



Miniature Cartridge Valves

Diameter 7, 15 & 21mm

C7, C15 & C21 Series



ENGINEERING YOUR SUCCESS.

C7, C15 & C21 Series

Product Description

These 2 & 3 way cartridge valves offer the most compact solution with a fast response time and a very long service life thanks to its flat spring technology.

These miniature solenoid valves can be populated into the smallest portable device improving performance, size and weight.

High-quality stainless steels and sealing materials make the valves suitable for use with a wide range of gases.

This range is available in 3 sizes (7, 15 & 21 mm) with a wide range of orifices (0,3 to 4 mm).



Typical applications can be found in:

Market of interest

- Food & Beverage Processing
- Mobile / Transportation
- Industrial equipment
- Commercial Equipment

Typical applications

- Milk foam in full auto coffee machine
- Injection control in small engines
- Portable tooling
- Gas analysers
- Vacuum handling



Benefits

The most valuable features you will find in this product range:

- **Customizable** - can be adapted to the application : voltage, flow, shape, material, cable length, connection, proportional version...
- **Easy to embed** - reduce integration cost thanks to the cartridge concept
- **Compact** - 80% reduction of volume vs standard threading solenoid valves
- **Improve mobility/portability** - 80% reduction in weight vs standard threading solenoid valves
- **Save cost** - very low power (0,5 to 2,5W) decreasing the size of your battery and the energy consumption
- **Long service life** - > 10⁹ cycles according application thanks to the frictionless design
- **Increase productivity** - fast response time (from 0,5 to 7 ms)

General Description

Materials in contact with fluid

Body:

Stainless Steel AISI 303 (1.4305)

Sealing:

FKM

Others Parts:

Stainless Steel 1.4310 / 1.4105

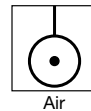
Installation

The valves can be mounted in any position. It is however recommended to install them with the coil in vertical position above the body.

Media

These valves are compatible with dry or lubricated air, neutral gases and liquids.

Vacuum service possible using the outlet port.



Air



Water

Coils

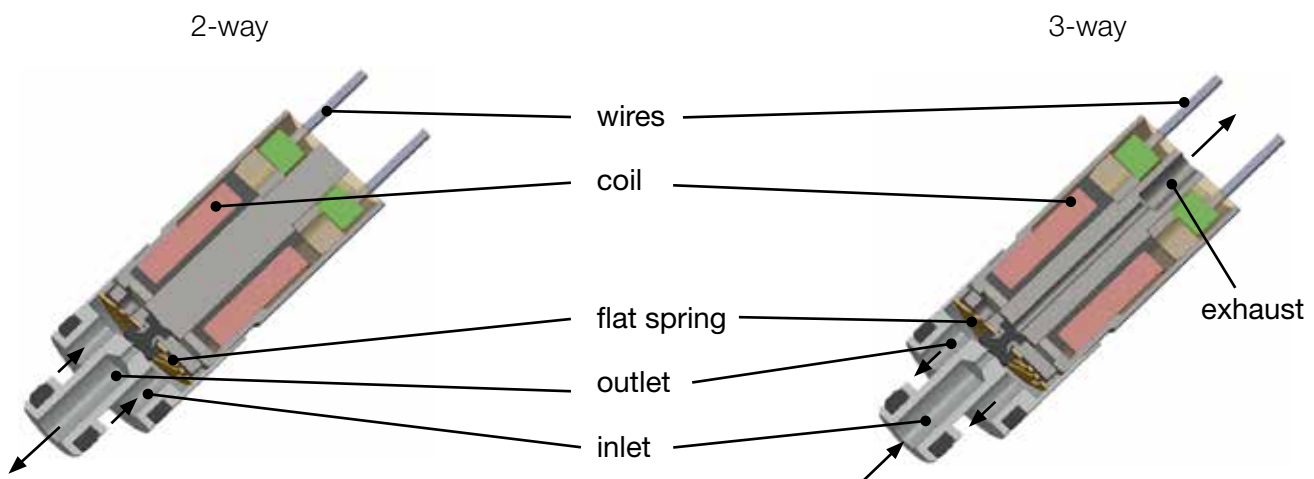
24 VDC standard, 12 VDC available, other voltages on request.

Flying leads length: 80mm, other lengths on request.

Temperature

The ambient temperature range of the valve is 0°C to +50°C.

Cross sectional drawing



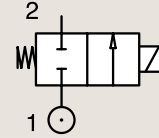
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C7 C15 C21 Series

Miniature Cartridge Valves - Size Ø 7, 15 & 21mm
Direct Operated - Orifice from 0.3 mm to 4 mm

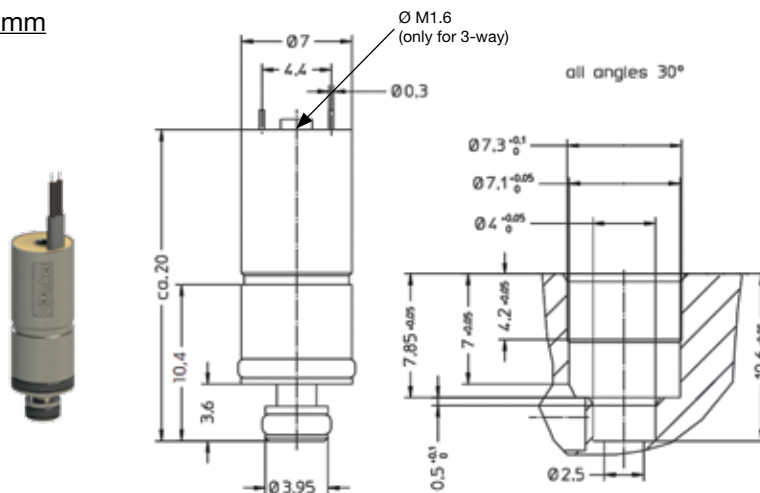
303 STAINLESS ST.
CARTRIDGE

NORMALLY CLOSED



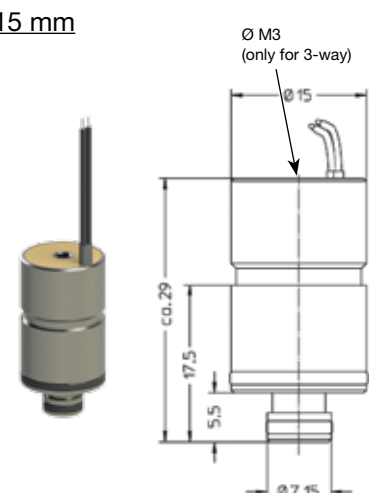
Size	Orifice Ø mm	Flow factors		Operating Pressure Differential		Fluid Temp.		Seat Seal	Valve Ref.	Voltage	Power DC W
		Kv l/min	KV m³/h	Min bar	Max bar	Min °C	Max °C				
7 mm	0.3	0.05	0.003	0	10	0	50	FKM	C07-212FK03FF-000	12 VDC	0.5
	0.3	0.05	0.003	0	10	0	50	FKM	C07-224FK03FF-000	24 VDC	0.6
	0.5	0.12	0.007	0	8	0	50	FKM	C07-212FK05FF-000	12 VDC	1.0
	0.5	0.12	0.007	0	8	0	50	FKM	C07-224FK05FF-000	24 VDC	0.9
	0.8	0.15	0.009	0	6	0	50	FKM	C07-212FK08FF-000	12 VDC	1.0
	0.8	0.15	0.009	0	6	0	50	FKM	C07-224FK08FF-000	24 VDC	1.2
	1	0.25	0.015	0	3	0	50	FKM	C07-212FK10FF-000	12 VDC	1.0
	1	0.25	0.015	0	3	0	50	FKM	C07-224FK10FF-000	24 VDC	1.2
15 mm	0.5	0.12	0.007	0	10	0	50	FKM	C15-212FK05FF-000	12 VDC	1.1
	0.5	0.12	0.007	0	10	0	50	FKM	C15-224FK05FF-000	24 VDC	1.1
	1	0.47	0.028	0	8	0	50	FKM	C15-212FK10FF-000	12 VDC	1.7
	1	0.47	0.028	0	8	0	50	FKM	C15-224FK10FF-000	24 VDC	1.6
	1.5	0.82	0.049	0	4	0	50	FKM	C15-212FK15FF-000	12 VDC	1.7
	1.5	0.82	0.049	0	4	0	50	FKM	C15-224FK15FF-000	24 VDC	1.6
	2	1.32	0.079	0	1.5	0	50	FKM	C15-212FK20FF-000	12 VDC	1.7
	2	1.32	0.079	0	1.5	0	50	FKM	C15-224FK20FF-000	24 VDC	1.6
21 mm	1	0.47	0.028	0	10	0	50	FKM	C21-212FK10FF-000	12 VDC	2.6
	1	0.47	0.028	0	10	0	50	FKM	C21-224FK10FF-000	24 VDC	2.5
	2	1.18	0.071	0	8	0	50	FKM	C21-212FK20FF-000	12 VDC	2.6
	2	1.18	0.071	0	8	0	50	FKM	C21-224FK20FF-000	24 VDC	2.5
	3	1.97	0.118	0	4	0	50	FKM	C21-212FK30FF-000	12 VDC	2.6
	3	1.97	0.118	0	4	0	50	FKM	C21-224FK30FF-000	24 VDC	2.5
	4	2.57	0.154	0	2	0	50	FKM	C21-212FK40FF-000	12 VDC	2.6
	4	2.57	0.154	0	2	0	50	FKM	C21-224FK40FF-000	24 VDC	2.5

7 mm



*2-way (3-way)

15 mm



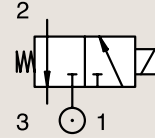
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C7 C15 C21 Series

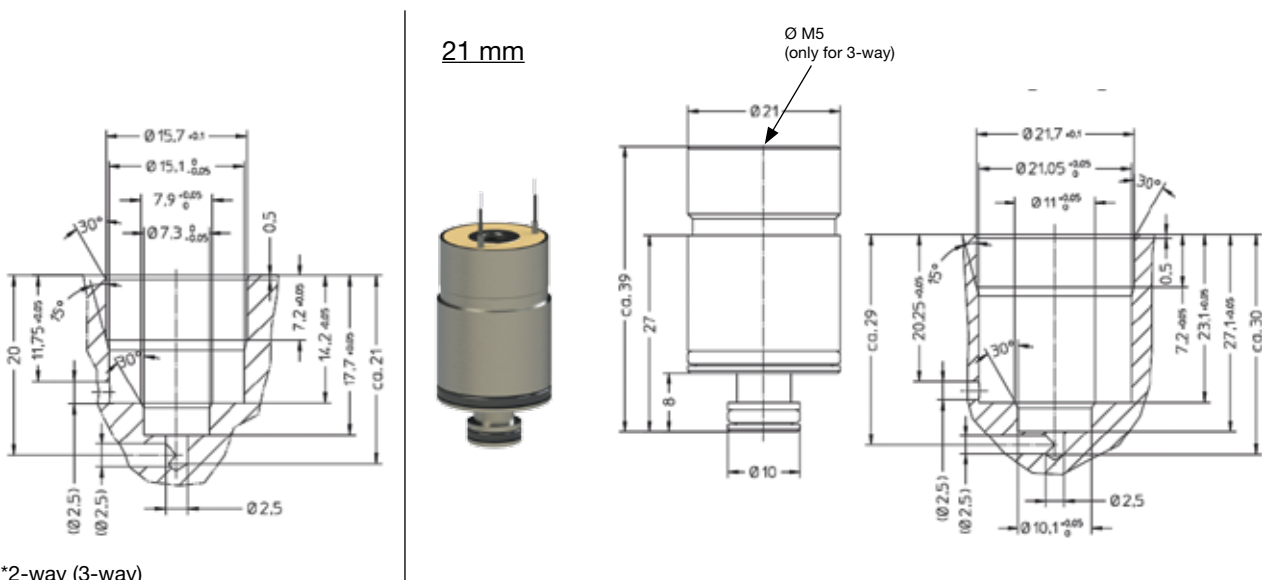
Miniature Cartridge Valves - Size Ø 7, 15 & 21 mm
Direct Operated - Orifice from 0.3 mm to 4 mm

303 STAINLESS ST.
CARTRIDGE

NORMALLY CLOSED



Port size (BSP)	Orifice Ø mm	Flow factors				Operating Pressure Differential		Fluid Temp.		Seat Seal	Valve Ref.	Voltage	Power DC W
		1 Kv l/min	(2) Kv m³/h	1	(2)	Min bar	Max bar	Min °C	Max °C				
7 mm	0.3	0.05	0.05	0.003	0.003	0	10	0	50	FKM	C07-312FK03FF-000	12 VDC	1.0
	0.3	0.05	0.05	0.003	0.003	0	10	0	50	FKM	C07-324FK03FF-000	24 VDC	1.2
	0.5	0.12	0.12	0.007	0.007	0	6	0	50	FKM	C07-312FK05FF-000	12 VDC	1.0
	0.5	0.12	0.12	0.007	0.007	0	6	0	50	FKM	C07-324FK05FF-000	24 VDC	1.2
	0.8	0.15	0.15	0.009	0.009	0	3	0	50	FKM	C07-312FK08FF-000	12 VDC	1.0
	0.8	0.15	0.15	0.009	0.009	0	3	0	50	FKM	C07-324FK08FF-000	24 VDC	1.2
	1	0.25	0.22	0.015	0.013	0	1.5	0	50	FKM	C07-312FK10FF-000	12 VDC	1.0
	1	0.25	0.22	0.015	0.013	0	1.5	0	50	FKM	C07-324FK10FF-000	24 VDC	1.2
15 mm	0.5	0.12	0.12	0.007	0.007	0	10	0	50	FKM	C15-312FK05FF-000	12 VDC	1.7
	0.5	0.12	0.12	0.007	0.007	0	10	0	50	FKM	C15-324FK05FF-000	24 VDC	1.6
	1	0.47	0.47	0.028	0.028	0	7	0	50	FKM	C15-312FK10FF-000	12 VDC	1.7
	1	0.47	0.47	0.028	0.028	0	7	0	50	FKM	C15-324FK10FF-000	24 VDC	1.6
	1.5	0.82	0.82	0.049	0.049	0	3.5	0	50	FKM	C15-312FK15FF-000	12 VDC	1.7
	1.5	0.82	0.82	0.049	0.049	0	3.5	0	50	FKM	C15-324FK15FF-000	24 VDC	1.6
	2	1.32	1.32	0.079	0.079	0	1	0	50	FKM	C15-312FK20FF-000	12 VDC	1.7
	2	1.32	1.32	0.079	0.079	0	1	0	50	FKM	C15-324FK20FF-000	24 VDC	1.6
21 mm	1	0.47	0.47	0.028	0.028	0	10	0	50	FKM	C21-312FK10FF-000	12 VDC	2.6
	1	0.47	0.47	0.028	0.028	0	10	0	50	FKM	C21-324FK10FF-000	24 VDC	2.5
	2	1.18	1.18	0.071	0.071	0	6	0	50	FKM	C21-312FK20FF-000	12 VDC	2.6
	2	1.18	1.18	0.071	0.071	0	6	0	50	FKM	C21-324FK20FF-000	24 VDC	2.5
	3	1.97	1.97	0.118	0.118	0	2.5	0	50	FKM	C21-312FK30FF-000	12 VDC	2.6
	3	1.97	1.97	0.118	0.118	0	2.5	0	50	FKM	C21-324FK30FF-000	24 VDC	2.5
	4	2.57	1.85	0.154	0.111	0	1	0	50	FKM	C21-312FK40FF-000	12 VDC	2.6
	4	2.57	1.85	0.154	0.111	0	1	0	50	FKM	C21-324FK40FF-000	24 VDC	2.5



*2-way (3-way)



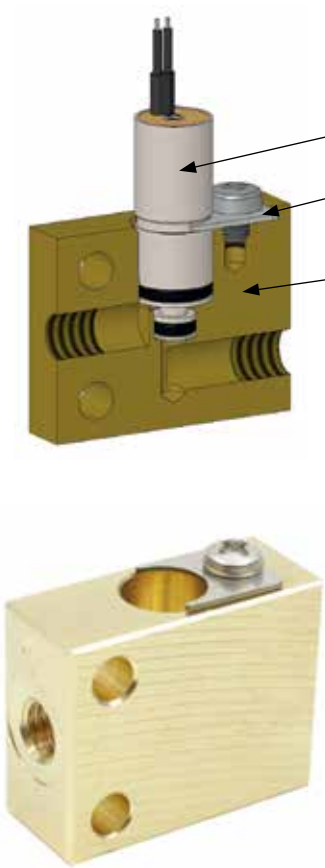
Mounting Block

C7 C15 Series - Ø7 & 15 mm

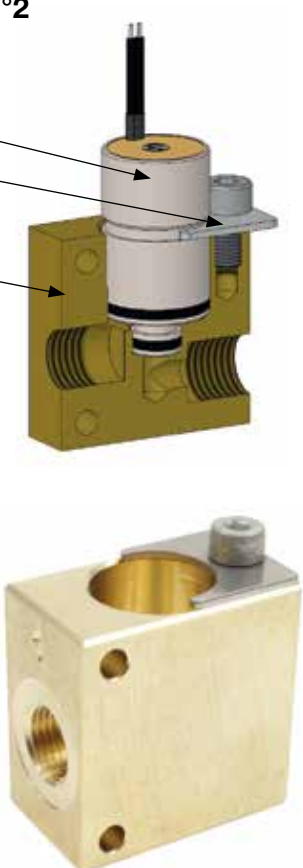
Designation	Reference	Drawing Number
Mounting block Ø7	C07-400XX008X-000	1
Mounting block Ø15	C15-400XX008X-000	2

Notes:
1. Include the holding plate and the screw

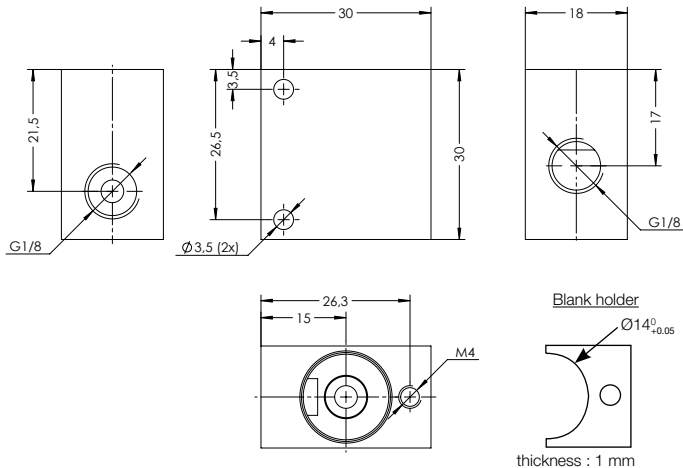
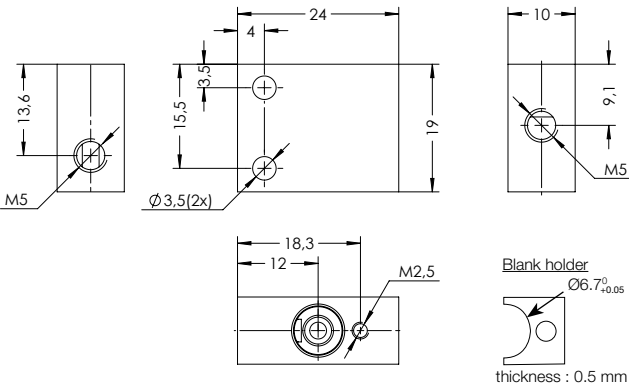
N°1



N°2



Valve
Blank holder
Mounting block



Mounting Block

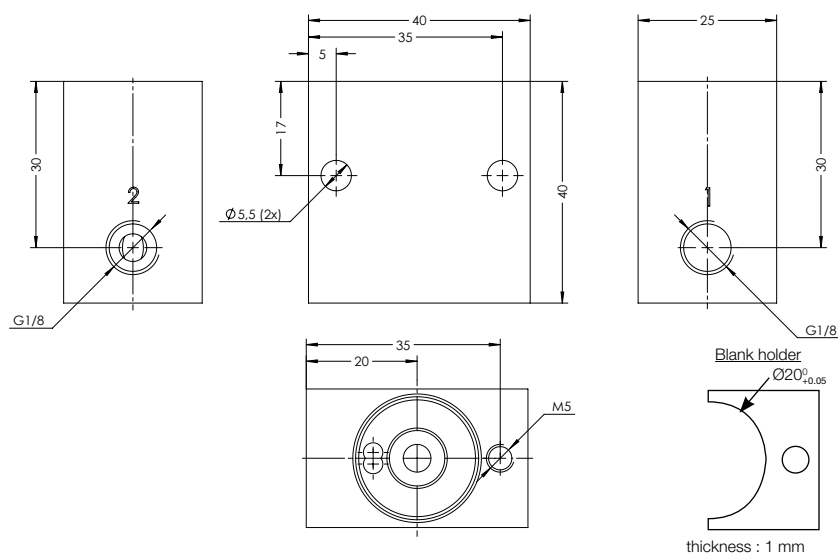
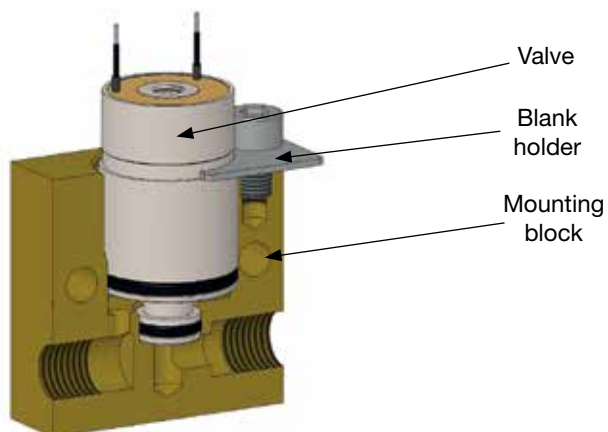
C21 Series - Ø21 mm

Designation	Reference	Drawing Number
Mounting block Ø21	C21-400XX008X-000	3

Notes:

1. Include the holding plate and the screw

N°3



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