

INSTALLATION AND OPERATION INSTRUCTION

FlowCon FAC6HP

Connect the **FlowCon FAC6HP** commissioning meter to a valve by the following steps:

1. Ensure that the isolating valve on each tube is closed and that the equalizing valve on the side of the commissioning meter is fully open.
2. Connect each tube (recommended opposite end of the isolating valves, though it does not matter which end) with a p/t needle.
3. Remove metal protection caps on p/t needles.
4. Put the p/t needles into the p/t plugs on the valve that is to be measured. (The red tube is to be connected to the inlet side of the valve and the blue tube with the outlet side).
5. Remove black plastic protection caps on commissioning meter.
6. Attach the tubes to the commissioning meter. (Matching the colors).
7. Open the isolating valves on the tubes. (This will cause water to flow through the tubes and commissioning meter and thus for a short while bypassing the valve).
8. Close the isolating valves.
9. Press any button to turn on the commissioning meter and then press the "ZERO" button on the commissioning meter.
10. Open the isolating valves again.
11. Close the equalizing valve on the side of the commissioning meter.

If the commissioning meter is subjected to extreme temperature changes e.g. if transferred from a hot to a cold system (or opposite) or if the commissioning meter has been stored in a cold environment and is used in a warm system (or opposite), it might be necessary for the commissioning meter to stabilize at the new temperature before zeroing (point 9 in the above list). The time necessary to stabilize, depend on the temperature difference.

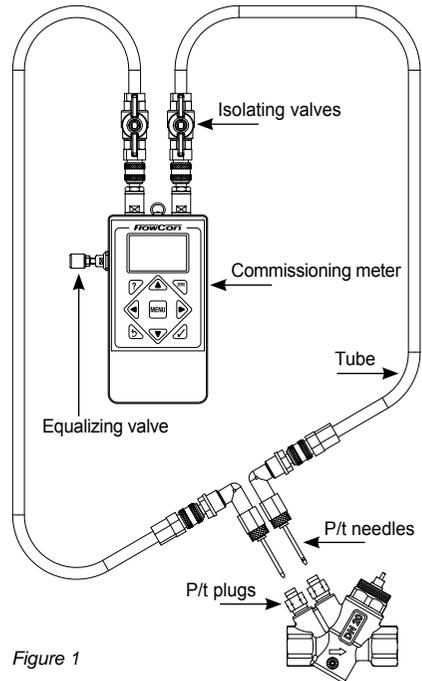


Figure 1

To **disconnect** the commissioning meter follow these steps:

1. Open the equalizing valve. (This will cause water to flow through the tubes and commissioning meter and thus for a short while bypassing the valve).
2. Close the isolating valves.
3. If needed disconnect the tubes from the commissioning meter.
4. Remove the p/t needles from the p/t plugs on the valve.
5. If needed disconnect the p/t needles from the tubes.
6. When finished replace protection caps on both p/t needles and commissioning meter.

MENUS	MAIN	DISPLAY	UNITS	ADVANCED	DAMPING
SUB MENUS	SELECT VALVE	FLOW/PRESSURE	PRESSURE	FLOW ALERTS	UP-DATE TIME
	VALVE POSITION	MULTI DISPALY	FLOW	BLACK-LIGHT TIMER	SAMPLE TIME
	DESIGN FLOW	PRESSURE		AUTO-OFF TIMER	
	TARGET FLOW	ABOUT		VIEW SIZE AS?	
	PIPE SIZE				
	USER KVS				
	CHANGE SG				

Figure 2

Setting up.

- Press any button to turn on the commissioning meter.
- Press the "MENU" button once to enter the menu or twice to choose a language (English, French, Italian, Norwegian, Spanish, and Swedish are available).
- Navigate between the menus with ► and ◀ and the sub menus with ▲ and ▼. To choose a sub menu use ✓. Generally, ✓ is for entering sub menus, accepting values or choices, while ↵ is for annulling and exiting menus. For a full list of menus, please see figure 2.

Prior to use, please check the "UNITS" menu (► and ◀ to move between menus and ✓ to confirm) to ensure that the units on the commissioning meter match the units on the system or other requirements.

- Choose the valve by finding the "MAIN" menu (► and ◀) and the sub menu "SELECT VALVE" (▲ and ▼), then press ✓ to confirm.
- A new menu opens, please see figure 3.

▲	FLOWCON	◀
▼	Green	
	Green.0	
	15-25mm	

Figure 3

The lines in figure 3 are:

1. line: the manufacturer
 2. line: valve series
 3. line: valve name
 4. line: valve size
- To move between the lines use ▲ and ▼. In each line ► and ◀ can be used to change the setting. To accept the valve, press ✓.
 - To change the max. flow setting of the valve (the default setting is the highest setting), go to the "MAIN" menu and enter the "VALVE POSITION" sub menu. Enter the setting digit by digit (0-9 and "."). To leave the menu press ✓.
 - Now the current differential pressure and flow can be seen in the display (as shown in fig. 4).

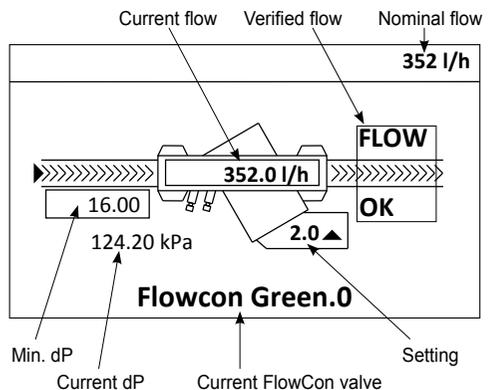


Figure 4

To turn off the commissioning meter, please press \rightarrow first (until prompted for shut-off), then \checkmark . The commissioning meter will by default shut off automatically after a period of inactivity specified in the "ADVANCED" menu under the sub menu "AUTO-OFF TIMER".

Memory.

By default the memory in the commissioning meter holds 10 groups each with 10 valves spaces.

- To access the memory, press \checkmark . When the memory is accessed, the colors on the screen will be inverted (text is bright and background is dark).
- Navigate between the groups by pressing \blacktriangle and \blacktriangledown , and the valves within the current groups by pressing \blacktriangleright and \blacktriangleleft .
- To save data, choose a valve and valve setting the normal way and have the commissioning meter connected to the valve, then access the memory, press "MENU" and then \blacktriangleright to save the data.
- If repeating the same measurements later, the step of choosing each valve prior to accessing the memory can be skipped by accessing the memory, and pressing "MENU", then \blacktriangleleft to load the previously saved valve (including valve setting) for that location. To save the new data, access the memory and press "MENU", then \blacktriangleright to save the new data.
- All data can be cleared from a valve by pressing "MENU", then \blacktriangle .

Alerts.

Alerts are shown white on black in the upper left corner of the display. If several alerts are active, they will be shown side-by-side if possible, but otherwise only a single alert will be visible at a time.

Alert	Icon/text	Explanation
Zeroing	ZERO DP	Zeroing is needed. Please follow the list of how to connect the commissioning meter to a valve, or repeat steps 1 and 5-11.
Low battery		Battery level is low.
Change battery	CHANGE BATTERY (whole screen)	Battery level is critically low. Please change the battery.
Specific gravity	SG	Specific gravity is not set to 1.0 sg. The commissioning meter does not support calculations with other specific gravities than 1.0 sg for FlowCon valves.
Temperature warning	HIGH TEMP	The internal temperature of the commissioning meter is high (45°C or above). This results in poorer accuracy. If possible try to cool it down.

Changing battery.

- To change the battery, first turn off the commissioning meter.
- Then remove the lid from the lower part of the back of the commissioning meter by unscrewing the two screws (the screw driver from the carry case matches the screws) and lifting the lid off.
- Detach the two connectors from the old battery and connect them to the new battery.
- Put the lid back on and fasten the two screws. The normal operating time for a standard alkaline 9V 6LR61 battery is 20 hours.

Optional software.

For large systems or systems including FlowCon wafers, the optional software for the commissioning meter is recommended.

The software offers a possibility of setting up valves consisting of multiple valve cartridges like the FlowCon Wafers. A wafer includes a number of Stainless Steel cartridges and its flow depends solely on the characteristic of these cartridges.

Furthermore the software provides an option of organizing the groups and valves in the memory including custom naming and up to 2000 memory locations in total.

General.

Water must always be suitable treated, clean and free of debris.

Warranty obligation.

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