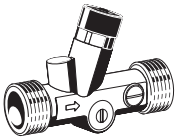
ProPress Automatic Recirculation Regulating Valve

Model 2981.3ZL

2018-12

A

	Model	Part No.
	**2981.3ZL**	79901

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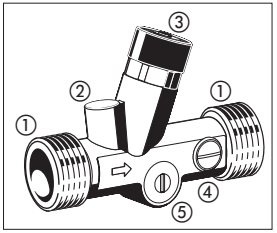
Model 2981.3ZL

B



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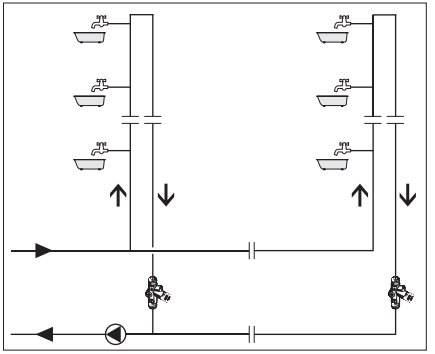

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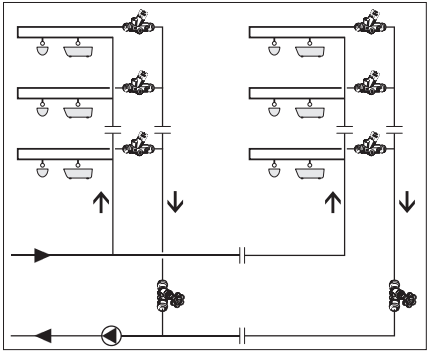

Model 2981.3ZL

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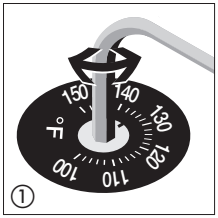

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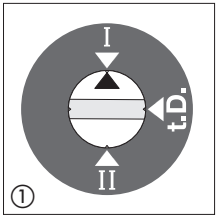
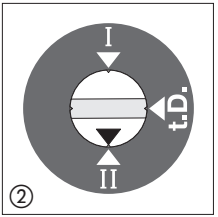
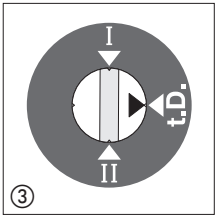
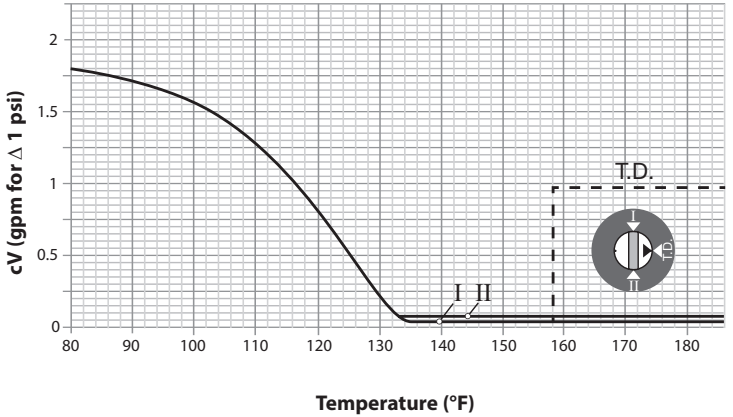






Model 2981.3ZL



Model 2981.3ZL

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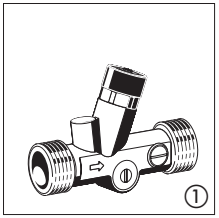

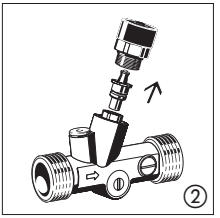

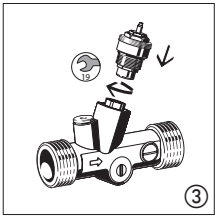

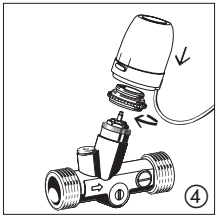

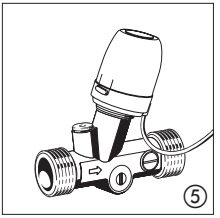

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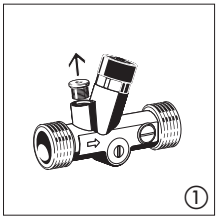

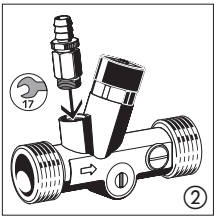

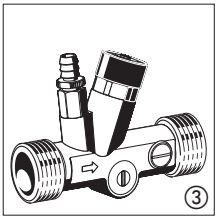

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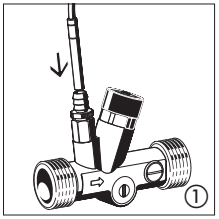
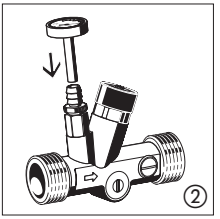
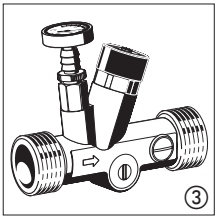






Intended use

The ProPress recirculation valve is listed to NSF®-61-372 and suitable for installation in drinking water systems with hot water recirculation. It allows the thermal/hydraulic balancing of the hot water flow in the recirculation pipe at a constant temperature and standard minimum flow rate.

Proper function of the valve is most effective when the entire system has been properly designed and installed using up-to-date technology. That includes

- Circulation pumps with variable flow rates
- Components for the preparation of hot water
- Pipes and fittings with insulation

Viega products are designed to be installed by licensed and trained plumbing and mechanical professionals who are familiar with our products' proper use and installation. Installation by nonprofessionals may void Viega LLC's warranty.

A

Model	Size	Art. No.	Product description
2981.3ZL	1" BSP	79901	**ProPress Recirculation valve,** thermostatic regulating valve with male parallel BSP threads, Zero Lead bronze body and Zero Lead bronze and stainless steel wetted surfaces.

B Equipment

① 1" male BSP connection
② Threaded temperature port with threaded plug
③ Temperature control valve with temperature scale
④ Integrated isolation valve
⑤ Adjustable bypass

Function

The conical disc of the ProPress Automatic Recirculation Regulating valve is fitted with an expanding element that reacts to changes in the hot water temperature in the circulation circuit. As the element senses warmer water, it expands, reducing flow to regulate the return water temperature.
The adjustable bypass ensures that a small amount of flow is always passing through the valve so that the temperature of that water is representative of the system.

Technical data

- Thermostatic regulating valve
- Operating pressure max. 150 psi
- Setting range 105 to 150°F
- Factory settings 135°F
- Maximum operating temperature 180°F

*Flow rate, temperature, and pressure loss: see section F

C Use as riser regulator

Bypass control set to switch position **"II"**

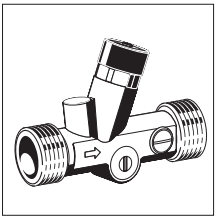
D Use as floor regulator

Bypass control set to switch position **"I"**
with additional static balancing valve in the riser

Assembly/Commissioning

Note: Ensure valve is installed in the correct flow direction.

Before commissioning, set the temperature control ③ and the bypass ⑤ to the calculated values.



E Temperature setting on the recirculation regulating valve with 6 mm hex key

F Setting the bypass flow control (see table)

I	cV of bypass only (valve closed)	0.049 gpm
II	cV of bypass only (valve closed)	0.069 gpm
t. D.	thermal disinfection	0.832 gpm

	Temperature setting [°F]							Cv (Δp 1 psi) [gpm]	
	150	**140**	**135**	**130**	**120**	**110**	**100**	**I**	**II**
Incoming temperature [°F]	150	140	135	130	120	110	100	0.049	0.069
	141.5	135.5	130.5	125.5	115.5	105.5	95.5	0.298	0.319
	136.5	131	126	121	111	101	91	0.47	0.491
	132	126.5	121.5	116.5	106.5	96.5	86.5	0.714	0.735
	127.5	122	117	112	102	92	82	0.928	0.949
	123	117.5	112.5	107.5	97.5	87.5	77.5	1.221	1.242
	118.5	113	108	103	93	83	73	1.362	1.383
	114	108.5	103.5	98.5	88.5	78.5	68.5	1.498	1.519
	109.5	104	99	94	84	74	-	1.532	1.618
	105	99.5	94.5	89.5	79.5	69.5	-	1.71	1.731
	100.5	95	90	85	75	-	-	1.72	1.741
	96	90.5	85.5	80.5	70.5	-	-	1.741	1.762
								1.783	1.803
								t. D.	
	Thermal disinfection 158°F							0.832	

Fitting accessories

G Actuator
79903, Powerhead cartridge allows the thermostatic function to be replaced by a remote operated Viega powerhead.

H Drainage valve
79902, Drain valve can be installed to provide a drain or to accept an analog thermometer or digital temperature probe. Drain must remain closed when thermometer or digital temperature probe is used.

I Temperature sensor
23460 Analog thermometer
23470 Remote temperature sensor

J Insulation shell
23450 Custom cut two piece valve insulation shell.

Chlorine shock disinfection

> **Caution**
> Danger of scalding due to hot water!
> Before beginning the flushing process, inform the users and secure all extraction points.

No special considerations are required. The ProPress automatic recirculation regulating valve is compatible with chlorine shock disinfection described in AWWA C651. The integrated isolation valve can be used for targeted chemical disinfection.

The process should be scheduled during low use times and clearly communicated to the users of the unit, therefore minimizing risk of injury due to contact with chlorinated water.

Thermal shock disinfection

Caution

Danger of scalding due to hot water!

Before beginning the flushing process, inform the users and secure all extraction points.

Mode of operation

Contaminated drinking water systems can be disinfected by a short flush with hot water at temperatures above 158 °F. Thermal disinfection takes place when all of the parts that come into contact with water – including the extraction points – are flushed with water at a temperature of 158 °F for at least 3 minutes.

The process should be scheduled during low use times and clearly communicated to the users of the unit, therefore minimizing risk of injury due to contact with hot water.

Procedure

In units with multiple circulation circuits, each individual circuit is disinfected to ensure adequate disinfection temperatures reach every part of the system. The process should be carried out as follows:

- Set hot water source temperature of at least 158°F.
- Close the integrated isolation valves on any ProPress recirculation valves that are installed in other circuits, not currently being disinfected.
- Set the switch for the bypass regulator on the ProPress recirculation valve to position "t.D."
- Flush every fixture or sample point for at least 3 minutes after 158°F has been reached. Multiple fixtures can be flushed simultaneously as long as a minimum temperature of 158°F can be maintained for the duration of the flush.
- Return the bypass regulator and integrated isolation valve to operating position.
- Carry out the same procedure with all other circuits as mentioned above.

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IM-PP 599376 1218 Recirculation Valve (EN)