

DISCALS^{SLIM}® deaerators

5518 series



Function

The DISCALS^{SLIM}® devices can autonomously and continuously discharge the air from climate control circuits, down to the micro-bubble level (slow, continuous degassing). Circulation of fully deaerated water allows the systems to operate in optimal conditions, free from any noise, corrosion, localised overheating or mechanical damage.

This particular series of compact degassers is specially suited to under-boiler installation, in the version with either copper pipes (codes 551801 and 551802) or iron pipes (codes 551805 and 551806). The deaerator can be installed with either vertical or horizontal pipes. PATENT PENDING

Product range

Code 551801 DISCALS ^{SLIM} ® orientable deaerator for copper pipe	size DN 20 (Ø 18)
Code 551802 DISCALS ^{SLIM} ® orientable deaerator for copper pipe	size DN 20 (Ø 22)
Code 551805 DISCALS ^{SLIM} ® orientable deaerator with female threaded fittings	size DN 20 (3/4" F)
Code 551806 DISCALS ^{SLIM} ® orientable deaerator with female threaded fittings	size DN 20 (1" F)

Technical specifications

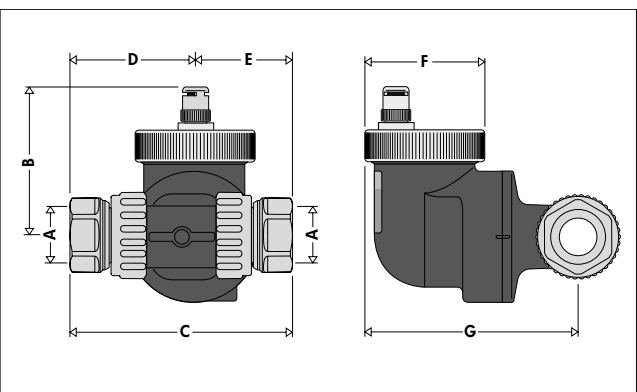
Materials

Body:	PPAG40
Float:	PP
Float guide and stem:	brass EN 12164 CW614N
Float lever and spring:	stainless steel EN 10270-3 (AISI 302)
Seals:	EPDM

Performance

Media:	water, non-hazardous glycol solutions
Max. glycol percentage:	30%
Max. operating pressure:	3 bar
Max. discharge pressure:	3 bar
Working temperature range:	0÷110°C
Connections:	double-cone for Ø 18 mm, Ø 22 mm copper pipe, 3/4" F (ISO 228-1) and 1" F (ISO 228-1)
Drain:	with hygroscopic cap

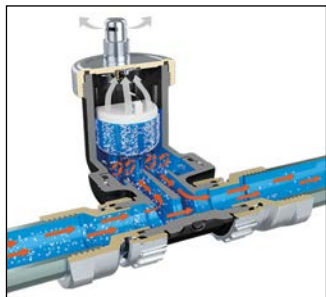
Dimensions



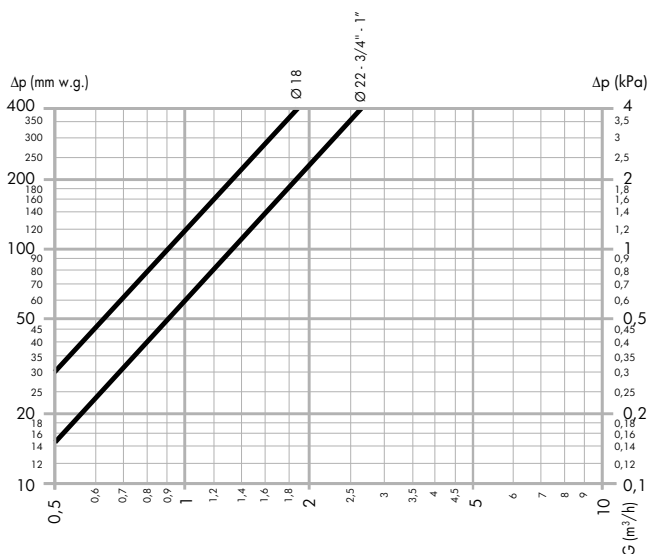
Code	A	B	C	D	E	F	G	Weight kg
551801	Ø 18	71	81	46,5	34,5	56	101	0,535
551802	Ø 22	71	72	42	30	56	101	0,595
551805	3/4"	71	105	58,5	46,5	56	101	0,634
551806	1"	71	118	65	53	56	101	0,766

Operating principle

The special internal configuration of DISCALSILIM® reduces pressure drops to a minimum. Its internal profile deviates part of the flow into the deaeration chamber. In the chamber, the water is slowed down and broken up by fins in secondary chambers, creating a turbulent flow. The resulting mini-vortices separate the air bubbles from the flow, collecting them in the bottom of the chamber, where they aggregate to form large bubbles, which rise upwards through discharge ducts located at the side of the float. Once they reach the top of the valve, the aggregated bubbles push the float downwards, thus opening the vent valve and discharging the accumulated air.



Hydraulic characteristics



DN	DN 20	DN 20	DN 20	DN 20
Connections	Ø 18	Ø 22	3/4"	1"
Kv (m³/h)	9	13	13	13

Maximum recommended flow rates

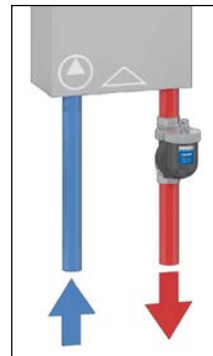
DN	DN 20	DN 20	DN 20	DN 20
Connections	Ø 18	Ø 22	3/4"	1"
l/min	21.67	21.67	21.67	21.67
m³/h	1.3	1.3	1.3	1.3

Installation

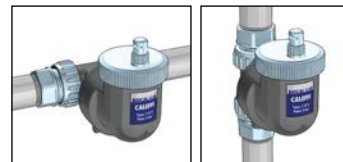
The deaerator must be preferably installed on the boiler's delivery pipe.

Compact

Thanks to its compact body and the available versions, the deaerator can be easily installed in narrow spaces under wall-mounted boilers.



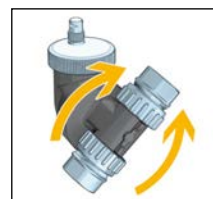
The float must always be installed in the vertical position. The flow direction of the thermal medium is not important.



Construction details

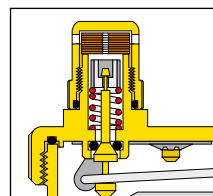
Orientable tee

The tee fitting can be turned manually to adjust the connections to the horizontal or vertical pipes.



Hygroscopic cap

The operating principle of the hygroscopic cap is based on the properties of the cellulose fibre disks which form the seal cartridge. These discs increase in volume by 50% when they come into contact with water, thus closing the valve. This avoids any damage in the event of water leakage.



Technopolymer

The deaerator is made from a technical polymer specifically selected for heating and cooling system applications. The main features of the technopolymer are:

- high strain strength while maintaining good ultimate elongation;
- good resistance to crack propagation;
- very low humidity absorption, for consistent mechanical behaviour;
- high resistance to abrasion caused by continuous medium flow;
- Performance maintained over temperature variation;
- Compatibility with glycols and additives used in circuits.

These basic material characteristics, combined with the appropriate shaping of the most highly stressed areas, enable a comparison with the metals typically used in the construction of deaerators.

SPECIFICATION SUMMARY

5518 series DISCAL®

Deaerator for horizontal or vertical pipes, compact version with orientable connection tee. Size DN 20, Ø 18 mm connections with double-cone fittings for copper pipe (Ø 20 and Ø 22, 3/4" F and 1" F). PPAG40 body. Stainless steel internal element. PP float. Brass float guide and stem. Stainless steel float lever and spring. EPDM hydraulic seals. Medium: water and non-hazardous glycol solutions; 30% maximum glycol percentage. Maximum working pressure 3 bar. Maximum discharge pressure 3 bar. Working temperature range 0÷110°C. Hygroscopic safety cap. Chrome plated brass body. EPDM hydraulic seals. Sealing cartridge made up of cellulose fibre discs; 50% increase in the fibre's volume when in contact with water. PATENT PENDING