



## 04 Series Modular Valves Release of New Series

**YUKEN** 005 to 10 series modular valves come in six sizes and have gained a reputation for their high pressure and flow rate capacities.

As part of our product line expansion, we are pleased to announce the release of 04 (1/2) series modular valves.

For hydraulic systems with high flow rates, which 03 series valves (maximum flow rate of 70 L/min) are not capable of handling, 06 series modular valves (maximum flow rate of 500 L/min) have been conventionally used. In such cases, the use of 04 series valves for hydraulic systems with flow rates up to 300 L/min will help reduce both cost and size of the systems.



### [Type of Modular Valve]

Name	Applicable Line	Model Number	Graphic Symbol						Remarks
			P	T	Y	X	B	A	
Reducing Modular Valves	P-Line	MRP-04-△-10							△: Pressure Adj. Range A: 0.7 to 7 MPa B: 1.5 to 7 MPa C: 3.5 to 14 MPa H: 7 to 25 MPa
	A-Line	MRA-04-△-10							
	B-Line	MRB-04-△-10							
Throttle and Check Modular Valves	A-Line	MSA-04-X-10							Direction of Flow X: Metre-in Y: Metre-out
		MSA-04-Y-10							
	B-Line	MSB-04-X-10							
		MSB-04-Y-10							
	A-, B-Lines	MSW-04-X-10							
		MSW-04-Y-10							
Pilot Operated Check Modular Valves	A-Line	MPA-04-*-10							*: Cracking Pressure 2: 0.2 MPa 4: 0.4 MPa
	B-Line	MPB-04-*-10							
	A-, B-Lines	MPW-04-*-10							
Check Modular Valves	P-Line	MCP-04-★-10							★: Cracking Pressure 0: 0.035 MPa 2: 0.2 MPa 4: 0.4 MPa
	T-Line	MCT-04-★-10							
Bolt Kits	—	MBK-04-☆-10							☆: Bolt Number 01, 02, 03, 04 (Refer to Page 7 for details)

- 04 series valves for phosphate ester fluid are also available. To specify a model for phosphate ester fluid, prefix "F-" to the model number because the special seals (fluororubber) are required to be used.

## [Specifications]

Name	Model Number	Max. Flow L/min	Max. Operating Pressure MPa
Reducing Modular Valves	MR*-04-A-10	100*	35
	MR*-04-B/C/H-10	300*	
Throttle and Check Modular Valves	MS*-04-*-10	300	
Pilot Operated Check Modular Valves	MP*-04-*-10		
Check Modular Valves	MC*-04-*-10		

★ The maximum flow for MR\*-04-A and MR\*-04-B may be limited by the pressure setting on the secondary side. Refer to the “Secondary Pressure vs. Max. Flow” on Page 3 and use the valve at the maximum flow rate within a zone highlighted with ( ).

## [Product Release]

August 2011 (Order reception already started)

## [Application]

Machine tools, steel machines, forging pressure machines, and other industrial machinery.

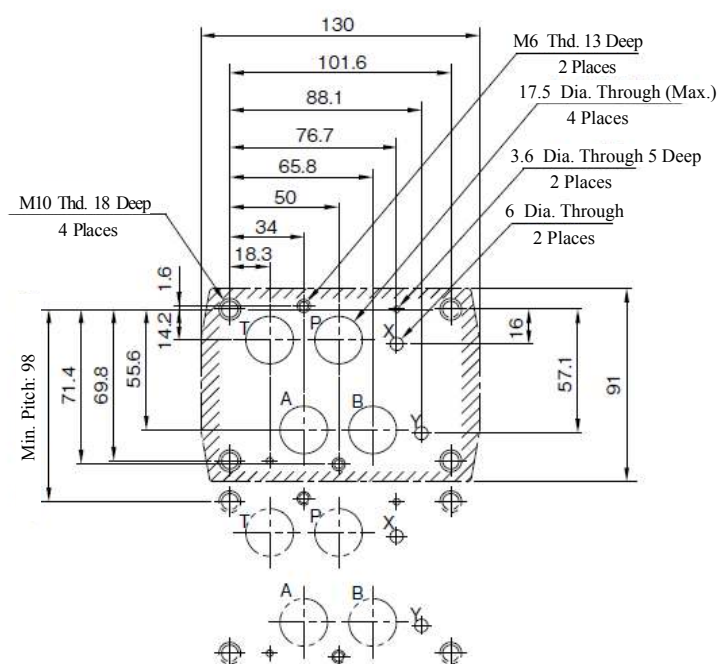
## [Mounting Surface]

When mounting a 04 series modular valve, be sure to use a sub-plate for 1/2 solenoid controlled pilot operated directional valves.

Name	Model Number	Page
Sub-plate for 1/2 Solenoid Controlled Pilot Operated Directional Valves	DHGM-04*-20	8

When no sub-plate is used, be sure to prepare the mounting surface as follows.

These mounting surface dimensions conform to ISO4401-AD-07-4-A (ISO4401-07-06-0-94).



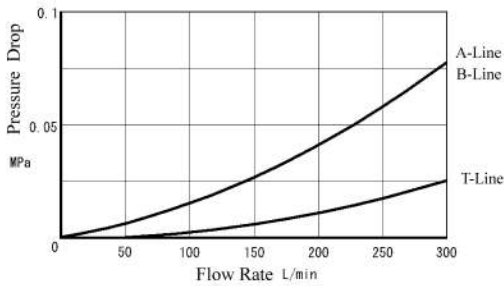
Note) The mounting surface (shaded area in the figure) should have a good machined finish (e.g. surface roughness of 6-S).

## Reducing Modular Valves: MR\*-04-\*-10

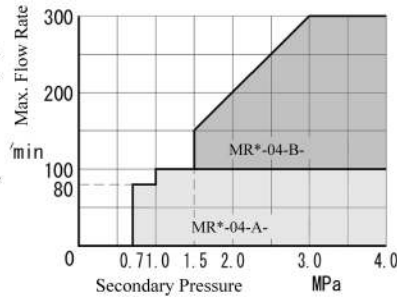
### ■ Typical Performance Characteristics

Hydraulic Fluid: Viscosity 35 mm<sup>2</sup>/s, Specific Gravity 0.850

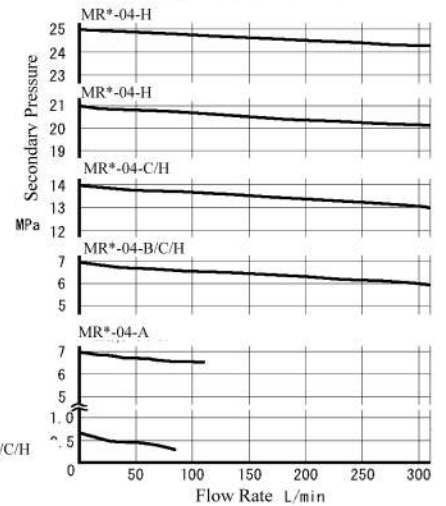
Pressure Drop



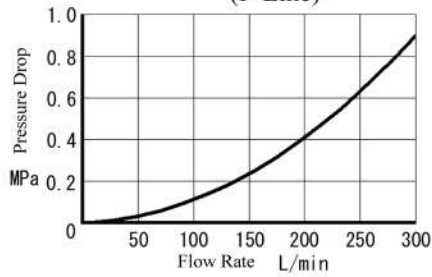
Secondary Pressure vs. Max. Flow



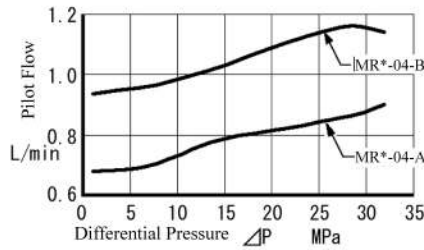
Nominal Override Characteristics  
Primary Pressure 25 MPa



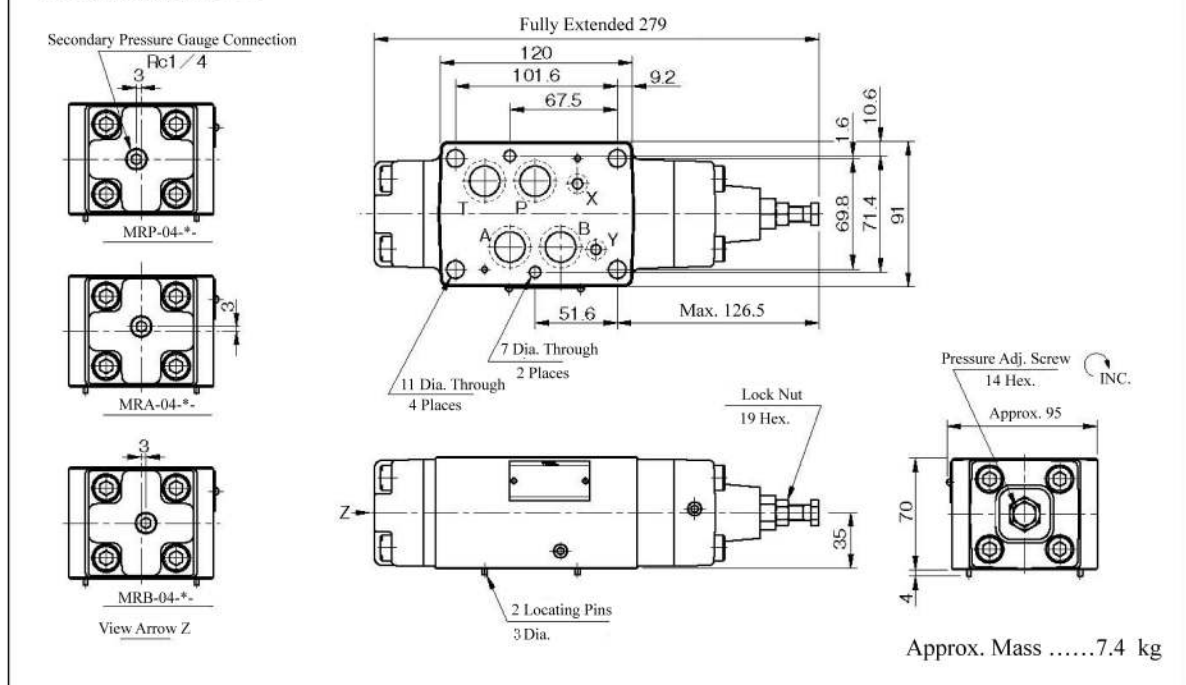
Pres. Drop at Spool Fully Open  
(P-Line)



Pilot Flow



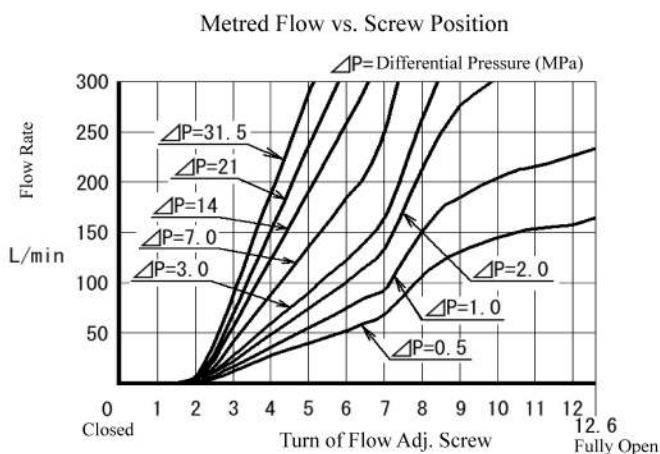
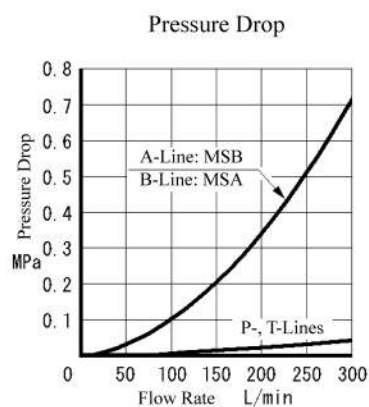
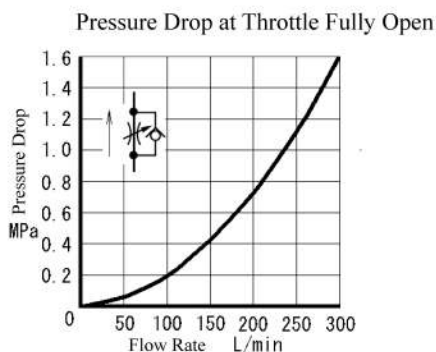
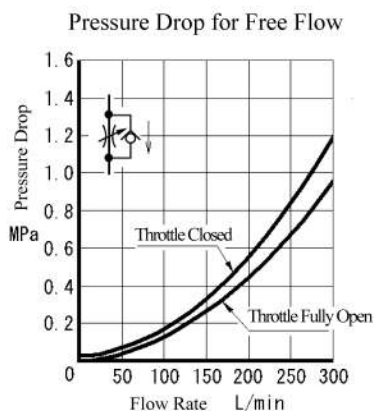
### MRP/MRA/MRB-04



## Throttle and Check Modular Valves: MS\*-04-\*-10

### ■ Typical Performance Characteristics

Hydraulic Fluid: Viscosity 35 mm<sup>2</sup>/s, Specific Gravity 0.850



**MSW-04**

Fully Extended 314

120  
101.6  
67.5  
9.2  
1.6  
10.6  
69.8  
71.4  
91  
51.6  
Fully Extended 105.4

11 Dia. Through  
4 Places

7 Dia. Through  
2 Places

Flow Adj. Screw  
(for A-Line)  
8 Hex.

DEC.

Lock Nut  
19 Hex.

2 Locating Pins  
3 Dia.

Flow Adj. Screw  
(for B-Line)  
8 Hex.

Approx. 95

MSW-04-X...40  
MSW-04-Y...30

Approx. Mass .....7.6 kg

**MSA-04**

Fully Extended 268

59.4

Approx. Mass .....7.4 kg

For other dimensions, refer to  
"MSW-04" on the left.

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**MSB-04**

Fully Extended 268

Fully Extended 105.4

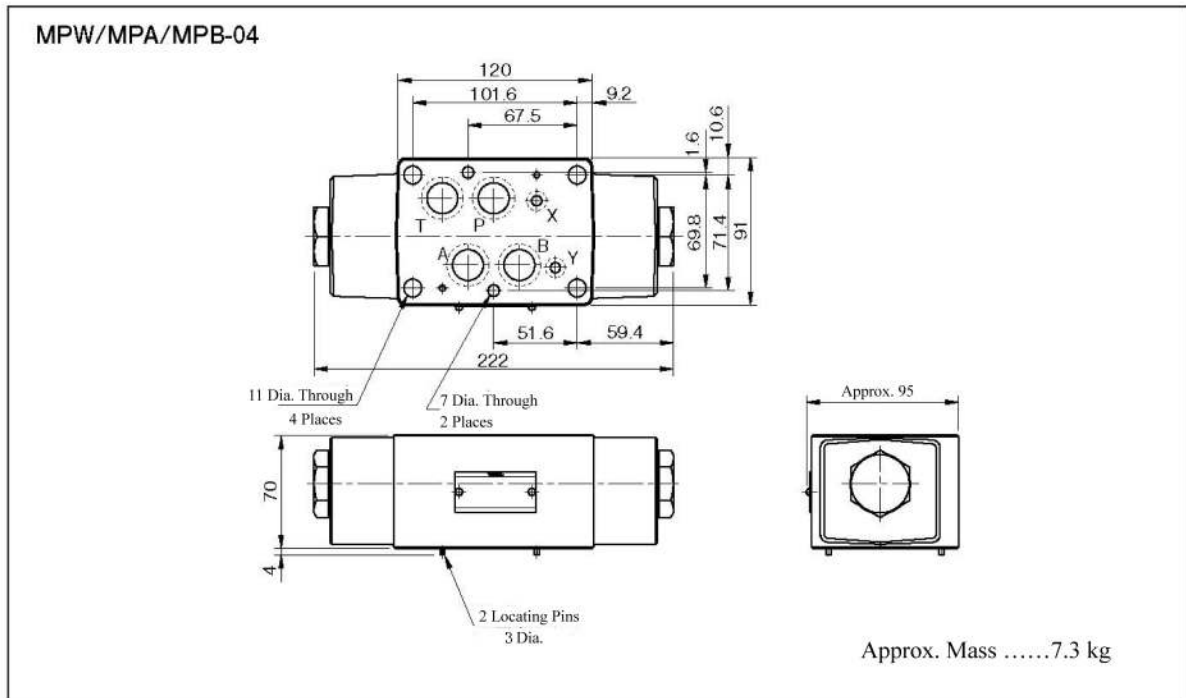
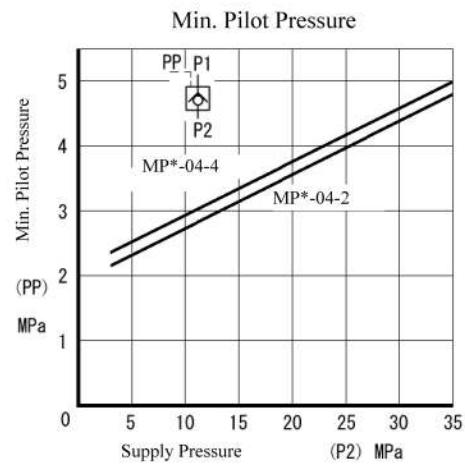
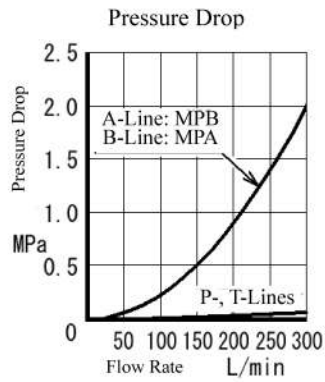
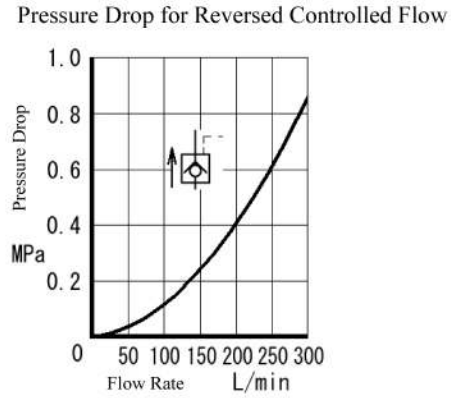
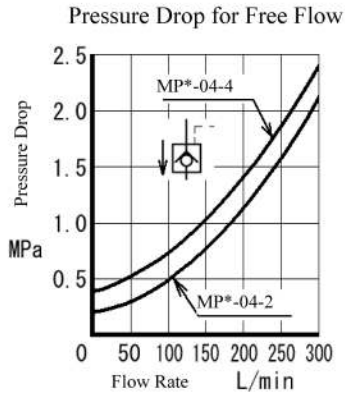
Approx. Mass .....7.4 kg

For other dimensions, refer to  
"MSW-04" on the left.

## Pilot Operated Check Modular Valves: MP\*-04-\* -10

### ■ Typical Performance Characteristics

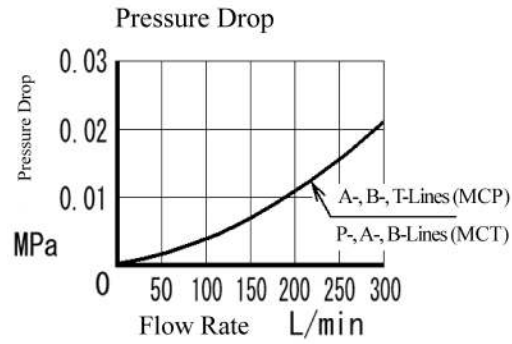
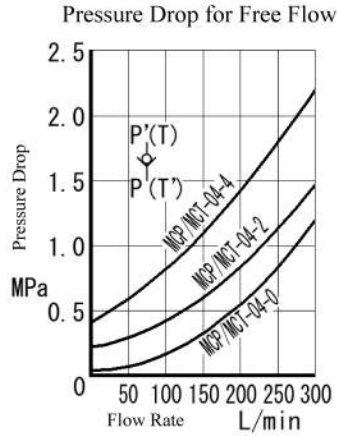
Hydraulic Fluid: Viscosity 35 mm<sup>2</sup>/s, Specific Gravity 0.850



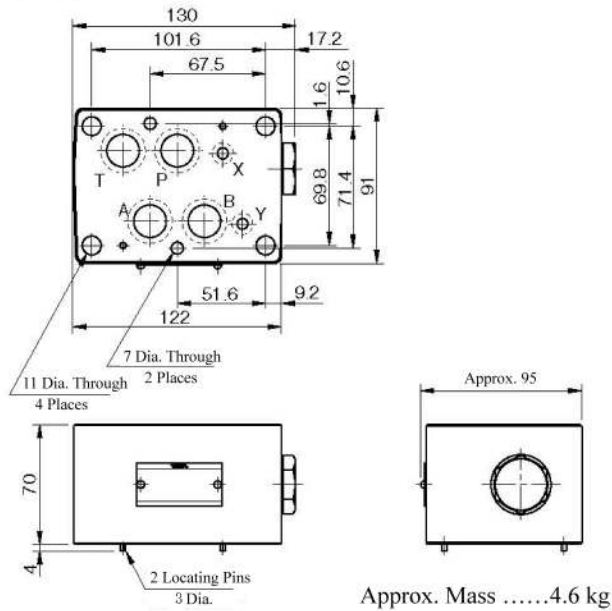
## Check Modular Valves: MC\*-04-\*-10

### ■ Typical Performance Characteristics

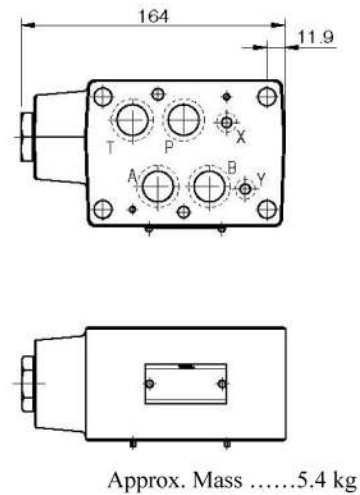
Hydraulic Fluid: Viscosity 35 mm<sup>2</sup>/s, Specific Gravity 0.850



MCP-04



MCT-04



For other dimensions, refer to  
“MCP-04” on the left.

## Mounting Bolt Kits for Modular Valves: MBK-04-\* -10

### ■ Bolt Kits Selection Chart

Model Number	Quantity of Valves to be Stacked		Approx. Mass kg
	Sol. Cont. Pilot Operated Directional Valves (DSHG-04, Design No. 52)	Modular Valve	
MBK-04-01-10	1	1	0.6
MBK-04-02-10	1	2	0.8
MBK-04-03-10	1	3	1.0
MBK-04-04-10	1	4	1.2

#### ● Bolt Kit Composition

##### Stud Bolt

M6 ..... 2 Pcs.

M10 ..... 4 Pcs.

##### Nut

M6 ..... 2 Pcs.

M10 ..... 4 Pcs.

} 1 Set

##### Tightening Torque

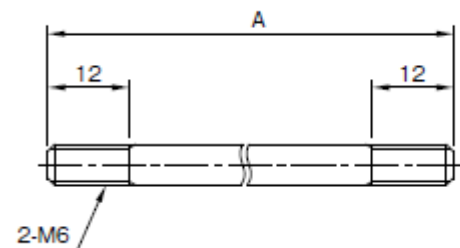
M6 ..... 12 to 15 Nm

M10 ..... 45 to 55 Nm

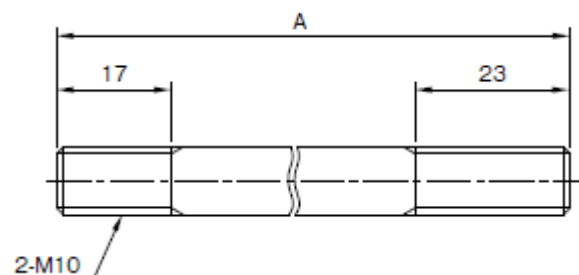
### MBK-04

#### ● Stud Bolt

##### M6



##### M10

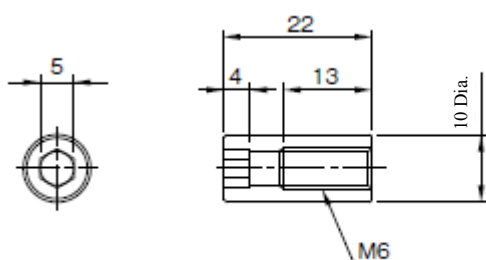


Note) Use M10 stud bolts with the shorter side of the thread on the mounting surface side and the longer side of the thread on the nut side. Refer to "Stacking Example" on Page 8 for details.

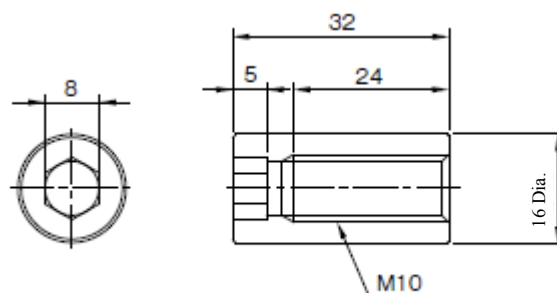
Model Number	A	
	M6	M10
MBK-04-01-10	125	140
MBK-04-02-10	195	210
MBK-04-03-10	265	280
MBK-04-04-10	335	350

#### ● Nut

##### M6

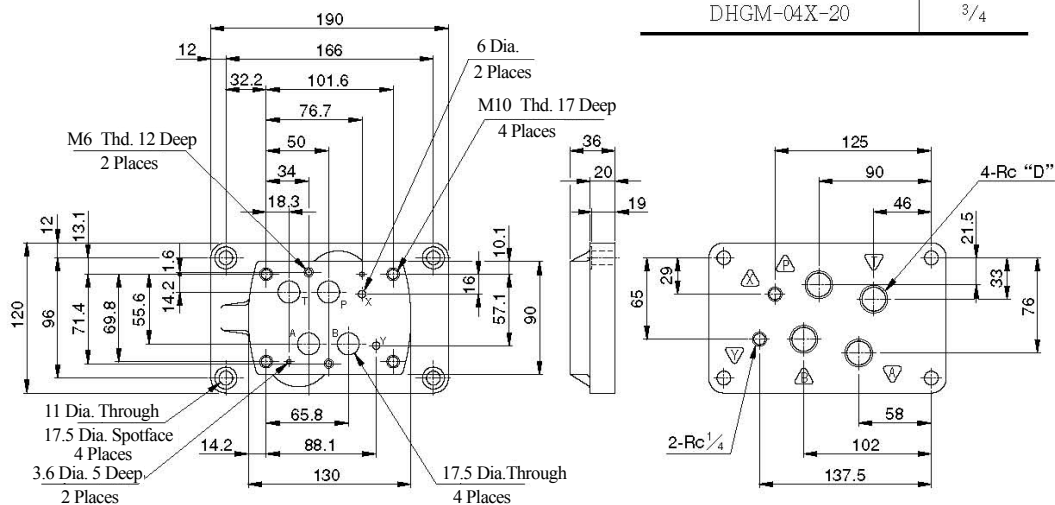


##### M10

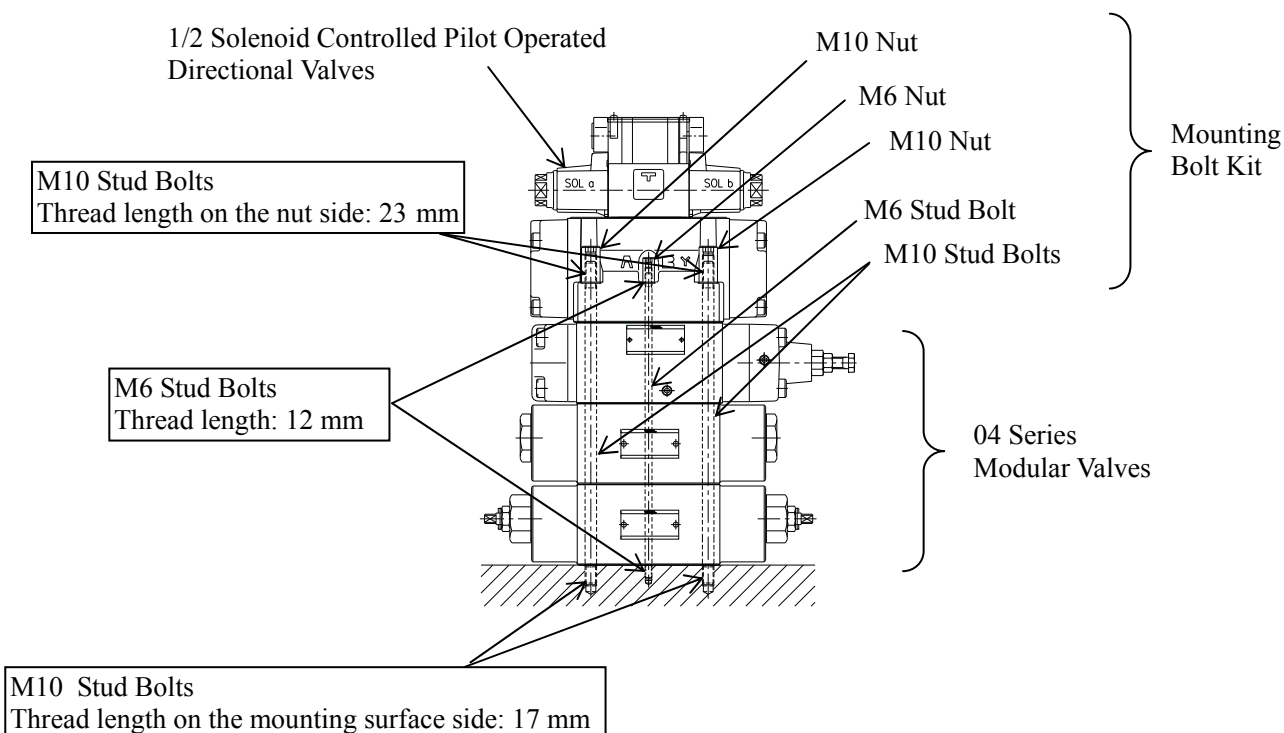


■ Sub-plate  
DHGM-04, 04X

Sub-plate Model Number	"D"
DHGM-04-20	1/2
DHGM-04X-20	3/4



■ Stacking Example of 04 Series Modular Valves



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