

## Installation and Operation Instruction

The **FlowCon Green.3** valve is female/female threaded and comes in two different sizes:

- FlowCon Green.3 DN40 (1½")
- FlowCon Green.3 DN50 (2")

**IMPORTANT: Do not disassemble.** The FlowCon Green.3 is built as a complete valve and only trained FlowCon personnel can perform repair. Unauthorized disassembly may result in calibration defects or damaged part and will void warranty.

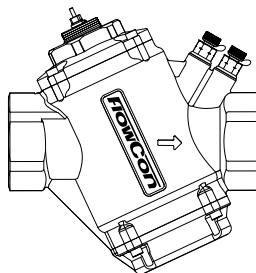


Figure 1

### General Assembly Drawing FlowCon Green.3

- A: Valve housing  
B: FlowCon actuator  
C1: P/t plug (2 pcs.)  
C2: Plug (2 pcs.)  
D: Adjustment key.

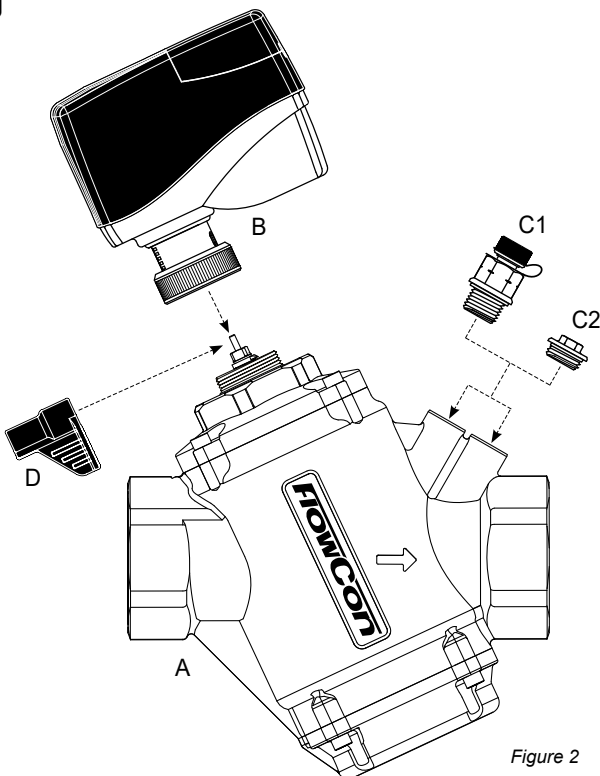


Figure 2

Setting and Installation

Prior to installing the FlowCon Green.3, the system should be properly flushed. If it is not possible to flush the system before Green.3 installation, please make sure to adjust setting to 5.0 and then flush.

The desired flow rate is hereafter set by adjusting the valve (turned from setting 1.0 and up) with a special adjustment key (i.e. figure 3). Scale setting is located on top of the valve numbered 1 to 5 including in-between positions indicated by dots (one dot for every 0.1 position). The specific position is defined by an indication mark on top of the housing. Once flow is set, the required actuator may be applied. Please see specific installation instruction for selected actuator.

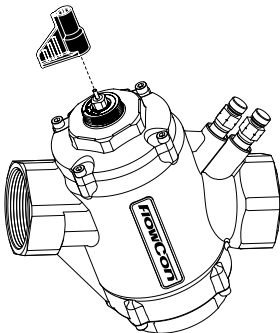


Figure 3

A micrometer setting of 3.4 as illustrated in figure 4 corresponds to a maximum flow rate of: 2.86 l/sec (45.4 GPM).

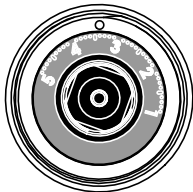


Figure 4

FlowCon Green.3				Setting
16-600 kPaD · 2.3-87 psid				
Nominal flow rate	l/sec	l/hr	GPM	
	0.528	1900	8.36	1.0
	0.633	2278	10.0	1.1
	0.738	2655	11.7	1.2
	0.843	3033	13.3	1.3
	0.947	3410	15.0	1.4
	1.05	3787	16.7	1.5
	1.16	4163	18.3	1.6
	1.26	4537	20.0	1.7
	1.36	4909	21.6	1.8
	1.47	5279	23.2	1.9
	1.57	5646	24.8	2.0
	1.67	6011	26.4	2.1
	1.77	6372	28.0	2.2
	1.87	6730	29.6	2.3
	1.97	7083	31.2	2.4
	2.06	7432	32.7	2.5
	2.16	7776	34.2	2.6
	2.25	8115	35.7	2.7
	2.35	8449	37.2	2.8
	2.44	8777	38.6	2.9
	2.53	9098	40.0	3.0
	2.61	9413	41.4	3.1
	2.70	9721	42.8	3.2
	2.78	10021	44.1	3.3
	2.86	10314	45.4	3.4
	2.94	10599	46.6	3.5
	3.02	10875	47.8	3.6
	3.10	11142	49.0	3.7
	3.17	11400	50.2	3.8
	3.24	11649	51.3	3.9
	3.30	11888	52.3	4.0
	3.37	12116	53.3	4.1
	3.43	12334	54.3	4.2
	3.48	12540	55.2	4.3
	3.54	12735	56.0	4.4
	3.59	12919	56.8	4.5
	3.64	13090	57.6	4.6
	3.68	13249	58.3	4.7
	3.72	13395	58.9	4.8
	3.76	13527	59.5	4.9
	3.79	13647	60.0	5.0

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

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## FlowCon General Instruction

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### GENERAL:

#### Flushing:

Water must always be suitable treated, clean and free of debris (according to VDI 2035 recommendation).

In case of an insert-based valve, system is recommended to be flushed before the insert is installed in the valve body. A suitable flushing cap is available. In case of an one-unit-valve, system is recommended to be flushed before the valve is installed. If not possible, flush the system at maximum flow setting equal to fully open valve. Ensure that the valve is not in the fully closed position when filling the system with water.

It is recommended that a strainer be installed prior to the valve body to prevent damage or blockage due to debris.

#### Installation:

INSTALL THE VALVE HOUSING WITH THE FLOW DIRECTIONAL ARROW POINTING IN THE CORRECT DIRECTION. Valves must be installed avoiding unnecessary pull or twist in the valve housing.

#### Thread Sealing:

For threaded connections please clear threads on both valve and piping of debris. FlowCon recommends thread sealant (Permabond A1044 or equivalent). When using Teflon tape, FlowCon

recommends 4-6 rounds of tape applied tightly in clockwise rotation. WHEN USING HEMP AS PIPE SEALANT, ENSURE NO STRANDS ARE LEFT IN THE VALVE OR PIPING.

For threaded connections including sealing O-ring or sealing gasket additional sealing is not required. Please make sure the O-ring / gasket is properly placed. After finger tightening O-ring sealing requires 2-5 Nm torque.

EuroCone fittings will seal with FlowCon UniQ® and FlowCon Mini By-Pass without additional sealing.

#### O-rings:

Any O-ring (on valve, insert or accessory) is re-commended to be greased with silicone oil before installation. **IMPORTANT:** Never use mineral oil or petrol-based grease or oil on the O-rings.

#### Pressure:

It is recommended to make some type of over-pressure limitation to avoid the inlet pressure never exceeds the maximum operating pressure. The valves shall be inspected for damage after any overpressure condition.

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### WARRANTY:

Following recommendations will prolong valve life and give better functionality.

Failure to abide by all recommendations as per this General Instruction will void warranty.

Warranty is voided using other actuators than supplied or recommended by FlowCon International.

For any supplementary warranty obligations, please see the relevant product specific installation and operation instruction.

### FLOWCON VALVE HOUSINGS:

Install the selected valve housing as called for in the design drawings.

#### FlowCon A

The housing is available with fixed female-by-female threaded connections for all model sizes. The A model is only available for 20 mm (3/4") insert and model numbers are A15.X, A20.X and A25.I.K.

#### FlowCon AB

The housing is similarly available with fixed female-by-female threaded connections for all model sizes. The AB model is available for 20 mm (3/4") insert (model numbers are AB15.X, AB20.X and AB25.I.K), 40 mm (1 1/2") insert (model numbers are AB25.X and AB32.X) and 50 mm (2") insert (model numbers are AB40.X and AB50.X). P/t plugs with collar.

#### FlowCon ABV

The housing is available with double union end connections for all model sizes. The ABV model is available for 20 mm (3/4") insert (model number ABV1) and 40 mm (1 1/2") insert (model number ABV2). P/t plugs with collar.

#### FlowCon AHU

The valve is available for double flanged connections for all model sizes. P/t plugs without collar.

#### FlowCon FIT

The valve is available with double union end connections or double flange connections depending on size. P/t plugs without collar.

#### FlowCon Green.3

The valve is available with fixed female-by-female threaded connections for all model sizes. P/t plugs with collar.

#### FlowCon Intelligent Meter

The valve is available for double flanged connections for all model sizes. P/t plugs without collar.

#### FlowCon K

The valve is available with fixed female-by-female threaded connections for all model sizes. P/t plugs with collar.

#### FlowCon Partner Ball

The valve is available with fixed female-by-female threaded connections for all model sizes. P/t plugs without collar.

#### FlowCon Partner Globe

The valve is available for double flanged connections for all model sizes. P/t plugs without collar.

#### FlowCon PIM-DP

The valve is available for double flanged connections for all model sizes. P/t plugs without collar.

#### FlowCon QuickDisc®

The valve is available with fixed female-by-female threaded connections for all model sizes. P/t plugs without collar.

#### FlowCon SM

The valve is available with double union end connections or double flange connections depending on size. P/t plugs without collar.

#### FlowCon Unimizer®

The valve is available with double union end connections or double flange connections depending on size. P/t plugs without collar.

#### FlowCon UniQ®

The valve is available with fixed female-by-female threaded connections. Further, it is available with fixed 20 mm male ISO threaded connections suitable for DN15 EuroCone according to EN215. The UniQ® model numbers are U.0.XX.1.I, U.0.XX.2.I and U.0.XX.3.I.

#### FlowCon Wafer

The wafer is available for double flanged connections for all model sizes. P/t plugs without collar.

### Valve Threaded Ends:

Thread standard is either ISO 228, which is a straight metric thread (compatible with BS-2779) or NPT threading standard, depending on the product number ordered.

### Valve Flanged Ends:

Flange ends are compatible with DIN steel flanges PN10, PN16, PN25 and/or PN40 according to EN1092-1 or ANSI steel flanges class 150 and/or 300 according to ASME B16.5. depending on product ordered.

Flanges are not supplied by FlowCon.

## FLOWCON VALVE ACCESSORIES:

Two different types of pressure/temperature fittings (p/t plugs) are available upon request for valves with body tappings, i.e. **p/t plugs without collar** and **p/t plugs with collar**. Suitable p/t plug choice will depend on the valve. Alternative to p/t plugs, the valve body can be ordered with **plugs** for the body tappings. **Extended p/t plugs** (without collar) are standard included with FlowCon AHU and FlowCon Wafer.

Before finger mounting p/t plugs without collar in the body tappings (DO NOT OVER TIGHTEN), please seal the threads of the p/t plugs. Thread sealing is described elsewhere in this General Instruction. P/t plugs with collar as well as plugs are sealed by a gasket. After finger mounting, gasket sealing requires 1-3 Nm torque.

**Threaded union end connections** (male or female) for union end connected valves must have the union nuts and the end connections should be removed for installation.

**Soldered union end connections** (sweat) for union end connected valves must have the END CONNECTIONS REMOVED FROM THE HOUSING BEFORE SOLDERING. THIS ENSURES THAT THE O-RINGS AND INTERNAL PARTS ARE NOT DAMAGED BY HEAT.

**Capillary tubes** are not to be damaged.

Therefore, do not force the tube to compress or bend with a bending radius below 20 mm (3/4").

### Capillary tube for inserts (ACC00110)

Capillary tube is supplied with fixed M8 fitting and O-ring at each end. Ensure that the O-ring is greased and correctly placed before finger mounting the capillary tube in the FlowCon QuickDisc® (DO NOT OVERTIGHTEN AS THIS WILL DAMAGE THE O-RING). If the capillary tube is to be mounted in a FlowCon Partner Ball or other valve with 1/4" (ISO 7/1) tapping, a 1/4" to M8 adaptor is available (ACC00121). Thread sealing and O-ring lubrication are described elsewhere in this General Instruction.

### Capillary tube for PIM-DP (F212)

Capillary tube is supplied with fixed angled 1/4" NPT fitting (F4039-14) at one end going to the FlowCon Partner Globe with an adaptor (ACC6584). The other tube end is to be assembled in the 1/4" NPT fitting already mounted on the FlowCon PIM-DP. Thread sealing is described elsewhere in this General Instruction.

## FLOWCON INSERTS:

Please see specific installation instruction for selected insert (Green, EVS, E-JUST, Composite, Stainless Steel, SDP, EDP, ADP or T-JUST) regarding valve housing match, installation and setting.

## FLOWCON ACTUATORS:

Please see specific installation instruction for selected actuator (EV, FT, FN, FH, SM, BB or T) regarding product fitting, mounting position and wiring. For product match please read FlowCon Actuator Matrix.

# FlowCon General Instruction

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