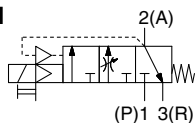


Soft Start-up Valve

AV2000-A/3000-A/4000-A/5000-A Series

Symbol



How to Order



AV **20** **00** - **02** **B** - **1** **D** **B** - **1** - A

1 2 3 4 5 6 7 8 9

*1 CE compliant

	Electrical entry	
	Grommet	DIN terminal
AC	—	●
DC	●	●

			Symbol	Description	1						
					Body size						
					20	30	40	50			
2	Thread type	Nil	Rc		●	●	●	●			
		N	NPT		●	●	●	●			
		F	G		●	●	●	●			
+											
3	Port size 1(P), 2(A)	02	1/4		●	—	—	—			
		03	3/8		—	●	—	—			
		04	1/2		—	—	●	—			
		06	3/4		—	—	—	●			
		10	1		—	—	—	●			
+											
4	Option	a	Mounting	Nil	Without mounting option		●	●	●	●	
				B	With bracket		●	●	●	●	
	+										
	b	Pressure gauge	Nil	Without pressure gauge		●	●	●	●		
			G	Round type pressure gauge (with limit indicator)		●	●	●	●		
	+										
c	Silencer	Nil	Without silencer		●	●	●	●			
		S	Silencer (Built-in)		●	●	●	●			
+											
5	d	Rated coil voltage	AC (50/60 Hz)	1	100 VAC		●	●	●	●	
				2	200 VAC		●	●	●	●	
				3	110 VAC [115 VAC]*1		●	●	●	●	
				4	220 VAC [230 VAC]*1		●	●	●	●	
				DC	5	24 VDC		●	●	●	●
					6	12 VDC		●	●	●	●
+											
6	e	Electrical entry	G	Grommet (Lead wire length: 300 mm)		●	●	●	●		
			D	Type D (DIN terminal/With connector)		●	●	●	●		
			Y	Type Y (DIN terminal/With connector)*2		●	●	●	●		
			DO	Type D (DIN terminal/Without connector)		●	●	●	●		
			YO	Type Y (DIN terminal/Without connector)		●	●	●	●		
+											
7	f	Light/ surge voltage suppressor	Nil	None		●	●	●	●		
			Z	With light/surge voltage suppressor		○*3	○*3	○*3	○*3		
+											
8	g	Manual override	Nil	Non-locking push type		●	●	●	●		
			B	Push-turn locking slotted type		●	●	●	●		
			C	Push-turn locking lever type		●	●	●	●		
+											
9	Semi-standard	h	Flow direction	Nil	Flow direction: Left to right		●	●	●	●	
				R	Flow direction: Right to left		●	●	●	●	
		+									
i	Pressure unit	Nil	Name plate and pressure gauge in SI units: MPa		●	●	●	●			
		Z	Name plate and pressure gauge in imperial units: psi		○*4	○*4	○*4	○*4			

*1 The 110 VAC and 115 VAC are interchangeable. The 220 VAC and 230 VAC are interchangeable as well. The allowable voltage fluctuation is -15% to +5% of the rated voltage for the 115 VAC or 230 VAC.

*2 Type "Y" is a DIN terminal conforming to EN-175301-803C (former DIN43650C).

*3 When the electrical entry is DO or YO, light/surge voltage suppressor cannot be selected.

*4 Only for the NPT thread

• Option: Select one each for a to c.
• Option symbol: When more than one specification is required, indicate in alphabetical order.
Example) AV2000-02BGS-1DB-A

Soft Start-up Valve **AV2000-A/3000-A/4000-A/5000-A Series**

Specifications

Series		AV2000-A	AV3000-A	AV4000-A	AV5000-A	
Port size	1(P), 2(A)	1/4	3/8	1/2	3/4	1
	3(R)	1/4	3/8	1/2	3/4	
Pressure gauge port size		1/8				
Fluid		Air				
Ambient and fluid temperature		0 to 50°C*1				
Proof pressure		1.5 MPa				
Operating pressure range		0.2 to 1.0 MPa				
Weight [kg]		0.43	0.45	0.80	1.30	1.25
Enclosure		Dust-protected (DIN terminal: IP65*2)				

*1 If the temperature is low, use the product with dry air to prevent it from freezing.

*2 Based on IEC60529

Solenoid Specifications

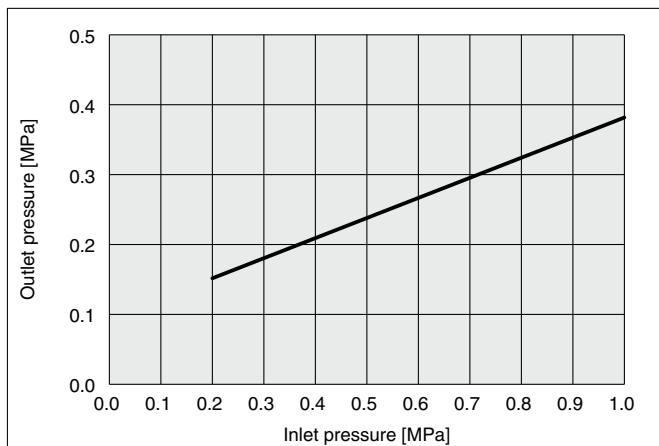
Electrical entry			Grommet	DIN terminal
Rated coil voltage [V]	DC		24, 12 V	
	AC	50/60 Hz	100, 200, 110 [115], 220 [230]*1	
Allowable voltage fluctuation	DC	24 V	±10% of the rated voltage	
		12 V	±10% of the rated voltage	
	AC	100 V	±10% of the rated voltage	
		110 V*1	±10% of the rated voltage	
		[115 V]	[−15% to +5% of the rated voltage]	
		200 V	±10% of the rated voltage	
		220 V*1	±10% of the rated voltage	
		[230 V]	[−15% to +5% of the rated voltage]	
Power consumption [W]	DC	0.35 (With light: 0.4)0.35 (With light: 0.45)		
Apparent power [VA]	AC	100 V	0.78 (With light: 0.81)0.78 (With light: 0.87)	
		110 V	0.86 (With light: 0.89)0.86 (With light: 0.97)	
		[115 V]	[0.94 (With light: 0.97)][0.94 (With light: 1.07)]	
		200 V	1.18 (With light: 1.22)1.15 (With light: 1.30)	
		220 V	1.30 (With light: 1.34)1.27 (With light: 1.46)	
		[230 V]	[1.42 (With light: 1.46)][1.39 (With light: 1.60)]	
Surge voltage suppressor			Refer to the Specific Product Precautions 4 on page 13.	
Indicator light			LED	LED (Neon bulb for AC)

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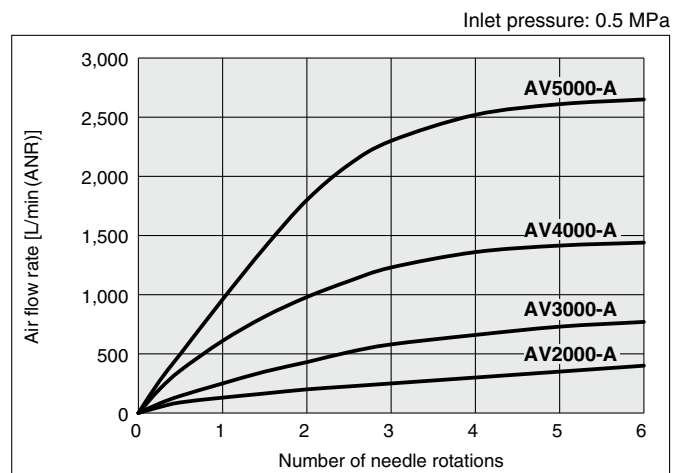
Flow Rate Characteristics

Series		AV2000-A	AV3000-A	AV4000-A	AV5000-A	
Port size	1(P), 2(A)	1/4	3/8	1/2	3/4	1
	3(R)	1/4	3/8	1/2	3/4	
Flow rate characteristics	1(P) → 2(A)	C[dm ³ /(s·bar)]	9.2	13.1	19.2	34.8
		b	0.36	0.27	0.32	0.66
		Cv	2.4	3.1	5.1	12.6
	2(A) → 3(R)	C[dm ³ /(s·bar)]	8.8	9.2	10.1	23.7
		b	0.46	0.48	0.55	0.67
		Cv	2.5	2.6	3.2	9.2

Pressure for switching from low speed air supply to rapid air supply

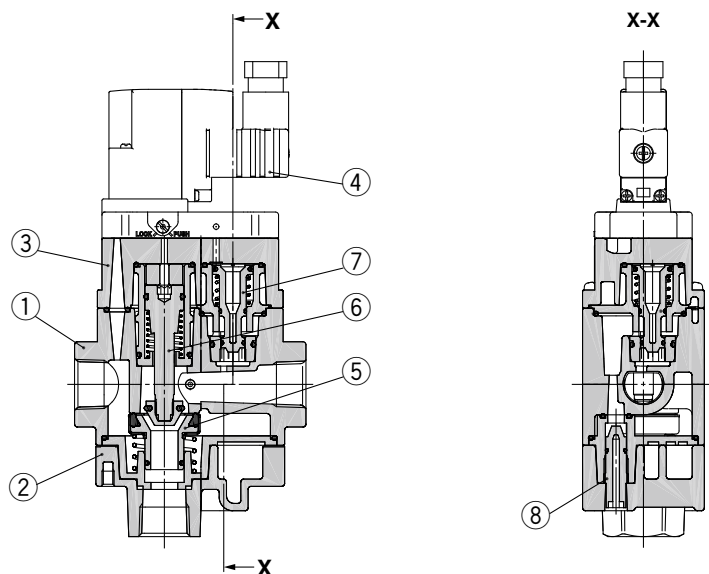


Needle flow characteristics at low speed air supply * Representative values



AV2000-A/3000-A/4000-A/5000-A Series

Construction



Component Parts

No.	Description	Material
1	Body	Aluminum die-cast
2	Bottom cover	Aluminum die-cast
3	Top cover	Aluminum die-cast

Replacement Parts

No.	Description	Material	AV2000-A	AV3000-A	AV4000-A	AV5000-A
4	Pilot valve assembly*1	—	See below.		See below.	
5	Valve assembly	Rubber material: HNBR	AV22P-060AS		AV42P-060AS	AV52P-060AS
6	Control valve assembly	—	AV22P-110AS		AV42P-110AS	AV52P-110AS
7	Piston assembly	POM, NBR	AV22P-120AS		AV42P-120AS	AV52P-120AS
8	Needle assembly	POM, NBR	AV22P-150AS	AV32P-150AS	AV42P-150AS	AV52P-150AS
9	Plug assembly	POM, NBR	AR22P-320AS-□01			

*1 See below for How to Order of the pilot valve.

How to Order Pilot Valve Assembly

AV **2** 0 - **1** **G** **B** A

① ② ③ ④ ⑤

			Symbol	Description
①	Applicable model		2	AV2000-A, AV3000-A
			4	AV4000-A, AV5000-A
+				
②	Rated coil voltage	AC (50/60 Hz)	1	100 VAC
			2	200 VAC
			3	110 VAC [115 VAC]*1
			4	220 VAC [230 VAC]*1
	DC	5	24 VDC	
		6	12 VDC	
+				
③	Electrical entry		G	Grommet (Lead wire length: 300 mm)
			D	Type D (DIN terminal/With connector)
			Y	Type Y (DIN terminal/With connector)*2
			DO	Type D (DIN terminal/Without connector)
			YO	Type Y (DIN terminal/Without connector)
+				
④	Light/surge voltage suppressor		Nil	None
			Z	With light/surge voltage suppressor
+				
⑤	Manual override		Nil	Non-locking push type
			B	Push-turn locking slotted type
			C	Push-turn locking lever type

*1 The 110 VAC and 115 VAC are interchangeable. The 220 VAC and 230 VAC are interchangeable as well.

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*2 Type "Y" is a DIN terminal conforming to EN-175301-803C (former DIN43650C).

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