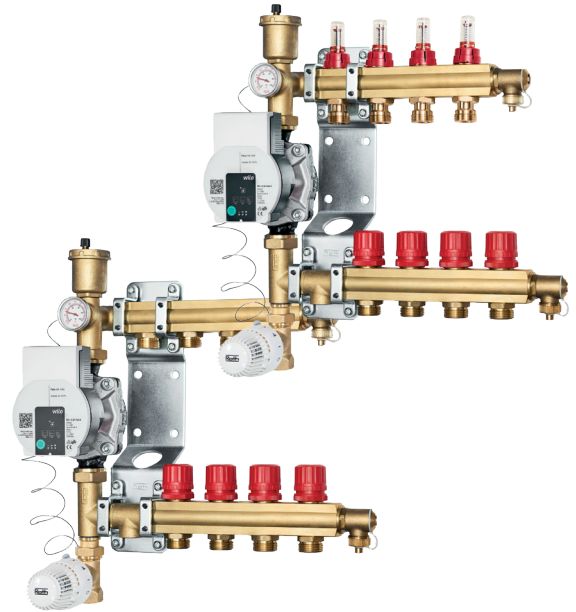


# Roth ShuntUnit Mixer

## With thermostatic valve, and Ecodesign pump with pre-assembled manifolds

Roth ShuntUnit is used on smaller underfloor heating systems, such as new constructions and renovation projects, the mixer has an capacity up to 160 m<sup>2</sup> according to the figures 1 and 2, depending on the actual heat loss. The shunt is used where a heat source provides higher flow and temperature than can be used with underfloor heating systems. The mixer comes with an Ecodesign pump, which ensures minimal power consumption. The pump parts is factory mounted on the left side of the manifold, but can easily be moved to the right side of the manifold. Roth ShuntUnit comes with pre-mounted manifolds from 1 - 8 port, ready for the installation of the Roth room temperature control system. The ShuntUnit can be extended with Roth extension kit.



### Application

Underfloor heating with all types of heat sources.

### Technical description

Roth ShuntUnit's comes complete with Ecodesign pump, thermostatic valve, thermometer, automatic air vent, mounting brackets and pre-assembled manifolds. The shunt is delivered with an automatic air vent, inlet valve and the sensor element that is separately packaged. The shunt can be used as a manually controlled system or fitted with all types of Roth room temperature control systems. The thermostatic valve provides a simple and precise flow temperature in the underfloor heating system. The temperature is adjusted to the sensor element in the range 20 - 60°C depending on heat loss and floor construction. Roth weather compensation controller can be ordered separately and mounted on the flow valve and replace the thermostatic sensor element.

### Pump diagram

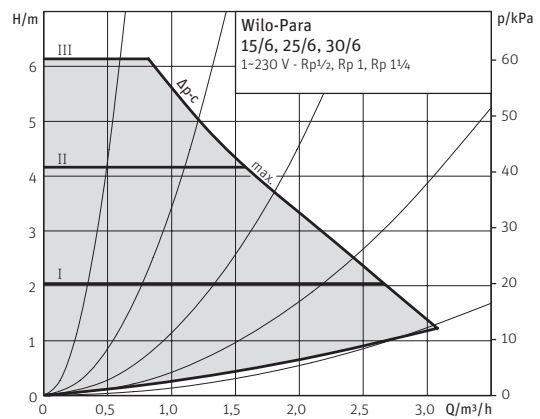


Figure 1

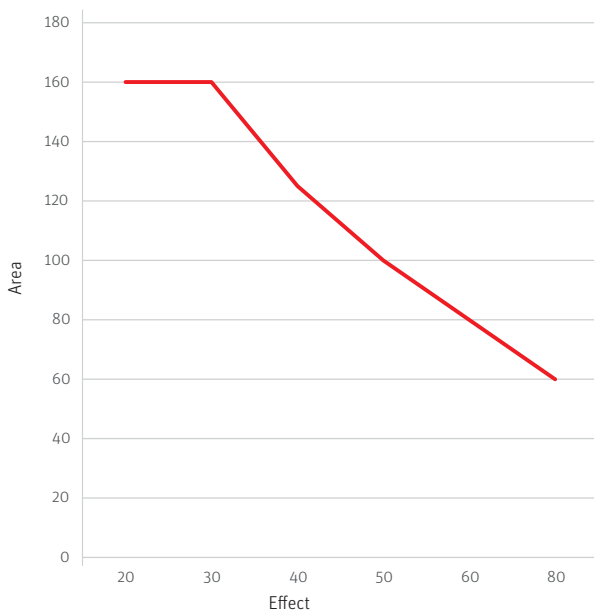


Figure 2

Effect W	20	30	40	50	60	80
Area m <sup>2</sup>	160	160	125	100	80	60

#### Conditions:

Pressure drop over circuit approx. 20 kPa, supply temperature at least 20°C above temperature requirements for circuits.

## Roth ShuntUnit Mixer

### Technical data:

Roth ShuntUnit with 1 outlet.	HVAC no. 7466212110
Roth ShuntUnit with 2 outlets.	HVAC no. 7466212120
Roth ShuntUnit with 3 outlets.	HVAC no. 7466212130
Roth ShuntUnit with 4 outlets.	HVAC no. 7466212140
Roth ShuntUnit with 5 outlets.	HVAC no. 7466212150
Roth ShuntUnit with 6 outlets.	HVAC no. 7466212160
Roth ShuntUnit with 7 outlets.	HVAC no. 7466212170
Roth ShuntUnit with 8 outlets.	HVAC no. 7466212180

Roth Shuntunit-1 w,Flow	HVAC no. Meter 7466212410
Roth Shuntunit-2 w,Flow	HVAC no. Meter 7466212420
Roth Shuntunit-3 w,Flow	HVAC no. Meter 7466212430
Roth Shuntunit-4 w,Flow	HVAC no. Meter 7466212440
Roth Shuntunit-5 w,Flow	HVAC no. Meter 7466212450
Roth Shuntunit-6 w,Flow	HVAC no. Meter 7466212460
Roth Shuntunit-7 w,Flow	HVAC no. Meter 7466212470
Roth Shuntunit-8 w,Flow	HVAC no. Meter 7466212480

Max. operating temperature:	95°C
Max. differential pressure:	50 kPa
Max. Operating pressure:	6 bar
Pump:	Wilo Para 15-130/6-43/SC-12
Pump output:	3 - 43W
Temp. control range:	20 - 60°C
Thread primary side:	1/2 "BSP
Thread on the branches:	EURO 3/4 "ext.
Material:	Brass CW614
Gaskets:	EPDM
Mounting bracket:	Galvanized steel
Electrical connection:	230V
Flow meter, Kvs	1,12 m <sup>3</sup> /h

### Scope of supply

Manifold connectors are not included in the pack.

### Accessories

Accessories	
Extension kit, 1 outlet	HVAC no. 7466212766
Roth manifold coupler 10.5 mm x 3/4	HVAC no. 7401974810
Roth manifold coupler 16 mm x 3/4	HVAC no. 7401974816*
Roth manifold coupler 20 mm x 3/4	HVAC no. 7401974820*
Roth manifold cabinets	HVAC no. 7046219xxx
Weather compensation control unit	HVAC no. 7466210827
Roth ShuntUnit insulation box	HVAC no. 7401973891

\* Can also be used for aluminum pipes Alu-LaserPlus®.

### Installation instructions

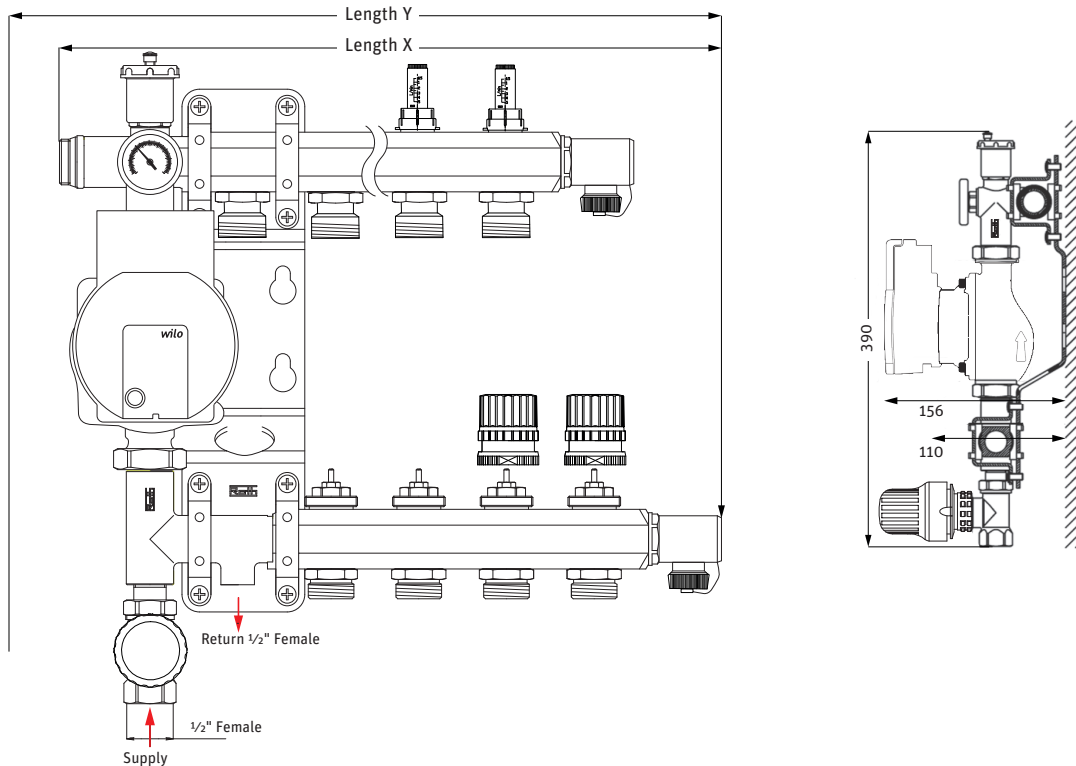
Always check that all parts are in the packaging and all parts are intact. For reasons of environmental impact, the pump is rotated so the package is as small as possible, but it can of course be turned into any direction. Install air vent, inlet valve and sensor element/sensor, please note that all threads are provided with rubber gaskets, no need for further thread treatment. The ShuntUnit mixer can now be mounted on the wall or in a Roth underfloor heating cabinet. Install the underfloor heating pipes on the manifold with Roth manifold couplers, see accessories. If the max permitted differential pressure 50 kPa is exceeded, always install an differential pressure valve on the primary side if the pressure is higher the 50 kPa.

### Mounting the pump on the right side

The ShuntUnit mixer pump is factory mounted on the left side of the manifolds, but it can easily be moved to the right side. This is done by removing the mounting bracket and the actual pump itself and then unscrewing the upper part of the manifold. The manifold can now be reversed, so the filling valves are to the left. On the top cap, remove the sensor pocket and reinstall on the right side, be aware that the threads are provided with rubber gaskets no need for further thread treatment. The upper side of the distribution pipe and the mounting bracket must be secured to the upper and lower back, after which the pump is installed.

# Roth ShuntUnit Mixer

## Dimensional sketch (dimensions in mm)



### Dimensions on the sketch

	Dim. X	Dim. Y
ShuntUnit with 1 outlet	225 mm	295 mm
ShuntUnit with 2 outlets	275 mm	345 mm
ShuntUnit with 3 outlets	325 mm	395 mm
ShuntUnit with 4 outlets	375 mm	445 mm
ShuntUnit with 5 outlets	425 mm	495 mm
ShuntUnit with 6 outlets	475 mm	545 mm
ShuntUnit with 7 outlets	525 mm	595 mm
ShuntUnit with 8 outlets	575 mm	645 mm
Extension kit	+ 75 mm	+ 75 mm

### Pump

The Pump on the shunt is designed to achieve perfect comfort with minimal energy consumption. The pump uses the latest technology and complies with  $EEI \leq 0.2$ . The pump is designed with an auto-air vent program, that can remove small amounts of air in the underfloor heating system - the auto-vent program starts automatically when powering the pump. Roth recommends that the pump runs at a constant pressure and should be set after the valve on the manifold are adjusted. Choosing pump curve 1 will normally be sufficient for optimum comfort.

### Filling and flushing the heating circuits

When the ShuntUnit is mounted on the wall or in the Roth underfloor heating cabinet. Close all the valves on the lower manifold. Begin flushing of one circuit at a time, by filling with water and flushing the return water to the drain. Continue flushing until no more air comes out, and close the valve again. Proceed with the next circuit, continue until all circuits are flushed properly. Pressurise the underfloor heating system in order to start the system. Start the pump and let it run on the auto-air vent program for 10 minutes, then set the pump to constant pressure, see drawing next page.

The underfloor heating system will only function optimally if it is balanced/adjusted correctly. The balancing/adjustment is made on the valves on the return manifold with the supplied key. Please see the drawing below.

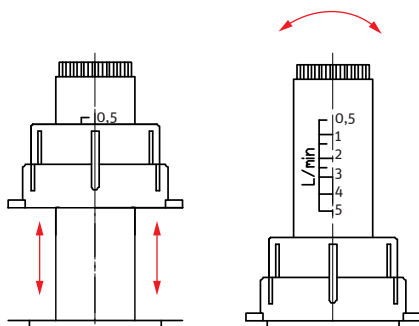
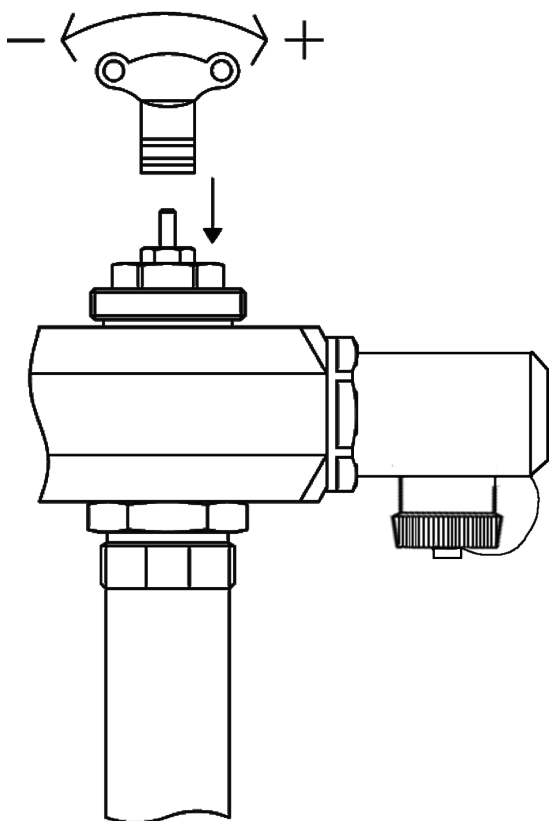
Note that balancing always is performed from the open valve position and down. The pump can be automatically stopped and started by making use of the built-in pump stop relays in Roth controllers. The Roth ShuntUnit mixer may only be used together with ordinary medium water, or water/glycol max 50% glycol. The use of any other types of fluids and additives must first be clarified with Roth UK.

# Roth ShuntUnit Mixer

## Led explanation

Steady green Led	Pump is working normally
Fast, green Led flashing	Air vent, program is on
Red/green flashing	Abnormal situation, the pump is in shutdown mode
Red flashing	Pump has stopped (potentially blocked)
No LED light	No power to the pump (check the power supply)

Adjustment on the valves are always made from open valve position and down. (Manifold valves are always delivered default open).



Adjusting the flow meter

## Manual start of pump auto venting program - 10 minute working cycle

- > Signal display  
 LED is lit up in green in normal operation  
 LED lights up/flashes in case of a fault
- > Display of selected control mode  
 Δp-v, Δp-c and constant speed
- > Display of selected pump curve (I, II, III) within the control mode
- > LED indicator combination during the pump venting function, manual restart and key lock.

## Correct pump adjustment, constant pressure always needed

