

HK Heating Manifold
with adjustable flow control meters
Manual instruction



General information

The Roth Heating Manifold with adjustable and closable flow indicators is made of heavy-walled, corrosion resistant brass alloy, 30 mm (1.2") inside dimension, with a 27.5 mm (1.1") flat gripping surface. The manifolds are available with 2-10 connections (except 9) for heating circuits. The manifolds have 1" G female threads on both ends so the piping connections can be made on either the left or right side.

- The supply manifold has flow indicators that have built-in adjustment and stop valves for adjusting the flow rate of each heating loop. The indicator is scaled from 0.02 to 1.5 US gal/min (0.1 to 6.0 l/min). The flow indicators are 2.17" (55 mm) on center.
- The return manifold has valve assemblies that can be used for isolation or for mounting thermostat-controlled electric actuators. The protective cap can be used to close this valve by completely tightening the cap. The valve assemblies are 2.17" (55 mm) on center.
- The drain and vent valve assemblies and supply/return adapters can be installed on either end of the manifold as required by the installation. The drain assembly can be rotated for easy purging of the air in the tubes.

In the carton

The manifold is shipped assembled to the mounting brackets with rubber vibration isolators. Also included:

- (2) Loose drain and vent valves, to be assembled at the time of installation. Each drain valve has a removable cap with integral key for the valve stem.
- (2) Loose 1" G MPT x 1" F sweat / 1 1/2" M Sweat adapters for supply and return piping connections
- Labels to identify the rooms served by each loop
- Roth compression or press fitting assemblies for the tubing connections are not included and must be ordered separately.

Materials

- Galvanized Steel Mounting Brackets
- Rubber Vibration Isolator Pads
- Brass Supply & Return Manifolds

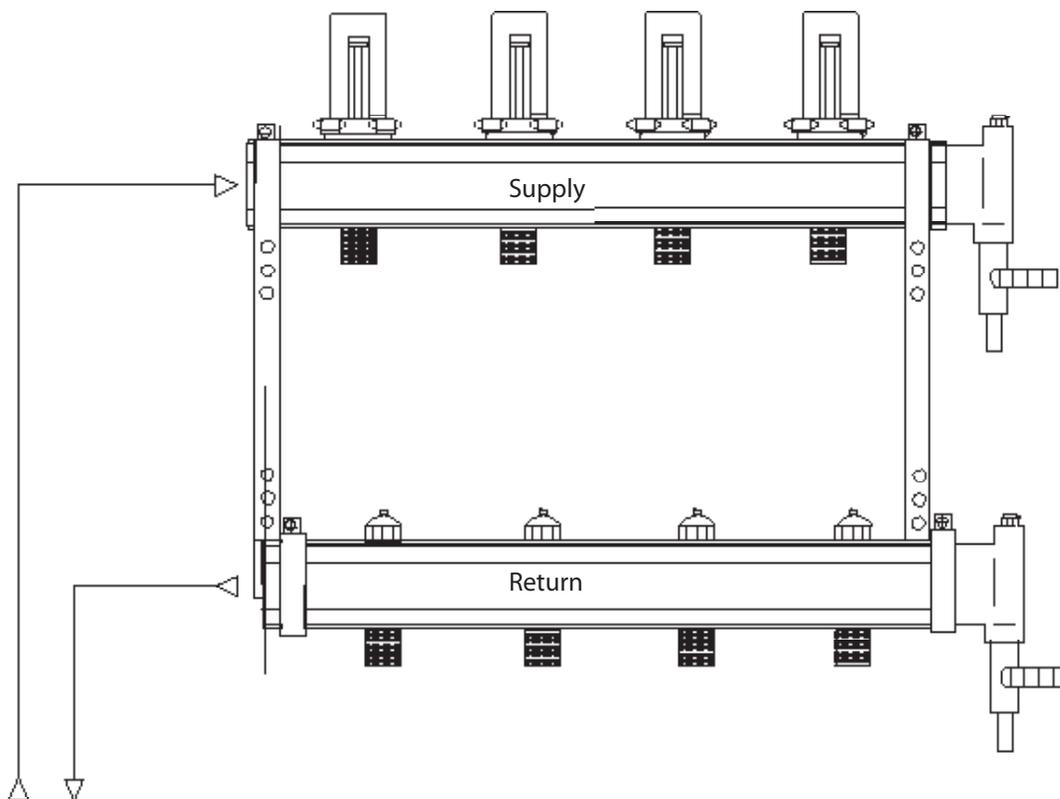
- Supply & Return Manifolds have 1" G female threads for piping adapter or drain/vent valve connection at either the left or right end of the manifold.
- 1/2" G male threaded Euro-conical connections for Roth Heating System PEX tubing. Fitting assemblies are not included and are purchased separately.
- Threaded connections for the Roth Valve Actuators, M30 x 1.5mm

Technical Data

Height : 15" (380 mm)
 Depth: 3 1/2" (89 mm)
 Max Operating Temperature: 160°F (70°C) continuous
 Max Operating Pressure: 30 psi (2.1 bar) continuous
 Recommended Test Pressure: 45-60 psi (3.1-4.1 bar)

Please note: Because air test pressures are far in excess of normal operating pressures, small leaks can take a relatively long time to register on the test gauge. It is recommended that a leak detection solution be applied to all fittings on the manifold after the system is pressurized to locate any small leaks that may have occurred during shipping of the manifold or installation of the tubing.

Connections



Manifold Size	Approx. length Inches (mm)*	Part Number
HK 2	10 1/2" (261 mm)	2315006872
HK 3	12 1/2 (318 mm)	2315006873
HK 4	14 1/2" (369 mm)	2315006874
HK 5	16 1/2" (426 mm)	2315006875
HK 6	18 1/2" (477 mm)	2315006876
HK 7	21" (533 mm)	2315006877
HK 8	23" (585 mm)	2315006878
HK 10	27 1/2" (693 mm)	2315006880

* Overall length includes the sweat adapter and the drain/vent valve assembly attached to the manifold.

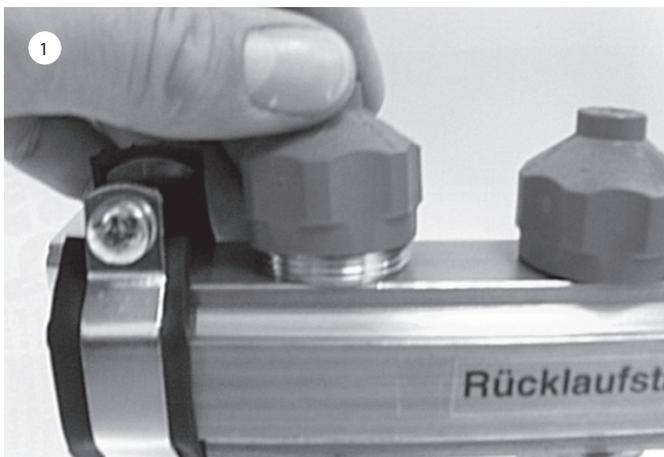
Adjusting instructions

Setting the flow of each circuit should be done only with the flow indicators in the supply manifold previously mentioned. The flow indicators are shipped in the open position and actuator valves are shipped in the closed position.

The flow rate is adjusted by increasing or decreasing the flow to each individual circuit after purging the air from that circuit. After adjusting the flow to the first circuit, this process should be repeated for each circuit in the manifold, one at a time.

Important:

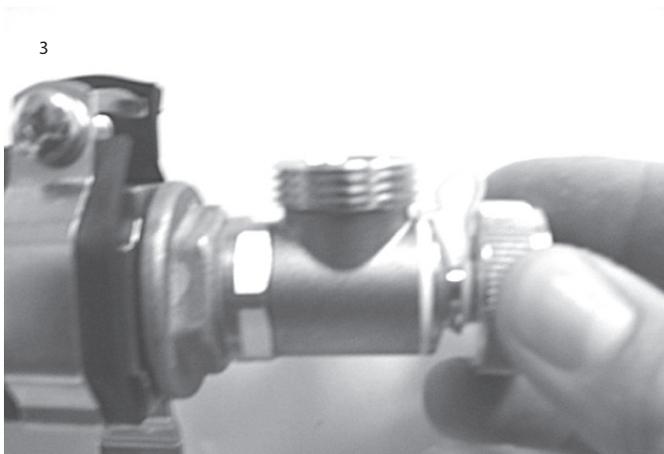
Filling and purging the heating loops should be done with the flow from the supply manifold, through the loops, to the return manifold and purged through the drain and vent valve in the return manifold !



Loosen the protective cap on the actuator valve of the circuit you are adjusting until the cap is on the valve only one or two turns. This will open the valve for that loop.



The required flow is set with the enclosed removable adjusting knob on the top of the flow indicator in the supply manifold. Turn the knob until the red indicator in the sight glass is at the correct flow, clockwise to decrease flow and counter-clockwise to increase flow. There are approximately 4 turns from fully opened to fully closed. Turning the cover with the scale will not adjust the flow. Flow adjustment can be accomplished only by turning the knob placed on the top of the flow indicator. The circuit can be purged of air in the full open position and set to the correct flow rate afterwards. The circuit can be positively shut off by turning the knob fully clockwise to purge each loop, one at a time, or to isolate a loop that has been damaged.



The valve is opened by removing the cap from the drain and using the key built into the cap to turn the valve stem. Purge the air from each circuit with the drain valve until the fluid flows clear, without any air bubbles. At this time the drain valve should be turned off. Repeat this procedure for each heating circuit on the manifold. When all circuits are properly purged, replace the drain valve cap. If actuator motors are used in your system, they may be installed on each valve as you complete the purge process and preliminary flow adjustment. If there are any circuit connections on the manifold that are not used, the return valves should be closed by tightening the protective cap completely, closing the valve in the flow indicator by turning the knob fully clockwise and installing a loop cap (#1135000354) on the unused loop connections.

After you have completed purging each manifold, the system can be started up. Be sure to perform all safety and operation checks required for your heating equipment and control system. While the system is operating and with all zones calling for heat, check to see that each circuit has the correct required flow rate and make any necessary adjustments. After you have verified the correct flows, you can set the thermostats to the desired temperature.

If actuators are not used on a loop, replace the protective caps by fitting them loosely on the valves.

If the caps are screwed on tightly you will close the valve and there will be no flow in that circuit! NO FLOW = NO HEAT



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