



01036/12 NA

# Diverter and isolation valves for panel radiators

## 3010, 3011, 3012, 3013 series



### Function

Caleffi 301 series valves are installed on panel style radiators. They are connected to the bottom supply and return ports, providing fluid flow to the upper thermostatic valve built into the radiator. The center-to-center dimension is 50 mm, which is the common standard for all brands of panel radiators.

Two versions are available: Diverter style for one-pipe systems; Isolation style for two-pipe systems. Both have two ball shut-off valves and come as either a straight through flow pattern for floor connections or angled flow pattern for wall connections.

The diverter style offers an adjustable by-pass to send 30% to 50% of flow toward the radiator, factory-set for 35%. In addition, the diverter style contains a unique thermal break device in the return side (right leg) to prevent undesirable flow to the radiator due to thermo-syphoning when the thermostatic valve is closed, no call for heat.

### Product range

3010 series	Isolation (two-pipe) straight panel radiator valve .....	1/2" M radiator x 3/4" M conical pipe
3011 series	Isolation (two-pipe) angled panel radiator valve.....	1/2" M radiator x 3/4" M conical pipe
3012 series	Diverter (one-pipe) straight panel radiator valve with adjustable by-pass.....	1/2" M radiator x 3/4" M conical pipe
3013 series	Diverter (one-pipe) angled panel radiator valve with adjustable by-pass.....	1/2" M radiator x 3/4" M conical pipe

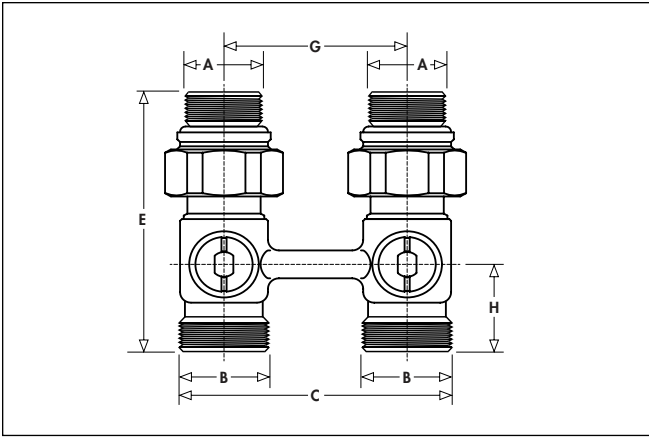
### Technical specifications

<b>Materials</b>	- body:	brass chrome-plated
	- valve control stems:	brass chrome-plated
	- seals:	EPDM
	- thermal break non-return device:	PPO

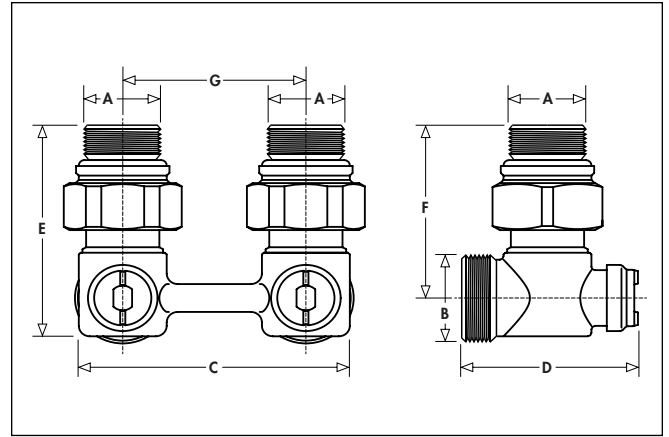
### Performance

Suitable fluids:	water, glycol solutions
Max. percentage of glycol:	30%
Max. working pressure:	150 psi (10 bar)
Max. working temperature:	212°F (100°C)
Max. differential pressure:	15 psi (1 bar)
Adjustable by-pass factory setting	
for one-pipe version:	35% of flow rate
Adjustable by-pass setting range:	30-50% of flow rate

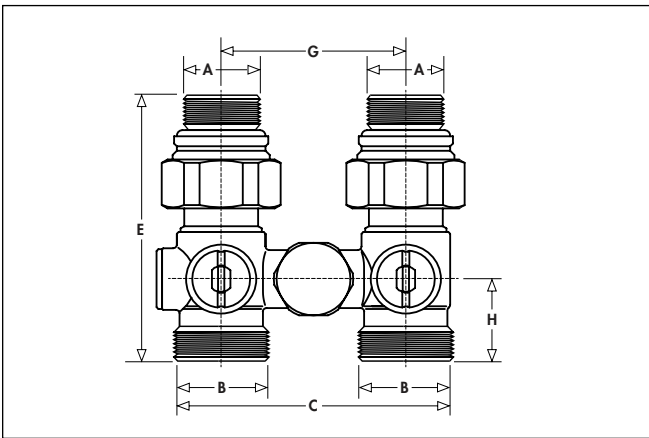
## Dimensions



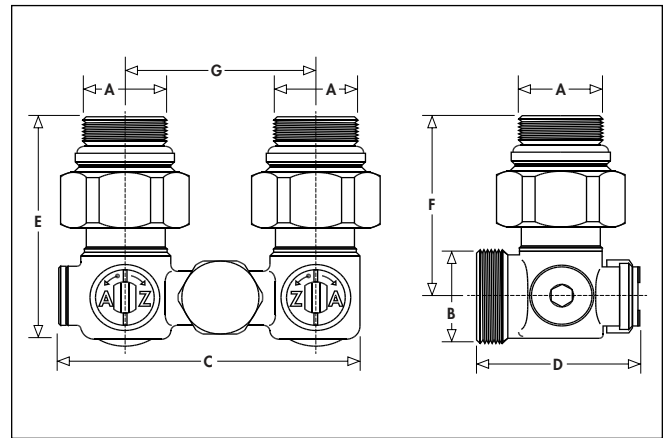
Code	A	B	C	D	E	F	G	H
301040	1/2" straight	3/4" conical	3"	—	2 5/8"	—	2" (50 mm)	3/4"



Code	A	B	C	D	E	F	G	H
301140	1/2" straight	3/4" conical	3"	1 3/4"	2 1/4"	1 7/8"	2" (50 mm)	—



Code	A	B	C	D	E	F	G	H
301241	1/2" straight	3/4" conical	3"	—	2 5/8"	—	2" (50 mm)	3/4"



Code	A	B	C	D	E	F	G	H
301341	1/2" straight	3/4" conical	3"	1 3/4"	2 1/4"	1 7/8"	2" (50 mm)	—

## Fittings



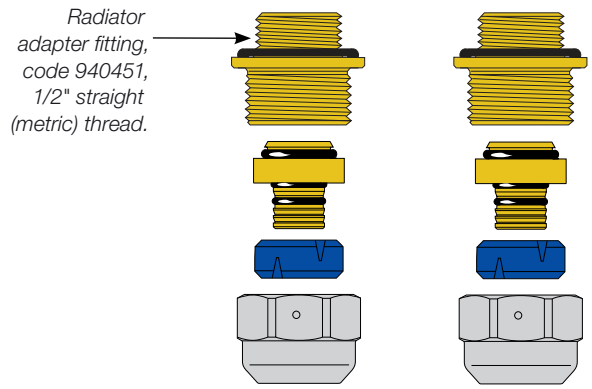
### 681

#### Universal PEX fittings

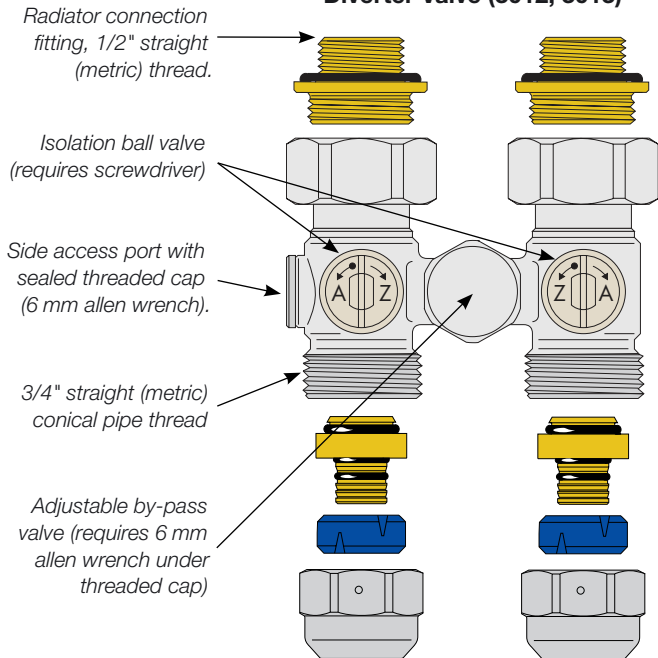
681 series fittings are compatible with any ASTM F876 single layer PEX. Max. working pressure: 150 psi. Working temperature for ASTM F876 PEX piping: -41–180°F. Chrome-plated.

Code	Description
681524	1/2" nominal PEX, 3/4" straight thread female nut

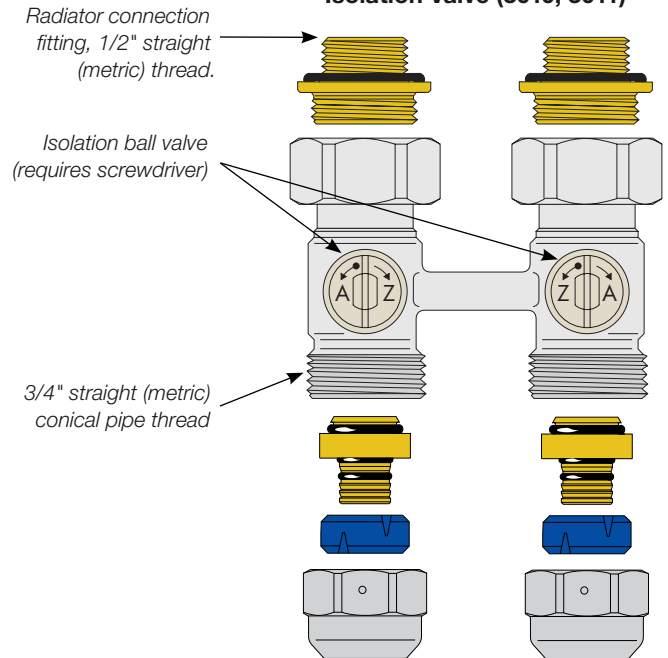
#### Direct connection



#### Diverter Valve (3012, 3013)



#### Isolation Valve (3010, 3011)



### 682

#### Universal PEX-AL-PEX fittings

682 series fittings are compatible with any ASTM F1281 multilayer PEX-AL-PEX pipe. Max. working pressure: 150 psi. Working temperature for ASTM F1281 multilayer PEX-AL-PEX piping: -41–167°F with tubing rated 200°F.

Code	Description
682540	1/2" nominal PEX-AL-PEX, 3/4" straight thread female nut



### 437

Compression fitting, for 1/2" hard copper. With o-ring seal. Max. working pressure: 150 psi (10 bar). Temperature range: -13–250°F (-25–120°C). Chrome-plated.

Code	Description
437516	1/2" compression, 3/4" straight thread female nut



### NA102

#### Sweat connection fitting.

Code	Description
NA10262	1/2" sweat, 3/4" straight thread female nut

## Accessories

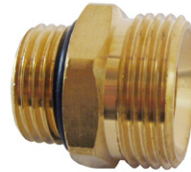
### 4497



Wall-covering plate.  
For dual panel radiator valves 301.  
With wall connections.  
In white ABS.  
Outlet center distance: 40–50 mm

Code	Description
449740	Plate

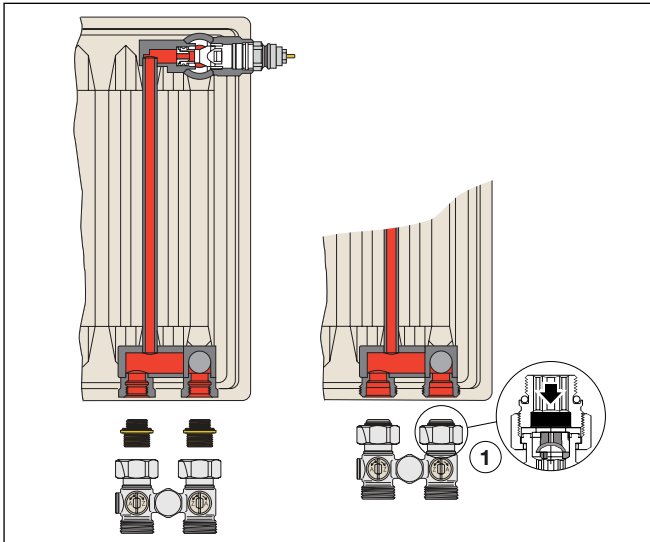
### 940



Radiator adapter for directly connecting a panel radiator to a manifold with PEX, PEX-AL-PEX, sweat or compression fittings.

Code	Description
940451	½" M radiator x ¾" M conical pipe

## Application diagrams

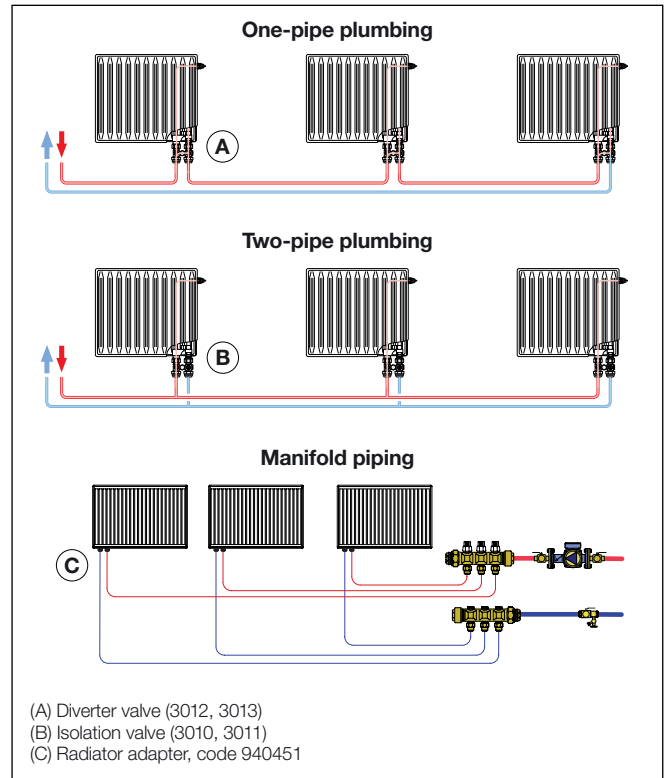


Caleffi panel radiator valves are designed to be installed on panel radiators featuring connections both on the bottom and an externally invisible inner pipe, which feeds the flowing medium to the upper valve.

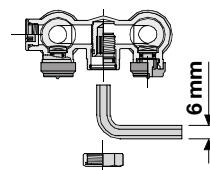
They come in two versions: for two-pipe and one-pipe systems. Both are available straight (pipes exiting the floor) and angled (pipes exiting the wall). The two-pipe version is equipped with two ball shut-off valves; the one-pipe, in addition to the shut-off valves, is equipped with an adjustable by-pass from 30% to 50% of the flow rate towards the radiator, and a thermal break device (1) that prevents thermo-syphoning upward into radiator from by-passing flow.

Since the radiators are in series in one-pipe systems, the downstream radiator receives water at a lower temperature than the upstream radiator. In most applications, it is recommended the number of radiators should be limited to 3 to ensure sufficient heat delivery.

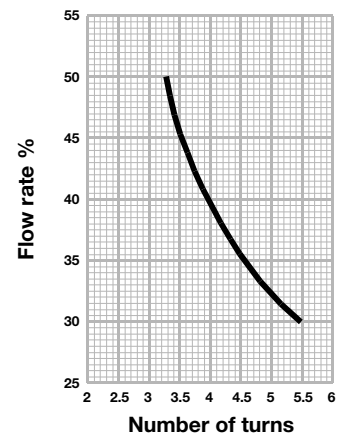
Isolation valves and diverter valves are not necessary when directly connecting a panel radiator to manifold. Radiator adapter, code 940451, is used for direct pipe connection, PEX, PEX-AL-PEX, sweat or compression, to the radiator.



How to adjust the by-pass on single one-pipe valves. Range: 30–50%



The valve is supplied preset with 35% flow rate to the radiator. To change the flow rate, shut the by-pass valve and then unscrew the same by a number of turns equivalent to the required flow rate indicated in the graph.



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## SPECIFICATION SUMMARIES

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### 3010 series

Isolation panel radiator valve for one-pipe heating system. Straight-through flow pattern for floor pipe connections, copper and single and multilayer PEX pipes. Radiator connections 1/2" male straight threads. Pipe connection 3/4" conical. Brass body. Chrome-plated. Chrome-plated brass valve control stems, EPDM seals. Suitable fluids water, 30% max. glycol solutions. Maximum working temperature 212°F (100°C). Maximum working pressure 150 psi (10 bar).

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### 3011 series

Isolation panel radiator valve for one-pipe heating system. Angled flow pattern for wall pipe connections, copper and single and multilayer PEX pipes. Radiator connections 1/2" male straight threads. Pipe connection 3/4" conical. Brass body. Chrome-plated. Chrome-plated brass valve control stems, EPDM seals. Suitable fluids water, 30% max. glycol solutions. Maximum working temperature 212°F (100°C). Maximum working pressure 150 psi (10 bar).

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### 3012 series

Diverter panel radiator valve for two-pipe heating system. Straight-through flow pattern for floor pipe connections, copper and single and multilayer PEX pipes. Adjustable by-pass 30% to 50% of flow to radiator, factory-set 35%. PPO thermal break (non-return) device in return leg. Radiator connections 1/2" male straight threads. Pipe connection 3/4" conical. Brass body. Chrome-plated. Chrome-plated brass valve control stems, EPDM seals. Suitable fluids water, 30% max. glycol solutions. Maximum working temperature 212°F (100°C). Maximum working pressure 150 psi (10 bar).

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### 3013 series

Diverter panel radiator valve for two-pipe heating system. Angled flow pattern for wall pipe connections, copper and single and multilayer PEX pipes. Adjustable by-pass 30% to 50% of flow to radiator, factory-set 35%. PPO thermal break (non-return) device in return leg. Radiator connections 1/2" male straight threads. Pipe connection 3/4" conical. Brass body. Chrome-plated. Chrome-plated brass valve control stems, EPDM seals. Suitable fluids water, 30% max. glycol solutions. Maximum working temperature 212°F (100°C). Maximum working pressure 150 psi (10 bar).

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*We reserve the right to change our products and their relevant technical data, contained in this publication, at any time and without prior notice.*

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