

DIRTCAL® dirt separator

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5462 - 5465 Series

Installation, commissioning and servicing instructions



Function

In heating and air conditioning control systems, the circulation of water containing impurities may result in rapid wear and damage to components such as pumps and control valves. It also causes blockages in the heat exchangers, heating elements and pipes, resulting in a lower thermal efficiency within the system. The dirt separator separates off these impurities, which are mainly made up of particles of sand and rust, collecting them in a large collection chamber, from which they can be removed even while the system is in operation. This device is capable of efficiently removing even the smallest particles, with extremely limited head loss.

Product range

- Series 5462 DIRTCAL® dirt separator, sizes 3/4" - 1" - 1 1/4" - 1 1/2" - 2" NPT female
- Series 5462 DIRTCAL® dirt separator, sizes 1" - 1 1/4" - 1 1/2" - 2" Sweat
- Series 5465 DIRTCAL® dirt separator with flanged connections, sizes 2"-4" ANSI
- Series NA5465 DIRTCAL® dirt separator with flanged (ASME), sizes 2" - 2 1/2" - 3" - 4" - 6"

Technical specifications

Brass body dirt separators

Connections: - Main: 3/4", 1", 1 1/4", 1 1/2", 2" NPT Female
 1", 1 1/4", 1 1/2", 2" Sweat
 - Top: 1/2" F (with plug)
 - Drain: 3/4" garden hose

Materials: - Body: brass
 - Dirt collection chamber: brass
 - Top plug: brass
 - Int. element: PA66G30
 - Hydraulic seal: EPDM
 - Drain cock: brass

Suitable fluids: water, glycol solution
 Max percentage of glycol: 50%
 Max working pressure: 150 psi (10 bar)
 Temperature range: 32–250°F (0–120°C)
 Particle separation capacity: to 5 µm

Steel body dirt separators

Connections: - Main: - 2", 2-1/2", 3", 4", 6" ANSI B16.5 150 CLASS RF Flanged (ASME registered)
- 2" - 4" ANSI B16.5 150 CLASS RF Flanged (not ASME)
- Top: 3/4" M (with plug)
- Drain: 1" NPT

Materials: - Body: epoxy resin painted steel
- Internal element: stainless steel
- Hydraulic seal: non-asbestos fiber
- Drain cock: brass

Suitable fluids: water, glycol solution
Max percentage of glycol: 50%
Max working pressure: 150 psi (10 bar)
Temperature range without insulation: 32–250°F (0–120°C)

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.



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 and ordinances.



CAUTION: If the DIRTCAL® valve 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.



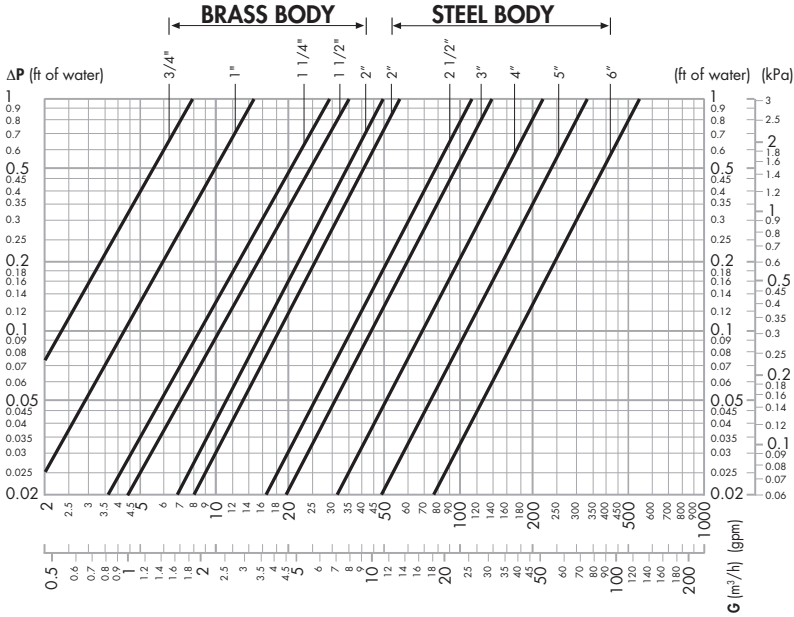
CAUTION: When making the water connections, make sure that the pipework connecting the DIRTCAL® is not mechanically over-stressed. Over time this could cause breakages, with consequent water losses which, in turn, could cause harm to property and/or people.



CAUTION: Water temperatures higher than 100°F (38°C) can be dangerous. During the installation, commissioning and maintenance of the DIRTCAL® valve, take the necessary precautions to ensure that such temperatures do not endanger people.

Leave this manual for the user

Hydronic characteristics



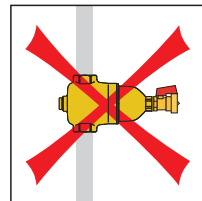
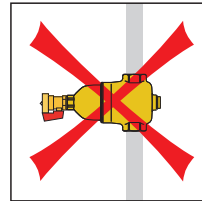
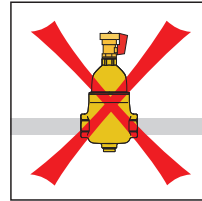
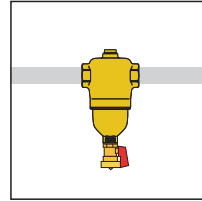
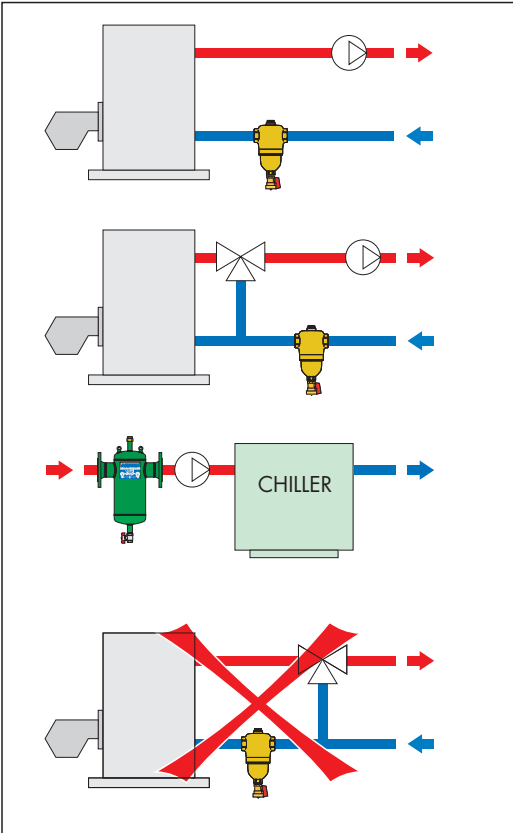
	BRASS BODY					STEEL BODY				
Size	3/4"	1"	1 1/4"	1 1/2"	2"	2"	2 1/2"	3"	4"	6"
Cv	18.8	32.6	56.6	73.3	81	88	176	211	328	842

The maximum fluid velocity recommended at the unit connections is ~ 4 f/s. The following table shows the maximum flow rates to comply with this condition.

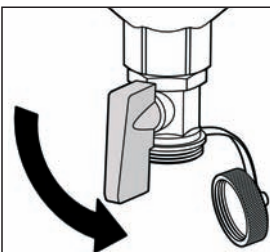
	BRASS BODY					STEEL BODY				
Size	3/4"	1"	1 1/4"	1 1/2"	2"	2"	2 1/2"	3"	4"	6"
gpm	6	9.3	15.3	23.9	36	37	62	94	148	376
m³/h	1.36	2.11	3.47	5.42	8.20	8.47	14.32	21.69	33.89	86.2

Installation

The dirt separator must always be installed in a vertical position, preferably on the return circuit upstream of the boiler. This enables it to intercept impurities already present in the circuit, particularly when it is first started, before they reach the boiler.



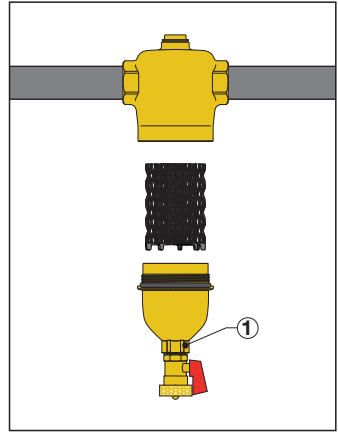
Draining off dirt



The dirt separator collection chamber is fitted with a ball drain cock. Using the knob provided it is possible to drain off impurities even with the system in operation.

Maintenance

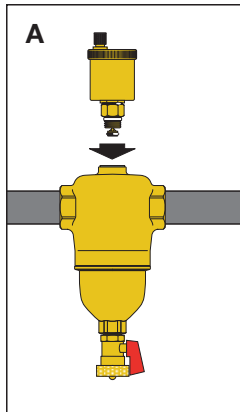
To perform maintenance, simply use a 26 mm hexagon wrench (1) to unscrew the dirt collection chamber, to which the inner element is fixed in such a way that it can be removed for cleaning.



Use of top connector

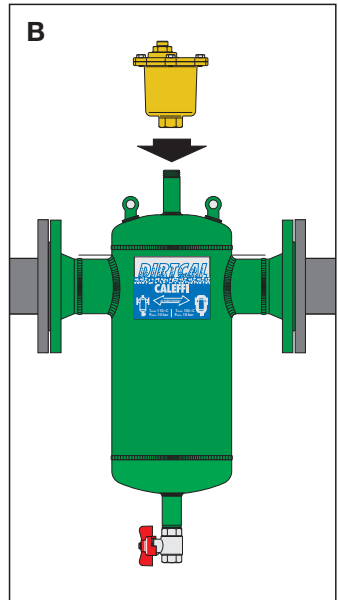
The connector on top of the dirt separator can be used for optional installation of an automatic air vent valve, Caleffi code 502243A for the threaded or sweat versions-5462 Series (A), replacing the standard 1/2" NPT Male plug (pn NA10044).

Use Caleffi code 501502A for the flanged version 5465 Series (B) replacing the standard 3/4" NPT End Cap (pn 41525).



Use bottom connector

The dirt separators come complete with drain cocks installed on the bottom port. To replace these, use Caleffi code 538402FD for threaded or sweat versions (A), code 39753 for the flanged version (B).



Safety



The dirt separator must be installed by a licensed plumber in accordance with national regulations and/or relevant local requirements.

If the dirt separator are not correctly fitted, used and maintained according to the instructions contained in this manual they may not function properly and may place users in danger.

Make sure that all connecting joints are water tight.

When making pipe connections take care not to damage the thread in the body of the valve by over tightening. Take care not to apply too much force to the body of the valve when making pipe connections.

Water temperatures greater than 120°F may cause serious burns. When installing, using and maintaining dirt separators take appropriate measure to ensure that these temperatures do not cause harm to persons.

Leave this manual at the service of users for their use



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