TTM
Flow efficiency

PRODUCT OVERVIEW

Fluid treatment and expansion

Degassing | Separation | Expansion

www.ttmenergi.com | +46 480 41 77 40 | info@ttmenergi.se

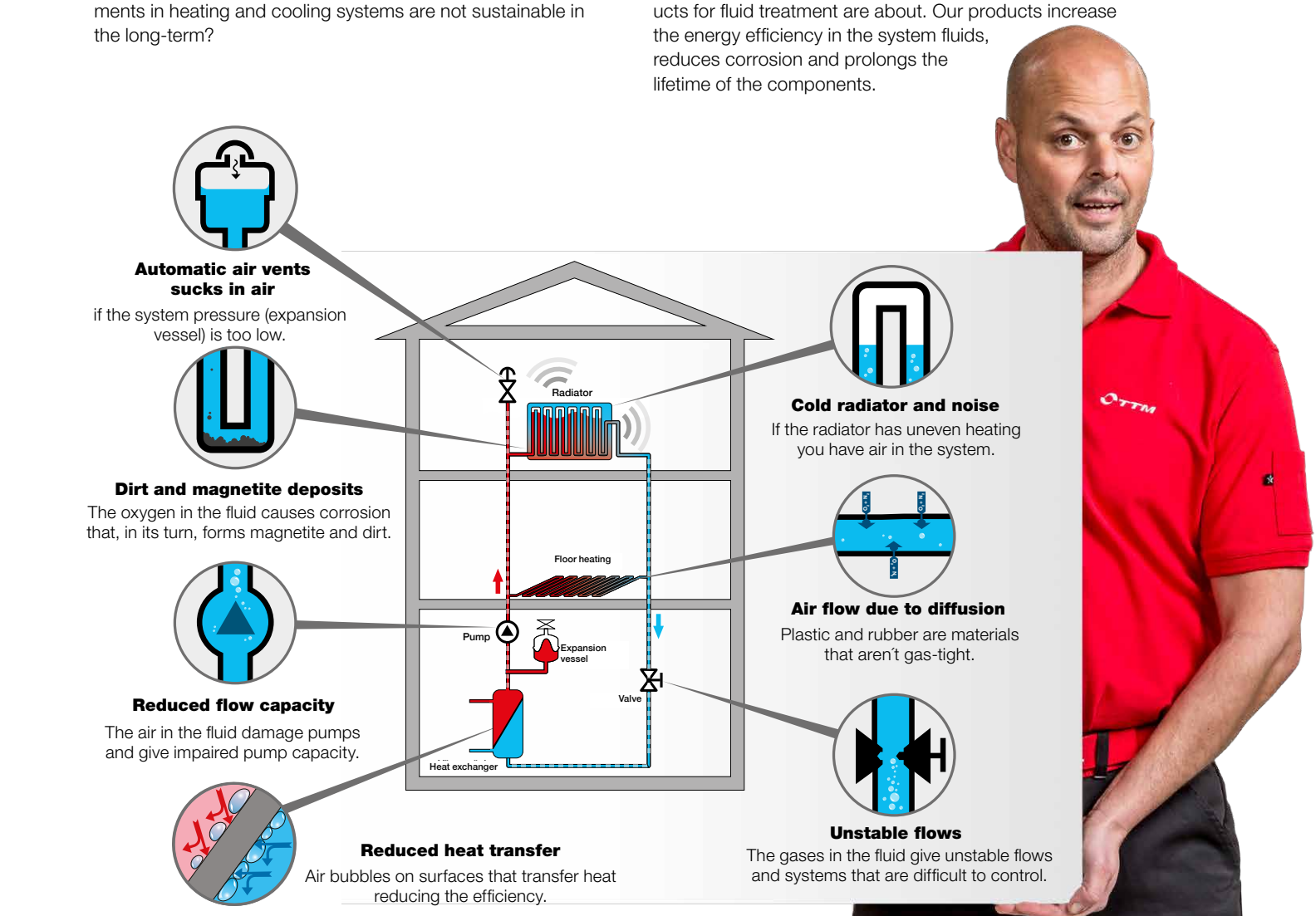
FLUID TREATMENT

Degassing | Separation | Expansion

We solve well-known problems and create sustainable investments!

How much energy does your property really use to keep warm? Do you have high maintenance and repair costs for your HVAC systems? Or, are you worried that your investments in heating and cooling systems are not sustainable in the long-term?

Instead of repairing and replacing components prematurely, you can take preventive measures that need small investments but give great effect - exactly what TTM's products for fluid treatment are about. Our products increase the energy efficiency in the system fluids, reduces corrosion and prolongs the lifetime of the components.

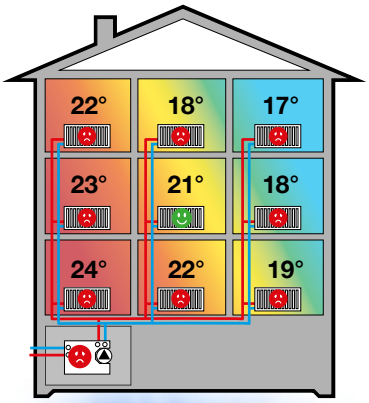


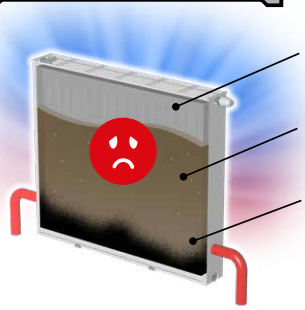
Air ingress by diffusion never ends

Water containing gas and air that forms air bubbles when pressure and temperature vary, disrupting flow and lowering efficiency in heat exchangers, pumps, radiators, fan coils, etc. The disruptions in flow are usually experienced as difficulties in obtaining heating or cooling to all parts of the HVAC system, where varying pump capacity and difficult to balance systems are common symptoms.

BEFORE

Air and magnetite impair heat distribution and increase operating and energy costs





Air pockets

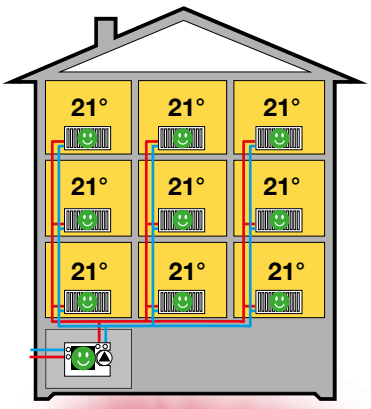
Aerated untreated system fluid

Dirt and magnetite

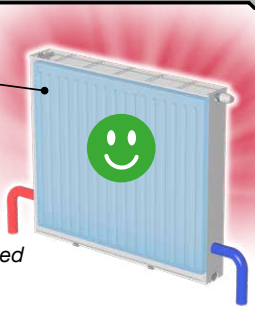
Radiator with untreated system fluid.

AFTER

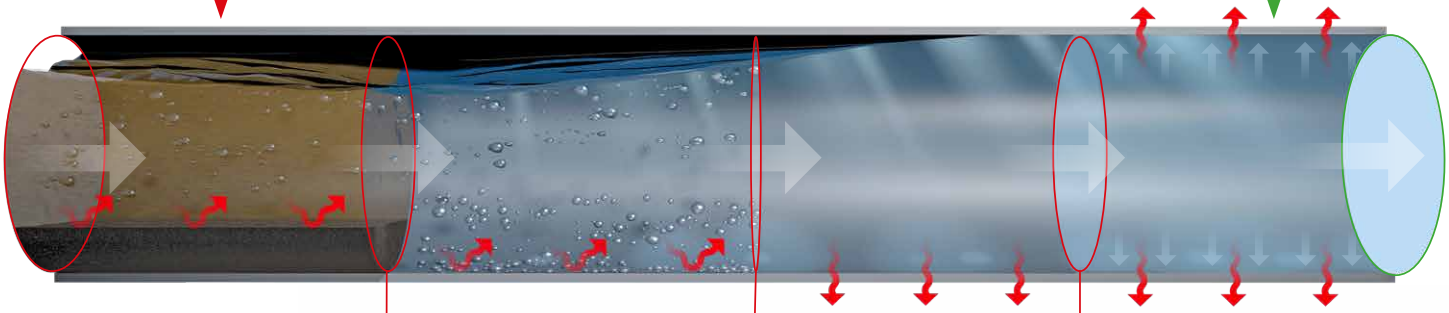
A treated system fluid provides increased heat efficiency



Pressurised system fluid free from air, dirt and magnetite.



Radiator with filtered, degassed and pressurised system fluid.



A system fluid full of dirt and magnetite clogs the system and impairs heat transfer.

Air in clean system fluid impairs heat transfer and creates corrosion.

A degassed system fluid is free of air and oxygen. Then heat transfer increases and corrosion stops.

A stable system pressure creates the conditions for the correct flow in all parts of the property.

1

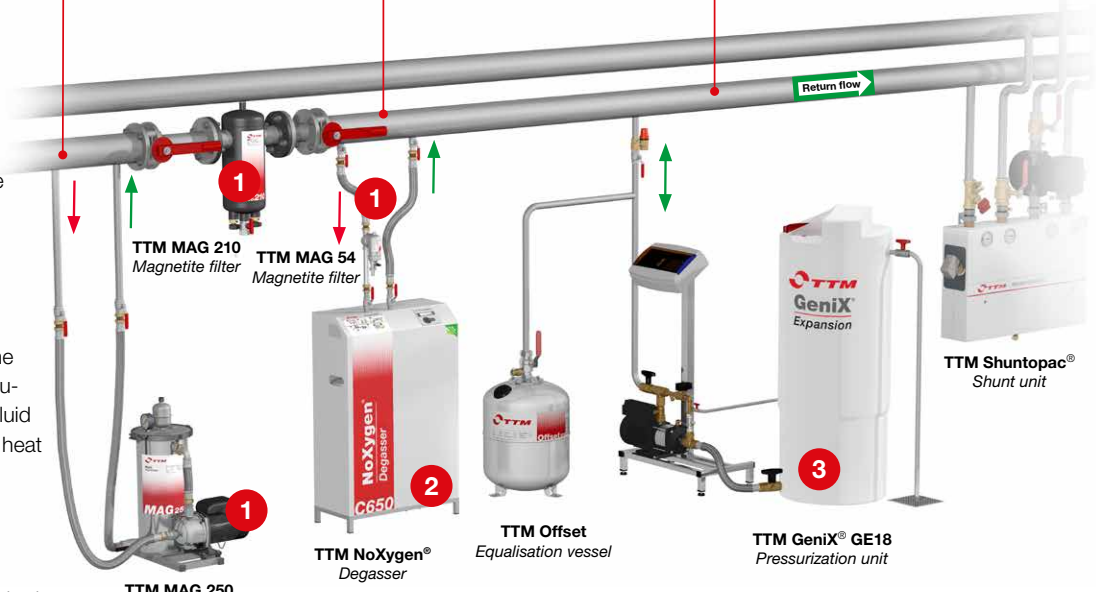
TTM MAG cleans and separates dirt and magnetite from the system fluid effectively.

2

TTM NoXygen® removes the air in the system fluid by vacuum degassing. The system fluid regains its ability to conduct heat and reduces corrosion.

3

TTM GeniX® creates a constant system pressure free from pressure variations that provides an optimal system flow.



TTM MAG 210
Magnetite filter

TTM MAG 54
Magnetite filter

TTM MAG 250
Magnetite filter system filter

TTM NoXygen®
Degasser

TTM Offset
Equalisation vessel

TTM GeniX® GE18
Pressurization unit

TTM Shuntopac®
Shunt unit

FLUID TREATMENT

Degassing | Separation | Expansion

NoXygen®
Degasser

Degas and optimise the system fluid – quickly and easily

TTM NoXygen® is a series of swedish made fully automatic and easy to install vacuum degassers for treating fluids in heating, heat recovery and cooling systems.

TTM NoXygen® keeps the system free from aggressive gases/air, prevents and impedes gas/air related problems that would otherwise lead to impairment of the system fluid's capacity to collect and emit energy.

Installation advantages:
- Can be installed in new or existing systems
- Easy to install, commission and control
- Fast degassing function
- Can be installed in both small and large systems

Operating advantages:
- Lowers the operating costs
- Prevents corrosion of system components
- No need to bleed radiators
- Increases the energy efficiency of heating and cooling systems
- Minimises noise problems in heating and cooling systems
- Stable and easy adjustment
- Prevents decomposition of coolants

CE EMC LVD

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

Easy to install, commission and control

Lowers the system's operating costs

Increases the energy efficiency of heating and cooling systems

TTM Flow efficiency

NoXygen® *Degasser* | **MAG** *Magnetite/Air Separator* | **RTB** *Mixing Vessel*

TTM NoXygen® C625

For heating and comfort cooling systems

2.5 bar

Fully automatic vacuum degasser that is suitable for apartment buildings and smaller systems up to 25 m³ (approx. 200 apartments) with a system pressure of up to 2.5 bar.

Art.no. 515 108

TTM NoXygen® C650

For heating and comfort cooling systems

5 bar

Fully automatic vacuum degasser for larger heating and comfort cooling systems up to 50 m³ and system pressure up to 5 bar.

Art.no. 509 554

TTM NoXygen® M650

With automatic water refilling

5 bar

Fully automatic vacuum degasser with automatic water filling for larger heating systems up to 50 m³ and system pressure up to 5 bar.

Art.no. 509 561

TTM NoXygen® F650

For cooling systems with fluid temperature down to -10°C

5 bar

Fully automatic vacuum degasser built for commercial cooling systems where the fluid temperature goes down to -10°C and system pressure up to 5 bar.

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Art.no. 509 547

Accessories

TTM MAG 54

Magnetite and dirt filter

TTM MAG 54 is a protective prefilter designed to protect the vacuum degasser from dirt and magnetite. It's fitted with a 300-micron strainer, dirt separator and a powerful magnet to remove magnetite. TTM MAG 54 is made in chrome plated brass.

Art.no. 514 428

TTM MAG 76

Magnetite and dirt filter

TTM MAG 76 is a protective prefilter designed to protect the vacuum degasser from dirt and magnetite. It's fitted with a 250-micron strainer, dirt separator and magnet to remove magnetite. TTM MAG 76 is made in stainless steel.

Art.no. 506 188

FLUID TREATMENT

Degassing | Separation | Expansion

MAG

Magnetite/Air Separator

Right approach against dirt and magnetite!

TTM MAG assortment consists of system dirt separators and separators that efficiently removes dirt, magnetite and/or air, giving HVAC systems a longer useful life and more efficient flows.

The TTM MAG can be installed in both heating and cooling systems where particles/dirt and free air/micro-bubbles are present in the system fluid, which helps to:

- Improve the heat transfer
- Improve the function reliability
- Facilitate maintenance cleaning and venting
- Prolong lifetime of the system and system components

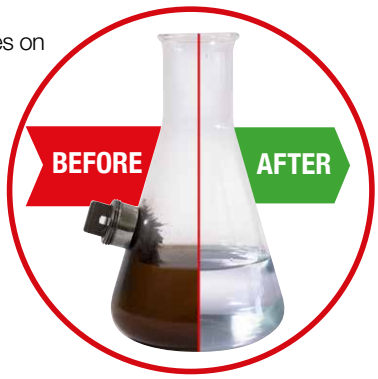
System filter with efficient dirt and magnetite separation — **TTM MAG 250**

Large system filter - clean heavily contaminated system fluids!

TTM MAG 250 is a large system filter for cleaning of heavily contaminated system fluids thanks to a 1 micron (other sizes on request) replaceable bag filter together with a powerful magnetic rod.

The TTM MAG 250 is originally designed for temporary cleaning in heavily contaminated systems, but it has also been proven to be used in permanent installations.

Art.no. 506 317



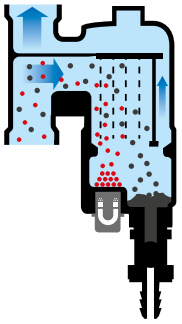
Efficient magnetite and dirt separators protecting system components

Environmentally assessed

TTM MAG 110 — Magnetite and dirt separator with or without (air) deaeration

TTM MAG 110 is available in two models, M and MA, and are manufactured in brass. They are intended for removing magnetic and non-magnetic particles/dirt and free air/micro-bubbles in heating and cooling systems during continuous operation. A powerful magnet insert efficiently attracts magnetite.

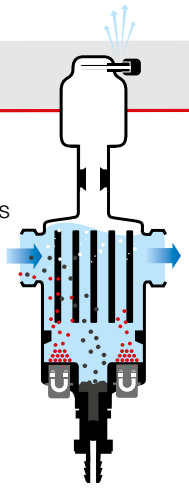
Model	Function	Connection	Art.no.
MAG 110 M 20	Magnetite and dirt separator	G 3/4" int.	510 581
MAG 110 M 22	Magnetite and dirt separator	22 CU	513 162
MAG 110 M 25	Magnetite and dirt separator	G 1" int.	510 598
MAG 110 M 28	Magnetite and dirt separator	28 CU	513 179
MAG 110 MA 20	Magnetite, dirt separator with deaeration	G 3/4" int.	510 604
MAG 110 MA 22	Magnetite, dirt separator with deaeration	22 CU	513 186
MAG 110 MA 25	Magnetite, dirt separator with deaeration	G 1" int.	510 611
MAG 110 MA 28	Magnetite, dirt separator with deaeration	28 CU	513 193



TTM MAG 160 — Magnetite and dirt separator with or without (air) deaeration

TTM MAG 160 is available in two models, M and MA, and are manufactured in brass. They are intended for removing magnetic and non-magnetic particles/dirt and free air/micro-bubbles in heating and cooling systems during continuous operation. A powerful magnet insert efficiently attracts magnetite.

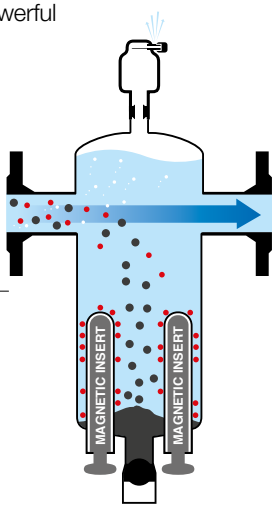
Model	Function	Connection	Art.no.
MAG 160 M 32	Magnetite and dirt separator	G1¼" int.	515 432
MAG 160 M 40	Magnetite and dirt separator	G1½" int.	515 449
MAG 160 MA 32	Magnetite, dirt separator with deaeration	G1¼" int.	515 456
MAG 160 MA 40	Magnetite, dirt separator with deaeration	G1½" int.	515 463



TTM MAG 210 — Air separator, magnetite and dirt separator with or without (air) deaeration

TTM MAG 210 is available in three models, A, M and MA, and is manufactured in painted steel. They are intended for separating magnetic and non-magnetic particles/dirt and free air/micro bubbles in fluid systems during continuous operation and full flow. The TTM MAG 210 M and MA models are equipped with two powerful sets of magnets that efficiently remove magnetite.

Model (Flange)	Function	Art.no.
MAG 210 A DN50	Air separator	510 789
MAG 210 A DN65	Air separator	510 796
MAG 210 A DN80	Air separator	510 802
MAG 210 A DN100	Air separator	510 819
MAG 210 A DN125	Air separator	515 470
MAG 210 A DN150	Air separator	515 487
MAG 210 M DN50	Magnetite and dirt separator	510 628
MAG 210 M DN65	Magnetite and dirt separator	510 635
MAG 210 M DN80	Magnetite and dirt separator	510 642
MAG 210 M DN100	Magnetite and dirt separator	510 659
MAG 210 M DN125	Magnetite and dirt separator	515 494
MAG 210 M DN150	Magnetite and dirt separator	515 500
MAG 210 MA DN50	Magnetite, dirt separator with deaeration	510 703
MAG 210 MA DN65	Magnetite, dirt separator with deaeration	510 710
MAG 210 MA DN80	Magnetite, dirt separator with deaeration	510 727
MAG 210 MA DN100	Magnetite, dirt separator with deaeration	510 734
MAG 210 MA DN125	Magnetite, dirt separator with deaeration	515 517
MAG 210 MA DN150	Magnetite, dirt separator with deaeration	515 524



The TTM MAG 210 is also available in insulated versions.

FLUID TREATMENT

Degassing | Separation | Expansion

RTB

Mixing Vessel

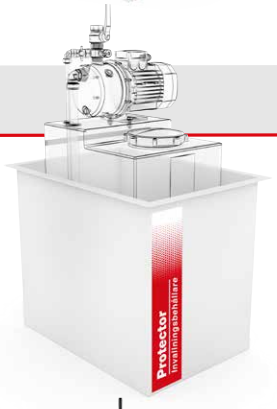
Safe mixing!

With our TTM RTB mixing vessel, you mix and fill up with coolants and antifreeze fluids safely. Use the TTM RTB-61 mixing vessel together with the TTM Protector 61-100 overfill container to protect against accidental release of environmentally hazardous mixtures, e.g. glycol.

Mixing vessel with refill pump — TTM RTB 61-100

TTM RTB 61-100 is a complete mixing vessel with refill pump and the necessary fittings for mixing and refilling glycol / ethanol blended coolants, solar heating fluid or heating fluid. The mixing vessel has a rectangular, small footprint, shape with easy to read volume scale, making fluid mixing easier.

Art.no. 506 393



Environment protection overfill containment vessel — TTM Protector

TTM Protector 61-100 is an overfill containment vessel that protects the environment from accidental releases associated with the storage and handling of environmentally hazardous chemical mixtures, for example glycol.

The TTM Protector 61-100 is suitable for the RTB 61-100 and has a volume of 135 liters, which meets most statutory requirements for containment volume.

Art.no. 508 649

Mixing vessel with refill pump — TTM RTB 51

TTM RTB 61-100 is a complete mixing vessel (200, 300 och 500 liter) with refill pump and the necessary fittings for mixing and refilling glycol / ethanol blended coolants, solar heating fluid or heating fluid.

TTM RTB 51-200	**Art.no. 506 430**
TTM RTB 51-300	**Art.no. 506 447**
TTM RTB 51-500	**Art.no. 506 461**

GeniX®

Expansion Vessel

Environmentally assessed

Pressurisation with flexibility and control

Easy to install and operate

Interface with touch screen and Modbus-RTU

Maintains constant operating pressure in the system

Correct and stable operating pressure is a basic requirement for a well functioning heating, cooling or heat recovery installation. TTM GeniX® GE18 is an easy-to-install and easy-to-use pressurization unit for permanent installation in small and large systems. TTM Genix is designed to maintain a constant operating pressure in the building's heating system and is supplied complete, ready to plug in.

1. **Intuitive touch screen**
   The intuitive 3.5" color touch screen makes the TTM GeniX® GE18 easy to use.

2. **Automation for simplified control**
   The unit can be integrated to the BMS through Modbus-RTU for remote operation and monitoring.

3. **Sustainable and environmentally friendly expansion tanks**
   The pressure holding vessels are made of robust and recyclable poly-ethylene plastic, which means low weight, high corrosion resistance and provides minimal environmental footprint.

4. **Level indication and alarm**
   The pressure sensor in the water-filled expansion vessel shows the current level on the touch screen. Deviation alarms are available for pressure and volume level.

5. **Easy to install and place**
   Connection is made directly to the heating system return line (R25) and is electrically connected with a plug.

6. **Constant operating pressure**
   The placement of the pressure maintenance pump close to the suction side helps to maintain a constant operating pressure and heat flow in the heating system during both heating and cooling.

Model	Volume (liters)	Operating pressure (bar)	Art.no.
GE18 110L/4	110	3.0	**514 046**
GE18 200L/4	200	3.0	**514 053**
GE18 300L/4	300	3.0	**514 060**
GE18 500L/4	500	3.0	**514 077**
GE18 110L/6	110	6.0	**514 091**
GE18 200L/6	200	6.0	**514 107**
GE18 300L/6	300	6.0	**514 114**
GE18 500L/6	500	6.0	**514 121**

The expansion vessels can be connected in series and combined to the desired volume.

CE

Accessories

TTM Offset 510
Equalisation vessel

Equalisation vessel for systems with pump expansion. Used together with TTM NoXygen® in systems that are sensitive to pressure variations. This prevent the pump expansion system from switching on and off.

Art.no. 508 410

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Efficient flows from enquiry to property operation!

1. **TTM Shuntopac® 20-40 Komp**
Shunt unit with compact design for radiator, ventilation and floor heating systems. Available in a range of connection dimensions and options.

2. **TTM Shuntopac® 20-200 UX dividing shunt**
Used in heating and cooling systems where different media, pressures and temperatures in primary and secondary pipe loops must be kept hydraulically separated.

3. **TTM Shuntopac® 20-200 FV**
Shunt unit that is designed to increase the efficiency by lowering the return temperature from the heating system to the district heating installation.

4. **TTM Shuntopac® 20-200 FK**
Shunt unit that raises the return temperature and increases the usage and efficiency of the district cooling installation.

5. **TTM Shuntopac® EM**
Shunt unit with integrated measurement of energy consumption.

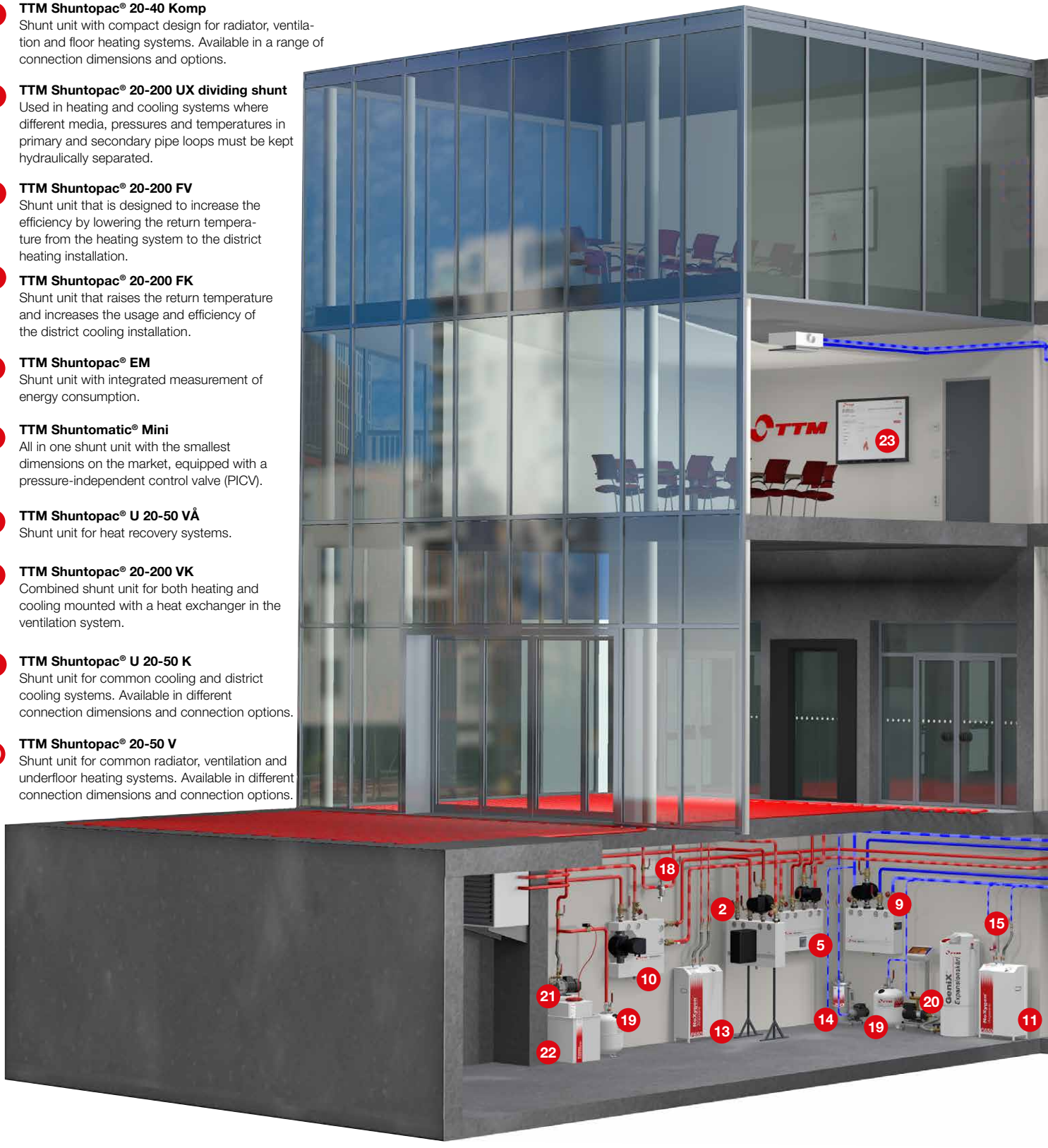
6. **TTM Shuntomatic® Mini**
All in one shunt unit with the smallest dimensions on the market, equipped with a pressure-independent control valve (PICV).

7. **TTM Shuntopac® U 20-50 VÅ**
Shunt unit for heat recovery systems.

8. **TTM Shuntopac® 20-200 VK**
Combined shunt unit for both heating and cooling mounted with a heat exchanger in the ventilation system.

9. **TTM Shuntopac® U 20-50 K**
Shunt unit for common cooling and district cooling systems. Available in different connection dimensions and connection options.

10. **TTM Shuntopac® 20-50 V**
Shunt unit for common radiator, ventilation and underfloor heating systems. Available in different connection dimensions and connection options.



11. **TTM NoXygen® C650**
Vacuum degasser that remove air from the system fluid to optimise energy transfer and minimize corrosion on system components.

12. **TTM NoXygen® C625**
Vacuum degasser that remove air from the system fluid to optimise energy transfer and minimize corrosion on system components.

13. **TTM NoXygen® F650**
Vacuum degassers that remove air diffusing through the heating coils into the glycol liquid to minimise corrosion and degradation of the glycol.

TTM
Flow efficiency

19 TTM Offset 510
The equalisation vessel is used together with TTM NoXygen® in systems that are sensitive to pressure variations, e.g. systems with active expansion units.

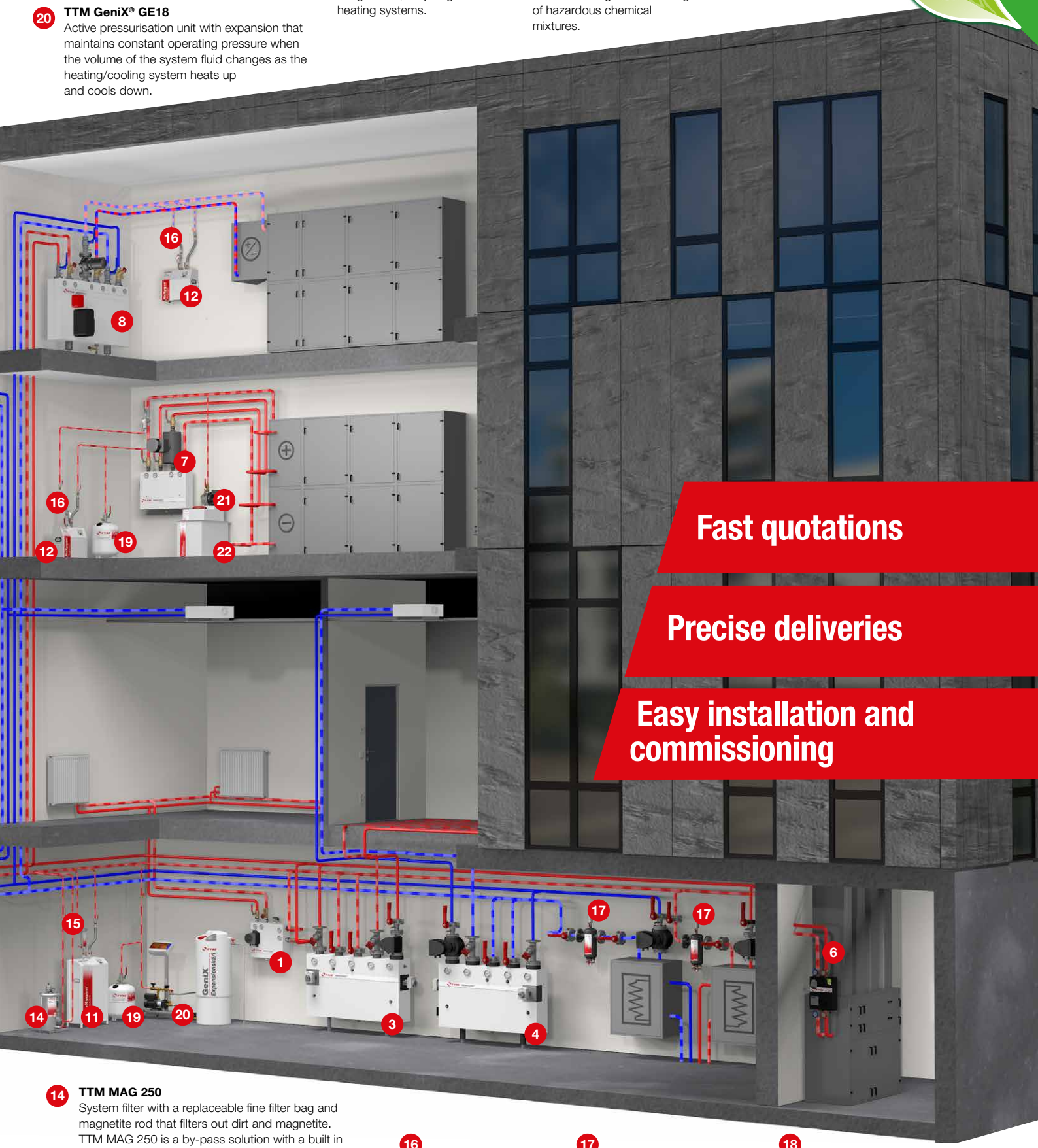
20 TTM GeniX® GE18
Active pressurisation unit with expansion that maintains constant operating pressure when the volume of the system fluid changes as the heating/cooling system heats up and cools down.

21 TTM RTB 61-100
Mixing vessel with filling pump for mixing and filling of glycol mixed / ethanol mixed refrigeration, heating media in refrigeration, recycling and heating systems.

22 TTM Protector 61-100
Environmental protective containment vessel that protects against accidental leaks and spills associated with the storage and handling of hazardous chemical mixtures.

23 TTM Shuntselect®
Web-based calculation tool for dimensioning TTM Shuntopac® shunt units.

Environmentally assessed



Fast quotations

Precise deliveries

Easy installation and commissioning

14 TTM MAG 250
System filter with a replaceable fine filter bag and magnetite rod that filters out dirt and magnetite. TTM MAG 250 is a by-pass solution with a built in pump to ensure right flow through the filter bag without disturbing the system flow.

15 TTM MAG 76
Magnetite and dirt separator made of stainless steel with 250-micron filter to be installed together with TTM NoXygen®.

16 TTM MAG 54
Magnetite and particle separator made of brass with a 300-micron filter to be installed together with TTM NoXygen®.

17 TTM MAG 210
Magnetite and dirt separator that separates and removes magnetite, free air and dirt particles from the system fluid.

18 TTM MAG 110
Magnetite, free air and dirt separator that separates air and removes magnetite and dirt particles from the system fluid.

TTM
Flow efficiency

PRODUCT OVERVIEW

Shunt units

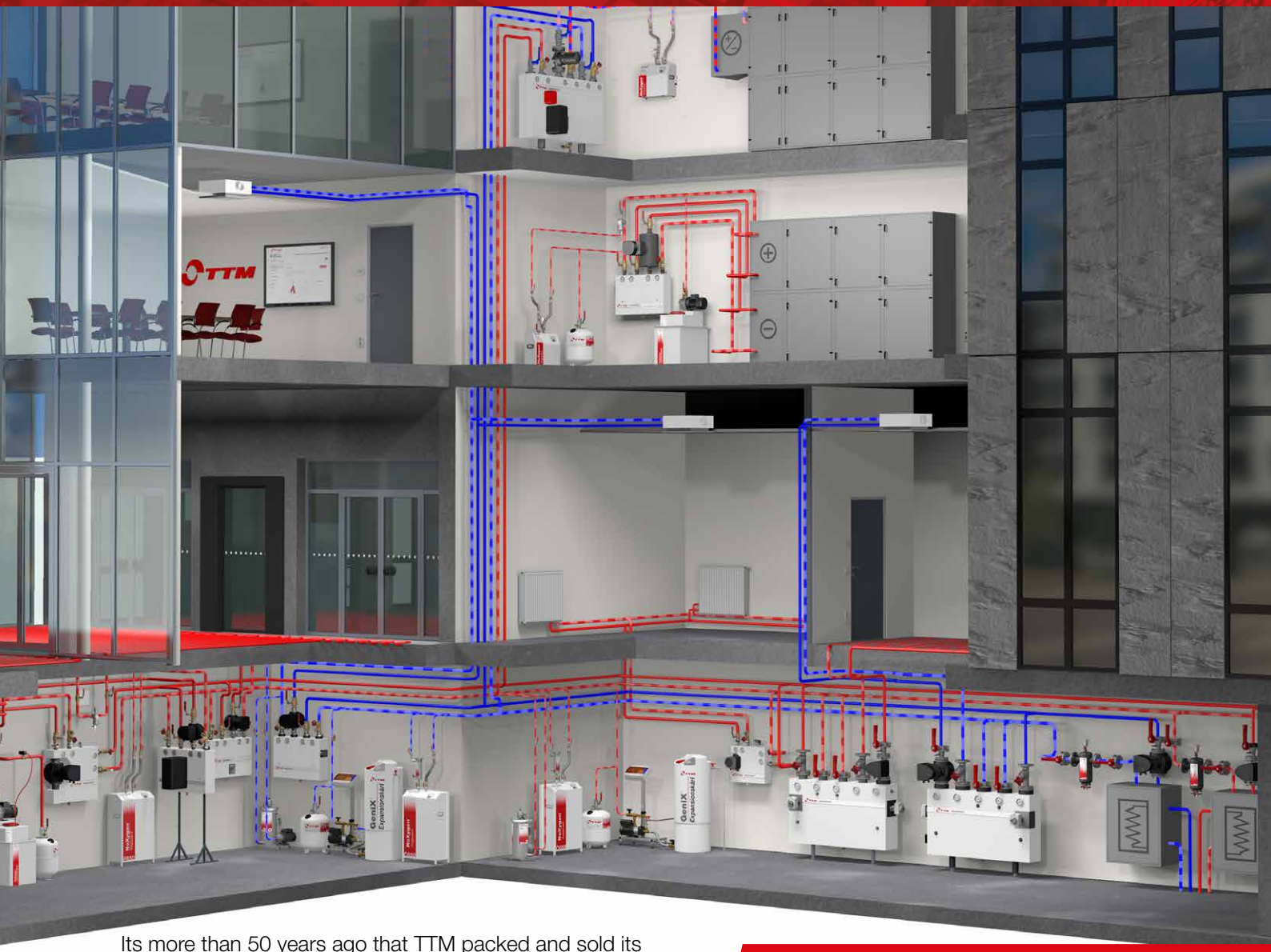
Efficient prefabricated shunt units

2023-09

www.ttmenergi.com | +46 480 41 77 40 | info@ttmenergi.se

SHUNT UNITS
for professional buildings

MADE IN SWEDEN



Its more than 50 years ago that TTM packed and sold its first shunt unit for HVAC-systems. The demand for time saving, prefabricated building and installation material boomed during the 60's. Higher technical demands, increasing wages and lack of skilled craftsmen made technical complicated products like prefabricated shunt units to a success in the building industry.

TTM Shuntopac® and TTM Shuntomatic® are quick and easy to install. To get an optimized function for each HVAC application dimensioning and configuration is always made in our calculation tool SHUNTselect.

Energy-efficient, quick and easy installed shunt units

TTM Shuntopac® - customized shunt units with endless options

TTM Shuntomatic® - Stocked shunt units ready for delivery

SHUNTOPAC®
Shunt units

TTM
Flow efficiency

SHUNTOPAC® *Shunt Units*
SHUNTOMATIC® *All In One Shunt*
SHUNTselect *Calculation tool*

Energy-saving combined shunt units

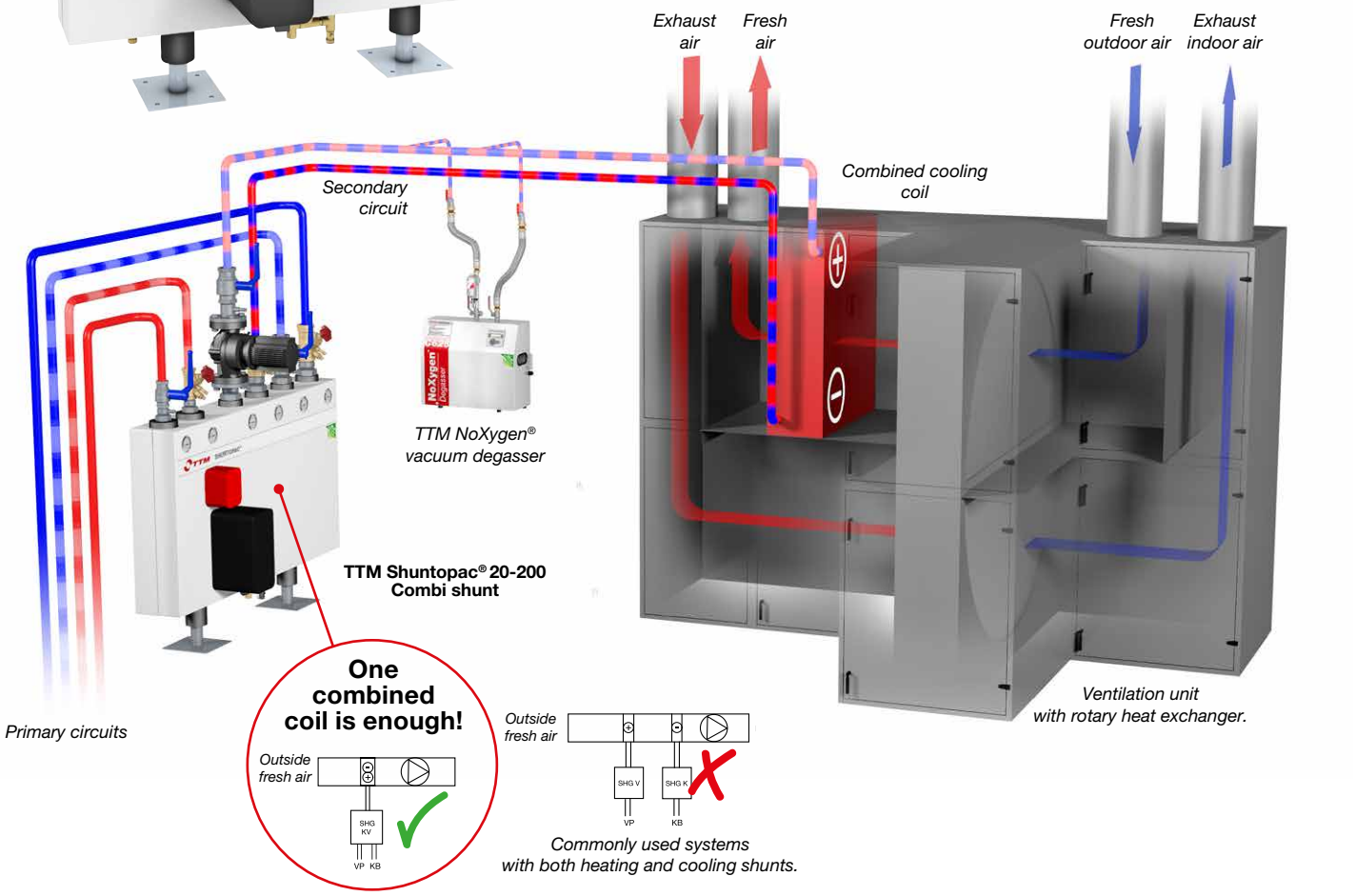
SHUNTOPAC® Combi shunts

Combine heating-cooling-recovery

TTM Shuntopac® combi shunt units combine cooling/heating in a single shunt unit. It replaces the traditional cooling or heating coils with one combined cooling/heat coil. This solution allows a small installation footprint while saving fan energy on the air handling unit, resulting in lower operating costs.

Technical data:

Alternative designs:	Green Line · Energy measurement · Dynamic
Dimensions:	DN20 – DN200
Pressure class:	PN10
Media temp:	0 – +110 °C
Enclosure:	Fire and corrosion resistant cover
Insulation:	Condensation and heat insulated
Approvals:	CE marked and environmentally assessed
Accessories:	Floor stand



Commonly used systems with both heating and cooling shunts.

System dividing shunt units

SHUNTOPAC® UX

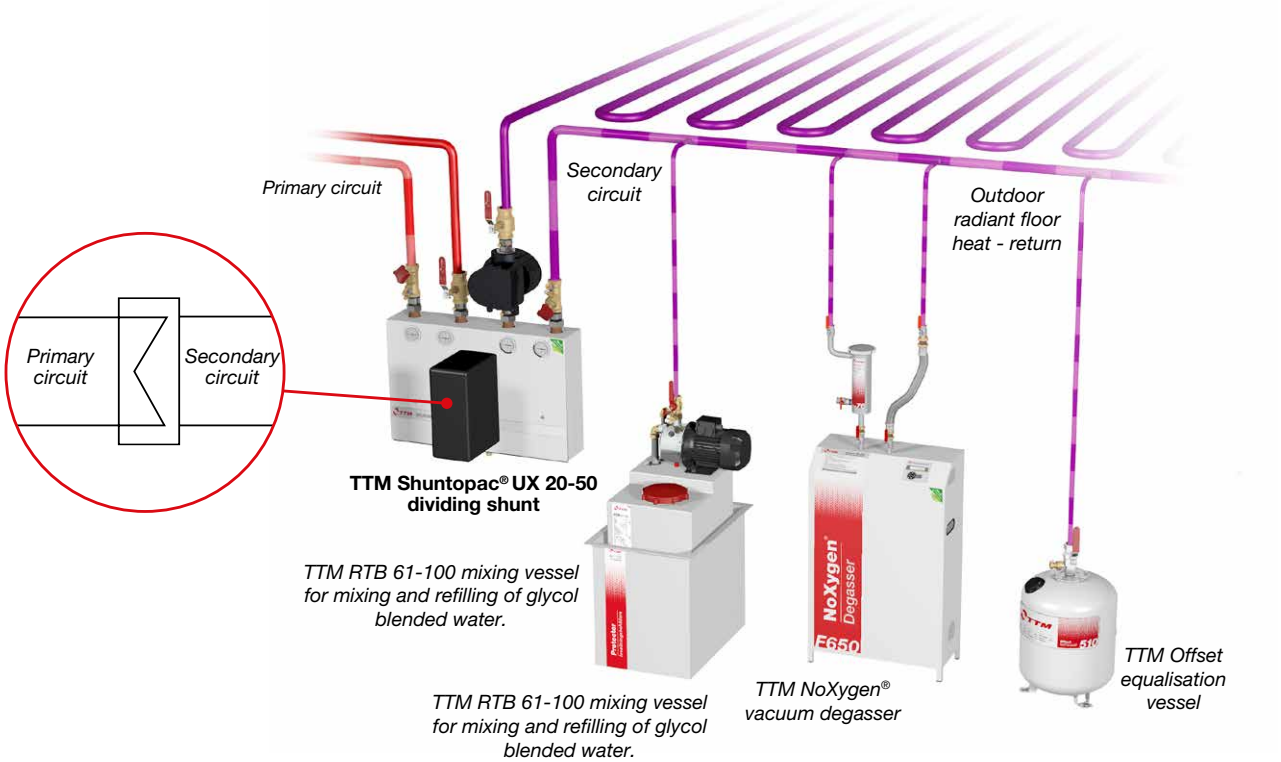
Shunt units with heat exchanger

The TTM Shuntopac® UX is a system divider, which is used in installations where there is a need to separate different fluids, pressures and temperatures in primary and secondary circuits by a heat exchanger.

Among specific applications can be mentioned installations for ground heat.

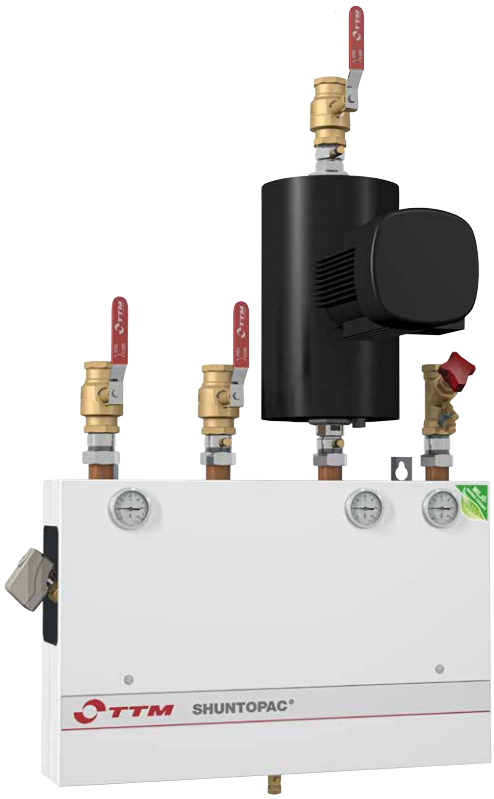
Technical data:

Alternative designs:	Green Line · Energy measurement · Dynamic
Dimensions:	DN20 – DN200
Pressure class:	PN10
Media temp:	0 – +110 °C
Enclosure:	Fire and corrosion resistant cover
Insulation:	Condensation and heat insulated
Approvals:	CE marked and environmentally assessed
Accessories:	Floor stand



Environmentally assessed

Shunt units designed for heat recovery

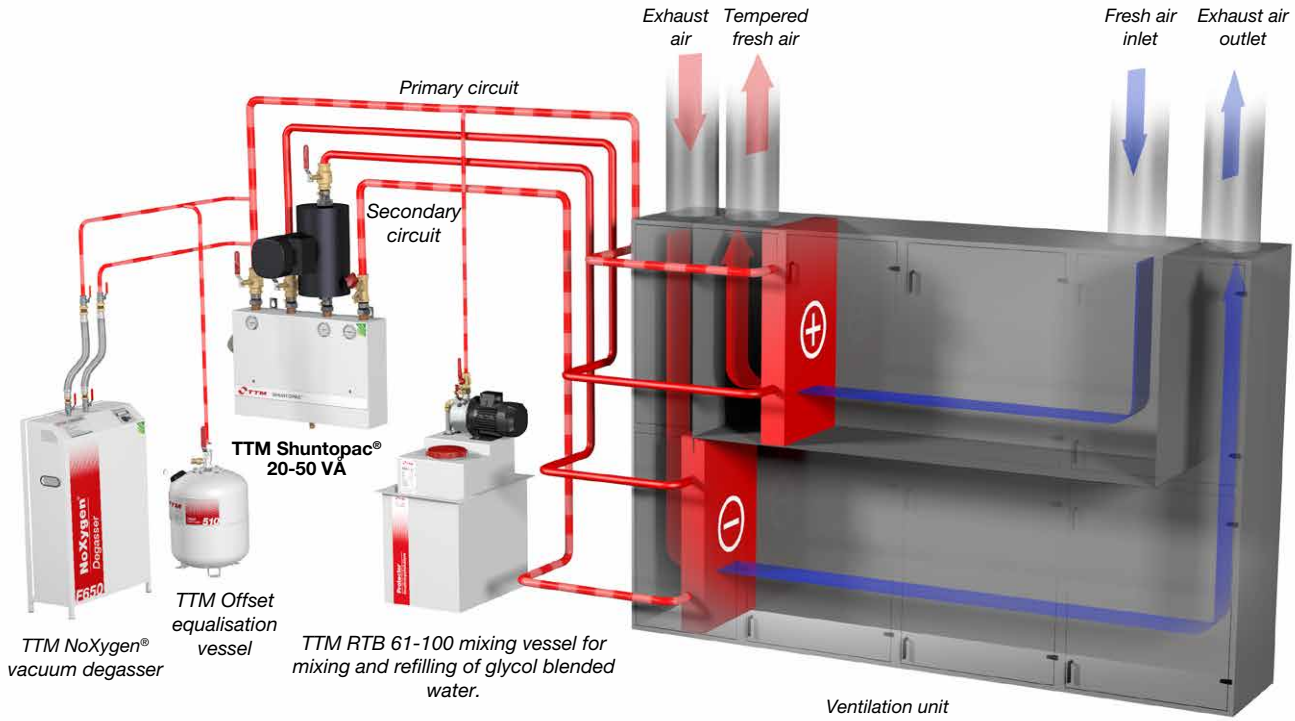


SHUNTOPAC® VÅ — Shunt units for ventilation systems

TTM Shuntopac® VÅ is a series of shunt units for the regulation of primary and secondary flow in fan-controlled heat recovery systems. These can be used, for example, for heat control of ventilation units, reheat coils, curtain heaters, etc. TTM Shuntopac® VÅ is available in a wide range of connection options and can be fitted with components of free choice.

Technical data:

Alternative designs:	Green Line · Energy measurement · Dynamic
Dimensions:	DN20 – DN200
Pressure class:	PN10
Media temp:	0 – +110 °C
Enclosure:	Fire and corrosion resistant cover
Insulation:	Condensation and heat insulated
Approvals:	CE marked and environmentally assessed
Accessories:	Floor stand

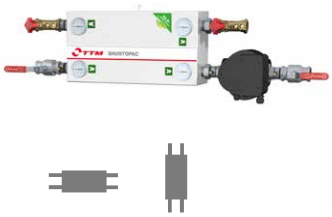


SHUNTOPAC®
Shunt Units

Compact shunts units with flexible mounting and easy installation for heating and cooling systems

SHUNTOPAC® V/K
Shunts units with many mounting options

TTM Shuntopac® 20-50
is space-saving and reversible.



TTM Shuntopac® H 20-50
is space-saving and reversible.

TTM Shuntopac® U 65-100

TTM Shuntopac® U 125-200

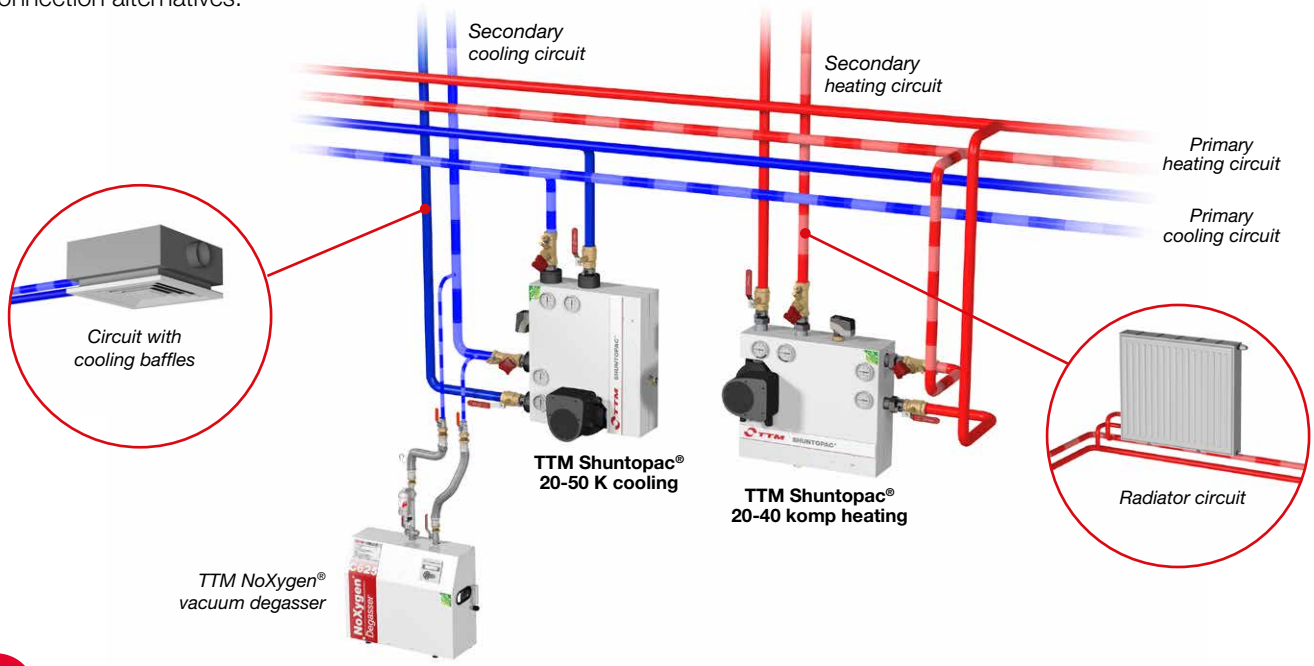
U 65-100/125-200 are compact and space-saving.

Usually, the space where shunt units are to be installed is restricted. For this reason, to simplify installation we have designed our shunt units in three different shapes, L, U and H.

TTM Shuntopac® 20-50 V/K is a shunt unit for cooling and heating systems. The shunt unit can also be equipped with components of any brand and in many different connection alternatives.

Technical data:

Alternative designs:	Green Line · Energy measurement · Dynamic
Dimensions:	DN20 – DN200
Pressure class:	PN10
Media temp:	-20 °C – +110 °C
Enclosure:	Fire and corrosion resistant cover
Insulation:	Condensation and heat insulated
Approvals:	CE marked and environmentally assessed
Accessories:	Floor stand

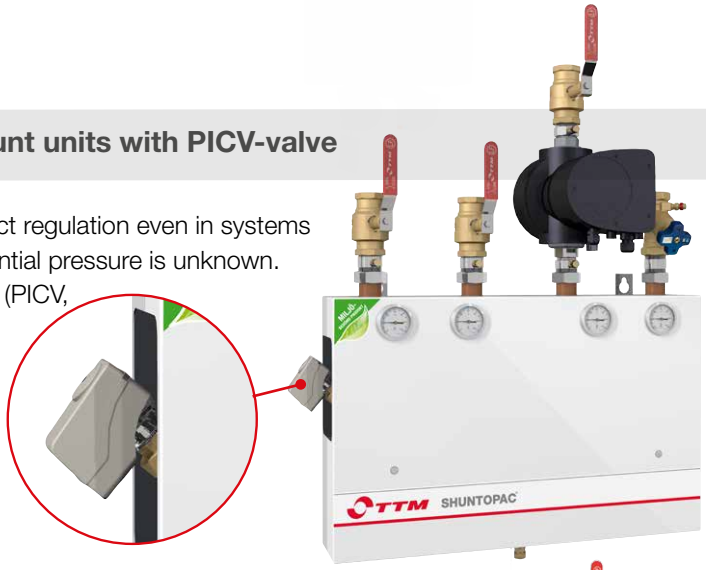


Shunt units with Pressure Independent Control

SHUNTOPAC® Dynamic — Shunt units with PICV-valve

TTM Shuntopac® Dynamic shunt units provide correct regulation even in systems with varying differential pressures or when the differential pressure is unknown. The shunt unit is equipped with a multifunction valve (PICV, combination valve) with three combined functions:

- Modulating control valve
- Differential pressure regulator
- Dynamic adjustment valve

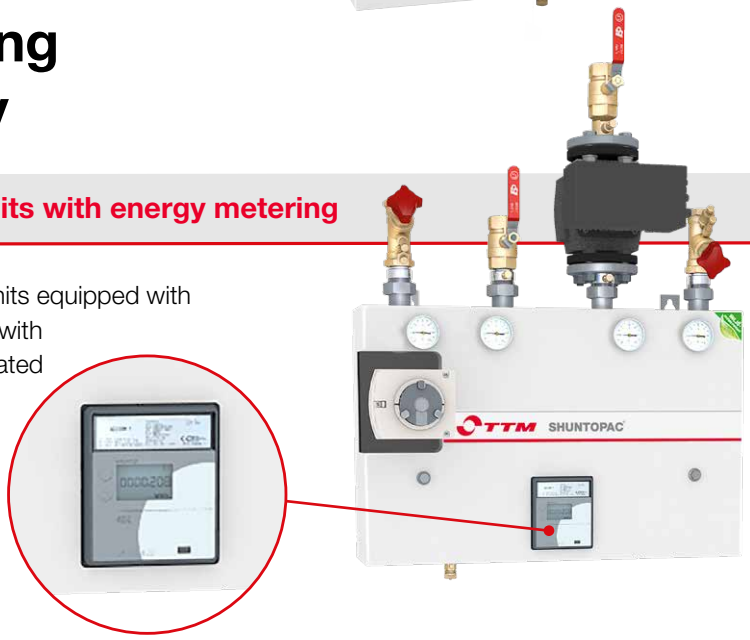


Shunt units for debiting and energy efficiency

SHUNTOPAC® EM — Shunt units with energy metering

The TTM Shuntopac® EM is a category of shunt units equipped with ultrasound energy metering equipment complying with EN 1434 class 2 and MID 2004/22/EC. The integrated energy meter registers the energy consumption in the connected control unit and the measured values are stored and can be read off remotely.

The TTM Shuntopac® EM is a compact and cost-effective solution when individual energy metering is wanted on shunt units.



When environmental assessed products are required

SHUNTOPAC® Green Line — Shunt units with greater environmental compatibility

The TTM Shuntopac® Green Line are shunt units that we have environmentally adapted. Green Line includes components that are exclusively manufactured from materials where environmentally hazardous substances, such as lead, have been minimised.

In practice, this means our Green Line products contain less than 0.1% environmentally hazardous substances, which means they meet the environmental requirements from organizations like SundaHus and Byggvarubedömningen.

SHUNTOMATIC®

All in one shunt

Standardized “all-in-one-Shunt”

NEW! The smallest U-shunt on the market

SHUNTOMATIC®

All-in-one-shunts for heating and cooling

TTM Shuntomatic® is a pre-dimensioned series of shunt units isolated for heating or cooling. As standard it is complete delivered with pump, pressure-independent control valve (PICV) and actuators.

Advantages with the Shuntomatic®-series:

- Pre-dimensioned, reversible and easy to order through a simple guide.
- Complete delivered with pump, dynamic control valve with 100% valve authority and actuators.
- The pumps can also be equipped with start, stop and alarm.
- Few models makes it easy to select an appropriate model – only one article number is required.
- Always on stock, short lead-time.

	Shunt unit Heating	Connection internal (mm)	Flow range l/s min	Flow range l/s max	Flow range l/h min	Flow range l/h max	Min. avail. pressure (kPa) min	Min. avail. pressure (kPa) max	Max. load pressure drop sec (kPa) min	Max. load pressure drop sec (kPa) max	Max. effect (kW) at ΔT 30°C (kPa) min – max	Pump option (kW)	Power (W)	Rated current (A)	Voltage (V)	Art. no.
NEW!	Shuntomatic® V	DN15LF	0.008	0.056	30	200	15.0	16.0	52	45	1.0 – 7.0	Standard	40	0.4	1x230	516699
												Communication*	100	1.0	1x230	516705
NEW!	Shuntomatic® V	DN15HF	0.028	0.160	100	575	15.0	19.5	52	43	3.5 – 20	Standard	40	0.4	1x230	517023
												Communication*	100	1.0	1x230	516712
NEW!	Shuntomatic® V	DN25	0.078	0.347	280	1250	15.5	25.5	52	36	10 – 44	Standard	40	0.4	1x230	516729
												Communication*	100	1.0	1x230	516736
	Shuntomatic® V	DN32	0.222	0.986	800	3550	18.5	29.5	68	55	28 – 124	Standard	120	1.0	1x230	516941
												Communication*	120	1.0	1x230	516958
	Shuntomatic® V	DN50	0.625	2.639	2250	9500	10.5	29.5	110	42	78 – 331	Standard	305	1.3	1x230	516965
												Communication*	305	1.3	1x230	516972

	Shunt unit Cooling	Connection internal (mm)	Flow range l/s min	Flow range l/s max	Flow range l/h min	Flow range l/h max	Min. avail. pressure (kPa) min	Min. avail. pressure (kPa) max	Max. load pressure drop sec (kPa) min	Max. load pressure drop sec (kPa) max	Max. effect (kW) at ΔT 5°C (kPa) min – max	Pump option (kW)	Power (W)	Rated current (A)	Voltage (V)	Art. no.
NEW!	Shuntomatic® K	DN15LF	0.008	0.056	30	200	15.0	16.0	52	45	0.2 – 1.2	Standard	40	0.4	1x230	516743
												Communication*	100	1.0	1x230	516750
NEW!	Shuntomatic® K	DN15HF	0.028	0.160	100	575	15.0	19.5	52	43	0.6 – 3.3	Standard	40	0.4	1x230	516767
												Communication*	100	1.0	1x230	516774
NEW!	Shuntomatic® K	DN25	0.078	0.347	280	1250	15.5	25.5	52	35	1.6 – 7.3	Standard	40	0.4	1x230	516781
												Communication*	100	1.0	1x230	516798
	Shuntomatic® K	DN32	0.222	0.986	800	3550	18.5	29.5	68	54	4.6 – 21	Standard	120	1.0	1x230	516989
												Communication*	120	1.0	1x230	516996
	Shuntomatic® K	DN50	0.625	2.639	2250	9500	10.5	29.5	110	41	13 – 55	Standard	305	1.3	1x230	517009
												Communication*	305	1.3	1x230	517016

TTM Shuntomatic® is dimensioned for fresh water.

**) Prepared for start, stop and alarm. DN32 and DN50 also have operation indication.*

Option	Art. no.
Floor stand	506195

SHUNTOMATIC® MINI — The world´s smallest all-in-one-shunt

TTM Shuntomatic® MINI is part of the TTM Shuntomatic®-series with the smallest design in the market. The shunt unit is intended for heating applications and its delivered with a thermal insulation shell. It has low weight and can therefore easily be installed directly on the pipes. when needed. For application where the shunt unit will be mounted at a wall it has an integrated wall bracket.

TTM Shuntomatic® MINI has a wide range of application areas:

- Connected close to ventilation unit for quick control.
- Controls reheating batteries e.g. changing rooms, sport halls, gyms etc.
- Can be used as a complement in smaller heat pump systems.
- Can be used as a complement to curtain or interior heater, fan convectors etc.

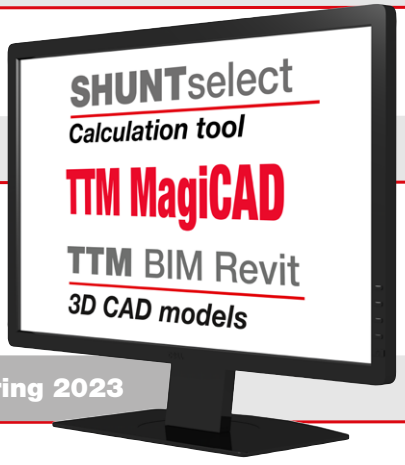
Shunt unit Heating	Connection internal (mm)	Flow range l/s min	Flow range l/s max	Flow range l/h min	Flow range l/h max	Min. avail. pressure (kPa) min	Min. avail. pressure (kPa) max	Max. load pressure drop sec (kPa) min	Max. load pressure drop sec (kPa) max	Max. effect (kW) at ΔT 30°C (kPa) min – max	Pump option (kW)	Power (W)	Rated current (A)	Voltage (V)	Art. no.
V MINI 1	Ø25	0.010	0.017	35	60	17.0	20.0	50	47	1.2 – 2.1	Standard	40	0.4	1x230	513360
											Communication*	100	1.0	1x230	513377
V MINI 2	Ø25	0.017	0.031	60	110	17.0	20.0	53	50	2.1 – 3.8	Standard	40	0.4	1x230	513384
											Communication*	100	1.0	1x230	513391
V MINI 3	Ø25	0.028	0.050	100	180	17.0	21.0	55	52	3.5 – 6.3	Standard	40	0.4	1x230	513407
											Communication*	100	1.0	1x230	513414
V MINI 4	Ø25	0.050	0.106	180	380	18.0	22.5	54	51	6.3 – 13	Standard	40	0.4	1x230	513421
											Communication*	100	1.0	1x230	513438
V MINI 5	Ø25	0.106	0.236	380	850	20.0	25.5	52	49	13 – 30	Standard	40	0.4	1x230	513445
											Communication*	100	1.0	1x230	513452
V MINI 6	Ø25	0.192	0.369	690	1330	20.0	25.5	52	49	24 – 46	Standard	40	0.4	1x230	513469
											Communication*	100	1.0	1x230	513476

*Shuntomatic® is dimensioned for fresh water. *) Prepared for start, stop and alarm.*

Calculation tools, Plugins and BIM

SHUNTselect — Web based calculation tool

Calculation tool software for dimensioning TTM's shunt units. In the TTM SHUNTselect application you dimension shunt units online on our website.



TTM MagiCAD — Smart 3D plugin models for MagiCaD

TTM MagiCAD contains a large selection of our shunt units for calculating and designing heating and cooling systems. In MagiCAD, you can connect our shunt units and performed advanced dimensioning and balancing calculations with just a few mouse taps.

TTM BIM Models — Revit 3D models for download — Available during 2023

Several of TTM´s products are available for import to Revit software applications. The BIM files are available at MEPcontent where you can find and search for dimensions and techical data for you product of interest.