

Direct supply unit for heating systems

165 series



01237/17 GB

replaces dp 01237/15 GB



Function

The direct supply unit performs the function of supplying **the heating system circuits at high temperature**.

Complete with high-efficiency pump, flow and return temperature gauges on secondary circuit, secondary circuit shut-off valves, pre-formed shell insulation.

The unit is reversible: in fact, the flow direction can be inverted from right to left, depending on installation requirements. This unit can be coupled to the 559 series SEPCOLL separator/distribution manifold with 125 mm centre distance connections.

The differential by-pass valve (code 519006) and mounting bracket (code 165001) are optional.



Product range

Code 165600A2L Direct supply unit. With UPM3 Auto L 25-70 pump. Centre distance 125 mm _____ size DN 25 (1")
Code 165601UPM Direct supply unit. With UPML 25-95 pump. Centre distance 125 mm _____ size DN 25 (1")

Technical specifications

Materials

Connection pipes

Material: steel Fe 360

Check valve

Body: brass EN 12164 CW614N
Obturator: PPAG40

Shut-off valves

Body: brass EN 12165 CW617N

Performance

Medium: water, glycol solutions
Max. percentage of glycol: 30%
Maximum working pressure: 1000 kPa (10 bar)
Minimum working pressure: 80 kPa (0,8 bar)
Maximum working temperature: 100°C

Connections: - system side: 1" F (ISO 228-1)
- boiler side: 1 1/2" M (ISO 228-1)
- connection centre distance: 125 mm

Insulation

Material: EPP
Average thickness: 30 mm
Density: 45 kg/m³
Working temperature range: -5–120°C
Thermal conductivity: 0,037 W/(m·K) at 10°C
Reaction to fire (UL94): class HBF

Pump

High-efficiency pump: models: UPM3 Auto L 25-70
UPML 25-95

Body: cast iron GG 15/20

Electric supply: 230 V - 50/60 Hz

Max. ambient humidity: 95%

Max. ambient temperature: UPM3 Auto L 25-70: 70°C

UPML 25-95: 55°C

Protection class: UPM3 Auto L 25-70: IP 44

UPML 25-95: IPX2D

Pump centre distance: 130 mm

Pump connections: 1 1/2" (ISO 228-1) with nut

Temperature gauges

Double scale: 0–80°C (32–176°F)

Safety Thermostat kit code 165004 (optional)

Setting temperature: 55°C

Protection class: IP 65

Contact rating: 10 A/ 240 V

Differential by-pass code 519006 (optional)

Body: brass EN 1982 CB753S

Obturator: EPDM

Spring: stainless steel EN 10270-3 (AISI 302)

Seals: EPDM

Maximum working pressure: 10 bar

Max. working temperature: 100°C

By-pass setting range: 2–30 kPa (0,2–3 m w.g.)

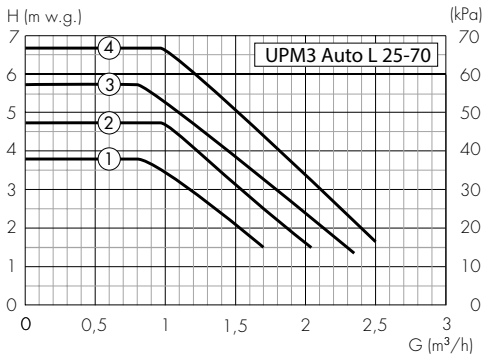
Connections: 1" M x 1" M (ISO 228-1)

Mounting bracket code 165001 (optional)

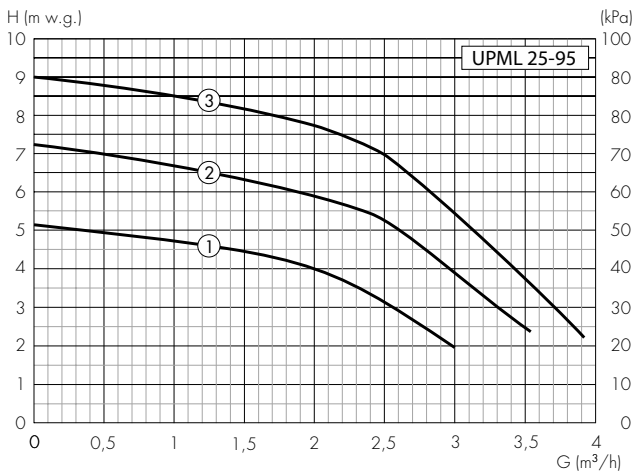
Material: stainless steel

Head available at the unit connections

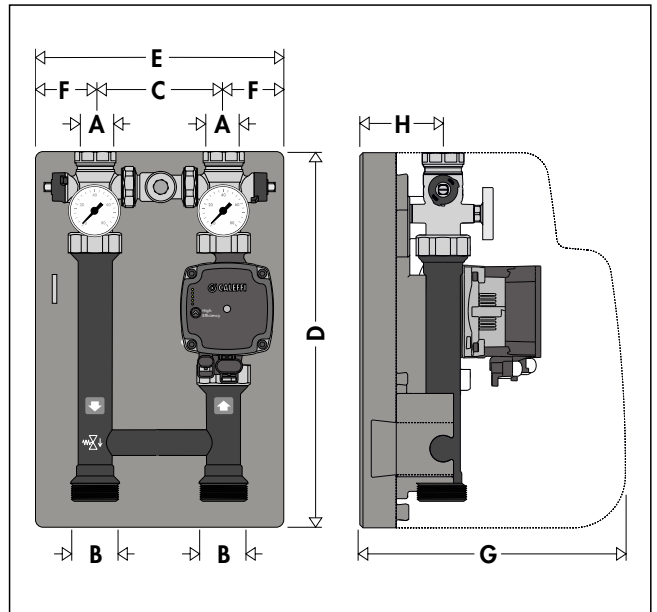
Test performed with constant speed control



Test performed with constant pressure control



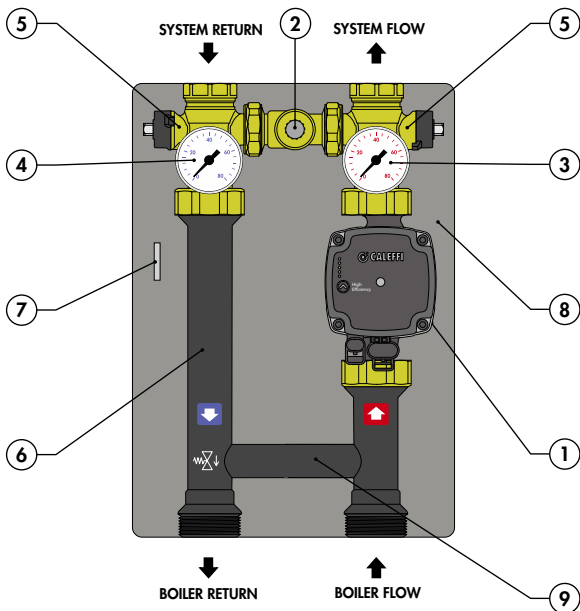
Dimensions



Code	A	B	C	D	E	F	G	H	Mass (kg)
165600A2L	1"	1 1/2"	125	360	250	62,5	255	80	6,5
165601UPM	1"	1 1/2"	125	360	250	62,5	255	80	8,4

Note:

The pumps can operate with constant speed control (UPM3 only), constant or proportional pressure control, which adapts the performance to system requirements. For further details, see the installation instruction sheet of the pump supplied in the package.

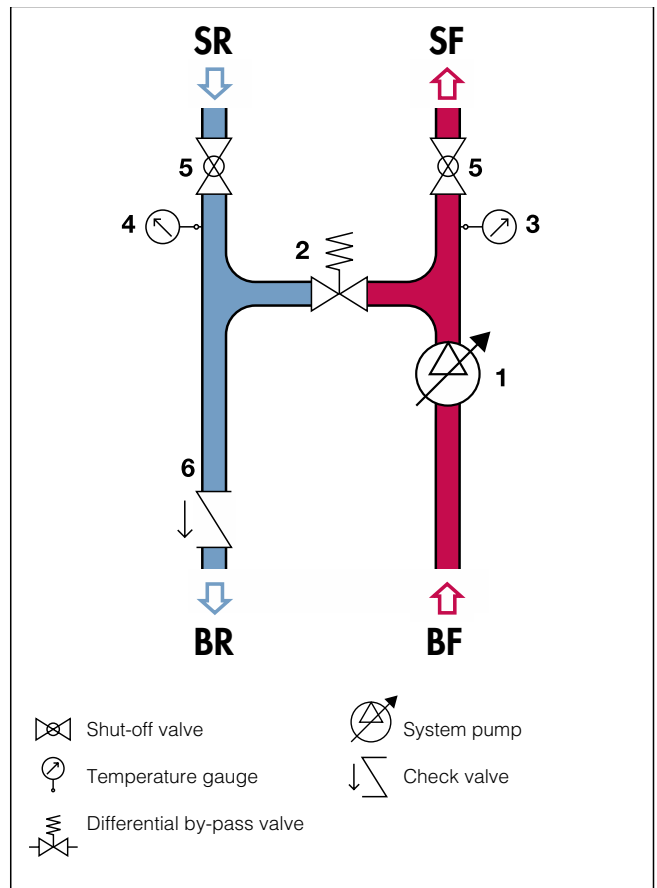


Characteristic components

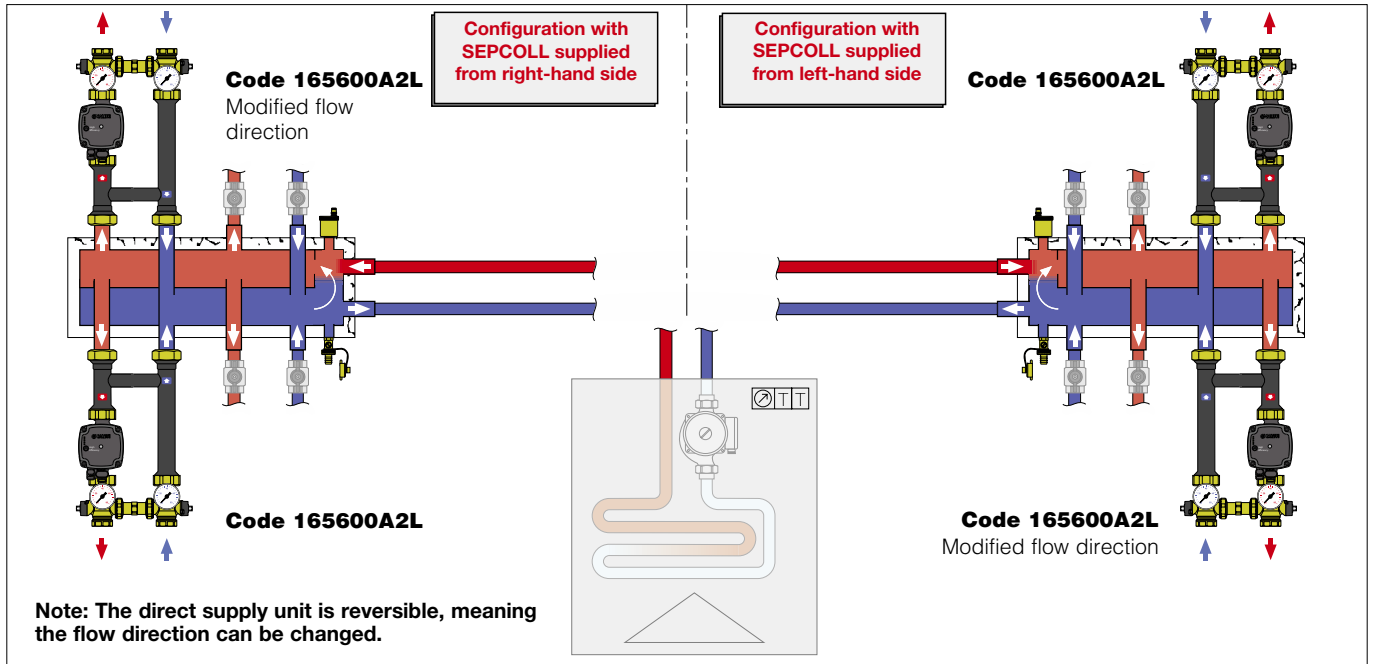
- 1 High-efficiency pump UPM3 Auto L 25-70 or UPML 25-95
- 2 Differential by-pass valve (optional)*
- 3 Flow temperature gauge
- 4 Return temperature gauge
- 5 Shut-off valves on secondary circuit
- 6 Connection pipe (with check valve)
- 7 Operating spanner for shut-off valves on secondary circuit
- 8 Insulation
- 9 Structural element (spacer)

* The factory setup includes installation of a blind spacer (closed)

Hydraulic diagram



Installation



Hydraulic separators-manifolds

559222 SEPCOLL 2+2

[tech. broch. 01084](#)



Hydraulic separator-manifold for heating systems.
Centre distance: 125 mm.
Steel body, PN 6. **With insulation.**
Main connections 1 1/4" F.

Outlet connections 1 1/2" with captive nut:
two at the top and two at the bottom.
Working temperature range: 0–110°C.
Complete with mounting brackets.

559231 SEPCOLL 3+1

[tech. broch. 01084](#)



Hydraulic separator-manifold for heating systems.
Centre distance: 125 mm.
Steel body, PN 6. **With insulation.**
Main connections 1 1/4" F.

Outlet connections 1 1/2" with captive nut: three at the top and one at the bottom (or viceversa).
Working temperature range: 0–110°C.
Complete with mounting brackets.

559221 SEPCOLL 2+1

[tech. broch. 01084](#)



Hydraulic separator-manifold for heating systems.
Centre distance: 125 mm.
Steel body, PN 6. **With insulation.**
Main connections 1" F.

Outlet connections: two at the top, 1 1/2" with captive nut and one at the side, 1" F.
Working temperature range: 0–110°C.
Complete with mounting brackets.

559220 SEPCOLL 2

[tech. broch. 01084](#)



Hydraulic separator-manifold for heating systems.
Centre distance: 125 mm.
Steel body, PN 6. **With insulation.**
Main connections 1" F.

Outlet connections: two at the top, 1 1/2" with captive nut.
Working temperature range: 0–110°C.
Complete with mounting brackets.

Accessories



559001

Pair of plugs with gaskets for unused outlets.
For 559 and 550 series.



559002

Pair of fittings with gaskets.
For 559 and 550 series.



165006

Pair of eccentric tailpieces.
Centre distance: 105–145 mm.
Connections: 1 1/2" F with captive nut x 1" F.



165003

Sensor holder extension.
Connections 1" M x 1" F.
Side connections M4 F x M4 F x 1/8" F x 1/4" F



165004

Safety thermostat kit for heating.
Setting temperature 55°C ±3.
Protection class: IP 65. M4 threading.

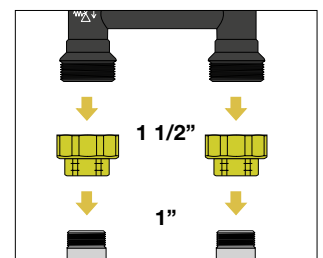


165002

Female union with captive nut,
complete with gasket.
Connections: 1 1/2" F with captive nut x 1" F.

Installation example

The union with captive nut allows installation of the 165 series unit on any 1" M pipe.



Mounting bracket

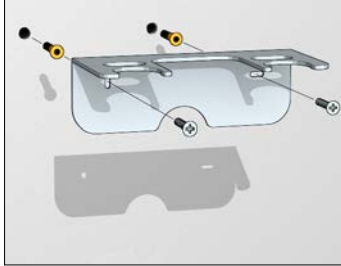


165001

Mounting bracket.
In stainless steel.

Bracket installation

The mounting bracket for wall installation must be secured using wall anchors, using the corresponding holes on the base.



The unit should be applied to the bracket, using the corresponding seats under the hexagonal part of the shut-off valves.



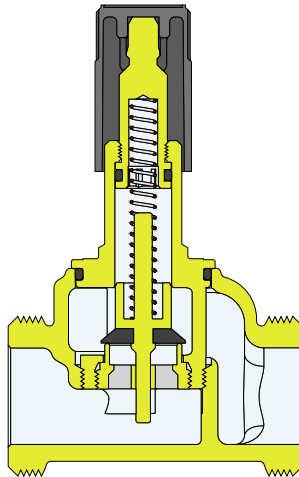
Differential by-pass



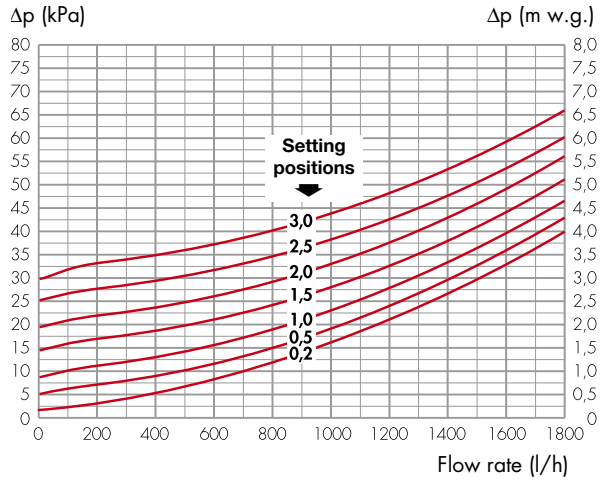
519006

Differential by-pass
for 165, 166 and 167 series units.
Max. working pressure: 10 bar.
Max. working temperature: 100°C.
Setting range: 2–30 kPa
(0,2–3 m w.g.).
Connections 1" M x 1" M.

The differential by-pass valve is used to control the head to which the secondary distribution circuit is subjected. When the differential pressure setting value is reached, the obturator opens and allows the medium to pass from the flow to the return line of the circuit, limiting the differential pressure at the set value. This action is particularly useful when single circuits are shut off by automatic two-way ON/OFF, modulating or thermostatic valves.



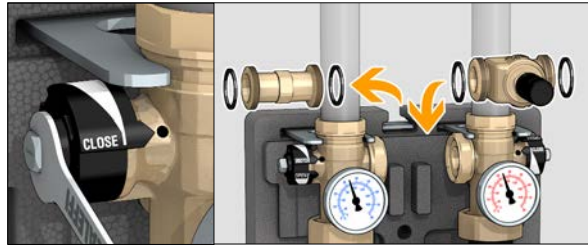
Hydraulic characteristics



The hydraulic characteristics are calculated while taking account of the ball shut-off valves fitted.

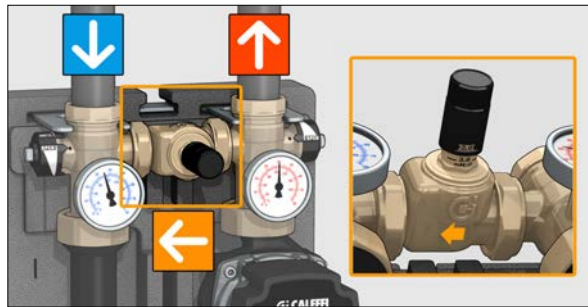
Installation of the differential by-pass valve

To fit the differential by-pass, it should be applied in place of the by-pass spacer template. After shutting off the ball valves using the specific supplied spanner, unscrew the captive nuts as illustrated in the following figures.

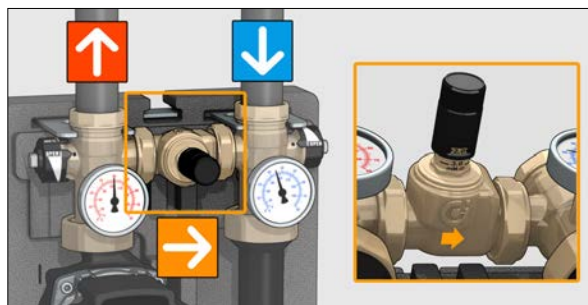


Installation differs depending on the supply direction in the flow circuit:

- by-pass installation in the version with RH side supply and bottom-up flow (equivalent to LH side supply and top-down flow);



- by-pass installation in the version with LH side supply and bottom-up flow (equivalent to RH side supply and top-down flow).



Right hand-left hand reversibility

The unit is assembled in the factory with RH side supply and bottom-up flow (equivalent to LH side supply and top-down flow). If necessary, the flow direction can be exchanged. For this reason, the nuts on the unit are not fully tightened in the factory, making it easier to carry out this procedure if required.

We recommend always checking that the nuts have been fully tightened during installation.

To make the exchange, proceed as follows:

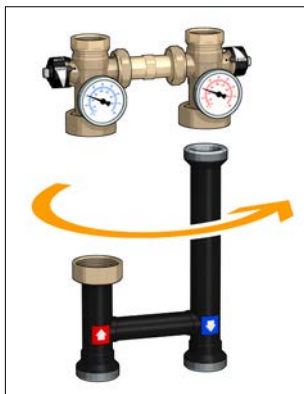
1. Remove the insulation; the front and rear shells are easy to remove as they are slightly restrained to one another.



2. Unscrew the captive nuts fully using a spanner of the correct size and remove the pump.



3. Position the connecting pipe on the right-hand side, rotating it on its axis by 180°.



In versions with UPML 25-95 pump, it is necessary to rotate the electronic part of the pump, unscrewing the four screws, as indicated by the arrows, and turning the body anticlockwise by 90°. If this step is not performed, it will not be possible to fit the unit back inside the insulation. In A2L versions with UPM3 Auto L pump no changes are required for the circulation pumps.



4. Reassemble the unit as indicated in the figure, fully tightening the captive nuts and taking care to position the seals in the correct way.

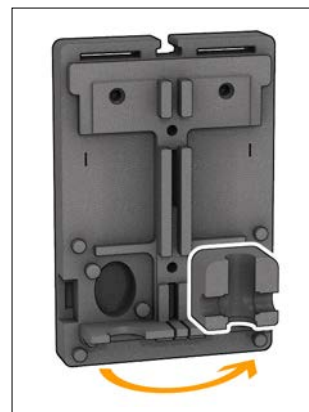


5. Invert the flow and return temperature gauges.

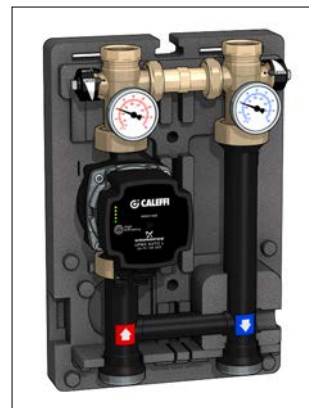


6. Move the square spacer and fit it on the right-hand side.

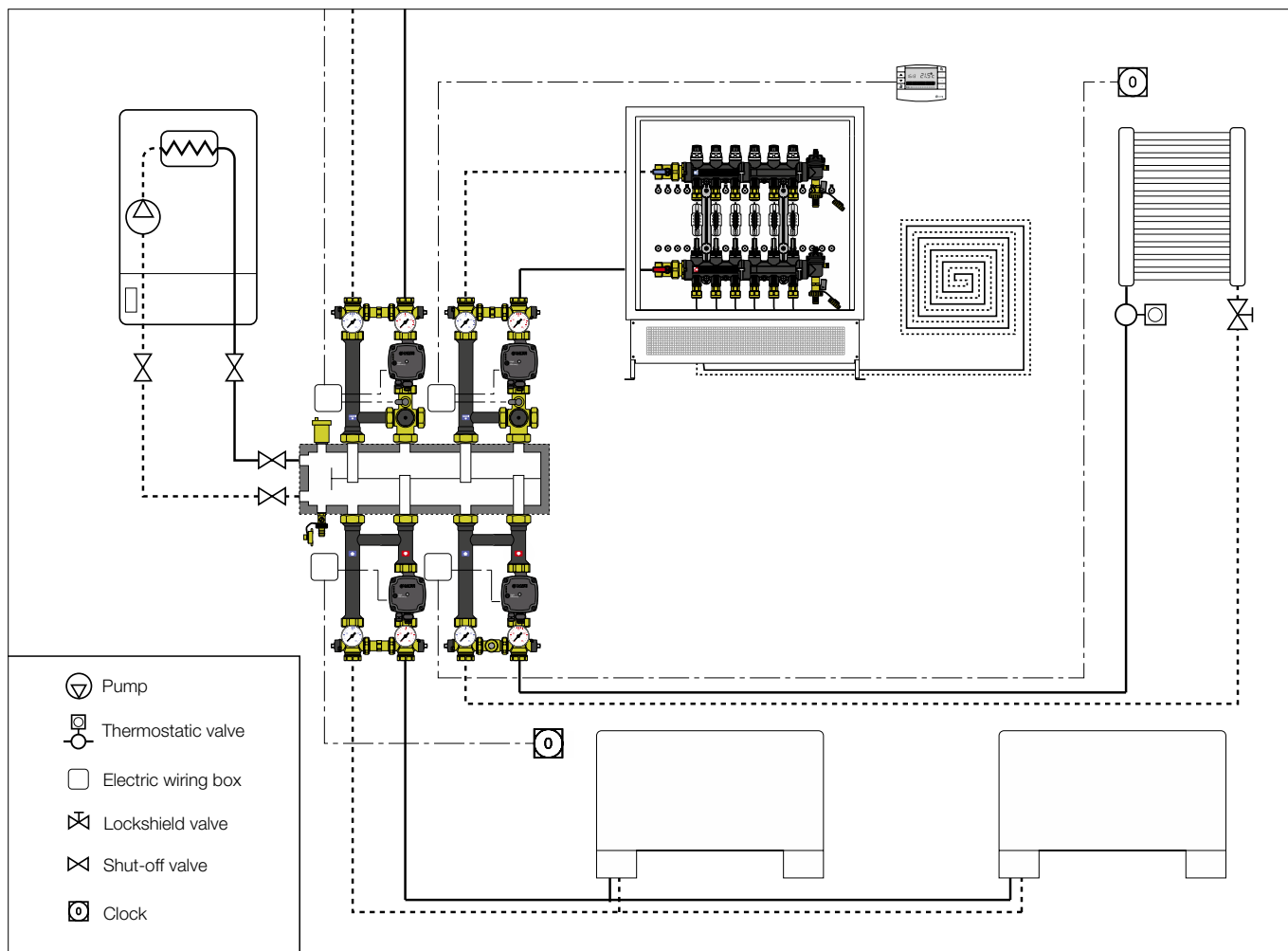
Note: The central notch in the insulation can be used to house the circulation pump and safety thermostat electrical wiring cables.



7. Reassemble the insulation.



Application diagrams



SPECIFICATION SUMMARY

165 series

Direct supply unit for heating systems, can be coupled to SEPCOLL 559 series. Configuration with bottom-up flow and RH side supply, or viceversa. Connections to primary circuit 1 1/2" M (ISO 228-1). Connections to secondary circuit 1" F (ISO 228-1). Connection centre distance 125 mm. Maximum working temperature 100°C. Maximum working pressure 1000 kPa (10 bar). Minimum working pressure 80 kPa (0,8 bar). Complete with high-efficiency pump UPM3 Auto L 25-70 (UPML 25-95). Protection class IP 44 (UPML 25-95 IPX2D). Temperature gauge scale 0–80°C (32–176°F). Secondary circuit shut-off valves. Connection pipe in Fe 360 steel. Check valve with brass body, obturator in PPAG40. With pre-formed shell insulation in EPP.

Code 519006

Differential by-pass valve. Brass body. Connections 1" M x 1" M. Stainless steel spring. Setting range from 0,2 to 3 m w.g. (2–30 kPa). Maximum working pressure 10 bar. Maximum working temperature 100°C.

Code 165001

Stainless steel mounting bracket.

Code 165002

Female union with captive nut, complete with seal. Connections 1 1/2" F with captive nut x 1" F (ISO 228-1).

Code 165006

Pair of eccentric tailpieces. Connections 1 1/2" F with captive nut x 1" F (ISO 228-1). Centre distance 105–145 mm.

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