OPERATING INSTRUCTIONS

EN

Translation of the original instructions

SAS 16/25/40/63/100/160

Dust Separator

PD 0031 BEN/E (1701)

Contents

Please note:
Current operating instructions are also available via

1. Important for your safety

☞ Please read and follow all instructions in this manual.
☞ Please become familiar with:
  – Dangers arising from the unit;
  – Dangers arising from your equipment;
☞ Please observe all safety instructions and accident prevention instructions.
☞ Regularly monitor for proper observance of all protection measures.
☞ Do not make any unauthorized conversions to the unit on your own.
☞ Please observe our shipping instructions in the Service section when sending in the unit.

1.1. Orientation

Instructions in the text

➡ Work instructions: This indicates an action that must be taken!

Symbols used

The following symbols are used consistently in all figures:

Ⓥ Gas outlet side of the dust separator (aligned to the vacuum flange of the vacuum pump)

Item number

Same units and accessories have the same item numbers in all figures.

1.2. Pictogram definitions

Risk of physical injury.

Dust contamination!
Wear appropriate protective mask.

Risk of damaging the unit or the equipment.

Important information regarding the product, handling of the product or a part of the documentation requiring special attention.

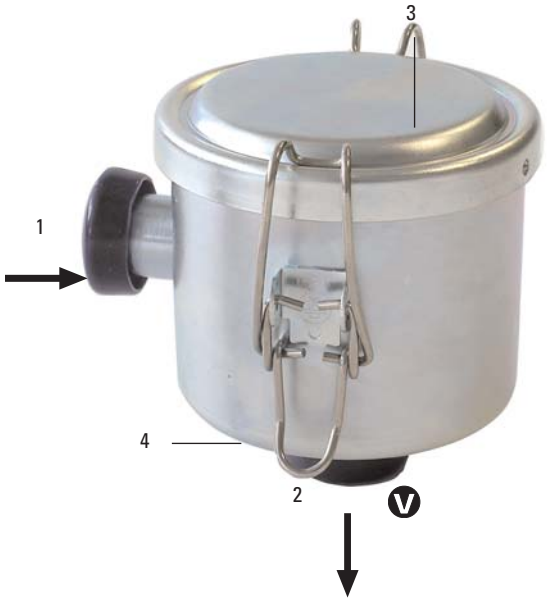
Subject to change.

2. Getting to know the dust separator

2.1 Main characteristics

Dust separator SAS 16/25

1 Gas inlet
2 Gas outlet
3 Filter cover
4 Filter housing



Dust separator SAS 40

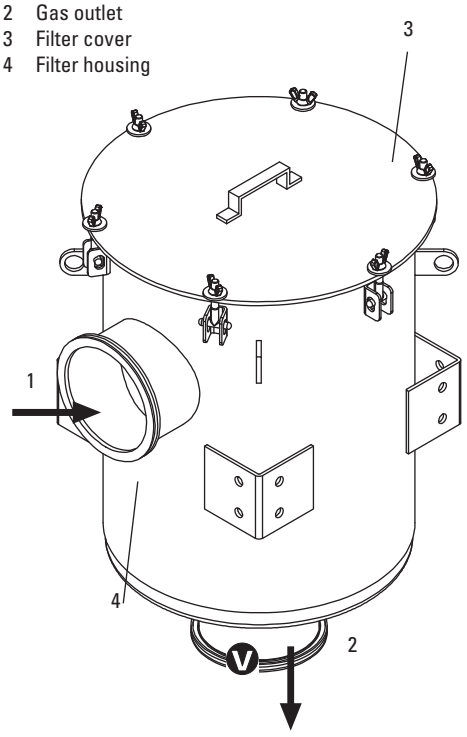
1 Gas inlet
2 Gas outlet
3 Filter cover
4 Filter housing

The SAS dust separators are installed in the intake line of vacuum pumps to prevent large dust particles from entering the pump. This increases the service life of the pump and the operating fluid.

The SAS are designed for volume flow rates in the range of 5 … 1000 m³/h depending on the type. The separable particle size for the possible filter inserts is 5 µm.
Condensable vapors cannot be vacuumed via the SAS.

Dust separator SAS 160

1 Gas inlet
2 Gas outlet
3 Filter cover
4 Filter housing



Authorized use:

– The dust separator may be used only in the vacuum domain.
– The dust separator should be installed in a vertical or horizontal position according to the permissible installation positions.
– Do not vacuum condensable vapors.
– Do not pump corrosive or explosive gases.
– Do not use the dust separators in areas with risk of explosion.
– Any accessories not mentioned in this manual cannot be used without approval from Pfeiffer Vacuum.

Unauthorized use

The following applies as unauthorized use:
– Use for purposes deviating from those mentioned above, especially:
– connection to pumps and devices not designated for such use according to their operating manuals.

Unauthorized use voids all liability and guarantee claims.

2.2. Versions

The SAS dust separator series comprise single-stage dust filters with inserted filter elements made of polyester. The SAS connection flanges are fitted with ISO flanges.

SAS Type	Connection flange	Volume flow rate max.	Article No.	Article No. Replacement filter
SAS 16	DN 16 ISO-KF	12 m^3/h	PK Z60 506	PK E57 009 -T
SAS 25	DN 25 ISO-KF	42 m^3/h	PK Z60 508	PK E57 010 -T
SAS 40	DN 40 ISO-KF	120 m^3/h	PK Z60 510	PK E57 013 -T
SAS 63	DN 63 ISO-K	360 m^3/h	PK Z60 511	PK E57 011 -T
SAS 100	DN 100 ISO-K	760 m^3/h	PK Z60 512	PK E57 012 -T
SAS 160	DN 160 ISO-K	1920 m^3/h	PK Z60 514	PK E57 016 -T

All filters are equipped with one filter insert apiece.

3. Installation

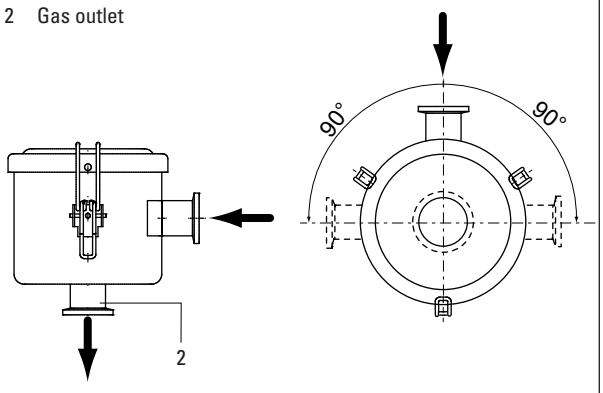
The maximum allowable gas inlet temperature for the SAS is 104 °C. Temperatures above the limit
can lead to damages to the elements, filter media and seals.

The direction of flow inside the SAS is from the outside of the Filter housing to the inside.

➡ Make sure that the connections to the piping system are sealed sufficiently to prevent unnecessary leakage.
➡ Install the SAS in a vertical or in a horizontal position in accordance with the illustration.

Permissible installation position

2 Gas outlet



4. Operation

4.1. General notes

It is important to check the differential pressure regularly to ensure that the dust separator work properly. Always make note of the starting pressure loss in a clean state. Clean the filter insert when the starting value is exceeded by 25 to 35 mbar.

Always check the status of the filter insert and housing seals. The insert seals always must be level on the end caps and sealed well.

➡ Every time you change the filter insert, check the inlet, outlet, purifying area and sealing surfaces for impurities.
➡ Immediately remove dirt and other particles.
➡ Operate the dust separator only when a proper seal is guaranteed.

5. Maintenance

Maintenance of the SAS dust separator extends to cleaning or replacing the filter insert.
The pollution degree of the filter can be determined by reduction in pump performance, e. g. when the operating pressure is not reached within the expected time.

5.1. Opening the filter housing

➡ Switch off and vent vacuum pump.
➡ Remove SAS from the vacuum flange of the pump.
➡ Loosen the locking clips (wire holder); unscrew wing nuts at SAS 160.
➡ Remove the housing cover.

5.2. Replacing the filter inserts

➡ Some inserts (SAS 63, SAS 100, SAS 160) are fastened additionally with a separate wing nut or fastening nut 6 and washer, which must be removed.
➡ Lift filter insert and remove it from the filter housing.
➡ Clean the housing surfaces, the sealing surfaces and the end caps of the inserts to prevent dirt from entering the clean area.

Dust separator SAS 16, SAS 25, SAS 40, SAS 63

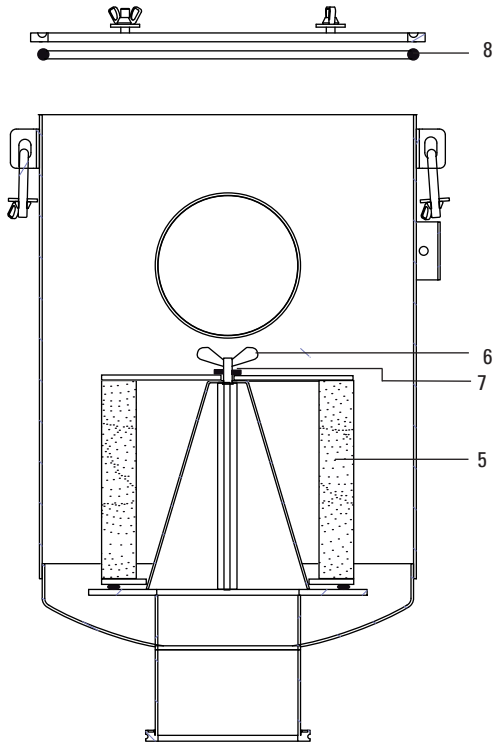
3 Filter cover
5 Filter insert
7 O-Ring
8 Profile seal:
(SAS 16 and SAS 40 two, one at the bottom and one in the filter cover)

Dust separator SAS 100

5 Filter insert
6 Wing nut

Staubabscheider SAS 160

3 Filter cover
5 Filterinsert
6 Wing nut
7 Gasket
8 O-Ring



5.3. Cleaning the filter inserts

Take special care during the cleaning process, since the filter inserts can be damaged during dismantling, cleaning or assembly. Damaged filter inserts can allow unfiltered particles to enter into the pump, which could lead to further damage.

Polyester insert:

Wear a protective mask.

- ➡ Clean the polyester insert in lukewarm water with mild detergent.
- ➡ Vacuum or blow a gentle stream of air through the insert.
- ➡ Dry the insert before installing it.

Use a new filter insert if you cannot ensure that the filter insert is still flawlessly functional after the cleaning process. Request seals as needed.

5.4. Installing the filter insert

- ➡ Ensure that all surfaces are free of impurities.
- ➡ Carefully place the cleaned or new insert in the correct position on the base plate of the filter housing.
- ➡ Ensure that the filter insert is positioned correctly and that there is no dirt between the sealing surfaces.
- ➡ Attach washer and screw in the wing nut 6,if existing, by hand.
- ➡ Correctly position the O-Ring on the housing cover if it is not fixed in position on the cover.
- ➡ Place the cover on the open side of the housing; make sure to center the filter insert and place it level on the sealing surface.
- ➡ Press the housing cover down and simultaneously engage and lock the locking clips (wire holder) on the housing cover. At SAS 160 evenly screw down wing nuts.

6. Service

Do Make Use Of Our Service Facilities
In the event that repairs are necessary to your unit, a number of options are available to you to ensure any system down time is kept to a minimum:
– Return the individual components to the manufacturer for repairs;
– Replace individual components with a new value exchange units.
Local Pfeiffer Vacuum representatives can provide full details.

Before Returning:
➡ When returning the unit please use original factory packing.
➡ Dismantle all accessories.
➡ Clean the unit.
➡ If the unit is free of harmful substances, please attach a clearly visible notice: “Free of contamination” (to the unit being returned, the delivery note and accompanying paperwork).
Harmful substances" are substances and preparations as defined in current legislation. Pfeiffer Vacuum will carry out the decontamination and invoice this work to you if you have not attached this note. This also applies where the operator does not have the facilities to carry out the decontamination work. Units which are contaminated microbiologically, explosively or radioactively cannot be accepted as a matter of principle.

Fill out the service request and the declaration on contamination
➡ Download the forms “Service Request” and “Declaration on Contamination”.[1)]
➡ Fill out the “Service Request” form and send it by fax or e-mail to your Pfeiffer Vacuum service address.
➡ Include the confirmation on the service request from Pfeiffer Vacuum with your shipment.
➡ Fill out the contamination declaration and enclose it in the shipment (required!).
Please get in touch with your local Pfeiffer Vacuum representatives if there are any questions regarding contamination.

Decontaminate units before returning or possible disposal. Do not return any units which are microbiologically, explosively or radioactively contaminated.

Returning Contaminated Units
If contaminated units have to be returned for maintenance/repair, the following instructions concerning shipping must be followed without fail:
➡ Neutralise the unit by flushing with nitrogen or dry air.
➡ Seal all openings to the air.
➡ Seal unit in suitable protective foil.
➡ Ship the unit only in suitable packaging.

Repair orders are carried out according to our general conditions of sale and supply.

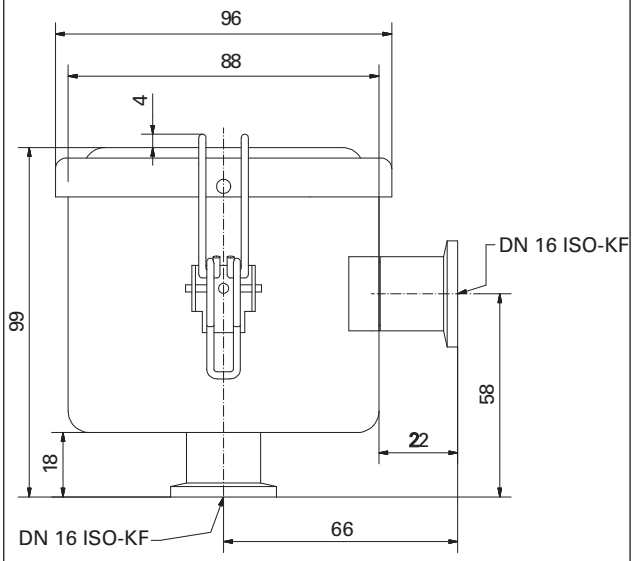
➡ If repairs are necessary, please send the unit together with a short damage description to your nearest Pfeiffer Vacuum Service Center.

7. Technical Data

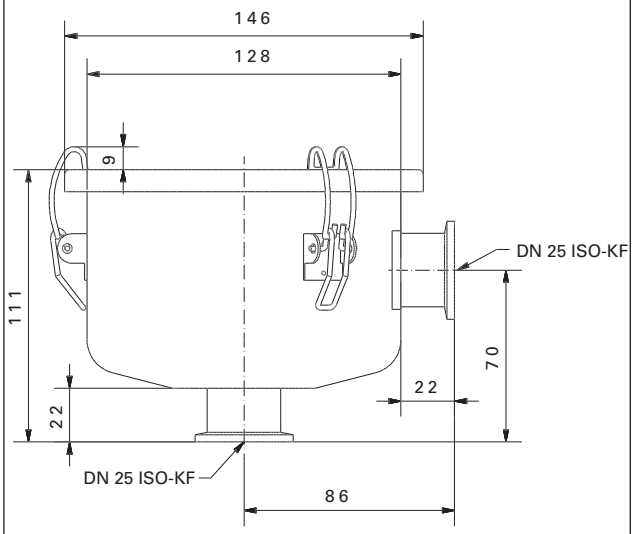
Technical data		SAS 16	SAS 25	SAS 40	SAS 63	SAS 100	SAS 160
Gas inlet connection		DN 16 ISO-KF	DN 25 ISO-KF	DN 40 ISO-KF	DN 63 ISO-K	DN 100 ISO-K	DN 160 ISO-K
Gas outlet connection		DN 16 ISO-KF	DN 25 ISO-KF	DN 40 ISO-KF	DN 63 ISO-K	DN 100 ISO-K	DN 160 ISO-K
Conductance value with polyester							
1 mbar	l/s	16	150	380	2500	2000	-
100 mbar	l/s	33	750	2250	20.000	30.000	-
Leak rate	mbarl/s	$< 1 \cdot 10^{-4}$	$< 1 \cdot 10^{-4}$	$< 1 \cdot 10^{-4}$	$< 1 \cdot 10^{-4}$	$< 1 \cdot 10^{-4}$	$< 1 \cdot 10^{-4}$
Separable particle size	µm	5	5	5	5	5	5
Degree of separation for grain size limit	%	99,7	99,7	99,7	99,7	99,7	99,7
Temperature range	°C	-26 ... + 104	-26 ... + 104	-26 ... + 104	-26 ... + 104	-26 ... + 104	-26 ... + 104
Working pressure, allowable (abs.)	bar	1,0	1,0	1,0	1,0	1,0	1,0
Weight	kg	0,12	1,1	2,1	5,9	12,8	50

7.1. Dimension diagrams

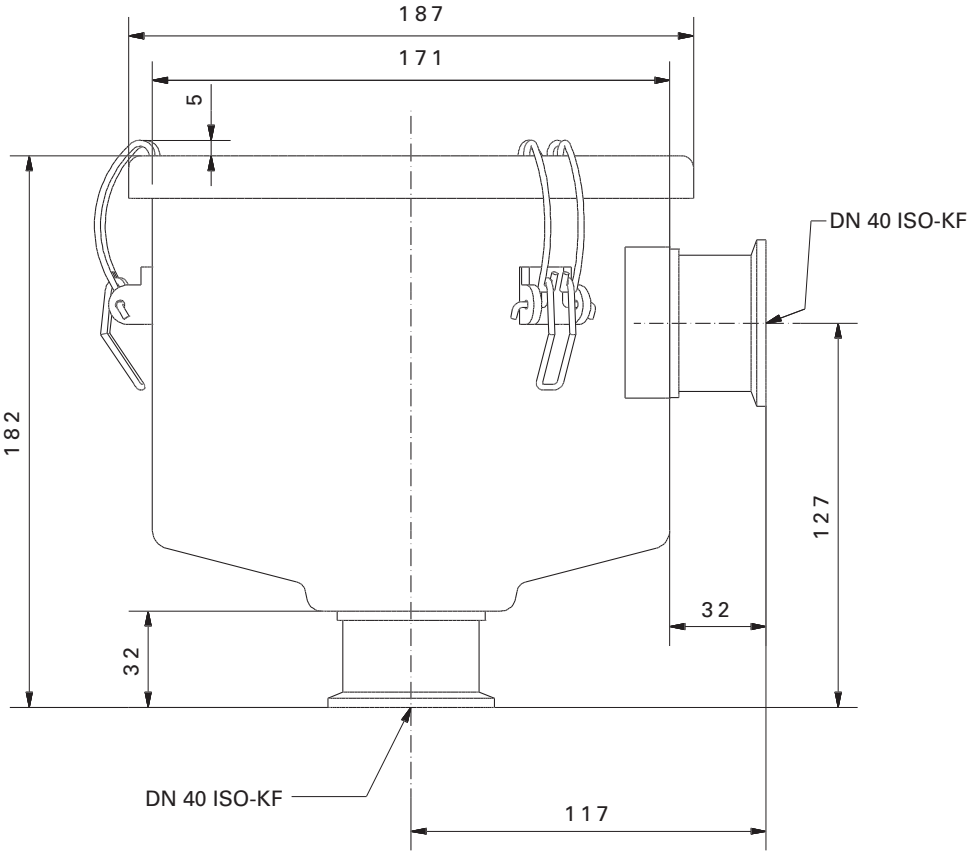
SAS 16



SAS 25

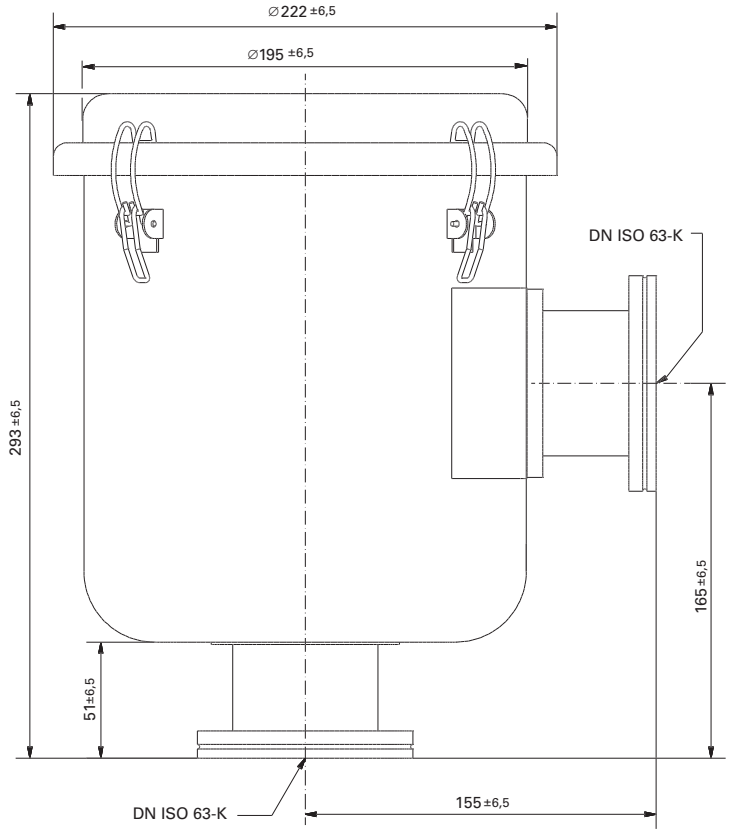


SAS 40

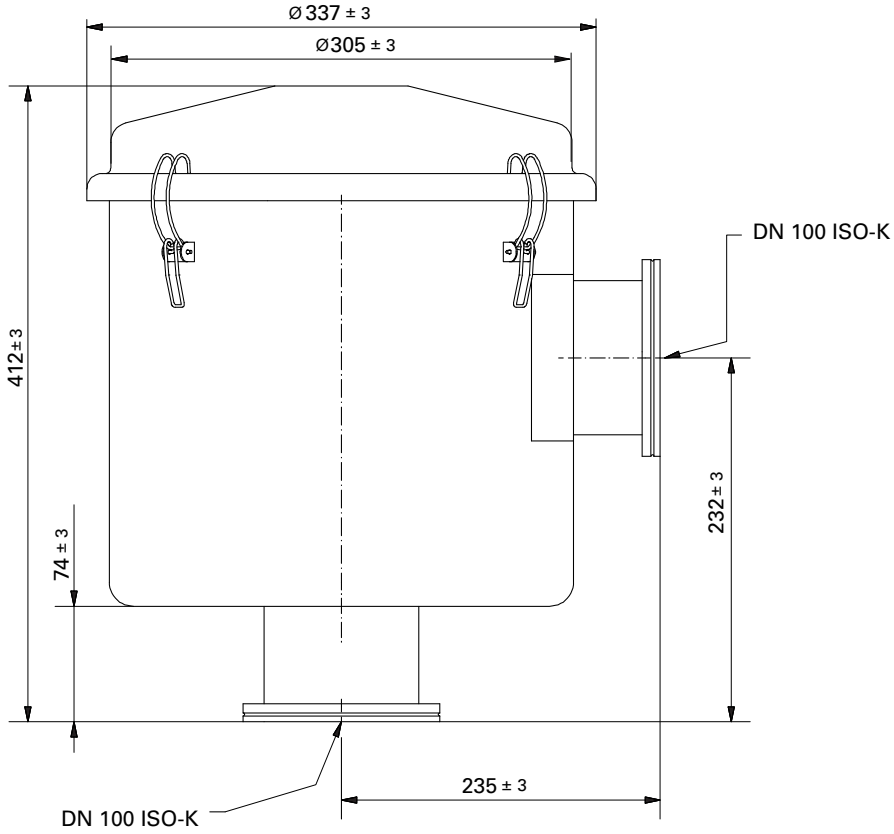


7.1. Dimension diagrams

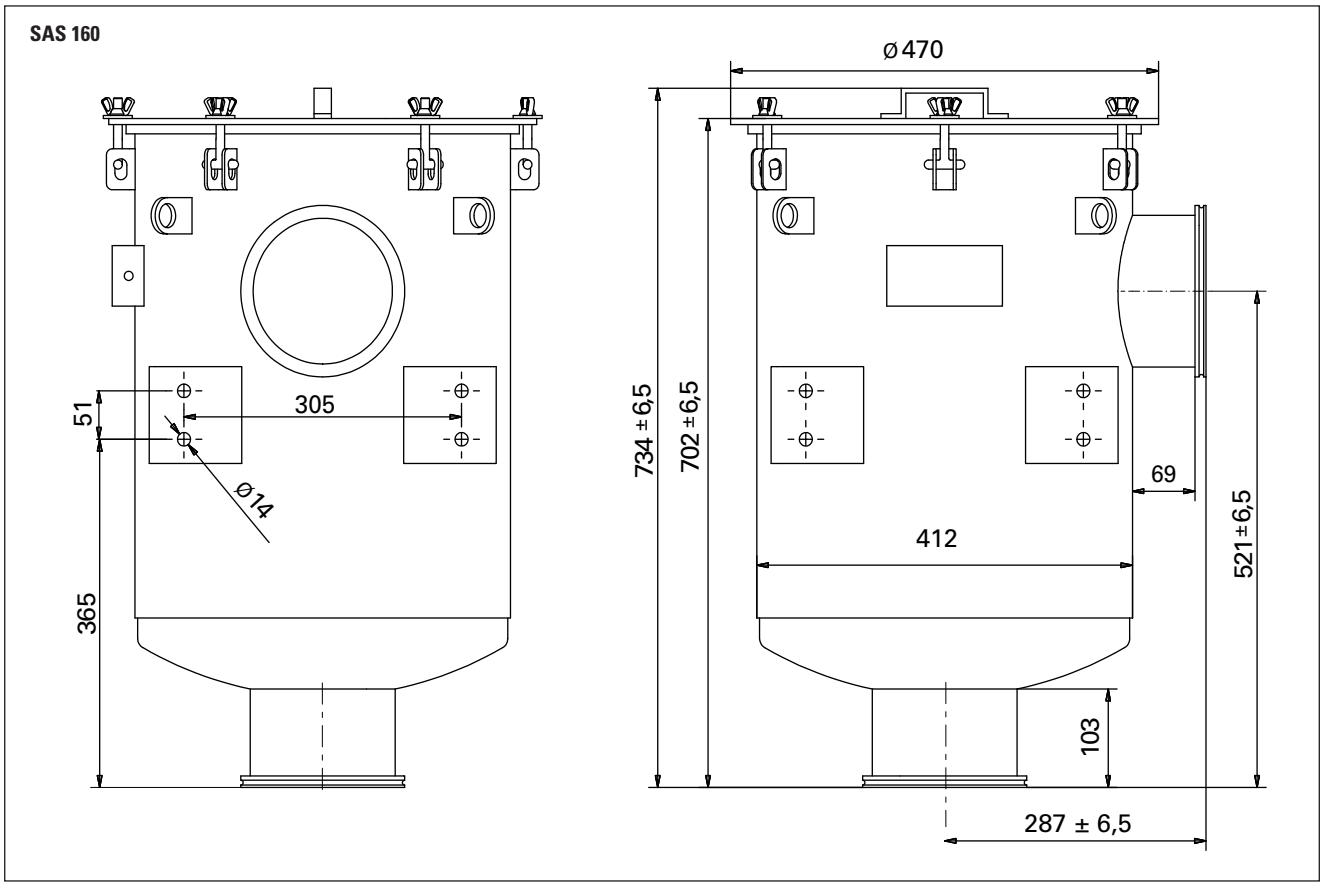
SAS 63



SAS 100



7.1. Dimension diagrams



8. Spare parts

Art. No.	Filter Type	Set of Seals (consisting of pos. 7 and 8)	Maintenance Set Polyester (consisting of pos. 5)
PK Z60 506	SAS 16	PK E57 001 -T	PK E57 009 -T
PK Z60 508	SAS 25	PK E57 002 -T	PK E57 010 -T
PK Z60 510	SAS 40	PK E57 014 -T	PK E57 013 -T
PK Z60 511	SAS 63	PK E57 003 -T	PK E57 011 -T
PK Z60 512	SAS 100	PK E57 004 -T	PK E57 012 -T
PK Z60 514	SAS 160	PK E57 015 -T	PK E57 016 -T

VACUUM SOLUTIONS FROM A SINGLE SOURCE

Pfeiffer Vacuum stands for innovative and custom vacuum solutions worldwide, technological perfection, competent advice and reliable service.

COMPLETE RANGE OF PRODUCTS

From a single component to complex systems:
We are the only supplier of vacuum technology that provides a complete product portfolio.

COMPETENCE IN THEORY AND PRACTICE

Benefit from our know-how and our portfolio of training opportunities!
We support you with your plant layout and provide first-class on-site service worldwide.

Are you looking for a perfect vacuum solution? Please contact us: