

Venting Range and Air/Dirt Separators

Systems in which the water is properly de-aerated and free of contamination are more efficient, produce less noise and have a longer service life. Our products use proven and innovative technology to remove air and solid particles from the water, i.e. using coalescence and flow velocity reduction.

Regardless of whether in a domestic environment or commercial installations with large heating or cooling systems, Wilo's range of automatic air vents and air/dirt separators provide the most efficient solution.



Automatic Air Venting Units

The compact, proven design has high efficiency and guaranteed operation for heating and air conditioning.

The water within the installation contains air which can form corrosion and reduce the thermal transfer. A Wilo-Carus is fitted at places where the air collects.

Wilo-Carus float vents are made of brass. Most types are equipped with a shut-off valve for easy fitting and dismantling.

A Wilo-Carus float vent is easy to fit in any installation due to its very small dimensions. The relatively large air cushion at the top of each type of Wilo-Carus float vent protects the valve seat sufficiently against contamination so that the Wilo-Carus will not leak.

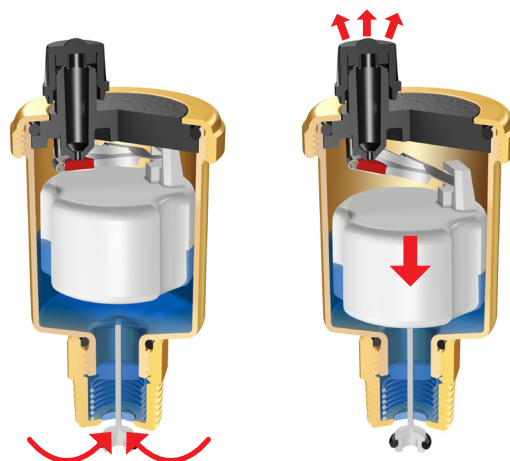
To guarantee top quality, we test all Wilo-Carus before they leave our factory.



How the Wilo-Carus works

Float operated, the air is collected in the Wilo-Carus causing the float to drop and open the air release valve. The water pressure then pushes the air out, the float rises and closes the valve.

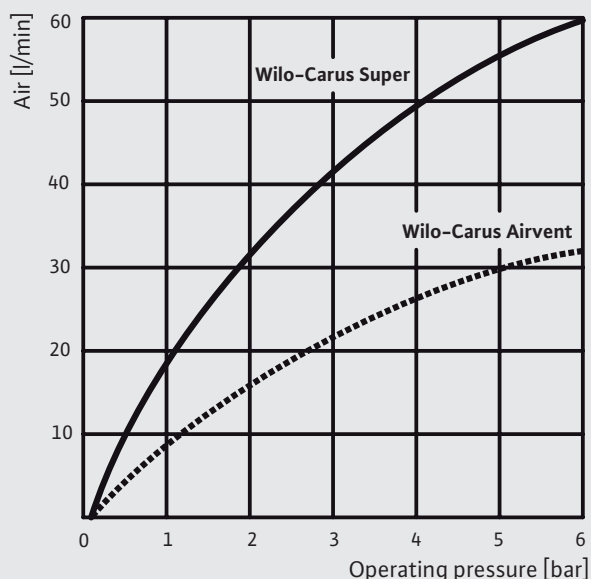
The air cushion in the upper part of each Wilo-Carus protects the valve seat against contamination.



Wilo-Carus capacity graph

The amount of air that is allowed to escape through the Wilo-Carus float vent depends on the system pressure. The graph shows the relationship between the amount of air in litres/min at 15 °C and the system pressure.

The graph shows the free air bubbles that the carus series can remove depending on system pressure.



Wilo-Carus Airvent

- With protective cap including expansion sealer rings to prevent leaks.
- Substantial distance between the water and the closing mechanism, reducing the chance of contamination.
- Suitable for addition of glycol-based anti-freeze up to 50 %.
- Minimum/maximum working temperature: -10 °C / 90 °C (peak load: 120 °C).
- Minimum/maximum working pressure: 0.2 / 6.0 bar (peak load: 10.0 bar).
- With automatic shut-off valve.

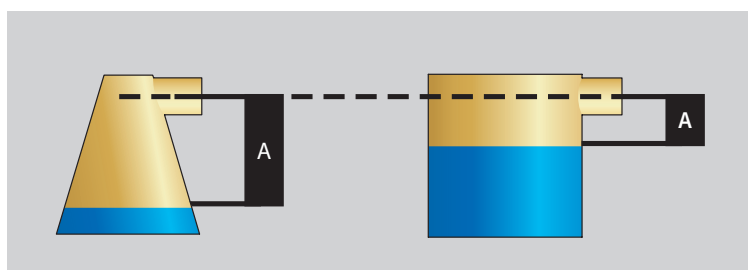


Technical data

Type	Connection	Dimensions		Order Code
		Ø mm	Height mm	
Wilo-Carus Airvent R 3/8" M	R 3/8"	30	73	2198933
Wilo-Carus Airvent R 1/2" M	R 1/2"	30	73	2198934

Wilo-Carus Super

- The cap of the Wilo-Carus Super is conical in shape. The advantage of this construction is that the clearance between the water level and venting valve is maximized.
- The air escape duct can be opened or closed with an adjusting screw.
- The venting valve forms an integral part of the cap, so that it is impossible to damage the float vent mechanism from outside.
- Suitable for addition of glycol-based anti-freeze up to 50 %.
- Minimum/maximum working temperature: -10 °C / 120 °C.
- Minimum/maximum working pressure: 0.2 / 10.0 bar.



Technical data

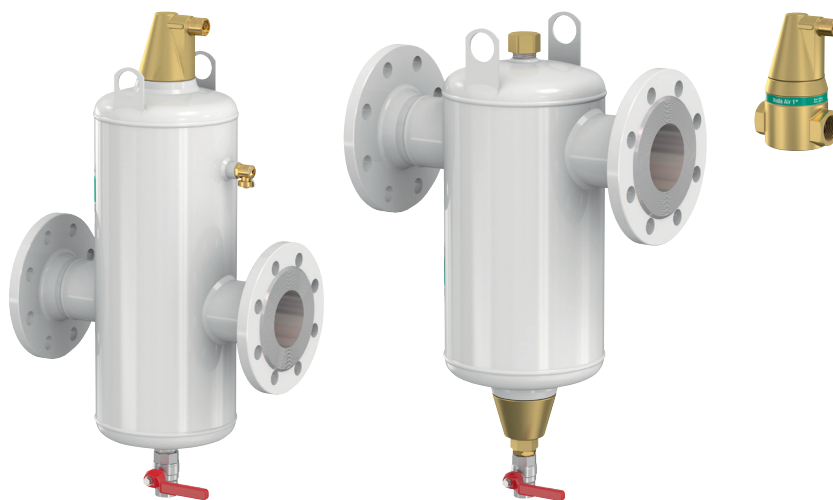
Type	Connection	Dimensions		Shut-off valve	Order Code
		Ø mm	Height mm		
Wilo-Carus Super 1/2"	G 1/2" F	73	119	no	2198935

Separators

Air and dirt separator for domestic and commercial installations

Regardless of whether in a domestic environment or commercial installations with large heating or cooling systems, Wilo's range of automatic air vents and air and dirt separators provide the most efficient solution. Our products are suitable for both heating and cooling systems.

- Increases comfort and yield.
- Prevents deposit of dirt particles in the boiler.
- The removal of air and dirt from the system water extends the service life of pumps, control equipment and other system accessories.



Dual Zone Flow Diversion Technology for Separators (from DN50 onwards) – Three Technologies in One

The patent Dual Zone Flow Diversion unites all existing technologies to separate air particles and dirt from system water: coalescence, lowering of the flow speed and pressure drop. Under the influence of coalescence, micro-bubbles attach themselves to metal

and other surfaces; lowering the flow speed of system water allows air-bubbles to rise and a drop in pressure releases gases dissolved in fluid.

The combination of these three technologies combined with optimum system flow guarantees the best possible result.



Wilo-Voda – How it works

The separation element combined with the return flow ensures excellent air and dirt separation and at the same time saves energy because of the negligible flow resistance. An exceptional rate of at least 40 % of the air and dirt is separated per cycle while using only 10 % extraction of the main flow. Inside the chamber of the separator the water velocity is heavily reduced down to less than 1 % of the main flow. This efficiently separates microbubbles by allowing the air particles to automatically rise to the air release valve at the top and allows the dirt particles to sink to the bottom to the dirt collector. A supermagnet additionally contributes in trapping ferrous particles.

Double thrust function

Two thrust functions ensure efficient deaeration of the system water

- A:** The first function is achieved by the separating element in the path of the main flow through the unit, diverting contaminated water into the entrapment chamber.
- B:** The second effect is achieved by bringing back the clean return flow of water in the centre, upstream of the separating element. This forces the air and dirt particles present in the main flow outwards and into the chambers of the separator to be removed.

Air Separators

For total elimination of air from heating and cooling installations.

Air separators increase comfort and improve the yield. Air separators also offer benefits in the event of application in old systems or when an open system is converted to a closed system.

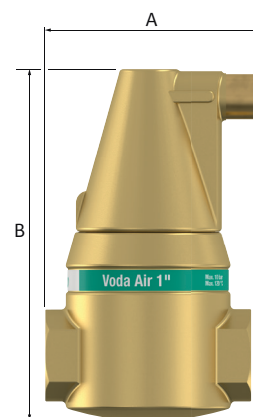
- Increases comfort and yield.
- The removal of air from the system water extends the service life of pumps, control equipment and other system accessories.

Wilco-Voda Air 22 mm – 2"

Air separators for horizontal installations. The Wilco-Voda Air separators remove even the smallest microbubbles from the system water. They are virtually maintenance-free and the flow resistance is negligibly low.

- Minimum/maximum working temperature: -10 °C / 120 °C.
- Maximum working pressure: 10 bar.
- Suitable for addition of glycol-based anti-freeze up to 50 %.
- Maximum flow velocity: 1.5 m/s.

- Removes not only the smallest air bubbles, but even the air which has been absorbed into the water. Even microbubbles from 15 – 20 µm!
- The removal of air from the system water extends the service life of pumps, control equipment and other system accessories.
- With PALL ring technology. Even the smallest micro-bubbles adhere to the PALL rings, separating them from the system water.
- The air chamber is conical, so the greatest possible distance can be maintained between the water level and the vent valve.
- The vent valve with regulating screw can be shut off.
- Consistent performance throughout its service life.



Technical data

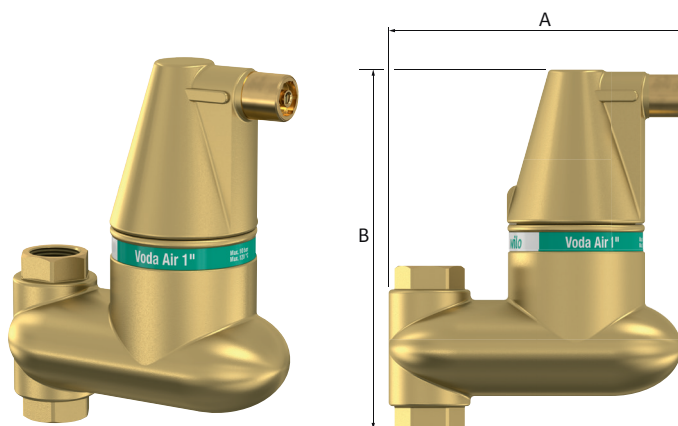
Type	Connection	Dimensions		Weight kg	Order Code
		A mm	B mm		
Wilco-Voda Air 22 mm	22 mm	98	151	1.4	2198831
Wilco-Voda Air ¾"	Rp ¾"	88	151	1.3	2198832
Wilco-Voda Air 1"	Rp 1"	100	171	1.6	2198833
Wilco-Voda Air 1 ¼"	Rp 1 ¼"	114	192	2.1	2198834
Wilco-Voda Air 1 ½"	Rp 1 ½"	114	192	2.1	2198835
Wilco-Voda Air 2"	Rp 2"	131	213	2.5	2198836

Wilo-Voda Air 22 mm – 1 ¼" V

Air separators for vertical installations. The Wilo-Voda Air separators remove even the smallest microbubbles from the system water. They are virtually maintenance-free and the flow resistance is negligibly low.

- Removes not only the smallest air bubbles, but even the air which has been absorbed into the water. Even microbubbles from 15 – 20 µm!
- The removal of air from the system water extends the service life of pumps, control equipment and other system accessories.
- With PALL ring technology. Even the smallest micro-bubbles adhere to the PALL rings, separating them from the system water.
- The air chamber is conical, so the greatest possible distance can be maintained between the water level and the vent valve.
- The vent valve with regulating screw can be shut off.
- Consistent performance throughout its service life.

- Minimum/maximum working temperature: -10 °C / 120 °C.
- Maximum working pressure: 10 bar.
- Suitable for addition of glycol-based anti-freeze up to 50 %.
- Maximum flow velocity: 1.5 m/s.



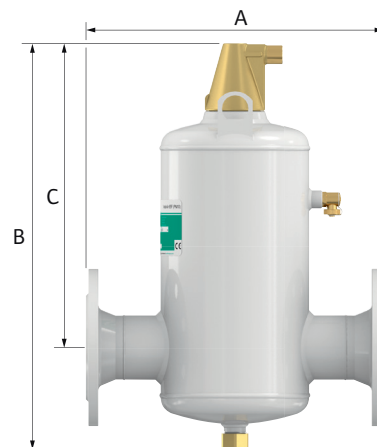
Technical data

Type	Connection	Dimensions		Weight	Order Code
		A mm	B mm	kg	
Wilo-Voda Air 22 mm V	22 mm	98	189	1.9	2198837
Wilo-Voda Air ¾" V	Rp ¾"	88	182	1.9	2198838
Wilo-Voda Air 1" V	Rp 1"	100	204	2.9	2198839
Wilo-Voda Air 1 ¼" V	Rp 1 ¼"	114	204	2.8	2198840

Wilo-Voda Air 50-200F (PN10)

Air separator constructed in steel with Dual Zone Flow Diversion technology.
For total elimination of air from heating and cooling installations. Air separators also offer benefits in the event of application in old systems or when an open system is converted to a closed system.

- Increases comfort and yield.
- The removal of air from the system water extends the service life of pumps, control equipment and other system accessories.
- With flanged connection according to EN 1092-1 PN16.
- Maximum working pressure: 10 bar.
- Suitable for systems with a maximum flow temperature of 120 °C.
- Maximum flow velocity: 1.5 m/s.
- Suitable for addition of glycol-based anti-freeze up to 50 %.
- In accordance with Pressure Equipment Directive 2014/68/EU.



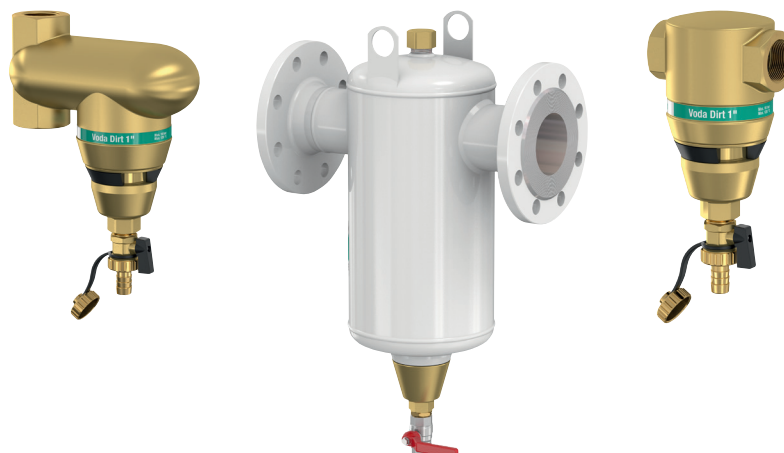
Technical data

Type	Connection	Capacity <i>l</i>	Dimensions			Weight <i>kg</i>	Order Code
			<i>A</i> <i>mm</i>	<i>B</i> <i>mm</i>	<i>C</i> <i>mm</i>		
Wilo-Voda Air 50F (PN10)	DN 50	8	350	470	338	13.1	2198808
Wilo-Voda Air 65F (PN10)	DN 65	8	350	470	338	14.1	2198809
Wilo-Voda Air 80F (PN10)	DN 80	25	470	621	435	22.4	2198810
Wilo-Voda Air 100F (PN10)	DN 100	25	470	621	435	24.8	2198811
Wilo-Voda Air 125F (PN10)	DN 125	59	635	790	515	45.6	2198812
Wilo-Voda Air 150F (PN10)	DN 150	60	635	790	510	50.0	2198813
Wilo-Voda Air 200F (PN10)	DN 200	123	774	970	670	79.5	2198814

Dirt Separators

For use in sealed heating and cooling systems. Dirt separators protect the boilers, pumps and fittings from damage caused by the deposit of dirt particles. Dirt separators also offer benefits in the event of application in old systems or when an open system is converted to a closed system.

- Prevents deposit of dirt particles in the boiler.
- The removal of dirt particles from the system water extends the service life of pumps, control equipment and other system accessories.

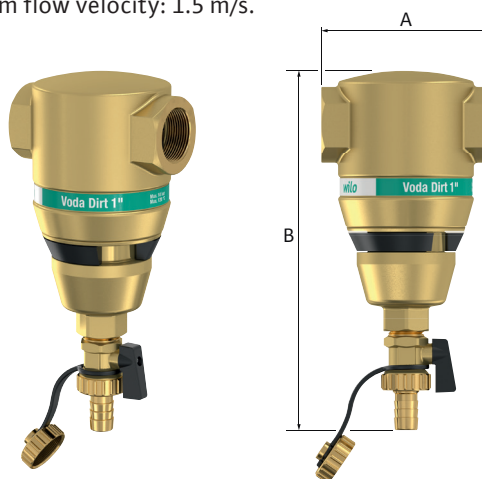


Wilo-Voda Dirt 22 mm – 2"

Dirt separators for horizontal installations. The Wilo-Voda Dirt separators remove even minuscule dirt particles from the system water. They are virtually maintenance-free and the flow resistance is negligibly low.

- Prevents deposit of dirt particles in the boiler.
- The removal of dirt particles from the system water extends the service life of pumps, control equipment and other system accessories.
- With PALL ring technology.
- Compact dimensions, light weight.
- Integrated drain valve and magnets.
- Consistent performance throughout its service life.

- Minimum/maximum working temperature: -10 °C / 120 °C.
- Maximum working pressure: 10 bar.
- Suitable for addition of glycol-based anti-freeze up to 50 %.
- Maximum flow velocity: 1.5 m/s.



Technical data

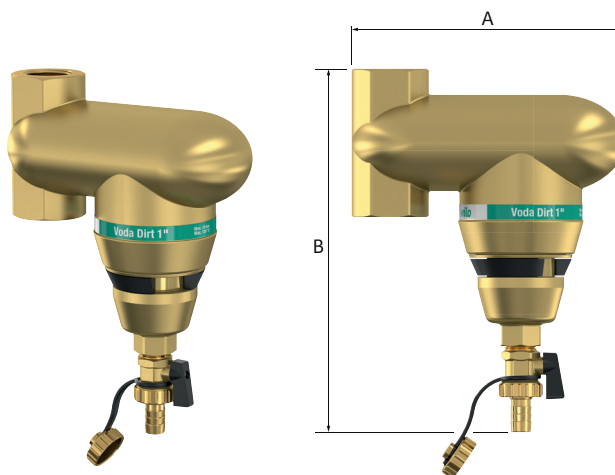
Type	Connection	Dimensions		Weight kg	Order Code
		A mm	B mm		
Wilo-Voda Dirt 22 mm	22 mm	118	196	1.3	2198841
Wilo-Voda Dirt ¾"	Rp ¾"	118	196	1.2	2198842
Wilo-Voda Dirt 1"	Rp 1"	100	216	1.5	2198843
Wilo-Voda Dirt 1 ¼"	Rp 1 ¼"	114	237	2.0	2198844
Wilo-Voda Dirt 1 ½"	Rp 1 ½"	114	237	2.1	2198845
Wilo-Voda Dirt 2"	Rp 2"	131	255	2.5	2198846

Wilo-Voda Dirt 22 mm – 1 ¼" V

Dirt separators for vertical installations.
The Wilo-Voda Dirt separators remove even minuscule dirt particles from the system water. They are virtually maintenance-free and the flow resistance is negligibly low.

- Prevents deposit of dirt particles in the boiler.
- The removal of dirt particles from the system water extends the service life of pumps, control equipment and other system accessories.
- With PALL ring technology.
- Compact dimensions, light weight.
- Integrated drain valve and magnets.
- Consistent performance throughout its service life.

- Minimum/maximum working temperature: -10 °C / 120 °C.
- Maximum working pressure: 10 bar.
- Suitable for addition of glycol-based anti-freeze up to 50 %.
- Maximum flow velocity: 1.5 m/s.



Technical data

Type	Connection	Dimensions		Weight <i>kg</i>	Order Code
		<i>A</i> <i>mm</i>	<i>B</i> <i>mm</i>		
Wilo-Voda Dirt 22 mm V	22 mm	158	230	1.9	2198847
Wilo-Voda Dirt ¾" V	Rp ¾"	158	223	1.9	2198848
Wilo-Voda Dirt 1" V	Rp 1"	184	247	2.1	2198849
Wilo-Voda Dirt 1 ¼" V	Rp 1 ¼"	184	247	2.8	2198850

Wilo-Voda Dirt 50-200F (PN10)

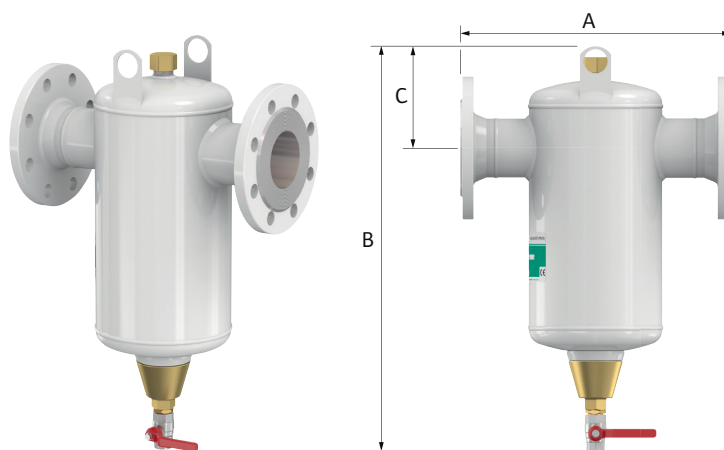
Optimum dirt separation combined with energy efficiency.

Dirt separators protect the boilers, pumps and fittings from damage caused by the deposit of dirt particles. Dirt separators also offer benefits in the event of application in old systems or when an open system is converted to a closed system.

Dirt separator constructed in steel with Dual Zone Flow Diversion technology.

- Prevents deposit of dirt particles in the boiler.
- The removal of dirt particles from the system water extends the service life of pumps, control equipment and other system accessories.
- With flanged connection according to EN 1092-1 PN16.
- Integrated dirt scraper.
- Constant performance during the entire lifespan.

- Low maintenance.
- Maximum working pressure: 10 bar.
- Suitable for systems with a maximum flow temperature of 120 °C.
- Maximum flow velocity: 1.5 m/s.
- Suitable for addition of glycol-based anti-freeze up to 50 %.
- In accordance with Pressure Equipment Directive 2014/68/EU.



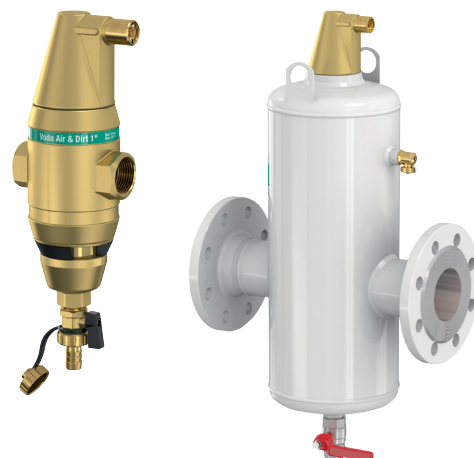
Technical data

Type	Connection	Capacity <i>l</i>	Dimensions			Weight <i>kg</i>	Order Code
			<i>A</i> <i>mm</i>	<i>B</i> <i>mm</i>	<i>C</i> <i>mm</i>		
Wilo-Voda Dirt 50F (PN10)	DN 50	8	350	517	135	13.1	2198815
Wilo-Voda Dirt 65F (PN10)	DN 65	8	350	517	135	14.1	2198816
Wilo-Voda Dirt 80F (PN10)	DN 80	25	470	651	180	22.4	2198817
Wilo-Voda Dirt 100F (PN10)	DN 100	25	470	651	180	24.8	2198818
Wilo-Voda Dirt 125F (PN10)	DN 125	59	635	780	225	45.6	2198819
Wilo-Voda Dirt 150F (PN10)	DN 150	60	635	780	230	50	2198820
Wilo-Voda Dirt 200F (PN10)	DN 200	123	774	1013	300	79.5	2198821

Combined Air/Dirt Separators

For use in sealed heating and cooling systems. Air and dirt separators protect the boilers, pumps and fittings from damage caused by the deposit of dirt particles, increase comfort and improve the yield. Air and dirt separators also offer benefits in the event of application in old systems or when an open system is converted to a closed system.

- Increases comfort and yield.
- Prevents deposit of dirt particles in the boiler.
- The removal of air and dirt from the system water extends the service life of pumps, control equipment and other system accessories.

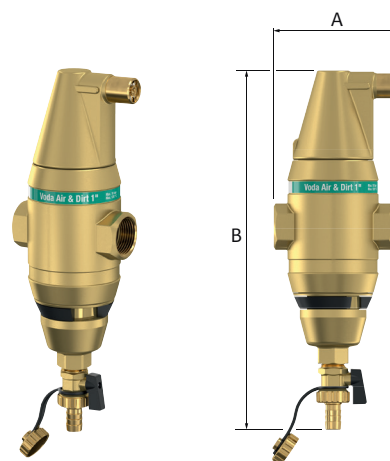


Wilo-Voda Air/Dirt 22 mm – 1 ½"

Air and Dirt separators for vertical installations. The Wilo-Voda Air & Dirt separators remove even the smallest microbubbles and minuscule dirt particles from the system water. They are virtually maintenance-free and the flow resistance is negligibly low.

- Maximum working pressure: 10 bar.
- Minimum/maximum working temperature: -10 °C / 120 °C.
- Suitable for addition of glycol-based anti-freeze up to 50 %.
- Maximum flow velocity: 1.5 m/s.

- Large distance between the water level and the venting valve through a conical air chamber.
- The bleed valve can be closed with the shut-off valve.
- Solid brass housing.
- With PALL ring technology and magnets.
- Compact dimensions, light weight.
- Consistent performance throughout its service life.



Technical data

Type	Connection	Dimensions		Weight kg	Order Code
		A mm	B mm		
Wilo-Voda Air/Dirt 22 mm	22 mm	115	283	2	2198851
Wilo-Voda Air/Dirt ¾"	Rp ¾"	350	517	1.9	2198852
Wilo-Voda Air/Dirt 1"	Rp 1"	470	651	2.4	2198853
Wilo-Voda Air/Dirt 1 ¼"	Rp 1 ¼"	470	651	2.8	2198854
Wilo-Voda Air/Dirt 1 ½"	Rp 1 ½"	635	780	2.7	2198855

Wilo-Voda Air/Dirt 50-200F (PN10)

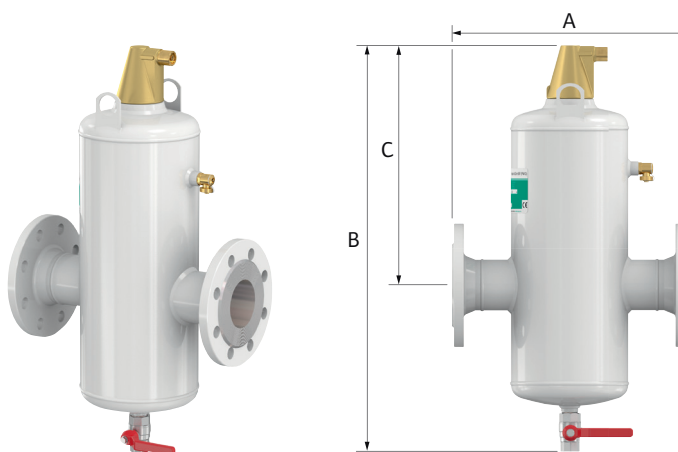
Optimum air and dirt separation combined with energy efficiency.

Air and dirt separators protect the boilers, pumps and fittings from damage caused by the deposit of dirt particles, increase comfort and improve the yield. Air and dirt separators also offer benefits in the event of application in old systems or when an open system is converted to a closed system.

Separator constructed in steel with Dual Zone Flow Diversion technology.

- Prevents deposit of dirt particles in the boiler.
- The removal of dirt particles from the system water extends the service life of pumps, control equipment and other system accessories.
- With flanged connection according to EN 1092-1 PN16.
- Constant performance during the entire lifespan.
- Low maintenance.
- Maximum working pressure: 10 bar.

- Suitable for systems with a maximum flow temperature of 120 °C.
- Maximum flow velocity: 1.5 m/s.
- Suitable for addition of glycol-based anti-freeze up to 50 %.
- In accordance with Pressure Equipment Directive 2014/68/EU.



Technical data

Type	Connection	Capacity <i>l</i>	Dimensions			Weight <i>kg</i>	Order Code
			<i>A</i> <i>mm</i>	<i>B</i> <i>mm</i>	<i>C</i> <i>mm</i>		
Wilo-Voda Air/Dirt 50F (PN10)	DN 50	10	350	560	333	15.0	2198822
Wilo-Voda Air/Dirt 65F (PN10)	DN 65	10	350	560	333	15.0	2198823
Wilo-Voda Air/Dirt 80F (PN10)	DN 80	33	470	756	435	26.0	2198824
Wilo-Voda Air/Dirt 100F (PN10)	DN100	33	470	756	435	28.5	2198825
Wilo-Voda Air/Dirt 125F (PN10)	DN 125	78	635	970	515	52.0	2198826
Wilo-Voda Air/Dirt 150F (PN10)	DN 150	78	635	970	515	56.0	2198827
Wilo-Voda Air/Dirt 200F (PN10)	DN 200	158	774	1193	705	89.0	2198828