

Easy to install, commission and control

Reduces operating costs

Increases energy efficiency in heating and cooling systems

TTM NoXygen® F650

Removes gases in system fluid down to -10°C

TTM NoXygen® F650 is part of a series of fully automatic and easy-to-install vacuum deaerators for treatment of fluids in cooling and heating systems, and can be connected for control, regulation and monitoring via Modbus RTU. TTM NoXygen® F650 is designed for systems operating at sub-zero temperatures. Energy losses, corrosion and noise problems are primarily caused by excessive gas content in the system fluid.

TTM NoXygen® keeps the system free from aggressive gases, preventing and eliminating gas-related problems that would otherwise impair the system fluid's ability to absorb and release energy.

TTM NoXygen® has been environmentally assessed and can be installed in both existing and new systems. The F650 is specifically designed for commercial kitchens, ice rinks, comfort cooling, commercial refrigeration and similar applications.

Installation advantages

- Easy to install, commission and control
- Rapid degassing function
- Can be installed in both small and large systems

Operational advantages

- Reduces operating costs
- Prevents corrosion on system components
- No need to vent radiators
- Increases energy efficiency in heating and cooling systems
- Minimises noise problems in heating and cooling systems
- Stable and easy adjustment
- Removes gases from the system fluid
- Prevents degradation of refrigerant liquids
- The automation for control, regulation and monitoring is connected via Modbus-RTU, RS485

2026-10

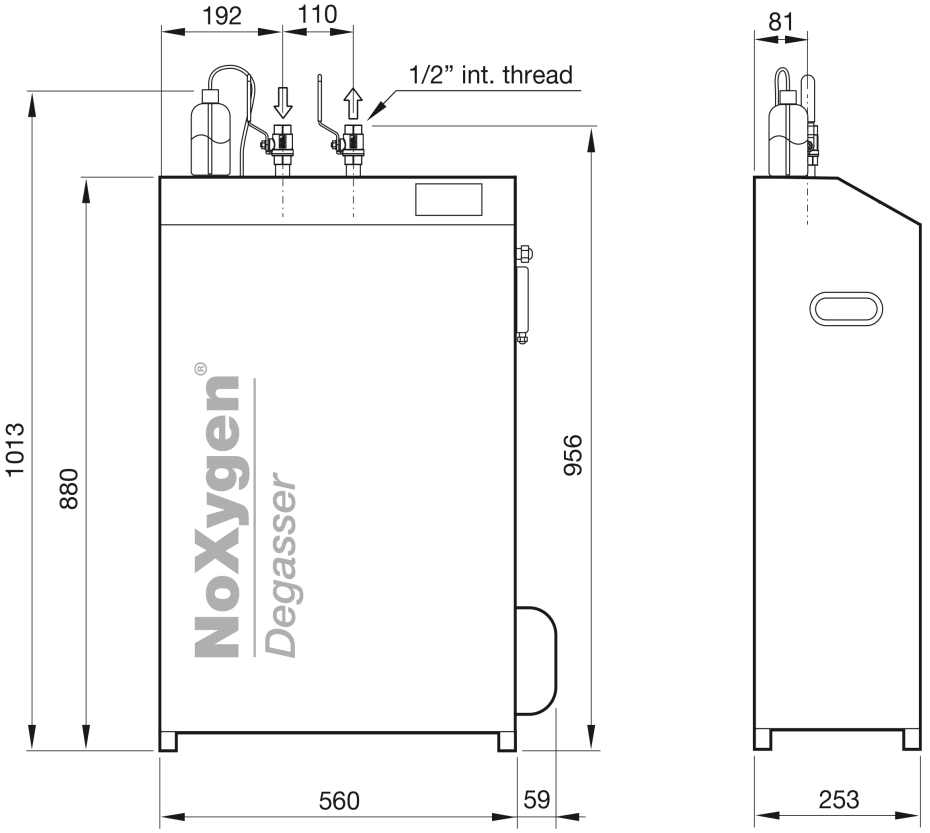
NoXygen®
Degasser

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Model	NoXygen® F650 Modbus
Article number	520917
Connection to DUC	Modbus RTU (RS485)
Maximum load	-
Ambient temperature (°C)	0 – +40°C
Capacity, degassed fluid	130 – 180 l/h
Dims. (WxHxD) mm	619 × 956 × 253
Electrical data / Voltage	1~230 V, 50 Hz, plug
Energy consumption	25 – 60 kWh/year **
Internal Fuse (A)	10 A
Medium temperature (°C)	-10 – +70°C
Noise level (dB)	61 dB
Operating range, system pressure in connection point	+0,8 – 5,0 bar
Permitted fluids	Water and deionised water Propylene/ethylene glycol max 50 vol% Ethanol* less than 30 vol% Brine Temper T10, T20, T30, T40 Kilfrost GEO max 35 vol% Calcium chloride max 25%
Pressure class (PN)	PN10
Rated current (A)	5,0 A
Rated power (kW)	0,75 kW
Weight	33 kg
Connection dimension	R15 (G½)
Protection class (IP)	IP44
Vacuum capacity during degassing	Down to -0.9 Bar

*) When degassing ethanol, ensure that the room is well ventilated.

**) Operation with 30 days of intensive degassing results in an energy consumption of 70–170 kWh during the first year, depending on system pressure.



Operating principle

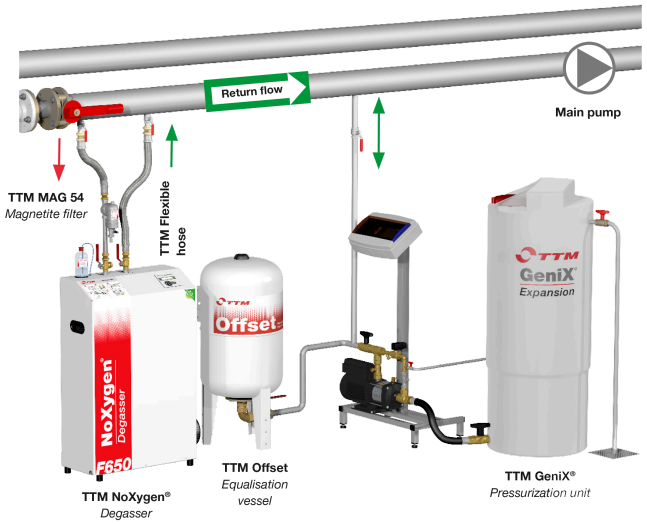
TTM NoXygen® F650

TTM NoXygen® removes dissolved and free gases in heating, heat recovery or cooling systems by reducing the system pressure down to -0.9 bar. Dissolved gases in the system fluid are released under a significant pressure reduction and form free gas bubbles, which can then be vented off. Deaeration takes place entirely independently of the existing system pressure or fluid temperature.

When TTM NoXygen® is installed for the first time, the unit automatically starts in rapid deaeration mode. This means that TTM NoXygen® quickly reduces the gas content in the system and then, once the gases have been removed, transitions to maintenance deaeration.

The vacuum deaerator is intended for permanent installation to keep the system free from free and dissolved gases over the long term. If the process is stopped, the gas content in the system will gradually increase, as no fluid system is completely diffusion-tight. Should the system ever need to be drained of system fluid, the new system fluid is effectively deaerated through the unit's rapid deaeration mode.

Systems containing glycol take up to 4 times as long to deaerate as water. TTM NoXygen® is suitable for system volumes from 1 m³ to 50 m³. In system volumes exceeding 50 m³, or where faster deaeration is desired, TTM NoXygen® units can be installed in series in the return flow of the common header.



Pack of 2 hoses R15 (G½)

Compatible with NoXygen C625, C650, F650 and FiltrX C125. Two connection nipples with gaskets are included with each hose.

Article number: 517726

MAG 76

The recommendation is to install TTM MAG 76 together with TTM NoXygen® if it is known that magnetite or other particles are present in the system fluid.

Article number: 506188

Expansion vessel 60L PN10

Expansion vessel used together with NoXygen® negative-pressure deaerator in systems sensitive to pressure variations. NOTE! Does NOT fit with Noxygen® C6100. See TTM Offset 200 for more information.

Article number: 518853

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