 LKA04 LGV0750-C LKA04 LKA04 BZL0301-A LGV0650-C LKA06 BZL0301-A LJV0Single Action) LKA04 LJV0550-C LINA LINA BZL0101-A LJV0400-C LINA BZL01010-A LJV0650-C LINA	860-C	LHE0300-C	LHS0360-C	LHV0400-C E-	LHW0401-C	/		Accessories
Image: section of the section of th	400-C LHD0480-C			LHV0480-C E-	LHW0481-C			Cautions / Other
Image: section of the section of th	480-C□□-□ LHD0550-C□			LHV0550-C□E-□	LHW0551-C			
BZL0201-A BZL0301-A (HA0750-C) HA0650-C) HA0750-C) HA0750-C) HA0750-C) HA0750-C) BZL0301-A HA0900-C) HA0900-C) HA090-C) HA090-C -	550-C□□-□	LHE0480-C						Hole Clamp
BZL0201-A BZL0301-A (HA0750-C) HA0650-C) HA0750-C) HA0750-C) HA0750-C) HA0750-C) BZL0301-A HA0900-C) HA0900-C) HA090-C) HA090-C -		LHE0550-C	(LHS0650-C		(LHW0651-C	LT0651-C 🗆 - 🗆	LG0651-C 🗆 - 🗌	SFA
BZL0201-B LHA0650-CII-IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII			(LHS0750-C	(LHV0750-C E-)			LG0051-C	SFC
IHA0750-CIIII BZL0301-A (IHA0900-CIIII) IHA0900-CIIIII IHA0900-CIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	550-C 🗆 –	/ /	LHS0650-C					Swing Clamp
BZL0301-A (HA1050-C□) BZL0301-B HA0900-C□) HA1050-C□) HA1050-C□) Model No. LGV (Single Action) LKA (D Swing Clamp LKA03 LGV0400-C□ LKA04 LGV0550-C□ LKA04 LGV0550-C□ LKA04 LGV0750-C□ LKA04 LGV0750-C□ LKA04 LGV0750-C□ LKA04 LGV0750-C□ LKA04 LGV0750-C□ LKA04 LGV0750-C□ LKA09 BZL0301-B LJV(Single Action) Model No. LJV(Single Action) LJV0400-C□ LFW0 LJV0400-C□ LFW0 BZL0101-B LJV0400-C□ BZL0101-B LJV0650-C□ BZL0201-A LJV0650-C□			LHS0750-C 🗆 -	LHV0750-C E-	LHW0751-COO-0			LHA
(IHA1050-CIII-I) BZL0301-B IHA0900-CIII-I) IHA1050-CIII-I) ILANO Model No. LGV (Single Action) LKA (D BZL0101-A IGV0400-CIIII ILANO BZL0101-A IGV0400-CIIIII ILANO BZL0101-A IGV0400-CIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII		1 - 7	(LHS0900-C 🗆 🗆 - 🗆)				LG0901-C 🛛 - 🗌	LHS
BZL0301-B LHA1050-CII-I Model No. LGV (Single Action) Swing Clamp LKA (D Link BZL0101-A LGV0400-CIII (LKA03 LGV0480-CIIII LKA03 LKA04 LKA04 BZL0101-A LGV0550-CIIII LKA03 LKA04 BZL0101-B LGV0650-CIIIII LKA03 LKA04 BZL0201-B LGV0650-CIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII			(LHS1050-C 🗆 - 🗆)			<u> </u>	LG1051-C 🛛 - 🗌	LHW LG/LT
Image:			LHS0900-C C					TLA-2
Model No. Swing Clamp Link BZL0101-A LGV0400-C[] (LKA03 LGV0480-C]] (LKA04 LKA04 LKA04 BZL0101-B LGV0550-C]] LKA03 LKA04 LKA05 BZL0201-A LGV0650-C]] (LKA06 LGV0750-C]] (LKA07 LKA06 LGV0750-C]] BZL0201-B LGV0650-C]] (LKA07 LKA06 LGV0750-C]] (LKA07 LKA06 LKA07 LKA09 LKA09 LKA09 LKA09 LKA10 BZL0301-B LJV(Single Action) LKA09 LKA10 LKA09 LKA09 LKA09 LKA10 BZL0301-B LJV(Single Action) LFW (L LN0550-C]] LFW (C LFW (L LN0550-C]] BZL0101-A LJV0650-C]] LFW (C LFW (L LV0750-C]] BZL0101-B LJV0650-C]] LFW (C LFW (L LV0750-C]] BZL0201-A LJV0650-C]] LFW (C LFW (L LV0750-C]] BZL0201-B LJV0650-C]] LFW (C LFW (L LFW (L)W0750-C]]			LHS1050-C					TLB-2
Model No. Swing Clamp Link BZL0101-A LGV0400-C[] (LKA03 LGV0480-C]] (LKA04 LKA04 LKA04 BZL0101-B LGV0550-C]] LKA03 LKA04 LKA05 BZL0201-A LGV0650-C]] (LKA06 LGV0750-C]] (LKA07 LKA06 LGV0750-C]] BZL0201-B LGV0650-C]] (LKA07 LKA06 LGV0750-C]] (LKA07 LKA06 LKA07 LKA09 LKA09 LKA09 LKA09 LKA10 BZL0301-B LJV(Single Action) LKA09 LKA10 LKA09 LKA09 LKA09 LKA10 BZL0301-B LJV(Single Action) LFW (L LN0550-C]] LFW (C LFW (L LN0550-C]] BZL0101-A LJV0650-C]] LFW (C LFW (L LV0750-C]] BZL0101-B LJV0650-C]] LFW (C LFW (L LV0750-C]] BZL0201-A LJV0650-C]] LFW (C LFW (L LV0750-C]] BZL0201-B LJV0650-C]] LFW (C LFW (L LFW (L)W0750-C]]	Double Action) LKC (Double Ac	on) LKE (Double Acti	on) LKK (Double Action)	LKV (Double Action)	LKW (Double Action)	LM (Single Action)	LJ (Single Action)	TLA-1
BZL0101-A LGV0400-CCCCCCCCA (LKA03 LGV0480-CCCCCCCCA BZL0101-B LGV0550-CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	k Clamp Link Clam			Link Clamp	Link Clamp	Link Clamp	Link Clamp	Link Clamp
BZL0101-A BZL0101-B BZL0201-A BZL0201-A BZL0201-A BZL0201-A BZL0301-A BZ BZ BZ BZ BZ BZ BZ BZ BZ BZ BZ BZ BZ	360-C 🗆 - 🗋 (LKC0400-C	-		(LKV0400-C□E-□)	(LKW0401-C	LM0300-C	LJ0302-C	LKA LKC
BZL0101-BLKA03 LKA04 LKA03BZL0201-ALGV0650-CCC LGV0750-CCCLKA04 LKA05BZL0201-BLGV0650-CCC LGK07LKA06 LKA07BZL0301-ALKA06 LKA09 LKA00LKA09 LKA09BZL0301-BLJV(Single Action) Link ClampLKA09 LKA09BZL0101-BLJV0400-CCC LJV0550-CCCLFW00 LINKBZL0101-BLJV0650-CCC LJV0550-CCCLFW00 LFW00 LINKBZL0101-BLJV0650-CCCC LJV0550-CCCLFW00 LFW00 LINKBZL0201-ALJV0650-CCCC LFW00 LJV0550-CCCLFW00 <td>400-C</td> <td>-</td> <td>,</td> <td>(LKV0480-C□E-□)</td> <td>(LKW0481-C</td> <td>LM0360-C</td> <td>LJ0362-C</td> <td>LKW</td>	400-C	-	,	(LKV0480-C□E-□)	(LKW0481-C	LM0360-C	LJ0362-C	LKW
BZL0101-B IKA03 BZL0201-A IGV0650-CCC IKA04 IGV0750-CCC IKA05 BZL0201-B IGV0650-CCC IKA07 BZL0301-B IKA09 IKA09 BZL0301-B IKA09 IKA09 BZL0301-B IKA09 IKA09 BZL0301-B ILV(Single Action) IKA09 BZL0301-B ILV0400-CCCC ILNA09 BZL0101-A IJV0400-CCCC ILNA09 BZL0101-A IJV0550-CCCC ILNO04 BZL0101-B IJV0650-CCCCC ILFWC BZL0201-A IJV0650-CCCC ILFWC BZL0201-A IJV0650-CCCC ILFWC BZL0201-A ILJV0650-CCCC ILFWC ILJV0750-CCC ILFWC ILFWC ILIN ILFWC ILFWC ILIN ILIN ILFWC ILIN ILIN ILFWC	480-C 🗆 - 🛛 (LKC0550-C) LKE0400-C	(LKK0480-C-□)	(LKV0550-C□E-□)	(LKW0551-C	LM0400-C	LJ0402-C	LJ/LM TMA-2
BZL0101-B LKA04 LKA05 BZL0201-A LGV0650-CIII LGV0750-CIII LKA06 LGV0750-CIIII BZL0201-B LKA06 LGV0750-CIIII LKA06 LKA07 BZL0301-A LKA06 LGV0750-CIIII LKA06 LKA07 BZL0301-B LLV(Single Action) LINK Clamp LKA09 LKA09 BZL0301-B LJV(Single Action) LINK Clamp LFW (I LINK LINK Clamp BZL0101-A LJV0400-CIIIII LINK Clamp LFW (I LINK LING BZL0101-B LJV0650-CIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	550-C 🗆 🗆 - 🗆)	LKE0480-C	□ (LKK0550-C-□)			LM0480-C	LJ0482-C	TMA-2
BZL0101-B LKA04 LKA05 BZL0201-A LGV0650-CIII LGV0750-CIII LKA06 LGV0750-CIIII BZL0201-B LKA06 LGV0750-CIIII LKA06 LKA07 BZL0301-A LKA06 LGV0750-CIIII LKA06 LKA07 BZL0301-B LLV(Single Action) LINK Clamp LKA09 LKA09 BZL0301-B LJV(Single Action) LINK Clamp LFW (I LINK LINK Clamp BZL0101-A LJV0400-CIIIII LINK Clamp LFW (I LINK LING BZL0101-B LJV0650-CIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII		LKE0550-C				LM0550-C	LJ0552-C	Work Support
BZL0101-B LKA04 LGV0650-C (LKA07 BZL0201-A LGV0650-C (LKA07 BZL0201-B LGV0750-C (LKA07 BZL0301-A LKA04 (LKA07 BZL0301-A LSV0650-C (LKA07 BZL0301-A LSV0650-C (LKA09 BZL0301-B LSV0650-C (LKA09 BZL0101-B LJV0(Single Action) LFW (D LINK Clamp BZL0101-A LJV0400-C (LFWC LJV0400-C LINK (LFWC BZL0101-B LJV0650-C (LFWC BZL0101-B LJV0650-C (LFWC BZL0201-A LJV0650-C (LFWC LJV0750-C LFWC LFWC BZL0201-B LJV0650-C LFWC BZL0201-B LFWC LFWC	360-C - LKC0400-C		LKK0360-C-	LKV0400-C E-				LD
Image: style	400-C		LKK0400-C-	LKV0480-C E-				LC
BZL0201-A LGV0650-CC (LKA06 LGV0750-CC BZL0201-B LKA07 BZL0301-A (LKA09 BZL0301-A (LKA09 BZL0301-B (LKA09 BZL0301-B (LKA09 BZL0301-B (LKA09 BZL0301-B (LKA09 BZL0301-B (LK09 BZL0301-B (LV (Single Action) Link Clamp (LFW0 Link BZL0101-A LJV0400-CC (LFW0 L)V0550-CC BZL0101-B LJV0650-CC (LFW0 L)V0750-CC BZL0201-A LJV0650-CC (LFW0 L)V0750-CC BZL0201-B EFW0 LFW0 (LFW0 LFW0	480-CUU-U LKC0550-Cl 550-CUU-U	··· /	LKK0480-C-					TC
BZL0201-A LGV0750-CC (LKA07 BZL0301-B LKA07 BZL0301-A LKA07 BZL0301-B LKA07 BZL0301-B LKA07 BZL0301-B LKA07 BZL0301-B LKA09 LKA07 LKA09 BZL0301-B LKA09 BZL0301-B LVSingle Action) BZL0101-B LJVV (Single Action) LFW (DUP) BZL0101-A LJV0400-CCC LIFWC BZL0101-B LJV0650-CCC LFWC BZL0201-A LJV0650-CCC LFWC BZL0201-A LJV0650-CCC LFWC BZL0201-B LIV0650-CCC LFWC BZL0201-B LIV0650-CCC LFWC LJV0750-CC LFWC LFWC LJV0750-CC LFWC LFWC LJV0750-CC LFWC LFWC LJV0750-C LFWC LFWC		-0		(LKV0650-C□E-□)	(LKW0651-C	LM0650-C	LJ0652-C	Air Sensing
BZL0201-B LKA07 BZL0301-A (LKA09 (LKA10) BZL0301-B LKA07 (LKA09 (LKA10) Model No. LJV (Single Action) Link Clamp LFW (D Link Link BZL0101-A LJV0400-CCC LFW (D LJV0480-CCC) BZL0101-A LJV0480-CCC LFW (D LJV0550-CCC) BZL0101-B LJV0650-CCC LFW (D LJV0750-CC) BZL0201-A LJV0650-CCC (LFW (D LFW (D LJV0750-CC)) BZL0201-B LFW (D LFW (D LFW (D)) LFW (D LFW (D))				(LKV0750-C□E-□)	(LKW0751-C	LM0750-C	LJ0752-C	Lift Cylinder
BZL0301-A LKA07 BZL0301-A LKA09 BZL0301-B LKA09 Model No. LJV (Single Action) LKW0 LINK Clamp LINK BZL0101-A LJV0400-CC LINK BZL0101-A LJV0400-CC LINK BZL0101-A LJV0400-CC LINK BZL0101-B LJV0550-CC LINK BZL0101-B LJV0650-CC LINK BZL0201-A LJV0650-CC LINK BZL0201-B LIV0650-CC LIFW0 BZL0201-B LIV0650-CC LIFW0	650-C	0	LKK0650-C-	LKV0650-C□E-□	LKW0651-C			LLW
BZL0301-A (LKA10 BZL0301-B LKA09 Model No. LJV (Single Action) Link Clamp LFW (D Link BZL0101-A LJV0400-CC (LFWC LJV0480-CC BZL0101-A LJV0480-CC (LFWC LJV0550-CC BZL0101-B LJV0650-CC (LFWC LJV0750-CC BZL0201-A LJV0650-CC (LFWC LJV0750-CC BZL0201-B LJV0650-CC (LFWC LFWC	750-C 🗆 - 🗆			LKV0750-C□E-□	LKW0751-C			Linear Cylinder / Compact Cylinde
BZL0301-B LJV (Single Action) LKA09 LKA10 Model No. LJV (Single Action) Link Clamp LFW (0 Link Link LINV0480-CCCC LINV0550-CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	900-C 🗆 - 🗋)						LJ0902-C	LL
BZL0301-B LKA10 Model No. LJV (Single Action) Link Clamp LFW (0 Link Link LINK BZL0101-A LJV0400-CC (LFWC LJV0480-CC) BZL0101-B LIV0550-CC LFWC LJV0550-CC BZL0101-B LJV0650-CC (LFWC LJV0750-CC) BZL0201-A LJV0650-CC (LFWC LJV0750-CC) BZL0201-B LFWC LJV0750-CC LFWC LFWC	050-C						LJ1052-C	LLR
Model No. LJV (Single Action) Link Clamp LFW (Clamp) BZL0101-A LJV0400-CCC (LFWC LJV0480-CCC) (LFWC LJV0550-CC) BZL0101-B LJV0650-CCC LFWC LJV0750-CC) (LFWC LFWC LFWC BZL0201-A LJV0650-CCC (LFWC LFWC BZL0201-B LJV0650-CCC (LFWC LFWC	900-C							DP
Model No. Link Clamp Link BZL0101-A LJV0400-C□ (LFWC BZL0101-B LJV0550-C□ LFWC BZL0201-A LJV0650-C□ LFWC BZL0201-A LJV0650-C□ LFWC BZL0201-B LJV0650-C□ LFWC								DR
Model No. Link Clamp Link BZL0101-A LJV0400-CCC (LFWC BZL0101-B LJV0550-CCC LFWC BZL0201-A LJV0650-CCC LFWC BZL0201-A LJV0650-CCC LFWC BZL0201-A LJV0650-CCC LFWC BZL0201-B LJV0650-CCC LFWC	(Double Action) LFA (Double Ac	on) LSA (Double Act	on) LSE (Double Action)	LL (Double Action)	LLR (Double Action)	LLV (Double Action)	LLW (Double Action)	DS DT
BZL0101-A LJV0480-CC (LFWC LJV0550-CC LFWC BZL0101-B LJV0650-CC LFWC BZL0201-A LJV0650-CC (LFWC BZL0201-B LJV0650-CC (LFWC BZL0201-B LJV0650-CC LFWC	k Clamp Link Clam					Lift Cylinder	Lift Cylinder	Block Cylinder
BZL0101-A LJV0550-C LFWC BZL0101-B LJV0650-C LFWC BZL0201-A LJV0650-C (LFWC LJV0750-C (LFWC LFWC BZL0201-B LIV0650-C (LFWC	/0480-C□J)(LFA0480-C□) (LSA0360-C-	□) LSE0360-C-□	(LL0360-C			(LLW0361-C	DBA/DBC
BZL0101-B LJV0550-C LFWC BZL0201-A LJV0650-C (LFWC LJV0750-C (LFWC BZL0201-B LFWC	/0550-C□J) (LFA0550-C□])		(LL0400-C			(LLW0401C	Centering Vise
BZL0101-B LFWC BZL0201-A LJV0650-CCCC (LFWC LJV0750-CCCC LFWC BZL0201-B LFWC				(LL0480-C			(LLW0481-C)	FVA
BZL0101-B LFWC BZL0201-A LJV0650-CC:::::::::::::::::::::::::::::::::::				(LL0550-C				FVD
BZL0101-B LJV0650-C□□ (LFWC BZL0201-A LJV0750-C□□ (LFWC BZL0201-B LFWC LFWC	0480-C J LFA0480-C			LL0360-C			LLW0361-C	FVC
BZL0201-A LJV0750-C III (LFWC BZL0201-B LFWC LFWC				LL0400-C			LLW0401-C	Control Valve
BZL0201-A LJV0750-C (LFWC) BZL0201-B LFWC LFWC LFWC				LL0480-C				BZL BZT
BZL0201-B	/0650-C□J)(LFA0650-C□) /	/ /	(LL0650-C			/	BZX/JZG
BZL0201-B LFWC	/0750-C□J) (LFA0750-C□	1)		(LL0750-C□□-□)	(LLR0750-C)			BZS
LFWC	0650-C J LFA0650-C			LL0650-C	LLR0650-C			Pallet Clamp
BZL0301-A	0750-C J LFA0750-C			LL0750-C			/	VS/VT
	//			(LL0900-C				Expansion Locating Pin
				(LL1050-C			/	VFL/VFM
BZL0301-B				LL0900-C				VFJ/VFK
								Pull Stud Clamp

Customized Spring Cylinder ______DWA/DWB

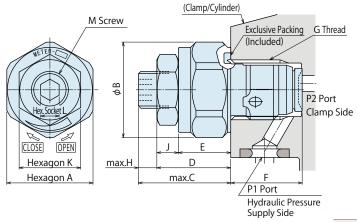
● Flow Rate Graph < Hydraulic Fluids ISO-VG32 (25~35°C) >



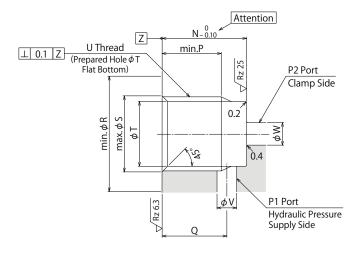
951

Control Valve Digest	Model No. Indication	Specifications	Applicable Products	Flow Rate Graph	External Dimensions	

C External Dimensions



Machining Dimensions of Mounting Area



			(mm)
Model No.	BZL0101-	BZL0201-	BZL0301-
А	14	18	22
В	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
Н	3	3	3
J	3.5	3.5	5
К	10	10	13
L	3	3	4
M (Nominal × Pitch)	M6×0.75	M6×0.75	M8×0.75
Ν	11.5	15	17.5
Р	8.5	11*1	13
Q	9	11.5	13
R (Flat Surface Area)	16	20.5	24.5
S	10	13.5	17
Т	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

Notes :

- 1. Since the $\sqrt{Rz 6.3}$ area is sealing part, be careful not to damage it.
- 2. Since the $\sqrt{Rz 12.5}$ 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 side 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 Unit" for proper hydraulic circuit design. Improper circuit design may lead to malfunctions and damages. (Refer to P.1356)
- 2. It is dangerous to release the air under high pressure. It must be done under lower pressure.
 - (For reference : the minimum operating range of the product within the circuit.)

LC TNC TC

Air Sensing Lift Cylinder LLW

High-Power

Pneumatic Series

Hydraulic Series

Valve / Coupler

Hydraulic Unit

Manual Operation Accessories

Cautions / Others

Hole Clamp SFA

SFC

LHA

LHC

LHS

LHW LG/LT TLA-2

TLB-2 TLA-1

LKA

LKC

LKW

LJ/LM TMA-2

TMA-1 Work Support

LD

Link Clamp

Swing Clamp

Series

Linear Cylinder / Compact Cylinder LL

> LLR LLU DP DR

DS

DT

Centering Vise FVA

FVD FVC

ontrol Valve

BZT

BZX/JZG BZS

Pallet Clamp

VS/VT

Expansion Locating Pin VFL/VFM VFJ/VFK

Pull Stud Clamp FP

FQ

Customized Spring Cylinder DWA/DWB

952

Model No. Indication (Air Bleed Valve)





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.

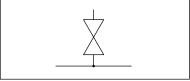
0 : Revision Number

Specifications

Model No.		BZX010	BZX020	BZX030
Max. Operating Pressure	MPa		35	
Withstanding Pressure	MPa		42	
G Thread Size		G1/8A	G1/4A	G3/8A
Usable Fluid		General Hydr	aulic Oil Equivalent	to ISO-VG-32
Operating Temperature	°C		0~70	
Tightening Torque for Main Body	N۰m	10	25	35
Weight	g	12	23	36

Circuit Symbol

Thread Part



Notes: 1. Do not over-loosen the plug during air venting.

(Do not loosen further than 2 turns from the fully closed position.)

2. Air bleeding under high pressure is dangerous. It must be done under lower pressure. (For reference : the minimum operation pressure range of the product within the circuit)

3. Refer to the machining dimensions of BZL mounting area when installing BZX into a hydraulic circuit.

Applicable Products

Model No.	DBA (Double Action)	DBC (Double Action)	FVA (Double Action)	FVC (Double Action)	FVD (Double Action)	LC (Single Action)	LCW (Single Action)	TC (Single Action)
Model No.	Block Cylinder	Block Cylinder	Centering Vise	Centering Vise	Centering Vise	Work Support	Work Support	Work Support
	DBA0250-C	DBC0250-C	FVA0401	FVC0630	FVD1600	LC0263-C 🛛-🗆	LCW0363-C	TC0403-C□-□-□
	DBA0320-C	DBC0320-C	FVA0631		FVD2500	LC0303-C 🗆 -	LCW0403-C	TC0483-C
			FVA1001			LC0363-C 🗆 -	LCW0483-C	TC0553-C□-□-□
BZX010						LC0403-C	LCW0553-C	TC0653-C□-□-□
						LC0483-C	LCW0653-C	TC0753-C□-□-□
						LC0553-C 🗆 -		
						LC0653-C 🗆 -		
BZX020	DBA0400-C	DBC0400-C		FVC1000	FVD4000	LC0753-C 🗆 -		
DZXUZU	DBA0500-C	DBC0500-C		FVC1600		LC0903-C		

Control	Valve
Digest	P.947

Model No. Indication

Specifications

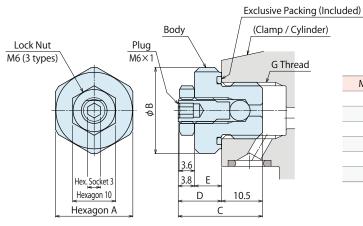
Applicable Products

External Dimensions



Applica										
Model No.	LHA (Double Action) Swing Clamp		LHD (Double Action) Swing Clamp	LHE (Double Action) High-Power Swing Clamp	LHS (Double Action) Swing Clamp	LHV (Double Action) Swing Clamp	LHW (Double Action) Swing Clamp	LT (Single Action) Swing Clamp	LG (Single Action) Swing Clamp	Pneumatic Se
	3 .		LHD0400-C	LHE0300-C	LHS0360-C	LHV0400-C E-	LHW0401-C	LT0301-C	LG0301-C	Hydraulic Se
			LHD0480-C	LHE0360-C	LHS0400-C	LHV0480-C E-	LHW0481-C	LT0361-C	LG0361-C□-□	Hyuraune se
BZX010			LHD0550-C	LHE0400-C	LHS0480-C	LHV0550-C E-	LHW0551-C	LT0401-C	LG0401-C□-□	Valve / Coupl
		LHC0550-C		LHE0480-C	LHS0550-COO-			LT0481-CD-D	LG0481-C□-□	Hydraulic Un
				LHE0550-C				LT0551-CD-D	LG0551-CD-D	Manual Oper
	LHA0650-C	LHC0650-C			LHS0650-C00-0	LHV0650-C□E-□	LHW0651-C	LT0651-C	LG0651-C	Accessories
BZX020	LHA0750-C 🗆 -				LHS0750-C00-0	LHV0750-C□E-□	LHW0751-C00-0	LT0751-C□-□	LG0751-C□-□	Cautions / Oth
	LHA0900-C				LHS0900-C				LG0901-C	Cautions / ou
BZX030	LHA1050-C				LHS1050-C				LG1051-C -	
				~						Hole Clamp
Model No.	LGV (Single Action)									SFA
noc.	Swing Clamp									SFC
	LGV0400-C									Swing Clamp
	LGV0480-C									LHA
BZX010	LGV0550-C									LHC
										LHS
										LG/LT
	LGV0650-C									TLA-2
BZX020	LGV0750-C									TLB-2
	LGV0750-C									TLA-1
BZX020	LGV0750-C									
		-								TLA-1 Link Clamp LKA
BZX030	LKA (Double Action)	LKC (Double Action)	LKE (Double Action)	LKK (Double Action)		LKW (Double Action)	LM (Single Action)	LJ (Single Action)	LJV (Single Action)	TLA-1 Link Clamp LKA LKC
BZX030	LKA (Double Action) Link Clamp	Link Clamp	High-Power Link Clamp	Universal Clamp	Link Clamp	Link Clamp	Link Clamp	Link Clamp	Link Clamp	TLA-1 Link Clamp LKA LKC LKW
BZX030	LKA (Double Action)	LKC (Double Action)	High-Power Link Clamp				-	-	-	Link Clamp LKA LKC LKW LJ/LM
BZX030	LKA (Double Action) Link Clamp	Link Clamp	High-Power Link Clamp	Universal Clamp	Link Clamp	Link Clamp	Link Clamp	Link Clamp	Link Clamp	Link Clamp LKA LKC LKW
	LKA (Double Action) Link Clamp LKA0360-C	LKC (Double Action) Link Clamp LKC0400-C []-	High-Power Link Clamp	Universal Clamp LKK0360-C-	Link Clamp	Link Clamp	Link Clamp LM0300-C	Link Clamp LJ0302-C	Link Clamp	TLA-1 Link Clamp LKA LKC LKW LJ/LM TMA-2 TMA-1
BZX030	LKA (Double Action) Link Clamp LKA0360-C LKA0400-C	LKC (Double Action) Link Clamp LKC0400-C LKC0480-C	High-Power Link Clamp LKE0300-C LKE0360-C	Universal Clamp LKK0360-C- LKK0400-C-	Link Clamp LKV0400-C E- LKV0480-C E-	Link Clamp LKW0401-C LKW0481-C	Link Clamp LM0300-C LM0360-C	Link Clamp LJ0302-C LJ0362-C	Link Clamp LJV0400-C LJV0480-C	TLA-1 Link Clamp LKA LKC LKW LJ/LM TMA-2 TMA-1 Work Support
BZX030	LKA (Double Action) Link Clamp LKA0360-C LKA0400-C LKA0480-C	LKC (Double Action) Link Clamp LKC0400-C LKC0480-C	High-PowerLink Clamp LKE0300-C LKE0360-C LKE0400-C	Universal Clamp LKK0360-C- LKK0400-C- LKK0480-C-	Link Clamp LKV0400-C E- LKV0480-C E-	Link Clamp LKW0401-C LKW0481-C	Link Clamp LM0300-C LM0360-C LM0400-C	Link Clamp LJ0302-C LJ0362-C LJ0402-C	Link Clamp LJV0400-C LJV0480-C	TLA-1 Link Clamp LKA LKC LKW LJ/LM TMA-2 TMA-1 Work Support LD
BZX030 Model No. BZX010	LKA (Double Action) Link Clamp LKA0360-C LKA0400-C LKA0480-C	LKC (Double Action) Link Clamp LKC0400-C LKC0480-C	High-Power Link Clamp LKE0300-C LKE0360-C LKE0400-C LKE0480-C	Universal Clamp LKK0360-C- LKK0400-C- LKK0480-C-	Link Clamp LKV0400-C E- LKV0480-C E-	Link Clamp LKW0401-C LKW0481-C	Link Clamp LM0300-C LM0360-C LM0400-C LM0480-C	Link Clamp LJ0302-C LJ0362-C LJ0402-C LJ0482-C	Link Clamp LJV0400-C LJV0480-C	TLA-1 Link Clamp LKA LKC LKW LJ/LM TMA-2 TMA-1 Work Support
BZX030	LKA (Double Action) Link Clamp LKA0360-C LKA0400-C LKA0480-C LKA0550-C	LKC (Double Action) Link Clamp LKC0400-C LKC0480-C LKC0550-C	High-Power Link Clamp LKE0300-C LKE0360-C LKE0400-C LKE0480-C	Universal Clamp LKK0360-C- LKK0400-C- LKK0480-C- LKK0550-C-	Link Clamp LKV0400-C E- LKV0480-C E- LKV0550-C E-	Link Clamp LKW0401-C LKW0481-C LKW0551-C	Link Clamp LM0300-C LM0360-C LM0400-C LM0480-C LM0550-C	Link Clamp L0302-C L0362-C L0402-C L0402-C L0482-C L0552-C	Link Clamp LJV0400-CCC LJV0480-CCC LJV0550-CCC	TLA-1 Link Clamp LKA LKC LKW LJ/LM TMA-2 TMA-1 Work Support LD LC
BZX030 Model No. BZX010 BZX020	LKA (Double Action) Link Clamp LKA0360-C LKA0400-C LKA0480-C LKA0550-C LKA0650-C LKA0650-C	LKC (Double Action) Link Clamp LKC0400-C LKC0480-C LKC0550-C	High-Power Link Clamp LKE0300-C LKE0360-C LKE0400-C LKE0480-C	Universal Clamp LKK0360-C- LKK0400-C- LKK0480-C- LKK0550-C-	Link Clamp LKV0400-C	Link Clamp LKW0401-C LKW0481-C LKW0551-C	Link Clamp LM0300-C LM0360-C LM0400-C LM0480-C LM0550-C LM0650-C	Link Clamp U0302-C U0362-C U0402-C U0482-C U0552-C U0652-C U0752-C	Link Clamp LJV0400-C LJV0480-C LJV0550-C LJV0650-C	TLA-1 Link Clamp LKA LKC LKW LJ/LM TMA-2 TMA-1 Work Support LD LC TNC TC
BZX030 Model No. BZX010	LKA (Double Action) Link Clamp LKA0360-C LKA0400-C LKA0480-C LKA0550-C LKA0650-C LKA0750-C LKA0900-C	LKC (Double Action) Link Clamp LKC0400-C LKC0480-C LKC0550-C	High-Power Link Clamp LKE0300-C LKE0360-C LKE0400-C LKE0480-C	Universal Clamp LKK0360-C- LKK0400-C- LKK0480-C- LKK0550-C-	Link Clamp LKV0400-C	Link Clamp LKW0401-C LKW0481-C LKW0551-C	Link Clamp LM0300-C LM0360-C LM0400-C LM0480-C LM0550-C LM0650-C	Link Clamp L0302-C L0362-C L0402-C L0402-C L0552-C L0652-C L0752-C L0752-C L0902-C	Link Clamp LJV0400-C LJV0480-C LJV0550-C LJV0650-C	TLA-1 Link Clamp LKA LKC LKW LJ/LM TMA-2 TMA-1 Work Support LD LC TNC TC Air Sensing Lift Cylinder
BZX030 Model No. BZX010 BZX020	LKA (Double Action) Link Clamp LKA0360-C LKA0400-C LKA0480-C LKA0550-C LKA0650-C LKA050-C LKA050-C	LKC (Double Action) Link Clamp LKC0400-C LKC0480-C LKC0550-C LKC0650-C	High-Power Link Clamp LKE0300-C LKE0360-C LKE0400-C LKE0480-C LKE0550-C	Universal Clamp LKK0360-C LKK0400-C LKK0480-C LKK0550-C LKK0650-C	Link Clamp LKV0400-C E LKV0480-C E LKV0550-C E LKV0650-C E LKV0750-C E	Link Clamp LKW0401-C LKW0481-C LKW0551-C LKW0651-C LKW0751-C	Link Clamp LM0300-C LM0360-C LM0400-C LM0480-C LM0550-C LM0550-C LM0750-C	Link Clamp U0302-C U0362-C U0402-C U0482-C U0552-C U0652-C U0752-C	Link Clamp LJV0400-C LJV0480-C LJV0550-C LJV0650-C LJV0750-C	TLA-1 Link Clamp LKA LKC LKW LJ/LM TMA-2 TMA-1 Work Support LD LC TNC TC Air Sensing
BZX030 Model No. BZX010 BZX020 BZX030	LKA (Double Action) Link Clamp LKA0360-C LKA0400-C LKA0480-C LKA0550-C LKA0650-C LKA0050-C LKA0050-C LKA0050-C LKA050-C LKA050-C LKA050-C LKA050-C	LKC (Double Action) Link Clamp LKC0400-C LKC0480-C LKC0550-C LKC0650-C LKC0650-C LKC0650-C	High-Power Link Clamp LKE0300-C LKE0360-C LKE0400-C LKE0480-C LKE0550-C LKE0550-C LKE0550-C	Universal Clamp LKK0360-C- LKK0400-C- LKK0480-C- LKK0550-C- LKK0650-C- LKK0650-C-	Link Clamp LKV0400-C E LKV0480-C E LKV0550-C E LKV0650-C E LKV0750-C E LKV0750-C E	Link Clamp LKW0401-C LKW0481-C LKW0551-C LKW0551-C LKW0751-C LKW0751-C LKW0751-C	Link Clamp LM0300-C LM0360-C LM0400-C LM0480-C LM0550-C LM0550-C LM0750-C LM0750-C	Link Clamp U0302-C U0362-C U0402-C U0482-C U0552-C U0652-C U0752-C U0902-C LU9002-C LUW (Double Action)	Link Clamp LJV0400-C LJV0480-C LJV0550-C LJV0650-C LJV0650-C LJV0750-C LJV0750-C	TLA-1 Link Clamp LKA LKC LKW LJ/LM TMA-2 TMA-1 Work Support LD LC TNC TC Air Sensing Lift Cylinder LLW Linear Cylinder
BZX030 Model No. BZX010 BZX020	LKA (Double Action) Link Clamp LKA0360-C LKA0400-C LKA0480-C LKA0550-C LKA0650-C LKA050-C LKA050-C	LKC (Double Action) Link Clamp LKC0400-C LKC0480-C LKC0550-C LKC0650-C LKC0650-C LKC0650-C LKC0650-C LKC0650-C LKC0650-C LKC0650-C	High-Power Link Clamp LKE0300-C LKE0360-C LKE0400-C LKE0480-C LKE0550-C LKE0550-C LKE0550-C LKE0550-C LSA (Double Action) Side Clamp	Universal Clamp LKK0360-C- LKK0400-C- LKK0480-C- LKK0550-C- LKK0650-C- LKK0650-C- LKK0650-C- High-Power Side Clamp	Link Clamp LKV0400-C E LKV0480-C E LKV0550-C E LKV0550-C E LKV0750-C E LKV0750-C E LKV0750-C E LKV0750-C E LKV0750-C E LKV0750-C E	Link Clamp LKW0401-CO-O LKW0481-CO-O LKW0551-CO-O LKW0551-CO-O LKW0751-CO-O LKW0751-CO-O LLR (Double Action) Linear Cylinder	Link Clamp LM0300-C LM0360-C LM0400-C LM0480-C LM0550-C LM0550-C LM0750-C LM0750-C LM0750-C	Link Clamp U0302-C U0362-C U0402-C U0482-C U0552-C U0652-C U0752-C U0902-C LU9002-C LUW (Double Action) Lift Cylinder	Link Clamp LJV0400-C LJV0480-C LJV0550-C LJV0650-C LJV0650-C LJV0750-C LJV0750-C LJV0750-C LJV0750-C LJV0750-C LJV0650-C LJV07	TLA-1 Link Clamp LKA LKC LKW LJ/LM TMA-2 TMA-1 Work Support LD LC TNC TC Air Sensing Lift Cylinder LLW Linear Cylinder
BZX030 Model No. BZX010 BZX020 BZX030	LKA (Double Action) Link Clamp LKA0360-C LKA0400-C LKA0480-C LKA0550-C LKA0650-C LKA0050-C LKA0050-C LKA0050-C LKA050-C LKA050-C LKA050-C LKA050-C	LKC (Double Action) Link Clamp LKC0400-C LKC0480-C LKC0550-C LKC0650-C LKC0650-C LKC0650-C	High-Power Link Clamp LKE0300-C LKE0360-C LKE0400-C LKE0480-C LKE0550-C LKE0550-C LKE0550-C	Universal Clamp LKK0360-C- LKK0400-C- LKK0480-C- LKK0550-C- LKK0650-C- LKK0650-C-	Link Clamp LKV0400-C E LKV0480-C E LKV0550-C E LKV0550-C E LKV0750-C E LKV0750-C E LKV0750-C E LKV0750-C E LKV0750-C E LKV0750-C E	Link Clamp LKW0401-C LKW0481-C LKW0551-C LKW0551-C LKW0751-C LKW0751-C LKW0751-C	Link Clamp LM0300-C LM0360-C LM0400-C LM0480-C LM0550-C LM0550-C LM0750-C LM0750-C LM0750-C	Link Clamp U0302-C U0362-C U0402-C U0482-C U0552-C U0652-C U0752-C U0902-C LU9002-C LUW (Double Action) Lift Cylinder	Link Clamp LJV0400-C LJV0480-C LJV0550-C LJV0650-C LJV0650-C LJV0750-C LJV0750-C LJV0750-C LJV0750-C LJV0750-C LJV0650-C LJV07	TLA-1 Link Clamp LKA LKC LKW LJ/LM TMA-2 TMA-1 Work Support LD LC TNC TC Air Sensing Lift Cylinder LLW Linear Cylinde Compact Cylind
BZX030 Model No. BZX010 BZX020 BZX030 Model No.	LKA (Double Action) Link Clamp LKA0360-C LKA0400-C LKA0480-C LKA0550-C LKA0550-C LKA0650-C LKA0650-C LKA0650-C LKA0650-C LKA0550-C LINK LINK LINK	LKC (Double Action) Link Clamp LKC0400-C LKC0480-C LKC0550-C LKC0650-C LKC0650-C LKC0650-C LKC0650-C LKC0650-C LKC0650-C LKC0650-C	High-Power Link Clamp LKE0300-C LKE0360-C LKE0400-C LKE0480-C LKE0550-C LKE0550-C LKE0550-C LKE0550-C LSA (Double Action) Side Clamp	Universal Clamp LKK0360-C- LKK0400-C- LKK0480-C- LKK0550-C- LKK0650-C- LKK0650-C- LKK0650-C- High-Power Side Clamp	Link Clamp LKV0400-C LKV0480-C LKV0550-C LKV0550-C LKV0750-C LL (Double Action) Linear Cylinder LL0360-C	Link Clamp LKW0401-CO-O LKW0481-CO-O LKW0551-CO-O LKW0551-CO-O LKW0751-CO-O LKW0751-CO-O LLR (Double Action) Linear Cylinder	Link Clamp LM0300-C LM0360-C LM0400-C LM0480-C LM0550-C LM0550-C LM0750-C LM0750-C LM0750-C LM0750-C LLV(Double Action) LIT Cylinder LLV0360-C E-	Link Clamp U0302-C U0362-C U0402-C U0482-C U0552-C U0552-C U0752-C U0752-C LU0902-C LU0902-C LLW (Double Action) Lft Cylinder LLW0361-C L-	Link Clamp LJV0400-C LJV0480-C LJV0550-C LJV0550-C LJV0750-C LJV0750-C LJV0750-C LJV0750-C LJV0750-C LJV0750-C LJV0650-C LJV0650-C LJV0650-C LJV0650-C LJV0650-C	TLA-1 Link Clamp LKA LKC LKW LJ/LM TMA-2 TMA-1 Work Support LD LC TNC TC Air Sensing Lift Cylinder LLW Linear Cylind Compact Cylind
BZX030 Model No. BZX010 BZX020 BZX030	LKA (Double Action) Link Clamp LKA0360-C LKA0400-C LKA0400-C LKA0550-C LKA0550-C LKA0650-C LKA0650-C LKA0650-C LKA0650-C LKA0650-C LKA0550-C LKA0550-C LKA0550-C LKA0550-C LKA0550-C LKA0550-C LKA0550-C LKA0550-C LKA0550-C LFW (Double Action) Link Clamp LFW0480-C	LKC (Double Action) Link Clamp LKC0400-C LKC0480-C LKC0550-C LKC0650-C LKC0650-C LFA (Double Action) Link Clamp LFA0480-C	High-Power Link Clamp LKE0300-C LKE0360-C LKE0400-C LKE0480-C LKE0550-C LKE0550-C LKE0550-C LKE0550-C LSA (Double Action) Side Clamp	Universal Clamp LKK0360-C- LKK0400-C- LKK0480-C- LKK0550-C- LKK0650-C- LKK0650-C- LKK0650-C- High-Power Side Clamp	Link Clamp LKV0400-C E LKV0480-C E LKV0550-C E LKV0550-C E LKV0750-C E LLC00ble Action) Linear Cylinder LL0360-C LL0400-C	Link Clamp LKW0401-C LKW0481-C LKW0551-C LKW0551-C LKW0751-C LKW0751-C LLR (Double Action) Linear Cylinder LLR0360-C	Link Clamp LM0300-C LM0360-C LM0400-C LM0480-C LM0550-C LM0550-C LM0750-C LM0750-C LM0750-C LLV(Double Action) Lift Cylinder LLV0360-C LC LU0260-C LC	Link Clamp U0302-C U0362-C U0402-C U0482-C U0552-C U0552-C U0752-C U0752-C LU0902-C LU0902-C LUW (Double Action) Lft Cylinder LLW0361-C LW0401-C U-	Link Clamp LJV0400-C LJV0480-C LJV0550-C LJV0550-C LJV0750-C LJV0750-C LJV0750-C LJV0750-C LINC TTA (Double Action) Linear Cylinder TTA0360-C TTA0400-C	TLA-1 Link Clamp LKA LKC LKW LJ/LM TMA-2 TMA-1 Work Support LD LC TNC TC Air Sensing Lift Cylinder LLW Linear Cylind Compact Cyli
BZX030 Model No. BZX010 BZX020 BZX030 Model No.	LKA (Double Action) Link Clamp LKA0360-C LKA0400-C LKA0400-C LKA0550-C LKA0550-C LKA0650-C LKA0650-C LKA0650-C LKA0650-C LKA0650-C LKA0550-C LKA0550-C LKA0550-C LKA0550-C LKA0550-C LKA0550-C LKA0550-C LKA0550-C LKA0550-C LFW (Double Action) Link Clamp LFW0480-C	LKC (Double Action) Link Clamp LKC0400-C LKC0480-C LKC0550-C LKC0650-C LKC0650-C LFA (Double Action) Link Clamp LFA0480-C	High-Power Link Clamp LKE0300-C LKE0360-C LKE0400-C LKE0480-C LKE0550-C LKE0550-C LKE0550-C LKE0550-C LSA (Double Action) Side Clamp	Universal Clamp LKK0360-C- LKK0400-C- LKK0480-C- LKK0550-C- LKK0650-C- LKK0650-C- LKK0650-C- High-Power Side Clamp	Link Clamp LKV0400-C	Link Clamp LKW0401-CD-D LKW0481-CD-D LKW0551-CD-D LKW0651-CD-D LKW0751-CD-D LLR (Double Action) Linear Cylinder LLR0360-CD-D LLR0400-CD-D	Link Clamp LM0300-C LM0360-C LM0400-C LM0480-C LM0550-C LM0550-C LM0750-C LM0750-C LM0750-C LLV(Double Action) Lift Cylinder LLV0360-C LC LU0260-C LC	Link Clamp U0302-C U0362-C U0402-C U0482-C U0552-C U0552-C U0752-C U0752-C LU0902-C LU0902-C LUW (Double Action) Lft Cylinder LLW0361-C LW0401-C U-	Link Clamp LJV0400-C LJV0480-C LJV0550-C LJV0550-C LJV0750-C LJV0750-C LJV0750-C LJV0750-C LJV0750-C LINC TTA (Double Action) Linear Cylinder TTA0360-C TTA0400-C	TLA-1 Link Clamp LKA LKC LKW LJ/LM TMA-2 TMA-1 Work Support LD LC TNC TC Air Sensing Lift Cylinder LLW Linear Cylind Compact Cylin LLR LLR LLU
BZX030 Model No. BZX010 BZX020 BZX030 Model No. BZX010	LKA (Double Action) Link Clamp LKA0360-C LKA0400-C LKA0450-C LKA0550-C LFW (Double Action) Link Clamp LFW0550-C J	LKC (Double Action) Link Clamp LKC0400-C LKC0550-C LKC0550-C LKC0650-C LKC0650-C LFA (Double Action) Link Clamp LFA0480-C LFA0550-C	High-Power Link Clamp LKE0300-C LKE0360-C LKE0400-C LKE0480-C LKE0550-C LKE0550-C LKE0550-C LKE0550-C LSA (Double Action) Side Clamp	Universal Clamp LKK0360-C- LKK0400-C- LKK0480-C- LKK0550-C- LKK0650-C- LKK0650-C- LKK0650-C- High-Power Side Clamp	Link Clamp LKV0400-C E LKV0480-C E LKV0550-C E LKV0550-C E LKV0750-C E LKV0750-C E LL0400-C E LL0480-C E LL0480-C E LL0480-C E LL0550-C E	Link Clamp LKW0401-C LKW0481-C LKW0551-C LKW0551-C LKW0751-C LLR (Double Action) Linear Cylinder LLR0360-C LLR0400-C LLR0480-C LLR0480-C LLR0550-C	Link Clamp LM0300-C LM0360-C LM0400-C LM0480-C LM0550-C LM0550-C LM0750-C LM0750-C LM0750-C LLV(Double Action) Lift Cylinder LLV0360-C LC LU0260-C LC	Link Clamp U0302-C U0362-C U0402-C U0482-C U0552-C U0552-C U0752-C U0752-C LU0902-C LU0902-C LUW (Double Action) Lft Cylinder LLW0361-C LW0401-C U-	Link Clamp LJV0400-C LJV0480-C LJV0550-C LJV0550-C LJV07	TLA-1 Link Clamp LKA LKC LKW LJ/LM TMA-2 TMA-1 Work Support LD LC TNC TC Air Sensing Lift Cylinder LLW Linear Cylinde Compact Cylin LLR LLR LLR LLU DP
BZX030 Model No. BZX010 BZX020 BZX030 Model No.	LKA (Double Action) Link Clamp LKA0360-C LKA0400-C LKA050-C LKA0550-C LKA0550-C LKA0900-C LKA0900-C LKA01050-C LKA0550-C LKA0550-C LKA0550-C LKA0550-C LKA0550-C LKA0550-C LFW (Double Action) Link Clamp LFW0550-C J LFW0650-C	LKC (Double Action) Link Clamp LKC0400-C LKC0480-C LKC0550-C LKC0650-C LKC0650-C LFA (Double Action) Link Clamp LFA0480-C LFA0550-C	High-Power Link Clamp LKE0300-C LKE0360-C LKE0400-C LKE0480-C LKE0550-C LKE0550-C LKE0550-C LKE0550-C LSA (Double Action) Side Clamp	Universal Clamp LKK0360-C- LKK0400-C- LKK0480-C- LKK0550-C- LKK0650-C- LKK0650-C- LKK0650-C- High-Power Side Clamp	Link Clamp LKV0400-C E LKV0480-C E LKV0550-C E LKV0550-C E LKV0750-C E LKV0750-C E LL0260-C E LL0400-C E LL0480-C E LL0480-C E LL0550-C E LL0550-C E LL0550-C E	Link Clamp LKW0401-C LKW0481-C LKW0551-C LKW0551-C LKW0751-C LLR (Double Action) Linear Cylinder LLR0360-C LLR0400-C LLR0480-C LLR0480-C LLR0550-C LLR0550-C	Link Clamp LM0300-C LM0360-C LM0400-C LM0480-C LM0550-C LM0550-C LM0750-C LM0750-C LM0750-C LLV(Double Action) Lift Cylinder LLV0360-C LC LU0260-C LC	Link Clamp U0302-C U0362-C U0402-C U0482-C U0552-C U0552-C U0752-C U0752-C LU0902-C LU0902-C LUW (Double Action) Lft Cylinder LLW0361-C LW0401-C U-	Link Clamp LJV0400-C LJV0480-C LJV0550-C LJV0550-C LJV0750-C LJV0750-C LJV0750-C LJV0750-C LJV0750-C LJV0750-C LJV0750-C LJV0750-C LJV0750-C LJV0750-C LJV0750-C LJV0750-C LJV0400-C LJV0750-C LJV0750-C LJV0750-C LJV0750-C LJV0750-C LJV0750-C LJV0750-C LJV0400-C LJV0400-C LJV0400-C LJV0750-C LJV07	TLA-1 Link Clamp LKA LKC LKW LJ/LM TMA-2 TMA-1 Work Support LD LC TNC TC Air Sensing Lift Cylinder LLW Linear Cylinde Compact Cyli LL LLR LLR LLR LLU DP DR
BZX030 Model No. BZX010 BZX020 BZX030 Model No. BZX010	LKA (Double Action) Link Clamp LKA0360-C LKA0400-C LKA0450-C LKA0550-C LFW (Double Action) Link Clamp LFW0550-C J	LKC (Double Action) Link Clamp LKC0400-C LKC0550-C LKC0550-C LKC0650-C LKC0650-C LFA (Double Action) Link Clamp LFA0480-C LFA0550-C	High-Power Link Clamp LKE0300-C LKE0360-C LKE0400-C LKE0480-C LKE0550-C LKE0550-C LKE0550-C LKE0550-C LSA (Double Action) Side Clamp	Universal Clamp LKK0360-C- LKK0400-C- LKK0480-C- LKK0550-C- LKK0650-C- LKK0650-C- LKK0650-C- High-Power Side Clamp	Link Clamp LKV0400-C E LKV0480-C E LKV0550-C E LKV0550-C E LKV0750-C E LKV0750-C E LL0260-C E LL0480-C E LL0480-C E LL0550-C E L	Link Clamp LKW0401-C LKW0481-C LKW0551-C LKW0551-C LKW0751-C LLR (Double Action) Linear Cylinder LLR0360-C LLR0400-C LLR0480-C LLR0480-C	Link Clamp LM0300-C LM0360-C LM0400-C LM0480-C LM0550-C LM0550-C LM0750-C LM0750-C LM0750-C LLV(Double Action) Lift Cylinder LLV0360-C LC LU0260-C LC	Link Clamp U0302-C U0362-C U0402-C U0482-C U0552-C U0552-C U0752-C U0752-C LU0902-C LU0902-C LUW (Double Action) Lft Cylinder LLW0361-C LW0401-C U-	Link Clamp LJV0400-C LJV0480-C LJV0550-C LJV0550-C LJV07	TLA-1 Link Clamp LKA LKC LKW LJ/LM TMA-2 TMA-1 Work Suppor LD LC TNC TC Air Sensing Lift Cylinder LLW Linear Cylind Compact Cyli LLR LLR LLU DP DR DS

External Dimensions



			(mm)
Model No.	BZX010	BZX020	BZX030
А	14	18	22
В	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

Pull Stud Clamp FP FQ

Centering Vise FVA

FVD FVC

Control Valve

BZL

BZS

VS/VT Expansion Locating Pin

VFL/VFM

VFJ/VFK

Pallet Clamp

BZT BZX/JZG

Customized Spring Cylinder

DWA/DWB

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





Thread Part

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	Female Thread Side Material : Steel		10	25	35	
for Main Body N⋅m	Female Thread Side Material : Aluminum (For LT/LN	/ *1)	8	20	28	
Weight g			7	15	23	

Notes : 1. Air bleeding under high pressure is dangerous. It must be done under lower pressure.

(For reference : the minimum operation pressure range of the product within the circuit)

2. Refer to the machining dimensions of BZL mounting area when installing JZG into a hydraulic circuit.

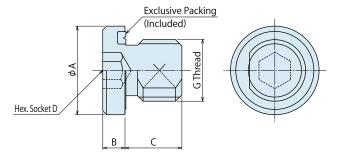
%1. Body material of LT/LM is aluminum alloy, so install it with the tightening torque for aluminum.

Applicable Products

Model No.	LHA (Double Action)		LHD (Double Action)		LHS (Double Action)		LHW (Double Action)	LT (Single Action)	LG (Single Action)
	Swing Clamp	Swing Clamp	Swing Clamp	High-Power Swing Clamp	Swing Clamp	Swing Clamp	Swing Clamp	Swing Clamp	Swing Clamp
	LHA0360-C	LHC0360-C 🗆 -	LHD0400-C	LHE0300-C	LHS0360-C 🗆 -	LHV0400-C□E-□	LHW0401-C	LT0301-C□-□	LG0301-C□-□
	LHA0400-C	LHC0400-C 🗆 🗆 -	LHD0480-C	LHE0360-C 🗆	LHS0400-C	LHV0480-C E-	LHW0481-C	LT0361-C□-□	LG0361-C□-□
JZG010	LHA0480-C	LHC0480-C 🗆 🗆 -	LHD0550-C	LHE0400-C 🗆	LHS0480-C	LHV0550-C□E-□	LHW0551-C	LT0401-C	LG0401-C
	LHA0550-C	LHC0550-C 🗆 🗆 -		LHE0480-C 🗆	LHS0550-C			LT0481-C	LG0481-C
				LHE0550-C				LT0551-C	LG0551-C
JZG020	LHA0650-C	LHC0650-C 🗆 -			LHS0650-C 🗆 🗆 -	LHV0650-C□E-□	LHW0651-C	LT0651-C□-□	LG0651-C□-□
JZG020	LHA0750-C				LHS0750-C 🗆 🗆 - 🗆	LHV0750-C□E-□	LHW0751-C 00-0	LT0751-C	LG0751-C
JZG030	LHA0900-C				LHS0900-C 00-0				LG0901-C
JZG030	LHA1050-C				LHS1050-C 0				LG1051-C
							1		
Model No.	LGV (Single Action)	$DBA \ (Double \ Action)$	DBC (Double Action)	FVA (Double Action)	FVC (Double Action)	FVD (Double Action)	LC (Single Action)	LCW (Single Action)	TC (Single Action)
Model No.	Swing Clamp	Block Cylinder	Block Cylinder	Centering Vise	Centering Vise	Centering Vise	Work Support	Work Support	Work Support
								mont support	work Support
	LGV0400-C 🗆	DBA0250-C	DBC0250-C	FVA0401	FVC0630	FVD1600	LC0263-C 🛛 -	LCW0363-C	TC0403-C
	LGV0400-C []	DBA0250-C DBA0320-C	DBC0250-C	FVA0401 FVA0631	FVC0630	FVD1600 FVD2500	LC0263-C LC0303-C		
		DBA0320-C			FVC0630			LCW0363-C	TC0403-C□-□-□
JZG010	LGV0480-C 🗆	DBA0320-C		FVA0631	FVC0630		LC0303-C 🗆 -	LCW0363-C	TC0403-C TC0483-C
JZG010	LGV0480-C 🗆	DBA0320-C		FVA0631	FVC0630		LC0303-C LC0363-C	LCW0363-C LCW0403-C LCW0483-C	TC0403-C TC0483-C TC0553-C
JZG010	LGV0480-C 🗆	DBA0320-C		FVA0631	FVC0630		LC0303-C LC0363-C LC0403-C	LCW0363-C LCW0403-C LCW0483-C LCW0553-C	TC0403-C TC0483-C TC0553-C TC0653-C
JZG010	LGV0480-C 🗆	DBA0320-C		FVA0631	FVC0630		LC0303-C LC0363-C LC0403-C LC0483-C	LCW0363-C LCW0403-C LCW0483-C LCW0553-C	TC0403-C TC0483-C TC0553-C TC0653-C
JZG010 JZG020	LGV0480-C 🗆	DBA0320-C		FVA0631	FVC0630 FVC1000		LC0303-C LC0363-C LC0403-C LC0483-C LC0553-C	LCW0363-C LCW0403-C LCW0483-C LCW0553-C	TC0403-C TC0483-C TC0553-C TC0653-C

Control Digest I		Model No. Indi	ication	Specification	s App	licable Produc	ts Externa	Il Dimensions		DSMEK mony in Innovation
C Applica	able Prod	ucts								High-Power Series
Model No.	LKA (Double Action Link Clamp	n) LKC (Double Action) Link Clamp	LKE (Double Action) High-Power Link Clamp	LKK (Double Action) Universal Clamp	LKV (Double Action Link Clamp) LKW (Double Action) Link Clamp	LM (Single Action) Link Clamp	LJ (Single Action) Link Clamp	LJV (Single Action) Link Clamp	Pneumatic Series
	LKA0360-C		LKE0300-C LKE0360-C	LKK0360-C-□ LKK0400-C-□	LKV0400-C E-		LM0300-C LM0360-C	LJ0302-C LJ0362-C	LJV0400-C	Hydraulic Series
JZG010	LKA0480-C		LKE0400-C 🗆 LKE0480-C 🗆	LKK0480-C-□ LKK0550-C-□	LKV0550-C□E-	LKW0551-C	LM0400-C	LJ0402-C LJ0482-C	LJV0550-C	Valve / Coupler Hydraulic Unit
JZG020	LKA0650-C	LKC0650-C	LKE0550-C	LKK0650-C-	LKV0650-C□E-[] LKW0651-C□□-□	LM0550-C	LJ0552-C	LJV0650-C	Manual Operation Accessories
	LKA0750-C				LKV0750-C□E-] LKW0751-CDD-D	LM0750-C	LJ0752-C	LJV0750-C	Cautions / Others
JZG030	LKA1050-C							LJ1052-C		Hole Clamp
Model No.	TLA-1 (Single Action Swing Clamp	1) TLA-2 (Double Action) Swing Clamp	TLB-2 (Double Action) Swing Clamp	TLV-2 (Double Action) Swing Clamp	TMA-1 (Double Action Link Clamp) TMA-2 (Double Action) Link Clamp	TMV-2 (Double Action) Link Clamp			SFA SFC
	TLA0402-1C TLA0602-1C	TLA0401-2C	TLB0401-2C	TLV0800-2C	TMA0250-1C		TMV0400-2C			Swing Clamp LHA LHC
JZG010	TLA0802-1C TLA1002-1C	TLA1001-2C	TLB0801-2C	TLV1600-2C	TMA0600-1C		TMV1000-2C			LHS LHW
	TLA1602-1C TLA2002-1C	TLA2001-2C	TLB1601-2C	TLV2000-2C	TMA1600-1C		TMV1600-2C			LG/LT TLA-2 TLB-2
JZG020	TLA2502-1C TLA4002-1C		TLB2501-2C		TMA2500-1C			_		TLA-1 Link Clamp
Model No.	LFA (Double Action)) LFW (Double Action)	LSA (Double Action)	LSE (Double Action)	LL (Double Action	LLR (Double Action)	LLV (Double Action)	LLW (Double Action)) TTA (Double Action)	LKA LKC
MOUELING.	Link Clamp	Link Clamp	Side Clamp LSA0360-C-	High-Power Side Clamp	Linear Cylinde		Lift Cylinder	Lift Cylinder	Linear Cylinder TTA0360-C	LKW LJ/LM
JZG010	LFA0550-C 🗆	LFW0550-C 🛛 J			LL0400-C	LLR0480-C	LLV0480-C E-	LLW0401-C00-0 LLW0481-C00-0		TMA-2 TMA-1 Work Support LD
	LFA0650-C	LFW0650-C J			LL0650-C	LLR0650-C			TTA0650-C	LC TNC
JZG020	LFA0750-C 🗆	LFW0750-C J			LL0750-C	LLR0750-C				 Air Sensing
JZG030					LL0900-C	LLR0900-C				Lift Cylinder
	2		k	r	<u></u>		<i>v</i>	~		Linear Cylinder / Compact Cylinder LL
										LLR

External Dimensions



			(mm)
Model No.	JZG010	JZG020	JZG030
А	14	18	22
В	3.5	4.5	4.5
С	8	9	10
D	5	6	8
G	G1/8A	G1/4A	G3/8A

VFJ/VFK Pull Stud Clamp FP

LLU DP DR DS DT Block Cylinder

Centering Vise FVA FVD FVC

Control Valve

BZT BZX/JZG

BZS

Pallet Clamp VS/VT

Expansion Locating Pin VFL/VFM

FQ

Customized Spring Cylinder DWA/DWB

PAT.P.

Direct-Mount Sequence Valve

Model BZS



Attaches directly into Kosmek hydraulic clamps G-thread piping option. Easily and securely controls the operating sequence of actuators.

C Model No. Indication



1 G Thread Size

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

2 Design No.

0 : Revision Number

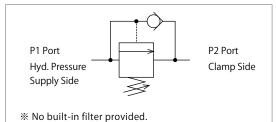
Specifications

Model No.		BZS0100	BZS0200	BZS0300		
Sequence Operating Pressure Ad	justable Range MPa		1.0 ~ 6.0			
Operating Pressure Rai	nge MPa		2.0 ~ 7.0			
Withstanding Pressure	MPa		10.5			
G Thread Size		G1/8A	G1/4A	G3/8A		
Cracking Pressure	MPa	0.03				
Adjusting Screw Turn Ratio:Reference MPa/Rev		1.5	1.3	1.1		
Min. Passage Area	$P1 \rightarrow P2$	2.0	5.7	8.5		
mm ²	$P2 \rightarrow P1$	2.0	5.0	8.2		
Usable Fluid		General Hydraulic Oil Equivalent to ISO-VG-32				
Operating Temperatur	e ℃	0 ~ 70				
Tightening Torque	N∙m	10	25	35		
Weight	g	35	82	155		

Notes: 1. Please mount to an actuator using Hex. E shown in External Dimensions on P.961A with the tightening torque shown in the list above. Insufficient or excessive tightening torque leads to malfunction.

- 2. Do not attach a used BZS to other clamps.
- Sequence movement may not be done because the bottom depth difference of G thread makes metal sealing insufficient.
- 3. The difference between the set pressure and the supplying pressure should be 1MPa or more.
- 4. For using multiple sequence valves to operate cylinders in sequence, the difference of each set pressure should be 1MPa or more.
- 5. Depending on circuit system (actuator capacity, hydraulic pipe diameter, passage length, etc.), sometimes it is necessary to reduce hydraulic flow rate to achieve proper sequence movement. Make sure you are able to control flow rate. (Since BZS is directly mounted on and used exclusively for one actuator, it is easily affected by hydraulic flow rate.)
- 6. Filter is not built in this product. Please note that contaminants such as cutting chips and sealing tapes entering into the product cause malfunction. Also when internal parts are damaged, it will not operate properly even after removing contaminants.

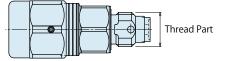
Circuit Symbol



• What is a Sequence Valve?

The sequence valve controls the clamping and positioning sequence of multiple actuators.

When the incoming side pressure (P1 port) reaches the sequence setting pressure value, the pressure will be supplied to the outgoing side (P2 port). Refer to P.961B for the action description.



Control	Va	ve
Digest	P.9	47

Model No. Indication

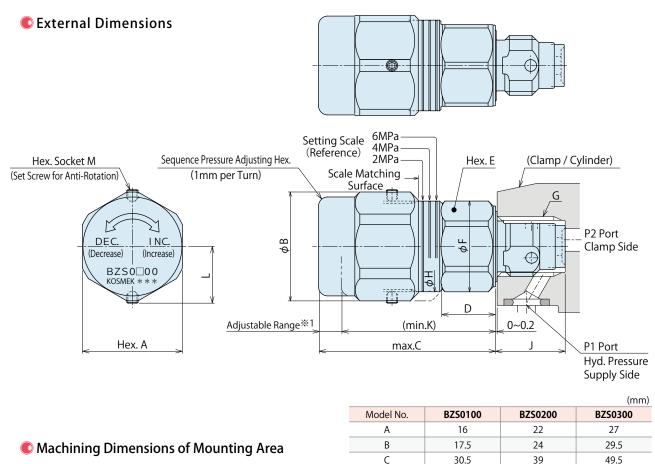
Specifications

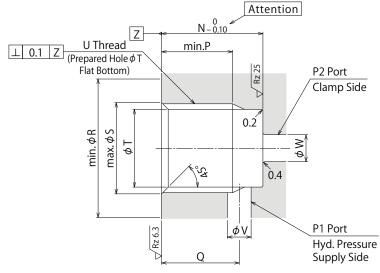
Applicable ProductsExternal Dimensions

Accessories



Digest P.	J-17								Ha	rmony in Innovation
										High-Power
Applic	able Produ	ucts								Series
Model No.	DBA (Double Action) Block Cylinder		FVA (Double Action) Centering Vise	FVC (Double Action) Centering Vise		LHA (Double Action) Swing Clamp	LHC (Double Action) Swing Clamp	LHD (Double Action) Swing Clamp	LHE (Double Action) High-Power Swing Clamp	Pneumatic Se
	DBA0250-C	DBC0250-C	FVA0401	FVC0630	FVD1600	LHA0360-C		LHD0400-C	LHE0300-C	
	DBA0320-C	DBC0320-C	FVA0631		FVD2500		LHC0400-C	LHD0480-C	LHE0360-C	Hydraulic Ser
BZS0100			FVA1001				LHC0480-C		LHE0400-C	Valve / Couple
						LHA0550-C			LHE0480-C	Hydraulic Uni
									LHE0550-C	Manual Opera
	DBA0400-C	DBC0400-C		FVC1000	FVD4000	LHA0650-C	LHC0650-C			Accessories
BZS0200	DBA0500-C	DBC0500-C		FVC1600 ^{*1}		LHA0750-C				Cautions / Oth
						LHA0900-C			\sim	Cautions / Oth
BZS0300						LHA1050-C				
				10			<u>1</u>			Hole Clamp
	LHS (Double Action)	LHV (Double Action)	LHW (Double Action)	LT (Single Action)	LG (Single Action)	LGV (Single Action)	LKA (Double Action)	LKC (Double Action)	LKE (Double Action)	SFA SFC
Model No.	Swing Clamp	Swing Clamp	Swing Clamp	Swing Clamp	Swing Clamp	Swing Clamp	Link Clamp	Link Clamp	High-Power Link Clamp	
	LHS0360-C	LHV0400-C E-	LHW0401-C	LT0301-C	LG0301-C□-□	LGV0400-C	LKA0360-C	LKC0400-C 🛛 -	LKE0300-C	Swing Clamp LHA
	LHS0400-C	LHV0480-C□E-□	LHW0481-C	LT0361-C□-□	LG0361-C□-□	LGV0480-C	LKA0400-C	LKC0480-C	LKE0360-C 🗆	LHC
BZS0100	LHS0480-C	LHV0550-C E-	LHW0551-C00-0	LT0401-C□-□	LG0401-C	LGV0550-C	LKA0480-C	LKC0550-C 🛛 -	LKE0400-C	LHS
	LHS0550-CO-			LT0481-C	LG0481-C□-□		LKA0550-C 🗆 -		LKE0480-C 🗌	LHW
				LT0551-C	LG0551-C				LKE0550-C	LG/LT TLA-2
BZS0200	LHS0650-CO-		LHW0651-C	LT0651-C		LGV0650-C	LKA0650-C 🗆 -	LKC0650-C 🛛 -		TLB-2
5250200	LHS0750-C	LHV0750-C E-	LHW0751-C	LT0751-CD-D		LGV0750-C	LKA0750-C			TLA-1
BZS0300	LHS0900-C				LG0901-C		LKA0900-C			Link Clamp
5250500	LHS1050-C				LG1051-C		LKA1050-C			LKA
										LKC
Model No.		LKV (Double Action)			LJ (Single Action)	LJV (Single Action)				LKW LJ/LM
	Universal Clamp		Link Clamp	Link Clamp	Link Clamp	Link Clamp				TMA-2
	LKK0360-C-	LKV0400-C E-	LKW0401-C	LM0300-C	LJ0302-C	LJV0400-C				TMA-1
	LKK0400-C-	LKV0480-C E-	LKW0481-C	LM0360-C	LJ0362-C	LJV0480-C				Work Support
BZS0100	LKK0480-C-	LKV0550-C E-	LKW0551-C	LM0400-C	LJ0402-C	LJV0550-C				LD
	LKK0550-C-			LM0480-C	LJ0482-C					LC
				LM0550-C	LJ0552-C					TNC TC
BZS0200	LKK0650-C-	LKV0650-C E-	LKW0651-C	LM0650-C	LJ0652-C	LJV0650-C				
		LKV0750-C E-	LKW0751-C00-0	LM0750-C	LJ0752-C	LJV0750-C				Air Sensing Lift Cylinder
BZS0300					LJ0902-C					LLW
					LJ1052-C		-			Linear Cylinder
			ICA (Dauble Artice)	LCE (Dauble Astian)	LL (Dauble Asting)	LLR (Double Action)	LIV (Dauble Astism)	LIM (Dauble Astian)		Compact Cylin
Model No.	LFW (Double Action) Link Clamp	LFA (Double Action) Link Clamp	LSA (Double Action) Side Clamp	LSE (Double Action) High-Power Side Clamp	LL (Double Action) Linear Cylinder			LLW (Double Action) Lift Cylinder		LL
		-	LSA0360-C-	LSE0360-C-						LLR
	LFW0480-C J LFW0550-C J	LFA0480-C	LSAU300-C-	LSE0300-C-	LL0360-C	LLR0400-C		LLW0361-C		DP
BZS0100					LL0400-C		LLV0400-C_E-			DR
DZ30100					LL0480-C	LLR0480-C		LLVV0401-C UU-U		DS
										DT
	LFW0650-C J	LFA0650-C			LL0650-C	LLR0650-C				Block Cylinder
BZS0200	LFW0050-C	LFA0050-C				LLR0750-C				DBA/DE
					LL0750-C	LLR0750-C	F			Centering Vise
BZS0300						LLR1050-C				FVA
										FVD
ote : ※1.	lt is not possibl	le to install two	o BZS valves to	FVC1000.						FVC
										Control Valve
In case o	of Work Supp	oort】								BZL
or usina Di	rect-Mount Seq	uence Valve for	Work Support	(Model:IC%), r	mount Speed C	ontrol Valve (M	odel:BZI	A) on Work Supr	port and	BZX/JZ
-	ct-Mount Seque						,	, on noneapp		BZS
	to P.962A for M				J					Pallet Clamp
	ntact us when c									VS/VT
										Expansion
		Work Supe	port (Model:LC	*)						Locating Pin
										VFL/VF
ı		Speed	d Control Valve	(Model:BZL	-A)					VFJ/VFI
		~								Pull Stud Clam
		Dire	ct-Mount Seque	ence Valve						FP
		Mar	nifold Block (Mo	del:17R79)					FQ
	DECLINC	¥ /'''			<u>,</u>					Customized
1										Spring Cylinday
\										Spring Cylinder





Model No.	BZS0100	BZS0200	BZS0300
A	16	22	27
В	17.5	24	29.5
C	30.5	39	49.5
D	7.5	12	15
E	14	18	22
F	15.5	20	24
G	G1/8	G1/4	G3/8
Н	13.8	20	24
J %2	(11.6)	(15.1)	(17.6)
К	(26.5)	(34)	(44)
L	9.5	12.5	15
М	1.3	1.3	1.5
N	11.5	15	17.5
Р	8.5	11*3	13
Q	9	11.5	13
R (Flat Surface Area)	16	20.5	24.5
S	10	13.5	17
Т	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

Notes:

- 1. Since the $\sqrt{Rz 6.3}$ area is sealing part, be careful not to damage it.
- 2. Since the $\sqrt{Rz 12.5}$ area is the metal sealing part at the edge of BZS, 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.
- *1. Use the sequence pressure adjusting hex. within the adjustable range of *2 (the dimensions K~C in the above). Please note that if it is loosened further than max. C, pressure adjusting hex. part and internal spring will come off.
- $\%2.\,$ Dimension when mounted. (+0.5mm before mounted.)
- **3. If mounting plugs or fittings with G thread specification available in the market, the dimension '**3' should be 12.5.

Cautions

Specifications



High-Power Series

Pneumatic Series

Hydraulic Series

Valve / Coupler Hydraulic Unit

Manual Operation Accessories

Cautions / Others

Hole Clamp

Swing Clamp

SFA SFC

LHA

LHC

LHS LHW

LG/LT TLA-2

TLB-2 TLA-1 Link Clamp

> LKA LKC LKW

LJ/LM TMA-2 TMA-1

Work Support

TNC

ТC

Air Sensing

Lift Cylinder LLW Linear Cylinder /

Compact Cylinder
LL
LLR
LLU

DP

DR DS DT Block Cylinder

DBA/DBC

4. The difference between the set pressure and the supplying pressure should be 1MPa or more.

1. Please design hydraulic circuit properly. Improper circuit design may lead to malfunctions and damages.

5. For using multiple sequence valves to operate cylinders in sequence, the difference of each set pressure should be 1MPa or more.

2. Filter is not built in this product. Be aware that contaminants such as cutting chips and sealing tapes entering into the product cause

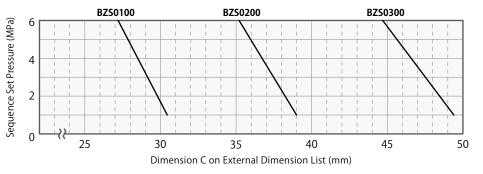
6. For using multiple sequence valves to operate cylinders simultaneously, adjust them gradually by checking their actions.

malfunction. Also when internal parts are damaged, it will not operate properly even after removing contaminants. 3. Depending on circuit system (actuator capacity, hydraulic pipe diameter, passage length, etc.), sometimes it is necessary

to reduce hydraulic flow rate to achieve proper sequence movement. Make sure you are able to control flow rate.

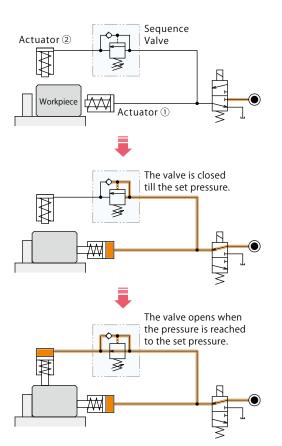
(Since BZS is directly mounted on and used exclusively for one actuator, it is easily affected by hydraulic flow rate.)

- 7. Please keep in mind that the minimum passage area of each actuator will be decreased by mounting this product and thus operating time may become longer.
- 8. Please mount to an actuator using Hex. E shown in External Dimensions on P.961 with the tightening torque shown in the specification list on P.959. Insufficient or excessive tightening torque leads to malfunction.
- 9. Air bleeding is required as air mixed in the circuit causes malfunction.
- 10. At shipment, sequence pressure is not adjusted. Please adjust it by referring to the graph below. Install a pressure gauge on the circuit to check pressure as necessary. After adjustment, tighten one or more set screw for anti-rotation. (Tightening torque:0.2N·m)



(This graph is a reference, and the values will not be guaranteed.)





One	rating Procedure	Note	Centering Vise
ope		Note	FVA
	Hydraulic pressure is ON.		FVD
	Actuator ① is activated.		FVC
		The difference between the operating	Control Valve
ð	Pressure increases to the sequence	pressure and the sequence operation	BZL
Locking	operation set pressure.	set pressure should be 1MPa or more.	BZX/JZ
Lo	The sequence valve circuit opens.		BZS
	Actuator ② is activated.		Pallet Clamp VS/VT
	Locking action is completed.		Expansion
	Machining, etc.		Locating Pin
_	Hydraulic pressure is OFF.		VFL/VF VFJ/VF
Releasing	The actuators (1) and (2) are	The check valve in the sequence valve opens	Pull Stud Clarr
ele	released almost simultaneously.	when the incoming side pressure decreases.	FP
Ϋ́	Releasing action is completed.		FQ
		1	Customiand

Customized Spring Cylinder DWA/DWB

FΜ

FΚ



Sales Offices across the World

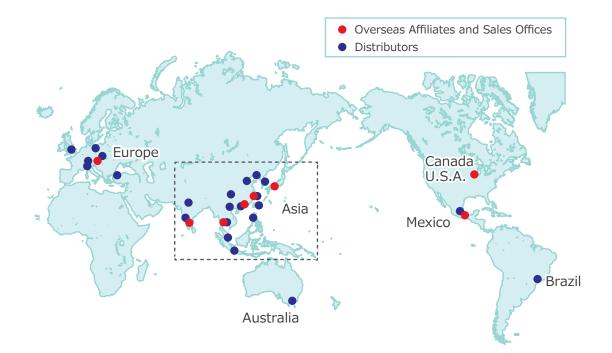
JAPAN Head office	TEL. +81-78-991-5162 KOSMEK LTD. 1-5, 2-chome, Murotani, Nis	FAX. +81-78-991-8787 hi-ku, Kobe-city, Hyogo, Japan 651-2241
Overseas Sales	〒651-2241 兵庫県神戸市西区室谷2丁目1番5	
United States of America	TEL. +1-630-620-7650	FAX. +1-630-620-9015
KOSMEK (USA) LTD.	650 Springer Drive, Lombard, IL 60148 US	A
MEXICO REPRESENTATIVE OFFICE	TEL. +52-442-161-2347	
KOSMEK USA Mexico Office	Av. Santa Fe #103 int 59 Col. Santa Fe Jurio	quilla C.P. 76230 Queretaro, Qro Mexico
EUROPE subsidiary	TEL. +43-463-287587	FAX. +43-463-287587-20
KOSMEK EUROPE GmbH	Schleppeplatz 2 9020 Klagenfurt am Wör	thersee Austria
CHINA	TEL. +86-21-54253000	FAX. +86-21-54253709
KOSMEK (CHINA) LTD. 考世美(上海)貿易有限公司	Room601, RIVERSIDE PYRAMID No.55, Lan 中国上海市浦东新区浦三路21弄55号银亿滨江中	ie21, Pusan Rd, Pudong Shanghai 200125, China 心601室 200125
INDIA branch office	TEL. +91-9880561695	
KOSMEK LTD - INDIA	F 203, Level-2, First Floor, Prestige Center	Point, Cunningham Road, Bangalore -560052 India
THAILAND REPRESENTATIVE OFFICE	TEL. +66-2-300-5132	FAX. +66-2-300-5133
KOSMEK Thailand Representation Office	67 Soi 58, RAMA 9 Rd., Suanluang, Suanlu	ang, Bangkok 10250, Thailand
TAIWAN (Taiwan Exclusive Distributor)	TEL. +886-2-82261860	FAX. +886-2-82261890
Full Life Trading Co., Ltd. 盈生貿易有限公司	16F-4, No.2, Jian Ba Rd., Zhonghe District, New 台湾新北市中和區建八路2號 16F-4(遠東世紀履	
PHILIPPINES (Philippines Exclusive Distributor)	TEL. +63-2-310-7286	FAX. +63-2-310-7286
G.E.T. Inc, Phil.	Victoria Wave Special Economic Zone Mt. Apo Building	g, Brgy. 186, North Caloocan City, Metro Manila, Philippines 1427
INDONESIA (Indonesia Exclusive Distributor)	TEL. +62-21-29628607	FAX. +62-21-29628608
PT. Yamata Machinery		Jayamukti, Kec. Cikarang Pusat Kab. Bekasi 17530 Indonesia

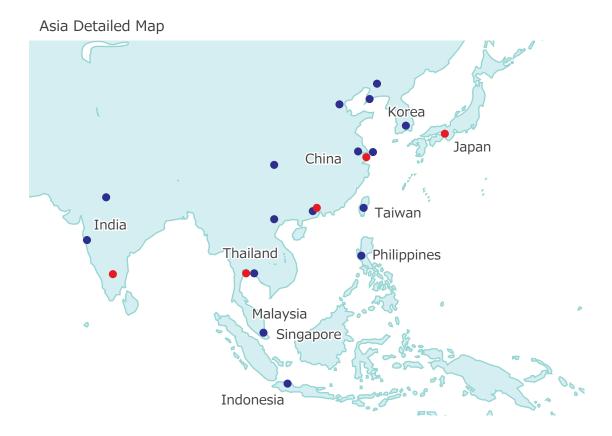
KOSMEK Harmony in Innovation

Sales Offices in Japan

Head Office Osaka Sales Office Overseas Sales	TEL. 078-991-5162 〒651-2241 兵庫県神戸市	FAX. 078-991-8787 市西区室谷2丁目1番5号
Tokyo Sales Office	TEL. 048-652-8839 〒331-0815 埼玉県さいた	FAX. 048-652-8828 たま市北区大成町4丁目81番地
Nagoya Sales Office	TEL. 0566-74-8778 〒446-0076 愛知県安城市	FAX. 0566-74-8808 市美園町2丁目10番地1
Fukuoka Sales Office	TEL.092-433-0424 〒812-0006 福岡県福岡市	FAX.092-433-0426 市博多区上牟田1丁目8-10-101

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