

New

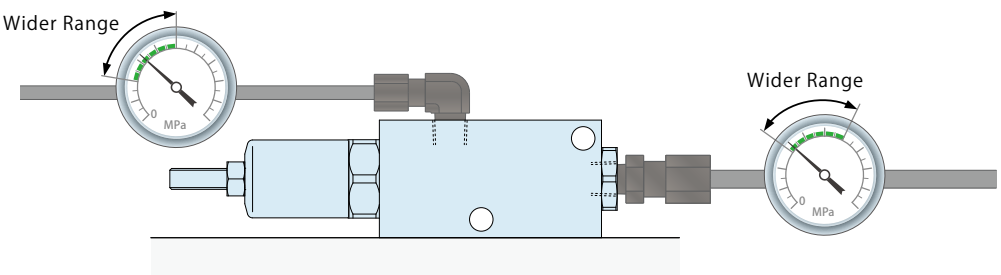
Non-Leak Reducing Valve

More Compact Body with Wider Pressure Ranges

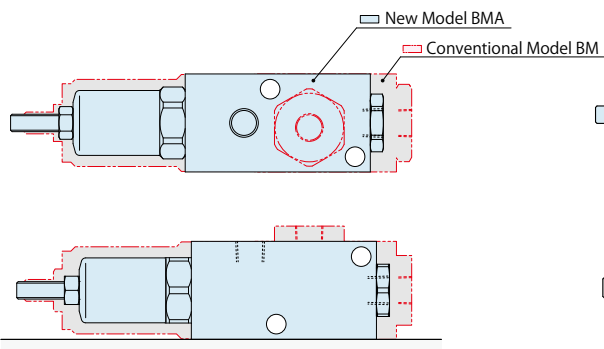


Model BMA

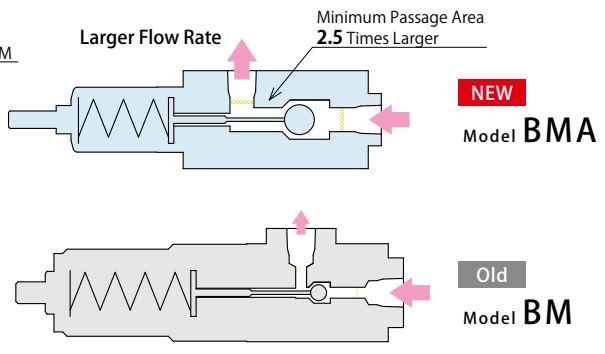
Extended Pressure Ranges of Both Incoming/Outgoing Side



Smaller Footprint



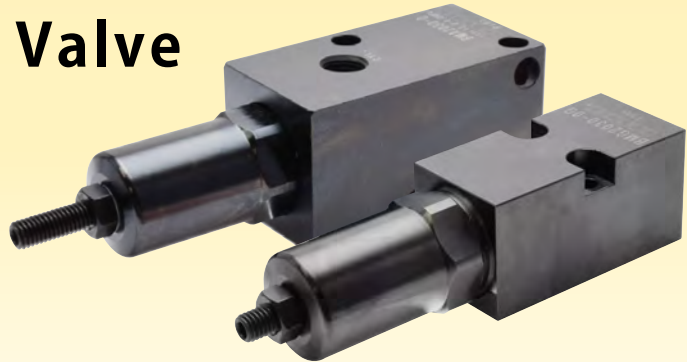
Larger Oil Paths Less Action Time



The drawings shown are different from the actual structure.

Non-Leak Reducing Valve

Model **BMA**
Model **BMG**



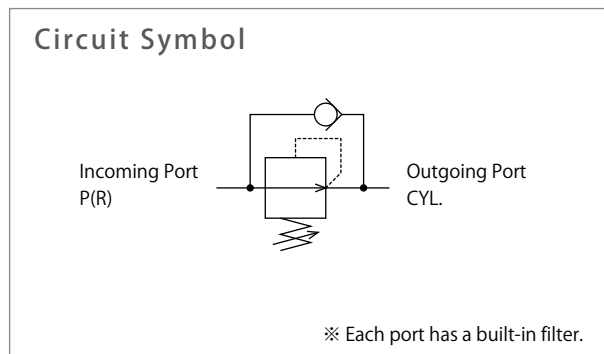
Reducing valve does not need drain port and is used in circuit

The drain port for pressure reducing is not needed. This allows to reduce the number of circuits.



• What is reducing valve?

Non-leak reducing valves reduce hydraulic circuit pressure of a fixture.

Partial in-line circuit pressures can be reduced. This allows for simple circuit designs and proper quick change fixtures as well as eliminating a need for an exterior drain port.



※ Gasket option is available.

	 NEW Model BMA → P.3			 NEW Model BMG → P.5		
Classification	Non-Leak Reducing Valve			Compact Non-Leak Reducing Valve		
Incoming Supply Pressure	2~7MPa	6~30MPa	9~30MPa	2~7MPa	6~30MPa	9~30MPa
Outgoing Set Pressure	1~6MPa	3~14MPa	6~27MPa	1~6MPa	3~14MPa	6~27MPa
Piping Method	Piping Option Gasket Option BK Connecting Option			Gasket Option		

Action Description

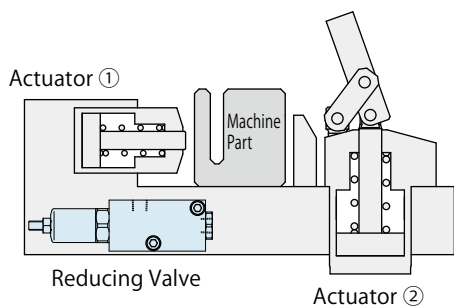
Valve

Non-Leak Reducing Valve

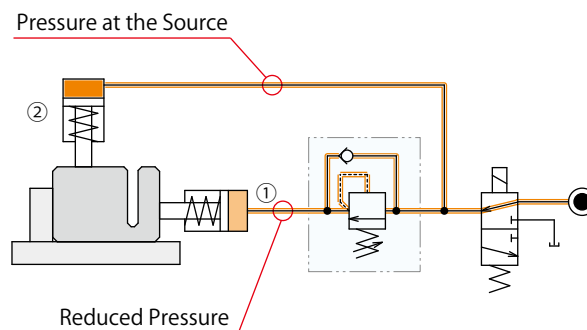
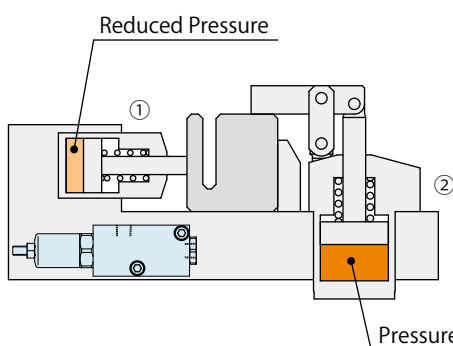
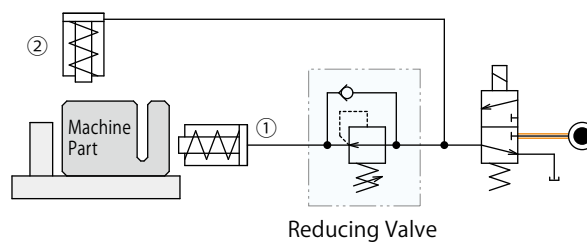
BMA

BMG

Images



Circuit Example



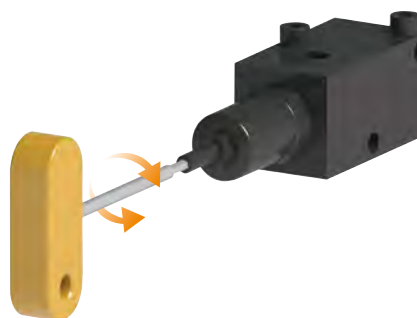
Operation Sequence		Remarks
When clamping	Hydraulic pressure is ON.	
	Supply hydraulic pressure to actuator ① and ②.	
	Raise the pressure up to the outgoing side set pressure.	
	The valve of reducing valve closes and then supply the outgoing side set pressure to actuator ①.	There is differential pressure between outgoing side pressure and incoming side pressure (please refer to specification).
	The pressure going into actuator ② raise up to the original pressure and lock completes.	
Machining process		
When releasing	Hydraulic pressure is OFF.	
	The actuators ①,② are released at the same time.	When incoming side pressure reduces, check valve of reducing valve opens.
	Release action completed.	

Adjustable Set Pressure

Set hydraulic pressure can be changed per one rotation.

Model No.	BMA2030-0□ BMG2030-0G	BMA2050-0□ BMG2050-0G	BMA2070-0□ BMG2070-0G
Set Pressure per One Rotation (Reference)	0.3	1.2	3.8

- Notes
1. The set pressure value is set according to the model code.
 2. The value varies depending on the incoming port pressure.
 3. Pressure increases by turning clockwise and decreases by turning counter-clockwise.



● Model No. Indication



1 Outgoing Side Set Pressure

- 3: 1.0 ~ 6.0MPa
- 5: 3.0 ~ 14.0MPa
- 7: 6.0 ~ 27.0MPa

2 Design No.

0 : Revision Number

3 Piping Method

- Blank** : Piping Option (Rc-1/4 Thread)
- G** : Gasket Option
- K** : BK Valve Connecting Option (Rc1/4 Thread in Outgoing Port) ※1

Notes ※1. Please contact us separately for the detailed dimensions of K (BK Stack Model).

4 Set Pressure (Outgoing Set Pressure - Incoming Supply Pressure)

**Please indicate the set pressure when ordering.
(Please inform us with proper unit symbols.)**

※ Pressure difference of incoming supply pressure and outgoing set pressure should be more than the allowable minimum pressure difference.

Entry Example

Outgoing:5MPa Incoming:25MPa Setting → **(5.0-25.0MPa)**

Outgoing:725PSI Incoming:3625PSI Setting → **(725-3625PSI)**

● Specifications

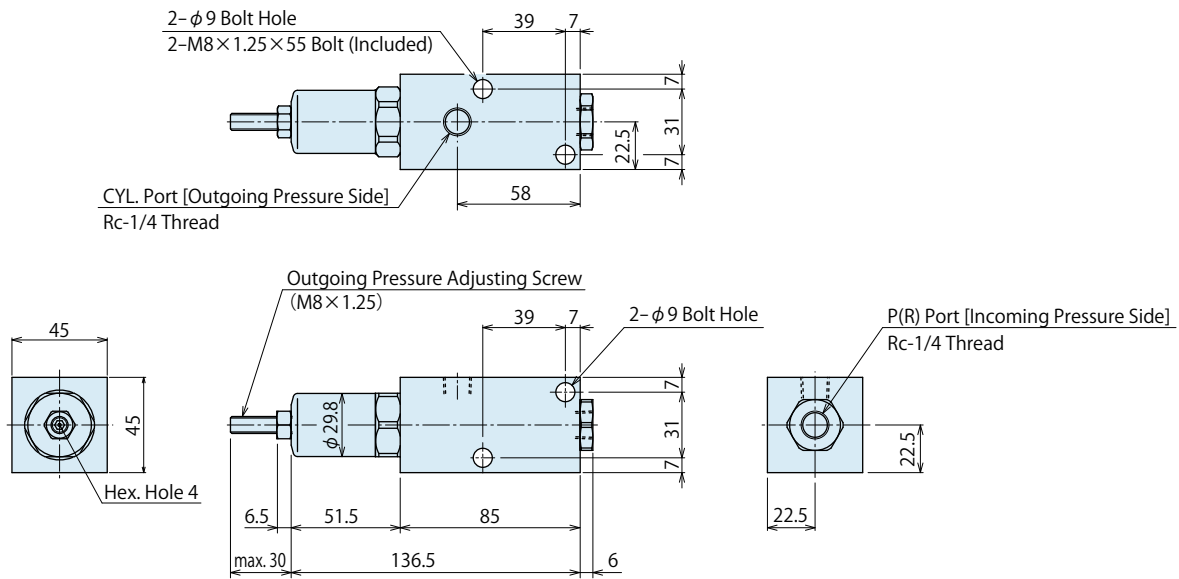
Model No.	BMA2030-0□	BMA2050-0□	BMA2070-0□
Incoming Supply Pressure MPa	2.0 ~ 7.0	6.0 ~ 30.0	9.0 ~ 30.0
Outgoing Set Pressure MPa	1.0 ~ 6.0	3.0 ~ 14.0	6.0 ~ 27.0
Allowable Minimum Pressure Difference ※2 MPa	1.0	3.0	3.0
Withstanding Pressure MPa	10.5	37.5	37.5
Min. Passage Area mm ²	23.3		
Operating Temperature °C	0 ~ 70		
Usable Fluid	General Hydraulic Oil Equivalent to ISO-VG-32		
Mass kg	1.5		

Note ※2. Allowable minimum pressure difference shows the minimum difference between incoming and outgoing pressure.

External Dimensions

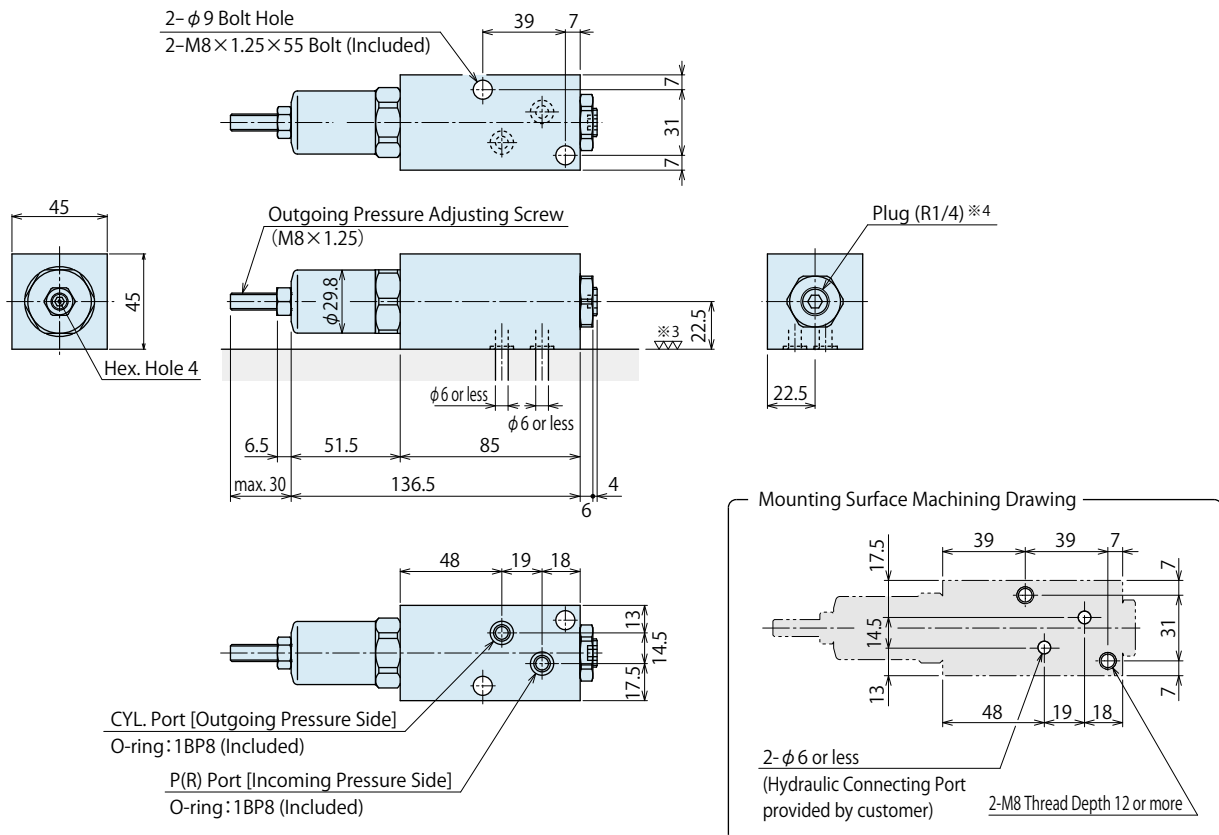
BMA20□0-0

※ This drawing shows piping method (blank) : piping option



BMA20□0-0G

※ This drawing shows piping method (G): gasket option.



Notes

※3. Roughness of mounting surface (O-ring seal surface) should be 6.3S or less.

※4. It can be used as P(R) port by removing the plug.

● Model No. Indication

BMG20 **5** **0** - **0** **G** **(5-25MPa)**

1 2 3 4

1 **Outgoing Side Set Pressure**

- 3: 1.0 ~ 6.0MPa
- 5: 3.0 ~ 14.0MPa
- 7: 6.0 ~ 27.0MPa

2 **Design No.**

0 : Revision Number

3 **Piping Method** ※1

G : Gasket Option

Note ※1. Only G (Gasket Option) is available for BMG.
Select BMA if connecting with couplers etc.

4 **Set Pressure** (Outgoing Set Pressure - Incoming Supply Pressure)

**Please indicate the set pressure when ordering.
(Please inform us with proper unit symbols.)**

※ Pressure difference of incoming supply pressure and outgoing set pressure should be more than the allowable minimum pressure difference.

Entry Example

Outgoing:5MPa Incoming:25MPa Setting → **(5.0-25.0MPa)**
Outgoing:725PSI Incoming:3625PSI Setting → **(725-3625PSI)**

● Specifications

Model No.	BMG2030-0G	BMG2050-0G	BMG2070-0G
Incoming Supply Pressure MPa	2.0 ~ 7.0	6.0 ~ 30.0	9.0 ~ 30.0
Outgoing Set Pressure MPa	1.0 ~ 6.0	3.0 ~ 14.0	6.0 ~ 27.0
Allowable Minimum Pressure Difference #2 MPa	1.0	3.0	3.0
Withstanding Pressure MPa	10.5	37.5	37.5
Min. Passage Area mm ²	23.3		
Operating Temperature °C	0 ~ 70		
Usable Fluid	General Hydraulic Oil Equivalent to ISO-VG-32		
Mass kg	0.8		

Note ※2. Allowable minimum pressure difference shows the minimum difference between incoming and outgoing pressure.

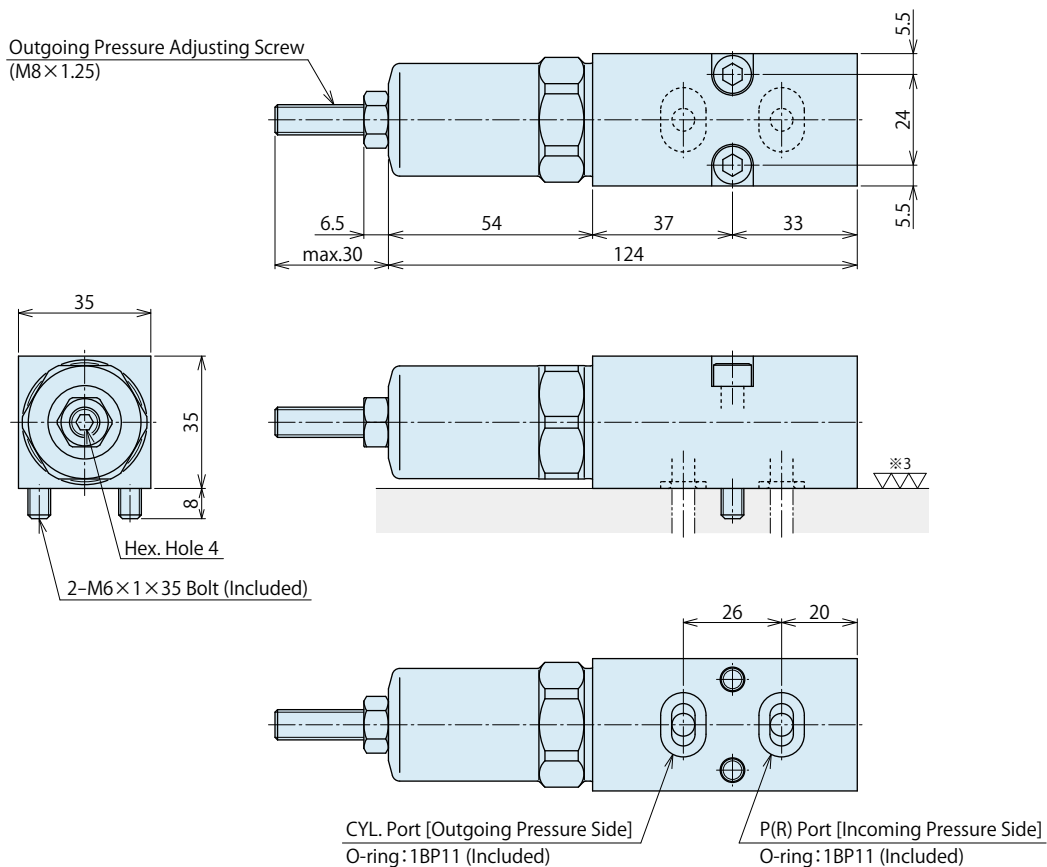
External Dimensions

Valve

Non-Leak Reducing Valve

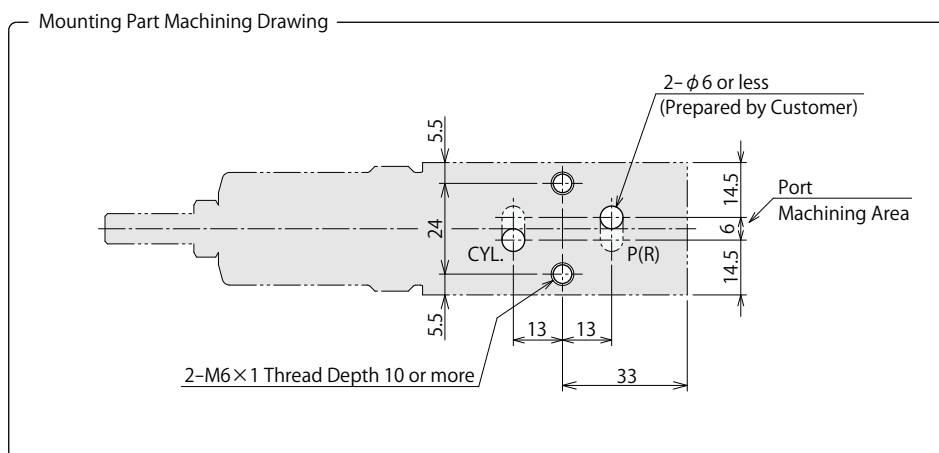
BMA

BMG



Note

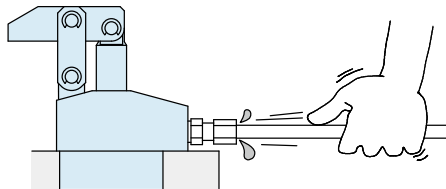
※3. Roughness of mounting surface (O ring seal surface) should be 6.35 or less.



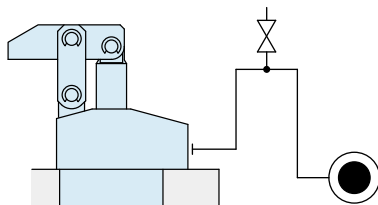
● Cautions

● Installation Notes (For Hydraulic Series)

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



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



5) Checking Looseness and Retightening

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

● Hydraulic Fluid List

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

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

● Notes on Handling

- 1) It should be handled by qualified personnel.
 - The hydraulic machine and air compressor should be handled and maintained by qualified personnel.
- 2) Do not handle or remove the machine unless the safety protocols are ensured.
 - ① The machine and equipment can only be inspected or prepared when it is confirmed that the preventive devices are in place.
 - ② Before the machine is removed, make sure that the above-mentioned safety measures are in place. Shut off the air of hydraulic source and make sure no pressure exists in the hydraulic and air circuit.
 - ③ After stopping the machine, do not remove until the temperature cools down.
 - ④ Make sure there is no abnormality in the bolts and respective parts before restarting the machine or equipment.
- 3) Do not 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 tighten pipes, mounting bolts and etc. to ensure proper use.
- 3) Make sure the hydraulic fluid has not deteriorated.
- 4) 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.
- 5) The products should be stored in the cool and dark place without direct sunshine or moisture.
- 6) Please contact us for overhaul and repair.

● Warranty

- 1) Warranty Period
 - The product warranty period is 18 months from shipment from our factory or 12 months from initial use, whichever is earlier.
- 2) Warranty Scope
 - If the product is damaged or malfunctions during the warranty period due to faulty design, materials or workmanship, we will replace or repair the defective part at our expense. Defects or failures caused by the following are not covered.
 - ① If the stipulated maintenance and inspection are not carried out.
 - ② If the product is used while it is not suitable for use based on the operator's judgment, resulting in defect.
 - ③ If it is used or handled in inappropriate way by the operator. (Including damage caused by the misconduct of the third party.)
 - ④ If the defect is caused by reasons other than our responsibility.
 - ⑤ If repair or modifications are carried out by anyone other than Kosmek, or without our approval and confirmation, it will void warranty.
 - ⑥ Other caused by natural disasters or calamities not attributable to our company.
 - ⑦ Parts or replacement expenses due to parts consumption and deterioration. (Such as rubber, plastic, seal material and some electric components.)

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

● MEMO

 **MEMO**

Valve

Non-Leak
Reducing Valve

BMA

BMG

KOSMEK

Harmony in Innovation

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