Control Valve

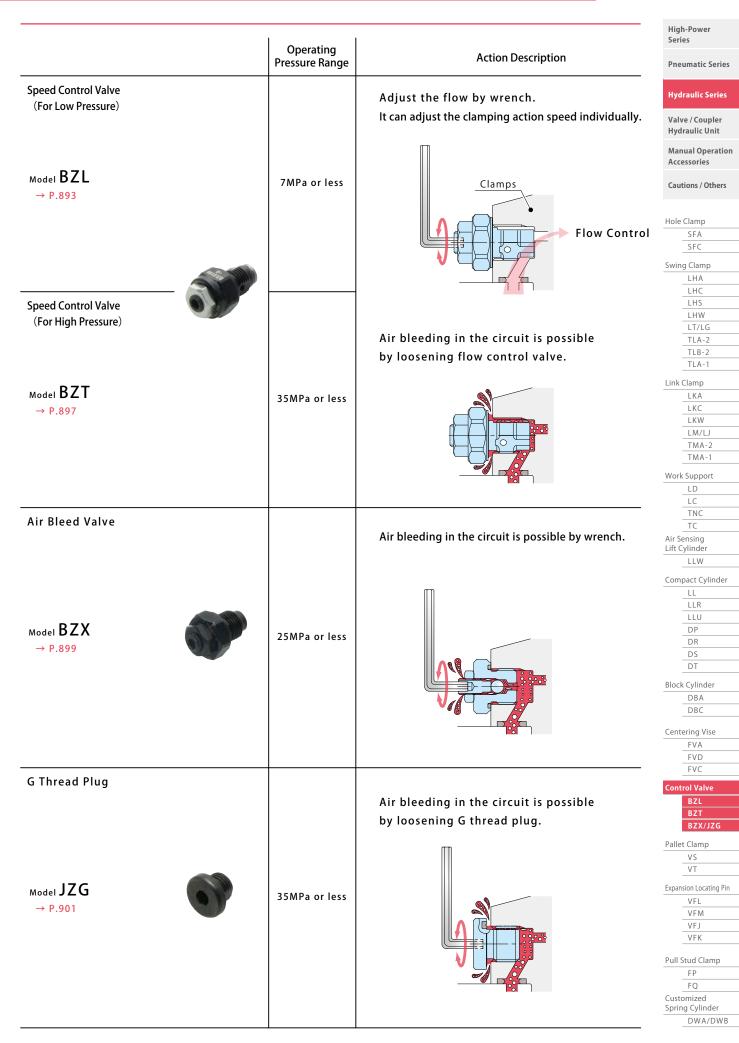
Model BZL Model BZT Model BZX Model JZG

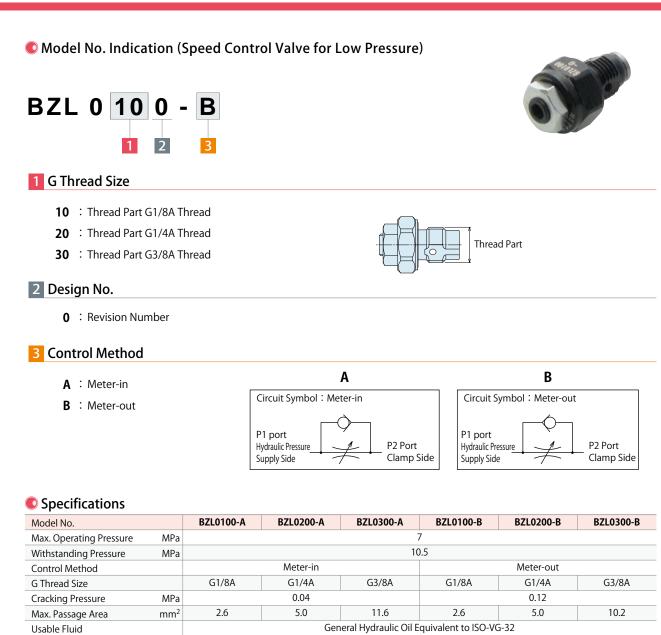


Directly mounted to clamps, flow control valve • Air bleeding • plug

Control Valve Digest







Tightening Torque for Main Body N·m Notes: 1. Minimum passage area when fully opened is the same as the maximum passage area in the table above.

2. It must be mounted with recommended torque. Because of the structure of the metal seal,

if mounting torque is insufficient, the flow control valve may not be able to adjust the flow rate.

25

3. Don't use used BZL to other clamps.

Operating Temperature

°C

10

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

 $0\sim 70$

10

35

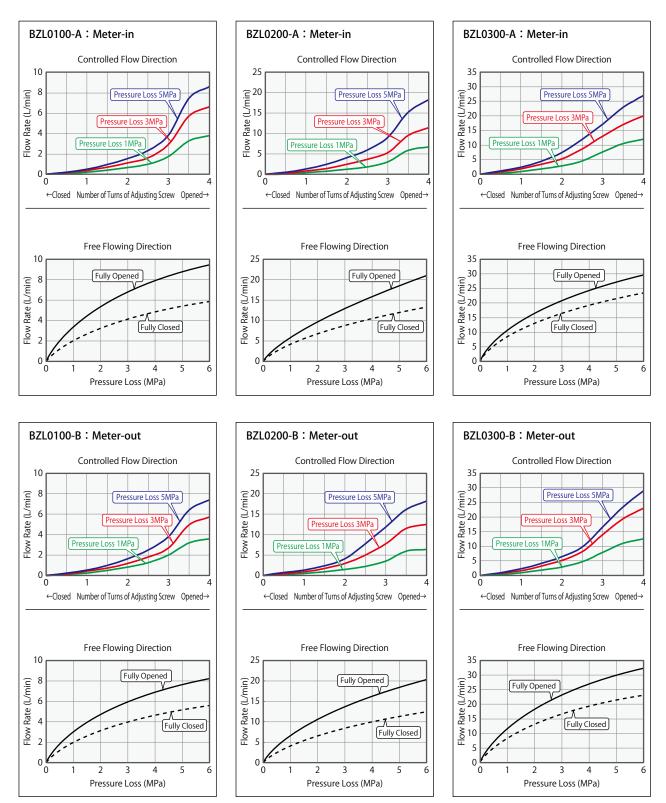
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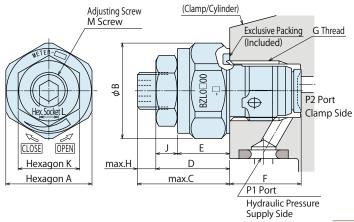
Control Va Digest		odel No. dication	Specifications	Applicat Product		Rate Graph	External Dimensions	Harmor	SMEK ny in Innovation
	able Products			· · · · · · · · · · · · · · · · · · ·			· · · · · · · · · · · · · · · · · · ·		High-Power Series
Model No.	DBA (Double Action) Block Cylinder) DBC (Double Action) Block Cylinder		FVC (Double Action) Centering Vise	FVD (Double Action) Centering Vise) LC (Single Action) Work Support	LHA (Double Action) Swing Clamp	LHC (Double Action) Swing Clamp	Pneumatic Se
	(DBA0250-C)	(DBC0250-C)	(FVA0401)	(FVC0630)	(FVD1600)	LC0262-C	(LHA0360-C	,	1. C
1	(DBA0250-C []) (DBA0320-C [])	(DBC0250-C□) (DBC0320-C□)	(FVA0401) (FVA0631)	(FVC0000,	(FVD1600) (FVD2500)	LC0262-C			Hydraulic Seri
1	(DDI 10320	(DDC0320,	(FVA0031) (FVA1001)	1	(1 102000,	LC0302-C	(LHA0400-C) (LHA0480-C)		Valve / Couple
BZL0100-A	1		(1 1/1100.)	1	1	LC0362-C	(LHA0480-C) (LHA0550-C)		Hydraulic Unit
J2L0100				1	1	LC0402-C			Manual Opera
1	1		1	1	1	LC0482-C	1	1	Accessories
1	1			1	1	LC0552-C	1		Cutions (Oth
,	DBA0250-C	DBC0250-C	FVA0401	FVC0630	FVD1600		LHA0360-C	LHC0360-C	Cautions / Oth
	DBA0230-C	DBC0230-C	FVA0401 FVA0631		FVD1000 FVD2500		LHA0400-C	LHC0300-C	
BZL0100-B			FVA1001				LHA0480-C	LHC0480-C	Hole Clamp
					1		LHA0550-C	LHC0550-C	SFA
				1				Linect	SFC
	(DBA0400-C])	(DBC0400-C [])		(FVC1000)	(FVD4000)	LC0752-C	(LHA0650-C)	(LHC0650-C)	Swing Clamp
BZL0200-A	(DBA0500-C [])	(DBC0500-C [])	<u> </u>	(FVC1600)	l`'	LC0902-C .	(LHA0750-C		LHA
D	DBA0400-C	DBC0400-C		FVC1000	FVD4000		LHA0650-C	LHC0650-C	LHC
BZL0200-B	DBA0500-C	DBC0500-C		FVC1600	1		LHA0750-C		LHW
						\square	(LHA0900-C		LT/LG
BZL0300-A	<u> </u>				I <u> </u>	'	(LHA1050-C		TLA-2 TLB-2
D					\square		LHA0900-C		TLB-2 TLA-1
BZL0300-B							LHA1050-C		
_									Link Clamp
	LHE (Double Action)	LHS (Double Action)	LHW (Double Action)	LT (Single Action)	LG (Single Action)	LKA (Double Action)) LKC (Double Action)	LKE (Double Action)	LKA
Model No.	High-Power Swing Clamp		Swing Clamp	Swing Clamp	Swing Clamp	Link Clamp	Link Clamp	High-Power Link Clamp	LKW
		(LHS0360-C			LG0301-C	(LKA0360-C	•	LKE0300-C	LM/LJ
I	/ '	(LHS0400-C)			LG036-C	(LKA0400-C		LKE0360-C	TMA-2 TMA-1
BZL0100-A	/ '	(LHS0480-C)			LG040-C	(LKA0480-C)		LKE0400-C	TMA-1
)/LVII	/ '	(LHS0480-C) (LHS0550-C)		LT040C	LG040C	(LKA0480-C) (LKA0550-C)		LKE0400-C	Work Support
I	/			LT055 -C	LG048C			LKE0480-C	LD LC
	LHE0300-C	LHS0360-C	LHW040 -C			LKA0360-C	LKC0400-C		LC TNC
	LHE0360-C	LHS0400-C	LHW0480-C00-0			LKA0400-C			TC
BZL0100-B	LHE0400-C	LHS0480-C				LKA0480-C			Air Sensing Lift Cylinder
	LHE0480-C	LHS0550-C	Limes			LKA0550-C			Lift Cylinder LLW
	LHE0550-C	Liber				Livies	/		
		(LHS0650-C) (LHW065□-C□□-□)	LT065□-C □-□	LG065□-C□-□	(LKA0650-C) (LKC0650-C)		Compact Cylin
BZL0200-A					LG075D-CD-D			I / _	LL LLR
DOD D	\leftarrow	LHS0650-C	LHW065 -C			LKA0650-C		\sim	LLU
BZL0200-B		LHS0750-C	LHW0751-C			LKA0750-C			DP
	\square	(LHS0900-C			LG0900-C0-0	(LKA0900-C		\square	DR DS
BZL0300-A	/'	(LHS1050-C		I'	LG105□-C□-□	(LKA1050-C		·	DS
		LHS0900-C		\sim		LKA0900-C			Block Cylinder
BZL0300-B		LHS1050-C				LKA1050-C			Block Cylinder
							_		DBA
Model No.			-			LLW (Double Action)			
	Link Clamp	Link Clamp	Link Clamp				4		Centering Vise FVA
	(LKW040□-C□□-□)		LJ0302-C) (LLW036□-C□□-□)	J		FVA FVD
1	(LKW048□-C□□-□)	D LM0360-C□	LJ0362-C 🗆				J		FVC
	(LKW055□-C□□-□))) LM0400-C []	LJ0402-C 🗆	(LL0480-C□□-□)	(LLR0480-C)	(LLW048 -C			Control Valve
I		LM0480-C	LJ0482-C 🗆		(LLR0550-C)				Control Valve BZL
		LM0550-C	LJ0552-C						BZT
	LKW040 -C	1		LL0360-C	LLR0360-C				BZX/JZ
	LKW048 -C			LL0400-C	LLR0400-C	LLW0400-C00-0			Pallet Clamp
BZL0100-B	LKW0550-C00-0			LL0480-C	LLR0480-C	LLW048 -C			VS
				LL0550-C	LLR0550-C				VT
A	(LKW065□-C□□-□)) LM0650-C 🗆	LM0652-C 🗆		(LLR0650-C		*		Expansion Locatin
BZL0200-A	(LKW0751-C		LM0752-C		(LLR0750-C)				VFL
DZLUZUU-A	LKW0650-C00-0			LL0650-C	LLR0650-C		1		VFM
				LL0050-C	LLR0750-C				VFJ
	LKW0751-C				(LLR0900-C)		4		VFK
BZL0200-B			LJ0902-C	(LL0900-C)	(LLINU200 C				
									Pull Stud Clan
BZL0200-B			LJ0902-C LJ1052-C	(LL1050-C□□-□)	(LLR1050-C)		1		FP
BZL0200-B									

(except model LKE/TLA/TMA). Meter-in circuits can be adversely affected by any air in the system.

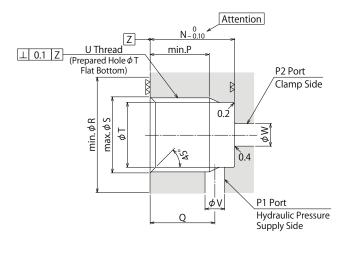
● Flow Rate Graph < Hydraulic Fluids ISO-VG32 (25~35°C) >



Control Valve Digest	Model No. Indication	Specifications	Applicable Products	Flow Rate Graph	External Dimensions	KOSMEK Harmony in Innovation
C External Din	nensions					High-Power Series



Machining Dimensions of Mounting Area



			(mm)
Model No.	BZL0100-	BZL0200-	BZL0300-
A	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
N	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	$2.5 \sim 5$	3.5 ~ 7	4.5~9

Notes :

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

Notes

1. Please read "Notes on Hydraulic Cylinder Speed Control Circuit" to assist with proper hydraulic circuit design.

If there is something wrong with the circuit design, it leads to the applications malfunction and damage. (Refer to P.1238)

- 2. It is dangerous to air bleed during operation under high pressure. It must be done under lower pressure.
- (For reference: the minimum operating range of the product within the circuit.)

DWA/DWB

Pneumatic Series

Hydraulic Series

Valve / Coupler

Hydraulic Unit

Manual Operation Accessories

Cautions / Others

Hole Clamp SFA

SFC

LHA

LHC

LHS

LHW LT/LG TLA-2

TLB-2 TLA-1

LKA

LKC

LKW

LM/LJ TMA-2

TMA-1 Work Support

LD

LC TNC

ТC Air Sensing Lift Cylinder LLW

Compact Cylinder

LL LLR LLU DP DR DS

DT

Block Cylinder

DBA

DBC

FVA FVD FVC

Centering Vise

Control Valve BZL

BZT

Pallet Clamp VS

VT Expansion Locating Pin VFL VFM VFJ VFK Pull Stud Clamp FP FQ Customized Spring Cylinder

BZX/JZG

Link Clamp

Swing Clamp

C Model No. Indication (Speed Control Valve for High Pressure)



1 G Thread Size

- **10** : Thread Part G1/8A Thread
- 20 : Thread Part G1/4A Thread

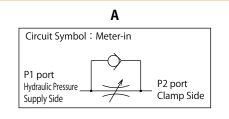
2 Design No.

0 : Revision Number

3 Control Method

A : Meter-in

%BZT doesn't have meter-out specification.



Thread Part

Specifications

Model No.		BZT0100-A	BZT0200-A	
Max. Operating Pressure	ИРа	3	5	
Min. Operating Pressure N	ИРа	1	0	
Control Method		Mete	er-in	
G Thread Size		G1/8A	G1/4A	
Cracking Pressure N	ИРа	0.04		
Min. Passage Area (P2→P1:Free Flowing Direction) m	nm²	1.1	3.1	
Max. Passage Area m	nm²	2.6	5.0	
Usable Fluid		General Hydraulic Oil E	quivalent to ISO-VG-32	
Operating Temperature	°C	0 ~	· 70	
Tightening Torque for Main Body N	l∙m	10	25	

Notes: 1. Minimum passage area when fully opened is the same as the maximum passage area in the table above.

- 2. It must be mounted with recommended torque. Because of the structure of the metal seal,
 - if mounting torque is insufficient, the flow control valve may not be able to adjust the flow rate.
- 3. Don't use used BZT to other clamps.
- Flow control will not be made because the bottom depth difference of G thread makes metal seal insufficient.

Applicable Products

Model	TLA-2 (Double Action)	TLB-2 (Double Action)	TLA-1 (Single Action)	TMA-2 (Double Action)	TMA-1 (Single Action)
Model	Swing Clamp	Swing Clamp	Swing Clamp	Link Clamp	Link Clamp
	TLA0801-2C 🛛 -	TLB0801-2C 🛛 -	TLA0802-1C	TMA0250-2C	TMA0250-1C
BZT0100-A	TLA1001-2C	TLB1001-2C 🛛 -	TLA1002-1C	TMA0400-2C	TMA0400-1C
6210100-A	TLA1601-2C 🛛 -	TLB1601-2C 🛛 -	TLA1602-1C	TMA0600-2C	TMA0600-1C
				TMA1000-2C 🗆	TMA1000-1C
	TLA2001-2C 🛛 -	TLB2001-2C 🛛 -	TLA2002-1C	TMA1600-2C 🗆	TMA1600-1C
BZT0200-A	TLA2501-2C 🛛 -	TLB2501-2C 🛛 -	TLA2502-1C	TMA2500-2C 🗆	TMA2500-1C
	TLA4001-2C	TLB4001-2C 🛛 -	TLA4002-1C	TMA3200-2C	TMA3200-1C

Notes : 1. It is not recommended to use BZT for TL 040 / TL 060 since they have small cylinder capacity and it is difficult to adjust the speed. 2. In the case of controlling TMA, TLA, both lock side and release side should be meter-in circuit.

If meter-out circuit is used, abnormal high pressure is created, which causes oil leakage and damage.

External Dimensions

KOSMEK Harmony in Innovation

> High-Power Series

Pneumatic Series

Hydraulic Series

Valve / Coupler

Hydraulic Unit

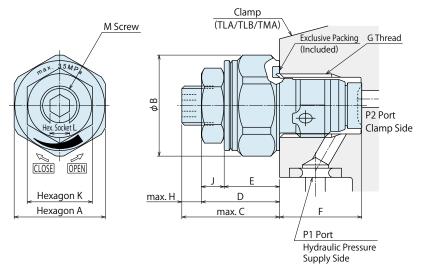
Manual Operation Accessories

Cautions / Others

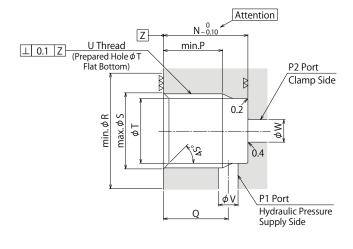
Hole Clamp SFA

SFC

External Dimensions



Machining Dimensions of Mounting Area



		(mm)
Model No.	BZT0100-A	BZT0200-A
А	14	18
В	15.5	20
С	15	16
D	12	13
E	8.5	9.5
F	(12.6)	(16.1)
G	G1/8	G1/4
Н	3	3
J	3.5	3.5
К	10	10
L	3	3
M (Nominal×Pitch)	M6×0.75	M6×0.75
Ν	12.5	16
Р	8.5	11
Q	9.5	12
R	16	20.5
S	10	13.5
Т	8.7	11.5
U	G1/8	G1/4
V	$2.5 \sim 3.5$	$3.5 \sim 4.5$
W	2.5~5	3.5 ~ 7

Notes :

- 1. Since the vvv area is sealing part, be careful not to damage it.
- 2. Since the vor area is the metal sealing part of BZL, be careful not to damage it. (Especially when deburring)
- 3. No cutting chips or burr should be at the tolerance part of machining hole.
- 4. As shown in the drawing, P1 port is used as the hydraulic supply and P2 port as the clamp side.

🔍 Notes

- Please read "Notes on Hydraulic Cylinder Speed Control Circuit" to assist with proper hydraulic circuit design. If there is something wrong with the circuit design, it leads to the applications malfunction and damage. (Refer to P.1238)
 It is dangerous to air bleed during operation under high pressure. It must be done under lower pressure.
- (For reference: the minimum operating range of the product within the circuit.)
- 3. When the cylinder capacity is small, it is highly possible that the speed of flow cannot be controlled properly. (Recommended Cylinder Capacity: 3cm³ or more)

Swing Clamp LHA LHC LHS LHW LT/LG TLA-2 TLB-2 TLA-1 Link Clamp LKA LKC LKW LM/LJ TMA-2 TMA-1 Work Support LD LC TNC ТC Air Sensing Lift Cylinder LLW Compact Cylinder LL LLR LLU DP DR DS DT Block Cylinder DBA DBC Centering Vise FVA FVD FVC ontrol Valv BZL BZT BZX/JZG

Pallet Clamp VS VT Expansion Locating Pin VFL VFM

> VFJ VFK

Pull Stud Clamp FP FQ Customized Spring Cylinder DWA/DWB Model No. Indication (Air Bleed Valve)



1 G Thread Size

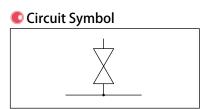
- 1 : Thread Part G1/8A Thread
- 2 : Thread Part G1/4A Thread
- 3 : Thread Part G3/8A Thread

2 Design No.

0 : Revision Number

Specifications

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



Thread Part

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

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

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

3. Refer to the machining dimensions for BZL mounting area.

Model No. Indication

Specifications

Applicable Products

External Dimensions

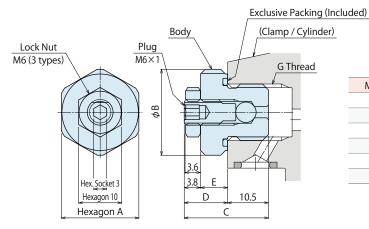
KOSMEK Harmony in Innovation

High-Power

	Ann	licabl	e Pro	ducts
\bigcirc	npp	iicabi	C I I U	uucis

Biock Cylinder Block Cylinder Centering Vise Centering Vise Work Support Swing Clamp Swing Clamp DBA0250-CC DBC0320-CC PVA0401 FVC0630 FVD1600 LC0262-CC LHA0360-CCD-0 LHC0400-CCD-0 LHC0400-CD-0 LHC0400-CD-0 LHC0400-CD-0	D Applica	ble Product	5							High-Power Series
Block Cylinder Block Cylinder Centering Vise Centering Vise Work Support Swing Clamp DBA0320-CD DBC0320-CD FVA0401 FVC6030 FVD1600 LC0322-CD HA0360-CDD HC0460-CDD Valve / Couple BZX010 DBA0320-CD DBC0320-CD FVA1001 FVA1001 LC0322-CD HA0360-CDD HC0460-CDD Valve / Couple BZX010 DBA0400-CD DBC0400-CD FVC1600 FVC1600 FVD2500 LC0322-CD HA0360-CDD HC0550-CDD Valve / Couple BZX030 DBA0400-CD DBC0400-CD FVC1600 FVC1600 FVD4000 LC0752-CDD LH0650-CDD HC0550-CDD Kcessories BZX030 DBC0500-CD DBC0500-CD FVC1600 FVD1600 LC0752-CDD LH0650-CDD HC0500-CDD	Model No.	DBA (Double Action)	DBC (Double Action)	FVA (Double Action)	FVC (Double Action)	FVD (Double Action)	LC (Single Action)	LHA (Double Action)	LHC (Double Action)	Pneumatic Series
BRA0320-CE DBC0320-CE FVA0631 FVA0631 FVD2500 LC0302-CE LHA0400-CED3 LHC0400-CED3 LHC0400-CED3 <thl011< th=""> LHC0400-CED3 LHC0400-CED3<!--</td--><td>Model No.</td><td>Block Cylinder</td><td>Block Cylinder</td><td>Centering Vise</td><td>Centering Vise</td><td>Centering Vise</td><td>Work Support</td><td>Swing Clamp</td><td>Swing Clamp</td><td></td></thl011<>	Model No.	Block Cylinder	Block Cylinder	Centering Vise	Centering Vise	Centering Vise	Work Support	Swing Clamp	Swing Clamp	
BRA0320-CU DBA0320-CU FVA0631 FVA0631 FVD2500 LC0302-CU HA4040-CUD2 HC0400-CUD2 HC050-CUD2 HC050		DBA0250-C	DBC0250-C	FVA0401	FVC0630	FVD1600	LC0262-C	LHA0360-C 🗆 -	LHC0360-C	Hydraulic Series
BZX010 Image: Section of the section of t		DBA0320-C	DBC0320-C 🗆	FVA0631		FVD2500	LC0302-C	LHA0400-C 🗆 -	.HA0400-C LHC0400-C	
BZX020 DBA0400 CII DBC0400-CIII CU042-CIIII-0 LC0432-CIIII-0 Cautions // Accessories BZX020 DBA0400 CII DBC0400-CII DBC0500-CIII FVC1000 FVD4000 LC052-CIIII-0 Cautions // Others BZX030 DBC0000-CIIII DBC0000-CIIII FVC1000 FVD4000 LC0602-CIIII-0 LHA0550-CIIII-0 Le0000-CIIII-0 LHA0550-CIIII-0 Le0000-CIIII-0 LHA0550-CIIII-0 Le0000-CIIII-0 LHA0550-CIIII-0 Le0000-CIIII-0 LHA0550-CIIII-0 Le0000-CIIII-0 LHA0550-CIIII-0 Le0000-CIIII-0 LHA0550-CIIII-0	D7V010			FVA1001			LC0362-C	LHA0480-C 🗆 -	LHC0480-C .	
BZX020 DBR0400-CI DBA0500-	BZXUIU						LC0402-C 🗆 🗆 -	LHA0550-C 🗆 -	LHC0550-C .	Hydraulic Unit
BZX020 DBA0400-CI DBA050-CI DBA0500-CI DBA050-CI DBA							LC0482-C 🗆 🗆 -			Manual Operation
BZX020 DBA0400-CC DBA0500-CC DBC0400-CC DBC0500-CC PVC1000 PVC1600 FVD4000 FVC1600 LC0752-CDC LC0902-CDC LHA0650-CDC LHA0750-CDC HoleConc HoleConc BZX030 HoleConc Swing Clamp Swing Clamp Swing Clamp Swing Clamp Swing Clamp Swing Clamp Link Clamp Link Clamp Link Clamp HigPowerLinkConc HigPowerLinkConc LKC0400-CD LKC040-CD LKC0400-CD LKC0400-CD LKC0400-CD LKC0400-CD LKC0400-CD LKC0400-CD <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td>LC0552-C 🗆 🗆 -</td><td></td><td></td><td>Accessories</td></td<>							LC0552-C 🗆 🗆 -			Accessories
BZX020 DBA0400-CC DBA0500-CC DBC0400-CC DBC0500-CC PVC1000 PVC1600 FVD4000 FVC1600 LC0752-CDC LC0902-CDC LHA0650-CDC LHA0750-CDC HoleConc HoleConc BZX030 HoleConc Swing Clamp Swing Clamp Swing Clamp Swing Clamp Swing Clamp Swing Clamp Link Clamp Link Clamp Link Clamp HigPowerLinkConc HigPowerLinkConc LKC0400-CD LKC040-CD LKC0400-CD LKC0400-CD LKC0400-CD LKC0400-CD LKC0400-CD LKC0400-CD <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td>LC0652-C 🗆 🗆 -</td><td></td><td></td><td>Cautions / Othors</td></td<>							LC0652-C 🗆 🗆 -			Cautions / Othors
DBA0500-CL DBC0500-CL FVC1600 CC0902-CLDL LHA0750-CLDL Hald BZX030 LHE (Double Action) LHS (DBA0400-C	DBC0400-C		FVC1000	FVD4000		LHA0650-C 🗆 -	LHC0650-C	cautions / others
BZX030 LHR/090/CLD-1 LHR/090/CLD-2 SFA Model No. LHS [Double Action] LHS [Double Action] LHS [Double Action] LKS [Double Action] LKE [Double Action]<	BZX020	DBA0500-C	DBC0500-C		FVC1600		LC0902-C 🗆 🗆 -	LHA0750-C 🗆 -		
Model No. LHE [Double Action] High-Power Swing Clamp LHW [Double Action] LHW [Double Action] LIT (Single Action) LG (Single Action) LKA (Double Action) LKC (Double Action) LKC (Double Action) LKG (Double Action) LKM00650-CCCH LKM0050-CCCH LKM0050-CCCH LKM0050-CCCH LKM0050-CCCH LKM0050-CCCH LKG (Double Action) LKM0050-CCCH LKM0050-CCCH LKM0050-CCCH LKG (Double Action) L								LHA0900-C 0		
Model No. LHE (Double Action) LHS (Double Action) LHW (Double Action) LT (Single Action) Swing Clamp LKA (Double Action) LKA (BZX030							LHA1050-C 🗆 -		
Model No. High-Power Wing Gamp Swing Clamp Swing Clamp Swing Clamp Link Clamp Link Clamp High-Power Link Clamp BZX010 LHE0300-CI LH50360-CI LHW040_CI LI LIO301-CI LKA0360-CI LKK0400-CI LKE0300-CI LHA LHE0360-CI LH50360-CI LHS0400-CI LHS0400-CI LHW040_CI LIO36I-CI LKA0400-CI LKE0360-CI LHC LHC LHE0360-CI LHS0480-CI LHS0500-CI LHW0405I-CI LIO400-CI LKA0480-CI LKE0400-CI LKE0480-CI LHC LHC LHE0550-CI LHS0500-CII LHW05SI-CIID-I LIO48I-CI-I LG048I-CI-I LKA0550-CIID-I LKE0550-CII TLA-2 BZX020 LH50500-CIID-I LHW05SI-CIID-I LIO5SI-CII-I LG060SI-CI-I LKA0550-CIID-I LKE0550-CIII LKC LKC LKC LK LKE0550-CIIII LIA-2 LL-2 LLA-2 LL-2 LLA-2										SEC
High-Rower Swing Clamp Swing Clamp Swing Clamp Swing Clamp Link Clamp Link Clamp High-Rower Link Clamp Link Clamp A LH60300-CD LHS0360-CDD- LHW040_CDD- LT0361-CD- LK0360-CDD- LK00300-CD LKE0300-CD LKE0300-CD LHC LHS BZX010 LH60400-CD LHS0400-CDD- LHW048_CDD- LT040_CD- LK0400-CD- LKE0400-CD LKE0400-CD LKE0400-CD LKE0400-CD LHC LHS LHE0480-CD LHS0550-CDD- LHW055D-CDD- LT048_CD- LG048_CD- LKA0480-CDD- LKE0480-CD- LKE0480-CD- TL8-2 LHE0550-CD- LHW055D-CDD- LT0455_CD- LG055_CD- LKA0550-CDD- LKE0550-CD- TL8-2 BZX020 LH50500-CDD- LHW055_CDD- LT055_CD- LG055_CD- LKA0500-CDD- LKC6050-CD- LKA0650-CD- LK6040_CD- TL8-2 BZX020 LHS0500-CDD- LHW055_CDD- LT055_CDD- LG055_CDD- LKA050-CDD- LKC6050-CD- LKA LKW LMS0900-CDD- LHW055_CDD- LT055_CD	Model No.			. ,						
BZX010 LHS050-CID+ LH000-CID+			<u> </u>	<u> </u>		<u> </u>	•			
BZX010 LHE0360-C LHS0400-C LHW048_J-C LT036_J-C_J- LG036_J-C_J- LKC0480-C LKE0360-C LKE0480-C LKE0480-C LKE0480-C LKE0400-C TLA-2 BZX020 LH90550-C LHW055J-C LT065J-C LG05SJ-C LKA0550-C LKE0550-C LKA LKE0400-C LKE0400-C LKE0550-C TLA-2 BZX030 LH9050-C LHW0751-C LT075J-C LG07SJ-C LKA0550-C LKA0550-C LKA LKK LKK <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>										
BZX010 LHE0400-CI LHS0480-CIDE LHW055D-CIDE LT040D-CIDE LK040D-CIDE LKE0400-CIDE LKE0400-CIDE LKE0400-CIDE LKE0400-CIDE LKE0480-CIDE LKE0550-CIDE LKE0550-CIDE LKE0480-CIDE LKE0400-CIDE LKE0400-CIDE LKE0400-CIDE LKE0400-CIDE LKE0550-CIDE LKE0550-CIDE LKE0550-CIDE LKE0550-CIDE LKE0550-CIDE LKE0550-CIDE LKE0550-CIDE LIA-12 BZX030 LKW (Duble Action) LM (Single Action) LJ (Single Action) <t< td=""><td></td><td></td><td></td><td>LHW048 -C</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>				LHW048 -C						
LHE0550-C LHE0550-C LH20550-C LG0551-C LG0551-C LK20550-C TL8-2 BZX020 LH50650-C LH50650-C LH00651-C LG0651-C LKA0650-C LK20550-C TL8-2 BZX030 LH50900-C LH50950-C LT0751-C LG0901-C LKA0750-C LKA050-C LKA0750-C LKA050-C LKA0750-C LKA0750-C Link Clamp Link Clamp Link Clamp LKA LKC LKA LKC LKM/L0 LKC LKM/L0 LKC LKM/L0 LKC LKM/L0 LKC LKM/L0 LKC LKM/L0 LKC LKA LKC LKM/L0 LKC LKC LKM/L0 LKC LKM/L0 LKC LKM/L0 LKC LKM/L0 LKC LKM/L0 LKC LKM/L0 LKC LKC LKM/L0 LKA LKC LKM/L0 LKA LKC LKM/L0 LKA LKA	BZX010	LHE0400-C	LHS0480-C 🗆	LHW0550-C00-0		LG040□-C□-□	LKA0480-C 🗆 -	LKC0550-C 🛛 - 🗌	LKE0400-C 🗌	
Effective Effective <theffective< th=""> <theffective< th=""> <the< td=""><td></td><td>LHE0480-C</td><td>LHS0550-C 🗆</td><td></td><td>LT048□-C □-□</td><td>LG048□-C□-□</td><td>LKA0550-C 🗆 -</td><td></td><td>LKE0480-C</td><td></td></the<></theffective<></theffective<>		LHE0480-C	LHS0550-C 🗆		LT048□-C □-□	LG048□-C□-□	LKA0550-C 🗆 -		LKE0480-C	
BZX020 LHSU65U-CLP4 LH005SI-CLP4 LG05SI-CLP4 LK005U-CLP4 LK001 LK005U-CLP4 LK001 LK01		LHE0550-C			LT0550-C0-0	LG0550-C0-0			LKE0550-C	
BZX030 LHS0750-C LHW0751-C LG075_C LKA0750-C LKA0750-C LKA BZX030 LHS0900-C LHS0900-C LG090_C LKA0900-C LKA LKA Model No. LKW (Double Action) LM (Single Action) LJ (Single Action) LL (Double Action) LLR (Double Action) LLW (Double Action) LW (Double Action) LW (Double Action) LLW (Double Action) LLW (Double Action) LW (Double Acti	P7V030		LHS0650-C 🗆 -	LHW065 - C	LT065□-C□-□	LG065□-C□-□	LKA0650-C	LKC0650-C 🛛 - 🗌		ILA-I
BZX030 LHS0900-C_LP-3 LK0900-C_LP-3 LK0900-C_LP-3 LK0900-C_LP-3 LK0900-C_LP-3 LKC Model No. LKW (Double Action) LM (Single Action) LJ (Single Action) LL (Double Action) LLW (Double Action) LLW (Double Action) LMV.1J Model No. Link Clamp Link Clamp Link Clamp Linear Cylinder Lift Cylinder LMV.1J TMA-2 LKW0400-C-D-0 LM0300-C U0302-C LL0360-C-D-0 LLW0360-C-D-0 LW0360-C-D-0 LW0360-C-D-0 LMV.1J TMA-2 LKW0480-C-D-0 LM0360-C-D U0302-C LL0360-C-D-0 LLR0360-C-D-0 LLW0400-C-D-0 LD LD LD LD BZX010 LKW0480-C-D-0 LM0400-C-D LI0400-C-D-0 LLR0480-C-D-0 LLW0480-C-D-0 LD LC TNC TC BZX020 LKW0550-C-D-0 LM0650-C-D LI0550-C-D-0 LLR050-C-D-0 LLR050-C-D-0 Air Sensing Lift Cylinder BZX030 LKW0751-C-D-0 LM0750-C-D L0090-C-D-0 LLR0900-C-D-0 LR0900-C-D-0 LLW0480-C-D-0 LLW BZX030 LKW0751-C-D-0 LM0750-C-D L0900-C-D	DZAUZU		LHS0750-C 🗆 🗆 -	LHW0751-C	LT075□-C□-□	LG075□-C□-□	LKA0750-C			
LHS1050-C_LL LG105L-C_L-L LKA1050-C_LL-L LKA1050-C_LL-L LKW Model No. LM (Single Action) LJ (Single Action) LL (Double Action) LLR (Double Action) LLW (Double Action) LLW (Double Action) LLW (Double Action) LMV/LJ Link Clamp Link Clamp Link Clamp Linear Cylinder Lift Cylinder TMA-2 LKW0400-CCI-D LM0300-CC LJ0302-CC LL0360-CCI-D LLW0360-CCI-D LW0360-CCI-D LW0360-CCI-D LW0360-CCI-D LU0360-CCI-D LI0000-CCI-D LLW0360-CCI-D LU0400-CCI-D LD LC TMA-1 LD LC LD LD LD LC LD LC LD LC LD LC LC LC TNC TC LC LC LC TNC TC TC TC Air Sensing Lift Cylinder LLW LLW LLW LLW LLW LW LW LW LW LW	D7V020		LHS0900-C 🗆 🗆 -			LG090□-C □-□	LKA0900-C			
LKW (Double Action) LM (Single Action) LJ (Single Action) LL (Double Action) LLR (Double Action) LLW (Double Action) LW (BZXUSU		LHS1050-C 🗆			LG105□-C□-□	LKA1050-C 🗆 -			
Model No. Link Clamp Link Clamp Link Clamp Link Clamp Linear Cylinder Lift Cylinder TMA-2 LKW0400-CCD-0 LM0300-C U0302-C LL0360-CD-0 LLR0360-CD-0 LLW0360-CD-0 TMA-1 LKW0400-CCD-0 LM0300-C U0302-C LL0360-CD-0 LLR0360-CD-0 LLW0360-CD-0 TMA-1 LKW0480-CD-0 LM0360-C U0362-C LL0400-CD-0 LLR0400-CD-0 LLW0400-CD-0 LD LKW0550-CD-0 LM0400-C U0402-C LL0400-CD-0 LLR0480-CD-0 LC LD LKW0550-CD-0 LM0400-C U0402-C LL0480-CD-0 LLR0480-CD-0 LC TNC TC LM0480-CC U0482-CC LL0550-CCD-0 LLR0550-CD-0 TNC TC BZX020 LKW0650-CD-0 LM0650-CC U052-CC LL0550-CD-0 LLR050-CD-0 LLR050-CD-0 LLW0480-CD-0 LLW BZX030 LKW0751-CD-0 LM0750-C U0752-CC LL0900-CD-0 LLR050-CD-0 LLW050-CD-0 LLW BZX030 L L1052-C			LAA (Circula Antina)		LL (Devide Antion)					
LKW040-CC:::: LM0300-CC::: L0302-CC:: LL0360-CC::: LLW0360-CC::: LW0360-CC::: Work Support LKW048-CC:::: LM0360-CC::: L00362-CC:: LL0400-CC::: LLW0400-CC::: LLW0400-CC::: LLW0400-CC::: LLW0400-CC::: LD LD BZX010 LKW055-CC::: LM0400-CC::: LL0400-CC::: LLR0400-CC::: LLW0480-CC::: LC LO LKW055-CC::: LM0480-CC::: LL0550-CC::: LL0550-CC::: LLR0550-CC::: LC TNC TC LM0550-CC::: LM0650-CC::: LL0550-CC:::: LLR0550-CC:::: LR0650-CC::::: TC BZX020 LKW0655-CC:::: LM0750-CC::: LL0750-CC::::: LLR050-CC:::::: LR0750-CC:::::: LIR050-CC::::::: LIR050-CC:::::::: LIR050-CC:::::::: LIR050-CC::::::::: LIR050-CC:::::::::: LIR050-CC:::::::::: LIR050-CC::::::::::::::::::::::::::::::::::	Model No.		-	5						TMA-2
BZX010 LKW048-CCI LM0360-CC LJ0362-CC LL0400-CI LLR0400-CI LLW040]-CCI LD LKW055-CCI LM0400-CC LJ0402-CC LL0480-CI LLR0480-CI LLW048]-CCI LD LKW055-CCI LM0480-CC LJ0482-CC LL0550-CI LLW048]-CCI TNC LKW0655-CCI LM0650-CC LJ0552-CC LL0550-CCI LLR0550-CCI TC BZX020 LKW0655-CCI LM0650-CC LJ0652-CC LL0750-CCI LLR0550-CCI LIR0550-CCI BZX030 LKW0751-CCI LM0750-CC LJ0902-CC LL0900-CCI LLR050-CCI LLW BZX030 LIN050-CCI LL0900-CCI LLR050-CCI LLW LLW				•			,	_		TMA-1
BZX010 LKW055°-CC0-0 LM0400-CC LU0402-CC LL0480-CC0-0 LLR0480-CC0-0 LLW048°-CC0-0 LC LM0480-CC LU0482-CC LL0550-CC0-0 LLR0550-CC0-0 LLR0550-CC0-0 TNC TC BZX020 LKW065°-CC0-0 LM0650-CC L0052-CC LL0550-CC0-0 LLR0550-CC0-0 LLR0550-CC0-0 LLR0550-CC0-0 LLR0550-CC0-0 TC BZX020 LKW065°-CC0-0 LM0650-CC L0052-CC LL0550-CC0-0 LLR0550-CC0-0 LLR0550-CC0-0 LLR0550-CC0-0 LLR0550-CC0-0 LLW BZX030 LKW0751-CC0-0 LU0902-CC LL0900-CC0-0 LLR0900-CC0-0 LLR0900-CC0-0 LLW BZX030 LU0902-CC LU0900-CC0-0 LLR0900-CC0-0 LLR0900-CC0-0 LC Compact Cylinder										Work Support
LKW065 LM0480-CC LU0550-CC LL0550-CC LLR0550-CC LLR050-CC LLR0										LD
LM0550-CC LJ0552-CC LL0650-CC LL0650-CC LL0650-CC LL0650-CC LL0650-CC LL0650-CC LL0650-CC LL0650-CC LL0650-CC LL0750-CC LL0750-CC LL0750-CC LL0750-CC LL0750-CC LL0750-CC LL0750-CC LL0000-CC L0000-CC L0000-CC </td <td>BZX010</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>LLW048U-CUU-U</td> <td></td> <td></td> <td>-</td>	BZX010						LLW048U-CUU-U			-
BZX020 LKW0650-CCIIII LM0650-CCIIII LL0650-CCIIIII LLR0650-CCIIIIII LLR0650-CCIIIIIII Air Sensing Lift Cylinder BZX030 LKW0751-CCIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII					LL0550-C LL-L	LLR0550-CUU-U-U				
BZX020 Ltw0050-C_11-0 L0050-C_11-0 LL0050-C_11-0 LLR050-C_11-0 Llft Cylinder BZX030 Ltw0050-C_11-0 LL0050-C_11-0 LLR0750-C_11-0 LLR0750-C_11-0 LLW BZX030 L1050-C_11-0 LL0000-C_11-0 LLR0900-C_11-0 LLR0900-C_11-0 LLW										
LKW0751-CLI-I LM0750-CL LJ0752-CL LL0750-CLI-I LLR0750-CLI-I LLW BZX030 L10902-CC LL0900-CCI-I LLR0900-CCI-I-I Compact Cylinder Compact Cylinder	BZX020									
BZX030 LI1052 CD LI1050 CDDD LI01050 CDDDD COMPACT Cylinder		LKW0751-C	LM0750-C				/			LLW
	BZX030									Compact Cylinder
				LJ1052-C	LL1050-C	LLR1050-C				

C External Dimensions



			(mm)
Model No.	BZX010	BZX020	BZX030
A	14	18	22
В	15.5	20	24
С	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

BZT BZX/JZG Pallet Clamp VS VT Expansion Locating Pin VFL VFM VFJ VFK

LLR LLU DP DR

DS DT

Block Cylinder

DBA

DBC

FVA FVD

FVC

Control Valv BZL

Centering Vise

Pull Stud Clamp FΡ FQ Customized Spring Cylinder

DWA/DWB

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





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 Pre	ssure	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/L)	M*1)	8	20	28	

Notes : 1. It is dangerous to have air venting operation under high pressure. It must be done under lower pressure. (For reference : the minimum operation pressure range of the product within the circuit)

2. Refer to the machining dimensions for BZL mounting area.

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

External Dimensions

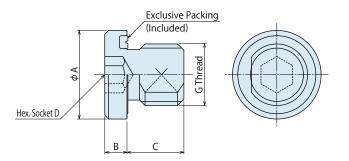


High-Power Series

Applicable Products

	DBA (Double Action)	DBC (Double Action)	FVA (Double Action)	FVC (Double Action)	FVD (Double Action)				Pneumatic Series
Model No.	Block Cylinder	Block Cylinder	Centering Vise	Centering Vise	Centering Vise				Fileumatic Series
	DBA0250-C	DBC0250-C	FVA0401	FVC0630	FVD1600				Hydraulic Series
JZG010	DBA0320-C	DBC0320-C	FVA0631		FVD2500				Hydraulic Series
			FVA1001						Valve / Coupler
176020	DBA0400-C	DBC0400-C		FVC1000	FVD4000				Hydraulic Unit
JZG020	DBA0500-C	DBC0500-C		FVC1600					Manual Operation
	LC (Single Action)	LHA (Double Action)	LHC (Double Action)	LHE (Double Action)	LHS (Double Action)	LHW (Double Action)	LT (Single Action)	LG (Single Action)	Accessories
Model No.	Work Support	Swing Clamp	Swing Clamp	High-Power Swing Clamp	Swing Clamp	Swing Clamp	Swing Clamp	Swing Clamp	Cautions / Others
	LC0262-C	LHA0360-C	LHC0360-C .	LHE0300-C	LHS0360-C	LHW0400-C00-0	LT0301-C	LG0301-C 🗆 -	
	LC0302-C	LHA0400-C	LHC0400-C	LHE0360-C	LHS0400-C	LHW0480-C00-0	LT036 - C	LG036□-C□-□	Hole Clamp
	LC0362-C	LHA0480-C	LHC0480-C	LHE0400-C	LHS0480-C	LHW0550-C00-0	LT0400-C0-0	LG040 -C	SFA
JZG010	LC0402-C	LHA0550-C		LHE0480-C	LHS0550-C		LT0480-C0-0	LG0480-C0-0	SFC
120010									
	LC0482-C			LHE0550-C			LT055□-C □-□	LG055□-C□-□	Swing Clamp
	LC0552-C								LHA
	LC0652-C								LHS
JZG020	LC0752-C 🗆 -	LHA0650-C 🗆 -	LHC0650-C 🗆 -		LHS0650-C 🗆 🗆 -	LHW065 -C	LT065□-C □-□	LG065 - C	LHW
520020	LC0902-C	LHA0750-C			LHS0750-C 🗆 -	LHW0751-C	LT075 -C	LG075 -C	LT/LG
176020		LHA0900-C 🗆 -			LHS0900-C 🗆 🗆 -			LG090 - C	TLA-2
JZG030		LHA1050-C 🗆 -			LHS1050-C 🗆 -			LG105□-C□-□	TLB-2
									TLA-1
Aodel No.	LKA (Double Action)	LKC (Double Action)	LKE (Double Action)	LKW (Double Action)	LM (Single Action)	LJ (Single Action)	LL (Double Action)	LLR (Double Action)	Link Clamp
	Link Clamp	Link Clamp	High-Power Link Clamp	Link Clamp	Link Clamp	Link Clamp	Linear Cylinder	Linear Cylinder	LKA
	LKA0360-C	LKC0400-C 🛛 -	LKE0300-C	LKW040 - C	LM0300-C	LJ0302-C	LL0360-C 🗆 -	LLR0360-C	LKC
	LKA0400-C	LKC0480-C 🛛 -	LKE0360-C	LKW048 -C	LM0360-C	LJ0362-C	LL0400-C 🗆 -	LLR0400-C	LKW
JZG010	LKA0480-C	LKC0550-C 🛛 -	LKE0400-C	LKW0550-C00-0	LM0400-C	LJ0402-C	LL0480-C 🗆 -	LLR0480-C	LM/LJ TMA-2
	LKA0550-C		LKE0480-C		LM0480-C	LJ0482-C 🗆	LL0550-C 🗆 🗆 -	LLR0550-C	TMA-1
			LKE0550-C		LM0550-C 🗌	LJ0552-C 🗌			
176000	LKA0650-C	LKC0650-C 🛛 - 🗌		LKW0650-C00-0	LM0650-C	LJ0652-C 🗆	LL0650-C 🗆 -	LLR0650-C	Work Support LD
JZG020	LKA0750-C			LKW0751-C	LM0750-C	LJ0752-C 🗆	LL0750-C 🗆 -	LLR0750-C	LC
	LKA0900-C					LJ0902-C 🗆	LL0900-C 🗆 🗆 -	LLR0900-C	TNC
JZG030	LKA1050-C					LJ1052-C	LL1050-C	LLR1050-C	TC
						231032 C			Air Sensing
Model No.	LLW (Double Action)	TLA-2 (Double Action)	TLB-2 (Double Action)	TLA-1 (Single Action)	TMA-2 (Double Action)	TMA-1 (Double Action)			Lift Cylinder
nouer no.	Lift Cylinder	Swing Clamp	Swing Clamp	Swing Clamp	Link Clamp	Link Clamp			LLW
	LLW036 -C	TLA0401-2C 🛛 -	TLB0401-2C 🛛 -	TLA0402-1C	TMA0250-2C	TMA0250-1C			Compact Cylinder
	LLW040 -C	TLA0601-2C 🛛 -	TLB0601-2C 🛛 -	TLA0602-1C	TMA0400-2C	TMA0400-1C			LL
JZG010	LLW048 -C	TLA0801-2C 🛛 -	TLB0801-2C	TLA0802-1C	TMA0600-2C	TMA0600-1C			LLR
		TLA1001-2C	TLB1001-2C	TLA1002-1C	TMA1000-2C	TMA1000-1C			LLU
		TLA1601-2C	TLB1601-2C	TLA1602-1C					DP DR
JZG020									DS
		TLA2001-2C	TLB2001-2C	TLA2002-1C	TMA1600-2C	TMA1600-1C			DT
		TLA2501-2C	TLB2501-2C	TLA2502-1C	TMA2500-2C	TMA2500-1C			
		TLA4001-2C	TLB4001-2C	TLA4002-1C	TMA3200-2C	TMA3200-1C			Block Cylinder DBA
									DDA

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

Pull Stud Clamp FP FQ Customized Spring Cylinder DWA/DWB

DBC Centering Vise FVA FVD

FVC Control Valve BZL BZT

BZX/JZG

Pallet Clamp

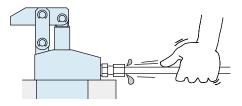
VS VT

Expansion Locating Pin VFL VFM

VFJ VFK

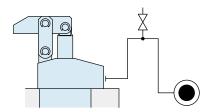
Cautions

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



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

(Set an air bleeding valve at the highest point inside the circuit.)



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

Hydraulic Fluid List

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

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Maintenance/Inspection

High-Power Series

Pneumatic Series

Hydraulic Series

Valve / Coupler Hydraulic Unit

Manual Operation Accessories

Cautions / Others

Cautions Installation Notes (For Hydraulic Series) Hydraulic Fluid List Notes on Hydraulic Cylinder Speed Control Circuit Notes on Handling

Maintenance/ Inspection Warranty

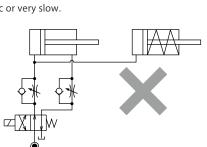
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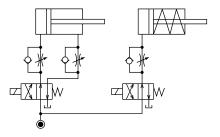
Sales Offices

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

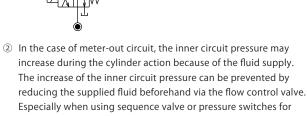
 Single acting components should not be used in the same flow control circuit as the double acting components. The release action of the single acting cylinders may become erratic or very slow.

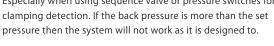


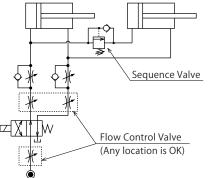
Refer to the following circuit when both the single acting cylinder and double acting cylinder are used together. O Separate the control circuit.



○ 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.







Notes on Hydraulic Cylinder Speed Control Unit

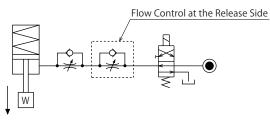
 \triangle

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.

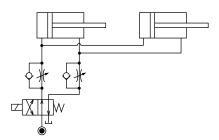
Accelerated clamping speed by excessive hydraulic flow to the cylinder may sustain damage. In this case add flow control to regulate flow. (Please add flow control to release flow if the lever weight is put on at the time of release action when using swing clamps.)



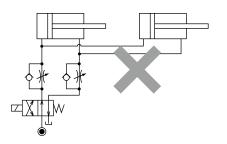
Flow Control Circuit for Double Acting Cylinder
 Flow control circuit for double acting cylinder should have meter-out circuits for both the lock and release sides. Meter-in control can have adverse effect by presence of air in the system.
 However, in the case of controlling LKE, TMA, TLA, both lock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





Hydraulic Fluid List Notes of Specific Specific

Notes on Hydraulic Cylinder Speed Control Circuit

Notes on Handling Main

Warranty

Cautions

Notes on Handling

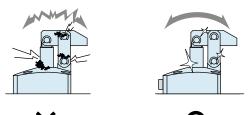
- 1) It should be handled by qualified personnel.
- The hydraulic machine and air compressor should be handled and maintained by qualified personnel.
- 2) Do not handle or remove the machine unless the safety protocols are ensured.
- ① The machine and equipment can only be inspected or prepared when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



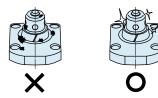
- 4) Do not disassemble or modify.
- If the equipment is taken apart or modified, the warranty will be voided even within the warranty period.

Maintenance and Inspection

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



- Please clean out the reference surface regularly (taper reference surface and seating surface) of locating machine. (VS/VT/VFL/ VFM/VFJ/VFK/WVS/VWM/VWK/VX/VXF)
- Location products, except VX/VXF model, can remove contaminants with cleaning functions.
 When installing pallets makes sure there is no thick sludge like substances on pallets.
- Continuous use with dirt on components will lead to locating functions not work properly, leaking and malfunction.



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

Warranty



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Pneumatic Series

Hydraulic Series

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Sales Offices

Warranty 1) Warranty Period

- The product warranty period is 18 months from shipment from our factory or 12 months from initial use, whichever is earlier.
- 2) Warranty Scope
- If the product is damaged or malfunctions during the warranty period due to faulty design, materials or workmanship, we will replace or repair the defective part at our expense. Defects or failures caused by the following are not covered.
- ① If the stipulated maintenance and inspection are not carried out.
- ② If the product is used while it is not suitable for use based on the operator's judgment, resulting in defect.
- ③ If it is used or handled in inappropriate way by the operator. (Including damage caused by the misconduct of the third party.)
- ④ If the defect is caused by reasons other than our responsibility.
- 5 If repair or modifications are carried out by anyone other than Kosmek, or without our approval and confirmation, it will void warranty.
- ⑥ Other caused by natural disasters or calamities not attributable to our company.
- $\ensuremath{\textcircled{}}$ 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.



Sales Offices across the World

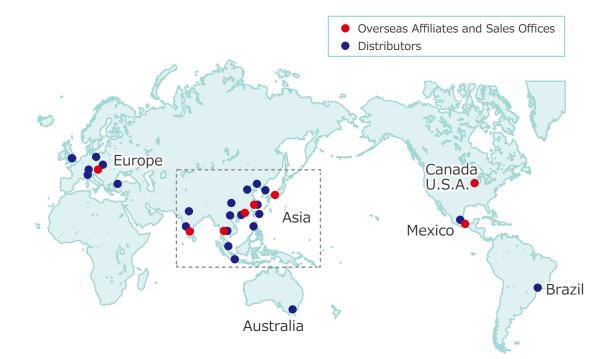
Japan	TEL. +81-78-991-5162	FAX. +81-78-991-8787		
Overseas Sales	KOSMEK LTD. 1-5, 2-chome, Murotani, Nishi-ku, Kobe-city, Hyogo, Japan 651-2241 〒651-2241 兵庫県神戸市西区室谷2丁目1番5号			
USA	TEL. +1-630-620-7650	FAX. +1-630-620-9015		
KOSMEK (USA) LTD.	650 Springer Drive, Lombard, IL 60148 USA			
Mexico	TEL. +52-442-161-2347			
KOSMEK USA Mexico Office	Blvd Jurica la Campana 1040, B Colonia Punta Juriquilla Queretaro, QRO 76230 Mexico			
EUROPE	TEL. +43-463-287587	FAX. +43-463-287587-20		
KOSMEK EUROPE GmbH	Schleppeplatz 2 9020 Klagenfurt am Wörthersee 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, Lane21, Pusan Rd, Pudong Shanghai 200125, China 中国上海市浦东新区浦三路21弄55号银亿滨江中心601室200125			
India	TEL.+91-9880561695			
India KOSMEK LTD INDIA		Point, Cunningham Road, Bangalore -560052 India		
		Point, Cunningham Road, Bangalore -560052 India FAX. +66-2-300-5133		
KOSMEK LTD INDIA	F 203, Level-2, First Floor, Prestige Center	FAX. +66-2-300-5133		
KOSMEK LTD INDIA	F 203, Level-2, First Floor, Prestige Center TEL. +66-2-300-5132	FAX. +66-2-300-5133		
KOSMEK LTD INDIA Thailand Thailand Representative Office Taiwan	F 203, Level-2, First Floor, Prestige Center TEL. +66-2-300-5132 67 Soi 58, RAMA 9 Rd., Suanluang, Suanlu	FAX. +66-2-300-5133 ang, Bangkok 10250, Thailand FAX. +886-2-82261890 v Taipei City Taiwan 23511		
KOSMEK LTD INDIA Thailand Thailand Representative Office Taiwan (Taiwan Exclusive Distributor) Full Life Trading Co., Ltd.	F 203, Level-2, First Floor, Prestige Center TEL. +66-2-300-5132 67 Soi 58, RAMA 9 Rd., Suanluang, Suanlu TEL. +886-2-82261860 16F-4, No.2, Jian Ba Rd., Zhonghe District, New	FAX. +66-2-300-5133 ang, Bangkok 10250, Thailand FAX. +886-2-82261890 v Taipei City Taiwan 23511		
KOSMEK LTD INDIA Thailand Thailand Representative Office Taiwan (Taiwan Exclusive Distributor) Full Life Trading Co., Ltd. 盈生貿易有限公司 Philippines	F 203, Level-2, First Floor, Prestige Center TEL. +66-2-300-5132 67 Soi 58, RAMA 9 Rd., Suanluang, Suanlu TEL. +886-2-82261860 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) TEL.+63-2-310-7286	FAX. +66-2-300-5133 Hang, Bangkok 10250, Thailand FAX. +886-2-82261890 In Taipei City Taiwan 23511 廣場)		
KOSMEK LTD INDIA Thailand Thailand Representative Office Taiwan (Taiwan Exclusive Distributor) Full Life Trading Co., Ltd. 盈生貿易有限公司 Philippines (Philippines Exclusive Distributor)	F 203, Level-2, First Floor, Prestige Center TEL. +66-2-300-5132 67 Soi 58, RAMA 9 Rd., Suanluang, Suanlu TEL. +886-2-82261860 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) TEL.+63-2-310-7286	FAX. +66-2-300-5133 hang, Bangkok 10250, Thailand FAX. +886-2-82261890 v Taipei City Taiwan 23511 廣場) FAX. +63-2-310-7286		

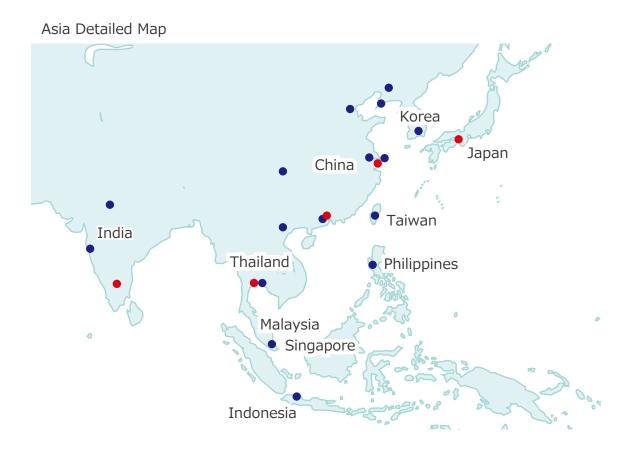
Sales Offices in Japan

Head Office Osaka Sales Office Overseas Sales	TEL.078-991-5115 〒651-2241 兵庫県神	FAX.078-991-8787 申戸市西区室谷2丁目1番5号
Tokyo Sales Office	TEL.048-652-8839 〒331-0815 埼玉県さ	FAX.048-652-8828 さいたま市北区大成町4丁目81番地
Nagoya Sales Office	TEL.0566-74-8778 〒446-0076 愛知県3	FAX.0566-74-8808 安城市美園町2丁目10番地1
Fukuoka Sales Office	TEL.092-433-0424 〒812-0006 福岡県初	FAX.092-433-0426 畐岡市博多区上牟田1丁目8-10-101



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