

Installation and operation instructions

CLEARPOINT® Water separator

> S040 > S075 > M010

> M015 > M020

> M025

> M022

> M030



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1. General

1.1 Contact

Manufacturer	Service and tools
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1.2 Installation information and operating manual

INFORMATION	Copyright protection
i	The content of this installation and operating manual, in the form of text, images, photos, drawings, diagrams, and other illustrations, is copyright protected by the manufacturer. This applies in particular to copies, translations, microfilm versions, and saving and processing this document in electronic systems.

Publication date	Revision version	Reason for change	Scope of change
10/31/18	00_01	Change to standards and directives	Initial creation

This installation and operating manual, referred to in the following as the manual, must be legible and must be stored near the product at all times.

The manual must be included if the product is sold or handed over to another party.

NOTE	Observe the manual!
	This manual contains all basic information required to safely operate the product, and operators must read the manual before carrying out all work. Otherwise hazards could occur for personnel or materials, and functional or operating disruptions could occur.

1.3 Additional valid documents

This manual describes all steps required to install and operate the CLEARPOINT® water separator. Further information on installing and operating accessories is provided in the following installation and operating manuals:

- BEKOMAT® 20
- BEKOMAT® 20 Vario

1.4 Explanation of symbols and pictograms used

The symbols and pictograms used in the following indicate important and safety-related information that must be observed in handling the product and to ensure safe and optimal operation.

1.4.1 In documentation

Symbol/pictogram	Description/explanation
	General hazard symbol (danger, warning, caution)
	Pressurized system
	Observe the installation and operating manual
	General instructions
	Use FFP 3 respirator
	Wear safety shoes
	Wear protective gloves (liquid-resistant)
	Wear hearing protection
	Wear safety glasses with side protection (goggles)
i	General information

1.4.2 On the device

Symbol/pictogram	Description/explanation
<u>^</u>	General hazard symbol (danger, warning, caution) (This symbol is indicated on the type plate and maintenance sticker)
	Observe the installation and operating manual (This symbol is only indicated on the type plate)
1	Maintenance sticker This sticker contains a stylized illustration indicating that the user manual must be read before completing maintenance work and that the product must be depressurized before maintenance work.
Pow	Stamp water separator insert (This stamp is on the base of the water separator insert and indicates the direction of flow.

1.5 Intended use

CLEARPOINT® Water Separator and Accessories

The CLEARPOINT® water separator, also referred to in the following document as the separator, serves to separate drops of liquid and solid particles in pressurized gas systems.

Any other use besides that described in this manual is deemed improper and poses a risk to personnel and the environment.

- Only use the separator and accessories within the operating parameters and agreed delivery conditions indicated in the technical data.
- Only use the separator and accessories in a pipeline system designed to handle the technical data indicated, with appropriate connections, pipe diameters and installation space.
- Only use the separator and accessories to process fluid group 2 compressed gases free from aggressive and corrosive components in accordance with Pressure Directive 2014/68/EU.
- Only use the separator and accessories in non-explosive areas.
- Only use the separator and accessories in areas not exposed to direct sunlight or heat sources and in areas not in danger of frost.
- Only combine the separator and accessories with recommended products indicated in the manual from **BEKO** TECHNOLOGIES GMBH.

Before using the separator, the operator must ensure that all conditions and requirements for the intended use have been fulfilled.

The separator is designed only for stationary use in a commercial or industrial area. All work described for mounting, installation, operating, removal and disposal may only be carried out by qualified professional technicians.

1.6 Foreseeable misuse

If the separator or accessories are used in a manner other than as described in the "Proper use" chapter, this is considered foreseeable misuse. Foreseeable misuse includes using the product in a manner not intended by the manufacturer or suppliers, but which may occur due to foreseeable human behavior.

Foreseeable misuse includes:

- Completing modifications of all kinds, in particular changing the design or process technology, since this may result in personal injury and property damage as well as functional and operating disruptions.
- Disabling or failing to use available or recommended safety equipment.
- Using compressed gases for preparation that are not included in fluid group 2 in accordance with DGRL 2014/68/EU or contain aggressive components. In case of doubt, complete a gas / condensate analysis.

This list does not claim to be exhaustive, since it is not possible to indicate all possible misuses in advance. If the operator knows of misuses of the separator or accessories that are not listed here, the manufacturer must be informed of these promptly.

1.7 Warranty and liability

The operator and user must take the proper use into consideration. The operator shall be solely responsible for any action not described here and any use going beyond that described as proper use.

All warranty shall be voided, if the separator is used improperly, for a purpose other than the intended or is operated outside the limits specified in the technical data. In such cases, the manufacturer shall also reject any liability for damages.

Improper operation includes:

- Technically inappropriate installation, commissioning, maintenance or operation
- Use of defective components
- Failure to observe the safety-relevant information, usage steps and instructions included in this manual
- Completing modifications of any kind, in particular design or process technology changes to the product
- Use of third-party spare parts or accessories that have not been approved by the manufacturer in completing maintenance and repair work
- Failure to observe maintenance and inspection intervals

1.8 Target audience and personnel

This manual is directed towards the following professional technicians assigned to work on the separator or accessories.

INFORMATION	Personnel requirements
i	Personnel may not complete any work on or with the separator or accessories if they are under the influence of drugs, medications, alcohol or other substances that could impair their awareness.

Professional technicians - Transport and storage

Transportation and storage technicians are personnel whose training, professional experience and qualifications have given them all the skills necessary to safely complete any actions associated with transportation, to recognize potential hazards independently and take measures to prevent those hazards.

These skills include, in particular, experience in handling hoists, forklifts and lifting equipment and devices as well as an understanding of regional applicable laws, standards and directives related to transportation and storage.

Compressed gas technology technicians

Compressed gas technology technicians are personnel whose training, professional experience and qualifications have given them all the skills necessary to safely complete any actions associated with compressed gases and pressurized systems, to recognize potential hazards independently and take measures to prevent those hazards.

These skills include, in particular, experience in handling measurement, control and regulation technology as well as an understanding of regional applicable laws, standards and directives related to compressed gas technology.

1.9 Responsibilities of the operator

The responsible operator must ensure the following to avoid accidents, faults and environmental impacts:

- Check before all actions whether this manual matches the product.
- Ensure the product is used, maintained, and repaired properly.
- Ensure that all applicable legal specifications, safety provisions and accident prevention regulations are complied with
- Ensure that all specifications and operating instructions for safe work and instructions for how to respond to accidents and fires are accessible at the work site to personnel at all times.
- Ensure the product is used with recommended and functional safety equipment and that this equipment has not been deactivated.
- Ensure all assembly, installation and maintenance work is only carried out by qualified professional technicians.
- Ensure the recommended personal protective equipment is available and is used.
- Ensure suitable technical safety measures are taken to ensure the permitted operating parameters are not exceeded and are met.

2. Safety information

2.1 General information

Safety information warns of hazards related to handling the product. In the instructions, warning information is stated before the steps that could pose a hazard to personnel or the surrounding area.

This safety and warning information must always be observed to avoid accidents, personal injury and property damage, and operational disruptions.

Structure of the safety information

Content of the safety information structured according to the SAFE principle:

S - Safety symbol and signal word

A - Type and source of danger

F - Possible consequences for failure to observe the hazard in the order of severity

E - Measures to avoid the hazard

Structure of the safety information:

SIGNAL WORD	Type and source of danger!
\wedge	Possible consequences if the hazard is not observed
	Measures to avoid the hazard
Safety indications	

Signal words according to ISO 3864 and ANSI Z.535.6

DANGER	Imminent danger Consequences of non-compliance: Death or severe personal injury
	Consequences of non-compliance. Death of severe personal injury
WARNING	Imminent danger
WARNING	Consequences of non-compliance: Death or severe personal injury are possible
	Detection description
CAUTION	Potential danger Consequences of non-compliance: injury and/or damage to property
	consequences of non-comphanice, injury and/or damage to property
NOTICE	Additional notes, tips and hints
NOTICE	Consequences of non-compliance: Disadvantages in operation and during handling and
	maintenance.
	No hazard to personnel or safe operation.

2.2 Safety instructions

Always observe the safety and warning information provided to avoid accidents, personal injury and property damage, and operational disruptions.

The personal protective equipment indicated in the safety information must be selected by the operator based on the system parameters and properties and must be provided.

DANGER

Operating outside of permitted limit values!



Operating the product outside of the permitted limit values and parameters and prohibited modifications and changes pose the risk of death or a hazard of severe injuries.

- Observe the limit values, operating parameters and maintenance intervals and set-up and ambient conditions indicated on the type plate and in the manual to ensure safe operation of the product.
- Check whether operating parameters are changed or restricted through the use of accessories.
- Only use the product according to its intended use.

DANGER

Pressurized system!



The risk of death or severe injuries exists in case of contact with fast or sudden exiting compressed air or due to bursting system parts.

- Only work on the system when it is depressurized and secure the system against unintended restart.
- Set up a safety zone around the system when carrying out any assembly, installation, maintenance and repair work.
- Before pressurizing the system, check and tighten all pipe connections.
- Pressurize the system slowly.
- Avoid pressure surges and high pressure differentials.
- Install all pipelines without mechanical tension. Avoid vibrations occurring in the pipeline network by using vibration dampers.
- Carefully observe the installation and operating instructions in this manual.
- Carefully observe inspection and maintenance intervals.
- Permanently install inlet and outlet lines.
- Do not make modifications on the product.

DANGER

Use of incorrect replacement parts, accessories or installation materials!



The use of incorrect replacement parts, accessories or installation material or operating and auxiliary materials may result in death or severe injuries. This may also cause functional or operating disruptions or material damage.

- Only use undamaged original parts, auxiliary and operating materials for all installation and maintenance work as indicated by the manufacturer.
- Only use fittings and connection elements permitted for the specific application and suitable tools in proper condition.
- Only use cleaned pipelines free from dirt and corrosion.

WARNING

Failure to use personal protective equipment!



The failure to use personal protective equipment or the use of defective personal protective equipment may result in accidents or injuries while working on the product.

- Wear personal protective equipment recommended for the specific task in proper condition when completing any work on the product.
- Regularly check personal protective equipment for proper function and replace damaged parts promptly.

WARNING

Insufficient qualification!



If personnel have insufficient qualifications, this may result in accidents, personal injury and property damage as well as operating disruptions while working on the product.

All work on the product may only be carried out by sufficiently qualified professional technicians.

3. Transport and storage

WARNING

Insufficient qualification!



If personnel have insufficient qualifications, this may result in accidents, personal injury and property damage as well as operating disruptions while working on the product.

The work on the product described in the following may only be carried out by transportation and storage technicians and must be documented.

CAUTION

Improper transportation or storage!



Improper transportation or storage may result in personal injury or property damage.

- Always wear gloves when working with packaging materials.
- Use personal protective equipment, check it regularly for proper function and replace damaged parts promptly.
- The product must only be transported and stored by transportation and storage technicians.
- · Handle the packaging and product carefully.
- Package all parts with suitable materials in a shock-resistant manner.
- Transport and handle packaging according to the label (observe hoist attachment points and center of gravity, keep alignment vertical, do not throw, etc.)
- Use proper, functional transportation equipment and hoists.
- Observe permitted transportation and storage parameters.
- Do not store the product exposed to direct sunlight and heat sources.

NOTICE

Handling packaging materials!

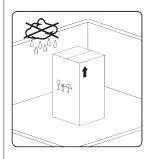


The improper disposal of packaging materials may result in environmental damage.

- The packaging material is recyclable.
- Dispose of packaging materials in accordance with the regional laws, directives and guidelines of the country of use.

NOTICE

Transportation and storage notices!



The product must

- be stored in the original packaging in a closed, dry, and frost-free room. The ambient conditions, transportation and storage parameters may not exceed or fall below the information in the Technical Data chapter.
- Even when packaged, protect the device against the elements.
- While in storage, secure the device so that it cannot topple over or fall, and protect it against vibration.

4. Product information

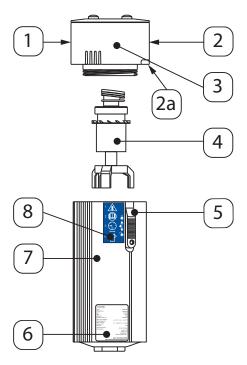
4.1 Product description

CLEARPOINT® water separators are used to separate drops of liquid and solid particles in compressed gas pressurized systems.

The condensate collected during separation can be drained manually or automatically.

4.2 Product overview

The separator consists of the following components:



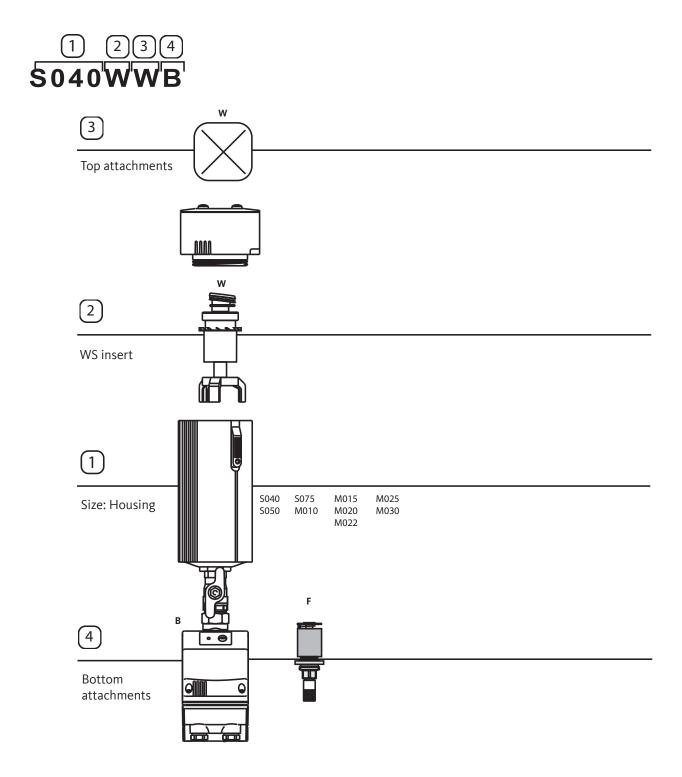
Position no.	Explanation / description
[1]	Inlet on the separator head,
[2]	Outlet on the separator head also designated with 2a
[3]	Housing head
[4]	Water separator insert (WS insert)
[5]	Safety runner with locking screw
[6]	Name plate
[7]	Housing body
[8]	Maintenance sticker

4.3 Product identification

The product designation is indicated on the type plate and consists of numbers and an abbreviation. Each abbreviation stands for a separator component and is divided into the following categories:

- [1] = Size: Housing
- [2] = WS insert
- [3] = Top attachments
- [4] = Bottom attachments

The following section explains the product designation using the example "S040WWB":



Top attachments			
Position no. Abbreviation Designation			
[3]	W	No display device	

Water separator inserts			
Position no. Abbreviation Designation			
[2]	W	Water separator	

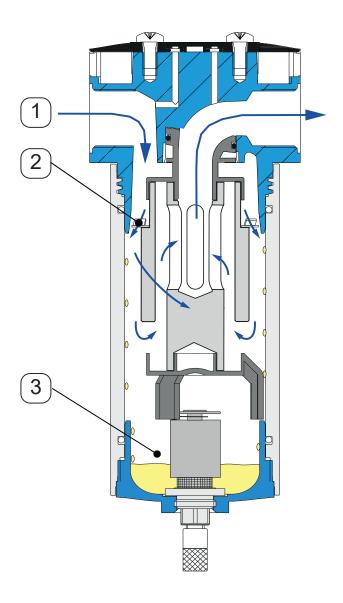
Position no.	Model series	Size	Designation
	S	040	
	S	050	
	S	075	
	M	010	
[1]	M	015	Size Housing
	M	020	
	M	022	
	M	025	
	M	030	

Bottom attachments				
Position no. Abbreviation Designation				
[4]	В	BEKOMAT® 20		
	F	Float drain, open when depressurized (NO - normally open)		

4.4 Functional description

4.4.1 Water separation

The compressed gas enters the inlet on the separator head [1] and passes into the water separator. A specially formed swirl insert [2] makes the compressed gas rotate quickly. The centrifugal forces generated press the condensate particles against the housing wall. Gravity causes the condensate particles to flow down into the collector chamber [3], from which they are drained.

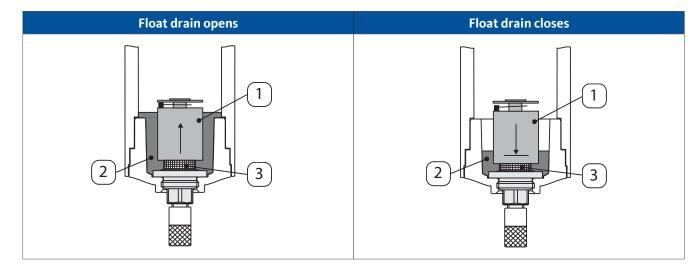


4.4.2 Condensate drainage through the float drain

Float drains are mechanical automatic condensate drains whose closing mechanism is triggered by the buoyancy of a float body [1]. When the condensate [2] in the container raises above a certain level, the buoyant lift of the float body [1] opens the outlet channel [3] for the condensate. The float closes again when the condensate [1] drops below a certain level: A small amount of condensate remains in the container.

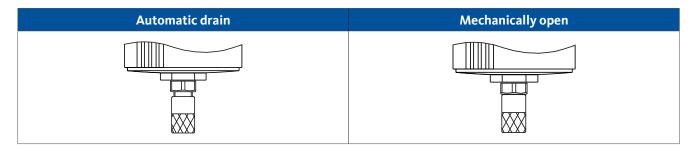
Two different float drains are used to drain the condensate:

- Open when depressurized ([NO] normally open) at an operating pressure ≤ 0.5 bar(ü) the float drain opens
- Closed when depressurized ([NC] normally closed) the float drain is closed even at an operating pressure of 0 bar(ü)



Both types of float drain are delivered in the position >> Automatic drainage <<. The knurled-head screw is screwed down to the stop.

To test the drainage function or release pressure to the separator to complete maintenance, the float drain can be set to the position >>mechanically open<<. To do so, unscrew the knurled-head screw counterclockwise (left-hand turn) to stop.



INFORMATION	Condensate discharge!
i	Condensate discharge is dependent on the product combination and may vary.

For further information on possible product combinations see "4.3 Product identification" on page 14.

4.4.3 Condensate discharge by BEKOMAT

Condensate may also be discharged via the automatic BEKOMAT® steam trap. Further information is provided in the BEKOMAT® installation and operating manual.

4.5 Scope of delivery

The following table shows the scope of delivery for the separator.

Image	Description/explanation
	Separator
*** **** *****************************	Installation and operation instructions

IN	NFORMATION	Possible product combinations!
	i	The scope of delivery may vary depending on the product combination.

For further information on possible product combinations see "4.3 Product identification" on page 14.

4.6 Name plate

The type plate is located on the housing, and provides identification and operating parameters for the separator. Provide this data for system identification when contacting the manufacturer or supplier.

Water separator S050WWF Type: Material-no.: 4004363 201851 Lot: Year: Element: 04W Element mat.-no.: 4004320 Min./max. working +2 ... 60 °C / +35 ... +140 °F temperature TS: Max. working 1,5 ... 16 bar / 22 ... 232 psi pressure PS: 0,31 l Volume: Test pressure PT: 23 bar / 334 psi Connection: pipe G 3/8 drain G 1/2 Fluidgroup 2 PED2014/68/EU / Cat. -**BEKO TECHNOLOGIES GmbH** beko-technologies.com Made in Germany

Example illustration

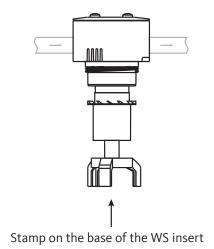
Position on type plate	Description
Water separator	BEKO separator designation
Туре	Sales designation
Material-no.	Material number
Lot	Lot
Year	Year of manufacture
Element	Water separator insert
Element mat-no.	Material number water separator insert
Min./max. working temperature TS	Min./max. working temperature range
Max.working pressure PS	Max. working pressure range
Volume	Housing volume
Test Pressure PT	Test pressure
Connection	Threaded connections
pipe G 1/2	Inlet pipe threaded connection
drain G 1/2	Condensate drain threaded connection
Fluid group 2	Fluid group 2 according to PED 2014/68/EU
PED2014/68/EU / Cat	Category in accordance with Pressure Directive 2014/68/EU

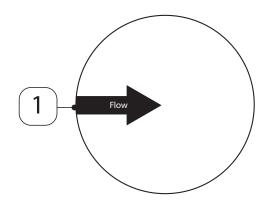
NOTICE	Handling the type plate!
	Do not remove or cover the type plate, and protect it against damage.

For more information regarding the symbols printed on the type plate, see "1.4 Explanation of symbols and pictograms used" on page 5.

4.7 Stamp water separator insert

The WS insert can be identified by a stamp on the element base.





Stamp water separator insert

View of element base

Position no.	Explanation / description
[1]	Direction of flow

5. Technical data

5.1 Separator performance data

CLEARPOINT®	S040	S050	S075	M010	M015
Connection ["]	3/8	1/2	3/4	1	1 1/2
Volume flow rate at 7bar(g) (101.53 psi(g)) energy-optimized [m³/h]([cfm]) *1	46 (27.08)	130 (76.52)	195 (114.77)	325 (191.29)	545 (320.76)
Differential pressure [mbar] ([psi]) saturated			Ø 60 (0.878)		
Category according to PED 2014/68/EU	-	-	-	-	-
Min./max. operating pressure[bar(g)] ([psi(g)])	1,5 16 (21.76 232)				
Min./max. Operating temperature [°C] ([F°])	+2 +60 (+35.6 +140)				
Load test in accordance with AD2000	10000 load changes ≙ pressure differential ≥3.2 bar (46.41 psi) at 16 bar(g) (232 psi(g))				
Medium	Compressed gases in fluid group 2 in accordance with PED 2014/68/EU, free from aggressive and corrosive components				
Weight [kg] ([lbs])	0.75 (1.65)	0.85 (1.87)	1.7 (2.36)	2.1 (4.63)	4.1 (9.04)
Volume [I] ([gal(US)])	0.25 (0.066)	0.31 (0.082)	0.87 (0.23)	1.12 (0.30)	2.52 (0.67)

^{*1} Volume flow rate at 7 bar(g)(101.53 psi(g)) based on +20 $^{\circ}$ C (+68 $^{\circ}$ F) and 1 bar (abs) (14.5 psi)

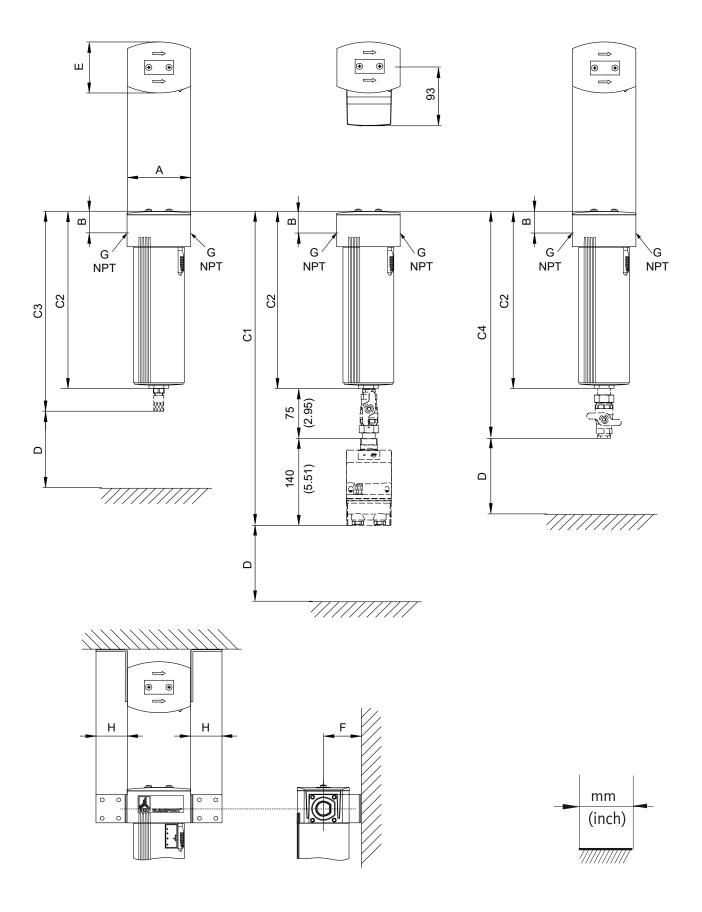
CLEARPOINT®	M020	M022	M025	M030	
Connection ["]	2	2	2 1/2	3	
Volume flow rate at 7bar(g) (101.53 psi(g)) energy-optimized [m³/h]([cfm])	1015 (579.407)	1325 (779.87)	2100 (1236.01)	3120 (1836.36)	
Differential pressure [mbar] ([psi]) saturated		Ø (0.8	~ ~		
Category according to PED 2014/68/EU	I	I	II	II	
Min./max. operating pressure[bar(g)] ([psi(g)])	1,5 16 (21.76 232)				
Min./max. Operating temperature [°C] ([F°])	+2 +60 (+35.6 +140)				
Load test in accordance with AD2000	10000 load changes ≙ pressure differential ≥3.2 bar (46.41 psi) at 16 bar(g) (232 psi(g))			(46.41 psi)	
Medium	Compressed gases in fluid group 2 in accordance with PED 2014/68/EU, free from aggressive and corrosive components				
Weight [kg]([lbs])	5.1 6.1 19.9 25.9 (11.24) (13.45) (43.87) (57.1)				
Volume [I] ([gal(US)])	3.40 (0.9)	4.23 (1.12)	13.9 (3.67)	19.5 (5.51)	

^{*1} Volume flow rate at 7 bar(g)(101.53 psi(g)) based on +20 °C (+68 °F) and 1 bar (abs) (14.5 psi)

5.2 Materials

Components	Material
Housing head (separator head)	S040 M012: Aluminum (cast), anodized, powder coated M015 M030: Aluminum (sand cast), anodized, powder coated
Housing body	S040 M030: Aluminum (extruded profile), anodized, powder coated
Housing lid	Polyamide PA6, 30 % fiberglass reinforced
Housing base	S040 M012: Aluminum (cast), anodized, powder coated M015 M030: Aluminum (sand cast), anodized, powder coated
M5 screws	Steel, black galvanized
Runner	Zinc (cast), seal FKM
O-rings	Standard: NBR oil-free FKM
Float drain	Plastic Brass NBR
Manual drain	Brass
Wall bracket	Stainless steel
Sticker	PCV soft, poly acrylate adhesive
BEKOMAT®	See BEKOMAT® installation and operating manual
Differential pressure gauge	See differential pressure gauge installation and operating manual
Oil check indicator	See oil check indicator installation and operating manual
WS insert	Polyamide PA6, 30 % fiberglass reinforced Polyamide PA6 E natural Stainless steel expanded metal

6. Dimensions



Sepa- rator	Con- nection thread	A	В	C1	C2	C3	C4	D	E	F	н	WS in- sert
	G / NPT [inch]	[mm] ([inch])										
S040	3/8	75	28	395	180	208	243	150	60	64.5	39.5	04
(Type)		(2.95)	(1.1)	(15.55)	(7.09)	(8.19)	(9.57)	(5.91)	(2.36)	(2.54)	(1.56)	W
S050	1/2	75	28	425	210	238	273	150	60	64.5	39.5	05
(Type)		(2.95)	(1.1)	(16.73)	(8.27)	(9.37)	(10.75)	(5.91)	(2.36)	(2.54)	(1.56)	W
S075	3/4	100	34	495	280	308	343	150	80	63	45	07
(Type)		(3.94)	(1.34)	(16.73)	(11.02)	(12.13)	(13.5)	(5.91)	(3.15)	(2.48)	(1.77)	W
M010	1	100	34	565	350	378	413	150	80	63	45	10
(Type)		(3.94)	(1.34)	(22.24)	(13.78)	(14.88)	(16.26)	(5.91)	(3.15)	(2.48)	(1.77)	W
M015	1 1/2	146	48	580	365	384	428	200	120	78.5	60	15
(Type)		(5.75)	(1.89)	(22.83)	(14.37)	(15.12)	(16.85)	(7.87)	(4.72)	(3.09)	(2.36)	W
M020	2	146	48	683	468	487	531	200	120	78.5	60	20
(Type)		(5.75)	(1.89)	(26.89)	(18.43)	(19.17)	(20.91)	(7.87)	(4.72)	(3.09)	(2.36)	W
M022	2	146	48	780	565	584	628	200	120	78.5	60	22
(Type)		(5.75)	(1.89)	(30.71)	(22.24)	(22.99)	(24.72)	(7.87)	(4.72)	(3.09)	(2.36)	W
M025	2 1/2	260	77	886	671	684	734	300	200	130	120	25
(Type)		(10.24)	(3.03)	(34.88)	(26.42)	(26.93)	(28.9)	(11.81)	(7.78)	(5.12)	(4.72)	W
M030	3	260	77	1010	895	908	958	300	200	130	120	30
(Type)		(10.24)	(3.03)	(39.76)	(35.24)	(35.75)	(37.72)	(11.81)	(7.78)	(5.12)	(4.72)	W

7. Installation

7.1 Warning

.......

Use of incorrect replacement parts, accessories or installation materials!



DANGER

The use of incorrect replacement parts, accessories or installation material or operating and auxiliary materials may result in death or severe injuries. This may also cause functional or operating disruptions or material damage.

- Only use undamaged original parts, auxiliary and operating materials for all installation and maintenance work as indicated by the manufacturer.
- Only use fittings and connection elements permitted for the specific application and suitable tools in proper condition.
- Only use pipelines free from dirt, damage and corrosion.

DANGER

Pressurized system!



The risk of death or severe injuries exists in case of contact with fast or sudden exiting compressed air or due to bursting system parts.

- Only work on the system when it is depressurized and secure the system against unintended restart.
- Set up a safety zone around the system when carrying out any assembly, installation, maintenance and repair work.
- Before pressurizing the system, check and tighten all pipe connections.
- Pressurize the system slowly.
- Avoid pressure surges and high pressure differentials.
- Install all pipelines without mechanical tension. Avoid vibrations occurring in the pipeline network by using vibration dampers.
- Pipelines must be able to support the additional weight of the separator. Additional attachments should be mounted if necessary.
- Carefully observe the installation and operating instructions in this manual.
- Carefully observe inspection and maintenance intervals.
- Permanently install inlet and outlet lines.
- Do not make modifications on the product.

WARNING

Insufficient qualification!



If personnel have insufficient qualifications, this may result in accidents, personal injury and property damage as well as operating disruptions while working on the product.

All work on the product may only be carried out by sufficiently qualified professional technicians.

CAUTION

Improper installation!



Improper installation of the product may result in personal injury, material damage, and operating disruptions.

- The direction of flow for the separator must conform to the direction of flow in the pipeline.
- The separator must be mounted vertically in the pipeline.

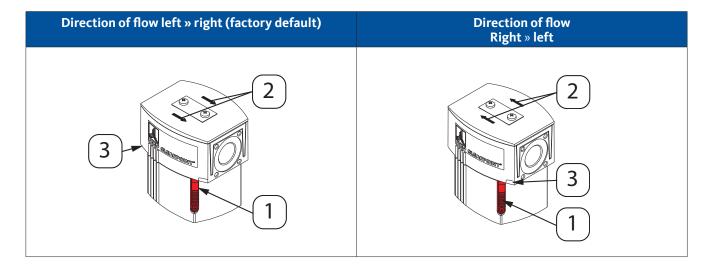
7.2 Installation work

The following requirements must be fulfilled to carry out installation work and preparatory work must be completed.

Preconditions						
Tool	Material	Protective equipment				
Screwdriver - Philip's head size 2.5 mm	 Additional installation and operating instructions for accessories used Sealing material such as PTFE strip (EN 837-2) 	 Protective gloves (liquid-resistant) Safety glasses with side protection (goggles) Hearing protection Class FFP 3 respirator Safety shoes 				

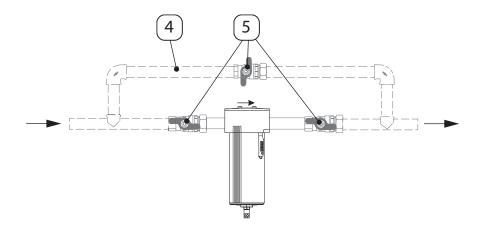
	Preparatory work
1.	Remove the dust cap from the following threads: Inlet and outlet on the housing headCondensate drain on the housing base
2.	Depressurize pipeline system or relevant pipe section.
3.	Observe the separator dimensions and ensure required space for installation. See "6. Dimensions" on page 24.
4.	Pipelines must be able to support the additional weight of the separator. Additional attachments should be mounted if necessary.
5.	Pipelines must be free from contamination and corrosion. Check pipe threads for damage. Defective pipes must be replaced promptly.
6.	Pipelines must be free from mechanical tension and vibration. Compensate for vibrations by using vibration dampers.
7.	Only use fittings suitable for this pressure and temperature range. The pipeline threads must match those on the housing head.
8.	Design the condensate drain such that no compressed gas or condensate can escape into the area around the separator. The drained condensate should be fed into a legally conforming preparation system (e.g. ÖWAMAT® or BEKOSPLIT®).

The direction of flow for the separator must be observed during installation. This must match the direction of flow for the pipeline.



The housing head and housing body use a double trapezoidal thread. The direction of flow through the separator can be adjusted to that of the pipeline by turning the housing head 180°. The direction of flow is indicated via arrows [2] and a raised marking [3] on the housing head. This must be aligned as shown. The safety runner [1] must always be easily accessible on the front side.

For maintenance and repair work, it is recommended to install a bypass line [4] and shut-off valve [5].



- 1. Attach sealing material, e.g. PTFE band (EN 837-2) to the pipe ends
- 2. Screw pipe thread into the separator inlet until the connection is solid and sealed
- 3. Screw pipe thread into the separator outlet until the connection is solid and sealed

After completing assembly work, check to ensure the housing body is screwed in correctly, the safety runner is pushed up and the locking screw is hand-tightened. Complete a leak test to check installation work. For more information, see "9.6 Leak test" on page 39.

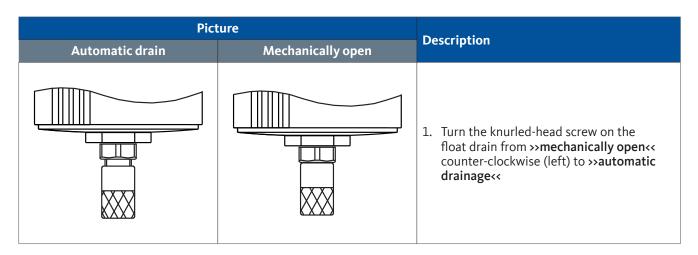
8. Commissioning

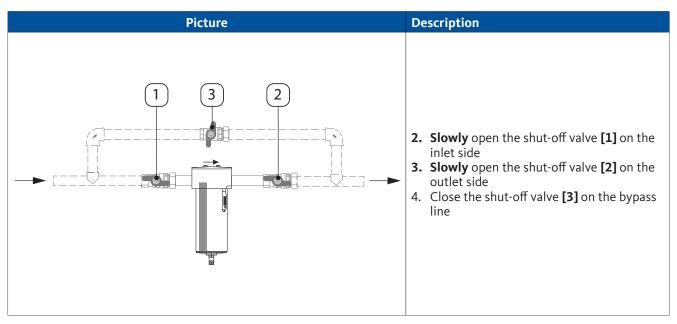
8.1 Commissioning work

The following requirements must be fulfilled to carry out commissioning work and preparatory work must be completed.

Preconditions				
Tool	Material	Protective equipment		
• none	• none	• none		

	Preparatory work
1.	Completed installation with leak test





9. Maintenance and servicing

9.1 Maintenance schedule

Maintenance	Interval
Cleaning work	At regular intervals, depending on contamination
Visual inspection	Weekly
Exchange the float drain	Annually
Exchange the WS insert	If damaged
Leak test	Recommendation: At the end of all installation and maintenance and repair work on the product

9.2 Cleaning

9.2.1 Warning

CAUTION	Improper cleaning and use of incorrect cleaning agents!
	Improper cleaning and the use of incorrect cleaning agents could result in slight injuries and health or property damage.
	 Never clean the device with a wet cloth. Do not use abrasive or aggressive cleaning agents or solvents that could damage the external coating (e.g. labels, type plate, corrosion protection, etc.). Do not clean or operate the device with hard or pointed implements. Use dusters or damp cotton cloths for exterior cleaning that cannot become statically charged. Replace illegible product labels (pictograms, designations) promptly.

NOTICE	Local hygiene regulations!
	In addition to the cleaning information provided, local hygiene regulations may also apply.

9.2.2 Cleaning work

The following requirements must be fulfilled to carry out cleaning work and preparatory work must be completed.

Preconditions					
Tool	Material	Protective equipment			
• none	 Mild cleaning agent Cotton or disposable cloth 	 Protective gloves (liquid-resistant) Safety glasses with side protection (goggles) Hearing protection Class FFP 3 respirator Safety shoes 			

To clean the separator, use a damp (but not wet) cotton cloth or disposable tissue and a mild conventional detergent or soap.

- 1. Spray the cleaning agent on a new cotton or disposable cloth
- 2. Rub over the entire component
- 3. Then dry the device with a clean cloth or let it dry at room temperature.

9.3 Visual inspection

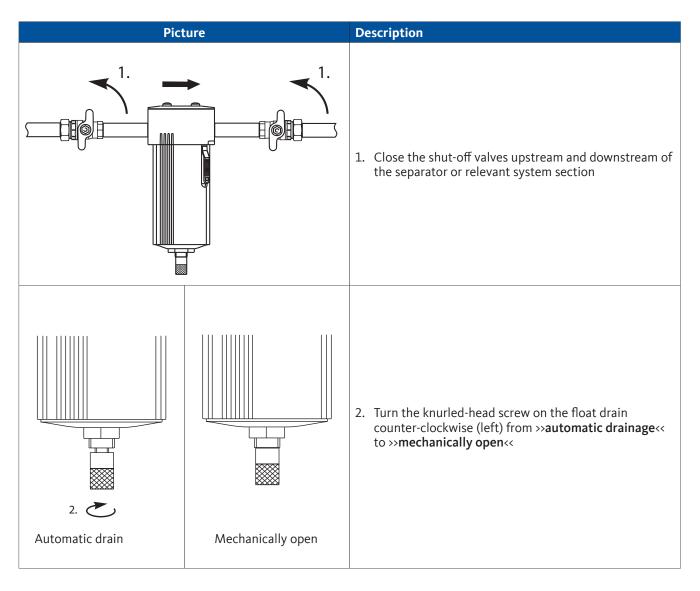
A visual inspection of the separator must be completed to check all components for mechanical damage and corrosion. Damaged components must be exchanged promptly.

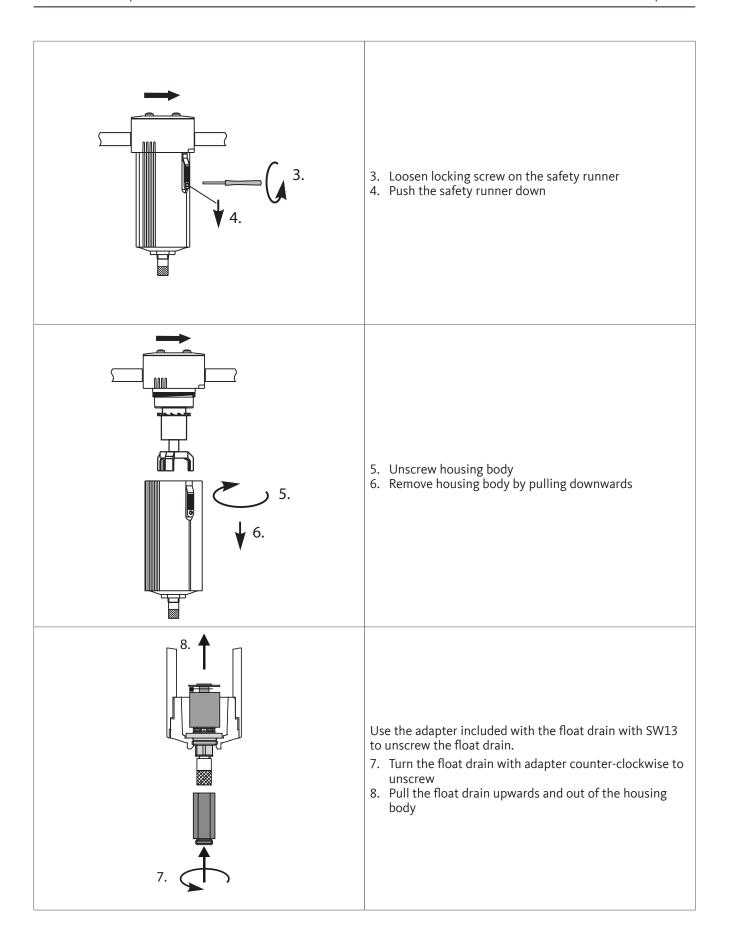
9.4 Exchange the float drain

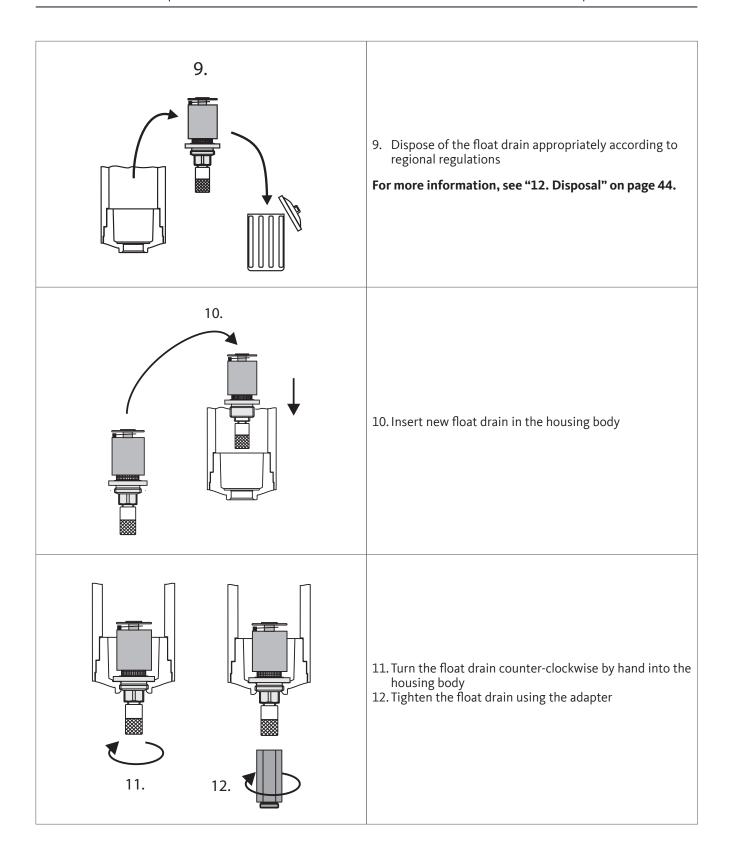
The following requirements must be fulfilled to exchange the float drain and preparatory work must be completed.

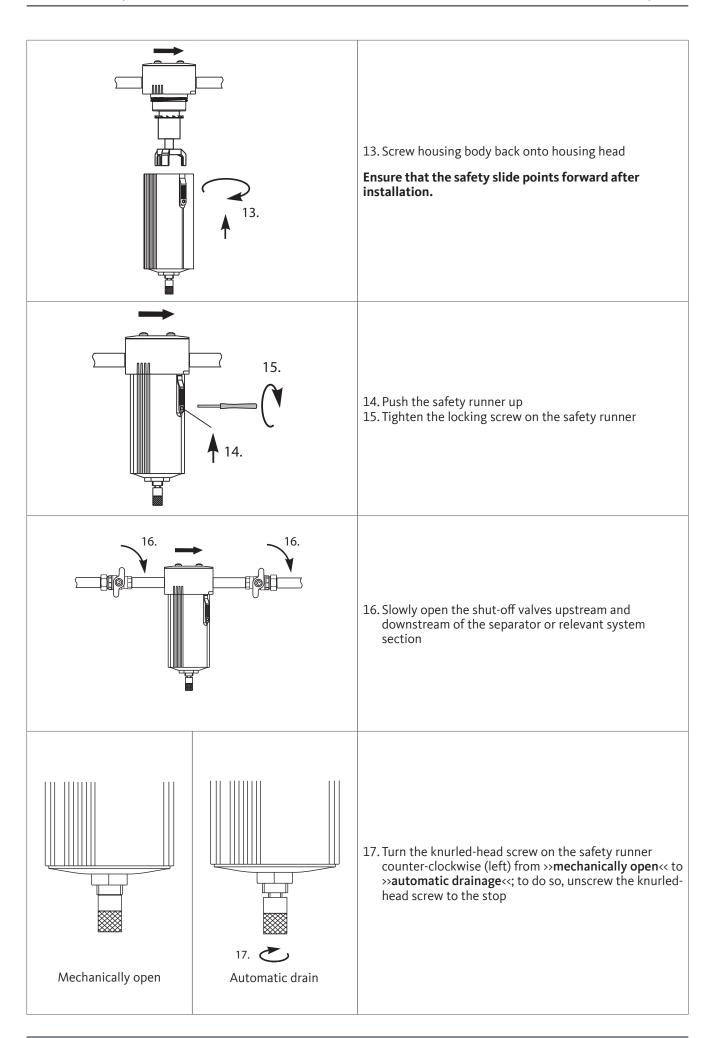
Preconditions Preconditions Preconditions					
Tool	Material	Protective equipment			
Screwdriver - Philip's head size 2.5 mm	New float drain with included adapter	 Protective gloves (liquid-resistant) Safety glasses with side protection (goggles) Hearing protection Class FFP 3 respirator Safety shoes 			

Preparatory work				
1.	Open any bypass lines			







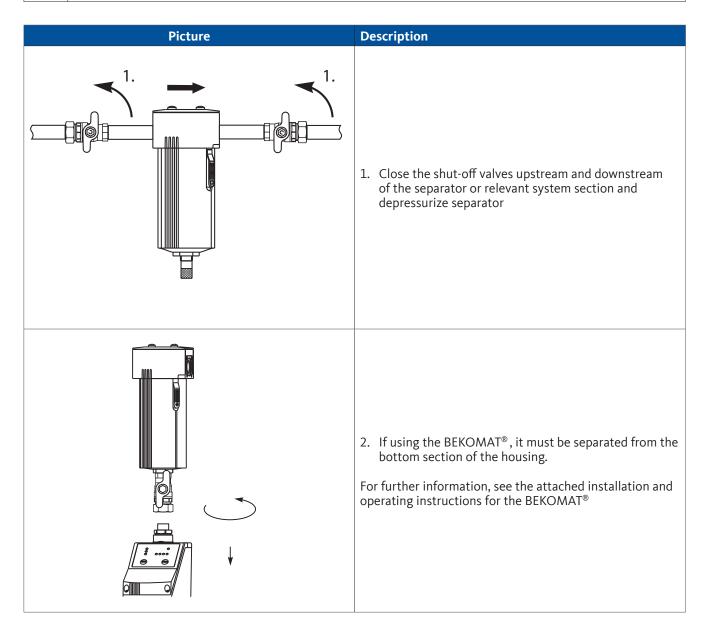


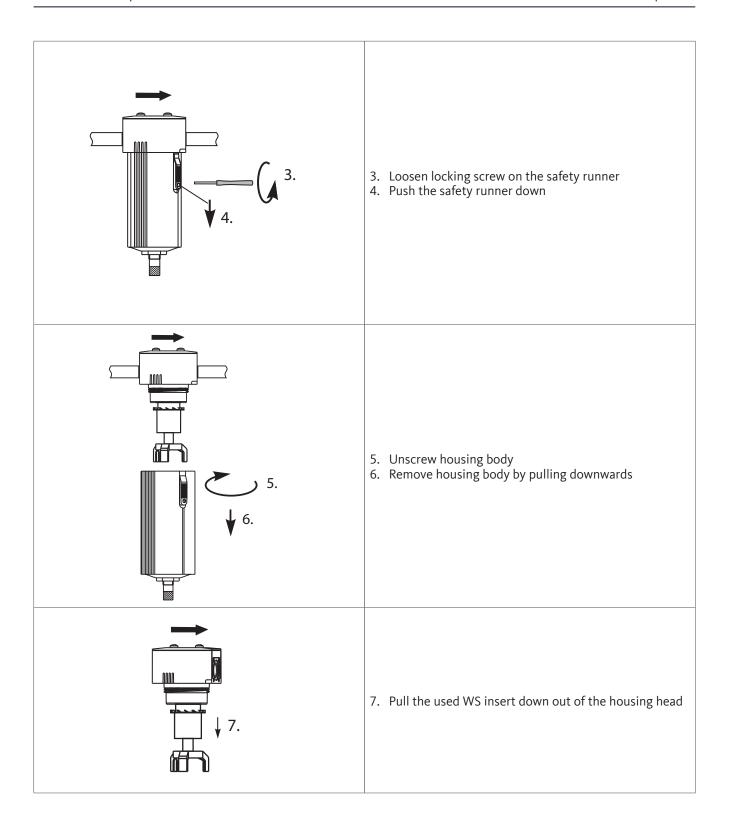
9.5 Exchange the water separator insert

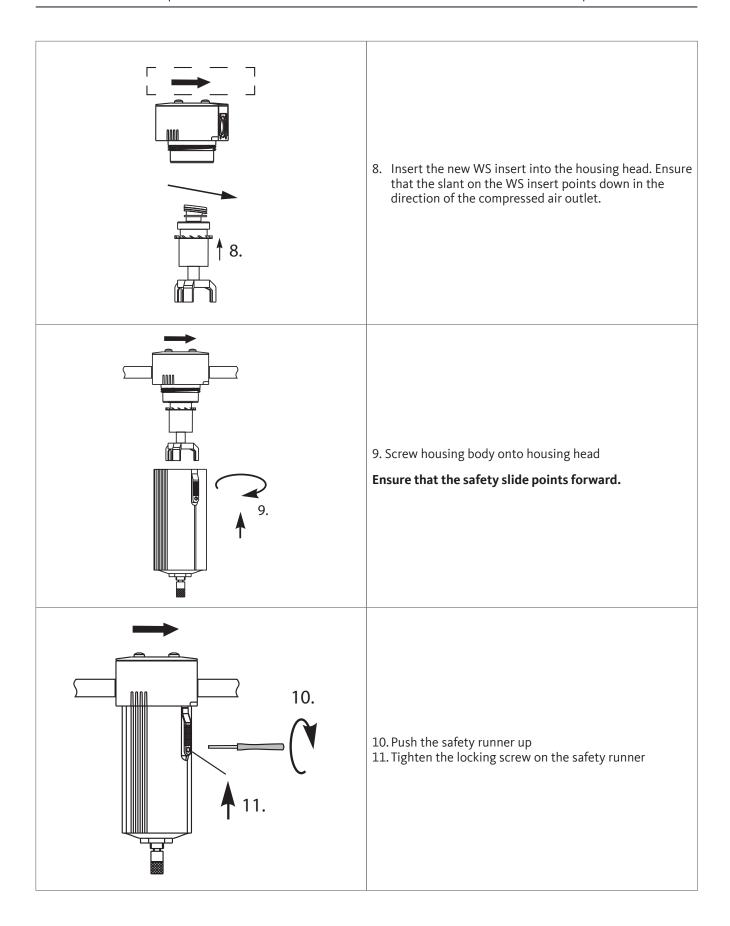
The following requirements must be fulfilled to exchange the water separator insert and preparatory work must be completed.

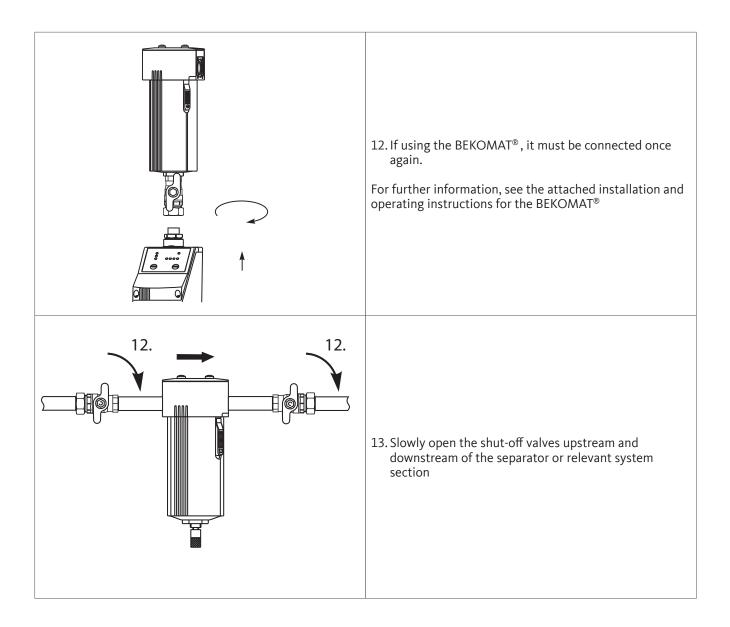
Preconditions		
Tool	Material	Protective equipment
Screwdriver - Philip's head size 2.5 mm	new WS insert	 Protective gloves (liquid-resistant) Safety glasses with side protection (goggles) Hearing protection Class FFP 3 respirator Safety shoes

Preparatory work		
1.	Open any bypass lines	





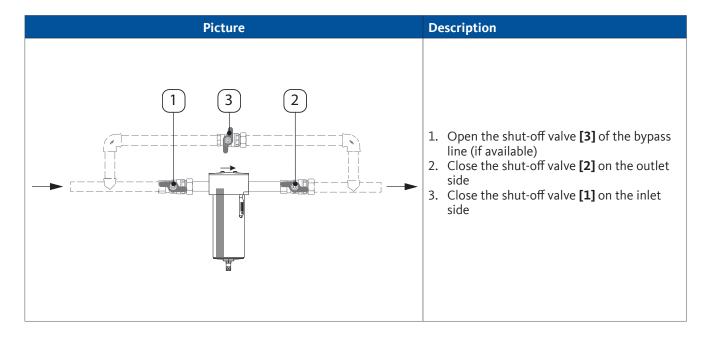


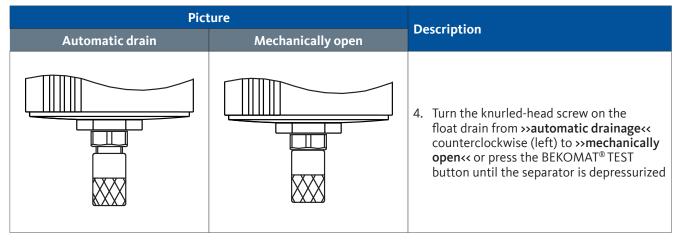


9.6 Leak test

The leak test is a non-destructive testing method and is used to prove the leak tightness of vacuum and overpressurized systems. The leak test can be completed in different ways. **BEKO** TECHNOLOGIES GMBH does not provide any recommendations. The operator of the compressed gas system is responsible for selecting the testing process, and testing should be completed in accordance with applicable standards and directives (e.g. DIN EN 1779).

10. Shutting down





11. Disassembly

11.1 Warning

DANGER



The use of incorrect replacement parts, accessories or installation material or operating and auxiliary materials may result in death or severe injuries. This may also cause functional or operating disruptions or material damage.

- Only use undamaged original parts, auxiliary and operating materials for all disassembly work as indicated by the manufacturer.
- Only use fittings and connection elements permitted for the specific application and suitable tools in proper condition.

DANGER

Compressed air



The risk of death or severe injuries exists in case of contact with fast or sudden exiting compressed air or due to bursting system parts.

- Only work on the system when it is depressurized and secure the system against unintended restart.
- Set up a safety zone around the system when carrying out any assembly, installation, maintenance and repair work.
- Before pressurizing the system, check and tighten all pipe connections.

Use of incorrect accessories, materials or replacement parts!

- Pressurize the system slowly.
- Avoid pressure surges and high pressure differentials.
- Install all pipelines without mechanical tension. Avoid vibrations occurring in the pipeline network by using vibration dampers.
- Carefully observe the installation and operating instructions in this manual.
- Carefully observe inspection and maintenance intervals.
- Permanently install inlet and outlet lines.
- Do not make modifications on the product.

WARNING

Insufficient qualification!



If personnel have insufficient qualifications, this may result in accidents, personal injury and property damage as well as operating disruptions while working on the product.

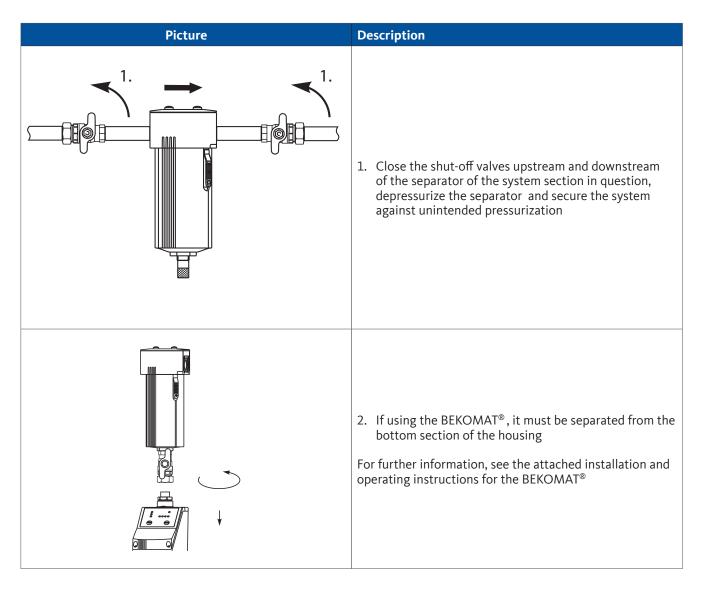
The work on the product described in the following may only be carried out by compressed gas technology technicians and must be documented.

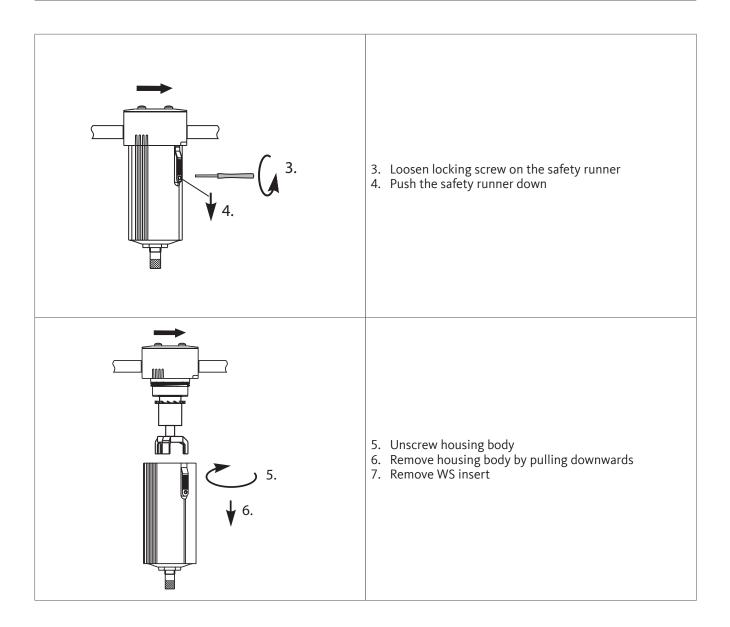
11.2 Disassembly work

The following requirements must be fulfilled to carry out disassembly work and preparatory work must be completed.

Preconditions		
Tool	Material	Protective equipment
Screwdriver - Philip's head size 2.5 mm	• none	 Protective gloves (liquid-resistant) Safety glasses with side protection (goggles) Hearing protection Class FFP 3 respirator Safety shoes

Preparatory work	
1.	Open any bypass lines





- 8. Remove the housing head from the pipe and close off the ends of the pipe appropriately 9. Dispose of components properly

12. Disposal

12.1 Warning

DANGER	Use of incorrect accessories, materials or replacement parts!
	The use of incorrect replacement parts, accessories or installation material or operating and auxiliary materials may result in death or severe injuries. This may also cause functional or operating disruptions or material damage.
	 Only use undamaged original parts, auxiliary and operating materials for all disassembly work as indicated by the manufacturer. Only use fittings and connection elements permitted for the specific application and suitable tools in proper condition.

NOTICE	Improper disposal!
	Improper disposal of components and assemblies, operating and auxiliary materials and cleaning agents may cause environmental hazards.
	 All components and assemblies, operating and auxiliary materials and cleaning agents must be disposed of appropriately and according to regional statutory specifications and provisions. In case of doubt, consult regional disposal companies before disposal.

12.2 Disposal work

At the end of its service life, the product must be disposed of professionally, e.g. by a professional company. Materials such as glass, plastic, and some chemical compounds can be recycled or reused.

All national and local regulations must be complied with during disposal.

Used WS insert:

Do not dispose of as household waste! Dispose of safely and according to the statutory waste disposal regulations.

Used float drain:

Do not dispose of as household waste! Dispose of safely and according to the statutory waste disposal regulations.

13. Spare parts and accessories

13.1 Replacement parts

Designation	Image	Separate documentation
O-Ring set for S040, S050 → 4026562 O-Ring set for S075, M010 → 4026563 O-Ring set for M015, M020, M022 → 4026564 O-Ring set for M025, M030 → 4026565		Included packing slip
WS insert 04 W → 4004320 WS insert 05 W → 4004321 WS insert 07 W → 4004322 WS insert 10 W → 4004323 WS insert 15 W → 4004324 WS insert 20 W → 4007102 WS insert 22 W → 4004325 WS insert 25 W → 4004326 WS insert 30 W → 4004327		Included packing slip

13.2 Accessories top attachments

Designation	Image	Separate documentation
Wall mount for \$040, \$050 → 4003328 Wall mount for \$075, M010 → 4003329 Wall mount for M015, M020, M022 → 4003330 Wall mount for M025, M030 → 4003331		Not available
Connection set for S040, S050 → 403332 Connection set for S075, M010 → 403333 Connection set for M015, M020, M022 → 403334 Connection set for M025, M030 → 403335		Included packing slip

13.3 Accessories bottom attachments

Designation	Image	Separate documentation
Float drain (open when depressurized) → 4025536 Float drain (closed when depressurized) → 4025537		Included packing slip
BEKOMAT® 20 → 4001841	anount;	enclosed manual
BEKOMAT® 20 FM → 4003051		enclosed manual

14. Troubleshooting and repair / FAQ

Symptom(s)	Possible causes	Remedy
Poor compressed gas quality	Load too high, intermittent load	 Change operating method Avoid pressure surges Comply with the specified operating parameters, in particular during start-up
	Non-functional condensate drain	Ensure regular condensate drainage
	Incorrectly dimensioned unit	Dimension separator with indicated operating parameters and exchange if necessary
	WS insert installed incorrectly	Observe the direction of flow / installation direction for the WS insert
	O-ring was damaged during installation	Purchase O-ring set, proceed carefully during installation
High pressure differential	Incorrectly dimensioned unit	Dimension separator with indicated operating parameters and exchange for a larger one if necessary
	destroyed WS insert	Exchange WS insert
Condensate in downstream components	Condensate drain defective or functional fault	Exchange float drain or complete maintenance on BEKOMAT®
Leaks	Aging of seals	Replace seals during maintenance work
	Mechanical damage	Send in separator for repairs or replace with a new one

15. Product specifications and certifications

Symbol/pictogram	Description/explanation
	CE mark on separator Applies to sizes M020, M022, M025, M027, M030 and M032

GERMANY

Tel: +49 2131 988-0 www.beko-technologies.com



Herstellererklärung

Wir erklären hiermit, dass die nachfolgend bezeichneten Produkte, in den von uns gelieferten Ausführungen gemäß Druckgeräterichtlinie 2014/68/EU Artikel 4 Absatz 3 in Übereinstimmung mit der geltenden guten Ingenieurpraxis ausgelegt und hergestellt werden.

Produktbezeichnung:

Behälter für Wasserabscheider CLEARPOINT®

Baugrößen:

S040W, S050W, S075W, M010W, M015W

Max. Betriebsdruck:

16 bar (g)

Beschreibung der Druckgeräte:

Druckgeräte für Fluide der Gruppe 2

Druckgeräte nach Artikel 4 Absatz 3 der Druckgeräterichtlinie 2014/68/EU dürfen nicht die in Artikel 19 genannte CE-Kennzeichnung tragen.

Die Behälter wurden einer hydraulischen Druckprüfung mit 23 bar, und einer Dichtheitsprüfung mit dem Medium Druckluft, bei 7,0 bar unterzogen. Bei den durchgeführten Prüfungen zeigten sich keine Mängel.

Unterzeichnet für und im Namen von:

Neuss, 25.03.2019

BEKO TECHNOLOGIES GMBH

i.V. Christian Riedel

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Leiter Qualitätsmanagement International

manu_decl_CP_S040W-M015W_FL2_Kat.0_de_03_2019

GERMANY

Phone: +49 2131 988-0 www.beko-technologies.com



Manufacturer declaration

We hereby declare that the following products have been designed and manufactured in the versions delivered by us according to Pressure Directive 2014/68/EU, article 4 paragraph 3 and in accordance with good general engineering practice.

Product designation: Container for CLEARPOINT® water separator...

Sizes: S040W, S050W, S075W, M010W, M015W

Max. Operating Pressure: 16 bar (g)

Description of pressure equipment: Pressure equipment for group 2 fluids

Pressure equipment according to article 4 paragraph 3 of Pressure Directive 2014/68/EU may not bear the CE mark indicated in article 19.

Containers are subject to a hydraulic pressure test at 23 bar and a leak test using compressed air as the medium at 7.0 bar. No defects were found during the completed tests.

Signed for and on behalf of:

Neuss, 3/25/2019 **BEKO** TECHNOLOGIES GMBH

i.V. Christian Riedel

Manager Quality Management

GERMANY

Tel: +49 2131 988-0 www.beko-technologies.com



EU-Konformitätserklärung

Wir erklären hiermit, dass die nachfolgend bezeichneten Produkte den Anforderungen der einschlägigen Richtlinien und technischen Normen entsprechen. Diese Erklärung bezieht sich nur auf die Produkte in dem Zustand, in dem sie von uns in Verkehr gebracht wurden. Nicht vom Hersteller angebrachte Teile und/oder nachträglich vorgenommene Eingriffe bleiben unberücksichtigt.

Produktbezeichnung: Behälter CLEARPOINT® ... für Wasserabscheider

Modelle: M020W, M022W

Max. Betriebsdruck: 16 bar (g)

Produktbeschreibung und Funktion: Behälter für CLEARPOINT Wasserabscheider

Druckgeräte-Richtlinie 2014/68/EU

Angewandtes

Konformitätsbewertungsverfahren: Modul A

Kategorie:

Beschreibung der Druckgeräte: Druckgeräte für Fluide der Gruppe 2

Der Hersteller trägt die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung.

Unterzeichnet für und im Namen von:

Neuss, 22.07.2016 BEKO TECHNOLOGIES GMBH

i.V. Christian Riedel

Leiter Qualitätsmanagement International

GERMANY

Phone: +49 2131 988-0 www.beko-technologies.com



EU Conformity declaration

We herewith declare that the products identified in the following are in accordance with the requirements of the relevant directives and technical standards. This declaration only refers to products that are in a condition in which they were delivered by us. Parts that were not attached by the manufacturer and/or subsequently performed interventions are not included.

Product designation: CLEARPOINT® ... container for water separator

Models: M020W, M022W

Max. Operating Pressure: 16 bar (g)

Product Description and Function: Container for CLEARPOINT® water separator

Pressure Equipment Directive 2014/68/EU

Conformity assessment process applied: Module A

Category:

Description of pressure equipment: Pressure equipment for group 2 fluids

The manufacturer has the sole responsibility for issuing this conformity declaration.

Signed for and on behalf of:

Neuss, 22.07.2016 BEKO TECHNOLOGIES GMBH

i.V. Christian Riedel

Manager Quality Management

GERMANY

Tel: +49 2131 988-0 www.beko-technologies.com



EU-Konformitätserklärung

Wir erklären hiermit, dass die nachfolgend bezeichneten Produkte den Anforderungen der einschlägigen Richtlinien und technischen Normen entsprechen. Diese Erklärung bezieht sich nur auf die Produkte in dem Zustand, in dem sie von uns in Verkehr gebracht wurden. Nicht vom Hersteller angebrachte Teile und/oder nachträglich vorgenommene Eingriffe bleiben unberücksichtigt.

Produktbezeichnung: Behälter CLEARPOINT® ... für Wasserabscheider

Modelle: M025W, M030W

Max. Betriebsdruck: 16 bar (g)

Produktbeschreibung und Funktion: Behälter für CLEARPOINT Wasserabscheider

Druckgeräte-Richtlinie 2014/68/EU

Angewandtes

Konformitätsbewertungsverfahren: Modul A2

Kategorie:

Beschreibung der Druckgeräte: Druckgeräte für Fluide der Gruppe 2
Notifizierte Stelle: TÜV NORD Systems GmbH & Co. KG

Große Bahnstraße 31 22525 Hamburg

Zertifikatsnummer: 07/202/1410/Z/0237/17/D/0035

Die Produkte sind mit dem abgebildeten Zeichen gekennzeichnet:

(€0045

Der Hersteller trägt die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung.

Unterzeichnet für und im Namen von:

Neuss, 01.09.2017 BEKO TECHNOLOGIES GMBH

i.V. Christian Riedel

Leiter Qualitätsmanagement International

EU-decl_CP_M025-M030-W_FL2_Kat.II_de_09_2017.docx

GERMANY

Phone: +49 2131 988-0 www.beko-technologies.com



EU Conformity declaration

We herewith declare that the products identified in the following are in accordance with the requirements of the relevant directives and technical standards. This declaration only refers to products that are in a condition in which they were delivered by us. Parts that were not attached by the manufacturer and/or subsequently performed interventions are not included.

CLEARPOINT® ... container for water separator Product designation:

Models: M025W, M030W

Max. Operating Pressure: 16 bar (g)

Product Description and Function: Container for CLEARPOINT® water separator

Pressure Equipment Directive 2014/68/EU

Conformity assessment process applied: Module A2

Category:

Pressure equipment for group 2 fluids Description of pressure equipment: Notified agency:

TÜV NORD Systems GmbH & Co. KG

Große Bahnstraße 31 22525 Hamburg

Certificate no .: 07/202/1410/Z/0237/17/D/0035

Products are labeled with the symbols pictured:

C€0045

The manufacturer has the sole responsibility for issuing this conformity declaration.

Signed for and on behalf of:

BEKO TECHNOLOGIES GMBH Neuss, 9/1/2017

i.V. Christian Riedel

Manager Quality Management

BEKO TECHNOLOGIES GmbH

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