



X-FLOW[®]

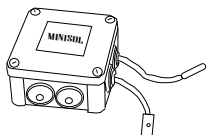
EASY COMMAND AND CONTROL SYSTEM

Instruction manual

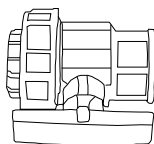
X-FLOW Kit ECC



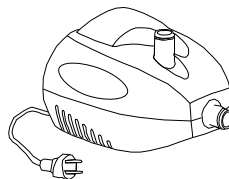
INCLUDED IN THE BOX



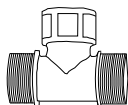
x1
SV/NO/DK: Styrssystem solfångare
ENG: Solar controller
FIN:
HOL:
GER:
FRE:
SPA:
POR:



x1
SV/NO/DK: Reglerventil
ENG: Control valve
FIN:
HOL:
GER:
FRE:
SPA:
POR:



x1
SV/NO/DK: Hjälpump
ENG: Booster pump
FIN:
HOL:
GER:
FRE:
SPA:
POR:



x1
SV/NO/DK: T-koppel 3/4"x3/4"x3/4"
ENG: T-connector 3/4"x3/4"x3/4"
FIN:
HOL:
GER:
FRE:
SPA:
POR:



x2
SV/NO/DK: EPDM-slang 32mm
ENG: EPDM hose 32mm
FIN:
HOL:
GER:
FRE:
SPA:
POR:



x4
SV/NO/DK: Slangklammer
ENG: Hose bracket
FIN:
HOL:
GER:
FRE:
SPA:
POR:



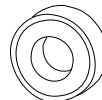
x1
SV/NO/DK: Reducering 1"-3/4"
ENG: Reducer 1"-3/4"
FIN:
HOL:
GER:
FRE:
SPA:
POR:



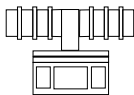
x1
SV/NO/DK: Reducering 1"-1/2"
ENG: Reducer 1"-1/2"
FIN:
HOL:
GER:
FRE:
SPA:
POR:



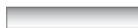
x1
SV/NO/DK: Sanpapper
ENG: Sanding paper
FIN:
HOL:
GER:
FRE:
SPA:
POR:



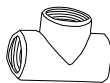
x1
SV/NO/DK: Gångtejp
ENG: Teflon tape
FIN:
HOL:
GER:
FRE:
SPA:
POR:



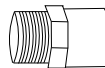
x1
SV/NO/DK: Nippel 16x3/4"x16
ENG: Connector 16x3/4"x16
FIN:
HOL:
GER:
FRE:
SPA:
POR:



x1
SV/NO/DK: Krympslang
ENG: Heat Shrink Tubing
FIN:
HOL:
GER:
FRE:
SPA:
POR:



x1
SV/NO/DK: T-koppel 1"x1"x1"
ENG: T-connector 1"x1"x1"
FIN:
HOL:
GER:
FRE:
SPA:
POR:



x2
SV/NO/DK: Dimensionsövergång 3/4"-32
ENG: Reducer 3/4"-32mm
FIN:
HOL:
GER:
FRE:
SPA:
POR:

FIG 1: ASSEMBLING THE ECC BY-PASS

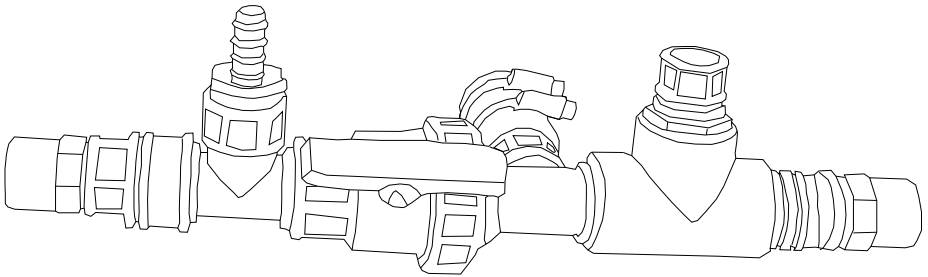


FIG 2: ASSEMBLING THE ECC MEASURING UNIT

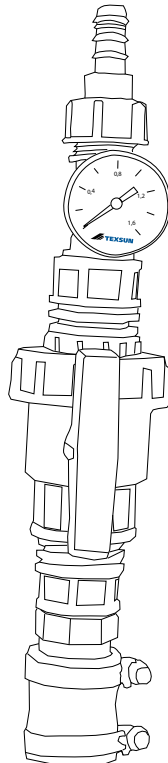


FIG 3: CONNECTING THE ECC UNIT

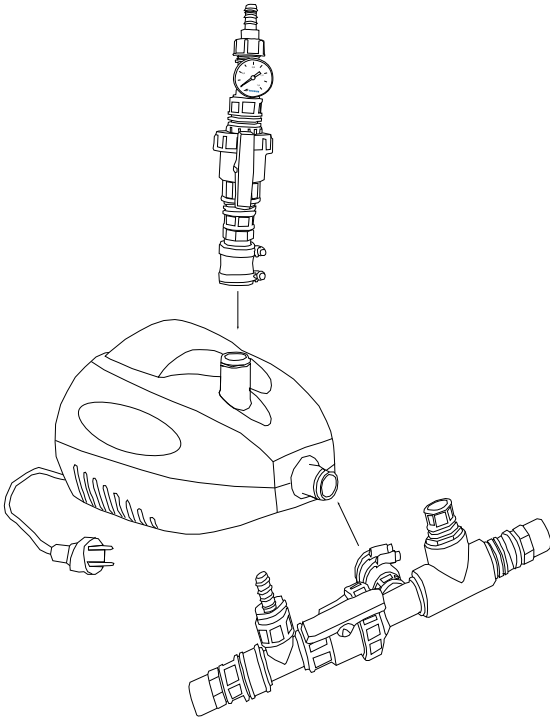
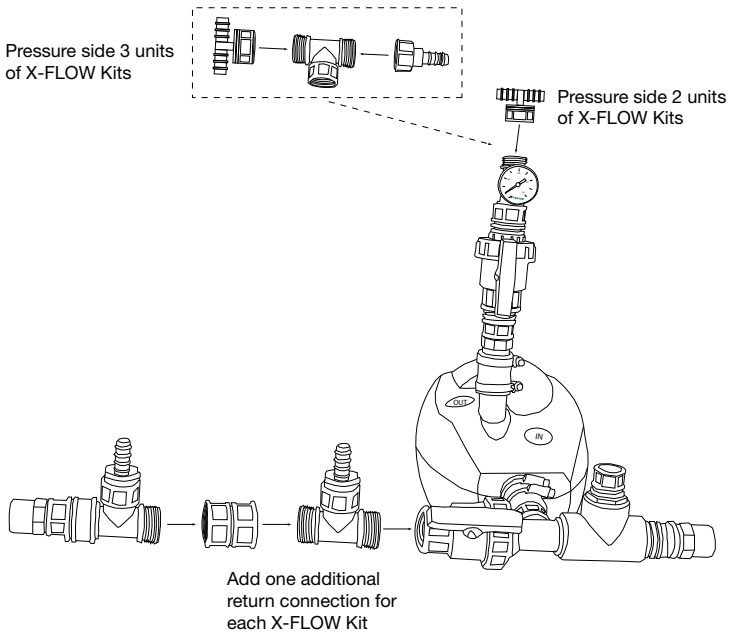


FIG 4: SETTING UP MULTIPLE X-FLOW KITS TO YOUR ECC



X-FLOW KIT ECC for regulation and optimisation of your solar collector system

These instructions are additional to the instructions included with your X-FLOW solar heating kit. These instructions describe only that which is relevant for installation of your X-FLOW ECC solar controller. For other information please consult the instructions supplied with the X-FLOW kit.

Assemble the ECC

1. Read these instructions in their entirety before you begin.
2. Remove the contact to the pool's pump and plug up the inlets and outlets in the pool.
3. Assemble the ECC unit's by-pass (fig 1) and measuring unit (fig 2), use the supplied Teflon tape. Note that several parts from your X-FLOW solar heating kit shall be used in this process!
4. Connect the ECC unit's by-pass and measuring unit to the pump (fig 3) (sand the surface of the grey connections to the pump with the supplied sanding paper).
5. Insert the submersible sensor casing (supplied with Minisol) into the by-pass .
6. Assemble the pressure- and return connections between the solar collectors and the ECC unit (in accordance with the instructions supplied with your X-FLOW Solar Kit).
7. Connect the pool's circulation hoses to the ECC unit (in accordance with the instructions supplied with your X-FLOW Solar Kit).

Operation of the system

Note that the entire ECC unit should be placed lower than the pool's water level and in accordance with appropriate electrical safety norms. Note also that there should be good ventilation at the point of installation of the pump and control unit .

1. Open both of the control valves on the ECC unit completely.
2. Check that all hose connections are sitting in the right positions.
3. Check that there are no folds or bends in the hose connections.
4. Take away the plugs from the pool's inlets and outlets.
5. Start the pool's pump.
6. Backwash the filter (clean).
7. Check that the pressure (on the manometer) is not higher than 1 bar.

Setting/adjusting the pressure and flow rate

1. Make a note of the pressure on the manometer (e.g. 0.3 bar) when the pool's circulation is operating but the ECC pump is idle. This measurement will be used later when setting the correct flow rate.
2. Assemble the differential thermometer (Minisol) according to the supplied instructions (note that the cables to the sensors can be lengthened).
3. Adjust the temperature difference in the Minisol to 1 degree (see the supplied instructions with Minisol).
4. Connect the Minisol to 230 V.
5. Warm the silver coloured sensor in your hand until the pump starts.
6. To achieve the correct flow rate in the solar collectors the pressure should be adjusted so that:

The manometer on the ECC unit shows the initial pressure (see point 1 above)

+ 0.3 bar +/- 0.1 bar for every meter in difference in vertical height between the installation site of the solar collectors and the manometer.

7. If you need to increase the pressure to achieve the correct measurement on the manometer you should (slowly) close the control valve on the ECC by-pass.

8. If you need to reduce the pressure to achieve the correct measurement on the manometer you should (slowly) close the control valve on the ECC measuring unit.

Example (solar collectors on a roof):

You wish to install your solar collectors on a roof that is 3 meters high. When you start the pool circulation (the ECC pump is not in operation at this stage) the manometer shows 0.3 bar. To work out what the manometer should be showing you calculate as follows:

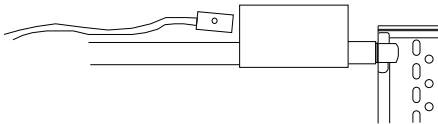
0.3 bar initial (permanent) pressure + 0.3 bar to achieve correct flow rate + 0.3 bar to lift the water up to the roof = The manometer should be showing 0.9 bar when the ECC pump starts.

Example (solar collectors installed lower than the manometer):

You wish to install your solar collectors on a bank that lies 2 meters lower than the manometer. When you start the pool circulation (the ECC pump is not in operation at this stage) the manometer shows 0.4 bar. To work out what the manometer should be showing you calculate as follows:

0.4 bar initial (permanent) pressure + 0.3 bar to achieve correct flow rate – 0.2 bar to compensate for the low placement of the solar collectors = The manometer should be showing 0.5 bar when the ECC pump starts.

9. Finally, assemble the silver coloured sensor with the heat shrink tubing at the solar collectors' outlet according to the diagram below (use a hot air gun). If you do not have access to a hot air gun you can use black tape. The sensor MUST be placed so that the sun shines on it.



Connecting multiple X-FLOW Kits to your ECC

X-FLOW Solar Heating Kit is designed as a modular system to suit all pools and temperature requirements. The ECC by-pass can be extended with connection possibilities for max. 3 X-FLOW Kits in parallel.

1. Use the supplied Socket 1" to create additional return connections on the by-pass unit (see fig 4). Note that you will have an excess control valve over from each X-FLOW Kit after the installation.

2. Use the supplied Connector 16x3/4"x16mm to connect an additional unit to the pressure side of the ECC pump. Use T-connector 3/4"x3/4"x3/4" with Connector 16x3/4"x16mm and Connector 3/4"x16mm to assemble three units in parallel.

Maintenance instructions X-FLOW Solar Controller ECC

A. BACKWASHING OF FILTER

Since the initial setting up of the system occurs with a completely cleaned filtration unit the pressure to your solar collector installation will decrease when the filter becomes dirty. You should therefore check that the pressure is set correctly daily when you start up your system. To optimise the performance of the solar collectors and the water quality it is recommended to backwash the filter in accordance with the manufacturer's instructions and recommendations .

B. AFTER THE BATHING SEASON

1. Shut down the pool's circulation pump (remove the cable).
2. Loosen the hoses from the solar collectors to the by-pass unit and empty these of water.
3. Unscrew the ECC unit's hose brackets and empty out the water. Keep the ECC pump indoors during winter.

For questions concerning guarantee and service please contact your local dealer