

TECHNICAL DATA SHEET

MULTI-SECTION MANIFOLD R and Z series
PRAWTECH

Ver. 3.02 / 2020



A multi-section manifolds R and Z series are a component of the PRAWTECH ground source system for heat pumps. The manifold has been designed to guarantee access to basic regulatory and service operations. The manifold is dedicated for wall mounting inside or outside the building, alternatively the manufacturer allows for product installation in a plastic or concrete chamber in the ground.

➤ **Manifold construction**

The plastic manifold for the ground source system consists of two collector bars made of HDPE100/RC with particular number of outlets (so-called ground source sections/loops):

The supply manifold bar of R series is equipped on each section with brass inline flowmeter in the range of 8-38 l/min. Flowmeters allow for anti-freeze flow adjustment. Cutting off a given section of the geothermal installation through a ball valve integrated in the body of the flowmeter is also available.

The return manifold bar is equipped with a cut-off ball valve on each section. The ball valves allow complete cut-off of the flow individually for each ground source loop.

The control of flow value should only be made by adjusting the flowmeters. The valves are only used to cut off the circuit.

Each of the manifold's main Flow and Return bar is equipped with a 3/4" FT vent / filling valve section. Technical outlet of 1" is offered for configurations larger than 6 loops. This section allows you to effectively flush, fill and vent the ground source system.

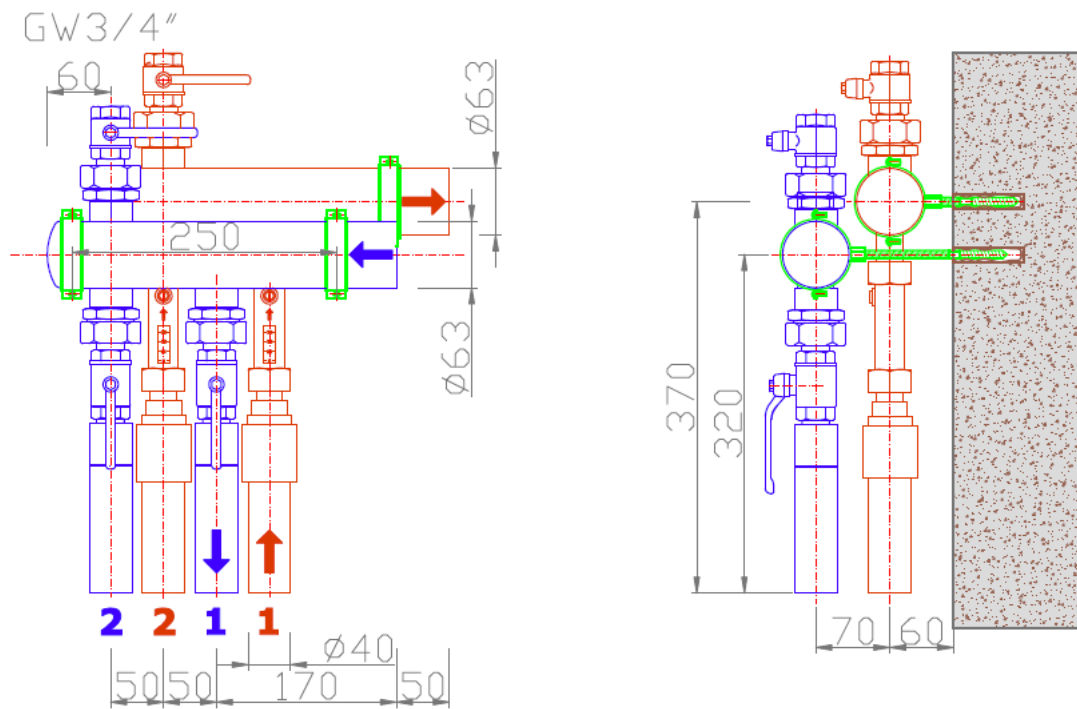


Fig 1. 2-way manifold with flowmeters

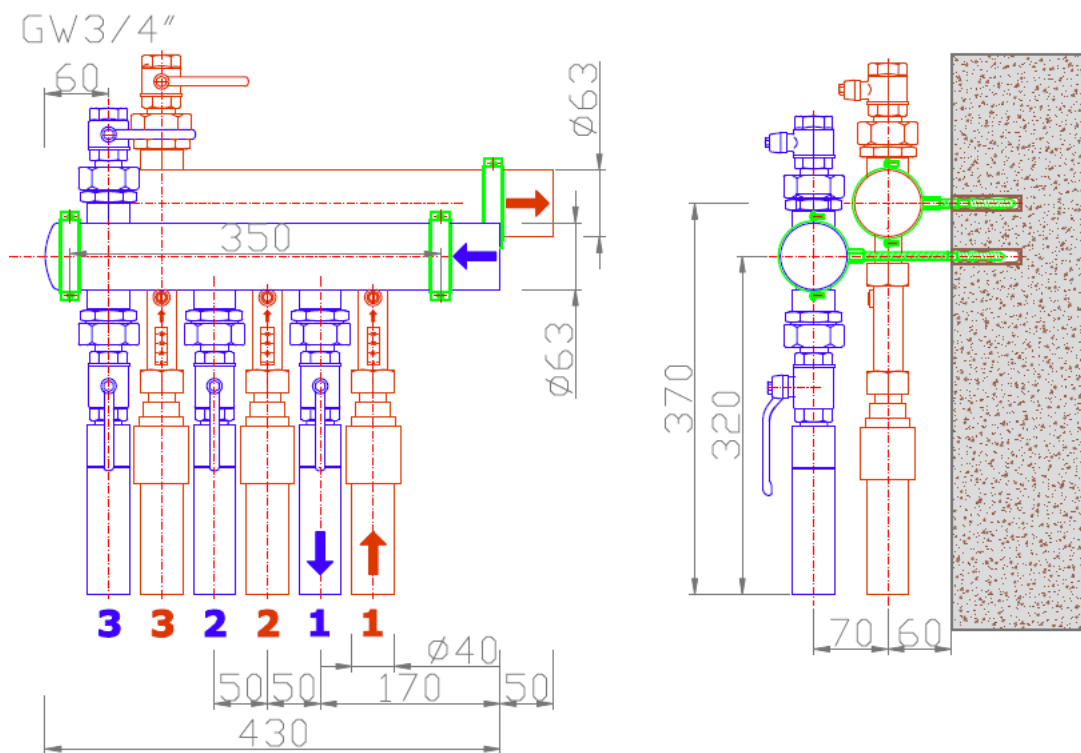


Fig 2. 3-way manifold with flowmeters

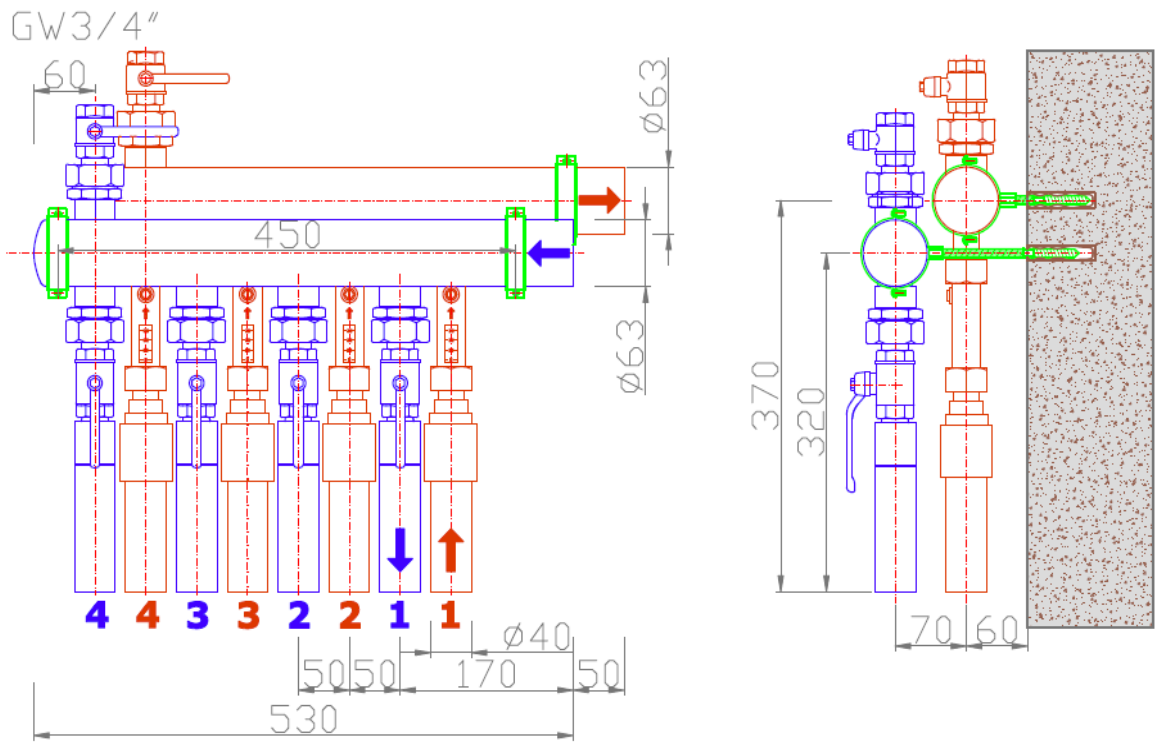


Fig 3. 4-way manifold with flowmeters

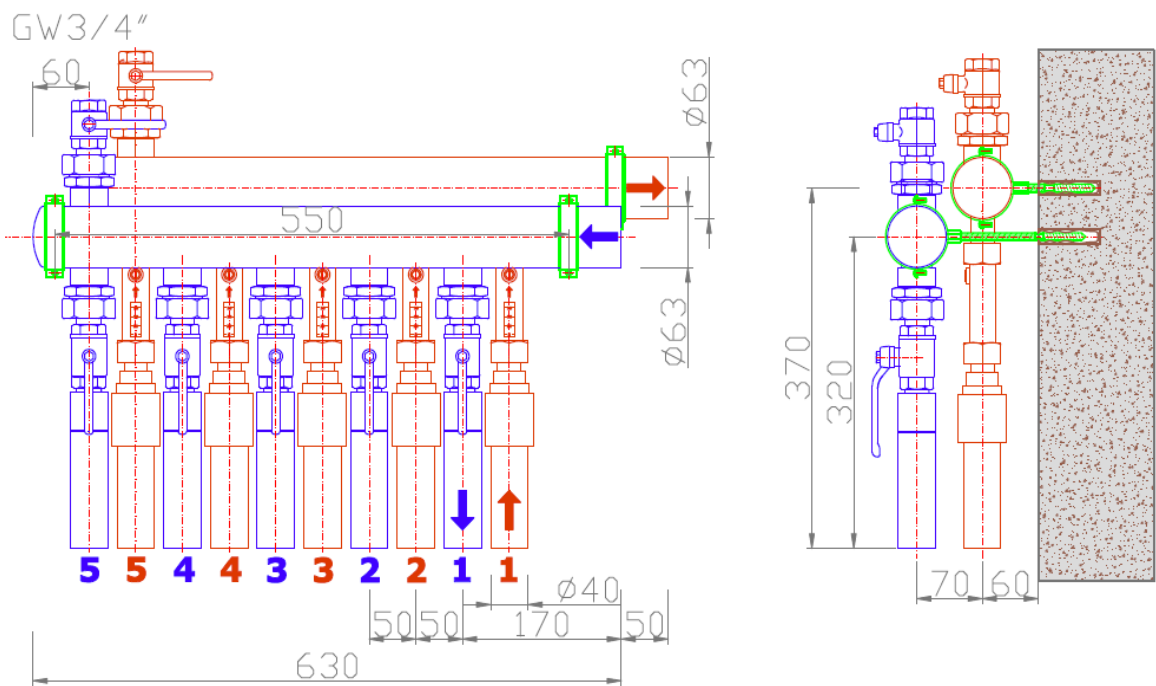


Fig 4. 5-way manifold with flowmeters

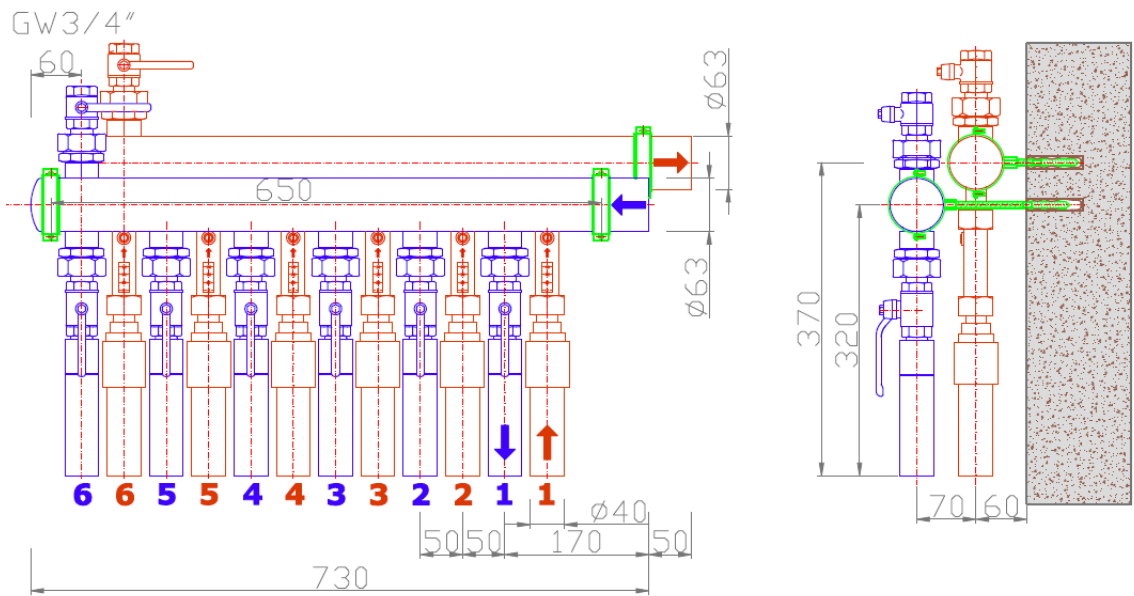


Fig 5. 6-way manifold with flowmeters

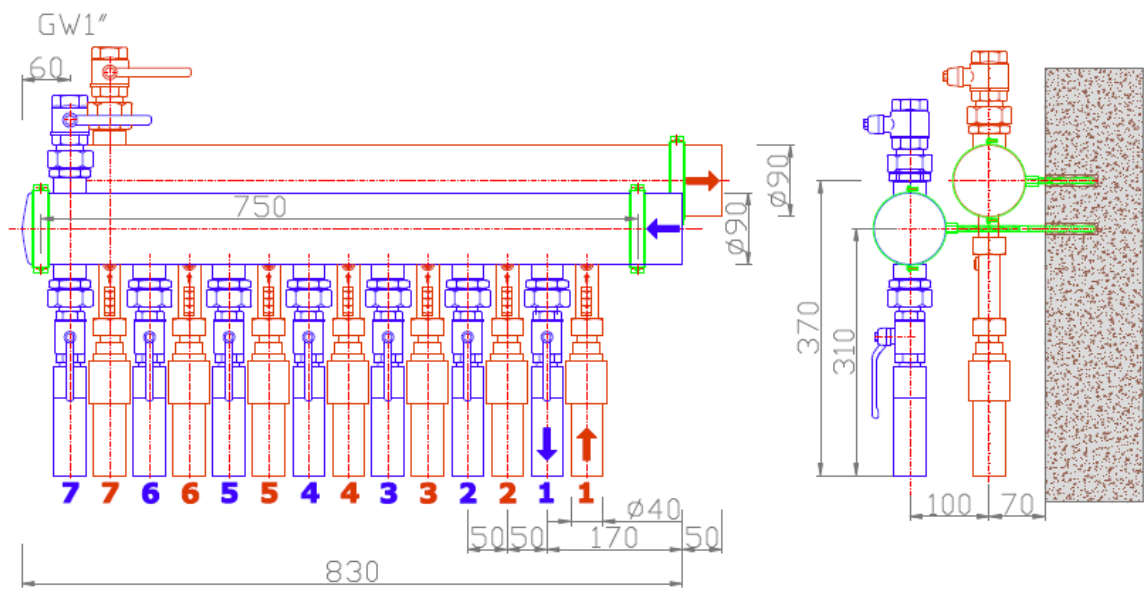


Fig 6. 7-way manifold with flowmeters

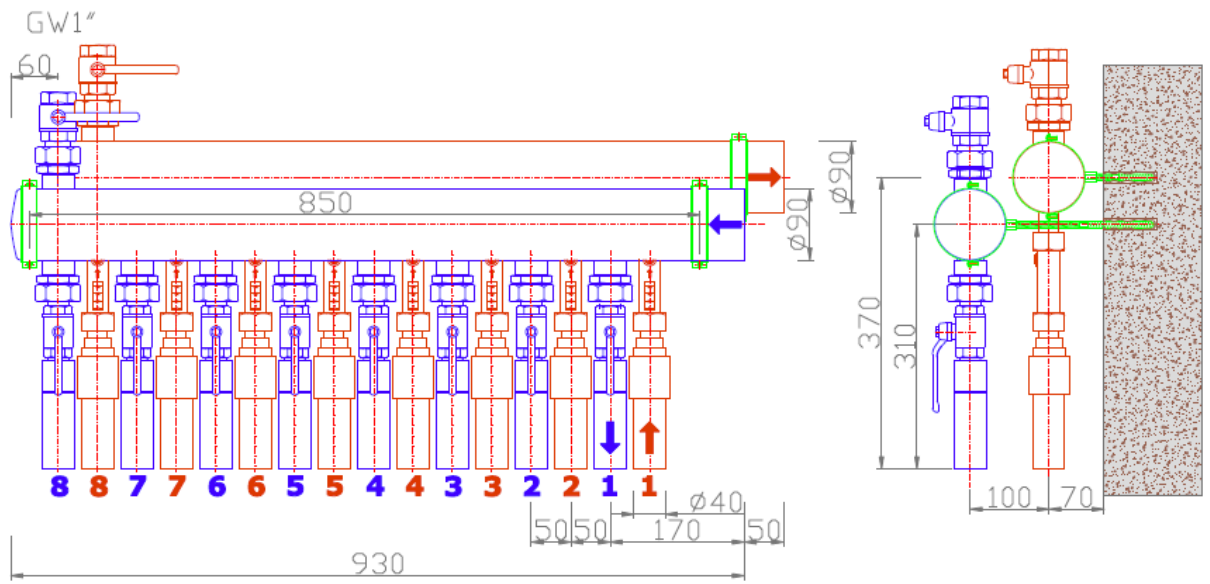


Fig 7. 8-way manifold with flowmeters

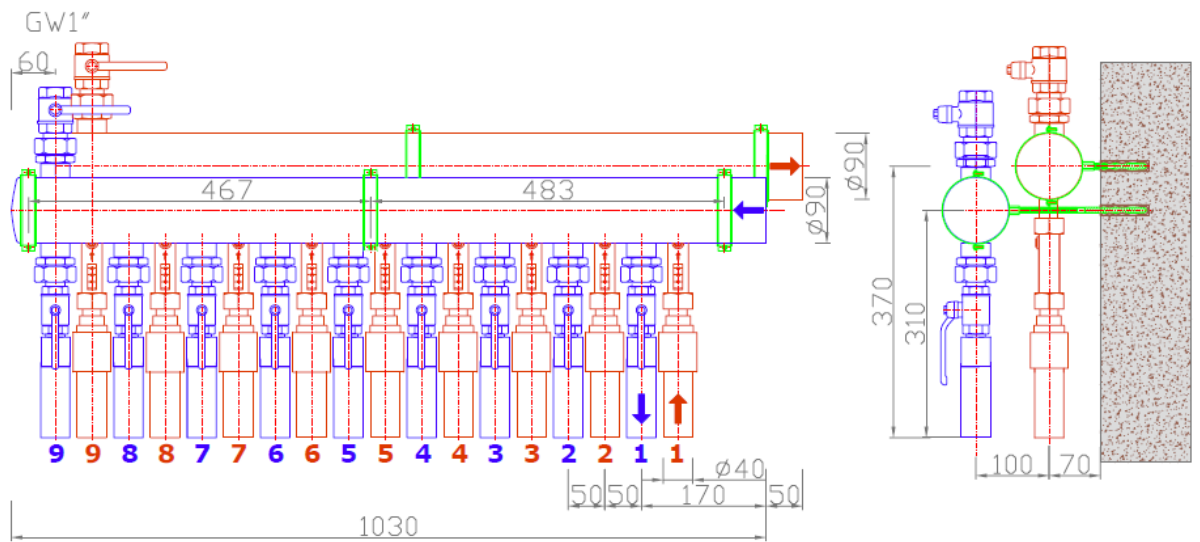


Fig 8. 9-way manifold with flowmeters

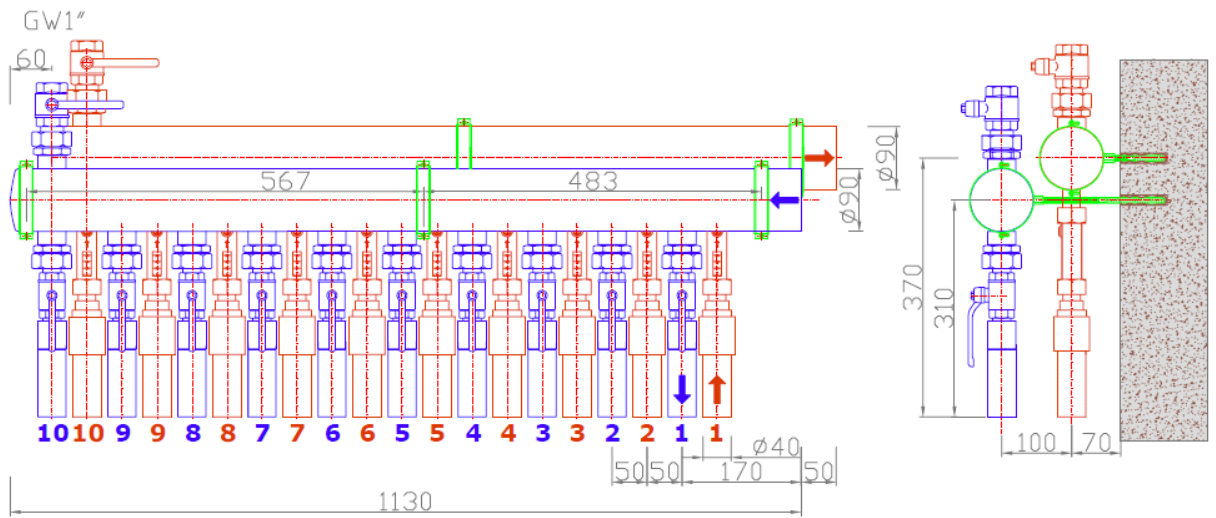


Fig 9. 10-way manifold with flowmeters

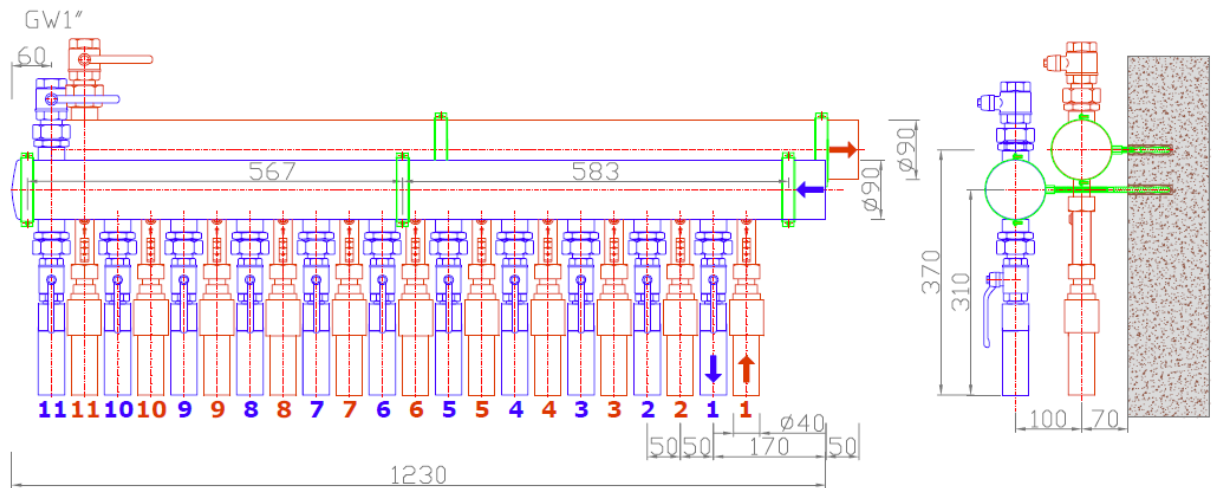


Fig 10. 11-way manifold with flowmeters

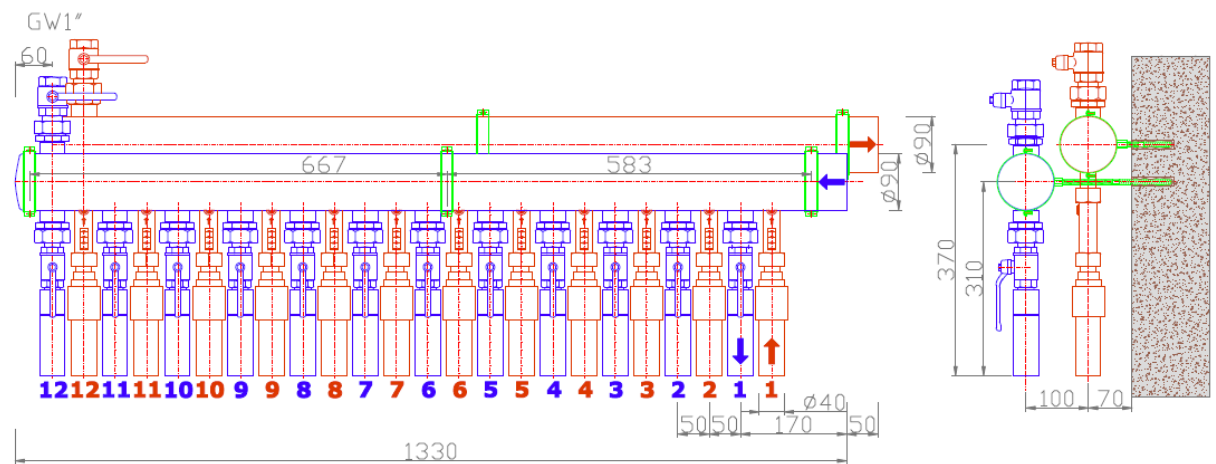


Fig 11. 12-way manifold with flowmeters

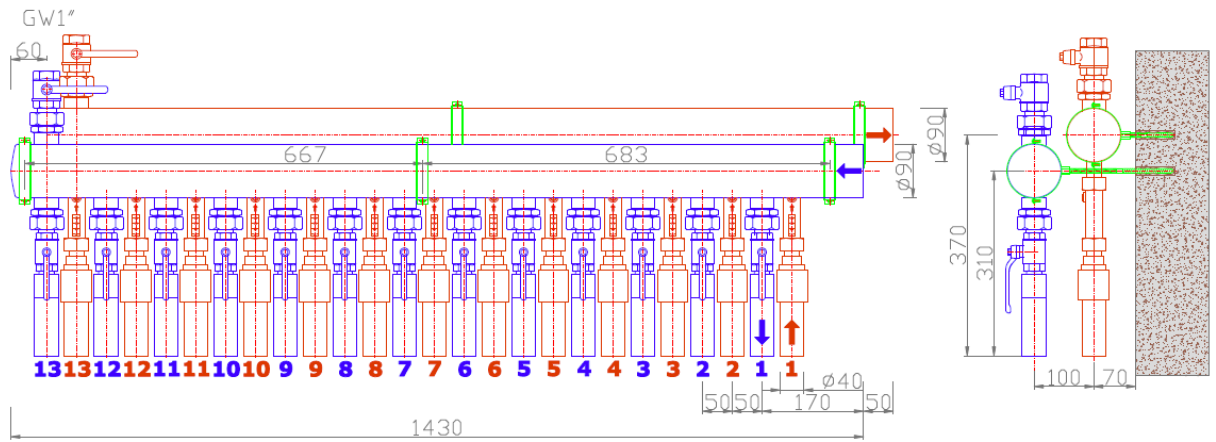


Fig 12. 13-way manifold with flowmeters

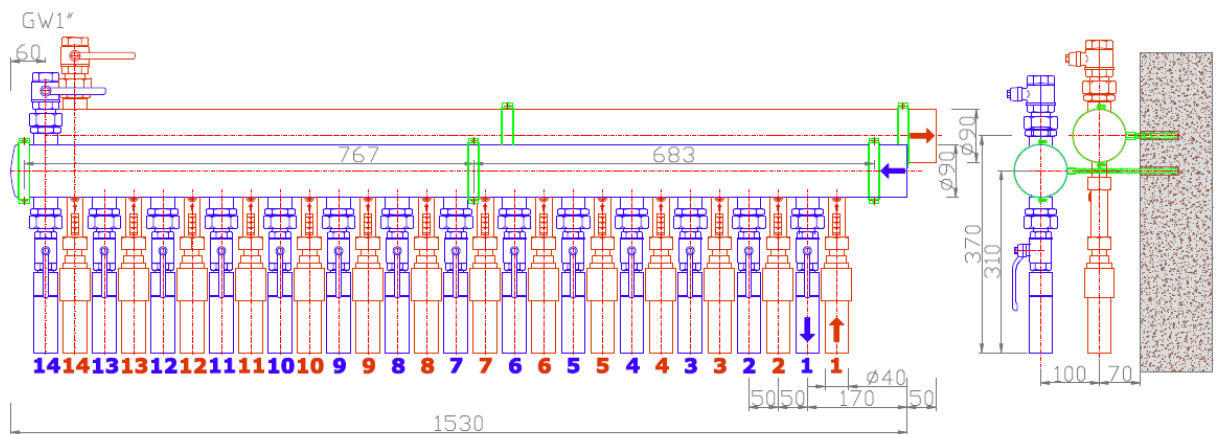


Fig 13. 14-way manifold with flowmeters

➤ Basic functions of the multi-section manifold

The ground source manifold is responsible for transporting and balanced distribution of the antifreeze from the heat pump to the ground and back to the heat pump's engine room. The products are designed to work with any antifreeze liquid. Fluids recommended by the manufacturer are propylene and ethylene glycols with a package of corrosion inhibitors and anti-foam additives.

More details are available in: *PRAWTECH chemical resistance card*.

The construction of the geothermal manifold also allows for proper flushing, filling and venting of the ground source installation.

➤ Parameters and dimensions of R series multi-section manifolds:

Product name	Product Code	Section diameter	F & R diameter	Flowmeter range*	Cut-off Valve**	Venting section
Manifold 2 sections	OZERR0204063	40 mm	63 mm	8-38 l/min	3/4"	FT 3/4"
Manifold 3 sections	OZERR0304063	40 mm	63 mm	8-38 l/min	3/4"	FT 3/4"
Manifold 4 sections	OZERR0404063	40 mm	63 mm	8-38 l/min	3/4"	FT 3/4"
Manifold 5 sections	OZERR0504063	40 mm	63 mm	8-38 l/min	3/4"	FT 3/4"
Manifold 6 sections	OZERR0604063	40 mm	63 mm	8-38 l/min	3/4"	FT 3/4"
Manifold 7 sections	OZERR0704090	40 mm	90 mm	8-38 l/min	3/4"	FT 1"
Manifold 8 sections	OZERR0804090	40 mm	90 mm	8-38 l/min	3/4"	FT 1"
Manifold 9 sections	OZERR0904090	40 mm	90 mm	8-38 l/min	3/4"	FT 1"
Manifold 10 sections	OZERR1004090	40 mm	90 mm	8-38 l/min	3/4"	FT 1"
Manifold 11 sections	OZERR1104090	40 mm	90 mm	8-38 l/min	3/4"	FT 1"
Manifold 12 sections	OZERR1204090	40 mm	90 mm	8-38 l/min	3/4"	FT 1"
Manifold 13 sections	OZERR1304090	40 mm	90 mm	8-38 l/min	3/4"	FT 1"
Manifold 14 sections	OZERR1404090	40 mm	90 mm	8-38 l/min	3/4"	FT 1"

* optional use of 20-70 l/m flowmeter is available, extra charge applies

** optional 1" ball valve is available, extra charge applies

➤ Installation of multi-section manifolds

Before installing the manifold, make sure that the wall surface and area guarantees safe operation, stable mounting of the system and easy access for service. The ground source manifold has an universal design that allows the product to be right or left oriented by setting the flowmeters and cut-off ball valves in the right or left position.

The manifold package does not include a mounting console or clamps as standard.

Please note.

It is recommended to insulate the ground source manifold whenever the product is installed inside of the building, within heated rooms.

More details can be found in: *PRAWTECH Design and Installation guidelines for ground source system.*

➤ Configuration of sections and supply and return pipes of multi-section manifolds

All PRAWTECH multi-section manifolds are equipped as standard with 40mm ground sections. The diameter of supply and return pipes is 63 mm for manifolds from 2-6 sections, and 90 mm for larger configurations.

The supply and return sections of the manifold should be mounted in two parallel levels. The axial distance between sections is 10 cm.

Please note.

Manufacturer offers custom configuration of manifolds at special prices. Each time the additional charge is defined by the Seller and depends on the scale and scope of individual applications.

All PRAWTECH multi-section manifolds are delivered to the customer after passing the pressure and flow tests in accordance with the internal quality control procedure.

As an alternative to the R-series manifolds equipped with flowmeters, the manufacturer provides the configuration of the manifolds with Z-series valves. The Z series has the same design except for the use of the 3/4" ball valve on all sections of the supply and return bars of the manifold. The Z series manifold does not perform the function of flow control and regulation. Z series products are available in the manufacturer's catalog under separate trade codes. Below is a representative example of the entire series:

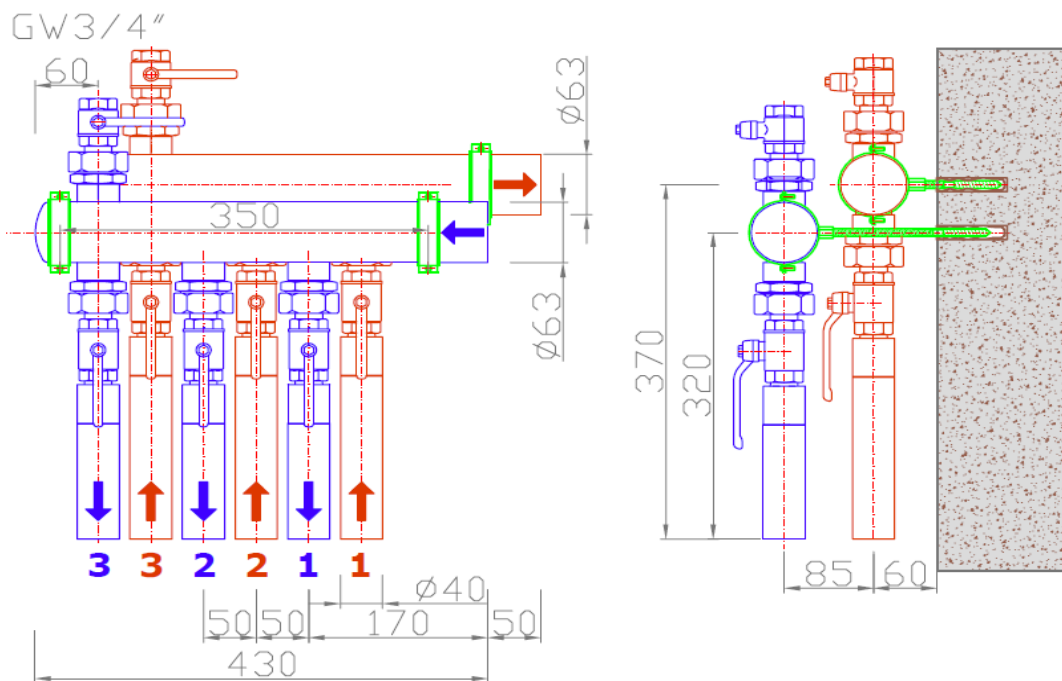


Fig 14. 3-way manifolds with valves. Product code: OZERZ0304063