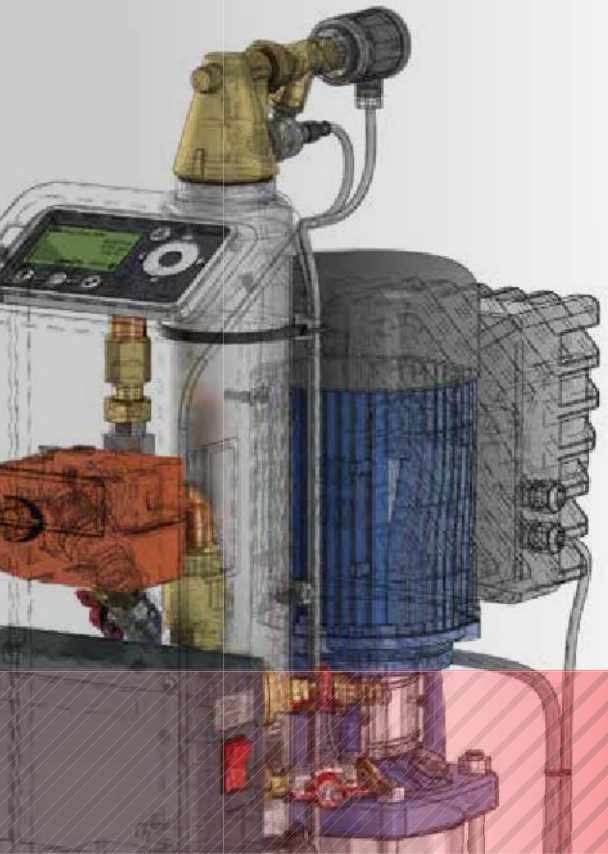
Flamco

Your reliable partner

Quick, quiet and extremely economical deaeration

Vacumat Eco



efficient in every way

Water quality determines performance

The quality of the water determines the performance of cooling and heating systems. A system with oxygen-rich water works less efficiently. Oxygen penetrates systems in various ways, resulting in corrosion and the formation of sludge. In turn, this produces resistance losses, additional wear and tear, unnecessary faults, disruption to the systems, reduced pump performance and irritating noises. Consequences: A lack of comfort, unnecessary loss of energy and a shorter service life of the system. It is therefore important to deaerate as quickly and efficiently as possible.

Flamco has the answer: The Vacumat Eco.
This pressure-temperature controlled degasser deaerates extremely accurately and effectively. The Vacumat Eco deaerates at least seven times faster through the much greater and fully continuous deaeration capacity. Removing gases more quickly limits as much damage to the system as possible, avoids unnecessary faults and expensive repairs, and extends the life of the system.
The Vacumat Eco is also eight times more energy efficient than the deaeration systems currently available on the market.

Intelligent interactive technology

The Vacumat Eco exceeds existing standards in the area of deaeration systems. The sensors and speed-controlled, energy-saving pump play an essential role in this.
Because the pressure and temperature of the system water are continuously measured, the Vacumat Eco automatically chooses the most effective vacuum for optimal deaeration.
The appliance is designed to remove dissolved gases without boiling the water in the process. This prevents any released water vapour from interfering with the deaeration process. A boiling process also costs a lot in terms of energy. Not boiling is therefore more effective and cleaner.

The Vacumat Eco always automatically regulates the desired deaeration level of the system water and only deaerates as and when necessary (energy saving).

Result: An extremely long service life of cooling and heating systems and big savings on energy costs.

an extremely intelligent design

Interactive display.
Gives real-time insight into the deaeration performance and the quality of the system water.

Intuitive operation.

Rugged enclosure.

Bleeding device with gas detector.

Pressure sensor.

Frequency controller.

Frequency-controlled pump.

System connection.

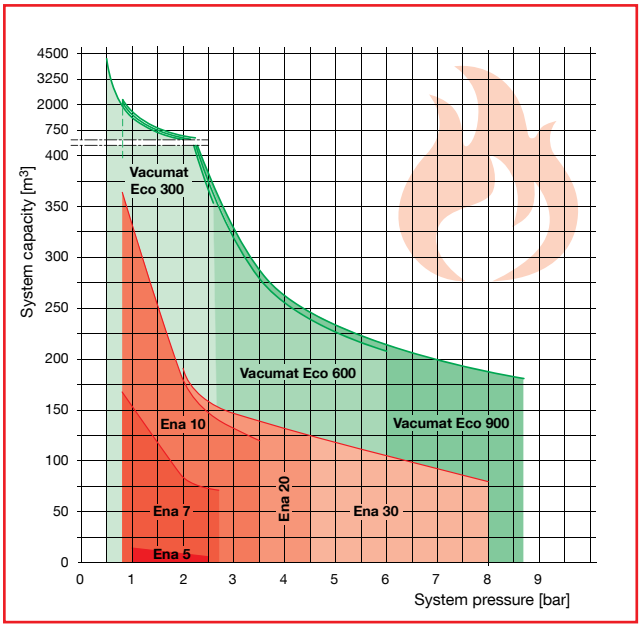
Noise-reducing vibration dampers.

Advantages of the Vacumat Eco

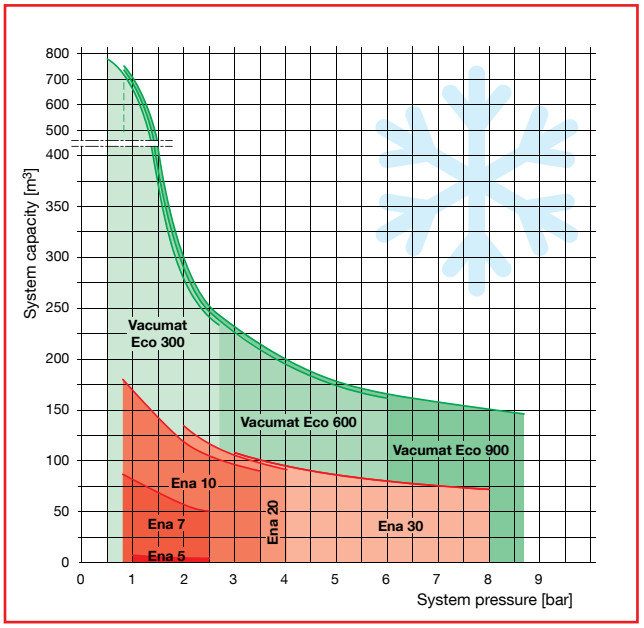
- Deaeration up to seven times quicker than comparable products.
- Is eight times more energy-efficient thanks to innovative technologies.
- Gives real-time insight into system performance.
- Low noise.
- Automatic standby function for optimal energy saving.
- Control unit can be set to any level within a given range.
- Rugged design.

the best performance

Selection graph for heating

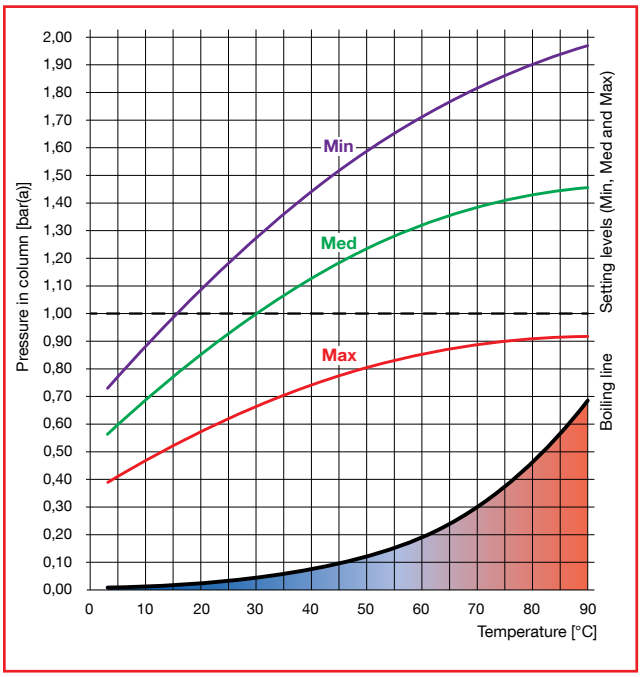


Selection graph for cooling



The Vacumat Eco can be used for a larger system capacity and therefore in more situations. In contrast to the ENA series, the appliance makes use of the new technology of sensitive deaeration. This allows the process to run quickly, quietly and extremely economically.

Operating limits of the Vacumat Eco

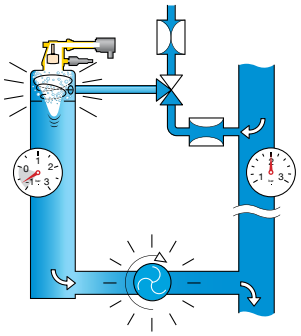


Energy efficiency

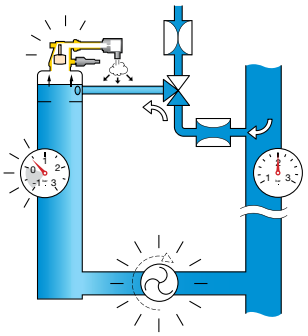
The pressure in the column of the Vacumat Eco follows the boiling line in the graph. The system checks fully automatically whether the system water has been sufficiently deaerated on a short cycle. Depending on the setting level (Min, Med or Max), this deaeration mode follows the respective pressure line. When the gas detector senses that no more gas is released, the system water no longer has to be deaerated. The deaeration cycle stops and a message is shown on the display.
The Vacumat Eco continues to regularly check the gas concentration in the system water. If the gas concentration is too high, the Vacumat Eco automatically activates the deaeration program.

practical in every way

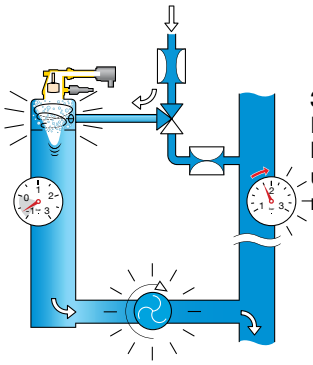
How the Vacumat Eco works



1. Creating a vacuum
Because the pump extracts more water from the column than can flow in, a vacuum is created towards the boiling point.
Gas is released and collects above the water line.



2. Deaeration
The pressure in the column is briefly raised by reducing the speed of the pump so that released gases can be vented.



3. Topping up
If the system pressure is too low, deaerated water is added until the correct pressure is reached.

Automatic adjustment

The sensors in the Vacumat Eco continuously measure the temperature and pressure in the system.
The specially developed software supports the new technology of sensitive deaeration and offers greater insight into the water quality and system performance.
But at least as important: The system is monitored fully automatically and adjusted to the presence of gases.
As soon as the system is deaerated, the Vacumat Eco checks the deaeration performance and only makes adjustments as necessary. This idle status reduces energy consumption a little bit further.

The operation of the Vacumat Eco can be precisely matched to the needs of the user. The appliance offers the choice of three states:

Min can be used on most systems and uses the least energy. The system is deaerated down to 15 ml of gas per litre of system liquid.
Med deaerates more powerfully, but also uses a little more energy. Deaeration down to 12 ml/l.
Max is for optimal deaeration but uses the most energy. Deaeration down to at least 8 ml/l (as per VDI 2035 and 4708).

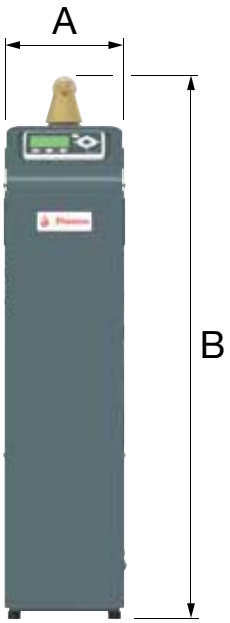
Convenience for installers and users

Quick, quiet and extremely economical: these are the most important characteristics of the Vacumat Eco.
What's more, the appliance is extremely user-friendly and shows the deaeration performance via the display.
The Vacumat Eco is protected by an internal filter. An automatic warning is given when the filter needs cleaning.
The deaeration system is very quiet. This is because the Vacumat Eco does not require a laborious boiling process. The Vacumat Eco 300 produces only 52 decibels of noise. This is comparable to a quiet dishwasher.
An important difference from the present generation of vacuum degassers on the market.

Specifications of Vacumat Eco

Vacumat Eco

Type	System operating pressure [bar]	Connections			Dimensions				Weight [kg]		Code number
		To system ["]	From system ["]	To supply ["]	A [mm]	B [mm]	C [mm]	D [mm]			
Vacumat Eco 300	0.6 - 2.7	1	1/2	1/2	260	1030	670	100	37.5	1	17003
Vacumat Eco 600	0.8 - 5.4	1	1/2	1/2	260	1030	670	100	41.5	1	17006
Vacumat Eco 900	0.8 - 8.7	1	1/2	1/2	260	1030	670	100	51.5	1	17009



Specifications

Type		Vacumat Eco 300	Vacumat Eco 600	Vacumat Eco 900
Medium		Water-based heat carrier as per VDI 2035 Max. glycol ≤ 30%: max working pressure range -10%, and no distilled water		
Nominal pressure		PN 10	PN 10	PN 10
Working pressure range [bar]		0.6 - 2.7	0.8 - 5.4	0.8 - 8.7
System flow temperature [°C]		3 - 120	3 - 120	3 - 120
System water temperature range for deaeration [°C]		3 - 90	3 - 90	3 - 90
Top-up temperature [°C]		3 - 90	3 - 90	3 - 90
Ambient temperature range [°C]		3 - 45	3 - 45	3 - 45
Electrical requirements [V]		1x 230	1x 230	1x 230
Mains frequency [Hz]		50 (EN 50160) / 60 ±1%		
Power supply [kW]		0.4	1.1	1.1
Degree of protection		IP 54 (motor position valves: IP 42)		
Nominal current [A]		2.85	5.18	6.80
Noise output [dB(A)]		52	55	~ 55
Saturation level of gasses [ml/l] (acc. to VDI 2035-2 and 4708-2)	Min	15	15	15
	Med	12	12	12
	Max	8	8	8

Flamco UK Ltd
Washway Lane
St Helens
Merseyside
WA10 6PB, United Kingdom
T +44 1744 744 744
F +44 1744 744 700
E info@flamco.co.uk
www.flamcogroup.com

Flamco Middle East
PO Box 262636
Jebel Ali, Dubai
United Arab Emirates

T +971 4 881 95 40
F +971 4 881 95 60
E info@flamco-gulf.com
I www.flamcogroup.com

MC00984/10-2015/eng