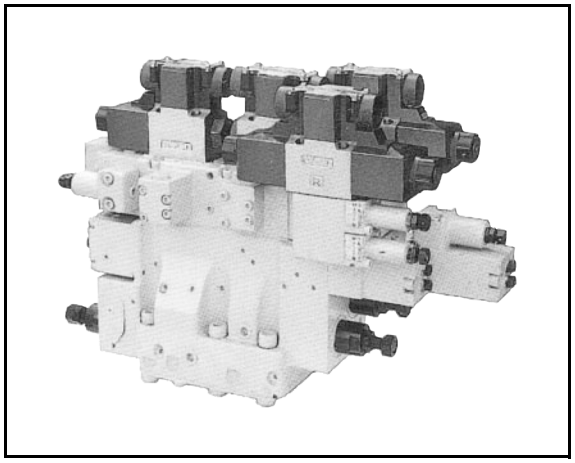
MULTIFUNCTION VALVE (MF3N)



This type of multifunction valve supports up to 16 control functions with the applicable pressure range and flow range expanded so that it can be used in a variety of applications.

FEATURES

1. The maximum applicable range of the valve is 25 MPa and 800 L/min (with size 10).
2. The light and compact design of the valve allows simplification of the hydraulic system.
3. The main valve is of the poppet type and, in comparison with the spool type, is able to reduce valve pressure loss as well as leak across ports drastically.
4. The poppet type main valve ensures quick switching with less shock.
5. The circuit can be modified readily by changing a part of the component parts.
6. The mounting dimensions are compatible with a conventional solenoid valve. This means that the multifunction valve can be used together with stack valves (HY-TEGRA system of TOYOOKI).

- The appropriate tightening torque is: **Size 06: 45 to 55 N-m**
- If a subplate is necessary, please order one separately.
- For the subplate, select HY-TEGRA manifold HMC-1-06-08-T* (page 187).

SPECIFICATIONS

Nominal Size	Max. Flow (L/min)	Max. Operating Pressure (MPa)	Permissible Back Pressure (MPa)	Cracking Pressure (MPa)		Counterbalance Pressure Adjustment Range (MPa)	Differential Counterbalance Pressure Adjustment Range (MPa)	Pressure Control Adjustment Range (MPa)	Unloading Valve Pressure Adjustment Range (MPa)	Pilot Valve Min. PLT Pressure	Pressure Relief Valve PLT Pressure
				P Port	R Port						
06	320	25	25	0.35	0.2	0.7 to 14	0.7 to 14	2 to 25	0.7 to 14	10% of main pressure	10% of main pressure

SOLENOID CHARACTERISTICS

● For AC

Model	SLH5-025B-R1	SLH5-025B-R2
Rated Voltage	100 VAC (50/60 Hz)	200 VAC (50/60 Hz)
Current	0.35 A (50/60 Hz)	0.19 A (50/60 Hz)
Power Consumption	31 W	33 W

● For DC

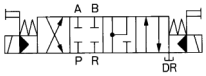
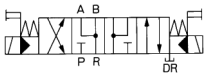
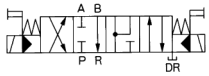
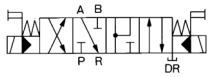
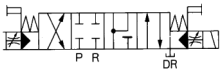
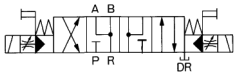
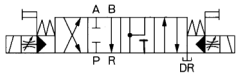
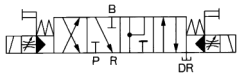
Model	SLH5-025B-D2
Type	DC solenoid
Rated Voltage	24 VDC
Holding Current	1.2 A
Power Consumption	29 W

MODEL DESIGNATION

MF 3 N-①②③④⑤⑥⑦-B G FA-①②③④⑤⑥⑦(-C) -06 B -WR**

(A-port control functions) (B-port control functions)

- Multifunction valve
- Max. operating pressure
  - 3: 25 Mpa
- Neutral position
  - G: ABR connection
    - C: Closed center
    - M: BR connection
    - N: AR connection
- With/without tarry valve
  - No code: Without tarry valve
  - C: With manual tarry valve
  - J: With automatic tarry valve
- Voltage indication
  - AC / DC convertible type
    - R1: 100 VAC
    - R2: 200 VAC
    - R3: 110 VAC
    - R4: 220 VAC
  - DC type
    - D2: 24 VDC
- Model number
- Nominal size of valve
  - 06: 3/4

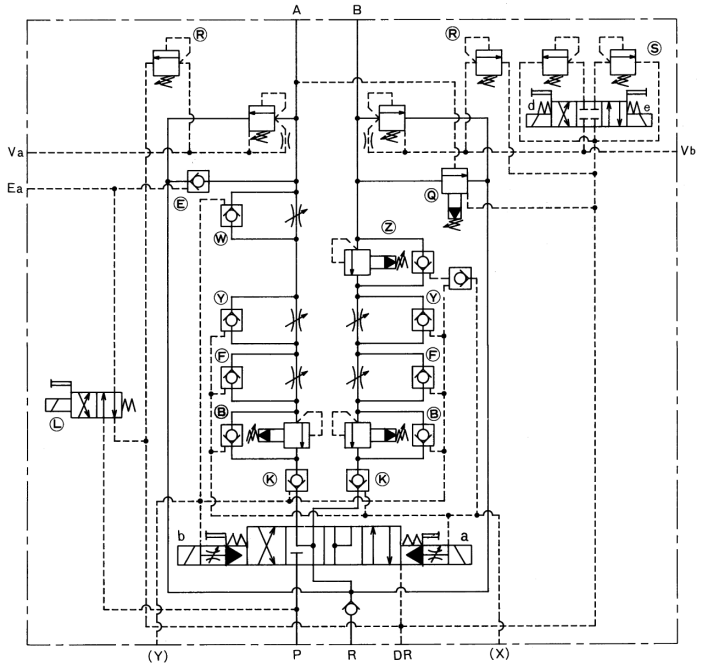
Directional Control Function		BCFA	BGFA	BMFA	BNFA
Hydraulic Circuit Symbol	Without Tarry Valve				
	With Tarry Valve				

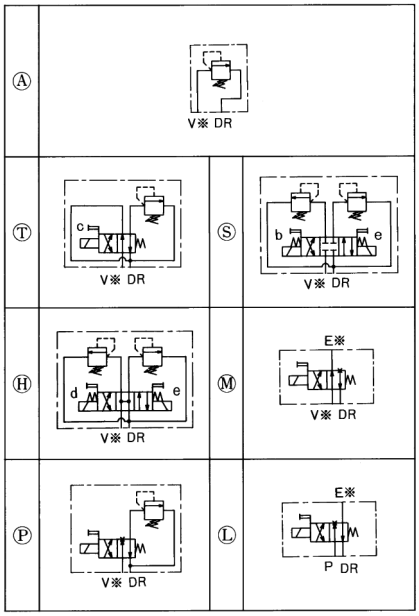
TYPES OF A-/B-PORT CONTROL FUNCTIONS

Circled No. (NOTE 1)	Code	Name
① (NOTE 3)	Y	Meter-in throttle
	W	Meter-in 2-speed
	Z	Differential counterbalance
②	F	Meter-out throttle
③	B	Counterbalance
④	K	Pilot check
⑤	R	Safe
⑥	E	Pressure relief
	Q	Unloading
⑦	A	Pressure control
	T	Solenoid-operated 1 pressure level control (Normally open)
	H	Solenoid-operated 2 pressure level control (Normally open)
	P	Solenoid-operated 1 pressure level control (Normally closed)
	S	Solenoid-operated 2 pressure level control (Normally closed)
	M	Solenoid-operated pressure relief (Normally open) (NOTE 2)
	L	Solenoid-operated pressure relief (Normally close) (NOTE 2)
Regular functions		Differential circuit
		R-port check
		Vent operation pressure control

NOTE 1: A number in the Circled No. column indicates the circled number of the A- / B-port control functions.
NOTE 2: To use “M” or “L”, use “E” also.
NOTE 3: Simultaneous use of “W” and “Z” (Example: W for A port and Z for B port) is not permitted.
NOTE 4: [ ] indicates special specifications.

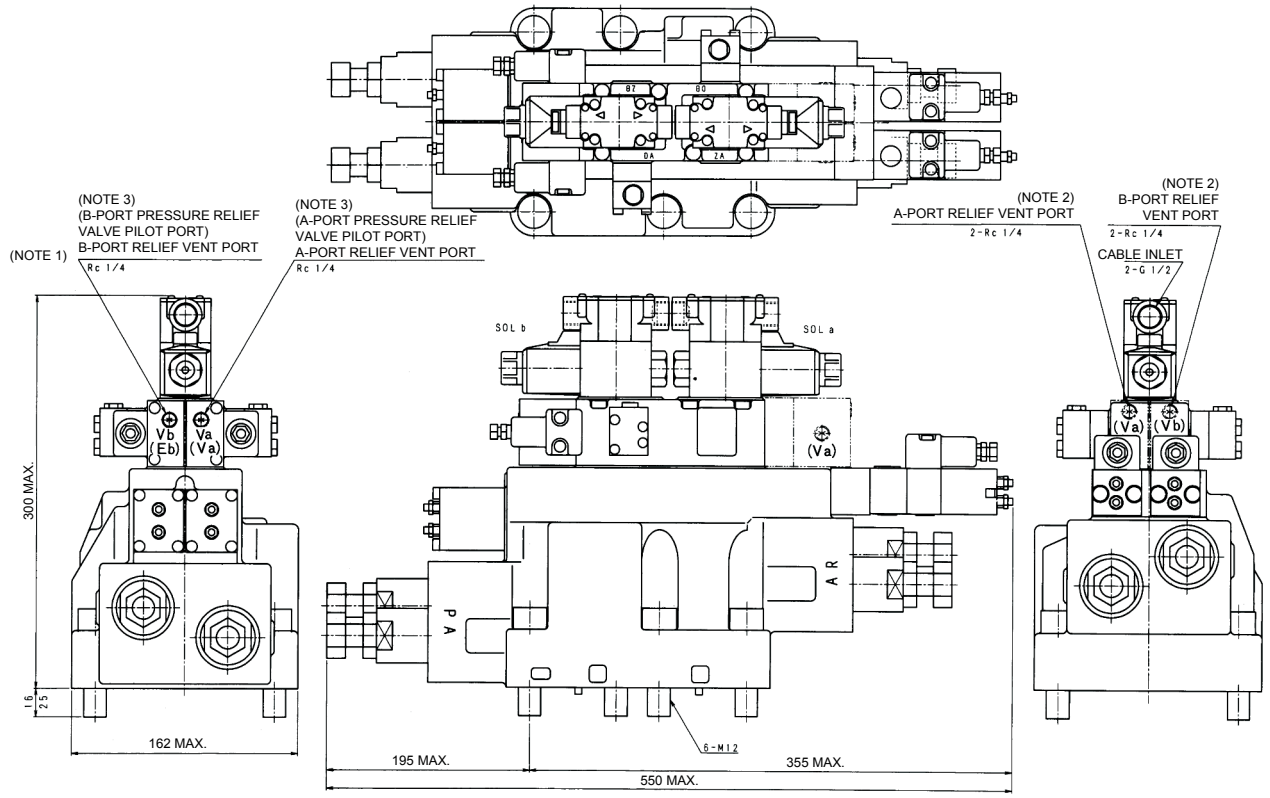
HYDRAULIC CIRCUIT SYMBOLS





NOTE 1: CIRCLED LETTERS INDICATE THE CONTROL FUNCTION CODES FOR THE A AND B PORTS.
NOTE 2: CONCERNING FUNCTIONS Ⓨ, Ⓦ AND Ⓩ, ONE OF THESE FUNCTIONS IS INSTALLED FOR EACH PORT. IN THIS DRAWING, TWO FUNCTIONS ARE SHOWN FOR EACH PORT FOR THE PURPOSE OF EXPLANATION.
NOTE 3: AT THE POSITION WHERE THE S OR L FUNCTION IS SHOWN, ANY OF THE SEVEN FUNCTIONS INDICATED BELOW CAN BE INSTALLED.
NOTE 4: THE FLOW OF THE Ⓠ, Ⓡ, Ⓑ, Ⓐ, Ⓣ, Ⓗ, Ⓟ, Ⓢ, Ⓜ, AND Ⓛ FUNCTIONS IS REGULATED BY THE SETTING OF THE Ⓕ FUNCTION INSTALLED AT THE SAME PORT.

EXTERNAL DIMENSIONS

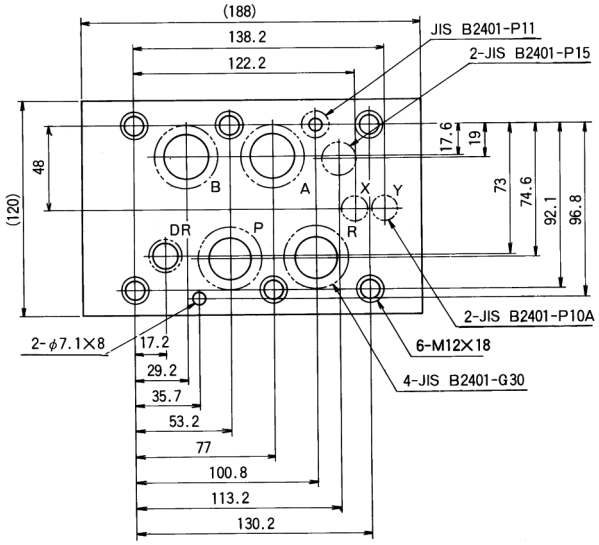


MASS: MAX. 49 kg (SIZE 06)

NOTE 1: INDICATES THE PORT POSITION WHEN CONTROL FUNCTIONS ⑥ AND ⑦ ARE NOT SPECIFIED.
NOTE 2: INDICATES THE PORT POSITION WHEN CONTROL FUNCTIONS ⑥ AND ⑦ ARE SPECIFIED.

MOUNTING DIMENSIONS

● SIZE 06



NOTE: ( ) INDICATES THE BODY MOUNTING FACE DIMENSION.