



Guide Process Valves

SELECTION FOR THE MOST COMMON APPLICATIONS



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Selection for the most common applications

Guide – Process Valves

In this brochure, you'll find SMC's core selection of process valves for the most common applications. These products are available for fast delivery from our local warehouses in Europe.

If your specific application isn't covered in this guide, you can configure your own valve solution in just four steps on our website. Read more about this on the last page, and don't hesitate to contact SMC's customer service if you have any questions. You'll find the contact details at the last page.



Solenoid valves for oil

Function: 2/2 NC
 Voltage: 24 VDC
 Electric connection: DIN-connector
 Fluid temperature: -5 to 60°C (Kinematic viscosity: 50 mm²/s or less)
 Ambient temperature: -20°C till +60°C



Oil

Housing/Seal material	Connection	Orifice [mm]	Cv	Kv [m 3h]	Pressure differential [MPa]	Part number
 Brass / FKM	G 1/8"	1.6	0.08	0.07	0 - 0.9	JSX11-CF101F-5DS
		3.2	0.35	0.30	0 - 0.7	JSX21-CF301F-5DS
	G 1/4"	3.2	0.35	0.30	0 - 0.7	JSX21-CF302F-5DS
		4.0	0.52	0.45	0 - 1.0	JSX31-CF402F-5DS
		10	2.40	1.60	0 - 1.0	JSXZ31-CF02F-5DS
	G 3/8"	4.0	0.52	0.45	0 - 1.0	JSX31-CF403F-5DS
7.1 10		0.88 2.60	0.76 2.00	0 - 0.8 0 - 1.0	JSX31U-CF703F-5DS JSXZ31-CF03F-5DS	
G 1/2"	10	2.40	2.00	0.02 - 1.0	JSXD31-CF04F-5DS	
	15 15	5.50 6.00	4.60 4.60	0.02 - 1.0 0 - 1.0	JSXD41-CF04F-5DS JSXZ41-CF04F-5DS	
G 3/4"	20	9.40	7.80	0 - 1.0	JSXZ51-CF06F-5DS	
	20	9.50	8.20	0.02 - 1.0	JSXD51-CF06F-5DS	
G 1"	25	10.2	8.70	0 - 1.0	JSXZ61-CF10F-5DS	
	25	13.0	11.0	0.02 - 1.0	JSXD61-CF10F-5DS	
 Bronze / FKM	G 1 1/4"	35	23.0	19.6	0.03 - 1.0	JSXD71-BF12F-5DS
	G 1 1/2"	40	31.0	26.4	0.03 - 1.0	JSXD81-BF14F-5DS
	G 2"	50	49.0	42.8	0.03 - 1.0	JSXD91-BF20F-5DS

Note) For 230 VAC switch 5 to J and for M12 connector switch DS to WN in the part number

Housing/Seal material	Connection	Orifice [mm]	Cv	Kv [m 3h]	Pressure differential [MPa]	Part number
 Stainless steel / FKM	G 1/8"	1.6	0.08	0.07	0 - 0.9	JSX11-SF101F-5DS
		3.2	0.35	0.30	0 - 0.7	JSX21-SF301F-5DS
	G 1/4"	3.2	0.35	0.30	0 - 0.7	JSX21-SF302F-5DS
		4.0	0.52	0.45	0 - 1.0	JSX31-SF402F-5DS
		10	2.40	1.60	0 - 1.0	JSXZ31-SF02F-5DS
	G 3/8"	4.0	0.52	0.45	0 - 1.0	JSX31-SF403F-5DS
7.1 10		0.88 2.60	0.76 2.00	0 - 0.8 0 - 1.0	JSX31U-SF703F-5DS JSXZ31-SF03F-5DS	
G 1/2"	10	2.40	2.00	0.02 - 1.0	JSXD31-SF04F-5DS	
	15 15	5.50 6.00	4.60 4.60	0.02 - 1.0 0 - 1.0	JSXD41-SF04F-5DS JSXZ41-SF04F-5DS	
G 3/4"	20	9.40	7.80	0 - 1.0	JSXZ51-SF06F-5DS	
	20	9.50	8.20	0.02 - 1.0	JSXD51-SF06F-5DS	
G 1"	25	10.2	8.70	0 - 1.0	JSXZ61-SF10F-5DS	
	25	13.0	11.0	0.02 - 1.0	JSXD61-SF10F-5DS	

Note) For 230 VAC switch 5 to J and for M12 connector switch DS to WN in the part number

Solenoid valves for air & inert gases

Function: 2/2 NC
 Voltage: 24 VDC
 Electric connection: DIN-connector w surge voltage suppressor
 Fluid temperature: -10°C to +60°C
 Ambient temperature: -20°C to +60°C



Air & Inert gases

Housing/Seal material	Connection	Orifice [mm]	Cv	Kv [m 3h]	Pressure differential [MPa]	Part number
 Brass / NBR	G 1/8"	1.6 3.2	0.08 0.35	0.07 0.30	0 - 0.9 0 - 0.7	JSX11-CN101F-5DS JSX21-CN301F-5DS
	G 1/4"	3.2 4.0 10	0.35 0.52 2.40	0.30 0.45 1.60	0 - 0.7 0 - 1.0 0 - 1.0	JSX21-CN302F-5DS JSX31-CN402F-5DS JSXZ31-CN02F-5DS
	G 3/8"	4.0 7.1 10	0.52 0.88 2.60	0.45 0.76 2.00	0 - 1.0 0 - 0.8 0 - 1.0	JSX31-CN403F-5DS JSX31U-CN703F-5DS JSXZ31-CN03F-5DS
	G 1/2"	10 15 15	2.40 5.50 6.00	2.00 4.60 4.60	0.02 - 1.0 0.02 - 1.0 0 - 1.0	JSXD31-CN04F-5DS JSXD41-CN04F-5DS JSXZ41-CN04F-5DS
	G 3/4"	20 20	9.40 9.50	7.80 8.20	0 - 1.0 0.02 - 1.0	JSXZ51-CN06F-5DS JSXD51-CN06F-5DS
	G 1"	25 25	10.2 13.0	8.70 11.0	0 - 1.0 0.02 - 1.0	JSXZ61-CN10F-5DS JSXD61-CN10F-5DS
 Bronze / NBR	G 1 1/4"	35	23.0	19.6	0.03 - 1.0	JSXD71-BN12F-5DS
	G 1 1/2"	40	31.0	26.4	0.03 - 1.0	JSXD81-BN14F-5DS
	G 2"	50	49.0	42.8	0.03 - 1.0	JSXD91-BN20F-5DS

Note) For 230 VAC switch 5 to J and for M12 connector switch DS to WN in the part number

Housing/Seal material	Connection	Orifice [mm]	Cv	Kv [m 3h]	Pressure differential [MPa]	Part number
 Stainless steel / NBR	G 1/8"	1.6 3.2	0.08 0.35	0.07 0.30	0 - 0.9 0 - 0.7	JSX11-SN101F-5DS JSX21-SN301F-5DS
	G 1/4"	3.2 4.0 10	0.35 0.52 2.40	0.30 0.45 1.60	0 - 0.7 0 - 1.0 0 - 1.0	JSX21-SN302F-5DS JSX31-SN402F-5DS JSXZ31-SN02F-5DS
	G 3/8"	4.0 7.1 10	0.52 0.88 2.60	0.45 0.76 2.00	0 - 1.0 0 - 0.8 0 - 1.0	JSX31-SN403F-5DS JSX31U-SN703F-5DS JSXZ31-SN03F-5DS
	G 1/2"	10 15 15	2.40 5.50 6.00	2.00 4.60 4.60	0.02 - 1.0 0.02 - 1.0 0 - 1.0	JSXD31-SN04F-5DS JSXD41-SN04F-5DS JSXZ41-SN04F-5DS
	G 3/4"	20 20	9.40 9.50	7.80 8.20	0 - 1.0 0.02 - 1.0	JSXZ51-SN06F-5DS JSXD51-SN06F-5DS
	G 1"	25 25	10.2 13.0	8.70 11.0	0 - 1.0 0.02 - 1.0	JSXZ61-SN10F-5DS JSXD61-SN10F-5DS

Note) For 230 VAC switch 5 to J and for M12 connector switch DS to WN in the part number



Air & Inert gases

Housing/Seal material	Connection	Orifice [mm]	Cv	Kv [m 3h]	Pressure differential [MPa]	Part number
 PBT Resin / NBR	Ø 6 mm	2 3	0,23 0,35	- -	0 - 1.0 0 - 0.6	VX210HG VX210JG
	Ø 8 mm	3 4	0,41 0,47	- -	0 - 0.6 0 - 1.0	VX210MG VX220HG
	Ø 10 mm	5 10	0,7 1,7	- -	0 - 1.0 0 - 0.7	VX230HG VXZ230CG
	Ø 12 mm	10 10	2 1,5	- -	0 - 0.7 0.02 - 0.7	VXZ230EG VXD230FG

Note) For 230 VAC switch G to L in the part number

Solenoid valves for high pressure air & inert gases

Function: 2/2 NC

Voltage: 24 VDC

Electric connection: DIN-connector w surge voltage suppressor

Fluid temperature: -10°C to +50°C

Ambient temperature: -10°C to +50°C

Housing/Seal material	Connection	Orifice [mm]	Cv	Kv [m 3h]	Pressure differential [MPa]	Part number
 Brass / PUR / HNBR	G 1/4"	3.2	0.33	-	0 - 3.0	JSX31H-CN302F-5DS
	G 3/8"	16	3.9	-	0.15 - 4.0	JSXH21D-CH03F-5DS-X1
	G 1/2"	16	4.3	-	0.15 - 4.0	JSXH21D-CH04F-5DS-X1

Note) For 230 VAC switch 5 to J and for M12 connector switch DS to WN in the part number

Air operated angel seat valves for air & inert gases

Function: 2/2 NC Air operated

Pilot pressure 0.5 - 1.0 MPa

Fluid temperature: max +99°C

Ambient temperature: 0°C to +60°C

Housing/Seal material	Connection	Orifice [mm]	Cv	Kv [m 3h]	Pressure differential [MPa]	Part number
 Stainless steel / PTFE	G 3/8"	10	5.0	4.3	1.0 1.6	JSB11-ST10AF-2S JSB11H-ST10AF-2S
	G 1/2"	15	8.0	6.9	1.0 1.6	JSB21-ST15AF-2S JSB21H-ST15AF-3S
	G 3/4"	20	16.0	13.8	1.0 1.6	JSB31-ST20AF-3S JSB31H-ST20AF-4S
	G 1"	25	29.1	25.2	1.0 1.6	JSB41-ST25AF-4S JSB41H-ST25AF-5S
	G 1 1/4"	32	41.3	35.7	1.0 1.6	JSB51-ST32AF-5S JSB51H-ST32AF-6S
	G 1 1/2"	40	59.5	51.5	1.0 1.6	JSB61-ST40AF-6S JSB61H-ST40AF-7S
	G 2"	50	87.5	75.7	1.0	JSB71-ST50AF-7S

Solenoid valves for water

Function: 2/2 NC
 Voltage: 24 VDC
 Electric connection: DIN-connector w surge voltage suppressor
 Fluid temperature: 1°C till +60°C
 Ambient temperature: -20°C till +60°C



Water

Housing/Seal material	Connection	Orifice [mm]	Cv	Kv [m 3h]	Pressure differential [MPa]	Part number
 Brass / NBR	G 1/8"	1.6	0.08	0.07	0 - 0.9	JSX11-CN101F-5DS
		3.2	0.35	0.30	0 - 0.7	JSX21-CN301F-5DS
	G 1/4"	3.2	0.35	0.30	0 - 0.7	JSX21-CN302F-5DS
		4.0	0.52	0.45	0 - 1.0	JSX31-CN402F-5DS
		10	2.40	1.60	0 - 1.0	JSXZ31-CN02F-5DS
	G 3/8"	4.0	0.52	0.45	0 - 1.0	JSX31-CN403F-5DS
7.1		0.88	0.76	0 - 0.8	JSX31U-CN703F-5DS	
10	2.60	2.00	0 - 1.0	JSXZ31-CN03F-5DS		
G 1/2"	10	2.40	2.00	0.02 - 1.0	JSXD31-CN04F-5DS	
	15	5.50	4.60	0.02 - 1.0	JSXD41-CN04F-5DS	
15	6.00	4.60	0 - 1.0	JSXZ41-CN04F-5DS		
G 3/4"	20	9.40	7.80	0 - 1.0	JSXZ51-CN06F-5DS	
	20	9.50	8.20	0.02 - 1.0	JSXD51-CN06F-5DS	
G 1"	25	10.2	8.70	0 - 1.0	JSXZ61-CN10F-5DS	
	25	13.0	11.0	0.02 - 1.0	JSXD61-CN10F-5DS	
 Bronze / NBR	G 1 1/4"	35	23.0	19.6	0.03 - 1.0	JSXD71-BN12F-5DS
	G 1 1/2"	40	31.0	26.4	0.03 - 1.0	JSXD81-BN14F-5DS
	G 2"	50	49.0	42.8	0.03 - 1.0	JSXD91-BN20F-5DS

Note) For 230 VAC switch 5 to J and for M12 connector switch DS to WN in the part number

Housing/Seal material	Connection	Orifice [mm]	Cv	Kv [m 3h]	Pressure differential [MPa]	Part number
 Stainless steel/ NBR	G 1/8"	1.6	0.08	0.07	0 - 0.9	JSX11-SN101F-5DS
		3.2	0.35	0.30	0 - 0.7	JSX21-SN301F-5DS
	G 1/4"	3.2	0.35	0.30	0 - 0.7	JSX21-SN302F-5DS
		4.0	0.52	0.45	0 - 1.0	JSX31-SN402F-5DS
		10	2.40	1.60	0 - 1.0	JSXZ31-SN02F-5DS
	G 3/8"	4.0	0.52	0.45	0 - 1.0	JSX31-SN403F-5DS
7.1		0.88	0.76	0 - 0.8	JSX31U-SN703F-5DS	
10	2.60	2.00	0 - 1.0	JSXZ31-SN03F-5DS		
G 1/2"	10	2.40	2.00	0.02 - 1.0	JSXD31-SN04F-5DS	
	15	5.50	4.60	0.02 - 1.0	JSXD41-SN04F-5DS	
15	6.00	4.60	0 - 1.0	JSXZ41-SN04F-5DS		
G 3/4"	20	9.40	7.80	0 - 1.0	JSXZ51-SN06F-5DS	
	20	9.50	8.20	0.02 - 1.0	JSXD51-SN06F-5DS	
G 1"	25	10.2	8.70	0 - 1.0	JSXZ61-SN10F-5DS	
	25	13.0	11.0	0.02 - 1.0	JSXD61-SN10F-5DS	

Note) For 230 VAC switch 5 to J and for M12 connector switch DS to WN in the part number

Solenoid valves for high pressure water

Function: 2/2 NC
 Voltage: 24 VDC
 Electric connection: DIN-connector w surge voltage suppressor
 Fluid temperature: 1°C till +60°C
 Ambient temperature: -20°C till +60°C



Water

Housing/Seal material	Connection	Orifice [mm]	Cv	Kv [m 3h]	Pressure differential [MPa]	Part number
 Brass / PPS	G 3/8"	12	2.0	1.7	0.1 - 10	JSXH31P-CP03F-5DS-X2
	G 1/2"	12	2.2	1.9	0.1 - 10	JSXH31P-CP04F-5DS-X2

Note) For 230 VAC switch 5 to J and for M12 connector switch DS to WN in the part number

Air operated angel seat valves for water

Function: 2/2 NC Air operated
 Pilot pressure 0.5 - 1.0 MPa
 Fluid temperature: max +99°C
 Ambient temperature: 0°C to +60°C

Housing/Seal material	Connection	Orifice [mm]	Cv	Kv [m 3h]	Pressure differential [MPa]	Part number
 Stainless steel / PTFE	G 3/8"	10	5.0	4.3	1.0 1.6	JSB11-ST10AF-2S JSB11H-ST10AF-2S
	G 1/2"	15	8.0	6.9	1.0 1.6	JSB21-ST15AF-2S JSB21H-ST15AF-3S
	G 3/4"	20	16.0	13.8	1.0 1.6	JSB31-ST20AF-3S JSB31H-ST20AF-4S
	G 1"	25	29.1	25.2	1.0 1.6	JSB41-ST25AF-4S JSB41H-ST25AF-5S
	G 1 1/4"	32	41.3	35.7	1.0 1.6	JSB51-ST32AF-5S JSB51H-ST32AF-6S
	G 1 1/2"	40	59.5	51.5	1.0 1.6	JSB61-ST40AF-6S JSB61H-ST40AF-7S
	G 2"	50	87.5	75.7	1.0	JSB71-ST50AF-7S

Note) For 230 VAC switch 5 to J and for M12 connector switch DS to WN in the part number



Configure your valve

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