

FlowCal™ and FlowCal+™ Compact Automatic Balancing Valve

© Copyright 2024 Caleffi

127 series



Function

The FlowCal™ and FlowCal+™ 127 Series compact automatic flow balancing valve is pressure independent and maintains a fixed flow rate as differential pressures vary. It incorporates an exclusive flow cartridge made of an anti-scale, low noise polymer. Constructed of DZR low-lead brass, FlowCal and FlowCal+ 127 Series are ideally suited for flow rate balancing in plumbing applications such as hot water recirculation systems and can also be used in hydronic applications. The FlowCal+ 127 Series provides a built-in check valve to protect against circuit thermo-siphoning. The outlet temperature gauge (optional) verifies the fluid temperature in the circuit.

Product range

127 Series compact automatic balancing valve with polymer cartridge:

sizes 1/2", 3/4", 1"

Technical specifications

Materials

Body:	DZR low lead* brass
Flow cartridge:	anti-scale polymer
Seals:	peroxide-cured EPDM
Posi-stop union seals:	peroxide-cured EPDM
Spring:	stainless steel

* Meets the "lead free" requirement of Section 1417 of the Safe Drinking Water Act (SDWA). This product has a weighted average lead content of less than 0.25% for its wetted surfaces contacted with consumable water.

Performance

Cartridge flow rate range (see label for installed cartridge):	0.35 to 10 GPM
Flow accuracy:	±10%
Medium:	Water, glycol solutions
Max. percentage of glycol:	50%
Max. working pressure:	230 psi (16 bar)
Working temperature range:	32 ° to 212 °F (0 to 100 °C)

Connections:

	dual unions, 1/2", 3/4", 1" MNPT, press, sweat, PEX crimp, PEX expansion
PEX crimp:	ASTM F1807
PEX expansion:	ASTM F1960

Certifications:

Complies with NSF/ANSI/CAN 372, California Health and Safety Code 116875 S.3874, Vermont Act 193, Maryland's Lead Free Law HB.372, certified by ICC-ES, file PMG-1360.



SAFETY INSTRUCTION

This safety alert symbol will be used in this manual to draw attention to safety related instructions. When used, the safety alert symbol means **ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED! FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN A SAFETY HAZARD.**



WARNING: This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warning.ca.gov.



CAUTION: All work must be performed by qualified personnel trained in the proper application, installation, and maintenance of systems in accordance with all applicable codes ordinances.



CAUTION: Over-tightening and breakage can occur with the use of Teflon® pipe joint compounds. Teflon® provides lubricity so that care must be exercised not to over-tighten joints. Failure to follow these instructions could result in property damage and / or personal injury.



CAUTION: System fluids under pressure or temperature can be hazardous. Be sure the pressure has been reduced to zero and the system temperature is below 100 °F (38 °C). Failure to follow these instructions could result in property damage and/or personal injury.



CAUTION: Clean the pipes of any debris, rust, incrustations, welding slag and any other contaminants. For optimal operation, air in the system must be removed.



CAUTION: If the FlowCal is not installed, commissioned and maintained properly, according to the instructions contained in this manual, it may not operate correctly and may endanger the user.



CAUTION: Make sure that all the connecting pipework is water tight.



WARNING: The outer surface of the device, especially in polymer type components, must not come into contact with any chemical substance, either on purpose or accidentally. The system fluid and any chemical additives used within the water piping system – whether for washing or as protection – must be compatible with the materials used to make the device and with the function it performs.

Caleffi shall not be liable for damages resulting from stress corrosion, misapplication or misuse of its products..

Leave this manual for the user.



CONSIGNE DE SÉCURITÉ

Ce symbole d'avertissement servira dans ce manuel à attirer l'attention sur la sécurité concernant instructions. Lorsqu'il est utilisé, ce symbole signifie. **ATTENTION! DEVEZ-VOUS ÊTRE ALERTES ! VOTRE SÉCURITÉ EST EN JEU ! NE PAS SUIVRE CES INSTRUCTIONS PEUT PROVOQUER UN RISQUE DE SECURITE.**



AVERTISSEMENT: Ce produit peut vous exposer à des produits chimiques comme le plomb, qui est connu dans l'État de Californie pour causer le cancer, dommages à la naissance ou autre. Pour plus d'informations rendez-vous www.P65Warnings.ca.gov.



AVERTISSEMENT: Tous les travaux doivent être effectués par du personnel qualifié formé à la bonne application, installation et maintenance des systèmes conformément aux codes et règlements locaux.



AVERTISSEMENT: Un serrage excessif et une rupture peuvent survenir avec l'utilisation de Teflon® composés de joint de tuyau. Le Teflon® offre un pouvoir lubrifiant de sorte que les soins doivent être exercés pour ne pas trop serrer les joints. Non-respect de ces instructions pourrait entraîner des dommages matériels et / ou des blessures corporelles.



AVERTISSEMENT: Les liquides du système sont sous pression ou de la température peuvent être dangereux. Être sûr que la pression a été réduite à zéro et la température du système est inférieure à 100 °F (38 °C). Le non-respect de ces instructions peut entraîner des dommages matériels et/ou des blessures.



AVERTISSEMENT: Nettoyer les tuyaux de tout débris, roille, incrustations, scories de soudure et d'autres contaminants. Pour un fonctionnement optimal, de l'air dans le système doit être retiré.



AVERTISSEMENT: Si le FlowCal en Y, n'est pas installé, mis en service et Entretien correctement, selon les instructions contenues dans ce manuel, il Peut ne pas fonctionner correctement et peut mettre en danger l'utilisateur.



AVERTISSEMENT: S'assurer que tous les raccords sont étanches.



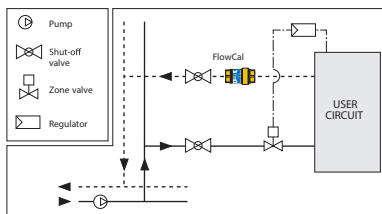
AVERTISSEMENT: La surface extérieure de l'appareil, en particulier les composants de type polymère, ne doit pas entrer en contact avec des substances chimiques, que ce soit volontairement ou accidentellement. Le produit et les additifs chimiques utilisés dans les canalisations d'eau - que ce soit pour le lavage ou la protection - doivent être compatibles avec les matériaux utilisés pour la fabrication de l'appareil et avec la fonction qu'il remplit.

Caleffi ne pourra être tenue responsable des dommages résultant de la corrosion, d'une mauvaise utilisation ou d'une mauvaise utilisation des produits.

LAISSEZ CE MANUEL AVEC L'UTILISATEUR

Installation:

Install the FlowCal automatic balancing valves on the circuit return pipe (either the domestic hot water recirculation return branch before the main return trunk or after the coil of an HVAC system). Make sure the flow direction arrows on the 127 body match the system's flow direction. It is important to allow easy access to the FlowCal for future inspection and maintenance.

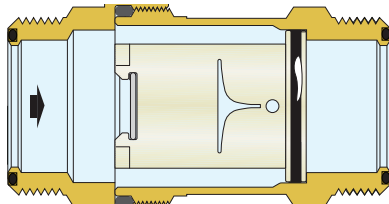


Isolation valves

Isolation ball valves on both the inlet and outlet of the FlowCal balancing valve are highly recommended for easy servicing. The Caleffi 290030 isolation valve is convenient and compact; it fits between the FlowCal body and the union tailpieces.

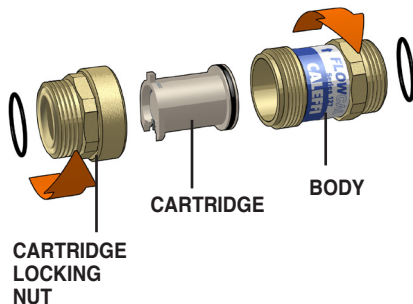
Polymer flow cartridge

The flow rate cartridge is made of an anti-scale polymer specially engineered for use in cooling, heating and domestic water systems, to prevent mineral buildup in a wide range of working temperatures. It features high resistance to the abrasion caused by continuous fluid flow, is insensitive to the deposit of scale and is fully compatible with glycols and additives used in circuits.



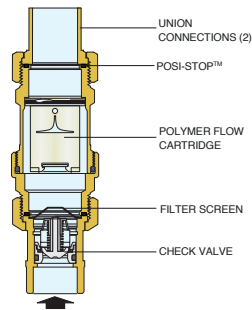
FlowCal cartridge assembly and disassembly

The internal flow cartridge can be removed easily from the valve body for inspection or replacement by unscrewing the cartridge locking nut.

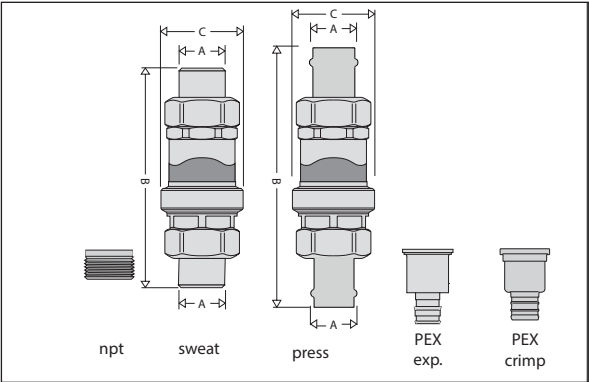


**FlowCal 127...AF and
FlowCal+ 127...AFC series**

FlowCal+ models come with a check valve in the inlet tailpiece to prevent reverse flow in domestic hot water recirculation applications. In addition, models are available with and without an outlet temperature gauge to verify water temperature when balancing the system. The standard FlowCal models do not include a check valve and are not available with the outlet temperature gauge. Either series can be used in domestic hot water or hydronic heating/cooling applications.

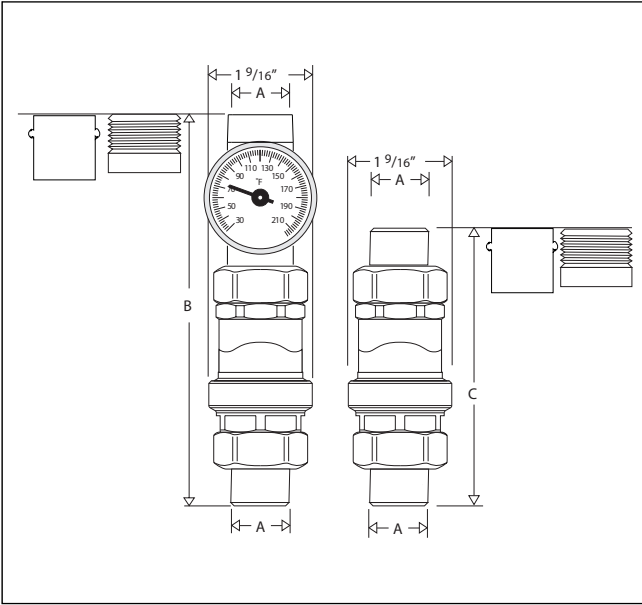


Dimensions:



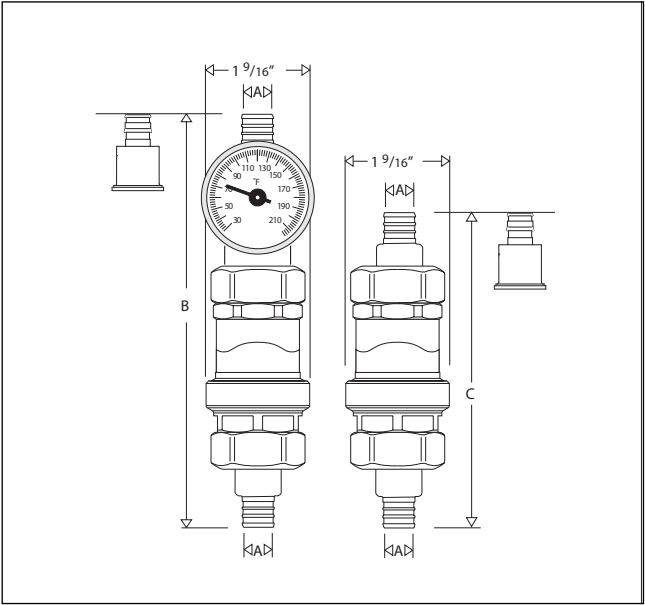
Code	A	B	C	Wt (lb/kg)
127341AF...	½" npt male	5 13⁄16"	1 9⁄16"	1.0/0.45
127349AF...	½" sweat	4 ¼"		0.8/0.36
127346AF...	½" press	5 1⁄8"		1.0/0.45
127344AF...	½" PEX crimp	6 ¼"		1.0/0.45
127342AF..	½" PEX expansion	6 3⁄8"		1.0/0.45
127351AF...	¾" npt male	5"		1.0/0.45
127359AF...	¾" sweat	4 13⁄16"		0.8/0.36
127356AF...	¾" press	5 5⁄8"		1.0/0.45
127354AF...	¾" PEX crimp	6 5⁄16"		1.0/0.45
127352AF..	¾" PEX expansion	7 1⁄16"		1.0/0.45
127361AF...	1" npt male	5 5⁄8"		1.2/0.54
127369AF...	1" sweat	6"		1.0/0.45
127366AF...	1" press	5 13⁄16"		1.3/0.60
127364AF...	1" PEX crimp	6 3⁄8"		1.3/0.60
127362AF...	1" PEX expansion	7 3⁄8"		1.3/0.60

Dimensions:



Code	A (union connections)	B (w/ Gauge)	C (w/o Gauge)	Wt (lb/kg)
127140AFC ...	1/2" NPT male	7 1/8"	----	1.2/0.54
127141AFC ...	1/2" NPT male	----	4 7/8"	1.0/0.45
127147AFC ...	1/2" press	7"	----	1.2/0.54
127146AFC ...	1/2" press	----	4 3/4"	1.0/0.45
127148AFC ...	1/2" sweat	7 1/8"	----	1.0/0.45
127149AFC ...	1/2" sweat	----	4 7/8"	0.8/0.36
127150AFC ...	3/4" NPT male	7 5/16"	----	1.2/0.54
127151AFC ...	3/4" NPT male	----	5 11/16"	1.0/0.45
127157AFC ...	3/4" press	9 5/16"	----	1.2/0.54
127156AFC ...	3/4" press	----	7 1/16"	1.0/0.45
127158AFC ...	3/4" sweat	7 9/16"	----	1.0/0.45
127159AFC ...	3/4" sweat	----	5 5/16"	0.8/0.36
127160AFC ...	1" NPT male	8 1/16"	----	1.4/0.64
127161AFC ...	1" NPT male	----	5 13/16"	1.2/0.54
127167AFC ...	1" press	9 7/16"	----	1.5/0.68
127166AFC ...	1" press	----	7 3/16"	1.3/0.60
127168AFC ...	1" sweat	8 9/16"	----	1.2/0.54
127169AFC ...	1" sweat	----	6 5/16"	1.0/0.45

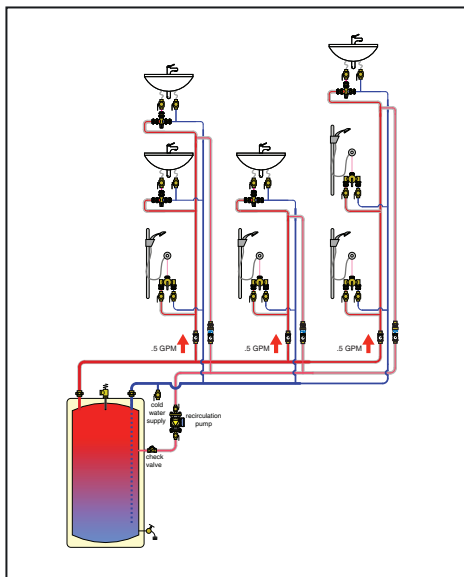
Dimensions:



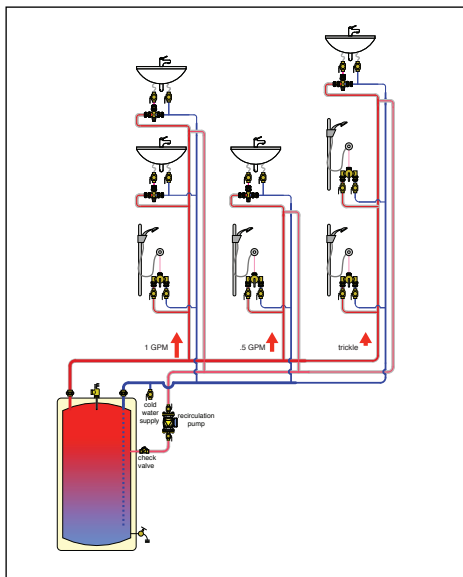
Code	A (union connections)	B (w/ Gauge)	C (w/o Gauge)	Wt (lb/kg)
127143AFC ...	1/2" PEX expansion	7 7/8"	----	1.2/0.54
127142AFC ...	1/2" PEX expansion	----	5 5/8"	1.0/0.45
127145AFC ...	1/2" PEX crimp	7 3/4"	----	1.2/0.54
127144AFC ..	1/2" PEX crimp	----	5 1/2"	1.0/0.45
127153AFC ...	3/4" PEX expansion	8 13/16"	----	1.2/0.54
127152AFC ...	3/4" PEX expansion	----	6 9/16"	1.0/0.45
127155AFC ...	3/4" PEX crimp	8 1/16"	----	1.2/0.54
127154AFC ...	3/4" PEX crimp	----	5 13/16"	1.0/0.45
127163AFC ...	1" PEX expansion	9 11/16"	----	1.5/0.68
127162AFC ...	1" PEX expansion	----	7 7/16"	1.3/0.60
127165AFC ...	1" PEX crimp	8 11/16"	----	1.5/0.68
127164AFC ...	1" PEX crimp	----	6 7/16"	1.3/0.60

Hot Water Recirculation:

Balanced example



Unbalanced example



LEAVE THIS MANUAL WITH THE USER.

Laissez ce manuel à la disposition de l'utilisateur.



Caleffi North America, Inc.
3883 West Milwaukee Road
Milwaukee, WI 53208
T: 414.238.2360 F: 414.238.2366

09-2024

For Technical Support call 1-414-338-6338, or
email techsupport.us@caleffi.com