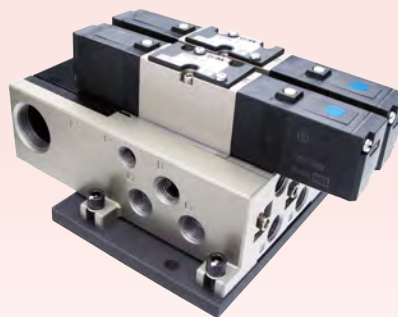


Air Valve Unit

Model **MV**



Electric control type air valve unit.

Most suitable for controlling air cylinder attached to GD/GE clamp.

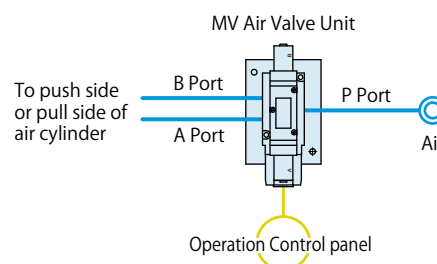
Air directional control valve actuates by electric control.

Most suitable for controlling air cylinder attached to

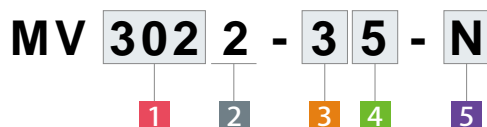
GD/GE clamp which slides in the T-slot automatically.

Application Example

The drawing shows when controlling push side and pull side of air cylinders with MV air valve unit.



Model No. Indication



1 Size ※ Please contact us when using a large number of clamps.

301 : For Small / Medium Clamp

302 : For Large Clamp

2 Design No.

2 : Revision Number

3 Number of Control Circuits ※ Please contact us when using more than 4 circuits.

1 : 1 Circuit (Ex. Upper or Lower Die only)

2 : 2 Circuits (Ex. Upper and Lower Die Circuits or Cross Circuit)

3 : 3 Circuits (Ex. Upper Cross Circuit and Lower Die Circuit)

4 Valve Control Voltage

1 : AC 100 V

2 : AC 200 V

3 : AC 110 V

4 : AC 220 V

5 : DC 24 V

5 Option

Blank : Standard

N : NPT Thread*1

Note

※1. When selecting **5** Option **N**:NPT thread, each dimension of specifications or other documents is described in inch.

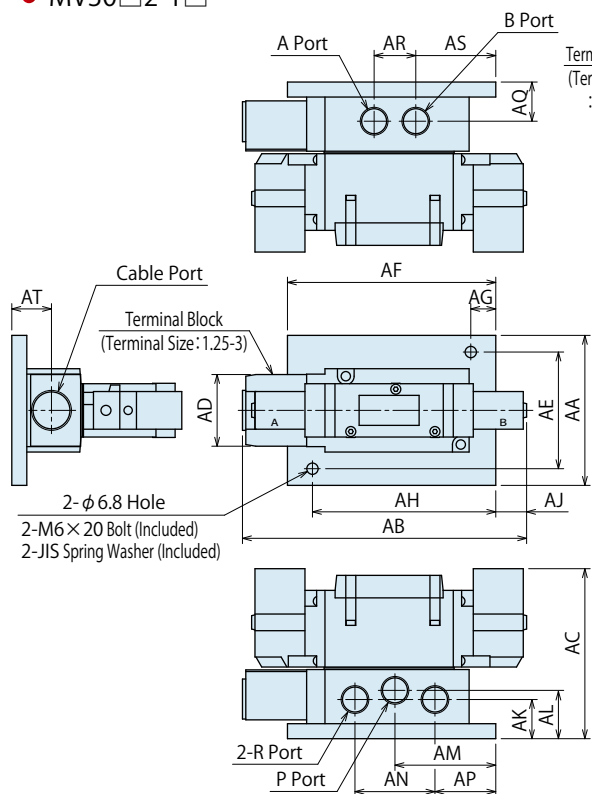
Specifications

Model No.	MV3012	MV3022
Type	Metal Seal / 5 Port • Pilot Operated	
Position / Number of Solenoid	2 Position / Double	
Effective Sectional Area	15	36
Usable Fluid	Air※2	
Maximum Operating Pressure	1.0	
Withstanding Pressure	1.5	
Usable Fluid Temperature	-10 ~ +60	
Oil Supply	Not Required	
Protective Structure	Dust Proof	
Solenoid Model (SMC model)	VFS2200	VFS3200

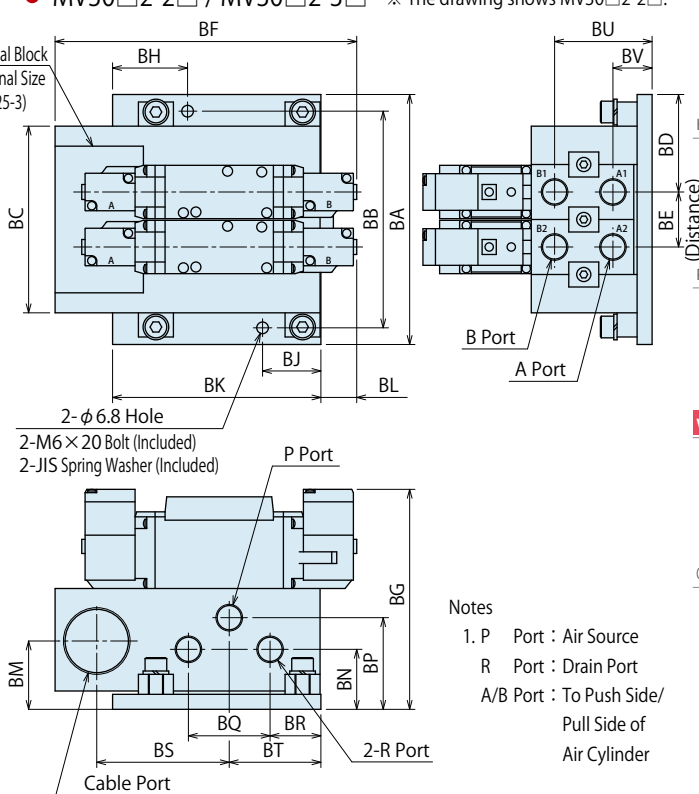
Note
 ※2. Please supply clean air that is filtered.

External Dimensions

● MV30□2-1□



● MV30□2-2□ / MV30□2-3□ ※ The drawing shows MV30□2-2□.



(mm)

Model No.	MV3012-1□	MV3022-1□
Control Circuit	1 Circuit	1 Circuit
AA	75	90
AB	166.5	170.5
AC	74	102
AD	43	43
AE	55	70
AF	100	125
AG	10	15
AH	90	110
AJ	36	18.5
AK	31	23.5
AL	20	29
AM	42	60.5
AN	28	48
AP	28	36.5
AQ	20.5	23.5
AR	20	25
AS	32	48
AT	21.5	23.8
P Port	Rc 1/4	Rc 3/8
R Port	Rc 1/8	Rc 3/8
A Port	Rc 1/4	Rc 3/8
B Port	Rc 1/4	Rc 3/8
Cable Port	G 1/2	G 1/2

(mm)

Model No.	MV3012-2□	MV3012-3□	MV3022-2□	MV3022-3□
Control Circuit	2 Circuits	3 Circuits	2 Circuits	3 Circuits
BA	120	150	150	185
BB	105	135	130	165
BC	88	116	112	145
BD	46	47	58.5	59.5
BE		28		33
BF		187.5		181
BG		90.5		132
BH		40		45
BJ		30		35
BK		100		125
BL		34.5		21.5
BM		36		41
BN		25.5		36
BP		39.5		55
BQ		29		49
BR		26.5		30.5
BS		87.5		79.5
BT		41		55
BU		46.5		58.5
BV		20.5		23.5
P Port	Rc 1/4		Rc 1/2	
R Port	Rc 1/4		Rc 1/2	
A Port	Rc 1/4		Rc 3/8	
B Port	Rc 1/4		Rc 3/8	
Cable Port	G 3/4		G 1/4	

Notes
 1. P Port : Air Source
 R Port : Drain Port
 A/B Port : To Push Side/
 Pull Side of
 Air Cylinder

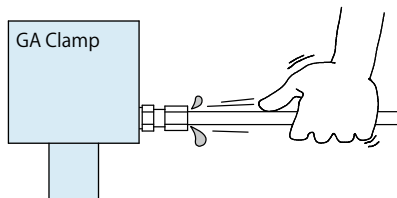
Clamp	Hydraulic Unit
Die Lifter	Pre-Roller
Accessories	
Cautions	Company Profile

Clamp	GA	GD	GB	GE	GP	GN
Hydraulic Unit	CP	CR	CS			
Pump Unit	CB	CD	CC			
Valve Unit	BC	BH	MV			
Operational Control Panel	YP	YA				

● Cautions

● Notes on Installation (Cautions for Hydraulic Series)

- 1) Check the fluid to use
 - Please use the appropriate fluid by referring to the Hydraulic Fluid List.
 - If hydraulic oil with viscosity grade higher than ISO-VG-32 is used, action time would be longer.
 - If using it at low temperature, action time will be longer because the viscosity of hydraulic oil becomes higher.
- 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.
 - Our products except some valves are not equipped with protective function to prevent dust and cutting chips going into the hydraulic system and pipeline.
- 3) Applying sealing tape
 - Wrap with tape 1 to 2 times following the screwing direction.
 - Pieces of the sealing tape can lead to air leaks and malfunction.
 - In order to prevent a foreign substance from going into the product during piping, it should be carefully cleaned.
- 4) Air bleeding in the hydraulic circuit
 - If the hydraulic circuit has excessive air, the action time may become very long.
After installing the hydraulic circuit, or if the pump run out of oil, be sure to bleed air by the following step.
 - ① Reduce hydraulic supply pressure to less than 2MPa.
 - ② Please loosen the cap nut of pipe fitting that is closest to clamps · RA die lifters by one full turn.
 - ③ Wiggle the pipeline to loosen the outlet of pipeline fitting.
The 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.
- 5) Checking looseness and retightening
 - At the beginning of the machine installation, the bolt/nut may be tightened lightly.
Check torque 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.

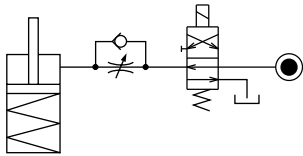
● Speed Control Circuit of Hydraulic Cylinder and Notes



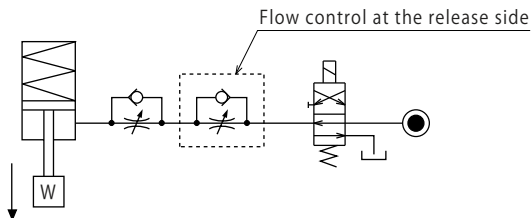
If the hydraulic cylinder speed is controlled, the circuit should be designed with the following points taken into consideration. Review these notes prior to installation as the wrong circuit design may lead to machine malfunction and damage.

● Flow control circuit for single acting cylinder.

For spring return type single acting cylinders, restricting flow during release can extremely slow down or prevent release action. The preferred method is to control the flow during the lock action and use a valve that has free-flow in the release direction. Also, it is preferred to provide a flow control valve at each actuator.



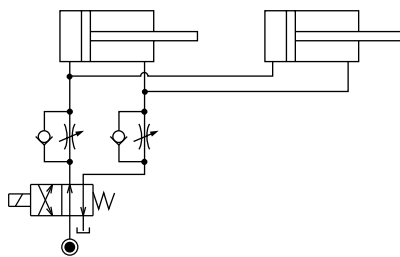
If the release action is accelerated by excessive hydraulic flow the cylinder may sustain damage. In this case add flow control to regulate flow.



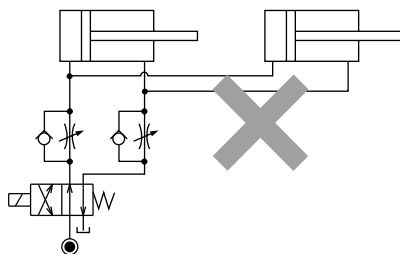
● Flow control circuit for double acting cylinder.

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.

【Meter-out circuit】

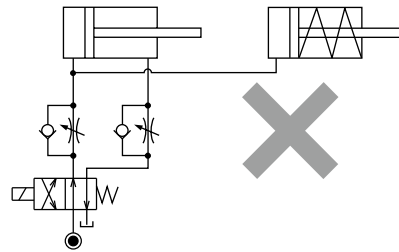


【Meter-in circuit】



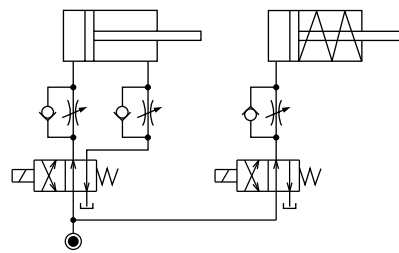
In the case of meter-out circuit, the hydraulic circuit should be designed with the following points.

- ① Single acting components should not be used in the same flow control circuit as the double acting components. The release action of the single acting cylinders may become erratic or very slow.

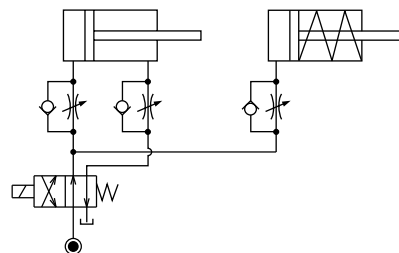


Refer to the following circuit when both the single acting cylinder and double acting cylinder are used together.

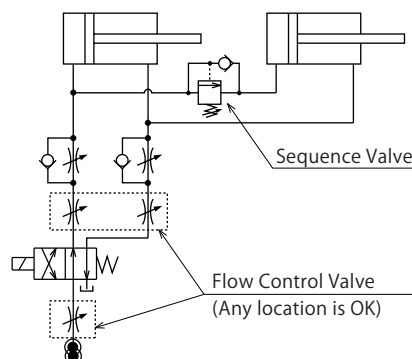
- Separate the control circuit.



- 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 work.



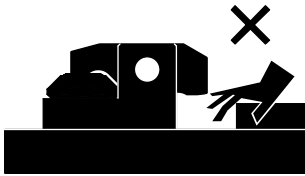
- ② In the case of meter-out circuit, the inner circuit pressure may increase during the cylinder action because of the fluid supply. The increase of the inner circuit pressure can be prevented by reducing the supplied fluid beforehand via the flow control valve. Especially when using sequence valve 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.



● Cautions

● Notes on Handling

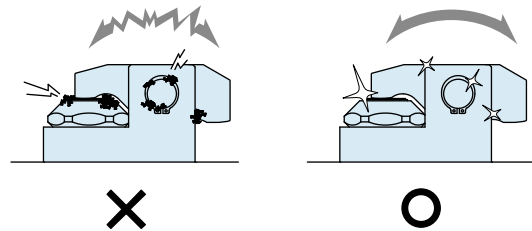
- 1) It should be handled by qualified personnel.
 - The hydraulic machine / air compressor should be handled and maintained by qualified personnel.
- 2) Do not handle or remove the machine unless the safety is ensured.
 - ① The machine and equipment can only be inspected or prepared when it is confirmed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



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

● Maintenance • 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 equipment.
 - If it is used when the surface is contaminated with dirt, it may lead to packing seal damage, malfunctioning, fluid leakage and air leaks.



- 3) If disconnecting by couplers on a regular basis, air bleeding should be carried out daily to avoid air mixed in the circuit.
- 4) Regularly tighten bolts and pipe line, mounting bolts, nuts, circlips and cylinders to ensure proper use.
- 5) Make sure the hydraulic fluid has not deteriorated.
- 6) 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 properly.
- 7) The products should be stored in the cool and dark place without direct sunshine or moisture.
- 8) 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 operator judgment, resulting in defect.
- ③ If it is used or handled in inappropriate way by the operator. (Including damage caused by the misconduct of a 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 Defects caused by natural disasters or calamities not attributable to our company.
- ⑦ Parts expenses or replacement expenses due to parts consumption and deterioration. (Such as rubber, plastic, seal material and some electric components.)

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

Clamp
Hydraulic Unit
Operation Control Panel

Die Lifter
Pre-Roller

Accessories

Cautions
Company Profile

Cautions

Notes on Installation
(For Hydraulic Series)

Hydraulic Fluid List

Speed Control Circuit of
Hydraulic Cylinder & Notes

Notes on Handling

Maintenance / Inspection

Warranty

Company Profile

Company Profile

Our Products

History

Sales Office

Sales Office

Sales Offices Across the World

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

Sales Offices in Japan

Head Office Kansai Office Overseas Sales	TEL. +81-78-991-5162	FAX. +81-78-991-8787
	KOSMEK LTD. 1-5, 2-chome, Murotani, Nishi-ku, Kobe-city, Hyogo, 651-2241, Japan 〒651-2241 兵庫県神戸市西区室谷2丁目1番5号	
Kanto Office	TEL. +81-48-652-8839	FAX. +81-48-652-8828
	KOSMEK LTD. 81, 4-chome, Onari-cho, Kita-ku, Saitama City, Saitama, 331-0815, Japan 〒331-0815 埼玉県さいたま市北区大成町4丁目81番地	
Chubu Office	TEL. +81-566-74-8778	FAX. +81-566-74-8808
	KOSMEK LTD. 10-1, 2-chome, Misono-cho, Anjo City, Aichi, 446-0076, Japan 〒446-0076 愛知県安城市美園町2丁目10番地1	
Kyusyu Office	TEL. +81-92-433-0424	FAX. +81-92-433-0426
	KOSMEK LTD. 8-10-101, 1-chome, Kamimuta, Hakata-ku, Fukuoka City, Fukuoka, 812-0006, Japan 〒812-0006 福岡県福岡市博多区上牟田1丁目8-10-101	