



Thinking solutions.

# Diaphragm expansion vessels



Reflex, Refix



# 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.



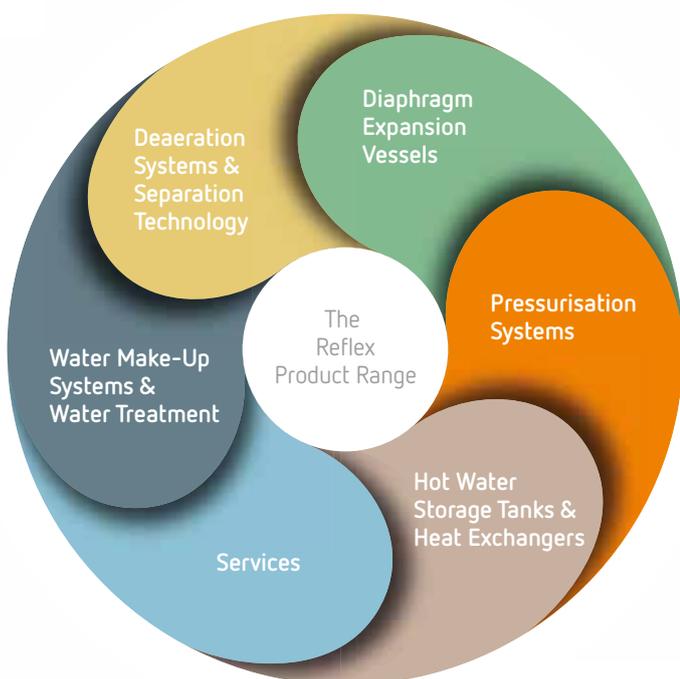
Thinking solutions.

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 our intimate knowledge of the industry!

# you are.

## We make sure that everything fits

Heating, cooling, hot water supply – water is indispensable for so many things in our everyday lives. Reflex looks after the quality of this water with a wide range of products, because this ultimately affects your air conditioning and energy efficiency levels, as well as the reliability, maintenance intervals and service life of your system. Discover with Reflex the many ways of optimising your supply systems in the long term with minimal effort. Our six product ranges provide high-performance combinations, versatile applications and cost-effective solutions, which we would like to present in this brochure.



This brochure focuses on diaphragm expansion vessels. They are fully functional without tools, maintain system pressure within a permissible range and compensate for fluctuations in volume resulting from temperature differences in the system. Reflex offer you a comprehensive range of products for every application.

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# What are diaphragm expansion

The correct pressure is a prerequisite for the proper operation of heating, solar power and cooling water systems, as well as pressure booster systems. It is essential to maintain water at a stable balance, compensate for variations in volume at regulated pressure and prevent gas separation and cavitation. Diaphragm expansion vessels offer a simple and intelligent solution here. They also act as ideal expansion vessels or buffer vessels without the need for electrical power, a compressor or a pump.

They are very simple to operate. A diaphragm divides the vessel into a water space and a gas space and prevents gas from diffusing into the water. The water space is connected to the external plant by the vessel connection. The static pressurised cushion of air in the gas space is set once in the factory using a filling valve. This restricts on average the volume of water accommodated within the vessel to a third of the total volume of the vessel.

Reflex offer two basic designs of diaphragm expansion vessels:

## Reflex for closed heating, solar power and cooling water systems



Reflex DT and DD for potable water and Reflex DE, DC, HW for service water systems and special applications, e.g. in brine circuits for heat pumps



Reflex vessels for use in potable water and service water systems have a wide range of international approvals.

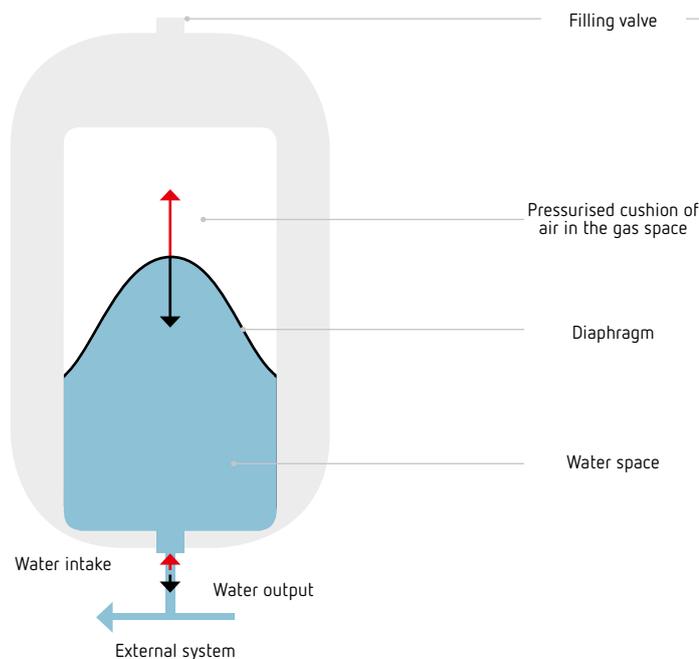


# vessels?

## Expansion vessels

Expansion vessels have to compensate for the fluctuations in volume between the maximum and minimum temperature and maintain pressure within a permissible range. Reflex products are used here as expansion vessels to maintain pressure in heating, solar power and cooling water systems, while Reflex products are used as expansion vessels to save potable water in hot water systems.

### An example of Reflex in a heating system:

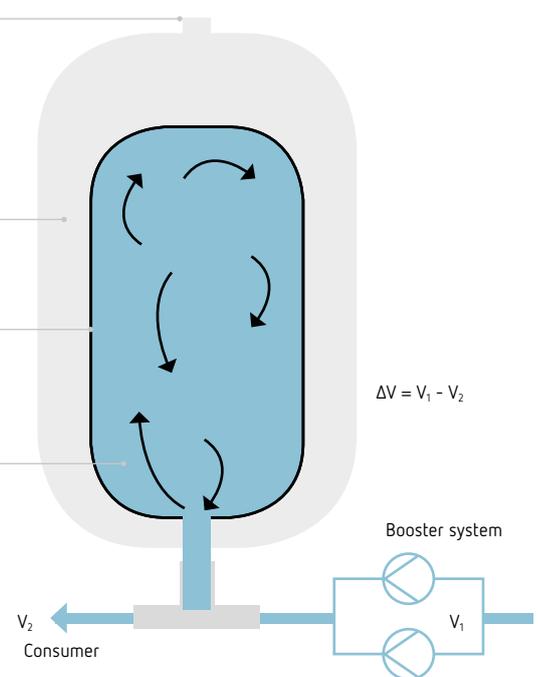


The pressurised cushion of air supports the water column within the system and is set before a reserve of water is poured into the vessel. When the system heats up, the pressure rises with the result that expansion water flows from the external system into the water space. The pressurised cushion of air in the gas space is compressed and the pressure rises. When the system cools down, the volume decreases and the pressure falls: The expansion water flows from the water space back into the external system. This releases the pressurised cushion of air in the gas space and lowers the pressure.

## Buffer vessels

Buffer vessels have to intermediately store the difference between the pumped volume flow and the volume flow actually needed. Control vessels are used when you merely want to reduce the switching frequency of a pump. As a rule, the Reflex range is used as a buffer vessel in booster systems, while Reflex products are used as control vessels in pump-controlled pressurisation stations.

### An example of Reflex in a booster system:



The pressurised cushion of air in the gas space is set approximately below the pump's switch-on pressure. When the pressure falls below the switch-on pressure, the pump switches on and pumps water. If consumers remove a relatively small volume of water, the difference in the buffer vessel is stored until the pressurised cushion of air on the switch-off side has compressed and the booster system has switched off. The resulting loss of pressure leads to a fall in volume. When consumers take water, the interim water is taken from the buffer vessel until the pressurised cushion of air has fallen to the switch-on pressure and the booster system switches on again.

# Reflex for heating, solar power a

The Reflex product line is broad and varied to create any customer-specific solutions required. It can be used within different pressure ranges and nominal volumes, either flat or cylindrical depending on the application location, and with a fixed half diaphragm or replaceable full diaphragm.

## Reflex N, NG and G diaphragm expansion vessels

Reflex N and NG are some of the world's most frequently used small vessels. The fixed half diaphragm has proved itself millions of times over and has shown itself to be extremely wear-resistant thanks to its evenly-balanced loading. The replaceable full diaphragm in the Reflex G meets all the requirements for repeated inspections needed with larger vessels.



Nominal volume	8–5000 l
Perm. excess operating pressure	3, 6, 10 bar
Perm. operating temperature of vessel/ diaphragm	120 °C/70 °C
Model	From NG 35 with feet
Non-standard models (>10 bar, >5,000 l)	for Reflex G on request
Colour	Grey, N 8–N 80 also available in white
Colour	Grey, NG 8–NG 140 also available in white

## Reflex S diaphragm expansion vessels

Specifically designed for solar systems, the series S has been designed especially for the addition of up to 50% anti-freeze and pressures up to 10 bar. This makes it ideal for use with heating and cooling systems.



Nominal volume	2–600 l
Perm. excess operating pressure	10 bar
Perm. operating temperature of vessel/ diaphragm	120 °C/70 °C
Model	From S 50 with feet
Colour	Grey, S 8–S 33 also available in white

# nd cooling water systems

## Reflex F diaphragm expansion vessels

The space-saving Reflex F with tried-and-tested fixed half diaphragm is the ideal unit for use with every wall-mounted boiler.

Nominal volume	8–24 l
Perm. excess operating pressure	3 bar
Perm. operating temperature of vessel/ diaphragm	120 °C/70 °C
Model	From 18 litres with wall bracket
Colour	White



## Reflex C diaphragm expansion vessels

The flat housing of the Reflex C vessel with integral hanging bracket allows space-saving, fast wall installation. The full diaphragm is made of butyl. In spite of its large surface area, diffusion between the gas and water spaces is prevented and the pre-set pressure remains stable.

Nominal volume	8–80 l
Perm. excess operating pressure	3 bar
Perm. operating temperature of vessel/ diaphragm	120 °C/70 °C
Colour	Grey



Detailed product information can be found on pages 16-19.

# Networked solutions with Reflex

Reflex expansion vessels for pressure maintenance can also be combined with a range of different accessories to utilise networked solutions with water make-up and degassing, thereby creating flexibility for commercial and customer-led solutions in the 100 to 1,000 kW range.



Reflex NG with accessories in a heating system

Reflex NG units up to 25 litres can be quickly and easily installed with a lockshield valve and bracket with tightening strap. The Reflex Fillsoft water softening unit guarantees optimum hardness of filling water and make-up water, significantly extending the boiler's service life.



The Reflex Fillsoft is suitable for filling and make-up water in heating systems. It has been developed to provide simple and practical water softening.



Reflex S combined with a Fillcontrol Auto water make-up station in a solar power system

The Reflex S works reliably even in the event of a power outage and maximum solar radiation. When switched in parallel, it is also the ideal system extension in larger systems. A useful addition is the use of a Fillcontrol Auto water make-up system.

An intermediate vessel to protect the diaphragm in the Reflex S from excess temperatures may be needed, depending on the configuration of the solar system.



The Fillcontrol Auto version for use with anti-freeze enables the unit to be connected to an open mixing vessel, also enabling the optimum content of anti-freeze to be guaranteed with automatic water make-up.



Reflex G combined with a Fillcontrol Auto Compact water make-up station in a heating system in a high-rise building

The Reflex G | 10 bar is the ideal product for high-rise buildings or larger systems. Monitored by a Fillcontrol Auto Compact with automatic water make-up, its operation is semi-automated and networking is possible with control centres.

The vessel connection assembly guarantees standard connection and, above all, fast drainage of the Reflex G during maintenance work.



The Fillcontrol Auto Compact can perform water make-up at up to 8.5 bar. A system separation vessel permits direct connection to potable water networks.



Reflex combined with a Servitec vacuum spray-tube degassing unit in a cooling water system

Combining the Reflex N with a Servitec permits ideal pressure maintenance, degassing, water make-up and networking with control centres – a veritable alternative to pressurisation stations. If a Fillsoft is additionally connected, degassed make-up water is also adjusted to the optimum level of hardness.



The Servitec degasses, monitors the Reflex N with its integral pressure sensor and automatically feeds in water when required.

# Refix for potable water and serv

Refix is ideal for potable water and service water systems and for specific applications in closed water systems. All water-carrying parts are protected against corrosion, and the water is stored in full diaphragms. Water-carrying solutions are available for specific requirements. Refix is therefore ideal for use as a buffer vessel in potable water and service water systems. Even if there is risk of corrosion by water rich in oxygen, its use as an expansion vessel is recommended.

## Refix DE, DC

The basis of a low-cost solution for service water systems. Water does not flow through this vessel. The DE range is fitted with a full diaphragm, which can be replaced from 50 litres on, and is ideal for use in water systems with higher corrosion resistance requirements, e.g. in brine circuits for heat pump systems. A half diaphragm is used with DC vessels.



Nominal volume DE   DC	2–5000   50–600 l
Perm. excess operating pressure DE   DC	10, 16, 25   10 bar
Potable water approvals	WRAS, ACS
Non-standard models	on request
Colour	Blue

## Refix DD

Refix DD is the potable water specialist for the home and is ideal for using with water heaters to save water. Water flows through the vessel, it has a stainless steel connection and thereby meets the ultra-exacting hygiene requirements of DIN 1988. The T-piece required is supplied with the unit and the Flowjet flow-through valve is optionally available.



Nominal volume	2–33 l
Perm. excess operating pressure	10–25 bar
Perm. operating temperature	70 °C
Potable water approvals	DVGW, ACS, SVGW
Colour	Green and white

# ice water systems

## Refix DT

Refix DT is the potable water specialist with a replaceable diaphragm for use with large-scale systems. Water flows through the vessel, thereby meeting the ultra-exacting hygiene requirements of DIN 1988. The wide range of different connections enables the Refix DT to be adapted to any capacity.

Nominal volume	60–3000 l
Perm. excess operating pressure	10   16 bar
Perm. operating temperature	70 °C
Potable water approvals	DVGW, ACS, SVGW
Non-standard models	on request
Colour	Green



## Refix HW

Refix HW has been developed for domestic water systems. It has legs for standing on the floor and a bracket for the fitting of a booster pump.

Nominal volume	25–100 l
Perm. excess operating pressure	10 bar
Perm. operating temperature	70 °C
Colour	Blue



## Refix water shock arrestors

Refix water shock arrestors are neither expansion vessels nor buffer vessels but are designed specifically to absorb water shocks in water pipes up to 1/2". They are ideal for fitting upstream of washing machines, dishwashers or combined heating appliances.

Nominal volume	165 ml
Perm. excess operating pressure	10 bar
Perm. operating temperature	70 °C
Colour	White



Detailed product information can be found on pages 20-25.

# Networked solutions with Refix

Refix products can also be combined with the widest range of accessories. An extensive range of models guarantees a greater degree of safety, economy and durability, and thus also greater satisfaction amongst customers. This is how we create individual solutions to meet all possible requirements and projects.



Refix DD used as an expansion vessel in a hot water system

When heating potable water, for instance in a Reflex Storatherm Aqua tank, pressure rises as the water expands. In the worst case, the excess pressure is decreased by a safety valve, losing valuable heated potable water. The use of a Refix DD diaphragm expansion vessel remedies this situation by preventing the unnecessary opening of the safety valve and providing for a more efficient, resource-conserving operation of the system.



Refix DD saves water when combined with the Flowjet flow-through valve and is versatile enough to use with the most varied flow rates.



Refix DT used as a buffer vessel in a booster system

Buffer vessels are still needed even in times of speed-controlled booster systems. Not only do they reduce the switching frequency of the pump but they can also significantly reduce peak loads. Fitted on the input or follow-up pressure side, they directly affect the sizing of the supply lines and the booster system.

The extensive variety of connections ranges from the complete DN 32 Flowjet flow-through valve to the DN 100 T-connection, ensuring excellent adaptation of capacity.



Refix vessels are coated internally in compliance with the German KTW-A recommendations, conforming to technical requirements. A diaphragm rupture detector guarantees additional safety.



### Reflex DE used as an expansion vessel in a closed, oxygen-rich heating circuit

Oxygen is constantly diffusing in circuits with plastic pipes, dramatically increasing the risk of corrosion. Underfloor heating systems are affected by this, as are geothermal systems. Corrosion-proof Reflex DE diaphragm expansion vessels should be used to remedy this situation.



A long-term plate heat exchanger combined with a Reflex DE is ideal for separating underfloor heating systems. The Reflex connection assembly rounds off the installation and operation perfectly.

# 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 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](tel:+49238270699546)

### 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](tel:+49238270699505)

### Central phone number

For general enquiries, 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.  
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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](http://www.reflex.de/pro) for further information and the option of downloading free of charge.

# ea to the solution.



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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](http://www.reflex.de) under Contact Us to find the field sales representative responsible for your region.



Our product literature - designed to be used

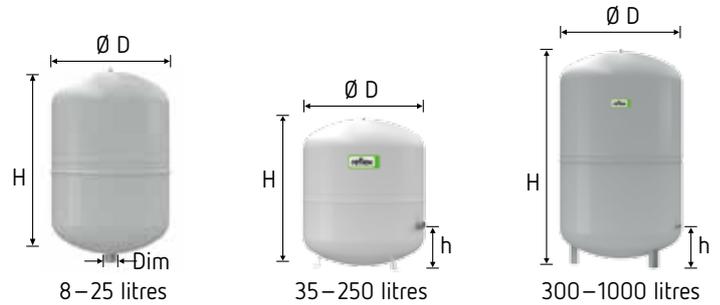
Make sure your decisions about all your future steps are based on solid foundations – with Reflex product information. You will find everything you need to know about products and systems in our brochures and at [www.reflex.de](http://www.reflex.de). Well arranged and clearly explained – from the wider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

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# Reflex technical data

## Reflex NG/N

- For closed heating and cooling systems
- With threaded connections
- From 35 litres upright
- Diaphragm in accordance with DIN EN 13831, not interchangeable
- Perm. operating temperature 70 °C
- Anti-freeze content in water max. 50%
- Approved in accordance with Pressure Equipment Directive 97/23/EC



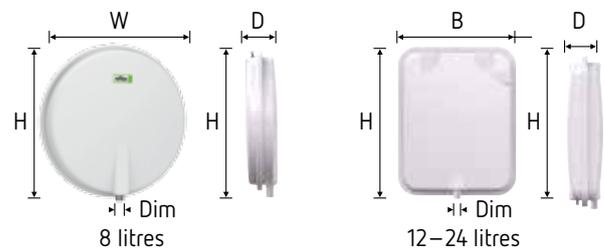
6 bar	Type	Article no. grey	Article no. white	Weight (kg)	Ø D (mm)	H (mm)	h (mm)	Dim	Pre-set pressure (bar)
	6 bar/120 °C								
	NG 8	8230100	7230107	1.1	206	285	–	R ¾	1.5
	NG 12	8240100	7240107	2.3	280	275	–	R ¾	1.5
	NG 18	8250100	7250107	2.8	280	345	–	R ¾	1.5
	NG 25	8260100	7260107	3.5	280	465	–	R ¾	1.5
	NG 35	8270100	7270107	5.7	354	460	130	R ¾	1.5
	NG 50	8001011	7001100	7.5	409	493	175	R ¾	1.5
	NG 80	8001211	7001300	9.9	480	565	175	R 1	1.5
	NG 100	8001411	7001500	11.2	480	670	175	R 1	1.5
	NG 140	8001611	7001700	14.5	480	912	175	R 1	1.5

6 bar	Type	Article no. grey	Article no. white	Weight (kg)	Ø D (mm)	H (mm)	h (mm)	Dim	Pre-set pressure (bar)
	6 bar/120 °C								
	N 200	8213300	–	22.0	634	758	205	R 1	1.5
	N 250	8214300	–	24.7	634	888	205	R 1	1.5
	N 300	8215300	–	27.0	634	1092	235	R 1	1.5
	N 400	8218000	–	47.0	740	1102	245	R 1	1.5
	N 500	8218300	–	52.0	740	1321	245	R 1	1.5
	N 600	8218400	–	66.0	740	1531	245	R 1	1.5
	N 800	8218500	–	96.0	740	1996	245	R 1	1.5
	N 1000	8218600	–	118.0	740	2406	245	R 1	1.5

↑ V<sub>n</sub> Nominal volume / litres

## Reflex F

- Flat vessel for heating and cooling water systems, especially suited for installation within the boiler
- Diaphragm in accordance with DIN EN 13831, perm. operating temperature 70°C
- From 18 litres supplied with suspension bracket
- Approval in accordance with the Pressure Equipment Directive 97/23/EC

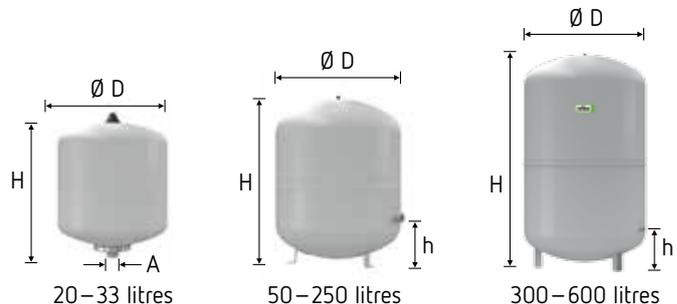


3 bar	Type	Article no. white	PEX	Weight (kg)	H (mm)	B (mm)	D (mm)	Dim	Pre-set pressure (bar)
	3 bar/120 °C								
	F 8	9600011	54	6.3	389	389	88	G ¾	0.75
	F 12	9600030	36	7.7	444	350	108	G ½	1.0
	F 15	9600040	36	8.2	444	350	134	G ¾	1.0
	F 18	9600000	28	8.7	444	350	158	G ¾	1.0
	F 24	9600010	25	9.4	444	350	180	G ¾	1.0

↑ V<sub>n</sub> Nominal volume / litres

## Reflex S

- For solar, heating and cooling water systems
- For up to 50% addition of anti-freeze
- With threaded connections
- Diaphragm in accordance with DIN EN 13831, perm. operating temperature 70°C
- Approval in accordance with the Pressure Equipment Directive 97/23/EC
- 33 litres with suspension brackets, from 50 litres with feet



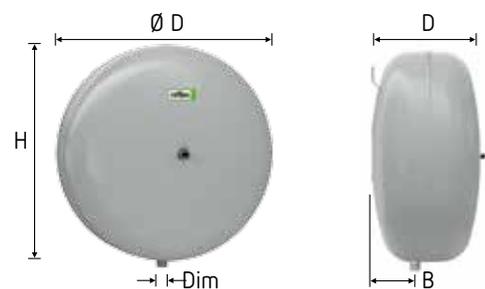
10 bar

Type 10 bar/120 °C	Article no. grey	white	PEX	Weight (kg)	Ø D (mm)	H (mm)	h (mm)	Dim	Pre-set pressure (bar)
S 2	8707700	—	280	1.0	132	260	—	G ¾	0.5
S 8	8703900	9702600	96	2.5	206	316	—	G ¾	1.5
S 12	8704000	9702700	72	2.5	280	300	—	G ¾	1.5
S 18	8704100	9702800	56	3.2	280	374	—	G ¾	1.5
S 25	8704200	9702900	42	4.5	280	496	—	G ¾	1.5
S 33	8706200	9706300	24	6.3	354	455	—	G ¾	1.5
S 50	8209500	—	20	9.5	409	469	158	R ¾	3.0
S 80	8210300	—	12	14.6	480	538	166	R 1	3.0
S 100	8210500	—	10	15.5	480	644	166	R 1	3.0
S 140	8211500	—	6	17.4	480	941	210	R 1	3.0
S 200	8213400	—	—	35.6	634	758	205	R 1	3.0
S 250	8214400	—	—	40.8	634	888	205	R 1	3.0
S 300	8215400	—	—	47.0	634	1092	235	R 1	3.0
S 400	8219000	—	—	61.0	740	1102	245	R 1	3.0
S 500	8219100	—	—	72.0	740	1321	245	R 1	3.0
S 600	8219200	—	—	87.0	740	1559	245	R 1	3.0

↑ V<sub>n</sub> Nominal volume / litres

## Reflex C

- For heating and cooling water systems
- For up to 50% addition of anti-freeze
- Incl. suspension bracket for ease of installation
- Butyl diaphragm in accordance with DIN EN 13831, perm. operating temperature 70 °C
- Approval in accordance with the Pressure Equipment Directive 97/23/EC



3 bar

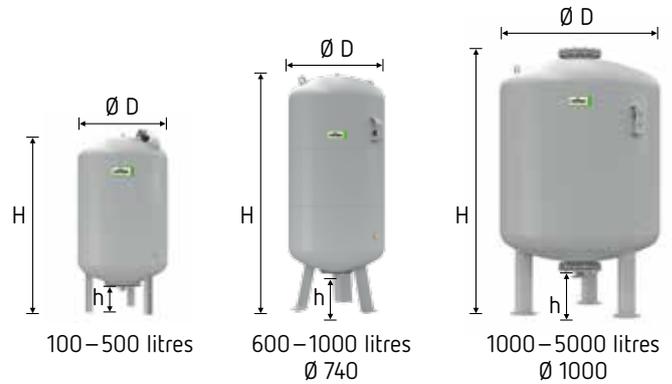
Type 3 bar/120 °C	Article no. grey	PEX	Weight (kg)	Ø D (mm)	H (mm)	D (mm)	B (mm)	Dim	Pre-set pressure (bar)
C 8	8280000	96	2.8	280	287	163	52	G ½	1.0
C 12	8280100	60	3.2	354	362	168	64	G ½	1.0
C 18	8280200	42	4.7	354	362	222	76	G ¾	1.0
C 25	8280300	42	5.5	409	419	239	93	G ¾	1.0
C 35	8280400	24	7.3	480	457	240	97	G ¾	1.0
C 50	8280500	20	8.1	480	457	318	125	G ¾	1.5
C 80	8280600	8	14.5	634	612	325	135	G ¾	1.5

↑ V<sub>n</sub> Nominal volume / litres

# Reflex technical data

## Reflex G

- For heating and cooling water systems
- Up to 1000 l/Ø 740 mm, with threaded connections
- From 1000 l/Ø 1000 mm with flanged connections DN 65
- Diaphragm in accordance with DIN EN 13831, perm. operating temperature 70°C
- Approval in accordance with the Pressure Equipment Directive 97/23/EC
- With inspection port
- Incl. pressure gauge
- Pressure gauge and pre-set pressure valve protected by metal brackets
- Diaphragm can be replaced



6 bar	Type	Article no.	Weight	Ø D	H	h	Dim	Pre-set pressure (bar)
	6 bar/120 °C	grey	(kg)	(mm)	(mm)	(mm)		
	G 400	8521605	43.0	740	1253	146	G 1	3.5
	G 500	8521705	51.0	740	1473	146	G 1	3.5
	G 600	8522605	66.0	740	1718	146	G 1	3.5
	G 800	8523610	94.0	740	2183	146	G 1	3.5
	G 1000 Ø 740	8546605	150.0	740	2593	146	G 1	3.5
	G 1000 Ø 1000	8524605	228.0	1000	1973	307	DN 65/PN 6	3.5
	G 1500	8526605	280.0	1200	1971	305	DN 65/PN 6	3.5
	G 2000	8527605	250.0	1200	2431	305	DN 65/PN 6	3.5
	G 3000	8544605	620.0	1500	2480	334	DN 65/PN 6	3.5
	G 4000	8529605	770.0	1500	3053	334	DN 65/PN 6	3.5
	G 5000	8530605	849.0	1500	3588	334	DN 65/PN 6	3.5

10 bar	Type	Article no.	Weight	Ø D	H	h	Dim	Pre-set pressure (bar)
	10 bar/120 °C	grey	(kg)	(mm)	(mm)	(mm)		
	G 100	8518000	14.9	480	856	153	G 1	3.5
	G 200	8518100	33.4	634	972	144	G 1 ¼	3.5
	G 300	8518200	34.6	634	1273	144	G 1 ¼	3.5
	G 400	8521005	51.0	740	1245	133	G 1 ¼	3.5
	G 500	8521006	57.1	740	1475	133	G 1 ¼	3.5
	G 600	8522006	118.0	740	1859	263	G 1 ½	3.5
	G 800	8523005	166.0	740	2324	263	G 1 ½	3.5
	G 1000 Ø 740	8546005	174.0	740	2604	263	G 1 ½	3.5
	G 1000 Ø 1000	8524005	335.0	1000	2001	286	DN 65/PN 16	3.5
	G 1500	8526005	390.0	1200	1991	291	DN 65/PN 16	3.5
	G 2000	8527005	485.0	1200	2451	291	DN 65/PN 16	3.5
	G 3000	8544005	830.0	1500	2532	320	DN 65/PN 16	3.5
	G 4000	8529005	1064.0	1500	3107	320	DN 65/PN 16	3.5
	G 5000	8530005	1274.0	1500	3642	320	DN 65/PN 16	3.5

↑ V<sub>n</sub> Nominal volume/litres

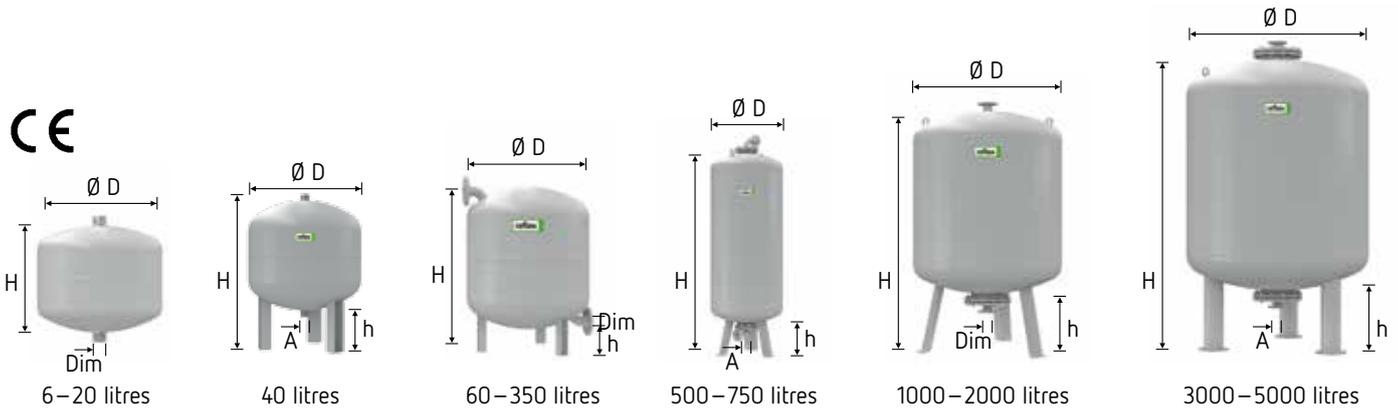
### Non-standard models on request

Individual approval carried out by the TÜV [Technical Inspection Association], in accordance with the Pressure Equipment Directive 97/23/EC

- From 1000 litres/Ø 1000 mm with MBM coupling
- Special vessel > 10 bar

## Reflex intermediate vessels

- Required for systems with return temperatures >70 °C or in cooling systems at ≤0 °C
- Approval in accordance with the Pressure Equipment Directive 97/23/EC
- Use as a buffer vessel



10 bar	Type	Article no.	PEX	Weight	Ø D	H	h	Dim
	10 bar/120 °C	grey		(kg)	(mm)	(mm)	(mm)	
	V 6	8403100	96	2.0	206	244	–	R ¾
	V 12	8403200	72	3.0	280	287	–	R ¾
	V 20	8402000	42	4.0	280	360	–	R ¾
	V 40	8403400	18	7.8	409	562	113	R 1
	V 60	8402600	12	23.0	409	732	172	R 1
	V 200	8701800	–	43.0	634	901	142	DN 40/PN 16
	V 300	8701900	–	48.0	634	1201	142	DN 40/PN 16
	V 350	8702400	–	51.0	640	1341	210	DN 40/PN 16
	V 1000	8400205	–	560.0	1000	2055	286	DN 65/PN 16
	V 1500	8400305	–	780.0	1200	2045	284	DN 65/PN 16
	V 2000	8400405	–	940.0	1200	2055	284	DN 65/PN 16
	V 3000	8400505	–	1405.0	1500	2598	313	DN 65/PN 16
	V 4000	8400605	–	1930.0	1500	3178	313	DN 65/PN 16
	V 5000	8400705	–	2015.0	1500	3173	313	DN 65/PN 16

6 bar	Type	Article no.	PEX	Weight	Ø D	H	h	Dim
	6 bar/120 °C	grey		(kg)	(mm)	(mm)	(mm)	
	V 500	8852800	–	160.0	750	1652	210	DN 40/PN 6
	V 750	8851800	–	205.0	750	2323	210	DN 40/PN 6
	V 1000	8851905	–	310.0	1000	2020	305	DN 65/PN 6
	V 1500	8852305	–	445.0	1200	2020	305	DN 65/PN 6
	V 2000	8852405	–	545.0	1200	2478	305	DN 65/PN 6
	V 3000	8852505	–	775.0	1500	2556	340	DN 65/PN 6
	V 4000	8853405	–	1060.0	1500	3131	340	DN 65/PN 6
	V 5000	8854805	–	1095.0	1500	3666	340	DN 65/PN 6

↑ V<sub>n</sub> Nominal volume/litres

### Non-standard models on request

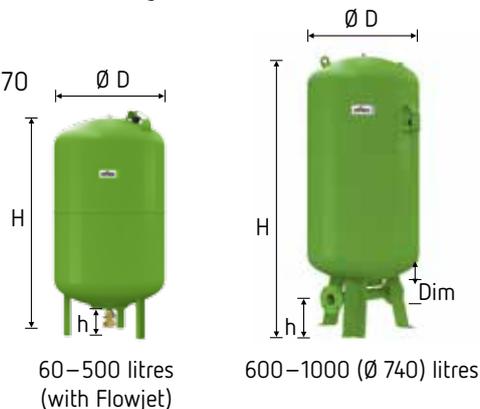
Individual approval carried out by the TÜV [Technical Inspection Association], in accordance with the Pressure Equipment Directive 97/23/EC

- Special vessel > 10 bar

# Refix technical data

## Refix DT

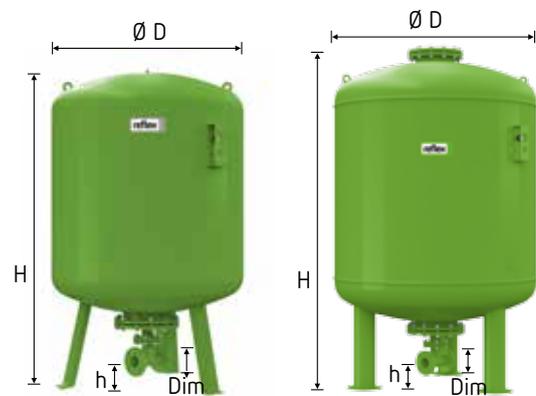
- For potable water systems, pressure booster systems and hot water systems with through-flow in accordance with DIN 1988
- Flowjet, incl. shut-off and drainage or duo-connection
- Diaphragm in accordance with DIN EN 13831, DIN 4807 T5, KTW-C and W 270
- Built and tested in accordance with DIN 4807 T5, DIN DVGW reg. no. NW-0411AT2094
- Approval in accordance with the Pressure Equipment Directive 97/23/EC
- Coated outside and inside in compliance with KTW-A
- Pre-set pressure 4 bar
- Diaphragm can be replaced
- Incl. pressure gauge
- Pressure gauge and pre-set pressure valve protected by metal brackets



10 bar	Type	Connection	Article no.	Weight	Ø D	H	h
	10 bar/70 °C		green	kg	(mm)	(mm)	(mm)
	DT 60	Flowjet Rp 1 ¼	7309000	15.0	409	766	80
	DT 80	Flowjet Rp 1 ¼	7309100	16.5	480	750	65
		DN 50/PN 16	7365000	23.0	480	750	100
		DN 65/PN 16	7335705	24.0	480	750	110
		DN 80/PN 16	7335805	26.0	480	750	115
	DT 100	Flowjet Rp 1 ¼	7309200	18.6	480	856	65
		DN 50/PN 16	7365400	26.0	480	856	100
		DN 65/PN 16	7365405	27.0	480	856	110
		DN 80/PN 16	7365406	28.0	480	856	115
	DT 200	Flowjet Rp 1 ¼	7309300	37.0	635	975	80
		DN 50/PN 16	7365100	53.0	635	975	105
		DN 65/PN 16	7365105	54.0	635	975	115
		DN 80/PN 16	7365106	57.0	635	975	120
	DT 300	Flowjet Rp 1 ¼	7309400	43.5	635	1275	80
		DN 50/PN 16	7365200	59.0	635	1275	105
		DN 65/PN 16	7336305	60.0	635	1275	115
		DN 80/PN 16	7336405	63.0	635	1275	120
	DT 400	Flowjet Rp 1 ¼	7319305	73.0	740	1245	70
		DN 50/PN 16	7365500	79.0	740	1245	95
		DN 65/PN 16	7336505	80.0	740	1245	105
		DN 80/PN 16	7336605	83.0	740	1245	110
	DT 500	Flowjet Rp 1 ¼	7309500	69.0	740	1475	70
		DN 50/PN 16	7365300	85.0	740	1475	90
		DN 65/PN 16	7365307	86.0	740	1475	100
		DN 80/PN 16	7365305	89.0	740	1475	110
	DT 600	DN 50/PN 16	7365600	164.0	740	1860	235
		DN 65/PN 16	7336705	165.0	740	1860	235
		DN 80/PN 16	7336806	177.4	740	1860	235
	DT 800	DN 50/PN 16	7365700	204.0	740	2325	235
		DN 65/PN 16	7336905	205.0	740	2325	235
		DN 80/PN 16	7337006	208.0	740	2325	235
	DT 1000 Ø 740	DN 50/PN 16	7365800	244.0	740	2604	235
		DN 65/PN 16	7337105	245.0	740	2604	235
		DN 80/PN 16	7337205	248.0	740	2604	235
	DT 1000 Ø 1000	DN 65/PN 16	7320105	386.2	1000	2000	160
		DN 80/PN 16	7337305	386.2	1000	2000	150
		DN 100/PN 16	7337405	386.2	1000	2000	140
	DT 1500	DN 65/PN 16	7320305	502.4	1200	2000	160
		DN 80/PN 16	7337505	502.4	1200	2000	150
		DN 100/PN 16	7337605	502.4	1200	2000	140
	DT 2000	DN 65/PN 16	7320505	686.5	1200	2450	160
		DN 80/PN 16	7337705	686.5	1200	2450	150
		DN 100/PN 16	7337805	686.5	1200	2450	140
	DT 3000	DN 65/PN 16	7320705	1054.0	1500	2520	190
		DN 80/PN 16	7337905	1057.0	1500	2520	180
		DN 100/PN 16	7338005	1057.0	1500	2520	170

↑  $V_n$  Nominal volume/litres

## Refix DT (continued)



1000 (Ø 1000)–2000 litres

3000 litres

16 bar	Type	Connection	Article no.	Weight	Ø D	H	h
	16 bar/70 °C		green	kg	(mm)	(mm)	(mm)
DT 80		Flowjet Rp 1 ¼	7316005	27.0	480	750	65
		DN 50/PN 16	7370000	32.0	480	750	100
		DN 65/PN 16	7310306	33.0	480	750	110
		DN 80/PN 16	7310307	35.0	480	750	115
DT 100		Flowjet Rp 1 ¼	7365408	29.0	480	835	65
		DN 50/PN 16	7370100	34.0	480	835	100
		DN 65/PN 16	7370101	35.0	480	835	110
		DN 80/PN 16	7370102	37.0	480	835	115
DT 200		Flowjet Rp 1 ¼	7365108	55.0	634	975	80
		DN 50/PN 16	7370200	61.0	634	975	105
		DN 65/PN 16	7370205	62.0	634	975	115
		DN 80/PN 16	7370206	65.0	634	975	120
DT 300		Flowjet Rp 1 ¼	7319205	64.0	634	1275	80
		DN 50/PN 16	7370300	70.0	634	1275	105
		DN 65/PN 16	7314205	71.0	634	1275	115
		DN 80/PN 16	7314206	74.0	634	1275	120
DT 400		DN 50/PN 16	7370400	113.0	740	1395	235
		DN 65/PN 16	7339006	119.0	740	1395	235
		DN 80/PN 16	7339005	122.0	740	1395	235
DT 500		DN 50/PN 16	7370500	130.0	740	1615	235
		DN 65/PN 16	7370507	131.0	740	1615	235
		DN 80/PN 16	7370505	134.0	740	1615	235
DT 600		DN 50/PN 16	7370600	174.0	740	1860	235
		DN 65/PN 16	7339105	175.0	740	1860	235
		DN 80/PN 16	7339205	178.0	740	1860	235
DT 800		DN 50/PN 16	7370700	224.0	740	2325	235
		DN 65/PN 16	7339305	225.0	740	2325	235
		DN 80/PN 16	7339406	228.0	740	2325	235
DT 1000 Ø 740		DN 50/PN 16	7370800	259.0	740	2604	235
		DN 65/PN 16	7339505	260.0	740	2604	235
		DN 80/PN 16	7339605	263.0	740	2604	235
DT 1000 Ø 1000		DN 65/PN 16	7320205	488.0	1000	2000	160
		DN 80/PN 16	7339705	488.0	1000	2000	150
		DN 100/PN 16	7339805	488.0	1000	2000	140
DT 1500		DN 65/PN 16	7320405	630.0	1200	2000	160
		DN 80/PN 16	7339905	630.0	1200	2000	150
		DN 100/PN 16	7340005	630.0	1200	2000	140
DT 2000		DN 65/PN 16	7320605	850.0	1200	2450	160
		DN 80/PN 16	7340105	850.0	1200	2450	150
		DN 100/PN 16	7340205	850.0	1200	2450	140
DT 3000		DN 65/PN 16	7320805	1240.0	1500	2520	190
		DN 80/PN 16	7340305	1240.0	1500	2520	180
		DN 100/PN 16	7340405	1200.0	1500	2520	170

↑ V<sub>n</sub> Nominal volume / litres

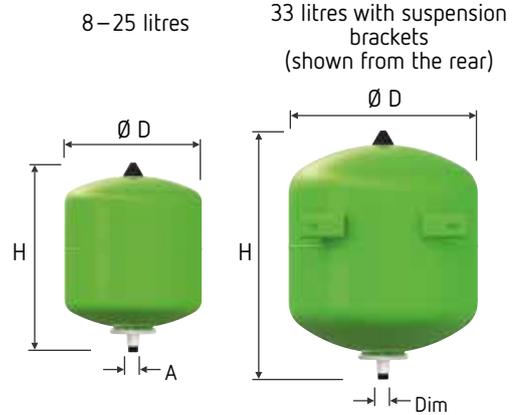
Special versions >16 bar available on request

- From 1000 litres/Ø 1000 mm with MBM coupling

# Refix technical data

## Refix DD

- For potable water systems, pressure booster systems and hot water systems in accordance with DIN 1988, stainless steel connection
- Highest hygienic standard by continuous flow through the vessel
- Diaphragm in accordance with DIN EN 13831, DIN 4807 T5, KTW-C and W 270
- Built and tested in accordance with DIN 4807 T5, DIN DVGW reg. no. NW-0411AT2534
- Approval in accordance with the Pressure Equipment Directive 97/23/EC
- Coated outside and inside in compliance with KTW-A
- Can be combined with Flowjet flow-through valve
- 33 Litres with suspension brackets
- Pre-set pressure 4 bar



10 bar	Type	Article no.		PEX	Weight (kg)	DE (mm)	H (mm)	Dim
	10 bar/70 °C	green	white					
	DD 2 <sup>1)</sup>	7381500	—	288	1.0	132	269	G 3/4
	DD 8	7308000	7307700	96	1.7	206	330	G 3/4
	DD 12	7308200	7307800	72	2.0	280	318	G 3/4
	DD 18	7308300	7307900	56	2.5	280	387	G 3/4
	DD 25	7308400	7380400	42	3.3	280	507	G 3/4
	DD 33	7380700	7380800	24	5.8	354	468	G 3/4

25 bar	Type	Article no.		PEX	Weight (kg)	DE (mm)	H (mm)	Dim
	25 bar/70 °C	green	white					
	DD 8	7290200	7290300	60	3.2	206	336	G 3/4

<sup>1)</sup> V<sub>n</sub> Nominal volume/litres

<sup>1)</sup> Supplied without T-piece

## Water shock arrestor

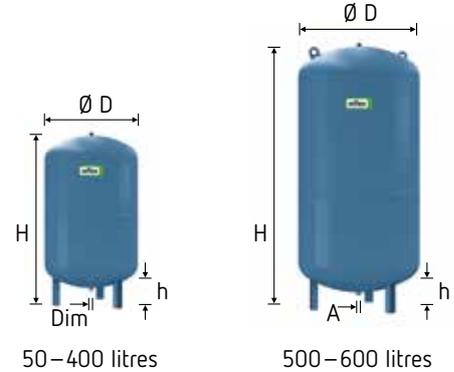
- For devices with quick-close valves, e.g. washing machines, automatic dishwashers
- Approval in accordance with the Pressure Equipment Directive 97/23/EC
- Total volume 165 cm<sup>3</sup>
- Pre-set pressure 4 bar
- 10 bar/70 °C

Article no.: 7351000



## Refix DC

- For systems not subject to DIN 1988 requirements, e.g. fire-extinguishing and service water systems, underfloor heating
- Without flow-through, shut-off and discharge
- Half diaphragms according to DIN EN 13831
- Parts that come into contact with water are corrosion-proof
- Approval in accordance with the Pressure Equipment Directive 97/23/EC
- Diaphragm cannot be replaced

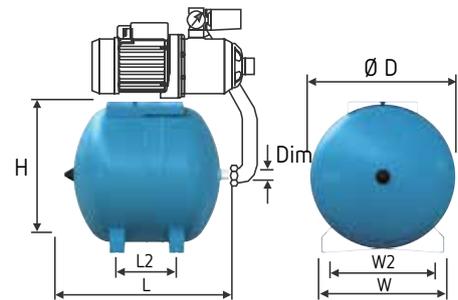


10 bar	Type	Article no.	Weight	Ø D	H	h	Dim	Pre-set pressure
	10 bar/70 °C	blue	(kg)	(mm)	(mm)	(mm)		(bar)
	DC 25	7200400	4.7	280	484	–	G 1	2.0
	DC 50	7309600	12.5	409	588	113	R 1	4.0
	DC 80	7309700	17.0	480	650	104	R 1	4.0
	DC 100	7309800	20.5	480	755	104	R 1	4.0
	DC 140	7309900	29.0	480	997	104	R 1	4.0
	DC 200	7363500	40.0	634	883	91	R 1	4.0
	DC 300	7363600	52.0	634	1184	93	R 1	4.0
	DC 400	7363700	78.0	740	1173	81	R 1	4.0
	DC 500	7363800	80.0	740	1392	82	R 1	4.0
	DC 600	7363900	103.0	740	1629	73	R 1	4.0

↑  $V_n$  Nominal volume/litres

## Refix HW

- For use as buffer vessel for domestic water systems that are not subject to DIN 1988 requirements
- Vessel surface and parts that come into contact with the water are plastic-coated
- Diaphragm can be replaced at HW 50–HW 100
- Pre-set pressure 2 bar



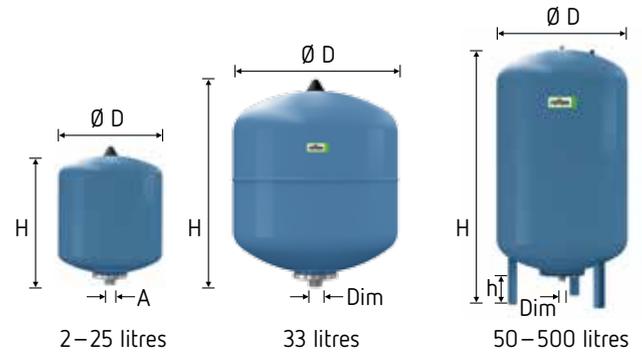
10 bar	Type	Article no.	PEX	Weight	Ø D	H	L	F	B	C	Dim
	10 bar/70 °C	blue		(kg)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	
	HW 25	7200310	36	5.3	280	293.4	484	228	214	270	G ¾
	HW 50	7200320	20	15.0	409	433	503	175	285	350	G 1
	HW 80	7200340	–	17.0	480	494	576	230	285	355	G 1
	HW 100	7200350	–	15.0	480	494	681	340	285	355	G 1

↑  $V_n$  Nominal volume/litres

# Refix technical data

## Refix DE

- For systems not subject to DIN 1988 requirements, e.g. fire-extinguishing and service water systems, underfloor heating, geothermal energy
- Without flow-through, shut-off and discharge
- Full diaphragm according to DIN EN 13831/can be replaced from 50 litres
- Parts that come into contact with water are corrosion-proof
- Approval in accordance with the Pressure Equipment Directive 97/23/EC
- Pre-set pressure 4 bar
- 33 litres with mounting plates
- From Ø 1000 mm incl. pressure gauge
- Pressure gauge and pre-set pressure valve protected by metal brackets

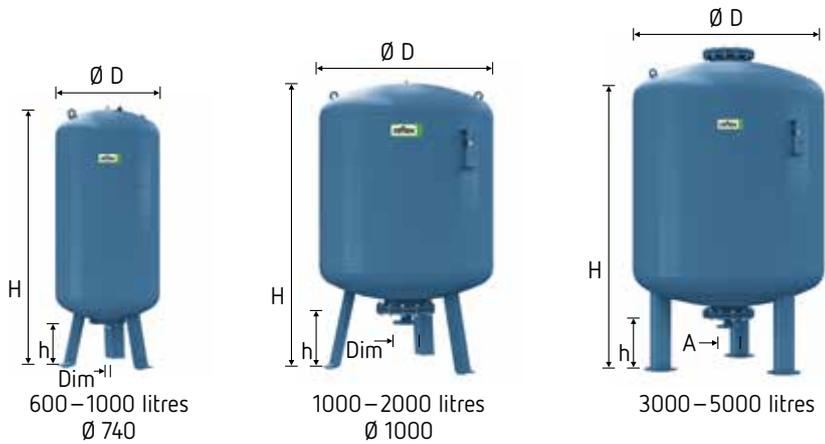


10 bar	Type	Article no.	PEX	Weight	Ø D	H	h	Dim
	10 bar/70 °C	blue		(kg)	(mm)	(mm)	(mm)	
	DE 2	7200300	288	1.0	132	260	–	G ¾
	DE 8	7301000	96	1.7	206	316	–	G ¾
	DE 12	7302000	72	2.4	280	307	–	G ¾
	DE 18	7303000	56	2.8	280	377	–	G ¾
	DE 25	7304000	42	3.7	280	496	–	G ¾
	DE 33	7303900	24	5.7	354	454	–	G ¾
	DE 33 <sup>1)</sup>	7305500	24	6.5	354	520	66	G ¾
	DE 50	7306005	20	9.5	409	604	102	G 1
	DE 60	7306400	18	11.2	409	734	161	G 1
	DE 80	7306500	10	14.0	480	729	153	G 1
	DE 100	7306600	10	16.0	480	834	153	G 1
	DE 200	7306700	4	36.5	634	967	150	G 1 ¼
	DE 300	7306800	–	41.6	634	1267	150	G 1 ¼
	DE 400	7306850	–	73.0	740	1245	139	G 1 ¼
	DE 500	7306900	–	103.0	740	1475	133	G 1 ¼
	DE 600	7306950	–	128.0	740	1859	263	G 1 ½
	DE 800	7306960	–	176.0	740	2325	263	G 1 ½
	DE 1000 Ø 740	7306970	–	214.0	740	2604	263	G 1 ½
	DE 1000 Ø 1000	7311405	–	427.0	1000	2001	286	DN 65/PN 16
	DE 1500	7311605	–	542.0	1200	1991	291	DN 65/PN 16
	DE 2000	7311705	–	717.0	1200	2451	291	DN 65/PN 16
	DE 3000	7311805	–	962.0	1500	2521	320	DN 65/PN 16
	DE 4000	7354000	–	1085.0	1500	3070	320	DN 65/PN 16
	DE 5000	7354200	–	1050.0	1500	3635	320	DN 65/PN 16

↑ V<sub>n</sub> Nominal volume / litres \* ACS symbol applies for DE-2 to DE-33 vessels

<sup>1)</sup> Vertical design

## Refix DE (continued)



16 bar	Type	Article no.	PEX	Weight	Ø D	H	h	Dim
	16 bar/70 °C	blue		(kg)	(mm)	(mm)	(mm)	
	DE 8	7301006	96	2.7	206	321	–	G ¾
	DE 12	7302105	72	3.5	280	309	–	G ¾
	DE 25	7304015	24	5.6	280	499	–	G ¾
	DE 80	7348600	–	23.0	480	729	153	G 1
	DE 100	7348610	–	27.0	480	834	153	G 1
	DE 200	7348620	–	57.0	634	967	150	G 1 ¼
	DE 300	7348630	–	66.0	634	1267	150	G 1 ¼
	DE 400	7348640	–	116.0	740	1394	265	G 1 ½
	DE 500	7348650	–	127.0	740	1614	265	G 1 ½
	DE 600	7348660	–	158.0	740	1859	265	G 1 ½
	DE 800	7348670	–	202.0	740	2324	265	G 1 ½
	DE 1000 Ø 740	7348680	–	244.0	740	2604	265	G 1 ½
	DE 1000 Ø 1000	7312805	–	530.0	1000	2001	286	DN 65/PN 16
	DE 1500	7312905	–	685.0	1200	1991	291	DN 65/PN 16
	DE 2000	7313005	–	895.0	1200	2451	291	DN 65/PN 16
	DE 3000	7313105	–	1240.0	1500	2521	320	DN 65/PN 16
	DE 4000	7354100	–	1100.0	1500	3110	320	DN 65/PN 16
	DE 5000	7354300	–	1120.0	1500	3645	320	DN 65/PN 16

25 bar	Type	Article no.	PEX	Weight	Ø D	H	h	Dim
	25 bar/70 °C	blue		(kg)	(mm)	(mm)	(mm)	
	DE 8	7290100	60	3.5	206	321	–	G ¾
	DE 80	7317600	–	70.0	450	942	159	DN 50/PN 40
	DE 120	7313700	–	100.0	450	1253	159	DN 50/PN 40
	DE 180	7313500	–	116.0	450	1528	159	DN 50/PN 40
	DE 300	7313800	–	150.0	750	1318	160	DN 50/PN 40
	DE 400	7313300	–	245.0	750	1423	160	DN 50/PN 40
	DE 600	7321500	–	290.0	750	1868	159	DN 50/PN 40
	DE 800	7321200	–	355.0	750	2268	159	DN 50/PN 40
	DE 1000 Ø 750	7321000	–	245.0	750	2768	159	DN 50/PN 40
	DE 1000 Ø 1000	7322200	–	800.0	1000	2051	242	DN 65/PN 40
	DE 1500	7322100	–	680.0	1200	2071	291	DN 65/PN 40
	DE 2000	7313400	–	895.0	1200	2531	240	DN 65/PN 40
	DE 3000	7345700	–	1550.0	1500	2609	269	DN 65/PN 40

↑  $V_n$  Nominal volume / litres

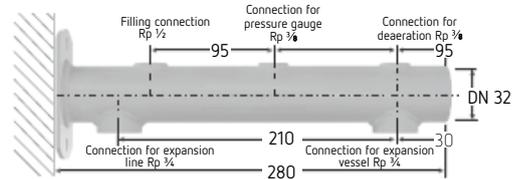
Special versions >25 bar available on request

# Reflex accessories

## Reflex wall bracket

- Bracket with multiple connections, for Reflex 8–25 litres with a top vessel connection

Article no.: 7612000



- Bracket with tightening strap for Reflex 8–25 litres, vertical assembly, top or bottom vessel connection

Article no.: 7611000



## Diaphragm rupture detector

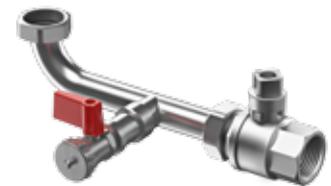
- Signals in the event of diaphragm rupture in the Reflex DT, DE and Reflex G from 60 litres
- Consisting of an electrode relay and an electrode (factory-fitted)
- Voltage supply 230 V/50 Hz
- Floating output (changeover switch)
- Only supplied in conjunction with a vessel



Article no.: 7857700

## Protected shut-off & connection assembly

- For super-fast assembly and maintenance of diaphragm expansion vessels
- Incl. protected shut-off and elbow connector with screw connection
- With draining tap G 1/2 and hose nozzle
- In accordance with DIN EN 12828
- PN 16/120 °C
- Suitable for Reflex N and S
- Particularly suitable for Reflex G 100–1000 Ø 740



Article	Article no.
Connection group 1	9119204
Connection group 1 1/4	9119205
Connection group 1 1/2	9119206

## Lockshield valve

- Protected shut-off for maintenance and disas expansion vessels
- With draining
- In accordance with DIN EN 12828
- PN 10/120 °C



Article	Article no.
Lockshield valve R 3/4	7613000
Lockshield valve R 1	7613100

## Digital test manometer

- Pre-set pressure gauge up to around 9 bar

Article no.: 9119198



# Refix accessories

## 3/4 Flowjet flow-through valve

- Protected shut-off valve with drainage for Refix DD in accordance with DIN 4807 T5
- Perm. excess operating pressure 16 bar
- Perm. operating temperature 70 °C
- Connections on both sides G 3/4", m/f thread
- Can be combined with T-pieces (on site) with nominal connection 1"

**Article no.: 9116799**



## Reflex wall bracket

- Bracket with tightening strap for 8–25 litre vessels
- Ultra-simple assembly

**Article no.: 7611000**



## Diaphragm rupture detector

- Signals in the event of diaphragm rupture in the Refix DT, DE and Reflex G from 60 litres
- Consisting of an electrode relay and an electrode (factory-fitted)
- Voltage supply 230 V/50 Hz
- Floating output (changeover switch)
- Only supplied in conjunction with a vessel

**Article no.: 7857700**



## Digital test manometer

- Pre-set pressure gauge up to around 9 bar

**Article no.: 9119198**





Thinking solutions.

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