

KAN-therm System

Series 71 A, 75A, 51 A, 55A manifolds installation and maintenance instructions

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Series 71A and 75A manifolds Installation and maintenance instructions

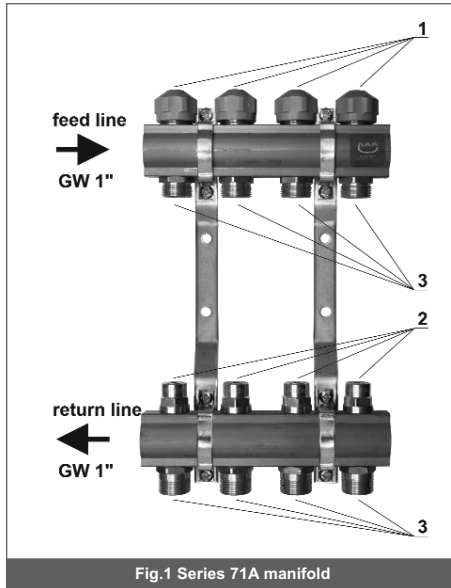


Fig.1 Series 71A manifold

1. electric actuator cut-off valve
2. control valve
3. output for particular circuits from G $\frac{3}{4}$ "

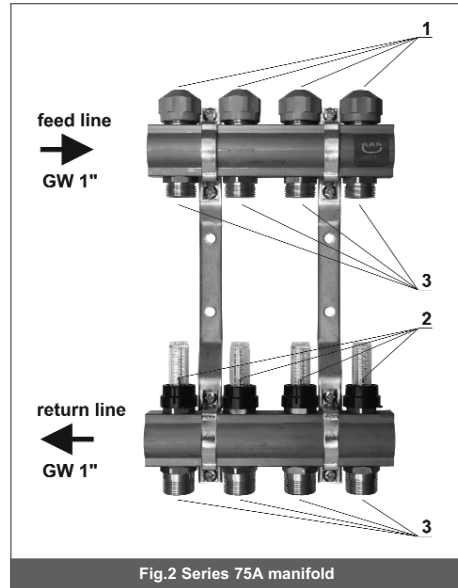


Fig.2 Series 75A manifold

1. electric actuator cut-off valve
2. flowmeter
3. output for particular circuits from G $\frac{3}{4}$ "

KAN-therm System series 71A and 75A manifolds are designed to control floor heating system. They enable to control temperature in a heated room by means of room thermostat controlling electric actuators fixed on the manifold upper beam. Particular floor heating loops are connected to the manifold using screw joints for PE-RT, PE-Xc pipes or screw joints and connecting pipes for PE-RT/Al/PE-HD pipes. Connections of that type are self-sealing (do not use additional seals, e.g. tow or teflon tape).

Series 71A and 75A manifold description

The manifold is consisting of:

1. female thread 1" on feeding and return connections,
2. upper beam with built-in electric actuator cut-off valves (actuator installation on valves using M28×1,5mm adapter - red) and outputs for particular circuits with male thread G $\frac{3}{4}$ " (Eurokonus).
Notice that electric actuators are not included in manifold sets.
3. **series 71A** (Fig.1) - lower beam with built-in control valves (they compensate flow resistance in particular heating coil) and outputs for particular circuits with male thread G $\frac{3}{4}$ " (Eurokonus);
series 75A (Fig.2) - lower beam with built-in flowmeters (they compensate flow resistance in each heating coil and indicate real water flow) and outputs for particular circuits with male thread G $\frac{3}{4}$ " (Eurokonus).

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Note: From one side the manifold is connected to the system (upper beam - feeding, lower beam - return), from the other side the upper and lower beams have to be equipped with plugs, optionally reduction and/or a vent (see Chapter 3 "Installation of typical elements in manifolds"). Plugs, reductions, etc. are additional elements and are not included in standard manifold sets.

Series 71A and 75A manifold operation

1. The manifold is fed by heating medium from the system at a maximum temperature (T_{max}) 55°C. Connect floor heating system feeding to the manifold upper beam.
2. From the upper beam, through particular loops, the medium gets to the floor heater. Each heating loop has a cut-off valve connected with electric actuator.
3. The heating medium returning from heating loops is directed to the manifold lower beam from where it gets back to the system. Flow resistance compensation in particular loops takes place by adjusting valves on the lower beam (see "valve adjustment on manifold lower beam - series 71A and 75A").
4. Floor heating temperature adjustment consists in actuator closing the valve on manifold at the moment of having reached desired temperature in a heated room - no flow in floor heating coil (the temperature is adjusted manually by means of room thermostat).

Make sure the manifold is correctly connected to the system. Fix the manifold between feed and return pipes in low temperature circuit (T_{max} 55°C). Connect the upper beam to feed, and the lower beam to return line.

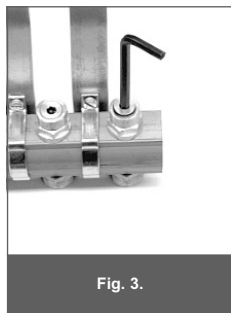
Control valves adjustment in manifold lower beam - series 71A

Fig. 3.

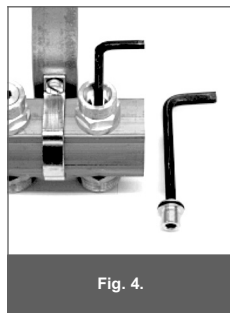
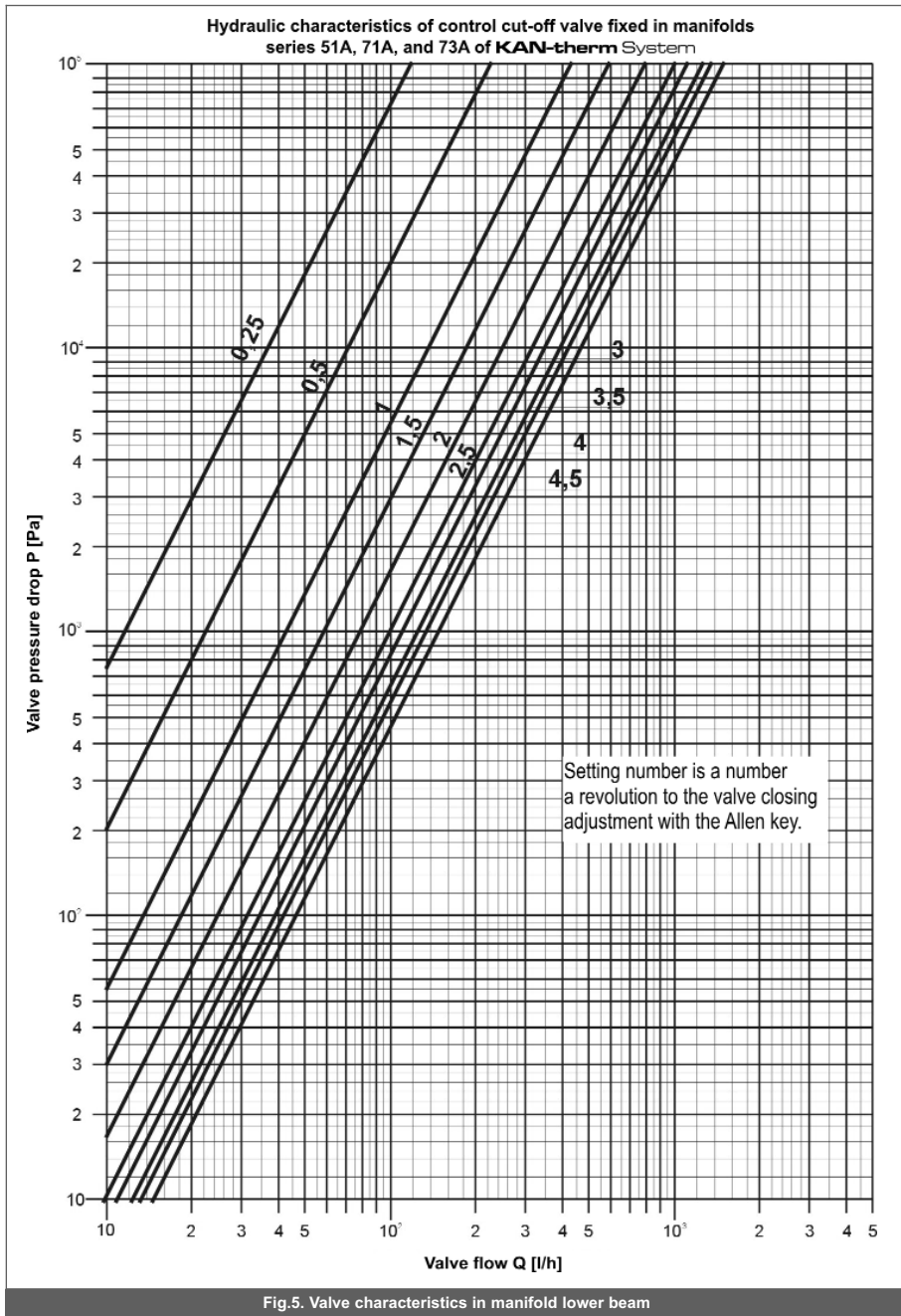


Fig. 4.

1. Unscrew safety element using Allen key 6 mm - Fig.3.
2. Adjust valve head using Allen key 5 mm by closing the valve completely (torque 6 Nm) and then turn to open. The number of turns corresponds with the design setting number - Fig. 4,
3. After adjustment drive safeguarding element using Allen key 6 mm.

Valve characteristics are presented in Fig. 5.



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Flowmeters adjustment in manifold lower beam - series 75A

1. Take off plastic cover (fixed by "snap fastener") - Fig. 6.
2. By turning the flowmeter adjust to the required flow on the scale (in accordance with the design) - Fig. 7.
3. After adjusting the flow put on safeguard against accidental re-adjustment.

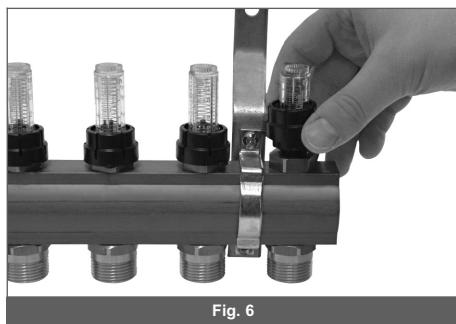


Fig. 6

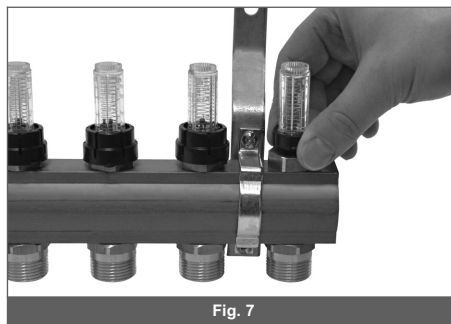


Fig. 7

Valve actuators in manifold upper beam installation and start-up

1. Turn off the manual adjustment cap (Fig.8).
2. Put room data label on the valve (the label is on actuator packaging).
3. Screw on actuator adapter M28×1,5 - red (Fig.9).
4. Fix actuator on the adapter and turn at desired angle (Fig.10).
5. Calibrate actuator:
 - a) connect actuator to the power supply for approx. 6 min. (actuator and manifold circuit will open to the max)
 - b) disconnect actuator from the power supply and wait for approx. 6 min. (actuator and manifold circuit will close)
 - c) actuator is calibrated and ready to operate.

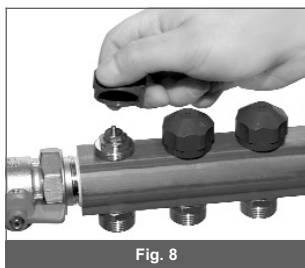


Fig. 8

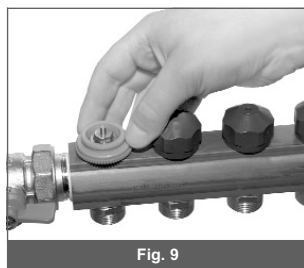


Fig. 9

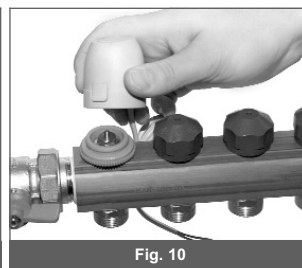


Fig. 10

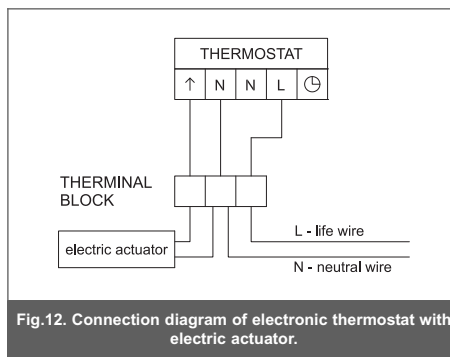
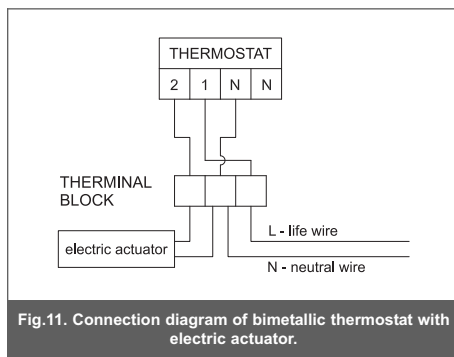
Actuators are available in two versions: 24V (K-600701) and 230V (K-600700). Actuator operates in NC mode (normally open). In order to ensure correct operation of manifold system, connect actuator to the mains (230V or 24V) according to appropriate diagram (see connecting electric actuator to room thermostat diagram - Fig.11 and 12).

To facilitate the start-up of the whole system, actuators have "first open" mode which makes them open before connecting them to the mains for the first time.

More details in actuators instruction manual.

Connecting thermostats and actuators

1. It is possible to connect up to 10 actuators to one thermostat.
2. Electric actuator operates with:
 - a) room bimetallic thermostat 230V (0.6106, 0.6107) - connection diagram Fig.11
 - b) electronic thermostat with diode 230V (K-800100) - connection diagram Fig. 12
 - c) electronic thermostat with diode 24V (K-800101) - connection diagram Fig.12.



Notice: All works connected with electrical system should be performed by qualified and authorized personnel.

More details in room thermostats instruction manual.

Series 51A and 55A manifolds Installation and maintenance instructions

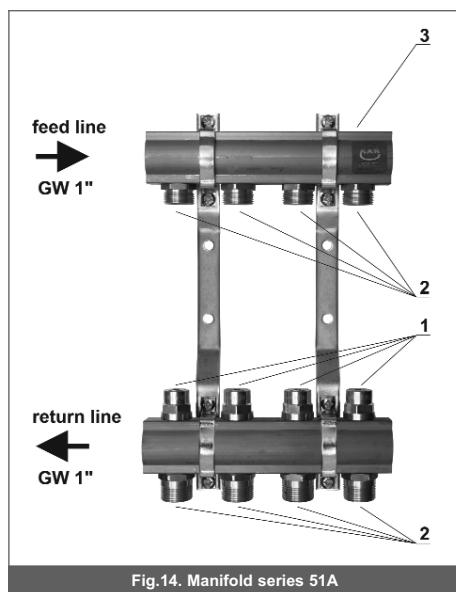


Fig.14. Manifold series 51A

1. control valve
2. output for particular circuits - G $\frac{3}{4}$ "
3. opening G $\frac{1}{2}$ " for a vent

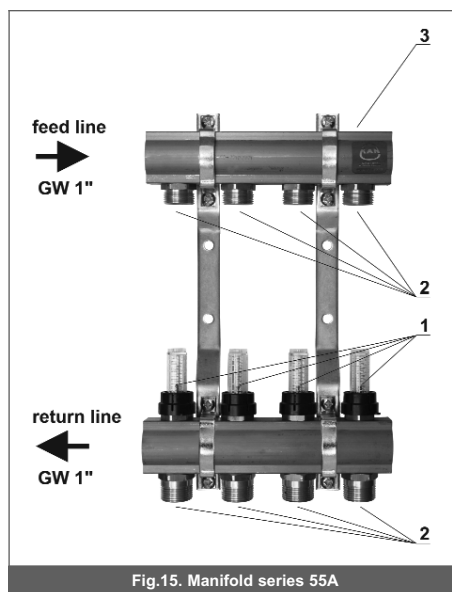


Fig.15. Manifold series 55A

1. flowmeter
2. output for particular circuits - G $\frac{3}{4}$ "
3. opening G $\frac{1}{2}$ " for a vent

KAN-therm System manifolds series 51A and 55A are designed for floor heating system adjustment.

Each floor heating loop is connected to the manifold using screw joints for PE-RT, PE-Xc pipes or screw joints and connecting pipes for PE-RT/Al/PE-HD pipes. Connections of that type are self-sealing (do not use additional seals, e.g. tow or teflon tape).

Series 51A and 55A manifold

The manifold is consisting of:

1. on feed and return pipes - female thread 1"
2. upper beam with outputs for particular circuits with male thread G $\frac{3}{4}$ " (Eurokonus) and opening G $\frac{1}{2}$ " for a vent.
3. **series 51A** (Fig.14) - lower beam with built-in control valves (they compensate flow resistance in particular coil pipes) and outputs for particular circuits with male thread G $\frac{3}{4}$ " (Eurokonus);
series 55A (Fig.15) - lower beam with built-in flowmeters (they compensate flow resistance in each coil pipe and indicate real water flow) and outputs for particular circuits with male thread G $\frac{3}{4}$ " (Eurokonus).

Note: From one side the manifold is connected to the system (upper beam - feed, lower beam - return) but from the other side the upper and lower beams have to be equipped with plugs, optionally reduction and/or a vent (see Chapter 3 "Installation of typical elements in manifolds"). Plugs, reductions, etc. are additional elements and are not included in standard manifold sets.

KAN-therm System - series 71A and 75A manifolds installation and maintenance instructions

Series 51A and 55A manifold operation

1. The manifold is fed by heating medium from the low temperature system at a maximum temperature (T_{max} 55°C). Connect floor heating system feeding to the manifold upper beam.
2. From the upper beam, through particular loops, the medium gets to the floor heater.
3. The heating medium returning from heating loops is directed to the manifold lower beam from where it gets back to the system. Leveling resistance of flow in particular loops takes place by adjusting valves on the lower beam (see "valve adjustment on manifold lower beam - series 71A and 75A").

Make sure the manifold is correctly connected to the system. Fix the manifold between feed and return line in low temperature circuit (T_{max} 55°C). Connect the upper beam to feed, and the lower beam to return line.

Note: Adjust control valves (series 51A) or flowmeters (series 55A) in manifold lower beam similarly to series 71A and 75A manifolds.

Installation of typical elements in manifolds

All typical elements shown below have their own O-Rings and no additional seals should be applied, e.g. tow or teflon tape (with the exception of automatic vent with foot valve).



Manifold 51A, 55A, 71A, 75A with plug G1" (6096.43).



Manifold 51A, 55A, 71A, 75A with reduction G1"×G½" (4.13).



Manifold 51A, 55A, 71A, 75A with reduction G1"×G½" (4.12).



Manifold 51A, 55A with plug G1" (6096.43) and drain-vent valve (1305.11).



Manifold 51A, 55A with plug G1" (6096.43) and manual vent (5322).



Manifold 51A, 55A with plug G1" (6096.43) and automatic vent with foot valve (0.52071).

Note that automatic vent with foot valve (0.52071) does not have an O-Ring. In order to seal the connection, use teflon tape or tow.



Manifold 51A, 55A, 71A, 75A with reduction G1"×G½" (4.12) and drain-vent valve (1305.11).



Manifold 51A, 55A, 71A, 75A with automatic vent and drain valve (R5541).



Manifold 51A, 55A, 71A, 75A with tee connection (R542), cap G½" (6095.34) and manual vent (5322).

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Manifold 51A, 55A, 71A, 75A with tee connection (R542), cap G $\frac{1}{2}$ " (6095.34) and drain-vent valve (1305.11).

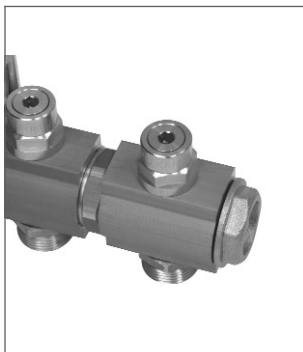


Manifold 51A, 55A, 71A, 75A with tee connection (R542), cap G $\frac{1}{2}$ " (6095.34) and automatic vent with foot valve (0.52071).

Note that automatic vent with foot valve (0.52071) does not have an O-Ring. In order to seal the connection, use teflon tape or tow.



Manifold 71A and 75A upper beam with extension equipped with actuator valve (712) and cap G1" (6096.43). The element connected to the manifold by means of nipple G1" with special seal (R543).



Manifold 71A and 51A lower beam with extension equipped with control valve (512) and cap G1" (6096.43). The element connected to the manifold by means of nipple G1" with special seal (R543).



Manifold 75A and 55A lower beam with extension equipped with flowmeter (752) and cap G1" (6096.43). The element connected to the manifold by means of nipple G1" with special seal (R543).



Manifold 71A and 75A upper beam with extension consisting of tee connection (R542), cap G $\frac{1}{2}$ " (6095.34) and nipple G $\frac{1}{2}$ "xG $\frac{3}{4}$ " (P05).

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Manifold 71A with extension set.



Manifold 75A with extension set.



Manifold 51A with extension set.



Manifold 55A with extension set.

Note that nipples used to connect extensions to manifolds are not included in manifold sets.

KAN-therm System - series 71A and 75A manifolds installation and maintenance instructions



Manifold 51A, 55A, 71A, 75A upper and lower beam with straight set (K-600400).

Note that sets are available in kits (upper + lower).



Manifold 51A, 55A, 71A, 75A upper beam with angle set (K-600500).

Note that sets are available in kits (upper + lower).



Manifold 51A, 55A, 71A, 75A lower beam with angle set (K-600500).

Note that sets are available in kits (upper + lower).



Manifold 51A, 55A, 71A, 75A with angle set kit.