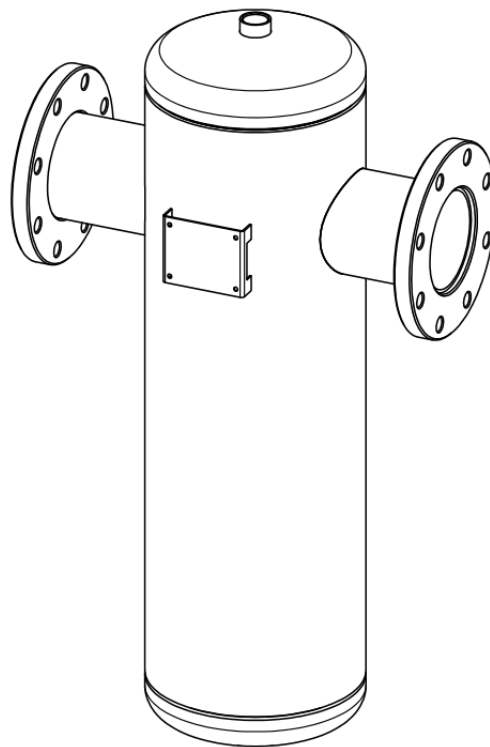




**BERG** Kompressoren GmbH  
Compressed Air Technology | Air Separation

# INSTALLATION AND OPERATING MANUAL

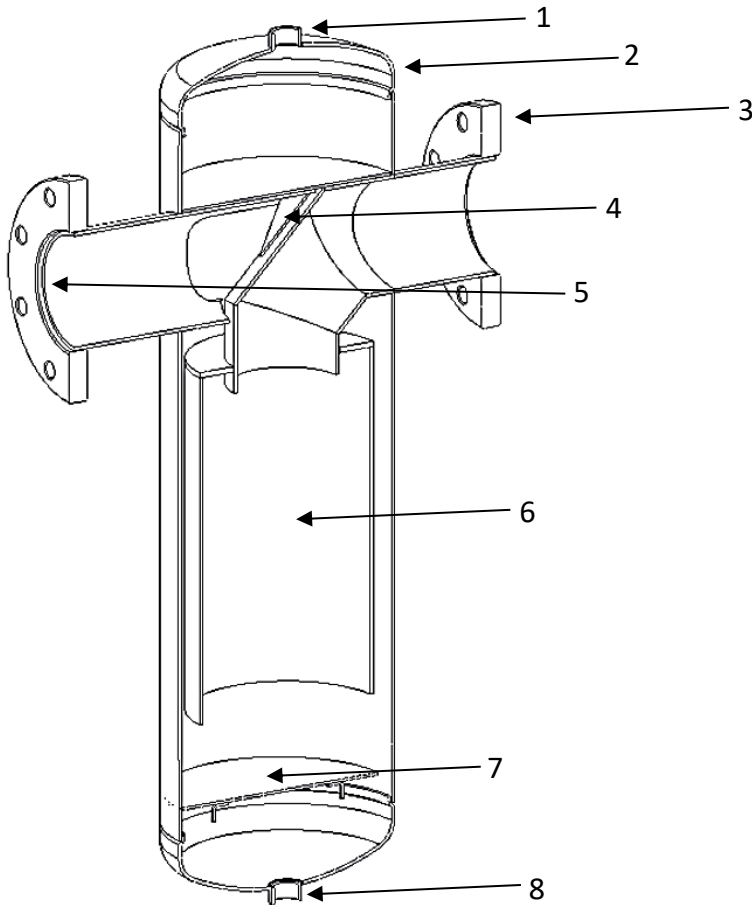
## Water Separator PUREBERG® FFW



Please read the following instructions carefully before installing separator into service. Trouble free and safe operating of the separator can only be guaranteed if recommendations and conditions stated in this manual are respected.



# Components



# Product information

PURBERG® **flange water separator** have been developed for high-efficiency removal of bulk liquids and large impurities from compressed air systems. Inside the housing of *flange water separator*, there is an insert that creates a controlled rotation of the air. As a result of centrifugal action liquids (water, oil) and large particles are forced to the housing wall, slowed down and accumulated at the bottom of separator housing as condensate. The turbulent free zone in the lower part of the cyclone housing flange water separator prevents condensate from being picked up and "carried over" into the airstream. To discharge condensate, it is essential to install automatic or electronic condensate drain.

	Part
1	Vent
2	Housing
3	Outlet connection
4	Directing blind
5	Inlet connection
6	Internal pipe
7	Non-return blind
8	Discharge connection

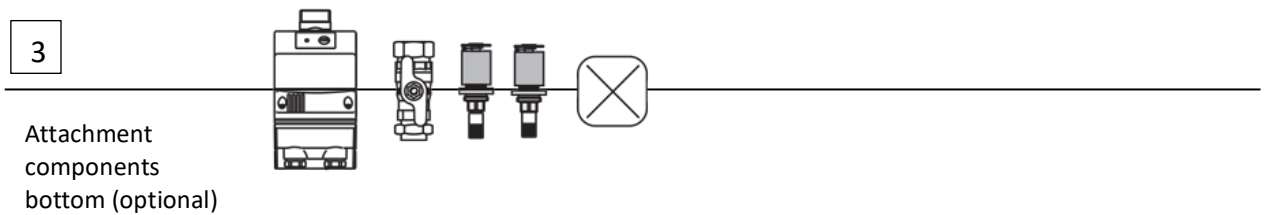
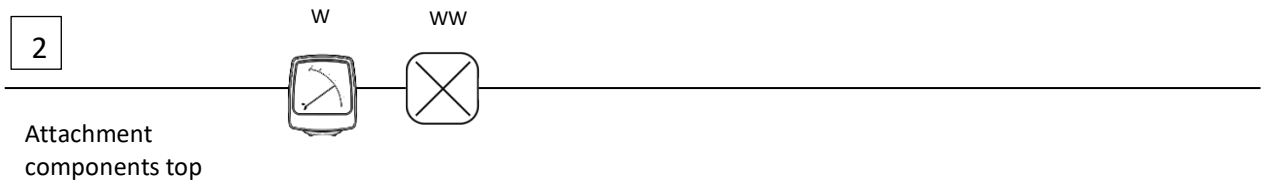
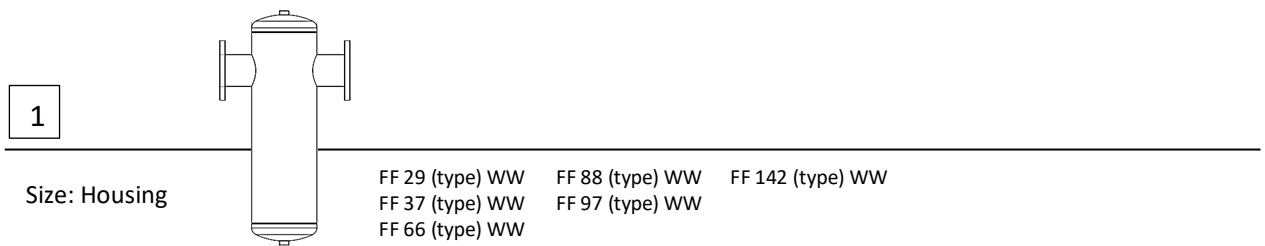
# Product identification

[1] = Size: Housing

[2] = Attachment components top

[3] = Attachment components bottom (optional)

1 2  
**FF29 WW**



# Technical data

Separator Housing	Connection	Flow rate		Dimensions [mm]					Volume [l]	Weight [kg]
		[Nm <sup>3</sup> /h]	[scfm]	A	B	C	D	F		
FF29WW	DN 80	1760	1024	720	400	165	219	½"	24	33
FF37WW	DN 100	2200	1307	890	460	236	244	½"	38	45
FF66WW	DN 125	3940	2331	980	550	250	273	1"	56	58
FF88WW	DN 150	5300	3108	1040	570	250	300	1"	73	81
FF97WW	DN 200	5820	3426	1110	690	265	350	1"	105	107
FF142WW	DN 250	8520	5015	1330	800	360	480	1"	280	207

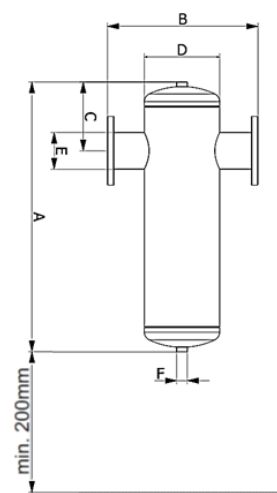
Flow capacity at 7 bar(g), 20°C

## TECHNICAL SPECIFICATION

Max. operating temperature	1,5 °C - 120 °C	35 °F - 248 °F
Operating pressure	0 - 16 bar(g)	0 – 145 psi

## MATERIALS

Housing material	Carbon steel (or Stainless steel)
Outside protection	Powder paint coated (Epoxy-polyester base)



## CORRECTION FACTORS

To calculate the correct capacity of a given separator based on actual operating conditions, multiply the nominal flow capacity by the appropriate correction factor(s).

CORRECTED CAPACITY = NOMINAL FLOW CAPACITY x C<sub>OP</sub>

[bar]	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
[psi]	29	44	58	72	87	100	115	130	145	160	174	189	203	218	232
C <sub>OP</sub>	0,38	0,5	0,63	0,75	0,88	1	1,13	1,25	1,38	1,50	1,63	1,75	1,88	2,00	2,13

## PRESSURE EQUIPMENT DIRECTIVE PED 2014/68/EU (Fluid group 2)

FF29WW-FF66WW	Category 2, Module H
FF88WW, FF97WW	Category 3, Module H
FF142WW	Category 4, Module H

There is Technical datasheet available. For additional technical specification, contact manufacturer.

# Safety instructions

The relevant safety at work and accident prevention regulations, plus operating instructions, shall apply for operating the separator. The separator has been constructed in accordance with the generally recognized rules of engineering. It complies with the requirements of directive 2014/68/EU concerning pressure equipment.

Ensure that installation complies with local laws for operation and routine testing of pressure equipment at the place of installation.

Operator/user of the separator should make himself familiar with the function, installation and start-up of the unit. All the safety information is always intended to ensure your personal safety.

- Do not exceed max. operating pressure or operating temperature range (see data label).
- The permissible working temperatures and pressures for ad-on parts and separator elements are given under Technical data for those ad-ons. Maximum temperature and pressure for assembled system is the lowest of any individual part.
- It is necessary to ensure that the unit is equipped with the corresponding safety and test devices to prevent the permissible operating parameters from being exceeded.
- Separator has been designed for a primarily static pressure. Rapid changes of pressure are not allowed.
- The medium used may not have any corrosive components that could attack the materials of the separator in a way that is not permitted. Do not use the separator in hazardous areas with potentially explosive atmospheres.
- All installation and maintenance work on the separator may only be carried out by trained and experienced specialists.
- It is forbidden to carry out any kind of work on the separator and piping, including welding and constructional changes, etc.
- A pressure gauge, which shows the operational pressure, must be installed in the unit, respectively in the pipeline.
- Depressurize the system before carrying out the installation work. The unit must be installed vertically in the piping.
- Use original spare parts only.
- Use the device for appropriate purpose only.
- There shouldn't be any tension between separator and installation. Separator shouldn't be subject to any stress, vibration or other influence that could cause damage to the unit.

# Appropriate use



FFWW series cyclone separators are designed for high efficient removal of bulk liquids from compressed air and vacuum systems. This appliance must be used only for the purpose for which it was specifically designed. All other uses are to be considered incorrect and will void warranty.

Specifically:

- ❑ cyclone can only be used for “GROUPE 2” fluids (PED 2014/68/EU).
- ❑ cyclone can not be used for explosive, toxic, flammable, corrosive and “GROUPE 1” fluids (regulation 1272/2008 EU).

Warning: internal corrosion can seriously reduce the safety of installation. Periodically check the condition of installation.

The manufacturer will under no circumstances be responsible for any damage resulting from improper, incorrect or unreasonable use.

Use genuine spare parts only. Any damage or malfunction caused by the use of unguenuine parts is not covered by Warranty or Product Liability.

# Installation

Operations should be performed only by qualified personnel. Never operate with installation under pressure. The user is responsible to ensure that the separator will never operate at pressure exceeding the nominal values. Eventual over-pressure could be dangerous and hazardous to the operator and the equipment.

The filter assembly and installation procedures are as follows:

- Connect the separator head to the compressed air piping and check that the installation corresponds to the one in “Components” section of the manual
- Clean accurately the piping and the separator connections, remove any shaving, slaver or scrap from tooling.
- Separator must always be installed in a vertical position with sufficient space around.
- Slowly pressurize the installation and check it for air leakage.

# Maintenance

- Once per year make visual check on separator housing.
- At least every six months check if condensate drain is operating properly
- Damaged components are to be replaced by new ones. If a marked degree of damage is found, the entire cyclone is to be replaced.
- Cyclone has been designed for a life of 10 years in normal operating environment. After 10 years periodical checks of cyclone integrity are strongly recommended for safe operation.
- Carry out a check for leaks once the maintenance work has been finished.

# Warranty exclusion

The guarantee shall be void if:

- The operating instructions were not followed with respect to initial commissioning and maintenance.
- The unit was not operated properly and appropriately.
- The unit was operated when it was clearly defective.
- Non-original spare parts or replacement parts were used.
- The unit was not operated within the permissible technical parameters.
- Unauthorised constructional changes were made to the unit or if parts of the unit that may not be opened were dismantled.