reflex

Thinking solutions.

Deaeration systems & separation technology

Servitec, Ex-separators

We are only satisfied when

Reflex has set itself the goal of supporting you with well thought-out solutions. Whatever job you need doing in water supply engineering, why not put your trust in our comprehensive range of products and accompanying tailored services? We will ensure that your decision to opt for Reflex is the right one in every respect – from advice and design to installation and ongoing operation.

reflex

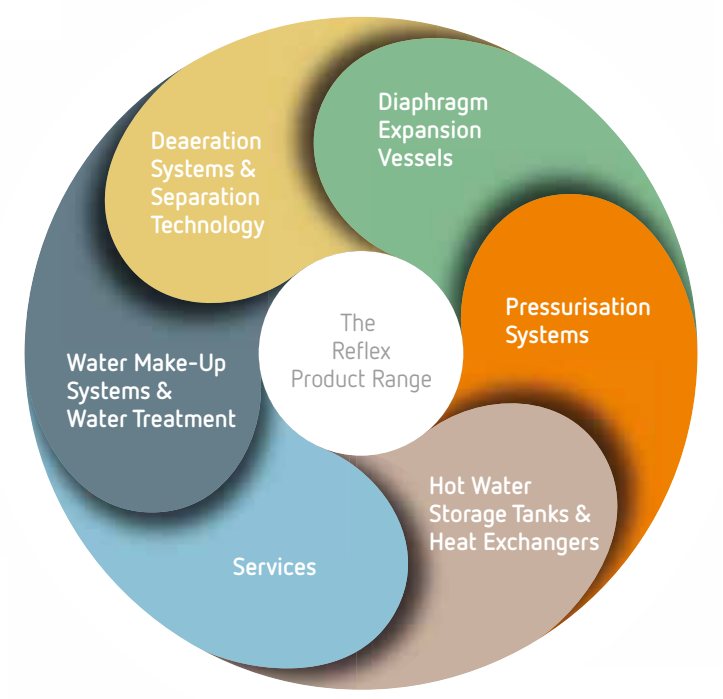
Thinking solutions.

Reflex's mission is embodied in the company's slogan: "Thinking solutions". Reflex's strength is to think in terms of solutions. Reflex develops ideas that help you to move forward based on decades of experience, in-depth technical understanding and intimate knowledge of the industry!

you are.

We make sure that everything fits

Heating, cooling and hot water supply systems – the demands on supply equipment are varied and complex. At the same time foreign bodies, like gases and dirt, reduce the water's ability to transport and transfer heat. What is more, erosion and incrustation increase wear and tear on systems. That's why Reflex has developed deaeration systems and separation technology to remove free air and dirt from heating and cooling systems, improving the efficiency and service life of systems and cutting operating costs.



Reflex handles a broad range of products that deal with water quality. Our six divisions offer high-performance combinations, a wide range of applications and economical solutions. This brochure focuses on Servitec deaeration systems and Exvoid T, Exvoid, Exdirt and Extwin ex-separators, which significantly enhance the smooth operation of your systems.

Contents

The functions of separation tech

Reflex separation technology and deaeration systems are used to ensure that equipment functions as well as possible. Foreign bodies and substances of all kinds can significantly reduce the performance and service life of equipment and increase service intervals. Our solutions can help to prevent this and achieve optimum operating conditions.

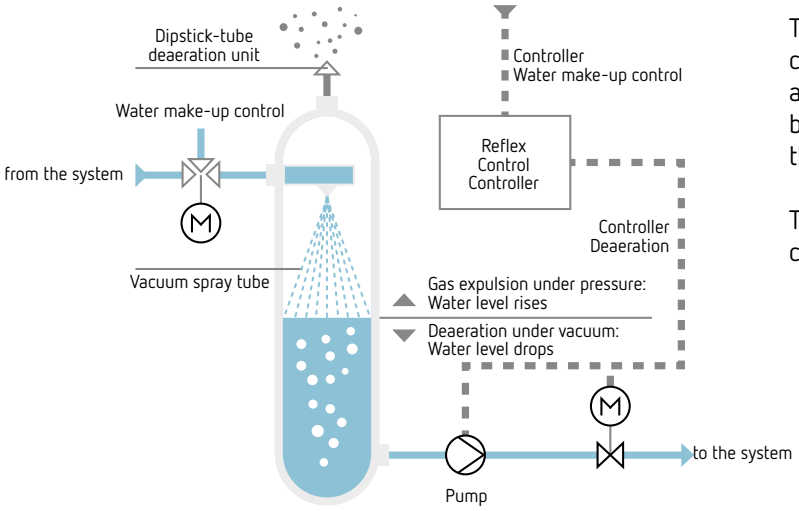
Reflex separation technology uses mechanical separation processes, for which no auxiliary energy is needed. Reflex produces models for dirt and sludge as well as for gases and free air. The separation of gases includes micro-bubbles, air bubbles and free air, particularly during filling and draining processes.

Servitec vacuum degasser eradicates all of the free air and to 95% of dissolved gases in the system media, via special programming and optimisation of control.

nology and deaeration systems

Servitec deaeration systems

The Servitec range is synonymous with the active deaeration of even dissolved gases. To do so, a partial flow of water in the system is removed, degassed in the Servitec under vacuum and fed back into the system virtually gas-free. Automatically controlled ball valves guarantee a constant flow regardless of the pressure ratios in the system.



The water is degassed in cycles, the order of which can be programmed. A cycle essentially runs through three steps:

Resting stage:

The pump is switched off, the vacuum spray tube is filled and is at the same pressure as the system.

Deaeration:

The pump is switched on, the water level drops, the vacuum spray tube is immediately under vacuum. The partial flow is finely dispersed into the vacuum and dissolved gases are released over the large contact surface.

Gas discharge:

The pump switches off, the water level rises. Water continues to spray until the vacuum spray tube is completely full and all the free gases have been discharged through the dipstick tube deaeration unit.

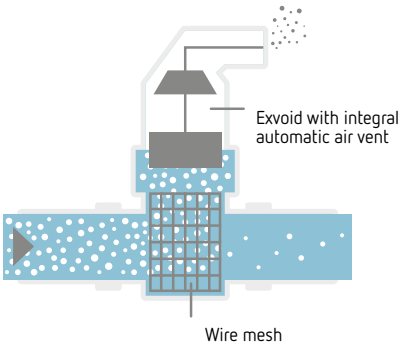
Ex-separators

Ex-separators are integrated into the main flow. Free air and dirt are separated by the same functional principle as in the Flowpac flow element:

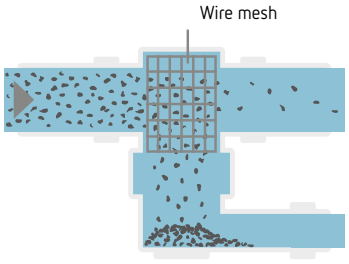
the cross section of the flow is expanded by the ex-separator and the flow velocity falls. The micro-bubbles rise up, dirt falls to the bottom.

This effect is enhanced by the Flowpac's wire mesh. Dirt particles and micro-bubbles are blocked from entering the flow path and germs are formed that grow into larger units, which then become detached. Scarcely any energy is needed for this and the pressure loss is negligible.

The free gases rise in the Exvoid in bubble form and are discharged to the outside through the integral automatic air vent.



Dirt and sludge sink in the Exdirt, are collected in a large-dimensioned space and can be drained off, if required through the integral sludge tap.



Servitec deaeration systems

Reflex Control - the new control unit

The latest generation of Servitec deaeration systems is setting new benchmarks, both technically and visually. Deaeration management has been further improved with the new Reflex Control software and the motorised regulation ball valves. This significantly increases deaeration performance and enables the unit to be networked with other systems controlled by the Reflex Control. The new design is also winning customers over in every respect.

Operation:

- Intuitive keyboard-operated navigation in 16 languages (Reflex Control Basic)
- Clear navigation thanks to user-friendly layout
- Permanent display of the most important operating statuses
- Non-standard systems are equipped with Control Touch controllers

Functions:

- Deaeration control of system water according to different settable operating modes:
  - Continuous deaeration during commissioning
  - Interval deaeration in normal mode
  - Water make up deaeration function
  - Can be used as a pressurisaion unit with pre charge vessels

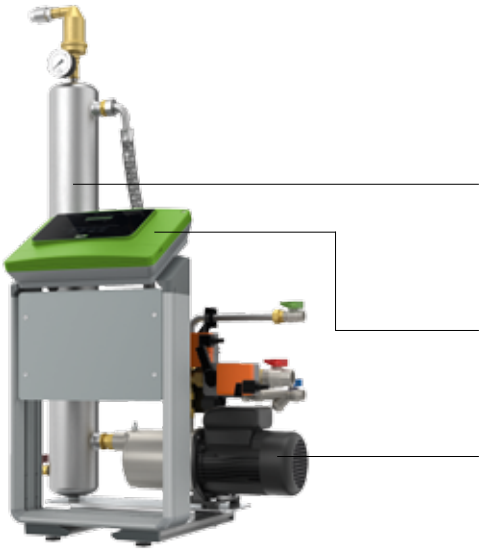
Deaeration during water make-up

- Control of water make-up and deaeration during water make-up
- Patented valve switch for fully automatic hydraulic balancing
- Use also in systems with roof-mounted heating plants
- Intelligent plug & play function management
- Evaluation and storage of the most important operational data
- Water make-up is possible from a de-pressurised storage tank, for instance when using water/anti-freeze mixtures
- Working range from system pressure from 0.5 bar
- Operation possible from a water make-up pressure of 0.1 bar
- Capacity monitoring of a Fillsoft water treatment system possible

Interfaces:

- A volt free output (common fault)
- An RS 485 interface permits connection to bus systems

Servitec - patented technology for optimum deaeration



The vacuum spray tube
The height and diameter are coordinated so that atomisation of the water is guaranteed in a large free vacuum immediately after the start of the deaeration cycle.

Control
Deaeration cycles run on an optimised timer program or are ideally controlled according to the gas content of the water.

Hydraulics
The control's integrated plug & play operational management automatically coordinates the hydraulics with the regulating ball valves with the pressure conditions in the system.

Servitec is the reliable protection against gas problems in small and large systems. The standard range is adequate for system volumes of up to 220 m³. A number of non-standard systems are also available:

Servitec 30

New, patented deaeration system in the pump housing, ideally suited for offices and commercial buildings and technically challenging single or multiple family dwellings.

Max. system volume: 8 m³ (5 h/d) or 12 m³ (24 h/d)
Anti-freeze: 2 m³ (5 h/d) or 4 m³ (24 h/d)

Water make-up rate: 0.05 m³/h
Max. working pressure: 3 bar
Max. operating temperature: 70 °C
Compact and suitable for wall mounting

Servitec 35|60|75|95

Variable working pressure and top performance. Suitable even for high-rise buildings and district heating systems or combined heating and cooling systems.

Max. system volume: 35 – 95: 220 m³
Water make-up rate: 35: 0.35 m³/h, 60 – 95: 0.55 m³/h
Max. working pressure: 35|60|75|95: 2.5|4.5|5.4|7.2 bar
Max. operating temperature: 70 °C
Non-standard systems also available up to 90 °C

Servitec 30 and 60 as versions suitable for use with anti-freeze

Thanks to its innovative nozzle and special software, this Servitec 30 and 60 model also handles water/anti-freeze mixtures that are difficult to degas, such as are used, for example, in turf heating.

Servitec non-standard systems

Reflex also manufacture a optional range of Servitec Vacuum degassers for specific customer requirement on larger systems and higher operating pressures for systems of 70 °C and 90 °C.

Servitec for deaeration in netwo

Servitec 30 in a smaller heating system of up to 12 m³ with a Reflex N

Optimum operation cannot always be ensured, particularly with small and medium-sized systems. The Servitec 30, combined with the Fillsoft softening unit, offer a complete solution by providing gas-free and soft water for efficient, stable and long-term operation. Exvoid T separators are the ideal partner for venting when initially filling the system.

Servitec 60 in solar systems or panel heating and cooling systems of up to 50 m³

Water / anti-freeze mixtures, especially in delicate panel heating and cooling systems, are more difficult to degas. Air pockets become persistent, reducing performance and possibly leading to total failure of the system. This can be seen with under-turf heating when snow does not melt and surfaces remain snow-covered. The Servitec 60 unit suitable for use with anti-freeze can help with this. A Reflexomat pressurisation station is the ideal partner for use with the Servitec. The degassed system has soft and flexible cushioning.

rked solutions

Servitec in large-scale plants and district heating systems

Servitec is the reliable system for centralised deaeration in large-scale plants and district heating systems. Decentralised ventilation points that have to be maintained and operated are now a thing of the past, as are complaints from tenants about air in panel heaters. Servitec 35, 60, 75 and 95 systems can degas systems with a volume of up to 220 m^3.

Atmospheric deaeration is integrated into Variomat Giga pressurisation stations. The Servitec is an option when an effective buffer is needed against the infiltration of air. The strong gaseous under-saturation of the water acts as a buffer. Even the infiltration of air after commissioning and repairs is correctly sucked in by the gas-free water without gas bubbles forming.

Separation technology

At a glance

Reflex ex-separators not only vent, but also separate micro-bubbles, dirt or sludge. Automatic air vents and micro-bubble separators have been developed specifically for high temperatures in solar systems. Suitable Exiso heat insulation completes the range. The design of the Reflex separator range is the result of decade-long experience and guarantees lasting, reliable operation.

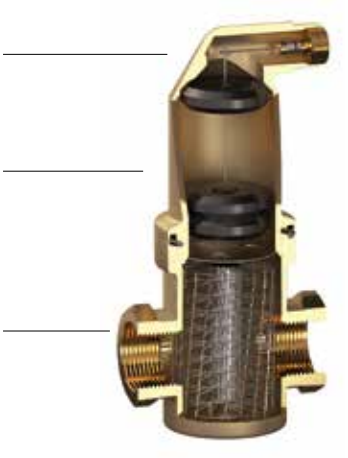
Exvoid T automatic air vents

Venting without leakages:
The precise and reliable, non-shut-off air vent valve makes a visible difference.

Stable operation even under difficult conditions:
The large air chamber dampens fluctuations in pressure and keeps dirt away from the air vent valve, thereby ensuring stable operation even under difficult conditions.

Optimum separation of micro-bubbles without the use of energy.
The flow element exponentiates the separation effect in the chamber free from air flow. The pressure loss is infinitesimally small.

Exvoid micro-bubble separators



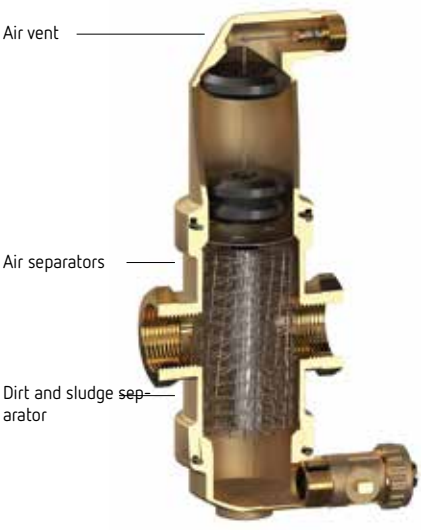
Exdirt dirt and sludge separators

Optimum separation of dirt and sludge without the use of energy.
The flow element exponentiates the separation effect in the chamber free from air flow. The pressure loss is infinitesimally small.

Fast de-sludging at low frequency:
The tangentially positioned de-sludging valve causes a swirling current when it opens that quickly and thoroughly empties the large sludge chamber.

Extwin

Combined micro-bubble, dirt and sludge separator The Extwin combines an air vent, micro-bubble, dirt and sludge separator in one unit.



For air and micro-bubbles

Exvoid T automatic air vents

The Exvoid T discharges the separated gases into the atmosphere. The upper part of the air vent is an integral part of the Exvoid micro-bubble separator.

Max. operating pressure: 10 bar
Max. operating temperature, Standard | Solar: 110 °C | 180 °C
Nominal connection: DN 15

Exvoid micro-bubble separators

Exvoid micro-bubble separators are predominantly used at high points for operational venting. Micro-bubbles can be reliably and quickly removed.

Brass model with DN 20 thread, also with clamping ring connection:
Max. operating pressure: 10 bar
Max. operating temperature, Standard | Solar: 110 °C | 180 °C
Nominal connection for installation in horizontal pipes:
DN 20 – DN 50
Nominal connection for installation in vertical pipes:
DN 20 – DN 25
Volumetric flow: 1.25 – 12.5 m^3/h
Exiso thermal insulation: DN 20 – DN 40

Steel model, with welded or flanged connection:
Max. operating pressure: 10 bar
Max. operating temperature: 110 °C
Nominal connection: DN 50 – DN 300
Volumetric flow: 12.5-405 m^3/h
Exiso thermal insulation: DN 50 – DN 125

Air separators

Air separators work on the principle of separation by extreme delay of the air flow. When combined with Exvoid T automatic air vents, they are ideal for the operational venting of high distribution pipes, but also as an air pot for manual venting during commissioning.

Max. operating pressure: 10 bar
Max. operating temperature: 120 °C
Nominal connection: DN 32 – DN 200

Separation technology

Exdirt dirt and sludge separators

Exdirt units work ultra-efficiently in every system. Even scarcely visible, harmful particles of dirt and sludge are separated, looking after the system and saving operating costs.

Brass model with DN 20 thread, also with clamping ring connection:
Max. operating pressure: 10 bar
Max. operating temperature: 110 °C
Nominal connection for installation in horizontal pipes: DN 20 – DN 50
Nominal connection for installation in vertical pipes: DN 20 – DN 25
Volumetric flow: 1.25 – 12.5 m^3/h
Exiso thermal insulation: DN 20 – DN 40

Steel model, with welded or flanged connection:
Max. operating pressure: 10 bar
Max. operating temperature: 110 °C
Nominal connection: DN 50 – DN 300
Volumetric flow: 12.5-405 m^3/h
Exiso thermal insulation: DN 50 – DN 125

Steel model, with inspection opening, welded or flanged connection:
Max. operating pressure: 10 bar
Max. operating temperature: 110 °C
Nominal connection: DN 50 – DN 300
Volumetric flow: 12.5-405 m^3/h
Exiso thermal insulation: DN 50 – DN 125

De-sludging vessel

De-sludging vessels separate sludge in the conventional manner. The flow velocity is extremely reduced, so that the sludge can settle in the base of the vessel.

Max. operating pressure: 6 | 10 bar
Max. operating temperature: 120 °C
Nominal Size: 30 > 100 mm (6 bar): 180 > 750 mm (10 bar)
Volumetric flow: 2.5-175 m^3/h

Extwin - combined micro-bubble, dirt and sludge separator

If sensitive equipment is to be used at height, Extwin is the ideal unit for separating both sludge as well as micro-bubbles.

Brass model with DN 20 thread, also with clamping ring connection:
Max. operating pressure: 10 bar
Max. operating temperature: 110 °C
Nominal connection for installation in horizontal pipes:
DN 20 – DN 25
Nominal connection for installation in vertical pipes:
DN 20 in the form of a clamping ring
Volumetric flow: 1.25-2 m^3/h

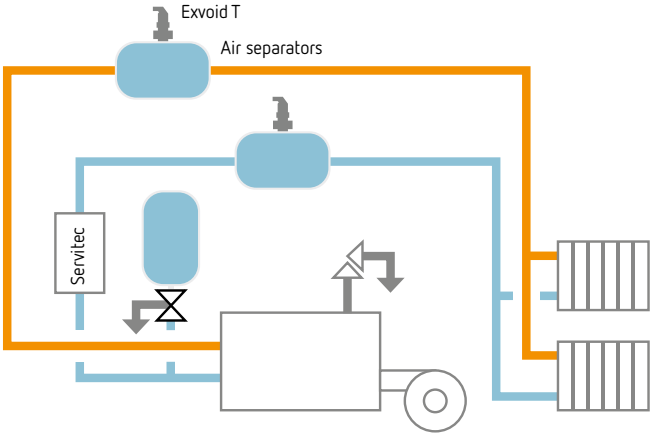
Steel model, with welded or flanged connection:
Max. operating pressure: 10 bar
Max. operating temperature: 110 °C
Nominal connection: DN 50 – DN 300
Volumetric flow: 12.5-405 m^3/h

Steel model, with inspection opening, welded or flanged connection:
Max. operating pressure: 10 bar
Max. operating temperature: 110 °C
Nominal connection: DN 50 – DN 300
Volumetric flow: 12.5-405 m^3/h

Separation technology in netwo

Air separator with Exvoid T automatic air vent and Servitec for filling and draining

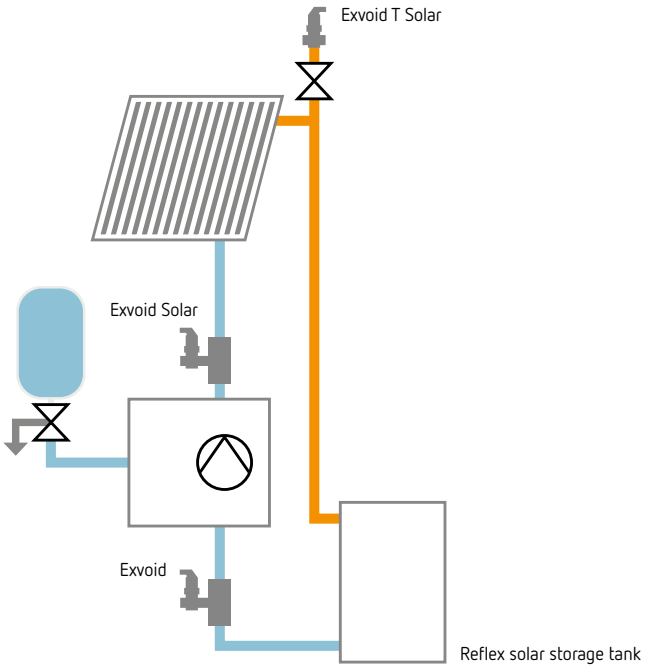
The system is coarsely vented by the Exvoid T during filling and draining, while the Servitec provides for bubble-free and gas-free water in operation.



Perfectly combined: air separator with Exvoid T for venting and draining processes and Servitec for operation

Exvoid and Exvoid T for initial venting and operational venting of a solar system

The high anti-freeze content and the potentially high temperatures make the venting of solar systems extremely difficult. The combination of Reflex Exvoid and Exvoid T is recommended here.

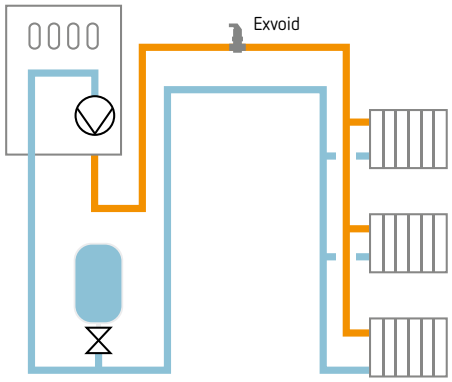


Ventilation and drainage by the Exvoid T and operational venting by the Exvoid effectively separate out gases. The Exvoid is also available for vertical pipes.

rked solutions

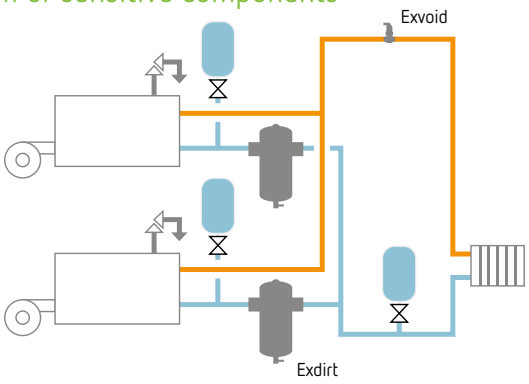
Exvoid for operational venting at high points in a heating system

Exvoid is the ideal solution for the venting of high pipes – free air is almost completely separated. The performance range of ex-separators extends from 1.25 to 405 m^3/h.



Exdirt for sludge separation upstream of sensitive components

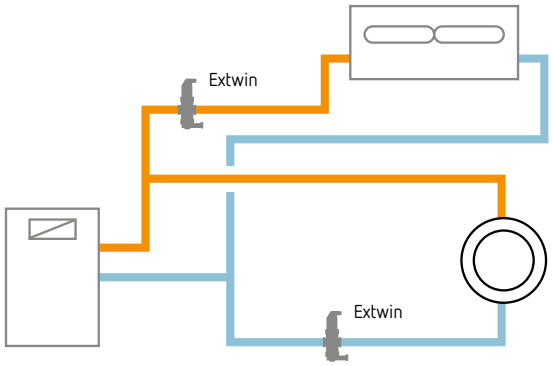
Dirt and micro-bubbles not only impair the operation but also reduce the efficiency and service life of heat exchangers, boilers, water meters and chillers. An Exdirt fitted upstream of every boiler and an Exvoid in the feed pipe to the system can remedy this.



Perfect system engineering: The Exvoid ensures bubble-free water and the Exdirt provides for clean water so that Reflex Longtherm plate heat exchangers can operate at full performance.

Extwin for venting and sludge separation in combined heating and cooling systems

The Extwin reveals its benefits fully by simultaneously venting and de-sludging components at high points that are sensitive to dirt.



The Extwin combines the separation of sludge and micro-bubbles in one unit, saving installation and operating costs.

Count on us - from the initial id

Reflex offer a range of services to assist you in finding the solution that best suits your needs. Take advantage of our combined expertise and experience and develop professional and expert solutions together with us, down to the very last detail.

Our service numbers

How can we help you? Please contact the relevant service number to ensure that you find the right person to deal with your enquiry as quickly as possible.

Technical hotline
For all questions about our products
Monday to Friday from 8.00 a.m. to 4.30 p.m.
+49 2382 7069-9546

Reflex customer service
To order repairs, maintenance and commissioning
Monday to Friday from 8.00 a.m. to 4.30 p.m.
+49 2382 7069-9505

Central phone number
For general inquiries, to order brochures, contact a business partner or responsible field sales engineer
Monday to Friday from 8.00 a.m. to 4.30 p.m.
+49 2382 7069-0

Made-to-measure design: With the Reflex Pro calculation program

Take the easiest route to correct design and sizing: Reflex Pro is the proven, continuously developed software solution you can use to quickly and simply achieve precise results. The software is available in three versions and we also offer a CAD library of our products for integration into your construction programs.

Visit www.reflex.de/pro for further information and the option of downloading free of charge.

ea to the solution.

Our field sales team - always on the road for you

Our Reflex field sales team is your first point of contact when you need professional advice on site. From recommending relevant products to design and support in the preparation of a tender. You can rely on our experts!

Call our central phone number or check out www.reflex.de under Contact Us to find the field sales representative responsible for your region.

Our product literature - designed to be used

Make sure your decisions about all your future steps are based on solid foundations – with Reflex product information. You will find everything you need to know about products and systems in our brochures and at www.reflex.de. Well arranged and clearly explained – from the wider context to technical details.

Request the latest Reflex brochures directly from your Reflex field sales engineer, via our central phone number or – even simpler – online as PDFs at www.reflex.de.

Technical data

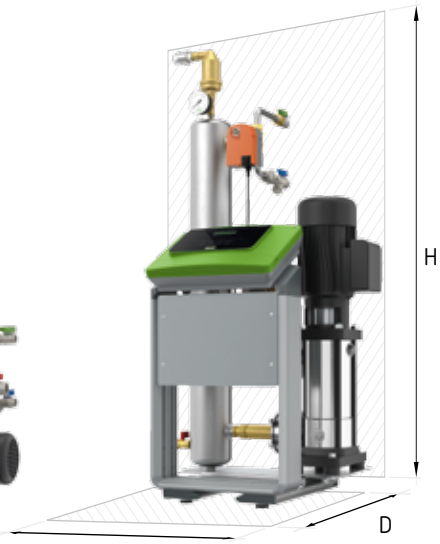
Servitec

- Vacuum spray-tube deaeration with integrated water make-up for systems with diaphragm expansion vessels or pressure-maintaining stations
- Flexible adjustment of the Servitec Magcontrol or Levelcontrol operating modes
- Central deaeration of the water in the system and make-up water
- Max. operating pressure: 8 bar – type 25, 60
  10 bar – type 75, 95, 120
- Perm. flow temperature up to 120 °C
- Microprocessor controller with plain text display for pressure
- 1 x volt free (common fault) & RS485 contact for common message
- Simple commissioning with auto setup
- Patented, fully automatic overflow regulation actuated ball valve
- SafeControl (water make-up using the actuator valve)
- Water make-up is possible from a storage tank (on site)
- Control Touch from Servitec 120

Servitec 30

Servitec 35

Servitec 60



Servitec 95

Permissible maximum operating temperature: 70 °C

Type Servitec	Article no.	System volume V_A (m^3), 70 °C	Working pressure (bar), 70 °C	Water make-up rate (m^3/h)	H x W x D (mm)	Weight (kg)
30	**8828900**	up to 12	0.5 to 3.0	up to 0.05	660 x 545 x 290	13.0
35	**8829000***	up to 220	0.5 to 2.5	up to 0.35	1,030 x 620 x 440	28.0
60	**8829100***	up to 220	0.5 to 4.5	up to 0.55	1,215 x 685 x 440	34.0
75	**8829200***	up to 220	0.5 to 5.4	up to 0.55	1,215 x 600 x 525	39.0
95	**8829300***	up to 220	0.5 to 7.2	up to 0.55	1,215 x 600 x 525	40.0
Magcontrol 120	**8829400**	up to 220	1.3 to 9.0	up to 0.55	1,215 x 600 x 525	43.0
Levelcontrol 120	**8829500**	up to 220	1.3 to 9.0	up to 0.55	1,215 x 600 x 525	43.0

* Version 25–95 with a working pressure above 0.5 bar and a water make-up pressure of > 0.1 bar

Permissible maximum operating temperature: 90 °C

Type Servitec	Article no.	System volume V_A (m^3), 90 °C	Operating pressure (bar), 90 °C	Make-up rate (m^3/h)	H x W x D (mm)	Weight (kg)
75	**8825300**	up to 220	1.3 to 5.4	up to 0.55	1,215 x 600 x 525	39.0
95	**8825400**	up to 220	1.3 to 7.2	up to 0.55	1,215 x 600 x 525	40.0
Magcontrol 120	**8825500**	up to 220	1.3 to 9.0	up to 0.55	1,215 x 600 x 525	43.0
Levelcontrol 120	**8825600**	up to 220	1.3 to 9.0	up to 0.55	1,215 x 600 x 525	43.0

Accessories

Servitec (continued)

Permissible maximum operating temperature: 70 °C, for use with anti-freeze

Type Servitec	Article no.	System volume V_A (m³), 70 °C, gl*	Operating pressure (bar), 70 °C, gl*	Make-up rate (m³/h)	H x W x D (mm)	Weight (kg)
25	**8828900**	up to 4	0.5 to 2.5	up to 0.05	660 x 545 x 290	13.0
60	**8828100***	up to 50	1.3 to 4.5	up to 0.55	1,215 x 685 x 440	34.0
75	**8828200**	up to 50	1.3 to 4.9	up to 0.55	1,215 x 600 x 525	39.0
95	**8828300**	up to 50	1.3 to 6.7	up to 0.55	1,215 x 600 x 525	40.0
Magcontrol 120	**8828400**	up to 50	1.3 to 8.3	up to 0.55	1,215 x 600 x 525	43.0
Levelcontrol 120	**8828500**	up to 50	1.3 to 8.3	up to 0.55	1,215 x 600 x 525	43.0

* Version with a working pressure above 0.5 bar and a water make-up pressure of > 0.1 bar

Bus modules

- For data exchange between the control (RS 485) and the central building control system 230V 50Hz

LonWorks Digital **Article no.: 8860000**
LonWorks **Article no.: 8860100**
Profibus-DP **Article no.: 8860200**
Ethernet/Modbus **Article no.: 8860300**

Non-standard models on request

- System volume > 100 m³
- Working pressure > 9.0 bar
- Operating temperature > 90 °C

I/O modules

- Two additional analogue outputs for controlling pressure and level
- Six freely programmable digital inputs
- Six freely programmable floating outputs
- Power: 230V / 50Hz

Article no.: 8997700

Commissioning
Article no.: 7945600

Technical data

Exvoid

Micro-bubble separator

- Removes free circulating air and gas bubbles
- Functions in fully automated, continuous operation
- Only produces a minimal, constant drop in pressure
- Enables much faster hydraulic balancing after filling processes
- Prevents development of noise, wear through corrosion and loss in performance through the formation of larger air bubbles
- Full range in terms of operating pressures, temperatures and materials

T, brass

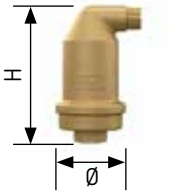
- 110 °C, 10 bar

Type	Article no.	Connection	Ø (mm)	H (mm)
T 1/2	**9250000**	Rp ½	**63**	**120**

T Solar, brass

- 180 °C, 10 bar

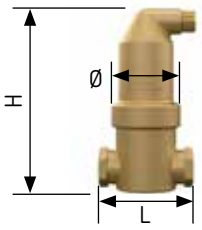
Type	Article no.	Connection	Ø (mm)	H (mm)
T 1/2 S	**9250600**	Rp ½	63	**120**



Solar, brass

- 180 °C, 10 bar

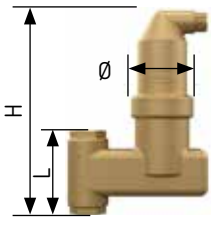
Type	Article no.	Connection	V̇max (m³/h)	L (mm)	Ø (mm)	H (mm)
A 22 S	**9251600**	22 mm [1]	1.25	106	63	165 [2]
A 3/4 S	**9251610**	Rp ¾	1.25	85	63	165 [2]
A 1 S	**9251620**	Rp 1	2.00	88	63	182 [2]
A 1 1/4 S	**9251630**	Rp 1 ¼	3.70	88	63	202 [2]
A 1 1/2 S	**9251640**	Rp 1 ½	5.00	88	63	236 [2]



Solar, brass, vertical

- 180 °C, 10 bar

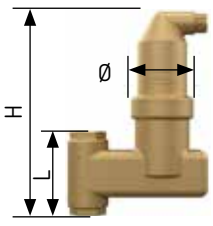
Type	Article no.	Connection	V̇max (m³/h)	L (mm)	Ø (mm)	H (mm)
A 22 SV	**9251700**	22 mm [1]	1.25	104	63	220 [2]
A 3/4 SV	**9251710**	Rp ¾	1.25	84	63	206 [2]
A 1 SV	**9251720**	Rp 1	2.00	84	63	206 [2]



Brass

- 110, 10 bar

Type	Article no.	Item price €	Material group	Connection	V̇max (m³/h)	L (mm)	Ø (mm)	H (mm)
A 22	**9251000**	67.00	82	22 mm [1]	1.25	106	63	165 [2]
A 3/4	**9251010**	66.00	82	Rp ¾	1.25	85	63	165 [2]
A 1	**9251020**	69.00	82	Rp 1	2.00	88	63	180 [2]
A 1 1/4	**9251030**	99.00	82	Rp 1 ¼	3.70	88	63	202 [2]
A 1 1/2	**9251040**	113.00	82	Rp 1 ½	5.00	88	63	236 [2]
A 2	**9251050**	315.00	82	Rp 2	8.00	132	100	277



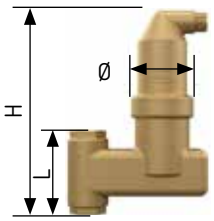
[1] Clamping ring

[2] Thermal insulation available

Exvoid (continued)

Brass, vertical

- 110 °C, 10 bar



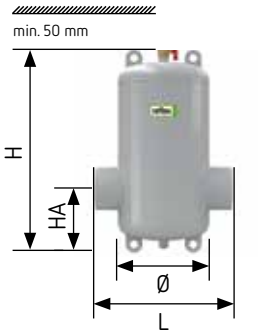
Type	Article no.	Connection	V̇max (m³/h)	L (mm)	Ø (mm)	H (mm)
A 22 V	**9251500**	22 mm [1]	1.25	84	63	206 [2]
A 3/4 V	**9251510**	Rp ¾	1.25	84	63	206 [2]
A 1 V	**9251520**	Rp 1	1.25	84	63	206 [2]

[1] Clamping ring

[2] Thermal insulation available

Steel with welded connection

- 110 °C, 10 bar

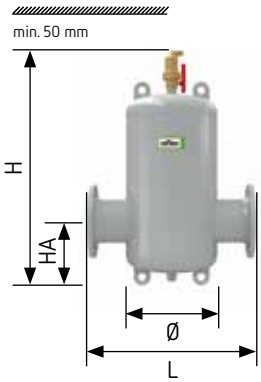


Type	Article no.	Connection (mm)	V̇max (m³/h)	L (mm)	Ø (mm)	H (mm)	HA (mm)
A 60.3	**8251100**	60.3	12.5	260	132	629 [1]	145
A 76.1	**8251110**	76.1	20.0	260	132	629 [1]	155
A 88.9	**8251120**	88.9	27.0	370	206	743 [1]	151
A 114.3	**8251130**	114.3	47.0	370	206	743 [1]	161
A 139.7	**8251140**	139.7	72.0	525	354	767 [1]	206
A 168.3	**8251150**	168.3	108.0	525	354	767 [1]	221
A 219.1	**8251160**	219.1	180.0	650	409	1050	276
A 273.0	**8251170**	273.0	288.0	750	480	1157	338
A 323.9	**8251180**	323.9	405.0	850	634	1426	393

[1] Thermal insulation available

Steel with flange connection

- 110 °C, 10 bar



Type	Article no.	Connection	V̇max (m³/h)	L (mm)	Ø (mm)	H (mm)	HA (mm)
A 50	**8251300**	DN 50/PN 16	12.5	350	132	629 [1]	145
A 65	**8251310**	DN 65/PN 16	20.0	350	132	629 [1]	155
A 80	**8251320**	DN 80/PN 16	27.0	470	206	743 [1]	151
A 100	**8251330**	DN 100/PN 16	47.0	475	206	743 [1]	161
A 125	**8251340**	DN 125/PN 16	72.0	635	354	767 [1]	206
A 150	**8251350**	DN 150/PN 16	108.0	635	354	767 [1]	221
A 200	**8251360**	DN 200/PN 16	180.0	775	409	1050	276
A 250	**8251370**	DN 250/PN 16	288.0	890	480	1157	338
A 300	**8251380**	DN 300/PN 16	405.0	1005	634	1426	393

[1] Thermal insulation available

Special versions for increased volume flows on request

Technical data

Exdirt

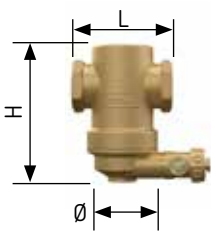
Dirt and sludge separator

- Removes free circulating dirt and sludge particles
- Functions in fully automated, continuous operation
- Only produces a minimal, constant drop in pressure
- Maintenance takes just 5 seconds
- Permanent free throughflow opening for the water
- No shut-off valves or bypass lines required
- Desludging possible during system operation
- Full range in terms of operating pressures, temperatures and materials
- Continually ensures flawless functionality of heat generators, thermostat valves, etc.
- Reduces the risk of defects and breakdowns in the long term

Brass

- 110 °C, 10 bar

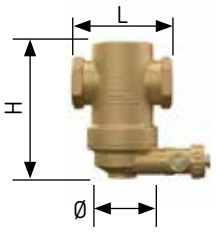
Type	Article no.	Connection	V̇max (m³/h)	L (mm)	Ø (mm)	H (mm)
D 22	9252000	22 mm [1]	1.25	85	63	103 [2]
D 3/4	9252010	Rp ¾	1.25	85	63	103 [2]
D 1	9252020	Rp 1	2.00	88	63	120 [2]
D 1 1/4	9252030	Rp 1 ¼	3.70	88	63	140 [2]
D 1 1/2	9252040	Rp 1 ½	5.00	88	63	174 [2]
D 2	9252050	Rp 2	8.00	132	100	215



M with magnet insert, brass NEW!

- 110 °C, 10 bar

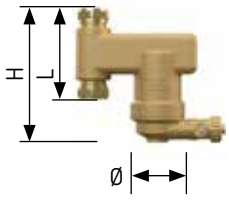
Type	Article no.	Connection	V̇max (m³/h)	L (mm)	Ø (mm)	H (mm)
D 22 M	9256000	22 mm [1]	1.25	85	63	103 [2]
D 3/4 M	9256010	Rp ¾	1.25	85	63	103 [2]
D 1 M	9256020	Rp 1	2.00	88	63	120 [2]
D 1 1/4 M	9256030	Rp 1 ¼	3.70	88	63	140 [2]
D 1 1/2 M	9256040	Rp 1 ½	5.00	88	63	174 [2]
D 2 M	9256050	Rp 2	8.00	132	100	215



Brass, vertical

- 110 °C, 10 bar

Type	Article no.	Connection	V̇max (m³/h)	L (mm)	Ø (mm)	H (mm)
D 22 V	9252500	22 mm [1]	1.25	84	63	144 [2]
D 3/4 V	9252510	Rp ¾	1.25	84	63	144 [2]
D 1 V	9252520	Rp 1	1.25	84	63	144 [2]

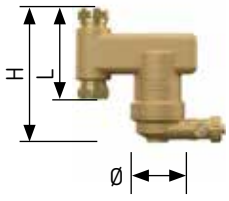


M with magnet insert, brass, vertical NEW!

- 110 °C, 10 bar

Type	Article no.	Connection	V̇max (m³/h)	L (mm)	Ø (mm)	H (mm)
D 22 V-M	9256500	22 mm [1]	1.25	84	63	144 [2]
D 3/4 V-M	9256510	Rp ¾	1.25	84	63	144 [2]
D 1 V-M	9256520	Rp 1	1.25	84	63	144 [2]

[1] Clamping ring [2] Thermal insulation available

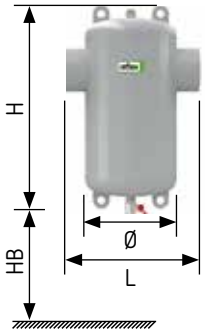


Exdirt (continued)

Steel with welded connection

- 110 °C, 10 bar

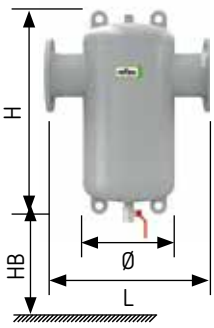
Type	Article no.	Connection (mm)	V̇max (m³/h)	L (mm)	Ø (mm)	H (mm)	HB (mm)
D 60.3	8252100	60.3	12.5	260	132	502 [1)]	370
D 76.1	8252110	76.1	20.0	260	132	502 [1)]	370
D 88.9	8252120	88.9	27.0	370	206	617 [1)]	430
D 114.3	8252130	114.3	47.0	370	206	617 [1)]	430
D 139.7	8252140	139.7	72.0	525	354	792 [1)]	550
D 168.3	8252150	168.3	108.0	525	354	792 [1)]	550
D 219.1	8252160	219.1	180.0	650	409	1002	600
D 273.0	8252170	273.0	288.0	750	480	1266	800
D 323.9	8252180	323.9	405.0	850	634	1476	900



Steel with flange connection

- 110 °C, 10 bar

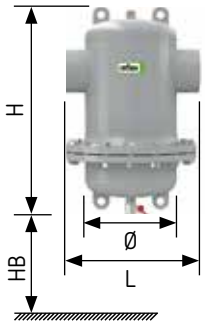
Type	Article no.	Connection	V̇max (m³/h)	L (mm)	Ø (mm)	H (mm)	HB (mm)
D 50	8252300	DN 50/PN 16	12.5	350	132	502 [1)]	370
D 65	8252310	DN 65/PN 16	20.0	350	132	502 [1)]	370
D 80	8252320	DN 80/PN 16	27.0	470	206	617 [1)]	430
D 100	8252330	DN 100/PN 16	47.0	470	206	617 [1)]	430
D 125	8252340	DN 125/PN 16	72.0	635	354	792 [1)]	550
D 150	8252350	DN 150/PN 16	108.0	635	354	792 [1)]	550
D 200	8252360	DN 200/PN 16	180.0	775	409	1002	600
D 250	8252370	DN 250/PN 16	288.0	890	480	1266	800
D 300	8252380	DN 300/PN 16	405.0	1005	634	1476	900



Steel with welded connection

- 110 °C, 10 bar, inspection flange

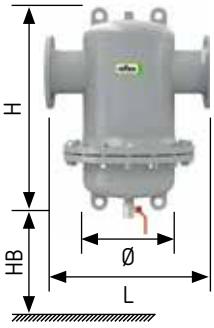
Type	Article no.	Connection (mm)	V̇max (m³/h)	L (mm)	Ø (mm)	H (mm)	HB (mm)
D 60.3 R	8252200	60.3	12.5	260	132	502 [1)]	370
D 76.1 R	8252210	76.1	20.0	260	132	502 [1)]	370
D 88.9 R	8252220	88.9	27.0	370	206	617 [1)]	430
D 114.3 R	8252230	114.3	47.0	370	206	617 [1)]	430
D 139.7 R	8252240	139.7	72.0	525	354	792 [1)]	550
D 168.3 R	8252250	168.3	108.0	525	354	792 [1)]	550
D 219.1 R	8252260	219.1	180.0	650	409	1002	600
D 273.0 R	8252270	273.0	288.0	750	480	1266	800
D 323.9 R	8252280	323.9	405.0	850	634	1476	900



Steel with flange connection

- 110 °C, 10 bar, inspection flange

Type	Article no.	Connection	V̇max (m³/h)	L (mm)	Ø (mm)	H (mm)	HB (mm)
D 50 R	8252400	DN 50/PN 16	12.5	350	132	502 [1)]	370
D 65 R	8252410	DN 65/PN 16	20.0	350	132	502 [1)]	370
D 80 R	8252420	DN 80/PN 16	27.0	470	206	617 [1)]	430
D 100 R	8252430	DN 100/PN 16	47.0	475	206	617 [1)]	430
D 125 R	8252440	DN 125/PN 16	72.0	635	354	792 [1)]	550
D 150 R	8252450	DN 150/PN 16	108.0	635	354	792 [1)]	550
D 200 R	8252460	DN 200/PN 16	180.0	775	409	1002	600
D 250 R	8252470	DN 250/PN 16	288.0	890	480	1266	800
D 300 R	8252480	DN 300/PN 16	405.0	1005	634	1476	900



Technical data

Extwin

Combination of Exvoid and Exdirt

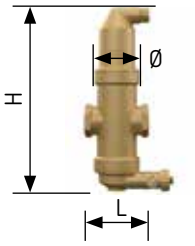
- Combines the protective functions of a Reflex Exvoid and Exdirt in a single component
- Single installation, doubled effect
- A far more cost-effective solution than using both the individual components
- Full range in terms of operating pressures, temperatures and materials
- Heat insulation Exiso (on site)

Brass

- 110 °C, 10 bar

Type	Article no.	Connection	V̇max (m³/h)	L (mm)	Ø (mm)	H (mm)
TW 22	9253000	22 mm [1]	1.25	105	63	261
TW 1	9253010	Rp 1	2.00	84	63	261

[1] Clamping ring

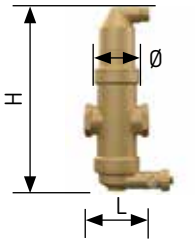


M with magnet insert, brass NEW!

- 110 °C, 10 bar

Type	Article no.	Connection	V̇max (m³/h)	L (mm)	Ø (mm)	H (mm)
TW 22 M	9257000	22 mm [1]	1.25	105	63	261
TW 1 M	9257010	Rp 1	2.00	84	63	261

[1] Clamping ring

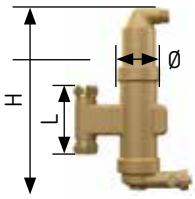


Brass, vertical

- 110 °C, 10 bar

Type	Article no.	Connection	V̇max (m³/h)	L (mm)	Ø (mm)	H (mm)
TW 22 V	9253500	22 mm [1]	1.25	105	63	261

[1] Clamping ring

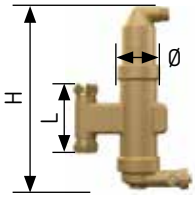


M with magnet insert, brass, vertical NEW!

- 110 °C, 10 bar

Type	Article no.	Connection	V̇max (m³/h)	L (mm)	Ø (mm)	H (mm)
TW 22 V-M	9257500	22 mm [1]	1.25	105	63	261

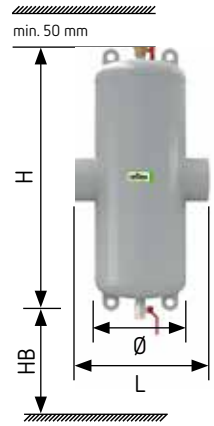
[1] Clamping ring



Steel with welded connection

- 110 °C, 10 bar

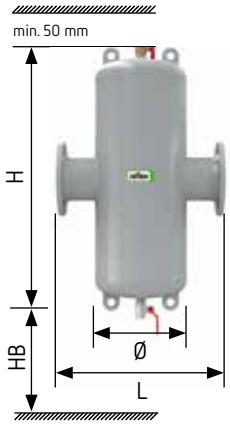
Type	Article no.	Connection (mm)	V̇max (m³/h)	L (mm)	Ø (mm)	H (mm)	HB (mm)
TW 60.3	8253100	60.3	12.5	260	132	770	370
TW 76.1	8253110	76.1	20.0	260	132	770	370
TW 88.9	8253120	88.9	27.0	370	206	925	430
TW 114.3	8253130	114.3	47.0	370	206	925	430
TW 139.7	8253140	139.7	72.0	525	354	1185	550
TW 168.3	8253150	168.3	108.0	525	354	1185	550
TW 219.1	8253160	219.1	180.0	650	409	1455	600
TW 273.0	8253170	273.0	288.0	750	480	1855	800
TW 323.9	8253180	323.9	405.0	850	634	2175	900



Extwin (continued)

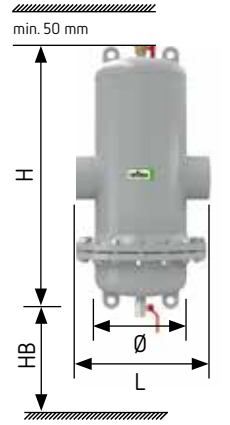
Steel with flange connection
- 110 °C, 10 bar

Type	Article no.	Connection	V̇max (m³/h)	L (mm)	Ø (mm)	H (mm)	HB (mm)
TW 50	**8253300**	DN 50/PN 16	12.5	350	132	770	370
TW 65	**8253310**	DN 65/PN 16	20.0	350	132	770	370
TW 80	**8253320**	DN 80/PN 16	27.0	470	206	925	430
TW 100	**8253330**	DN 100/PN 16	47.0	475	206	925	430
TW 125	**8253340**	DN 125/PN 16	72.0	635	354	1185	550
TW 150	**8253350**	DN 150/PN 16	108.0	635	354	1185	550
TW 200	**8253360**	DN 200/PN 16	180.0	775	409	1455	600
TW 250	**8253370**	DN 250/PN 16	288.0	890	480	1855	800
TW 300	**8253380**	DN 300/PN 16	405.0	1005	634	2175	900



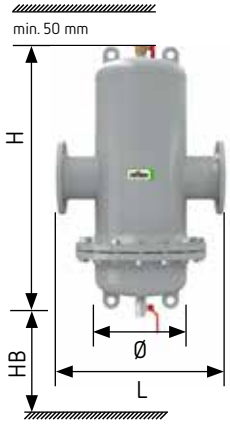
Steel with welded connection
- 110 °C, 10 bar, inspection flange

Type	Article no.	Connection (mm)	V̇max (m³/h)	L (mm)	Ø (mm)	H (mm)	HB (mm)
TW 60.3 R	**8253200**	60.3	12.5	350	132	770	370
TW 76.1 R	**8253210**	76.1	20.0	350	132	770	370
TW 88.9 R	**8253220**	88.9	27.0	470	206	925	430
TW 114.3 R	**8253230**	114.3	47.0	475	206	925	430
TW 139.7 R	**8253240**	139.7	72.0	635	354	1185	550
TW 168.3 R	**8253250**	168.3	108.0	635	354	1185	550
TW 219.1 R	**8253260**	219.1	180.0	775	409	1455	600
TW 273.0 R	**8253270**	273.0	288.0	890	480	1855	800
TW 323.9 R	**8253280**	323.9	405.0	1005	634	2175	900



Steel with flange connection
- 110 °C, 10 bar, inspection flange

Type	Article no.	Connection	V̇max (m³/h)	L (mm)	Ø (mm)	H (mm)	HB (mm)
TW 50 R	**8253400**	DN 50/PN 16	12.5	350	132	770	370
TW 65 R	**8253410**	DN 65/PN 16	20.0	350	132	770	370
TW 80 R	**8253420**	DN 80/PN 16	27.0	470	206	925	430
TW 100 R	**8253430**	DN 100/PN 16	47.0	475	206	925	430
TW 125 R	**8253440**	DN 125/PN 16	72.0	635	354	1185	550
TW 150 R	**8253450**	DN 150/PN 16	108.0	635	354	1185	550
TW 200 R	**8253460**	DN 200/PN 16	180.0	775	409	1455	600
TW 250 R	**8253470**	DN 250/PN 16	288.0	890	480	1855	800
TW 300 R	**8253480**	DN 300/PN 16	405.0	1005	634	2175	900



Accessories

Exferro

- Magnet insert for sludge separator
- 110 °C/10 bar
- Magnetic bar screwed into thermowell/T-piece
- For removal of ferromagnetic substances

Type	Article no.	Area of application	Installation length (mm)
D 50/140.3	**9258300**	DN 50 – DN 100	300
D 125/219.1	**9258310**	DN 125 – DN 200	350
D 250/323.9	**9258320**	DN 250 – DN 300	400
D 350/600	**9258330**	> DN 100	500

Exiso

Thermal insulation for Exvoid type A 22 A1½ and Exdirt D 22-D1½

Type	Article no.	Insulation thickness (mm)	Ø (mm)	H (mm)
A/D 22 1 ½	**9254811**	15	125	215-275

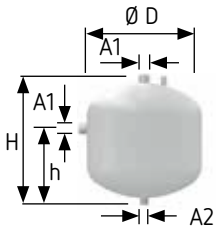
Thermal insulation for Exvoid and Exdirt, steel version

Type	Article no.	Insulation thickness (mm)	Ø (mm)	H (mm)
50-76.1	**9254831**	30.5	228	447
80-114.1	**9254841**	30.5	290	567
125-168.3	**9254851**	30.5	395	742

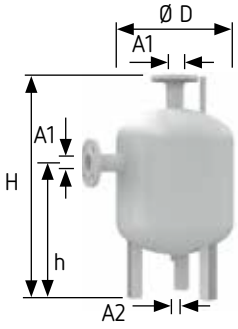
Dirt collectors

- For installation in liquid circuits for sedimentation of fine sludge and suspended matter
- Coated grey

CE



30 litres

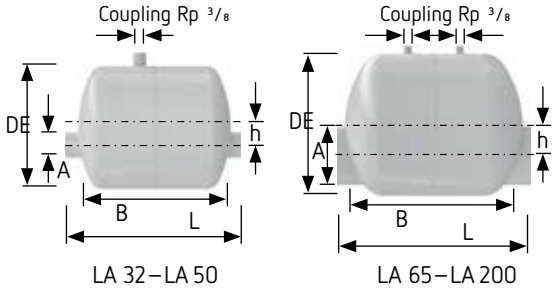


60 – 750 litres

	Type 10 bar/120 °C	Article no.	Ø D mm	H mm	h mm	A1	A2
10 bar	**EB 30**	**8636000**	409	455	270	R 1 ¼	R 1
	EB 60	**8635100**	409	770	465	DN 50/PN 16	R 1
	EB 80	**8636200**	480	765	468	DN 65/PN 16	R 1
	EB 100	**8636300**	480	870	535	DN 80/PN 16	R 1
6 bar	**6 bar/120 °C**						
	EB 180	**8632000**	600	1110	726	DN 100/PN 6	R 1
	EB 300	**8633000**	600	1600	1141	DN 125/PN 6	R 1
	EB 400	**8634000**	750	1500	1027	DN 150/PN 6	R 1
	EB 750	**8634100**	750	2215	1677	DN 250/PN 6	R 1

Air separators

- For separating gas bubbles in fluid circuits, particularly at low static pressures
- With welded connection

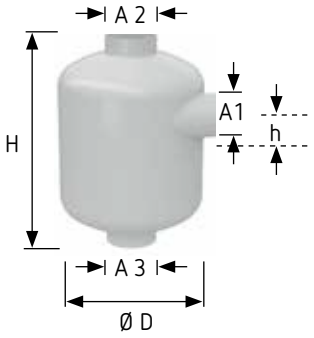


10 bar

Type 10 bar/120 °C	Article no.	L mm	h mm	Ø D mm	A
LA 32	**8671000**	300	30	206	DN 32
LA 40	**8672000**	300	40	206	DN 40
LA 50	**8673000**	300	40	206	DN 50
LA 65	**8674000**	390	60	280	DN 65
LA 80	**8675000**	390	60	280	DN 80
LA 100	**8676000**	390	50	280	DN 100
LA 125	**8677000**	390	40	280	DN 125
LA 150	**8678000**	590	90	409	DN 150
LA 200	**8679000**	590	40	409	DN 200

Expansion traps

- For connection to safety valves of heat generators for separating water-steam mixtures in accordance with DIN EN 12828
- Coated grey



Type	Article no.	H mm	h mm	Ø D mm	A1 DN	A 2 DN	A 3 DN
T 170	**8680000**	328	55	206	50	65	65
T 270	**8681000**	400	65	280	65	80	80
T 380	**8682000**	528	75	490	80	100	100
T 480	**8683000**	710	115	480	125	150	150
T 550	**8684000**	896	125	634	150	200	200

P11307enA / 9571349 / 02 - 14
Subject to technical modifications

reflex
Thinking solutions.

Reflex Winkelmann GmbH
Gersteinstrasse 19
59227 Ahlen, Germany

Tel.: +49 2382 7069-0
Fax: +49 2382 7069-588
www.reflex.de