

INSTALLATION AND OPERATION INSTRUCTION

FlowCon Green 15-40mm

The **FlowCon Green** inserts are for use with three different FlowCon valve housings, either:

FlowCon A (DN15/20/25),
FlowCon AB (DN15/20/25/32) or
FlowCon ABV (DN15/20/25/32/40).

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.

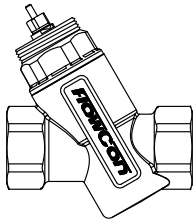


Figure 1

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, AB25.X and AB32.X) is similarly available with female-by-female threaded connections, i.e. figure 2.

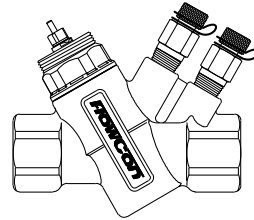


Figure 2

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 and ABV2) is available with double union end connections, i.e. figure 3.

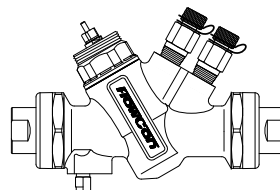


Figure 3

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 tapings, 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 tapings. Each plug is sealed by a gasket.

Inserting the insert:

Prior to installing the **FlowCon Green** insert (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 Green insert and at the headnut are lubricated with silicone grease, before the insert 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 insert (turned from setting 1.0 and up), with a special adjustment key, i.e. figure 4 (page 3). The key is used to adjust the scale on the top of the insert; the large white numbers are numbered 1 through 5 and the red are numbered 1 through 9. The insert can be installed in the valve body either before or after setting the required flow rate. Once the correct flow rate has been selected and the insert is fitted in the valve body, then the actuator is applied.

Please see specific installation instruction for selected actuator.

General.

It is recommended flushing the system before installing the insert 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.

FlowCon Green										Setting
Insert size: 20mm · 3/4"						Insert size: 40mm · 1 1/2"			Nominal flow rate	
16-200 kPaD · 2.3-29 psid			30-400 kPaD · 4.4-58 psid			16-400 kPaD* · 2.3-58 psid*				
Green.0 (green o-ring)			Green.1 (black o-ring)			Green.2 (black o-ring)				
l/sec	l/hr	GPM	l/sec	l/hr	GPM	l/sec	l/hr	GPM		
0.0089	32.0	0.141	0.0178	64	0.282	0.240	865	3.81	1.0	
0.0211	75.8	0.334	0.0393	142	0.624	0.282	1010	4.46	1.1	
0.0323	116	0.511	0.0580	209	0.920	0.322	1160	5.10	1.2	
0.0426	153	0.675	0.0743	268	1.180	0.361	1300	5.72	1.3	
0.0521	188	0.826	0.0887	319	1.41	0.399	1430	6.32	1.4	
0.0610	220	0.967	0.102	366	1.61	0.435	1570	6.90	1.5	
0.0693	250	1.10	0.113	408	1.80	0.471	1700	7.47	1.6	
0.0771	278	1.22	0.124	446	1.96	0.506	1820	8.02	1.7	
0.0844	304	1.34	0.134	482	2.12	0.540	1940	8.56	1.8	
0.0913	329	1.45	0.143	516	2.27	0.573	2060	9.08	1.9	
0.0978	352	1.55	0.152	549	2.42	0.605	2180	9.59	2.0	
0.104	374	1.65	0.161	580	2.56	0.636	2290	10.1	2.1	
0.110	396	1.74	0.170	611	2.69	0.667	2400	10.6	2.2	
0.115	416	1.83	0.178	641	2.82	0.696	2510	11.0	2.3	
0.121	435	1.92	0.186	671	2.95	0.725	2610	11.5	2.4	
0.126	453	2.00	0.194	700	3.08	0.753	2710	11.9	2.5	
0.131	471	2.07	0.202	728	3.21	0.780	2810	12.4	2.6	
0.136	488	2.15	0.210	756	3.33	0.807	2900	12.8	2.7	
0.140	504	2.22	0.218	783	3.45	0.832	3000	13.2	2.8	
0.144	520	2.29	0.225	810	3.56	0.858	3090	13.6	2.9	
0.149	535	2.35	0.232	835	3.68	0.882	3180	14.0	3.0	
0.153	549	2.42	0.239	860	3.79	0.906	3260	14.4	3.1	
0.156	563	2.48	0.245	883	3.89	0.930	3350	14.7	3.2	
0.160	577	2.54	0.252	906	3.99	0.953	3430	15.1	3.3	
0.164	590	2.60	0.257	927	4.08	0.975	3510	15.5	3.4	
0.167	602	2.65	0.263	946	4.17	0.997	3590	15.8	3.5	
0.171	614	2.70	0.268	965	4.25	1.02	3670	16.1	3.6	
0.174	626	2.76	0.273	982	4.32	1.04	3740	16.5	3.7	
0.177	637	2.81	0.277	998	4.39	1.06	3820	16.8	3.8	
0.180	649	2.86	0.281	1010	4.46	1.08	3890	17.1	3.9	
0.183	659	2.90	0.285	1020	4.51	1.10	3960	17.4	4.0	
0.186	670	2.95	0.288	1040	4.57	1.12	4030	17.7	4.1	
0.189	681	3.00	0.291	1050	4.61	1.14	4100	18.1	4.2	
0.192	691	3.04	0.294	1060	4.66	1.16	4170	18.4	4.3	
0.195	701	3.09	0.296	1070	4.70	1.18	4240	18.7	4.4	
0.197	711	3.13	0.299	1080	4.73	1.20	4300	19.0	4.5	
0.200	721	3.17	0.301	1080	4.77	1.21	4370	19.2	4.6	
0.203	730	3.22	0.303	1090	4.80	1.23	4440	19.5	4.7	
0.205	740	3.26	0.305	1100	4.83	1.25	4500	19.8	4.8	
0.208	749	3.30	0.307	1100	4.86	1.27	4570	20.1	4.9	
0.210	757	3.33	0.308	1110	4.89	1.29	4630	20.4	5.0	

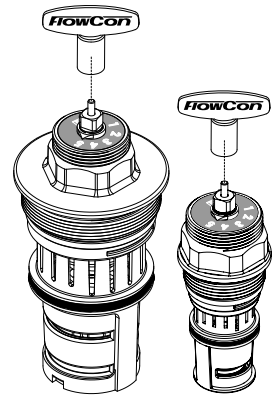
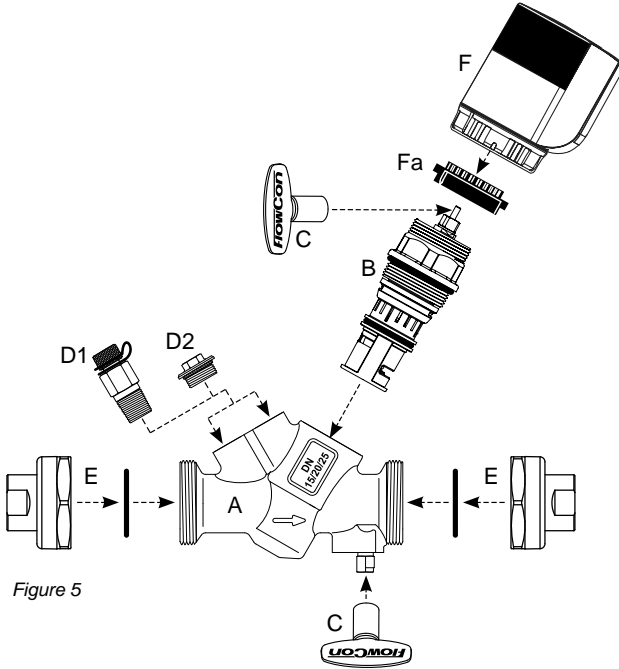


Figure 4

Accuracy: Greatest of either ±10% of controlled flow rate or ±5% of maximum flow rate.
*at setting 2.6.



**Assembly drawing
FlowCon Green (20mm)
in ABV1 housing:**

- A: Valve housing
(here FlowCon ABV1, incl.
o-rings for end connections)
- B: Green insert (20mm)
- C: Adjustment keys
- D1: P/t plug (2 pcs.)
- D2: Plug and gasket (2 of each)
- E: Union end connections
- F: Actuator (here FT.0.X-type)
- Fa: Adaptor ring.

Figure 5

**Assembly drawing
FlowCon Green (40mm)
in ABV2 housing:**

- A: Valve housing (here FlowCon ABV2,
incl. o-rings for end connections)
- B: Green insert (40mm)
- C: Adjustment keys
- D1: P/t plug (2 pcs.)
- D2: Plug and gasket
(2 of each)
- E: Union end connections
- F: Actuator (here FN.0.X-type)
- Fa: Valve adaptor.

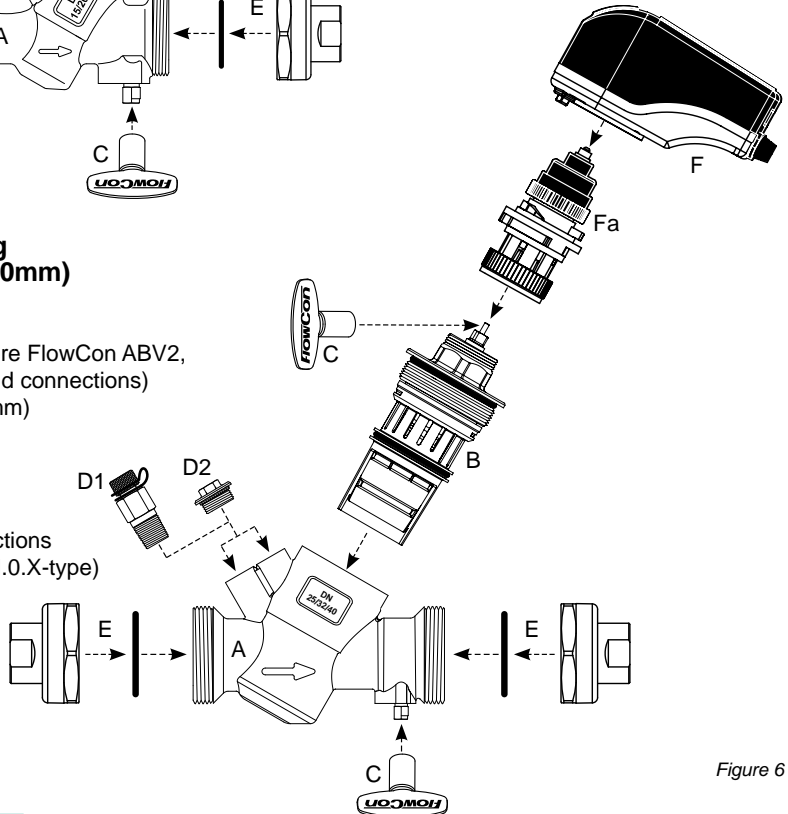


Figure 6