TTM
Flow efficiency

Easy to install, commission and control

Lowers operating costs

Increases energy efficiency in heating and cooling systems

TTM NoXygen® M650

Removes harmful gases in hydronic systems and automatically refills the system with water

TTM NoXygen® M650 is a fully automatic vacuum degasser for heating and cooling systems that can be connected for control, regulation and monitoring via Modbus RTU. Energy losses, corrosion and sound problems in the systems are mainly caused by a high gas concentration in the system fluid.

TTM NoXygen® M650 is provided with an automatic water-refilling system. When the gases are eliminated by degassing the hydronic system, the system pressure decreases, and the unit automatically refills the system with dilution water until the pre-set system pressure is obtained. The displays on the unit how much water that has been filled into the system.

TTM NoXygen® M650 prevents above stated problems by using an effective method that keeps the system free of gases that gives higher energy efficiency, lower maintenance cost and longer lifetime of the system components. TTM NoXygen® can be installed in both existing and new systems.

TTM NoXygen® is environmentally assessed according to a Swedish Standard.

CE EMC LVD

TTM NoXygen® may be installed in disturbance sensitive environments such as hospitals, offices and industries.

Installation benefits:

- Easy to install, commission and control
- Quick degassing function
- Automatically refills the HVAC system
- Can be installed in both small and large systems.

Operational benefits:

- Reduces operating costs
- Prevents corrosion of system components
- No need to vent radiators
- Increases energy efficiency of 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.

NoXygen®
Degasser

TTM Energiprodukter AB
Slöjdaregatan 1, SE-393 66 Kalmar, Sweden | Tel. +46 480 41 77 40
info@ttmenergi.se | www.ttmenergi.se

Operating principle

TTM NoXygen® M650

TTM NoXygen® takes out and treats a partial stream that is pumped from the main fluid conduit and processed with a strong underpressure in the NoXygen down to -0.9 bars.
The gases are released by the pressure reduction and are led out through a gas-release valve. The fluid is then returned to the main conduit.

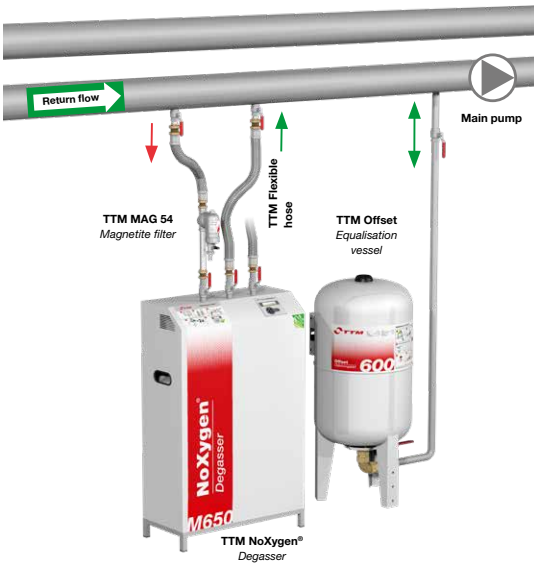
TTM NoXygen® M650 is provided with an automatic water-filling system that compensates for the reduction in volume that occurs when removing gasses. The filling of dilution water occurs automatically when the pressure in the device falls below the set reference value. As a safety measure, NoXygen will emit an alarm signal upon each refilling as an indication that that water is being introduced into the system.

TTM NoXygen® is very easy to install, commission and operate. Operation is monitored by a control unit where 2 pushes of a button is enough to start the operating mode. TTM NoXygen® starts in manual operation and after 30 days it automatically switch to a timer mode.

There is an option to select manual operation between 1-30 days before. TTM NoXygen® switches over to timer operation. Time operation can be selected using three different starting times: 9:00 am, 1:00 pm or 7:00 pm. In most cases, one hour of operation per day is fully sufficient to keep the gas concentration in the fluid at a low level. Timer operation can be chosen for operating times of 1-8 hours.

Options

TTM NoXygen® M650



TTM MAG 76

- Magnetite trap/particle with a 250 micron particle filter.
  Art. no: 506188

TTM MAG 54

- Magnetite trap/particle with a 300 micron particle filter.
  Art. no: 514428

TTM Connection hose

- Flexible butyl* hose with stainless steel braiding and internally-threaded connections. Two hex double nipples 1/2" x 1/2" in brass with gaskets are included for each hose. 3 pcs 1.5 meter conn. DN13.

  Art.no: 517726

  **(≤ 0,32 mg/(m² · d) vid 40°C).*

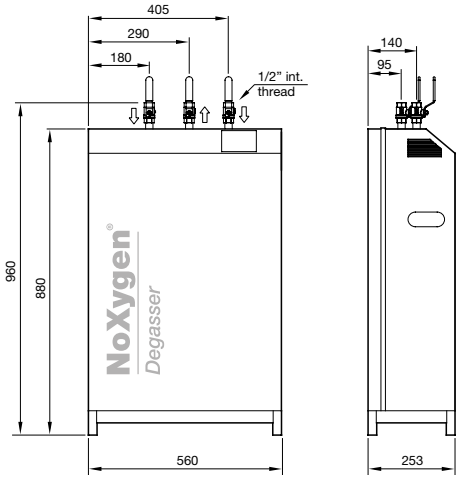
TTM Offset 600

- TTM Offset prevents the pump expansion system turning on and off and generating noise in the system on the premises.
  Art. no: 518853

Technical data

TTM NoXygen® M650

System pressure standard. total pressure at the connection point. max.	+5.0 bar
Media temperature	0 – +70 °C
Ambient temperature	0 – +40 °C
Capacity. degassed fluid	min. 135 l/h
Vacuum capacity during degassing	Down to -0.9 bar
Pressure class	PN 10
Media	Water without chemical additives
Connection dimension	DN15 – G1/2" int.
Backflow preventer	Type CA (acc. to: EN1717)
Electrical data **Internal fuse**	1~230 V. 50 Hz 10 A
Nominal power **Voltage** **Nominal current**	0.75 kW 1~230 V. 50 Hz 5.0 A
Energy usage	37 kWh/year[1]
Communication protocol	Modbus RTU (RS485)
Class of protection	IP44
Noise Level	61 dB
Weight	29 kg
Art. no.	519171



Width:	560 mm
Height:	960 mm
Depth:	253 mm

[1]) Operation with 30 days of fast degassing gives a energy consumption of 102 kWh in the first year.

TTM Energiprodukter AB
Slöjdaregatan 1, SE-393 66 Kalmar, Sweden | Tel. +46 480 41 77 40
info@ttmenergi.se | www.ttmenergi.se