

THERMOSETTER™ Recirculation thermal balancing valve for disinfection



1162, 1163 Series ½" - ¾"

Submittal Data 03301.01 NA — Issue Date 3/2017

Application

The THERMOSETTER™ adjustable thermal balancing valve is used for automatic balancing of recirculation loops in domestic hot water systems, to speed hot water delivery, reduce water waste and save energy. The internal thermostatic balancing cartridge automatically modulates flow to ensure a constant temperature in the recirculation piping system. The 116 Series has an adjustment knob with 95°F to 140°F (35°C to 60°C) temperature scale indication. An integral dry-well holds a slide-in temperature gauge for local indication, or a sensor for remote temperature sensing. The optional check valve protects against circuit thermo-syphoning.

The 1162xx Series is available with a "disinfection" by-pass cartridge, for use in systems which are designed to perform thermal disinfection for prevention of Legionella. When the disinfection cartridge senses 160°F (70°C) water, indicating disinfection control mode, it automatically opens a by-pass flow path to allow sufficient flow for disinfection to occur. When the temperature drops back to normal range, the disinfection by-pass cartridge closes to return flow control to the balancing cartridge.

The 1163xx Series is also available with a "disinfection" valve that is controlled by a 24V spring return thermo-electric actuator, rather than thermostatically, thus allowing thermal disinfection mode to be controlled remotely by an automation system.

Typical Specification

Furnish and install on the plans and describing herein, a Caleffi recirculation thermal balancing valve, as manufactured by Caleffi. Each balancing valve must be designed with a DZR low-lead brass body, and stainless steel & copper adjustable cartridge; EPDM seals, ABS adjustment knob. The balancing valve must include ½" or ¾" NPT female connections. Each valve has 230 psi (16 bar) maximum working pressure and 95-140°F (35-60°C) adjustable temperature range. Equipped with outlet temperature gauge with 30-180°F (0-80°C) temperature scale, optional check valve, and optional pre-formed insulation shell. Each valve shall be Caleffi model 1161 or approved equal. (See product instructions for specific installation information.)

Technical specifications

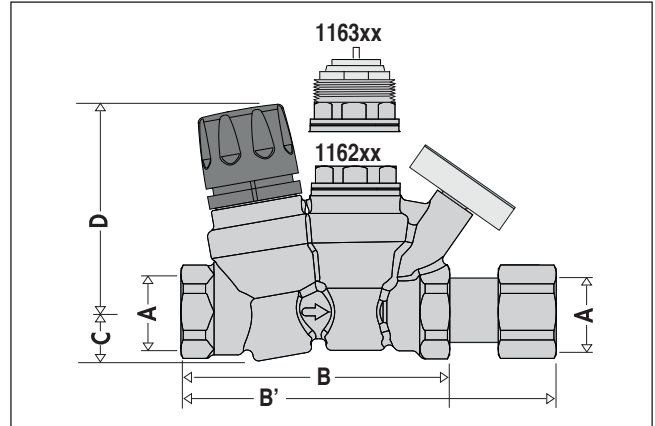
Materials

Body: DZR low-lead brass
Adjustable cartridge: stainless steel & copper
Springs: stainless steel AISI 302 (EN 10270-3)
Hydraulic seals: EPDM
Adjustment knob: ABS

Performance:

Suitable fluid: water
Max. working pressure: 230 psi (16 bar)
Max. differential pressure: 15 psi (1 bar)
Max. inlet temperature: 195°F (90°C)
Adjustment temperature range: 95-140°F (35-60°C)
Flow Cv (Kv) max: 2.1 (1.8)
Flow Cv (Kv) min: 0.23 (0.2)
Flow Cv (Kv) design: 0.52 (0.45)

Dimensions



Code	A	B	B**	C	D	Wt (lb/kg)
116240A(C)	½" NPT F	4"	5 7/16"	¾"	3"	1.7 / 0.75
116250A(C)	¾" NPT F	4"	5 5/8"	¾"	3"	1.5 / 0.70
116340A(C)	½" NPT F	4"	5 7/16"	¾"	3"	1.7 / 0.75
116350A(C)	¾" NPT F	4"	5 5/8"	¾"	3"	1.5 / 0.70

*Models with check valve tail-piece (C) end-to-end dimension is B'.

**with integral outlet temperature gauge.

Disinfection performance:

Disinfection temperature: 160°F (70°C)
Closing temperature: 170°F (75°C)
Flow Cv (Kv) disinfection: 1.2 (1.0)

Connections:

Main connections: ½" NPT female
¾" NPT female
Ø 10 mm metric

Temperature gauge/sensor dry-well:
Temperature gauge code 116010

Scale: 30 - 180°F (0-80°C)
Diameter: 1½" (40 mm)
Stem diameter: 0.35" (9 mm)

Technical specifications of insulation

Materials: closed cell expanded PE-X
Thickness: ½ inch (13 mm)
Density: -internal part: 1.9 lb/ft³ (30 kg/m³)
-external part: 5.0 lb/ft³ (80 kg/m³)

Thermal conductivity (DIN52612):
- at 32°F (0°C): 0.82 BTU · in/hr · ft² · °F (0.0345 W/(m · K))
- at 105°F (40°C): 0.94 BTU · in/hr · ft² · °F (0.0398 W/(m · K))

Coefficient of resistance to the diffusion of vapor: > 1,300
Working temperature range: 32-212°F (0-100°C)
Flammability (ASTM D 635): Class VO

Certifications: NSF/ANSI 372-2011, low lead certified
by ICC-ES, file PMG-13

We reserve the right to change our products and their relevant technical data, contained in this publication, at any time and without prior notice. Contractors should request production drawings if prefabricating the system

Job name _____
Job location _____
Engineer _____
Mechanical contractor _____
Contractor's P.O. No. _____
Representative _____

Size _____
Quantity _____
Approval _____
Service _____
Tag No. _____
Notes _____