Air Hydraulic Unit

Model CV Model CK Model CP/CPB Model CPC/CQC Model CB Model CC

Model **AB** Model AC



Hydraulic pressure can be easily generated by using factory air pressure

Wide variety from simple single circuit to multiple circuits unit with non-leak valve.

• Easy to generate low to high hydraulic pressure

Hydraulic pressure can be generated easily by using factory air pressure. Compact and easy to set up.

Safety

If a blackout occurs and the air supply is cut off, the air hydraulic unit with a non-leak valve can hold the hydraulic pressure at the current actuator state.



Energy-Saving

Pump activates when the hydraulic pressure is rising. After the hydraulic pressure reaches as specified, air pressure and hydraulic pressure are balanced then pump is stopped.

After the hydraulic Pneumatic pressure reaches as Pressure specified, air pressure Hydraulic . Pressure and hydraulic pressure are balanced then pump is stopped. 64.7MPa 60MPa C9001 50MPa Discharge Pressure AB Pump : Compact 40MPa AC Pump : Large Flow Rate

AC500

1000 AB3000 AC4001

AC3001 ,

16L/min

20MPa

10MPa

0L/min

2 3MPa

Wide Variations

Air driven hydraulic pump unit has a wide pressure range from low to high and discharge pressure range.

	1					High-Power Series
	Discharge Pressure		Fea	itures		Pneumatic Series
Hydraulic Unit (For Single Action)	2.4~43.5MPa (AB Pump)		With Solenoid			Hydraulic Series
Model CV	2.3~64.7MPa	With Selector	Valve for Electrical Control			Valve / Coupler Hydraulic Unit
→ P.1281 WE		Valve for Manual				Manual Operation Accessories
(For Double/Single Action)	$2.4 \sim 27.0 \text{MPa}$ (AB Pump) (*Except AB8000)	Control (Standard)				Cautions / Others
→ P.1283						Air Seguence Valve
HydraulicUnit 🛛 💻 💻						BWD
Model CP/CPB → P.1287	2.5~30.0MPa (AB Pump)		With Solenoid Valve for	With Non-Leak Valve		Hydraulic Non-Leak Coupler BGA/BGB
			Electrical	-		BGC/BGD
Hydraulic Unit			Control			BGP/BGS
	2.5~30.0MPa		(Standard)			BND/BNS
Model CI C/CQC	(AC Pump)					BJP/BJS
→ P.1295						BFP/BFS
Pump Unit 📄 🚰	2.4~43.5MPa (AB Pump)				Pump & value	Auto Coupler
Model CB	2.5~30.0MPa				is assembled	JTA/JTB
→ P.1299	(At BC, BH connected)				separately	JTC/JTD
					Used in	JVA/JVB
Pump Unit	2.3~64.7MPa				conjunction	JVC/JVD
	(AC Pump)				with the Model BC / BH Unit	JVE/JVF
Model CC	2.5 ~ 30.0MPa					
→ P.1301	(ALDC, BH CONNECTED)				· · ·	JLP/JLS



AB/AC Pump

Discharge pressure and discharge amount of oil is different depending on pump.

Please refer to AB pump/AC pump specification for details on operating pneumatic pressure, discharge pressure and discharge flow rate.

								JKA/JKB		
			Dischargo Prossuro *1	Air Consumption				BMA/BMG		
		Model No.	MDa	Nm ³ /min	Lift	Noise	Usable Fluid	AU/AU-M		
			ivii a	1111-711111				BU		
AB Pump		AB3000	2.4 ~ 4.3					BP/JPB		
	-	AB4000	3.9 ~ 7.0					BX		
	ALC: NO	AB5000	6.0 ~ 11.0	-				BEP/BSP		
Model AB		A 86000	10.0 ~ 17.5	- 0.4 Nm³/min -	0.4 Nm³/min below	0.4 Nm ³ /min below 0.6m	below 0.6m			BH
→ P 1303	The second	ABOUUU	10.0 ~ 17.5						BC	
71.1505	•	AB7000	15.5 ~ 27.0				General Hydraulic Oil	Air		
		AB8000	25.0 ~ 43.5			0.0 0.5 10		Hydraulic Unit		
AC Pump		AC3001	2.3 ~ 4.2				82 ~ 820B	Water-Glycol Silicon Oil	CV	
		AC4001	3.6 ~ 6.6	-						
		AC5001	5.0 10.0	-						
	4	ACSUUT	5.8 ~ 10.6	-						
Model AC	-	AC6001	8.9 ~ 16.3	1.0 Nm ³ /min	below 1.0m			CB		
→ P 1303		AC7001	14.4 ~ 26.4							
77.1505		AC8001	22.6 ~ 41.4					AC/AC-V		
		AC9001	35.3 ~ 64.7	1						

Note: *1. Discharge pressure is set when air pressure range is between 0.3 ~ 0.5MPa.

Rotary Joint JR

Hydraulic Valve BK

BEQ

BLS/BLG BLB JSS/JS

ΒT

MEK

Hydraulic Unit (For Single Action)

 $\mathsf{Model}\ CV$



Features

- Manual Control for Single Action (Solenoid valve option is also available.)
- Without Non-Leak Valve
- One Circuit Control Unit

Model No. Indication



1 Tank Capacity

- **2** : 2 ℓ (Actual Amount for Use 1.1 ℓ) ^{**1}
- **5** : 5ℓ (Actual Amount for Use 3.1 ℓ)

%1. Only ${\bf 5}$: 5.0 ℓ tank is selectable for AC pump.

2 Pump Part Number (Pump Pressure Code)

B3	: AB3000-V	C3 : AC3001-V
B4	: AB4000-V	C4 : AC4001-V
B5	: AB5000-V	C5 : AC5001-V□
B6	: AB6000-V	C6 : AC6001-V□
B7	: AB7000-V	C7 : AC7001-V□
B8	: AB8000-V	C8 : AC8001-V

C9 : AC9001-V

3 Design No.

0 : Revision Number

4 Fluid Code

- **0** : General Hydraulic Oil (See Hydraulic Fluid List P.1355)
- S : Silicon Oil

G : Water-Glycol (except AB8000/AC8001/AC9001) (Tank is made of steel.) % Contact us for fluids other than those described in the fluid code.

5 Control Method

- HH : Mechanical Selector Valve Option (Standard)
- **5A** : Solenoid Valve Option (DC24V)
- **1A** : Solenoid Valve Option (AC100V)
- F : Foot Switch

6 Component Directly Mounted on the Air Supply Side

- **R** : Air Regulator (Standard)
- **D** : With a Filter Regulator (Automatic Drain Option)

7 Unit of Pressure Gauge

Blank	:MPa (Standard)
Р	: PSI

Air Hydraulic Unit Digest P.1279	Model No. Indication	Specifications	Circuit Symbol	External Dime
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nsions

Specifications

Model No.	CV□B30	CV□B40	CV□B50	CV□B60	CV□B70	CV□B80	
Pump Part Number	AB3000-V	AB4000-V	AB5000-V	AB6000-V	AB7000-V	AB8000-V	
Discharge Hydraulic Pressure **2 MPa	2.4 ~ 4.3	3.9 ~ 7.0	6.0 ~ 11.0	10.0 ~ 17.5	15.5 ~ 27.0	25.0 ~ 43.5	
Air Consumption Nm ³ /min		0.4					
Tank Capacity ℓ	2:2	2:2 ℓ (Actual Amount for Use 1.1 ℓ) / 5:5 ℓ (Actual Amount for Use 3.1 ℓ)					
Operating Temperature °C		0 ~ 70					
Usable Fluid		Depends on the Fluid Code (Model No. Indication)					
Model No.	CV5C30	CV5C40	CV5C50	CV5C60	CV5C70	CV5C80	CV5C90
Pump Part Number	AC3001-V	AC4001-V	AC5001-V	AC6001-V	AC7001-V	AC8001-V	AC9001-V
Discharge Hydraulic Pressure **2 MPa	2.3 ~ 4.2	3.6 ~ 6.6	5.8 ~ 10.6	8.9 ~ 16.3	14.4 ~ 26.4	22.6 ~ 41.4	35.3 ~ 64.7
Air Consumption Nm ³ /min		1.0					
Tank Capacity ℓ		5 ℓ (Actual Amount for Use 3.1 ℓ)					
Operating Temperature °C		0~70					
Usable Fluid		٦	Depends on the	Fluid Code (Moc	lel No. Indication	1)	

Notes : %2. Discharge hydraulic pressure indicates when air pressure range is between 0.3 ~ 0.5MPa.

1. Please refer to the AB/AC pump performance curve for the calculation formula and the volume of discharge hydraulic pressure (P.1305).





(Included)

Hydraulic Non-Leak Couple BGA/BGB

High-Power

Pneumatic Series

Hydraulic Series

Hydraulic Unit Manual Operation Accessories

Cautions / Others

Air Sequence Valve BWD

Series

BGC/BGD BGP/BGS BBP/BBS BNP/BNS BJP/BJS



Additional pump sizes: AB3000-□, AB5000-□, and AB6000-□

Hydraulic Unit (For Double/Single Action)

Model CK



Features

- Manual Control for Double Action/Single Action
- With Non-Leak Valve (Hydraulic pressure is held, even after air supply is cut off.)
- Portable

Model No. Indication



1 Tank Capacity

3 : 3ℓ (Actual Amount for Use 1.4 ℓ)

4 Circuit Symbol

5 Fluid Code

S : Silicon Oil

G : Water-Glycol

- **NN** : Double Action 1 Circuit (Mechanical Valve at the Position of 3, 1 Piece)
- A : Single Action 1 Circuit (Mechanical Valve at the Position of 2, 1 Piece)
- **AA** : Single Action 2 Circuit (Mechanical Valve at the Position of 2, 2 Pieces)

0 : General Hydraulic Oil (See Hydraulic Fluid List P.1355)

% Contact us for fluids other than those described above.

2 Pump Part Number (Pump Pressure Code)

- **B3** : AB3000-□
- **B4** : AB4000-□
- **B5** : AB5000-□
- **B6** : AB6000-□
- **B7** : AB7000-□

3 Design No.

1 : Revision Number

Note :

1. Offering options with handle or with air filter.

Please contact us for further information. Please note that the handle and air filter as option are not available together.

Specifications

Pump Part Number

Tank Capacity

Usable Fluid

Non-Leak Valve Part Number

Discharge Hydraulic Pressure *1

Operating Temperature

Air Consumption Nm³/min

Model No.

CK3B41---

AB4000-

BA2011-0

39~70

MPa

D

°C

CK3B71-□-□

AB7000-

BA5011-0

15.5 ~ 27.0



High-Power Series

Pneumatic Series

Hydraulic Series

Hydraulic Unit

Manual Operation Accessories

Cautions / Others

Air Sequence Valve BWD Hydraulic Non-Leak Couple BGA/BGB

Depends on the Fluid Code (Model No. Indication) Notes: %1. Discharge hydraulic pressure indicates when air pressure range is between 0.3 ~ 0.5MPa.

0.4

 3ℓ (Actual Amount for Use 1.4ℓ)

0~70

1. Please refer to the AB pump performance curve for the calculation formula and the volume of discharge hydraulic pressure (P.1305).



€ External Dimensions / Circuit Symbol : Single Action 1 Circuit CK3□1-A-□



High-Power

Series

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60.5

н

10

Pressure Gauge

(For Incoming Pressure)

Air Bleed Valve

3ℓ Tank

Oil Supply Port



External Dimensions



A1 Port

A2 Port

50

39

100

Rc1/4

86

AI(O

A2(0

150

164

64

¢

14 10

Rc1/4



Hydraulic Valve ΒK BEQ ΒT BLS/BLG BLB JSS/JS JKA/JKB BMA/BMG AU/AU-M ΒU BP/JPB ВΧ BEP/BSP ΒH BC

dr	aulic Unit
	CV
	СК
	CP/CPB
	CPC/CQC
	СВ
	СС
	AB/AB-V
	AC/AC-V

Air Hy



Air Hydraulic Unit Digest P.1279Model No. IndicationSpecificationsCircuit SymbolExternal Dimension	15
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Specifications

Model No.	CP2031	CP2041	CP2051	CP2061	CP2071	CP2081	Pneumatic Series
Pump Part Number	AB3000-🗆	AB4000-🗆	AB5000-	AB6000-🗆	AB7000-	AB8000-🗆	
Non-Leak Valve Part Number	BA2011-0	BA2011-0	BA5011-0	BA5011-0	BA5011-0	BA5011-0	Hydraulic Series
Discharge Hydraulic Pressure **1 MPa	2.5 ~ 4.3	3.9 ~ 7.0	6.0 ~ 11.0	10.0 ~ 17.5	15.5 ~ 27.0	25.0 ~ 30.0	·
Air Consumption Nm ³ /min		·	0	.4			Valve / Coupler
Tank Capacity ℓ	2:2ℓ (Actual Amount for Use 1.1ℓ)					Hydraulic Unit	
Control Voltage		Depends on the Control Voltage (Model No. Indication)					Manual Operation
Operating Temperature °C		0~70					
Usable Fluid	Depends on the Fluid Code (Model No. Indication)					Cautions / Others	
Operation Frequency	Pun	Pump Operation Time : less than 500 hours/year (2 hrs/day) ※Actual Discharge Time					
Pressure Switch Part Number	JBA0700-0G			104 2700 00	104 2700 00		
(Pressure Increase Detection) *2	-Z0020G	JBA0/00-0G	JBAU/00-0G	JBA2700-0G	JBA2700-0G	JBA2/00-0G	Air Seguence Valve
Air Solenoid Valve	Single Solenoid Valve: VO307-□G1 / Double Solenoid Valve: SYJ5240-□G					BWD	
Suction Filter			JF1030:174µ	m (100 mesh)			
							Hydraulic

Notes: ※1. Discharge hydraulic pressure indicates when air pressure range is between 0.3 and 0.5MPa.

The air pressure range of AB8000- is between 0.3MPa and 0.36MPa due to the max. operating pressure of BA5011-0 valve.

- *2. Standard setting value of pressure switch should be 70% of the operating pressure.
 - 1. Please refer to the AB pump performance curve for the calculation formula and the volume of discharge hydraulic pressure (P.1305).

2. If hydraulic oil having viscosity higher than the shown, activating time increases.

- 3. In case of a low ambient temperature, action time increases because of high viscosity of hydraulic oil.
- 4. When air contains a large amount of moisture, or air piping is located at the end, always install an automatic drain air filter.
- 5. When installing a pressure gauge to a hydraulic circuit, install a damper or use an oil filled (glycerin) pressure gauge to prevent damage to the pressure gauge caused by pressure surging.
- 6. Provide an enough space at the bottom of the unit to compensate for hydraulic oil change. (Tank cleaning and suction strainer tightening become easier.)

Circuit Symbol/Circuit Reference *Please contact us for other circuits.

Circuit Symbol	Circuit (Reference)	Number of Circuits	BA Valve Number of Connection	Air Solenoid Valve	Pressure Switch
Α	Single-Acting Actuator Circuit Double-Acting	1	1	Single Solenoid Valve	—
С		1	1	Single Solenoid Valve	0
CC		2	2	Single Solenoid Valve	0
U		1	1	Double Solenoid Valve	0
UU		2	2	Double Solenoid Valve	0
NN		1	2	Double Solenoid Valve	—
YY		1	2	Double Solenoid Valve	0
YYYY		2	4	Double Solenoid Valve	0







	BWD
Hydr Non-	aulic Leak Coupler
	BGA/BGB
	BGC/BGD
	BGP/BGS
	BBP/BBS
	BNP/BNS
	BJP/BJS
	BFP/BFS
Auto	Coupler
	JTA/JTB
	JTC/JTD
	JVA/JVB

А

High-Power

Series

14

JIC/JID
JVA/JVB
JVC/JVD
JVE/JVF
JNA/JNB
JNC/JND
JLP/JLS

Rotary Joint JR

H

Hydr	aulic Valve
	ВК
	BEQ
	BT
	BLS/BLG
	BLB
	JSS/JS
	JKA/JKB
	BMA/BMG
	AU/AU-M
	BU
	BP/JPB
	ВХ
	BEP/BSP
	BH
	BC
Air Hvdr	aulic Unit

/dr	aulic Unit
	CV
	СК
	CP/CPB
	CPC/CQC
	СВ
	СС
	AB/AB-V
	AC/AC-V

© External Dimensions





BA Valve Number of Connection	1 Connection	2 Connections	3 Connections	4 Connections
A	295	345	395	445
В	90	140	190	240
С	359	409	459	510
Weight kg	13	15	18	20

Notes :

1. Contact us for external dimensions in case of **7** Fluid Code : **G** (Water — Glycol).

2. Contact us for external dimensions in case of options other than 8 : Standard.



High-Power Series

Pneumatic Series

Hydraulic Series

Valve / Coupler Hydraulic Unit

Manual Operation Accessories

Cautions / Others

Air Sequence Valve BWD

Hydraulic Non-Leak Coupler BGA/BGB BGC/BGD BGP/BGS

BBP/BBS BNP/BNS BJP/BJS BFP/BFS

Auto	Coupler
	JTA/JTB
	JTC/JTD
	JVA/JVB
	JAC/JAD
	JVE/JVF
	JNA/JNB
	JNC/JND
	JLP/JLS

Rotary Joint

JR

Hydra	aulic Valve
	BK
	BEQ
	BT
	BLS/BLG
	BLB
	JSS/JS
	JKA/JKB
	BMA/BMG
	AU/AU-M
	BU
	BP/JPB
	BX
	BEP/BSP
	BH
	BC

Air Hydr	aulic Unit
	CV
	СК
	CP/CPB
	CPC/CQC
	СВ
	СС
	AB/AB-V
	AC/AC-V

Air Hydraulic Unit Hydraulic Unit (For Double/Single Action) AB Pump Model



Air Hydraulic Unit Digest P.1279	Model No. Indication	Specifications	Circuit Symbol	External Dimensions	
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Specifications

Model No.	CPB3000	CPB4000	CPB5000	CPB6000	CPB7000	CPB8000	Pneumatic Series
Pump Part Number	AB3000-🗆	AB4000-	AB5000-	AB6000-🗆	AB7000-	AB8000-🗆	
Non-Leak Valve Part Number	BA2011-0	BA2011-0	BA5011-0	BA5011-0	BA5011-0	BA5011-0	Hvdraulic Series
Discharge Hydraulic Pressure **1 MPa	2.5 ~ 4.3	3.9 ~ 7.0	6.0 ~ 11.0	10.0 ~ 17.5	15.5 ~ 27.0	25.0 ~ 30.0	
Air Consumption Nm ³ /min			0	.4	,		Valve / Coupler
Tank Capacity ℓ			P:5ℓ (Actual Am	ount for Use 3.7ℓ)			Hydraulic Unit
Control Voltage		Depends on the Control Voltage (Model No. Indication)					Manual Operation
Operating Temperature °C	0~70					Accessories	
Usable Fluid	Depends on the Fluid Code (Model No. Indication)				Cautions / Others		
Operation Frequency	Pump Operation Time : less than 500 hours/year (2 hrs/day) ※Actual Discharge Time						
Pressure Switch Part Number	JBA0700-0G			104 3700 00	104 2700 00	104 2700 00	
(Pressure Increase Detection) *2	-Z0020G	JBA0700-0G	JBAU/00-0G	JBA2700-0G	JBA2700-0G	JBAZ/00-0G	Air Seguence Valve
Air Solenoid Valve	Single Solenoid Valve: SYJ3140-□G / Double Solenoid Valve : SYJ3240-□G				BWD		
Suction Filter	JF1030: 174µm (100 mesh)						
							Hydraulic

Notes: ※1. Discharge hydraulic pressure indicates when air pressure range is between 0.3 and 0.5MPa.

The air pressure range of AB8000-□ is between 0.3MPa and 0.36MPa due to the max. operating pressure of BA5011-0 valve.

*2. Standard setting value of pressure switch should be 70% of the operating pressure.

1. Please refer to the AB pump performance curve for the calculation formula and the volume of discharge hydraulic pressure (P.1305).

2. If hydraulic oil having viscosity higher than the shown, activating time increases.

3. In case of a low ambient temperature, action time increases because of high viscosity of hydraulic oil.

5. Provide an enough space at the bottom of the unit to compensate for hydraulic oil change.

(Tank cleaning and suction strainer tightening become easier.)

Circuit Symbol/Circuit Reference *Please contact us for other circuits.

Circuit Symbol	Circuit (Reference)	Number of Circuits	BA Valve Number of Connection	Air Solenoid Valve	Pressure Switch
E	- Single-Acting - Actuator Circuit	1	1	Single Solenoid Valve	_
G		1	1	Single Solenoid Valve	0
2G		2	2	Single Solenoid Valve	0
U		1	1	Double Solenoid Valve	0
20		2	2	Double Solenoid Valve	0
NN	Double-Acting	1	2	Double Solenoid Valve	—
YY		1	2	Double Solenoid Valve	0
2YY		2	4	Double Solenoid Valve	0



A₂ Port







	BGP/BGS
	BBP/BBS
	BNP/BNS
	BJP/BJS
	BFP/BFS
Auto	Coupler
	JTA/JTB
	JTC/JTD
	JVA/JVB
	JVC/JVD

Non-Leak Coupler BGA/BGB

BGC/BGD

High-Power

Series

JVE/JVF JNA/JNB JNC/JND JLP/JLS

Rotary Joint JR

Hydr	aulic Valve	
	BK	
	BEQ	
	BT	
	BLS/BLG	
	BLB	
	JSS/JS	
	JKA/JKB	
	BMA/BMG	
	AU/AU-M	
	BU	
	BP/JPB	
	ΒХ	
	BEP/BSP	
	BH	
	BC	
Air Hydraulic Unit		

dr	aulic Unit
	CV
	СК
	CP/CPB
	CPC/CQC
	СВ
	СС
	AB/AB-V
	AC/AC-V

^{4.} When installing a pressure gauge to a hydraulic circuit, install a damper or use an oil filled (glycerin) pressure gauge to prevent damage to the pressure gauge caused by pressure surging.

External Dimensions



BA Valve Number of Connection	1 Connection	2 Connections	3 Connections	4 Connections
А	259	209	159	109

Notes :

- 1. Contact us for external dimensions in case of **3** Fluid Code : **G** (Water Glycol).
- 2. Contact us for external dimensions in case of options other than 8 : Standard.
- 3. External dimensions for five or more circuits are different. Please contact us for further information.



High-Power Series

Pneumatic Series

Hydraulic Series

Valve / Coupler Hydraulic Unit

Manual Operation Accessories

Cautions / Others

Air Sequence Valve BWD

Hydraulic Non-Leak Coupler BGA/BGB BGC/BGD

> BGP/BGS BBP/BBS BNP/BNS BJP/BJS BFP/BFS

Auto Coupler JTA/JTB JTC/JTD JVA/JVB JVC/JVD JVE/JVF

JNA/JNB JNC/JND JLP/JLS

Rotary Joint JR

Hydraulic Valve BK BEQ BT BLS/BLG

BLB JSS/JS JKA/JKB BMA/BMG AU/AU-M BU BP/JPB BX BEP/BSP BH

BC Air Hydraulic Unit CV CK CP/CPB CPC/CQC CB CC

> AB/AB-V AC/AC-V

C MEMO

Air Hydraulic Unit Hydraulic Unit (For Double/Single Action) AC Pump Model

model CPC/CQC



- 1: AC100V (50/60Hz) 2: AC200V (50/60Hz)
 - 5 : DC 24V
- 3: AC110V (50/60Hz)

1295

Ex. : CPC4000-2YY-5-(7.0MPa) is equivalent to CPC4000-2YY-5B-(7.0MPa).

* Contact us for non-standard specifications and dimensions of options.

Please indicate operating pressure with a proper unit symbol.

Entry Examples	At 5.5MPa	\rightarrow	(5.5MPa)
	At 25MPa	\rightarrow	(25.0MPa)
	At 700PSI	\rightarrow	(700PSI))

Air Hydraulic Unit Digest P.1279	Model No. Indication	Specifications	Circuit Symbol	External Dimensions	
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Specifications

MadalNa	CPC3000	CPC40□0	CPC50□0	CPC60□0	CPC70□0	CPC80□0	Pneumatic Series	
Model No.	CQC30□0	CQC40□0	CQC50🗆0	CQC60□0	CQC70□0	CQC80□0		
Pump Part Number	AC3001-🗌	AC4001-	AC5001-🗌	AC6001-	AC7001-🗌	AC8001-🗌	Hydraulic Series	
Non-Leak Valve Part Number	BA2011-0	BA2011-0	BA5011-0	BA5011-0	BA5011-0	BA5011-0		
Discharge Hydraulic Pressure **1 MPa	2.5 ~ 4.2	3.6 ~ 6.6	5.8 ~ 10.6	8.9 ~ 16.3	14.4 ~ 26.4	22.6 ~ 30.0	Valve / Coupler	
Air Consumption Nm ³ /min		1.0						
Tank Capacity ℓ		P:5 ℓ (Actual Amount for Use 3.7 ℓ) / Q:10 ℓ (Actual Amount for Use 7 ℓ)						
Control Voltage		Depends on the Control Voltage (Model No. Indication)						
Operating Temperature °C		0~70						
Usable Fluid		Depends on the Fluid Code (Model No. Indication)						
Operation Frequency	Pur	np Operation Time :	less than 500 hours	s/year (2 hrs/day) 🚿	«Actual Discharge T	ime	-	
Pressure Switch Part Number	JBA0700-0G	1040700.00		104 2700 00	104 2700 00	104 3700 00	Air Sequence Valve	
(Pressure Increase Detection) *2	-Z0020G	JBA0700-0G	JBAU/00-0G	JBA2/00-0G	JBA2/00-0G	JBA2/00-0G	BWD	
Air Solenoid Valve		Single Solenoid	Valve: SYJ3140-□G /	Double Solenoid Va	alve: SYJ3240-🛛 G	·		
Suction Filter		JF1030:174μm (100 mesh)						

Notes: ※1. Discharge hydraulic pressure indicates when air pressure range is between 0.3 and 0.5MPa.

The air pressure range of AC8000- is between 0.3MPa and 0.38MPa due to the max. operating pressure of BA5011-0 valve.

*2. Standard setting value of pressure switch should be 70% of the operating pressure.

1. Please refer to the AB pump performance curve for the calculation formula and the volume of discharge hydraulic pressure (P.1305).

2. If hydraulic oil having viscosity higher than the shown, activating time increases.

- 3. In case of a low ambient temperature, action time increases because of high viscosity of hydraulic oil.
- 4. When installing a pressure gauge to a hydraulic circuit, install a damper or use an oil filled (glycerin) pressure gauge to prevent damage to the pressure gauge caused by pressure surging.
- 5. Provide an enough space at the bottom of the unit to compensate for hydraulic oil change. (Tank cleaning and suction strainer tightening become easier.)

Circuit Symbol/Circuit Reference *Please contact us for other circuits.

Circuit Symbol	Circuit (Reference)	Number of Circuits	BA Valve Number of Connection	Air Solenoid Valve	Pressure Switch
E	Single-Acting Actuator Circuit	1	1	Single Solenoid Valve	-
G		1	1	Single Solenoid Valve	0
2G		2	2	Single Solenoid Valve	0
U		1	1	Double Solenoid Valve	0
20		2	2	Double Solenoid Valve	0
NN	Double-Acting Actuator Circuit	1	2	Double Solenoid Valve	-
YY		1	2	Double Solenoid Valve	0
2YY		2	4	Double Solenoid Valve	0







20 Single Action 2 Circuit (With Pressure Switch)









1	3GP/BGS
-	3BP/BBS
	BNP/BNS
	BJP/BJS
1	BFP/BFS
Auto C	oupler
-	ITA/JTB
	ITC/JTD
	IVA/JVB
	IVC/JVD
	IVE/JVF
	INA/JNB
	INC/JND
	ILP/JLS

BGA/BGB

BGC/BGD

High-Power

Series

Rotary Joint JR

yar	autic valve
	BK
	BEQ
	BT
	BLS/BLG
	BLB
	JSS/JS
	JKA/JKB
	BMA/BMG
	AU/AU-M
	BU
	BP/JPB
	BX
	BEP/BSP
	BH
	BC

dr	aulic Unit	
	CV	
	СК	
	CP/CPB	
	CPC/CQC	
	CB	
	СС	
	AB/AB-V	
	AB/AB-V AC/AC-V	

External Dimensions : CPC



BA Valve Number of Connection	1 Connection	2 Connections	3 Connections	4 Connections
A	259	209	159	109

Notes :

Contact us for external dimensions in case of options other than 8 : Standard.
 External dimensions for five or more circuits are different. Please contact us for further information.

^{1.} Contact us for external dimensions in case of 3 Fluid Code : G (Water — Glycol).

High-Power

Series





- 1. Contact us for external dimensions in case of 3 Fluid Code : G (Water Glycol). 2. Contact us for external dimensions in case of options other than 8 : Standard.
- 3. External dimensions for five or more circuits are different. Please contact us for further information.

1298

BLS/BLG

BLB

CV СК CP/CPB

CB СС AB/AB-V AC/AC-V

JSS/JS JKA/JKB BMA/BMG AU/AU-M ΒU BP/JPB ВΧ BEP/BSP ΒH BC

Pump Unit (For Double/Single Action)

Model CB



Features

- Pump Unit to use in conjunction with BC / BH Non-Leak Valve Unit
- Compact with AB Pump Installed

%Please refer to P.1275, P.1277 for BC/BH non-leak valve unit.

Model No. Indication



1 Tank Capacity

- **2** : 2ℓ (Actual Amount for Use 1.1 ℓ)
- **5** : 5ℓ (Actual Amount for Use 3.1 ℓ)

2	D		(D	D	
2	Pump	wodei	(Pump	Pressure	Code)

03	: AB3000-🗆	06 ∶ AB6000-□
04	: AB4000-	07 : AB7000-□

05 : AB5000-□ **08** : AB8000-□

3 Design No.

0 : Revision Number

4 Fluid Code

- **0** : General Hydraulic Oil (See Hydraulic Fluid List on P.1355)
- S : Silicon Oil
- **G** : Water-Glycol (except AB8000) (Iron Tank)

* Contact us for fluids other than those described above.

5 Option Blank : Standard (Air Regulator) D : Auto-Drain Filter Regulator Q : With Oil Level Switch

Blank	: MPa (Standard)	
Р	: PSI (Used only in the US	5)

Air Hydraulic Unit Digest P.1279	Model No. Indication	Specifications	Circuit Symbol	External Dimensions	
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Specifications

Model No.		CB□030	CB□040	CB□050	CB□060	CB□070	CB 080	Pneumatic Series	
Pump Part N	umber	AB3000-🗆	AB4000-	AB5000-	AB6000-	AB7000-	AB8000-		
Discharge Hydrauli	c Pressure **1 **2 MPa	2.4 ~ 4.3	3.9 ~ 7.0	6.0 ~ 11.0	10.0 ~ 17.5	15.5 ~ 27.0	25.0 ~ 43.5	Hvdraulic Series	
Air Consump	otion Nm ³ /min		0.4						
Tank Capacit	y l		2:2 ℓ (Actual Amount for Use 1.1 ℓ) / 5:5 ℓ (Actual Amount for Use 3.1 ℓ)						
Operating Te	mperature ℃		0~70						
Usable Fluid			Depends on the Fluid Code (Model No. Indication)						
Operation Fr	requency	Pump Operation Time : less than 500 hours/year (2 hrs/day) ※Actual Discharge Time						Accessories	
	CB20□0 (2ℓ Tank)	6.0						Cautions / Others	
Weight kg $CB50\square0(5 \pounds Tank)$				7	.5				

Notes: %1. Discharge hydraulic pressure indicates when air pressure range is between 0.3 and 0.5MPa.

%2. Please be careful of the operating pressure range of BH / BC unit to be used in combination.

Example : In case of using CB 080 and BH0071 together, actual operating pressure range is 25 to 30MPa.

 $(CB \square 080 \text{ range} = 25 \text{ to } 43.5 \text{MPa}, BH0071 \text{ range} = 6 \text{ to } 30 \text{MPa})$.

1. Please refer to the AB pump performance curve for the calculation formula and the volume of discharge hydraulic pressure (P.1305).

Circuit Symbol

Application Example

Manual control of double-acting cylinder with BH (NN circuit).





JTA/JTB JTC/JTD JVA/JVB JVC/JVD JVE/JVF JNA/JNB JNC/JND JLP/JLS

High-Power

Series

Air

Sequence Valve

Hydraulic

BWD

Non-Leak Coupler BGA/BGB

BGC/BGD

BGP/BGS

BBP/BBS **BNP/BNS**

BJP/BJS

BFP/BFS

Auto Coupler

Rotary Joint

JR

Hydraulic Valve

ΒK

BEQ ΒT

BLB

JSS/JS

JKA/JKB

BMA/BMG

AU/AU-M

ΒU

ΒH

BC

raulic Unit CV

> СК CP/CPB

СС AB/AB-V

CPC/CQC

AC/AC-V

BP/JPB ВΧ BEP/BSP

BLS/BLG

External Dimensions



Note :

1. Please contact us for the specification (5.0 ℓ tank, water-glycol, with filter regulator, level switch etc.) other than the drawing above.

Pump Unit (For Double/Single Action)

Model CC



Features

- Pump Unit to use in conjunction with BC / BH Non-Leak Valve Unit
- Equipped with AC pump. Higher flow rate than CB unit.
- %Please refer to P.1275, P.1277 for BC/BH non-leak valve unit.

SModel No. Indication



1 Tank Capacity

5 : 5ℓ (Actual Amount for Use 3.1 ℓ)

2 Pump Model (Pump Pressure Code)

07 : AC7001-□

08 : AC8001-□

09 : AC9001-□

5 Option	
Blank D O	: Standard (Air Regulator) : Auto-Drain Filter Regulator : With Oil Level Switch
6 Unit of	Pressure Gauge

P : PSI (Used only in the US)

06	: AC6001-	

03 : AC3001-

04 : AC4001-□

05 : AC5001-□

3 Design No.

0 : Revision Number

4 Fluid Code

- **0** : General Hydraulic Oil (See Hydraulic Fluid List on P.1355)
- S : Silicon Oil
- G : Water-Glycol (except AC8001/AC9001) (Iron Tank)

% Contact us for fluids other than those described above.

High-Power

Cautions / Others

Sequence Valve

BWD

Hydraulic Non-Leak Couple

BGA/BGB

BGC/BGD BGP/BGS BBP/BBS

BNP/BNS

BJP/BJS BFP/BFS

Air

Series

Specifications

Model No.	CC5030	CC5040	CC5050	CC5060	CC5070	CC5080	CC5090	Pneumatic Series
Pump Part Number	AC3001-🗆	AC4001-🗆	AC5001-🗆	AC6001-🗆	AC7001-🗆	AC8001-🗆	AC9001-🗆	
Discharge Hydraulic Pressure *1 *2 MPa	2.3 ~ 4.2	3.6 ~ 6.6	5.8 ~ 10.6	8.9 ~ 16.3	14.4 ~ 26.4	22.6 ~ 41.4	35.3 ~ 64.7	Hydraulic Series
Air Consumption Nm ³ /min		1.0						
Tank Capacity ℓ		5:5 ℓ (Actual Amount for Use 3.1 ℓ)						Valve / Coupler
Operating Temperature °C		0 ~ 70					Hydraulic Unit	
Usable Fluid	Depends on the Fluid Code (Model No. Indication)					Manual Operation		
Operation Frequency	Pump Operation Time : less than 500 hours/year (2 hrs/day) ※Actual Discharge Time					Accessories		

Notes: ※1. Discharge hydraulic pressure indicates when air pressure range is between 0.3 and 0.5MPa.

%2. Please be careful of the operating pressure range of BH / BC unit to be used in combination.

Example : In case of using CC5080 and BH0071 together, actual operating pressure range is 22.6 to 30MPa.

(CC5080 range = 22.6 to 41.4MPa, BH0071 range = 6 to 30MPa).

1. Please refer to the AC pump performance curve for the calculation formula and the volume of discharge hydraulic pressure (P.1305).

84

Circuit Symbol

∙⊙ A Port Pн Port R Port



33

Manual control of double-acting cylinder with BH (NN circuit).

BH Non-Leak Valve Unit

163

Application Example

CC Pump Unit

-(0)

Auto Coupler JTA/JTB JTC/JTD JVA/JVB JVC/JVD JVE/JVF JNA/JNB JNC/JND JLP/JLS

Rotary Joint JR

Tyur	BK
	BEQ
	BT
	BLS/BLG
	BLB
	JSS/JS
	JKA/JKB
	BMA/BMG
	AU/AU-M
	BU
	BP/JPB
	ВΧ
	BEP/BSP
	BH
	BC
۸:	

ir	
ydr	aulic Unit
	CV
	СК
	CP/CPB
	CPC/CQC
	CB
	СС
	AB/AB-V
	AC/AC-V



External Dimensions



Pump Code AC3001/AC4001 AC5001~AC9001 Rc3/8 Rc1/4 S

E

6

Note :

1. Please contact us for the specification (water-glycol, with filter regulator, level switch etc.) other than the drawing above.

AB Pump / AC Pump (Air Driven Hydraulic Pump)

Model AB/AC



Features

- Air-driven hydraulic pump to generate high-pressure hydraulic-low pressure simply by supplying compressed air.
- Variation of total 13 different sizes and flow rates.
- Applicable to explosion proof specification because no electric motor is used.

Model No. Indication



1 Pump Size

- AB : AB Pump (Compact Design, Air Consumption 0.4 Nm³/min)
- AC : AC Pump (High Volume of Flow, Air Consumption 1.0 Nm³/min)

2 Pressure Range *Discharge hydraulic pressure indicates when air pressure range is between 0.3 ~ 0.5MPa.

300 : Discharge Hydraulic Pressure With AB Pump: 2.4 ~ 4.3MPa	With AC Pump: 2.3 ~ 4.2MPa
400 : Discharge Hydraulic Pressure With AB Pump: 3.9 ~ 7.0MPa	With AC Pump: 3.6 ~ 6.6MPa
500 : Discharge Hydraulic Pressure With AB Pump: 6.0 ~ 11.0MPa	With AC Pump: 5.8 ~ 10.6MPa
600 : Discharge Hydraulic Pressure With AB Pump: 10.0 ~ 17.5MPa	With AC Pump: 8.9 ~ 16.3MPa
700 : Discharge Hydraulic Pressure With AB Pump: 15.5 ~ 27.0MPa	With AC Pump: 14.4 ~ 26.4MPa
800 : Discharge Hydraulic Pressure With AB Pump: 25.0 ~ 43.5MPa	With AC Pump: 22.6 ~ 41.4MPa
900 : Discharge Hydraulic Pressure No AB Pump at this range.	With AC Pump: 35.3 ~ 64.7MPa

3 Design No. Revision Number

- 0 : In case of AB pump
- 1 : In case of AC pump

4 Circuit Symbol

- Blank : Standard
- V : Valve Built-In Option

5 Usable Fluid

- **0** : General Hydraulic Oil (See Hydraulic Fluid List on P.1355)
- S : Silicon Oil
- **G** : Water-Glycol

 $\ensuremath{\ll}$ Contact us for fluids other than those described above.

Air Hydraulic Un Digest P.1279	it	Model No. Indication / Specifications / Circuit Symbol / Action Description			Performance Curve / External Dimensions / Cautions / Accessory			DSMEK mony in Innovation
Specifications								High-Power Series
Model No.	AB3000-00	AB4000-0	AB5000-00	AB6000-00	AB7000-0	AB8000-00		Pneumatic Series
Discharge Hydraulic Pressure **1 MPa	2.4 ~ 4.3	3.9 ~ 7.0	6.0 ~ 11.0	10.0 ~ 17.5	15.5 ~ 27.0	25.0 ~ 43.5		
Air Consumption Nm ³ /min			0	.4				Hydraulic Series
Operating Air Pressure Range MPa			0.15	~ 0.7				
Lift m		below 0.6					Valve / Coupler	
Noise dB			82 ~	~ 85				Hydraulic Unit
Usable Fluid ^{**2}		Depends on the Fluid Code (Model No. Indication)						Manual Operation
Applicable Suction Filter *3			JF1	030				Accessories
Weight kg		2.4					Cautions / Others	
Model No.	AC3001-00	AC4001-00	AC5001-00	AC6001-00	AC7001-0	AC8001-00	AC9001-00	
Discharge Hydraulic Pressure **1 MPa	2.3 ~ 4.2	3.6 ~ 6.6	5.8 ~ 10.6	8.9 ~ 16.3	14.4 ~ 26.4	22.6 ~ 41.4	35.3 ~ 64.7	Air Sequence Valve
Air Consumption Nm ³ /min		1.0				BWD		

Hydr Non-	aulic Leak Coupler
	BGA/BGB
	BGC/BGD
	BGP/BGS
	BBP/BBS
	BNP/BNS
	BJP/BJS
	BFP/BFS

	811,815
Auto	Coupler
	JTA/JTB
	JTC/JTD
	JVA/JVB
	JVC/JVD
	JVE/JVF
	JNA/JNB
	JNC/JND
	JLP/JLS

Rotary Joint JR

Hydraulic Valve ΒK BEQ ΒT BLS/BLG BLB JSS/JS JKA/JKB BMA/BMG AU/AU-M ΒU BP/JPB ВΧ

> BEP/BSP ΒH

	BC
ir vdr	aulic Unit
	CV
	СК
	CP/CPB
	CPC/CQC
	СВ
	СС
	AB/AB-V
	AC/AC-V

Air
Нγ

1304







Tank

Model No.	AC3001-0	AC4001-	AC5001-0	AC6001-0	AC7001-	AC8001-00	AC9001-00	
Discharge Hydraulic Pressure **1 MPa	2.3 ~ 4.2	3.6 ~ 6.6	5.8 ~ 10.6	8.9 ~ 16.3	14.4 ~ 26.4	22.6 ~ 41.4	35.3 ~ 64.7	A
Air Consumption Nm ³ /min	n 1.0						-	
Operating Air Pressure Range MPa	0.15 ~ 0.7							
Lift m	below 1.0						H	
Noise dB	82 ~ 85						_	
Usable Fluid **2	Depends on the Fluid Code (Model No. Indication)							
Applicable Suction Filter *3	JF1040 JF1030							
Weight kg	8.8							

Notes : %1. Discharge hydraulic pressure indicates when air pressure range is between 0.3 ~ 0.5MPa.

%2. For fluids other than those described in the fluid code, please contact us.

%3. Suction filter and suction pipe is not attached. If it is needed, please prepare separately.



Pa Port

Pн Port



4 Circuit Symbol V : Valve Built-In Option

Action Description

Actions ① through ④ are repeated to discharge oil. When "Air Pressure \times Piston Area" balances with "Hydraulic Pressure \times Plunger Area", the piston stops automatically.

① Initial Position

0

0

0

② Discharge Process

1111



④ Suction Process (Air Vent)



0.6

0.7

3.5







2.0 2.5

Amount of Discharge Oil (l /min)

3.0 35

1.0 1.5

Pump Performance Curve [How to calculate necessary air supply pressure for

This can be determined by drawing a line from the discharge pressure PH ----.

(Ex.) Air pressure that is necessary for oil discharge pressure

[How to calculate discharge pressure from the air pressure]

• Discharge pressure PH can be calculated by putting the air pressure PA into the formula.

(Ex.) Discharge pressure is about 7MPa when air pressure

When the pump is operating under 3MPa load,

the discharge oil volume is about 3.3 ℓ /min.

Discharge oil volume under no load is about 4.6 ℓ /min.

0.5

the set discharge pressure]

is 0.51MPa

Refer to the Curve A =

(Ex.) At 0.5MPa air pressure :

of 7MPa is about 0.51 MPa.

[How to calculate oil discharge volume]

AB4000 $\frac{\text{Calculation}}{\text{Formula}}$ PH = 15(PA-0.04)

0.1

0.7MPa

12

10

8

5

0

0

Air Pressure PA (MPa)

0.2 0.3 0.4 0.5

0.6

0.7



 $\begin{array}{c} \text{AB5000} \\ \text{Formula} \end{array} PH = 24(PA-0.04) \end{array}$

0.1 0.2 0.3

0.7MPa

(MPa)

17.5

15.0

Air Pressure PA (MPa)

0.4 0.5



Amount of Discharge Oil (ℓ /min)







Amount of Discharge Oil (l /min)

Air Hydraulic Unit Digest P.1279	Model No. Indication / Specifications / Circuit Symbol / Action Description	Perfor	rmance Curv Cautio	ve / External I ns / Accesso	Dimensions / ory		
C External Dimensions							High-Power Series
AB/AC	AB-V (Valve Built-In Option)			AC-V (Valv	e Built-In Op	otion)	Pneumatic Series
							Hydraulic Series
							Valve / Coupler Hydraulic Unit
H D G Air Supply Port (PA Port)	Exhaust Port G Air Supply Port (PA Port)			H P	G Air Supp	P <u>ort</u> ly Port (PA Port)	Manual Operation
		1					Cautions / Others
Oil Discharge	Oil Discharge Oil Control Cont		Oil Disch Port	arge			Air
			(PH Port				Sequence Valve BWD
Air Bleed Oil Suction Port N Thread	Air Bleed Valve	ion Port	Air E Valv	Bleed		Thread	Hydraulic Non-Leak Coupler
R Air Bleed Port	Air Bleed	R Port		Air B	R leed Port		BGA/BGB
øL the second se	φL the first field of the first field of the first field of the field			¢L ↓	₽		BGC/BGD BGP/BGS
							BBP/BBS
			+		Oil Datura Dart		BNP/BNS
		V	<u> </u>		V		BJP/BJS
Some parts of AC pump appearance are different	ent from this drawing. $\frac{ _{s} _{s}}{ _{s} _{s}}$						BFP/BFS
			Model No.	AB 🗆 0	AC3001/4001	AC5001~9001	Auto Couplar
Machining Dimensions of			A	160	220.5	213.5	JTA/JTB
Mounting Hole (Common)			C	24	32	25	JTC/JTD
2-N Thread Depth P or more			D	70	11	0	JVA/JVB
Hydraulic Oil			F	88.5	2	2	JVC/JVD
Discharge Direction			G	10	1.	3	JVE/JVF
			H	13 55 5	1	7	JNA/JNB
			K	11	1	5	JNC/JND
			L	64	99	5	JLP/JLS
			N	M8×1.25	M12>	<1.75	
			P	13 Dc1/4	10	8	Rotary Joint
			R	Rc3/8	Rc1/2	Rc3/8	JR
			S	Rc1/4	Rc3/8	Rc1/4	Hydraulic Valve
			U	20	4	0	ВК
			V	Rc1/8	Rc1	1/4	BEQ
Caution (AB/AC)							BT
1 When using an air circuit on the in-	na sida of the pump place make sure to inst	all the air	r filtor and -	agulator			BLS/BLG
It can cause a real-function the incomi	ng side of the pump, please make sure to inst	an the dl	i nitel dilu f	eguidtor.			BLB
it can cause a mairunction due to dust i							122/12
2. Always use a suction filter at the pump	suction side.						JKA/JKB
If you are not using Kosmek filter, we re	commended using 100 or more mesh.						BMA/BMG
3. Use a pipe having no rust or scale interr	nally as a suction pipe. Remove burrs from thr	ead part	sufficiently.				BU
When installing apply a seal material su	ch as seal tape to prevent air from entering.						BP/IPB
4. AB/AC pump is not suitable for continue	ous operation (circulation or open circuit). Alv	ways use	in a closed	circuit.			BX
Continuous operation results in packing	g wear, adversely affecting the pump life.						BEP/BSP
5. When installing a purchased hydraulic v	valve in the hydraulic circuit, the pump may n	ot baland	e to stop d	ue to interna	l leakage of the	e valve.	BH
Continuous operation reduces the pum	p life. Use a non-leak valve and control valve	made by	Kosmek.		5		BC
6 The numn discharges oil in nulses. An a	cumulator can be installed to reduce pulsati	005					Air
. The participation of the publics. All a	economical carrier instance to reduce pulsati						Hydraulic Unit
C Accessory (Suction Filter)							CV
		Model	No. Indica	tion			
JF1030	JF1040	15	101				CPC/COC
De2/9 Thread	Del /2 Thread	JL	10.				CB
			Size (Refer to left drav	ving) De	esign No. evision Number)		СС
					,		AB/AB-V
		Мо	del No.	JF1	030	JF1040	AC/AC-V
		A	able Dura		AC0001	AC2001	
	_ 30 50 _	Applic Part	Number	AC5001 AC6001	AC8001 AC9001	AC4001	

AC7001

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

Company Profile Our Products

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.



Maintenance Inspection Warranty





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

The release action of the single acting cylinders may become

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

Pheum

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
Company Profile
Our Products

Our Products History

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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 operated in an inappropriate way by the operator.(Including damage caused by the misconduct of the third party.)
- 4 If the defect is caused by reasons other than our responsibility.
- (5) If repair or modifications are carried out by anyone other than Kosmek, or without our approval and confirmation, it will void warranty.
- ⑥ Other caused by natural disasters or calamities not attributable to our company.
- ⑦ Parts or replacement expenses due to parts consumption and deterioration.

(Such as rubber, plastic, seal material and some electric components.)

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



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KOSMEK Harmony in Innovation

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Global Network









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