


· Motor & Valve edition ·

GUIDE FOR WATER AND AIR CONTROL PRODUCTS

Selection Guide













A complete lineup of products to create the most comfortable indoor environments for office buildings, retail business buildings, and factories.

Motorized valve – **ACTIVAL** series

Compact design—The valve and actuator are integrated as a single unit.





Has a rangeability of 50 :1 and equal percentage characteristics. The SR type is provided with a spring return function.

Description		ACTIVAL				
External view						
						
Model number		VY5100 series				
Type		JIS10K type	JIS10K type	JIS20K type	JIS20K type	JIS10K SR type
Material: body		cast iron (FC200), stainless steel (SCS13A)			ductile cast iron (FCD450)	
Pipe size & Cv value	15A	Cv value : 1–6	–	Cv value : 1–6	–	Cv value : 1-6
	25A	Cv value : 10, 16	–	Cv value : 10, 16	–	Cv value : 10,16
	40A	Cv value : 25, 40	–	Cv value : 25, 40	–	–
	50A	Cv value : 65	Cv value : 65	Cv value : 65	Cv value : 65	–
	65A	–	Cv value : 95	–	Cv value : 95	–
	80A	–	Cv value : 125	–	Cv value : 125	–
Pressure rating		JIS 10K (0.98MPa)		JIS 20K (1.96MPa)		JIS 10K (0.98MPa)
Close off rating		980kPa (490kPa:50A)	980kPa (686kPa:80A)	980kPa (490kPa:50A)	980kPa (686kPa:80A)	980kPa
Control signal		These four types are available by selecting the desired model number : 1) Floating with 135ohm pot. 3) 4-20mA DC input				2) Nominal 135ohm input 4) 2–10V DC input
Timing		53–63s				53–63s(using SR :8 to 60s)
Power supply		24V AC+/-15% 50/60Hz		24V AC+/-15% 50/60Hz		24V AC+/-15% 50/60Hz

Description		ACTIVAL
External view		
		
Model number		VY54X0F (three-way valve)
Type		JIS10K type
Material: body		cast iron (FC200)
Pipe size & Cv value	15A	–
	25A	–
	40A	–
	50A	Cv value:45
	65A	Cv value:70
	80A	Cv value:100
Pressure rating		JIS10K (0.98MPa)
Close off rating		0.3MPa (50A) 0.2MPa (65A) 0.15MPa (80A)
Control signal		These four types are available by selecting the desired model number : 1) Floating with 135ohm pot. 2) Nominal 135ohm input 3) 4-20mADC input 4) 2-10VDC input
Timing		53–63s
Power supply		24V AC +/-15% 50/60Hz



Quick and simple installation! – has a "One-touch lever-locking" mechanism Compact design!

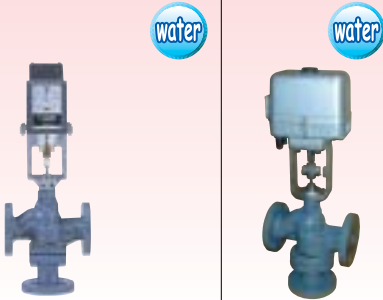
The 2-way valve has an equal-percentage characteristic, and the 3-way valve has a linear characteristic. The 3-way valve can be used for mixing or diverting applications.

Description		ACTIVAL	
External view			
			
Model number	Actuator	MY53X0A	
	Valve	VY5302 (two-way valve)	VY5303 (three-way valve)
Material: body		bronze	
Pipe size & Cv value	Rc 1/2	Cv value : 2.5, 4.0	–
	Rc 3/4	Cv value : 6.3	Cv value : 4.0, 6.3
	Rc 1	Cv value : 10	Cv value : 10
	Rc 1 1/4	Cv value : 16	Cv value : 16
	Rc 1 1/2	Cv value : 25, 40	Cv value : 25
Pressure rating		PN16 (1.6MPa)	
Close off rating		1MPa (Rc 1/2,3/4,1) 0.5MPa (Rc 1 1/4,1 1/2)	0.5MPa (Rc3/4, 1) 0.3MPa (Rc 1 1/4, 1 1/2)
Control signal		These four types are available by selecting the desired model number : 1) Floating with 135ohm pot. 2) Nominal 135ohm input 3) 2-10V DC input 4) Floating(3-position)	
Timing		50/60s (50/60Hz)	
Power supply		24V AC +/-15% 50/60Hz	

Control Valve & Modutrol Motor/High torque actuators

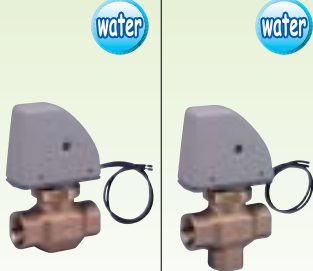
This Cast iron valve has been providing consistent high performance for many years. Provides absolute control of water and steam flows. An excellent lineup of motorized motors with a proven performance history is available.

Description		2-way single seated valve + Modutrol Motor/ High torque actuator			2-way double seated valve + Modutrol Motor/ High torque actuator			
External view								
Model number		Valve V5063A			Valve V5064A			
		Valve linkage /yoke set	Q455C	Q455F	QMY9400A1001	Q455C (-80A) Q455D (100A-)	Q455F (-80A)	QMY9400A1001 (-80A) QMY9400B1001 (100A-)
		Actuator	M904F/E, M604C	M6285A, M9185A (SRtype)	MY9400	M904F/E, M604C	M6285A, M9185A (SRtype)	MY9400 (-80A) MY9401 (100A-)
Valve	Pipe size & Cv value	15A	Cv value : 0.6-4.0			-		
		25A	Cv value : 6.3, 11			-		
		40A	Cv value : 17, 25			Cv value : 20, 28		
		50A	Cv value : 44			Cv value : 50		
		65A	Cv value : 68			Cv value : 78		
		80A	Cv value : 99			Cv value : 112		
		100A	-			Cv value : 200		
		125A	-			Cv value : 260		
	150A	-			Cv value : 380			
Pressure Rating		1MPa (JIS 10K)			1MPa (JIS 10K)			
Actuator	Control signal	Floating with 135ohm pot. (M904F) Nominal 135ohm input (M904E) Floating (M604C)	Floating with 135ohm pot. (M6285A) Nominal 135ohm input (M9185A)	Floating with 135ohm pot.	Floating with 135ohm pot. (M904F) Nominal 135ohm input (M904E) Floating (M604C)	Floating with 135ohm pot. (M6285A) Nominal 135ohm input (M9185A)	Floating with 135ohm pot.	
	Timing	60-72s	60-72s (using SR : less than 30s)	35-42s	60-72s	60-72s (using SR : less than 30s)	35-42s	
	Power supply	24V AC 50/60Hz			100V AC, 200V AC 50/60Hz	24V AC 50/60Hz		100V AC, 200V AC 50/60Hz

Description		3-way mixing valve + Modutrol Motor/ High torque actuator			
External view					
Model number		Valve V5065A			
		Valve linkage /yoke set	Q455C (-80A), Q455D (100A-)	Q455F (-80A)	QMY9400A1001(-80A) QMY9400B1001(100A-)
		Actuator	M904F/E, M604C	M6285A, M9185A (SRtype)	MY9402(-80A) MY9403(100A-)
Valve	Pipe size & Cv value	15A	-		
		25A	Cv value : 6.3, 11		
		40A	Cv value : 18, 28		
		50A	Cv value : 50		
		65A	Cv value : 72		
		80A	Cv value : 102		
		100A	Cv value : 188		
		125A	Cv value : 280		
	150A	Cv value : 360			
Pressure Rating		1MPa (JIS 10K)			
Actuator	Control signal	Floating with 135ohm pot. (M904F) Nominal 135ohm input (M904E) Floating (M604C)	Floating with 135ohm pot. (M6285A) Nominal 135ohm input (M9185A)	Floating with 135ohm pot.	
	Timing	60-72s	60-72s (using SR : less than 30s)	35-42s	
	Power supply	24V AC 50/60Hz		100V AC, 200V AC 50/60Hz	

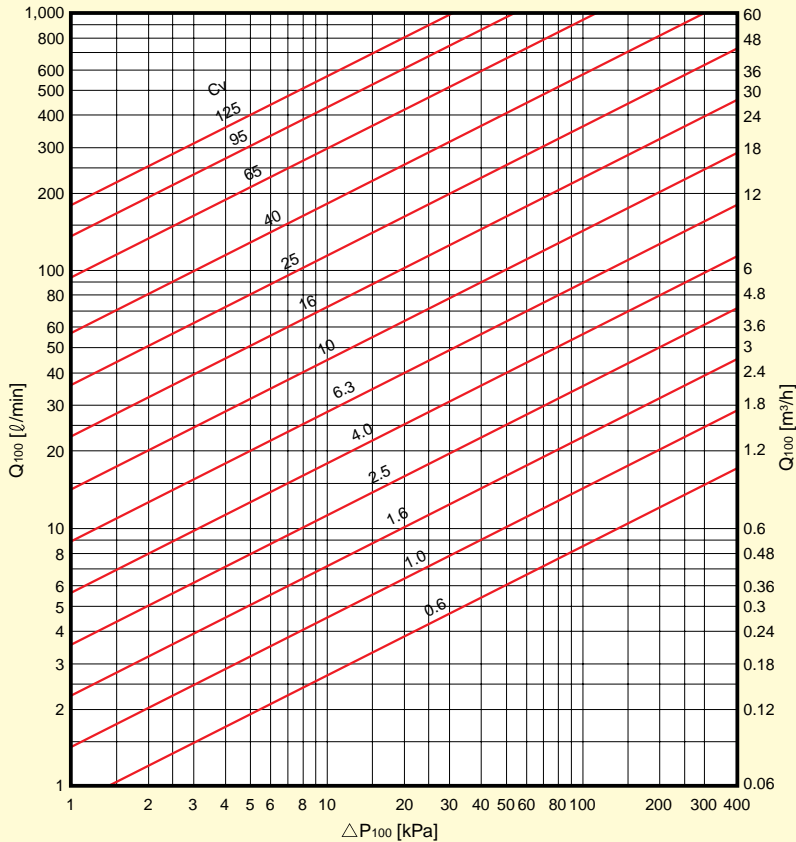
Motorized on-off valve for Fan Coil Units

Compact wax-motor valve with spring return function provided. The 3-way valve can be used for mixing or diverting applications.

Description		ECOVAL	
External view			
Model number		VJ200A	VJ200B
Material: body		bronze	
Pipe size & Cv value	Rc 1/2	Cv value : 3.5	Cv value : 3.0
	Rc 3/4	Cv value : 4.0	Cv value : 3.5
	Rc 1	Cv value : 4.2	Cv value : 4.0
Pressure rating		2.16MPa	
Close off rating		0.39MPa	0.12MPa
Timing		approx. 5 min.	
Power supply		80-240V AC 50/60Hz	

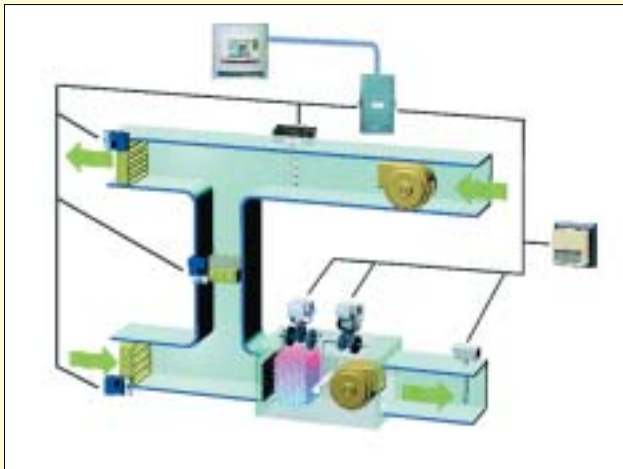
Sizing

● Flow diagram



ΔP_{100} : Pressure drop with fully open valve
 Q_{100} : Flow rate with fully open valve

Application Example



Constant air volume air handling unit control

1. Room temperature control
2. Room humidity control (humidifying /dehumidifying)
3. Outdoor air cooling control
4. Warming up control
5. CO₂ control (outdoor air intake control)
6. Interlock control while AHU is off

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