

Submittal Hycleen™ Automation Balancing Valve - LegioTherm 2T

Date _____

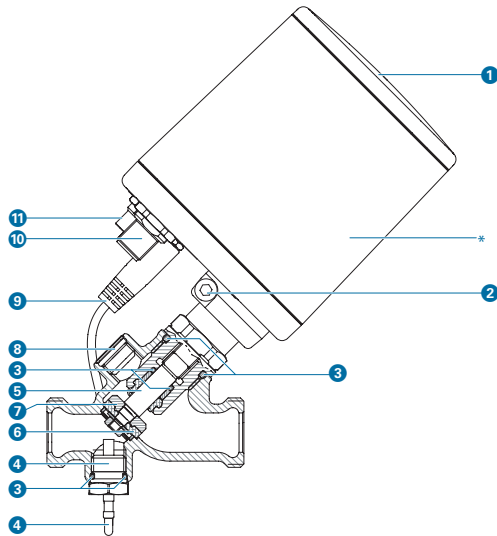
Contractor _____

Job Name _____

Engineer _____

Job Location _____

Approval _____



Legend

1 LED light ring	7 Plug
2 Screw	8 PT1000 plug
3 O-ring	9 M12 plug
4 Temperature sensor (PT1000)	10 M8 plug for external sensor (4-20 mA)
5 Spindle	* Controller
6 Cone	

Product Code	Size (in)	Weight (lb)	d1 (in)	h1 (in)	l1 (in)
351110780	1/2" (DN 15)	1.81	3/4"	6.38	2.95
351110781	3/4" (DN 20)	2.31	1"	6.66	3.42
351110782	1" (DN 25)	3.09	1-1/4"	7.05	3.90

Description

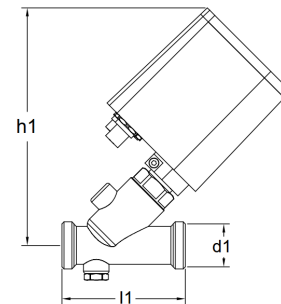
The Hycleen balancing valve (LegioTherm 2T) automatically balances circulation lines (hot or cold) based on custom parameters (temperature or flow). Power and communication are provided to each valve by the Hycleen master control panel via combined power/data cabling.

Features and Functions

In addition to the function of a balancing valve, the valves are used wherever a controlled, thermal disinfection of hot water system is required (e.g. retirement and nursing homes, hospitals, etc.). The balancing valve enables the option of two calibration temperature (normal operation/thermal disinfection).

During normal operation the balancing valve regulates volume flow while continuously monitoring the water temperature. Each valve will automatically adjust the valve opening position in order to maintain the set temperature or flow of the circulation circuit.

- Adjustable leakage rate: minimum flow rate at valve
- Application: hydraulic balancing, thermal disinfection, preventive maintenance (once a week)
- Fast, error-free wiring
- Integrated PT1000 temperature sensor, in valve, fully submerged in water.
- Bluetooth connection to tablet/smartphone. On/Off option
- Controller incl. motor actuator with encoder; Valve position always known; short opening/closing time of 15 s.
- Activity indicator (light ring); changes color to provide visual status of valve operation.



Technical Data

Water temperature	34° - 194°F (1 - 90°C)
Control accuracy	< ± 1.8°F (1°C)
PT1000 temp. sensor accuracy	.23 F(1 C)
Maximum operating temperature	194°F (90°C)
Maximum operating pressure	145 psi (10 bar)
Ambient temperature	32° - 140°F (0 - 60°C)
Power supply	36 V DC
Actuator - minimum stroke	0.2 in. (5 mm)
Operating voltage	24 V DC
Power consumption in normal operation	6 W
Closing or opening times	approx. 15s/20s/20s
Standards	NSF 61, 372 / DVGWVP 554 (2003.04)

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Sample Specifications

Furnish and install as detailed on plans and described herein, automated balancing valves as manufactured by Georg Fischer, LLC. Valve shall be fully automated dynamic balancing valve, have controller motor actuator with encoder, connections: Two M12 plug, PT1000 plug, M8 plug, a maximum operating pressure up to 145 psi, maximum temperature up to 194°F, two calibration temperatures (normal operation/thermal disinfection), factory temperature settings, normal operation: 134°F (setting range 32°F – 194°F), Thermal disinfection: 167°F (setting range 140°F – 194°F), control accuracy shall be $\pm 1.8^\circ\text{F}$, with valve integrated PT1000 temperature sensor completely submerged in water, bluetooth connection to external tablet/smartphone with on/off options, activity indicator (LED light ring), EPDM o-ring, male threaded end connections, custom insulation block, automated weekly maintenance, 36V power supply. Certified Lead-free NSF/ANSI 61.

Hycleen Automation System - CSI Format Specification

Installation Tips

- The balancing valve can be installed in any position.
- An accessible shut-off and check valve, up-stream of the balancing valve and a shut-off valve downstream of the balancing valve is recommended.

Applicable Documents

[Installation instructions, operating and maintenance instructions.pdf](#)

Valve Flow Capacities

Valve Size	Valve Position (% Open)	Flow Coefficient (Cv)	Flow Factor (Kv)
1/2" (DN 15)	*15	0.08	0.07
	30	0.61	0.53
	50	1.38	1.19
	**70	2.14	1.85
	100	4.37	3.78
3/4" (DN 20)	*15	0.51	0.44
	30	1.01	0.87
	50	2.05	1.78
	**70	4.93	4.26
	100	8.88	7.68
1" (DN 25)	*15	0.53	0.46
	30	1.16	1.00
	50	2.59	2.24
	**70	6.38	5.52
	100	11.52	9.96

* Preset Factory Min. "valve closed"

**Preset Factory Max. "valve open"

Material

Casing	Lead-free Brass
Follower / Spring / Seat	Stainless Steel
Valve cone	Lead-free Brass
Gaskets	EPDM

Spare Parts

Size	1/2" (DN 15)	3/4" (DN 20)	1" (DN 25)
Mechanism	351110684	351110686	351110688
Controller	351110690	351110692	351110789
Insulation Box	351110680	351110681	351110682
Temperature Sensor		351110683	



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