



**RL 4000 single inlets**

The RL 4000 series of flow and return recirculation liquid distribution manifolds are used for ground source heat recovery through enclosed vertical or horizontal pipe systems.

Available as horizontal (RL 4000 series) or (RL 4500) vertical installation, they offer flexibility to cater for a wide range of installation options.

They provide a fully engineered, pre-assembled solution which significantly reduces installation time thus saving money.

They can be fitted with a range of fittings to provide additional control and monitoring facilities which results in increased efficiency and reliability

A full range of accessories are available including bleed valves, fill plugs, pipe, Y pieces, clamps, support channels, chambers, puddle flanges, compression, electro-fusion & butt weld fittings.

Standard manifolds are available up to 26 way but custom-made options to any size and customer requirement are available on request.



**RL 4500 twin 90 degree inlets**

## Applications

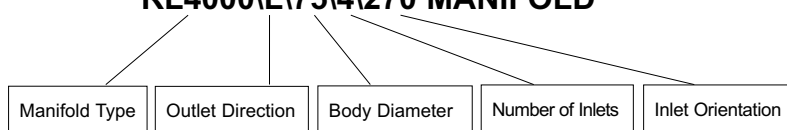
- ▶ Geothermal Loops

## Features

- ▶ Made from PE100
- ▶ Compact design
- ▶ Vertical installation
- ▶ Horizontal installation
- ▶ 2 to 26 way
- ▶ Fill & bleed valves
- ▶ Pressure gauge
- ▶ Flow meter & control
- ▶ Flow control valves
- ▶ Outlet options
- ▶ Temperature sensor

### KEY TO MANIFOLD IDENTIFICATION CODE

#### RL4000\L\75\4\270 MANIFOLD



## MANIFOLD CONVENTION & CONFIGURATION

There are a number of options available for the **RL 4000** series. All the necessary information to ensure the correct selection of manifold is provided in the following sections:

**Flow manifold** - The recirculation liquid flows to the ground source heat recovery loop **from the heat pump**. It is common practice to install flow meter control valves at this location.

**Return manifold** - The recirculation liquid flows **towards the heat pump**. It is common practice to install flow control valves at this location.

**NOTE: THE ABOVE IS ONLY A GENERAL STATEMENT AND THE CHOICE TO USE CONTROL VALVES & FLOW METERS IS THE RESPONSIBILITY OF THE SYSTEM DESIGNER.**

### Installation Type

► **RL 4000 series**

**Mounted horizontally on walls or within chambers. Multiple single entry inlets into a main manifold body.**

**RL 4000:** Fitted with 1" BSPF outlets

**RL 4100:** Fitted with 32mm stub flanges

**RL 4200:** Fitted with 1¼" BSPF outlets

**RL 4300:** Fitted with 40mm stub flanges

Available in our standard range up to 14 inlets



**RL 4000**



**RL 4100**

► **RL 4500 series**

**Mounted vertically on walls or within chambers. Multiple twin entry inlets into a main manifold body.**

**RL 4500:** Fitted with 1" BSPF outlets.

**RL 4600:** Fitted with 32mm stub flanges.

**RL 4700:** Fitted with 1¼" BSPF outlets.

**RL 4800:** Fitted with 40mm stub flanges.

Available in our standard range up to 26 inlets.



**RL 4500**



**RL 4600**

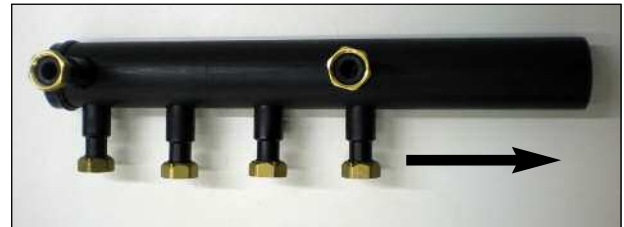
## Configuration

### ▶ OUTLET DIRECTION

This is determined by which direction the liquid exits the manifold. Available as left hand (L) or right hand (R).



Left-hand outlet



Right-hand outlet

### ▶ NUMBER OF INLETS

2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26

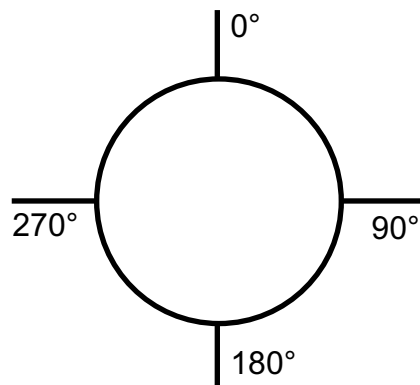
More inlets are available on larger diameter manifolds.



### ▶ ORIENTATION OF INLETS

90° 180° 270°

The orientation is always viewed looking from right to left of the manifold, irrespective of whether it has a left or right hand outlet (see diagram on right).



## Accessories

A wide range of accessories can be added to the RL 4000 series of manifolds to suit individual designer or project requirements.

### ► BALANCING VALVES

In-line **SETTER** balancing valves provide correct balancing of hydraulic circuits ensuring optimum energy distribution, resulting in more efficient and economical operation. Normally installed on the return manifold.

Range lit/min	Connection BSPM
8 - 30	1"
10 - 40	1"
20 - 70	1¼"
30 - 120	1¼"

### ► CONTROL VALVES

Ball valves for providing simple flow control without flow indication. Normally fitted on the return manifold.

Available in various material types BZP steel, PVC & GRPP.

Available with BSPM/F connections in 1" & 1¼" and other sizes on request.

### ► ISOLATION VALVES

Ball & butterfly valve assemblies for providing isolation between the manifold and heat pump.

Available in various material types BZP steel, PVC & GRPP.

Size	Type	Connection mm
1"	Ball	32
1¼"	Ball	40
2"	Ball	63
DN 80	Butterfly	90
DN100	Butterfly	110,125
DN150	Butterfly	160

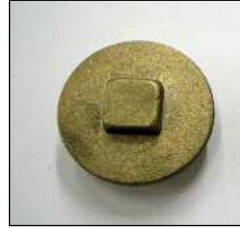


## Accessories

### ► FILL OUTLET

The fill outlet can be fitted with the following option:

- Blanking plug
- 1" BSP M/F ball valve



### ► BLEED OUTLET

The bleed outlet can be fitted with the following options:

- Blanking plug
- Blanking plug with 1/4" BSPF thread
- 1/4" BSPM banjo bleed valve
- 1" BSP M/F ball valve
- 1/4" BSPM ball valve
- 60mm pressure gauge 1/4" bottom entry (0 - 6 bar)
- 60mm pressure gauge 1/4" bottom entry (0 - 16 bar)
- 1/4" M/F/F tee



### ► INLET ADAPTORS

The manifold inlets can be fitted with the following options:

- 32, 40mm stub flange
- 1 1/4" BSPF to 40mm



### ► INLET ADAPTORS

The following fittings are available:-

- Stub flanges, backing rings
- Couplers
- Reducers
- Y pieces
- Bends
- Tees
- Clamps



## Specifications

### Type RL4000 single outlets

Outlets	OD mm	ID mm	Length mm	Outlet Dia mm	Inlet Diam BSPF	Inlet Diam mm	Fill & Bleed Diam BSPF
2-6	75	63	580	63	1"	-	1"
4-6	75	63	580	63	1"	-	1"
6 - 8	90	74	850	90	1"	32, 40	1"
8 - 10	110	90	1050	110	1", 1¼"	32, 40	1"
10 - 12	125	102	1250	125	1", 1¼"	32, 40	1"
12 - 14	125	102	1450	125	1", 1¼"	32, 40	1"
14 - 16	125	102	1650	160	1", 1¼"	32, 40	1"

Other options available request

### Type RL4000 single outlets

Outlets	OD mm	ID mm	Length mm	Outlet Dia mm	Inlet Diam BSPF	Inlet Diam mm	Fill & Bleed Diam BSPF
3 - 6	75	63	280	63	1"	32, 40	1"
4 - 6	75	63	280	63	1"	32, 40	1"
6 - 8	90	74	520	90	1"	32, 40	1"
8 - 10	110	90	600	110	1", 1¼"	32, 40	1"
10 - 12	125	102	650	125	1", 1¼"	32, 40	1"
12 - 14	125	102	750	125	1", 1¼"	32, 40	1"
14 - 16	125	102	850	125	1", 1¼"	32, 40	1
16 - 18	160	130	950	160	1", 1¼"	32, 40	1"
18 - 20	160	130	1050	160	1", 1¼"	32, 40	1"
20 - 22	160	130	1150	160	1", 1¼"	32, 40	1"
22 - 24	160	130	1250	160	1", 1¼"	32, 40	1"
24 - 26	160	130	1350	160	1", 1¼"	32, 40	1"

## Ordering Information

Horizontal or vertical  
 Size of inlet adaptor  
 Inlet orientation  
 Flow meter (capacity)  
 Bleed & fill valves (size & position)  
 PE fittings

Number of inlets  
 Outlet direction  
 Outlet connection diameter  
 Flow control valve  
 Pressure gauge (range)  
 Manifold isolation valve