



SMC Products for Fluid Control Universal 2 port valves for various standard fluids



In this leaflet we present you our solutions for fluid control.

SMC – a company that supports you throughout the world. With sales offices in 82 countries and major manufacturing and warehouse facilities in Asia, the USA and Europe, plus local production capabilities, we can support our customers throughout the world.

Our experts are always on-hand to provide you with tailor-made advice to help you find the perfect solution. This focus on technical support and customer care is driven by a network of over 7951 sales engineers and around 1400 R&D specialists. Our commitment towards R&D and product innovation remains constant and this investment in both people and product development has been recognised by organisations such as Forbes who regularly listed us as being one of the Most Innovative Companies in the world.

SMC – an organisation that recognises the importance of availability. All the products shown in this leaflet are available from stock held in our European Central Warehouse. To keep the order to delivery process to a minimum, these products can be shipped to you immediately ensuring maximum lead time reduction.

For all the above, USE SMC Fluid control valves.



valves for various standard fluids

valves, optimized for specific fluids

valves used by experts for specific applications

Fluid	Materials								Recommended models			
	Body					Seals						
	STAINLESS STEEL	BRASS/BRONZE	ALUMINIUM	PBT RESIN	PPS RESIN	NBR	FKM/FPM	EPDM/EPFR	PTFE	Direct Operated	Pilot Operated	Air Operated
Air		●	●	●	●	●	●			VX2, VDW	VXD, VXZ	VNB, VXB
Low Vacuum ⁽¹⁾	●	●	●			●	●	●		VX2, VDW		VNB, VXB
Medium Vacuum ⁽²⁾		●				●	●			VX2, VDW		VXB
Ethyl Alcohol ⁽³⁾	●	●					●	●		VX2	VXD, VXZ	
Ethylene Glycol		●						●		VX2	VXD, VXZ	VNB
Caustic Soda (25%)	●							●		VX2	VXD, VXZ	
Argon	●	●					●			VX2, VDW	VXD, VXZ	VNB, VXB
Helium		●					●			VX2, VDW	VXD, VXZ	VNB, VXB
Nitrogen Gas		●	●	●	●	●	●	●		VX2, VDW	VXD, VXZ	VNB, VXB
Carbon Dioxide		●				●		●		VX2, VDW	VXD, VXZ	VNB
Light Oil		●					●			VX2	VXD, VXZ	VNB, VXB
Silicone Oil ⁽⁴⁾		●					●			VX2	VXD, VXZ	VNB, VXB
Brake Fluid		●						●		VX2	VXD, VXZ	VNB
Deionized water (DI)	●	●					●	●	●	VX2, VDW	VXD, VXZ	
Water		●			●	●				VX2, VDW	VXD, VXZ	VNB, VXB
Hot Water (up to 99 °C)		●					●	●		VX2	VXD, VXZ	VNB, VXB
Coolants		●					●				SGC	SGCA
Steam	●	●					●		●	VX2	VXS	VND, VXB

● Recommended options, consult SMC for other combinations.

(1) Low vacuum level from 100 Pa.abs to atmospheric pressure.

(2) Medium vacuum level from 0.1 to 100 Pa.abs low vacuum level.

(3) Highly flammable fluids. When possible, use metal body and connect to an earth wire to avoid an accumulation of static electricity.

(4) Operating with solenoid valves, the kinematic viscosity must not exceed 50 mm²/s.

(The selection is a guide. Specific process conditions can render an initially valid option inadequate)

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Direct Operated Solenoid Valves

Compact Direct Operated 2 Port Solenoid Valve for General Use Series VDW10/20

- Ultra compact 2 port valves for air, vacuum and fluids.
- Body materials: Aluminium, Resin, Brass and Stainless Steel.
- Piping variations: thread and one-touch fitting.
- Low weight.
- IP65 enclosure.
- Oil free option available.
- Fluid temperature 1 to 50 °C (for water)
- Ambient temperature -10 to 50 °C



Stocked items for fast delivery

Fluid	Part Number	Valve type	Max. operating P differential [MPa]	Cv	Kv [m³/h]	Orifice diameter [mm]	Port size	Body/seal material	Voltage	Electrical entry
Air	VDW10AA	N.C.	0.9	0.04	0.03	1	M5	PPS resin/NBR	24 V DC	Grommet**
	VDW10EA						Ø 4 mm			
	VDW20DA		Ø 4 mm							
	VDW20GA		Ø 6 mm							
Water/Air	VDW12GA		0.9	0.04	0.03	1	M5	Brass/NBR		
	VDW12HA						M5			
	VDW22NAA		0.7	0.07	0.06	1.6	G 1/8			
	VDW22PAA		0.4	0.18	0.15	2.3	G 1/8			
Vacuum (Oil free)	VDW14HA		0.4*	0.07	0.06	1.6	M5	Brass/FKM		
	VDW24WAA						0.2*			
DI Water/Gas	VDW22UAM		0.7	0.07	0.06	1.6	G 1/8	SUS/FKM (Oil free)		
	VDW22VAM		0.4	0.18	0.15	2.3	G 1/8			

* Pressurized port 1. Used with vacuum: 0.1 Pa-abs to atmospheric pressure.

** Standard lead wire length: 300 mm

Stocked items could be subject to change without prior notice

Direct Operated 2 Port Solenoid Valve for General Use Series VX2

- Range of two port valves for air, medium vacuum and fluids.
- Body materials: Aluminium, Resin, Brass and Stainless steel.
- Piping variations: thread and one-touch fitting.
- Low power consumption & Low-noise construction.
- N.C., N.O. options.
- Oil free option available.
- Fluid temperature up to 60 °C (high temperature version available)
- Ambient temperature -20 to 60 °C



Stocked items for fast delivery

Fluid	Part Number	Valve type	Max. operating P differential [MPa]	Cv	Kv [m³/h]	Orifice diameter [mm]	Port size	Body/seal material	Voltage	Electrical entry
Air	VX210H G	N.C.	1.0	0.23	0.20	2	Ø 6 mm	PBT resin/NBR	24 V DC	DIN terminal (With surge voltage suppressor)
	VX210J G		0.6	0.35	0.30	3	Ø 6 mm			
	VX210M G		0.6	0.41	0.35	3	Ø 8 mm			
	VX220H G		1.0	0.47	0.40	4	Ø 8 mm			
	VX230H G		1.0	0.70	0.60	5	Ø 10 mm			
Water/Air	VX212A G AXB		1.0	0.23	0.20	2	G 1/8	Brass/NBR		
	VX212E G AXB		0.6	0.42	0.36	3	G 1/4			
	VX222A G AXB		1.0	0.63	0.54	4	G 1/4			
	VX232D G AXB		1.0	0.75	0.64	5	G 3/8			
Vacuum (Oil free)	VX214F G AXB		0.2*	0.62	0.53	5	G 1/4	Brass/FKM		
	VX224E G AXB		0.15*	1.08	0.93	7	G 3/8			
	VX234G G A		0.1*	2.21	1.90	10	G 1/2			
DI Water/Gas	VX212H G KXB		1.0	0.23	0.20	2	G 1/8	SUS/FKM (Oil free)		
	VX212M G KXB		0.6	0.42	0.36	3	G 1/4			
	VX222H G KXB		1.0	0.63	0.54	4	G 1/4			
	VX232L G KXB		1.0	0.75	0.64	5	G 3/8			

* Pressurized port 1. Used with vacuum: 0.1 Pa-abs to atmospheric pressure.

Note) For other voltages replace **G** by **L** (230 V AC) or **Z1V** (24 V AC) in the part numbers above.

Stocked items could be subject to change without prior notice



For dimensions, other options and more details refer to <http://2portvalves.smc.eu>

Pilot Operated Solenoid Valves

Pilot Operated 2 Port Solenoid Valve for General Use Series VXD

- Body materials: Aluminium, Resin, Brass and Stainless steel.
- Piping variations: thread and one-touch fitting.
- Low-noise construction.
- Sizes from 1/4" to 1".
- N.C., N.O. options.
- Oil free option available.
- Fluid temperature up to 60 °C (high temperature version available)
- Ambient temperature -20 to 60 °C



Stocked items for fast delivery

Fluid	Part Number	Valve type	Min. operating P differential [MPa]	Max. operating P differential [MPa]	Cv	Kv [m³/h]	Orifice diameter [mm]	Port size	Body/seal material	Voltage	Electrical entry
Air	VXD230D G	N.C.	0.02	0.7	1.3	1.12	10	Ø 10 mm	PBT resin/NBR	24 V DC	DIN terminal (With surge voltage suppressor)
	VXD230F G			0.7	1.5	1.29	10	Ø 12 mm	PBT resin/NBR		
Water/ Air	VXD232A GA			0.5	1.9	1.63	10	G 1/4	Brass/NBR		
	VXD242G GA			1.0	4.5	3.86	15	G 3/8			
	VXD242H GA			1.0	5.5	4.72	15	G 1/2			
	VXD252L GA			1.0	9.5	8.15	20	G 3/4			
	VXD262N GA			1.0	13.0	11.15	25	G 1			
DI Water/ Gas	VXD232D GK			0.5	1.9	1.63	10	G 1/4	SUS/FKM (Oil free)		
	VXD242J GK			1.0	4.5	3.86	15	G 3/8			
	VXD242K GK			1.0	5.5	4.72	15	G 1/2			
	VXD252M GK			1.0	9.5	8.15	20	G 3/4			
	VXD262P GK			1.0	13.0	11.15	25	G 1			

Note) For other voltages replace **G** by **L** (230 V AC) or **Z1V** (24 V AC) in the part numbers above.

Stocked items could be subject to change without prior notice

Zero Differential Pressure Type Pilot Operated 2 Port Solenoid Valve Series VXZ

- Body materials: Aluminium, Resin, Brass and Stainless steel.
- Piping variations: thread and one-touch fitting.
- Low-noise construction.
- Sizes from 1/4" to 1".
- N.C., N.O. options.
- Oil free option available.
- Fluid temperature up to 60 °C (high temperature version available)
- Ambient temperature -20 to 60 °C



Stocked items for fast delivery

Fluid	Part Number	Valve type	Min. operating P differential [MPa]	Max. operating P differential [MPa]	Cv	Kv [m³/h]	Orifice diameter [mm]	Port size	Body/seal material	Voltage	Electrical entry
Air	VXZ230C G	N.C.	0	0.7	1.7	1.46	10	Ø 10 mm	PBT resin/NBR	24 V DC	DIN terminal (With surge voltage suppressor)
	VXZ230E G			0.7	2.0	1.72	10	Ø 12 mm			
Water/ Air	VXZ232A GA			0.7	1.9	1.63	10	G 1/4	Brass/NBR		
	VXZ232B GA			0.7	2.4	2.06	10	G 3/8			
	VXZ242F GA			0.7	5.3	4.55	15	G 1/2			
	VXZ252H GA			1.0	9.2	7.89	20	G 3/4			
	VXZ262K GA			1.0	10.2	8.75	25	G 1			
DI Water/ Gas	VXZ232C GK			0.7	1.9	1.63	10	G 1/4	SUS/FKM (Oil free)		
	VXZ232D GK			0.7	2.4	2.06	10	G 3/8			
	VXZ242G GK			0.7	5.3	4.55	15	G 1/2			
	VXZ252J GK			1.0	9.2	7.89	20	G 3/4			
	VXZ262L GK			1.0	10.2	8.75	25	G 1			

Note) For other voltages replace **G** by **L** (230 V AC) or **Z1V** (24 V AC) in the part numbers above.

Stocked items could be subject to change without prior notice



For dimensions, other options and more details refer to <http://2portvalves.smc.eu>

Air Operated 2 Port Valve for General Use Series VNB

- A wide variety of suitable fluids, due to body and seal options.
- Robust poppet construction.
- Sizes from 1/8" to 2".
- N.C., N.O., C.O. options.
- External pilot solenoid option.
- Fluid temperature up to 60 °C (high temperature version available)
- Ambient temperature -5 to 60 °C



Stocked items for fast delivery

Fluid	Part Number	Valve type	Max. operating P differential [MPa]	Cv	Kv [m³/h]	Orifice diameter [mm]	Port size	Body/seal material
General Use	EVNB104A-F8A	N.C.	1.0	1.1	0.94	7	G 1/4	Bronze/NBR
	EVNB104A-F10A		1.0	1.1	0.94	7	G 3/8	
	EVNB204A-F15A		1.0	2.6	2.23	11	G 1/2	
	EVNB304A-F20A		1.0	5.4	4.63	14	G 3/4	
	EVNB404A-F25A		1.0	7.0	6.01	16	G 1	
	EVNB604A-F40A		1.0	19.0	16.30	28	G 1 1/2	
	EVNB704A-F50A		1.0	29.0	24.88	33	G 2	
	EVNB201A-F10A		0.5	4.0	3.43	15	G 3/8	
	EVNB201A-F15A		0.5	4.8	4.12	15	G 1/2	
	EVNB301A-F20A		0.5	7.4	6.35	20	G 3/4	
	EVNB401A-F25A		0.5	12.0	10.30	25	G 1	
	EVNB601A-F40A		0.5	28.0	24.02	40	G 1 1/2	
	EVNB701A-F50A		0.5	43.0	36.89	50	G 2"	

Stocked items could be subject to change without prior notice

Angle Seat Valve for General Use Series VXB

- Our most compact angle seat valve (height 99.8 mm, port size 3/8").
- Body materials: stainless steel (316L) and bronze available.
- Operating pressure range up to 1.6 MPa.
- Sizes from 3/8" to 3/4".
- Fluid temperature up to 180 °C.
- Ambient temperature -20 to 60 °C.



Stocked items for fast delivery

Fluid	Part Number	Valve type	Max. operating P differential [MPa]	Cv	Kv [m³/h]	Orifice diameter [mm]	Port size	Body/seal material
Steam Water Air	VXB215AA	N.C.	1.0	3.5	3	11	G 3/8	Bronze / FKM
	VXB215BA		0.6	5.4	4.63	14	G 1/2	
	VXB215CA		0.4	7.6	6.52	18	G 3/4	
	VXB215DA		1.0	3.5	3	11	G 3/8	SUS / FKM
	VXB215EA		0.6	5.4	4.63	14	G 1/2	
	VXB215FA		0.4	7.6	6.52	18	G 3/4	
	VXB215AHA		1.6	3.5	3	11	G 3/8	Bronze / FKM
	VXB215BHA		1.2	5.4	4.63	14	G 1/2	
	VXB215CHA		0.6	7.6	6.52	18	G 3/4	
	VXB215DHA		1.6	3.5	3	11	G 3/8	SUS / FKM
	VXB215EHA		1.2	5.4	4.63	14	G 1/2	
	VXB215FHA		0.6	7.6	6.52	18	G 3/4	

Stocked items could be subject to change without prior notice

Valves for Specific fluids

Air

Pilot Operated 2 Port Solenoid Valve for Dry Air Series VQ20/30

- High speed response, high frequency operation possible, and long operating life.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
Resin AL	HNBR	N.C.	Ø 6 to Ø 12	VQ20: 3.4 VQ30: 4.8

2 Port Solenoid Valve for Dust Collector Series VXF2

- Wide range of piping options. Large orifice sizes and large discharge flow rate.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
AL	NBR FKM	N.C.	3/4" to 4"	22 to 100

5.0 MPa Pilot Operated 2/3 Port Solenoid Valve Series VCH

- Low response time and long service life ideal for PET industry.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
Brass AL	Polyurethane elastomer	N.C. N.O.	1/2" to 1"	16 to 18

2 Port Valve for Dust Collector (Air Operated) Series VXFA2

- Wide range of piping options. Large orifice sizes and large discharge flow rate.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
AL	NBR FKM	N.C.	3/4" to 4"	22 to 100

Steam

Direct Operated 2 Port Solenoid Valve Series VX2

- Compact dimensions and low-noise construction.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
Brass Stainless steel	FKM	N.C. N.O.	1/8" to 1/2"	2 to 10

Air Operated 2 Port Valve Series VND

- Air pilot operated robust poppet design. Temperatures up to 180 °C.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
Bronze Stainless steel	PTFE	N.C. N.O.	1/8" to 2"	7 to 50

Pilot Operated 2-Port Solenoid Valve Series VXS

- Zero pressure differential operation. Compact and lightweight.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
Brass Stainless steel	FKM	N.C.	1/4" to 1"	10 to 25

Angle Seat Valve Series VXB

- Compact angle seat valve up to 1.6 MPa.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
Bronze Stainless steel	FKM	N.C.	3/8" to 3/4"	11 to 18

Coolant

Air Operated / External Pilot Solenoid 2 Port Valve Series SGC

- Cutting oil, coolant for machine tool, etc. up to 1.6 MPa.



Valve type	Port size	Orifice dia. [mm]
N.C. N.O.	3/8" to 1"	9 to 25

Air Operated / External Pilot Solenoid 2/3 Port Valve for High Pressure Series SGH

- Coolant valve for high pressure coolant (up to 3 MPa/7 MPa) that is ideal for lubrication, dust blowing and cooling.



Valve type	Port size	Orifice dia. [mm]
N.C. N.O.	3/8" to 1"	6 to 17

Chemicals

Compact Direct Operated 2/3 Port Solenoid Valve Series LVM

- Meeting the most advanced needs of life science equipments and analyzers, thanks to minimal dead space and isolating separating diaphragm design.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
PFA PEEK	EPDM FKM FFKM	N.C. N.O. Universal	M5 M6 1/4-28 UNF	1.1 to 2

Air Operated High Purity Chemical Valve Series LV

- Prevents micro-bubbles and low particle generation. Perfect for the most demanding industries as photovoltaic or electronic.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
PFA PFS Stainless steel	NBR EPDM PTFE	N.C. N.O. C.O. (1)	1/8" to 1"	2 to 22

(1) Double acting.



For more information about these series please consult SMC

Valves for Specific Applications

Valves for specific applications for Expert

Direct Operated 3 Port Solenoid Valve Series VX3

- For air, gas, vacuum, water, steam, oil. Ideal for pilot applications.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
Brass	NBR	N.C.	1/8 to 3/8"	1.5 to 4
Stainless Steel	FKM	N.O.		
Steel	EPDM PTFE	C.O.		

Air Operated 2/3 Port Valve Series VXA

- For air, gas, vacuum, water, oil. Ideal for pilot applications and suitable to be used in narrow spaces due to its swivel actuator.



Model	Valve type	Port size	Orifice dia. [mm]
VXA21/22	N.C./N.O.	1/8" to 1/2"	3 to 10
VXA31/32	C.O.	1/8" to 3/8"	1.5 to 4

2 Port Solenoid Valve / Energy Saving Type Series VXE

- The power consumption (when holding) is substantially reduced (down to approx. 1/3 of standard valve's value). Coil heat reduction.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
Brass	NBR	N.C.	1/8" to 1"	2 to 25
Stainless Steel	FKM			
Steel	EPDM PTFE			

Air Operated / External Pilot Solenoid 2 Port Valve Series VNA

- For compressed air and air-hydro circuit control.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
AL	NBR	N.C.	1/8" to 1/2"	10 to 50
	FKM EPDM	C.O.		

2 Port Solenoid Valve with Built-in Y-strainer Series VXX

- Space saving and reduced piping labour for air, water, oil and steam.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
Brass	NBR	N.C.	1/8 to 3/8"	2 to 8
	FKM PTFE	N.O.		

Pilot Operated 2 Port Solenoid Valve Series VXR

- Water hammer relief type for water and oil.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
Bronze	NBR	N.C.	1/2" to 2"	20 to 50
	FKM	N.O.		

Direct Operated 2 Port Solenoid Valve for High Pressure Series VX2

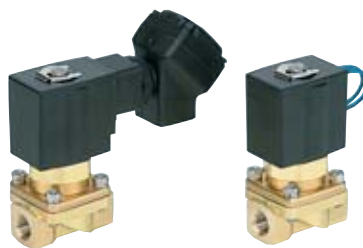
- For air, water and oil up to 3.0 MPa.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
Brass	NBR	N.C.	1/8" to 3/8"	1.2 to 4
Stainless Steel	FKM			

Pilot Operated 2 Port Solenoid Valve for High Pressure Series VXX

- For air, water and oil up to 2.0 MPa.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
Brass	NBR	N.C.	1/4" to 1/2"	10

Compact Proportional Solenoid Valve Series PVQ

- Control the flow rate smoothly according to the current. For air and inert gas.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
Brass	FKM	N.C.	M5 to 1/8"	0.3 to 4
Stainless Steel	FKM			

The selection of the 2 port valves for your application is now easier.....

- Get your valve in only 4 simple steps using the 2 Port Valve selector at www.smc.eu:

1

Choose the fluid



2

Introduce valve specifications

N.C. N.O. 2 port 3 port 1/8" to 2"

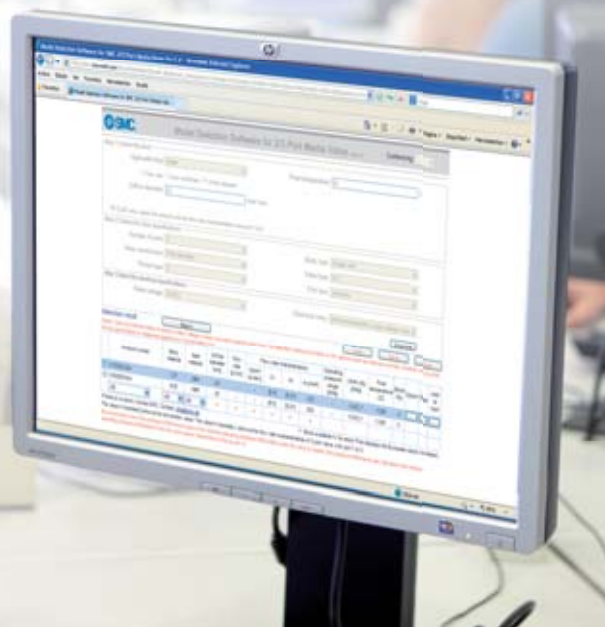
3

Select electrical specifications

24 V AC DIN 24 V DC Grommet 230 V AC

4

Get best alternatives and contact SMC



www.smc.eu



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