

INSTALLATION AND OPERATION INSTRUCTION

FlowCon SME 15-25mm

The **FlowCon SME** cartridges are for use with three different FlowCon valve housings, either:

FlowCon A (DN15/20/25),
FlowCon AB (DN15/20/25) or
FlowCon ABV (DN15/20/25).

Install the selected valve housing as called for in the design drawings. Although the performance of the valve is not affected either way, industry standards call for balancing devices to be installed on the downstream side of the terminal unit. Especially for the ABV with its isolation ball valve, it is recommended to ensure the isolation valve is downstream of the balancing device. **INSTALL THE VALVE HOUSING WITH THE FLOW DIRECTIONAL ARROW POINTING IN THE CORRECT DIRECTION.**

The **FlowCon A** valve (Model Nos. A15.X, A20.X and A25.I.K) is available with fixed female-by-female threaded connections, i.e. figure 1.

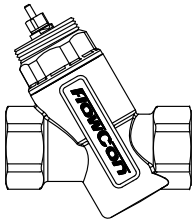


Figure 1

The thread standard for the A model is either ISO 228, which is a straight metric thread (compatible with BS-2779) or NPT threading standard, depending on the product number ordered (except for DN25 which currently is only ISO).

For all threaded connections please clear threads on both valve and piping of debris. Sealant such as pipe dope or teflon tape is recommended. **WHEN USING HEMP AS PIPE SEALANT, ENSURE NO STRANDS ARE LEFT IN THE VALVE OR PIPING.**

The **FlowCon AB** valve (Model Nos. AB15.X, AB20.X and AB25.I.K) is similarly available with female-by-female threaded connections, i.e. figure 2.

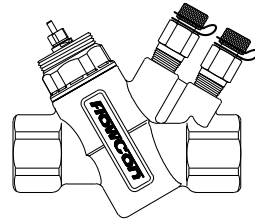


Figure 2

The thread standard for the AB model is equal to what is available for the A model.

For all threaded connections please clear threads on both valve and piping of debris. Sealant such as pipe dope or teflon tape is recommended. **WHEN USING HEMP AS PIPE SEALANT, ENSURE NO STRANDS ARE LEFT IN THE VALVE OR PIPING.**

Pressure/temperature fittings (p/t plugs) are available upon request for the AB valve. Before finger mounting the p/t plugs in the body tappings, please seal the threads of the p/t plugs (**DO NOT OVER TIGHTEN**).

Alternatively to p/t plugs, the valve body can be ordered with **plugs** for the body tappings. Each plug is sealed by a gasket.

The **FlowCon ABV** valve (Model No. ABV1) is available with double union end connections, i.e. figure 3.

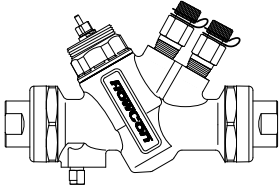


Figure 3

Two types of end connections are available for use with the union nut:

Threaded (male or female):

The thread standard is ISO 228 which is a straight metric thread (compatible with BS-2779) or NPT threading standard, depending on the end connections ordered. The threads on both the connection and piping should be cleaned carefully. As these models are union end connected, the union nuts and the end connections should be removed for installation.

O-rings are supplied with the valve body and used to seal the connections. It is recommended to grease the o-rings with silicone grease before installation. **IMPORTANT:** Never use mineral oil or petrol based grease or oil on the o-rings. Please make sure the o-rings are in place in the o-ring grooves in the inlet and outlet of the valve body when installing the housing and **REMEMBER TO TIGHTEN THE UNION NUTS TO ENSURE SEALING.**

For all threaded connections please clear threads on both valve and piping of debris. Sealant such as pipe dope or teflon tape is recommended. **WHEN USING HEMP AS PIPE SEALANT, ENSURE NO STRANDS ARE LEFT IN THE VALVE OR PIPING.**

Soldered end (sweat):

REMOVE THE END CONNECTIONS FROM THE HOUSING BEFORE SOLDERING. THIS ENSURES THAT THE O-RINGS AND INTERNAL PARTS ARE NOT DAMAGED BY HEAT.

Pressure/temperature fittings (p/t plugs) are available upon request for the ABV valve. Before finger mounting the p/t plugs in the body tappings, please seal the threads of the p/t plugs (**DO NOT OVER TIGHTEN**).

Alternatively to p/t plugs, the valve body can be ordered with **plugs** for the body tappings. Each plug is sealed by a gasket.

Inserting the cartridge:

Prior to installing the **FlowCon SME** cartridge (supplied from factory in setting 5.0 due to calibration), the system should be properly flushed. A blank valve cover is available to be installed during flushing.

It is recommended that the o-rings located around the SME cartridge and at the headnut are lubricated with silicone grease, before the cartridge is installed into the valve body.

IMPORTANT: Never use mineral oil or petrol based grease or oil on the o-rings.

The desired flow rate is chosen by adjusting the flow control cartridge (turned from setting 1.0 and up), with a special adjustment key, i.e. figure 4 (page 3). The key is used to adjusting the scale on the top of the cartridge; the large white numbers reflecting full turns numbered 1 through 5 and the red reflecting tenths of full turns numbered 1 through 9. The cartridge can be installed in the valve body either before or after setting the required flow rate. Once the correct flow rate has been selected the actuator can be applied. Please see specific installation instruction for selected actuator.

SME · 20mm · 3/4"						Setting
16-200 kPaD 2.3-29 psid			30-400 kPaD 4.4-58 psid			
SME.0 (green o-ring)			SME.1 (black o-ring)			
I/sec	I/hr	GPM	I/sec	I/hr	GPM	
0.0111	40	0.176	0.0165	59.3	0.261	1.2
0.0167	60	0.264	0.0223	80.3	0.353	1.3
0.0172	62	0.273	0.0331	119	0.526	1.4
0.0298	107	0.472	0.0481	173	0.762	1.5
0.0419	151	0.664	0.0630	226	0.993	1.6
0.0536	193	0.850	0.0770	277	1.22	1.7
0.0649	234	1.03	0.0910	326	1.44	1.8
0.758	273	1.20	0.104	374	1.65	1.9
0.0862	310	1.37	0.117	421	1.86	2.0
0.0963	347	1.53	0.130	467	2.06	2.1
0.106	381	1.68	0.142	511	2.25	2.2
0.115	415	1.83	0.154	554	2.44	2.3
0.124	447	1.97	0.166	596	2.62	2.4
0.133	477	2.10	0.177	636	2.80	2.5
0.141	507	2.23	0.188	675	2.97	2.6
0.148	534	2.35	0.198	712	3.14	2.7
0.156	561	2.47	0.208	748	3.29	2.8
0.163	586	2.58	0.218	783	3.45	2.9
0.169	610	2.69	0.227	816	3.59	3.0
0.176	633	2.79	0.236	848	3.74	3.1
0.182	654	2.88	0.244	879	3.87	3.2
0.187	674	2.97	0.252	908	4.00	3.3
0.193	693	3.05	0.260	936	4.12	3.4
0.197	711	3.13	0.268	963	4.24	3.5
0.202	727	3.20	0.275	988	4.35	3.6
0.206	743	3.27	0.281	1010	4.46	3.7
0.210	757	3.33	0.286	1030	4.56	3.8
0.214	770	3.39	0.295	1060	4.65	3.9
0.217	782	3.44	0.300	1080	4.74	4.0
0.220	793	3.49	0.303	1090	4.82	4.1
0.223	802	3.53	0.309	1110	4.89	4.2
0.225	811	3.57	0.314	1130	4.96	4.3
0.227	819	3.61	0.317	1140	5.03	4.4
0.229	826	3.63	0.320	1150	5.08	4.5
0.231	831	3.66	0.325	1170	5.13	4.6
0.232	836	3.68	0.328	1180	5.18	4.7
0.233	839	3.70	0.331	1190	5.22	4.8
0.234	842	3.71	0.331	1190	5.25	4.9
0.234	844	3.72	0.334	1200	5.28	5.0

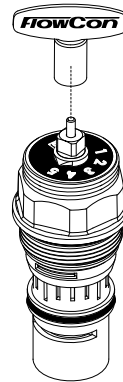


Figure 4

Accuracy: Greatest of either ±10% of controlled flow rate or ±5% of maximum flow rate.

Assembly drawing FlowCon SME Cartridge in ABV housing:

- A: Valve housing (here FlowCon ABV1,
incl. o-rings for end connections)
B: SME cartridge
C: Adjustment keys
D1: P/t plug (2 pcs.)
D2: Plug and gasket (2 of each)
E: Union end connections
F: Actuator (here FM.0.X-type).

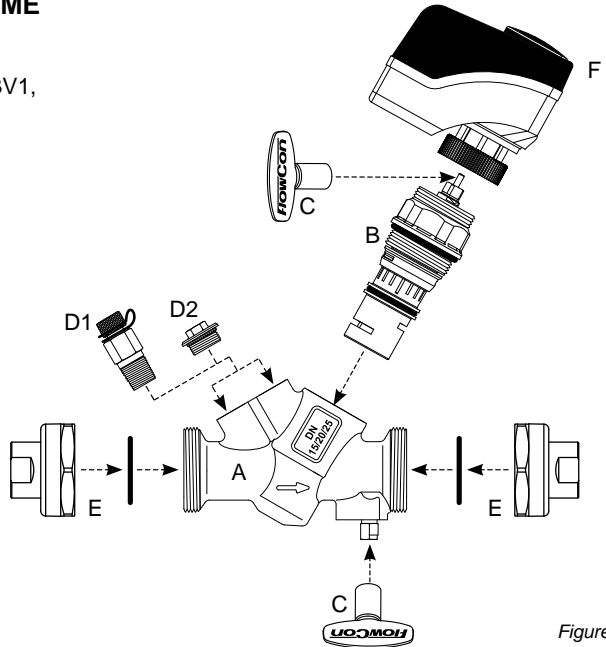


Figure 5

General.

It is recommended flushing the system before installing the cartridge in the valve body. Suitable flushing caps are available. Water must always be suitable treated, clean and free of debris. It is recommended that a strainer be installed prior to the valve body to prevent damage or blockage due to debris. Ensure that the valve is not in the fully closed position when filling the system with water.

Warranty obligation.

Failure to abide by all recommendations as per this installation and operation instruction will void warranty.

For latest updates please see www.flowcon.com