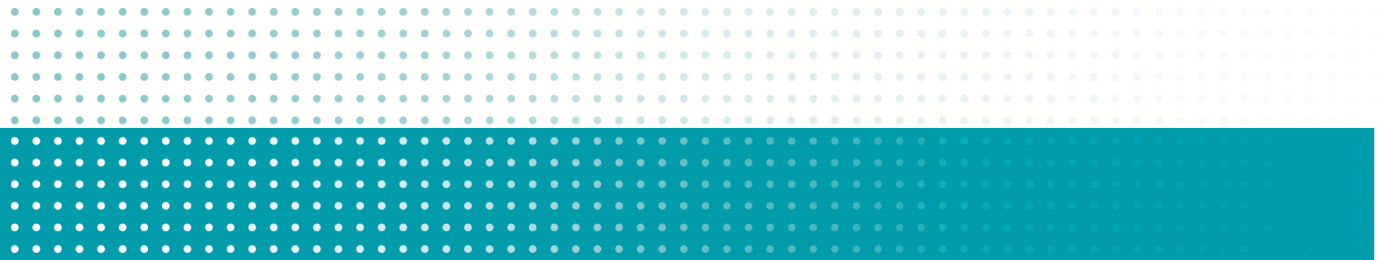


It simply works!



Assembly Instruction

BK Mikro

Air Barrier Adapter

Version 1.05

Sep. 26, 2019

General Notice

Safety guidelines

This document contains notices which you should observe to ensure your own personal safety, as well as to protect the product and connected equipment. These notices are highlighted in the manual by a warning triangle and are marked as follows according to the level of danger.



Immediate danger

to life and limb of personnel and others.
Non-compliance will cause death or serious (crippling) injury.



Hazardous situation

to life and limb of personnel and others.
Non-compliance may cause death or serious injury.



Potentially hazardous situation

Non-compliance may cause slight injury;
possible damage to property.



Notes on correct handling

Non-compliance may cause damage to the product and/or to parts/items in the vicinity.
Important information about the product, the handling of the product, or the part of the documentation onto which is supposed to be made especially attentive.



Environmental protection

Non-compliance may have an impact on the environment.

Intended use



The products of Schubert System Elektronik GmbH may only be used for the applications described in the technical documents, and only in connection with devices or components from other manufacturers which have been approved or recommended by us.

Start-up must not take place until it is established that the machine which is to accommodate this component conforms to the guideline 98/37 EC.

This product can only function correctly and safely if it is transported, stored, set up, and installed correctly, and operated and maintained as recommended.

Qualification of personnel

Only qualified personnel may carry out the following activities on the products:
installation, commissioning, operation, maintenance.

Qualified persons in accordance with the safety guidelines are defined as persons who are authorized to commission, to ground, and to tag circuits, equipment, and systems in accordance with established safety practices and standards.

Disclaimer of liability

We have checked the contents of this document for agreement with the hardware and software described. Since deviations cannot be precluded entirely, we cannot guarantee full agreement. However, the data in this manual are reviewed regularly and any necessary corrections included in subsequent editions. Suggestions for improvement are welcomed.

EMC directive 2004/108/EC

The following applies to this product of Schubert System Elektronik GmbH:



BK Mikro Air barrier adapter complies with the requirements of the EMC directive 2004/108/EC on basis of the standards following in chapter "Technical Data".

The EC declarations of conformity and the related documentation will be maintained at the following address for inspection by the responsible officials in accordance with article 10(1) of the above stated EC directive:

Schubert System Elektronik GmbH
Take-off Gewerbepark 36
78579 Neuhausen ob Eck / Germany

Areas of use

Products of Schubert System Elektronik GmbH meet the applicable, harmonized, European standards for the respective area of applications.

Warranty

For the devices of Schubert System Elektronik GmbH, the agreements determined in the General Terms and Conditions (AGB) are valid.

Fitting conditions

The fitting conditions and safety notes in the submitted document must be adhered to when commissioning and operating the products.

Trade names and/or trademarks

All hardware and software names are trade names and/or trademarks of the respective manufacturer.

Copyright

Every user documentation is intended for the operator and the operator's personnel only. The transmission and reproduction of this document and the exploitation and communication of its contents are not allowed without express authority. Offenders will be liable for damages.

Contents

1	General	5
1.1	Application	5
1.2	Scope of delivery	6
2	Air Barrier Assembly	8
2.1	Removing wand and wand holder from the scanner	8
2.2	Assembly of air barrier wand holder	9
2.3	Assembly of air barrier ring	10
2.4	Assembly of the wand	12
2.5	Compressed air connection	14
3	Mechanical Dimensions	15
3.1	Air barrier ring	15
3.2	Air barrier wand holder	17
4	Order Information	19

Table of Figures

Fig. 1-1:	Air barrier adapter (TK 8) - Scope of delivery 62 04 027.....	6
Fig. 1-2:	Air barrier adapter (TK 7 / 8) - Scope of delivery 62 04 028.....	6
Fig. 1-3:	Air barrier adapter (TK9 / 4 / 5) - Scope of delivery 62 04 029.....	6
Fig. 1-4:	Air barrier adapter (TK9) - Scope of delivery 62 04 032.....	7
Fig. 1-5:	Air barrier adapter (TK 9) - Lieferumfang 62 04 033.....	7
Fig. 2-1:	TK 7 / 8 - Removing wand and wand holder.....	8
Fig. 2-2:	TK9 / 4 / 5 - Removing wand and wand holder.....	8
Fig. 2-3:	TK 7 / 8 - Assembly of air barrier wand holder.....	9
Fig. 2-4:	TK9 / 4 / 5 - Assembly of air barrier wand holder.....	9
Fig. 2-5:	TK 7 / 8 - Assembly of air barrier ring.....	10
Fig. 2-6:	TK 7 / 8 – Crack between wand holder and air barrier ring.....	11
Fig. 2-7:	TK 9 – Crack between air barrier ring and scanner.....	11
Fig. 2-8:	TK 7 / 8 - Assembly of the wand.....	12
Fig. 2-9:	TK9 / 4 / 5 - Assembly of the wand.....	12
Fig. 2-10:	TK9 – mounting scanning wand.....	13
Fig. 2-11:	Compressed air connection.....	14
Fig. 3-1:	Dimensions air barrier ring (TK 7 / 8) 62 04 027 / 62 04 028.....	15
Fig. 3-2:	Dimensions air barrier ring (TK9 / 4 / 5) 62 04 029 / 62 04 033.....	15
Fig. 3-3:	Dimensions air barrier ring (TK9) 62 04 032.....	16
Fig. 3-4:	Dimensions air barrier wand holder (TK 8) 62 04 027.....	17
Fig. 3-5:	Dimensions air barrier wand holder (TK 7 / 8) 62 04 028.....	17
Fig. 3-6:	Dimensions air barrier wand holder (TK9 / 4 / 5) 62 04 029 / 62 04 033.....	17
Fig. 3-7:	Dimensions air barrier wand holder (TK9 / 4 / 5) 62 04 032.....	18

1 General

Development of the air barrier adapter has been mainly conducted for the use of BK Mikro scanner in harsh and aggressive environments.

The adapter keeps away liquids and splints from important gaskets with a air barrier adapter. This will lead to a increased scanner life-cycle.



Note

Unfavorable compositions of cooling agents or emulsions may harm the gaskets. The gear mechanism can be blocked and internal electronics may be destroyed if liquids enter the scanner housing.

1.1 Application

Various air barrier adapters are designed for selective scanner and scanning wands.

BKM air barrier adapter axis \varnothing = 3 mm, wand \varnothing = 3 mm (scanner: TK 8)	62 04 027
BKM air barrier adapter axis \varnothing = 3 mm, wand \varnothing = 1,2 mm (scanner: TK 7 / TK 8)	62 04 028
BKM air barrier adapter axis \varnothing = 4 mm, wand \varnothing = 1,2 mm or 4 mm (scanner: TK 4 / TK 5 / TK9)	62 04 029
BKM air barrier adapter type 3 axis \varnothing = 4 mm, twist-protect wand (scanner: TK9)	62 04 032
BKM air barrier adapter axis \varnothing = 4 mm, twist-protect wand (scanner: TK 4 / TK 5 / TK9)	62 04 033

1.2 Scope of delivery

The air barrier adapter consists of the following components:

- Air barrier ring to accommodate compressed air connections incl. straight compressed air connection
- Air barrier wand holder for wand accommodation
- A 90° plug-in connection for alternative compressed air connection

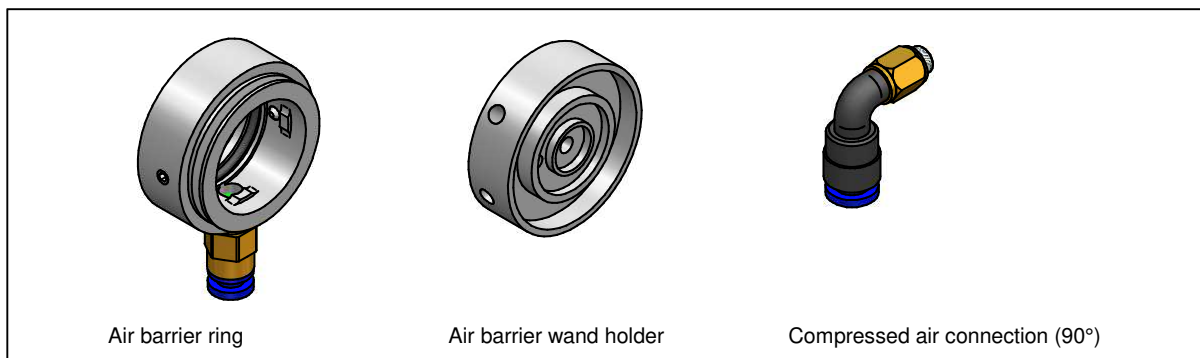


Fig. 1-1: Air barrier adapter (TK 8) - Scope of delivery 62 04 027

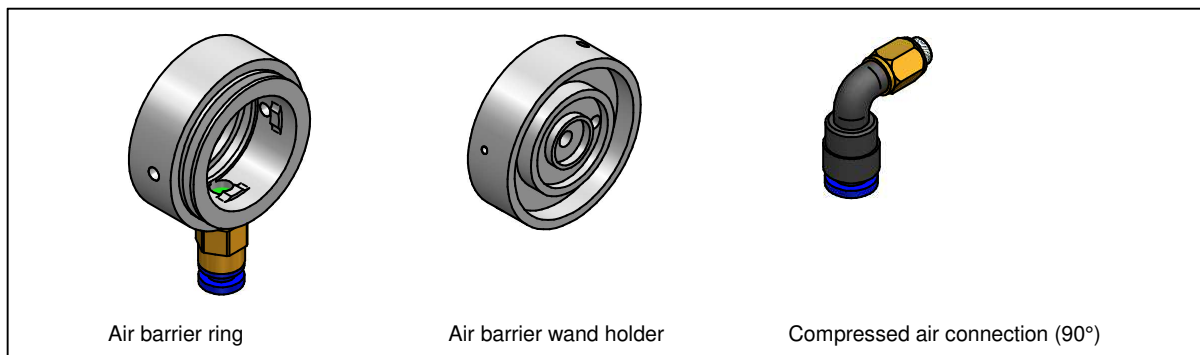


Fig. 1-2: Air barrier adapter (TK 7 / 8) - Scope of delivery 62 04 028

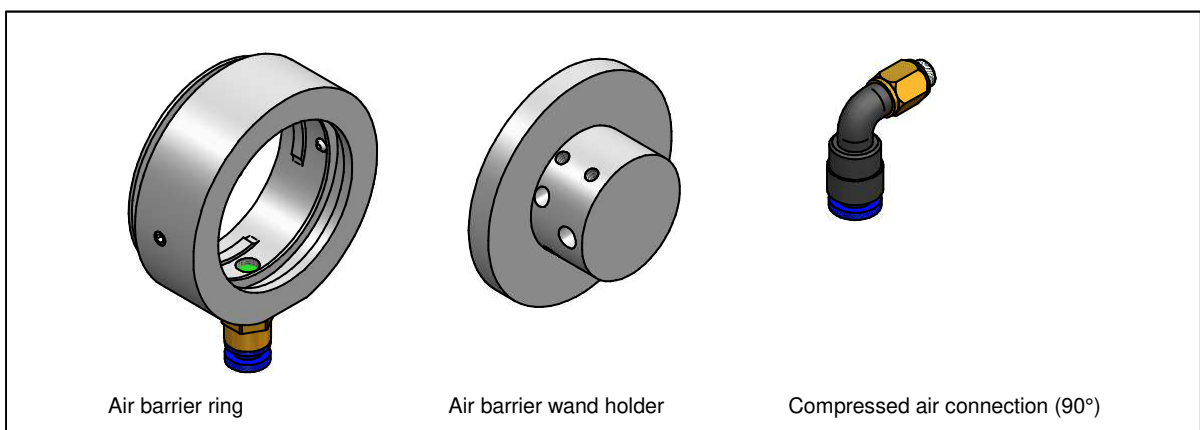


Fig. 1-3: Air barrier adapter (TK9 / 4 / 5) - Scope of delivery 62 04 029

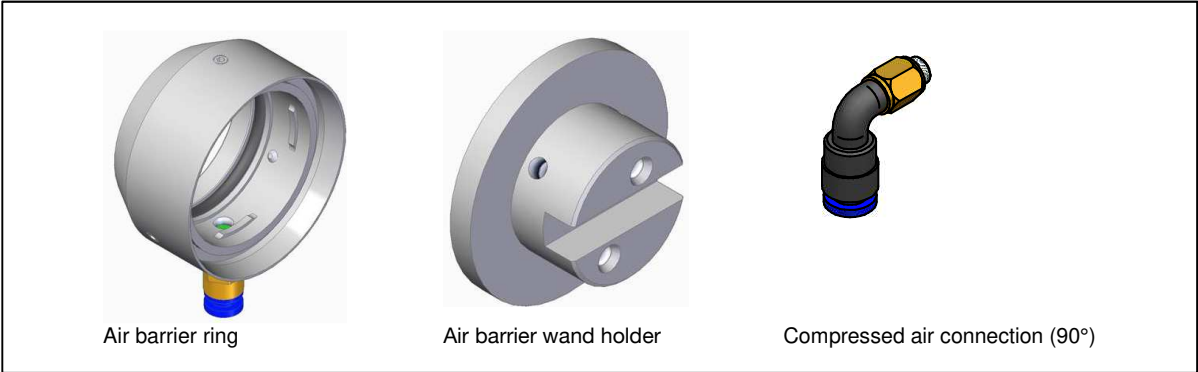


Fig. 1-4: Air barrier adapter (TK9) - Scope of delivery 62 04 032



Fig. 1-5: Air barrier adapter (TK 9) - Lieferumfang 62 04 033

2 Air Barrier Assembly

Assembly instruction pertains to the following air barrier adapters:

Article no.: 62 04 027, 62 04 028, 62 04 029, 62 04 032 and 62 04 033.

Allen wrenches are needed for assembly.

2.1 Removing wand and wand holder from the scanner

1) Loosen the M3 grub screw and carefully remove the wand.

2) Then carefully remove loosen M3 hexagon socket head cap screw and wand holder as shown in the drawing

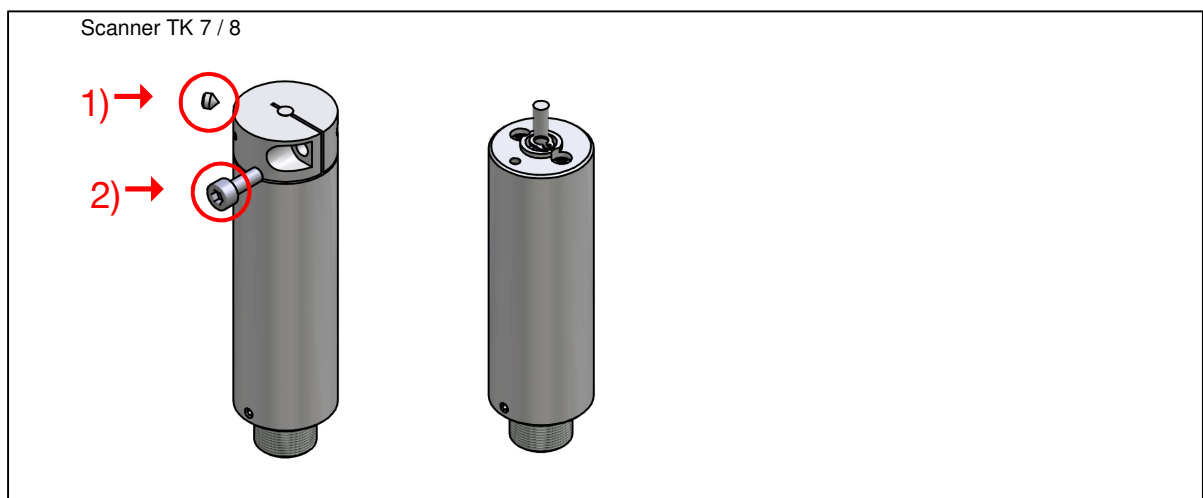


Fig. 2-1: TK 7 / 8 - Removing wand and wand holder

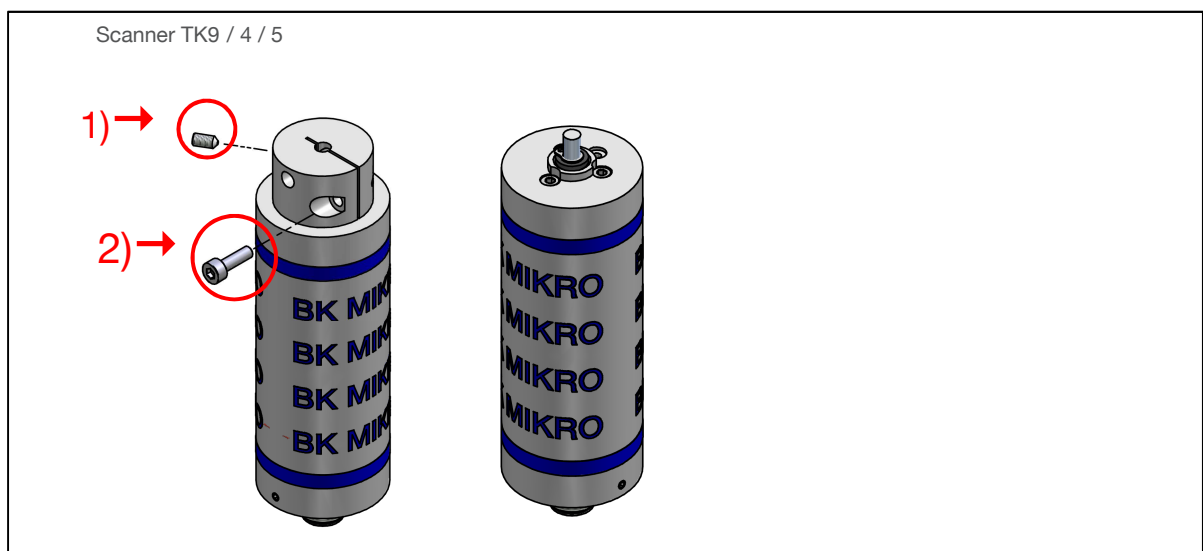


Fig. 2-2: TK9 / 4 / 5 - Removing wand and wand holder

2.2 Assembly of air barrier wand holder

Shift air barrier wand holder from top onto the axis. Now brace with the M4 grub screws as depicted.

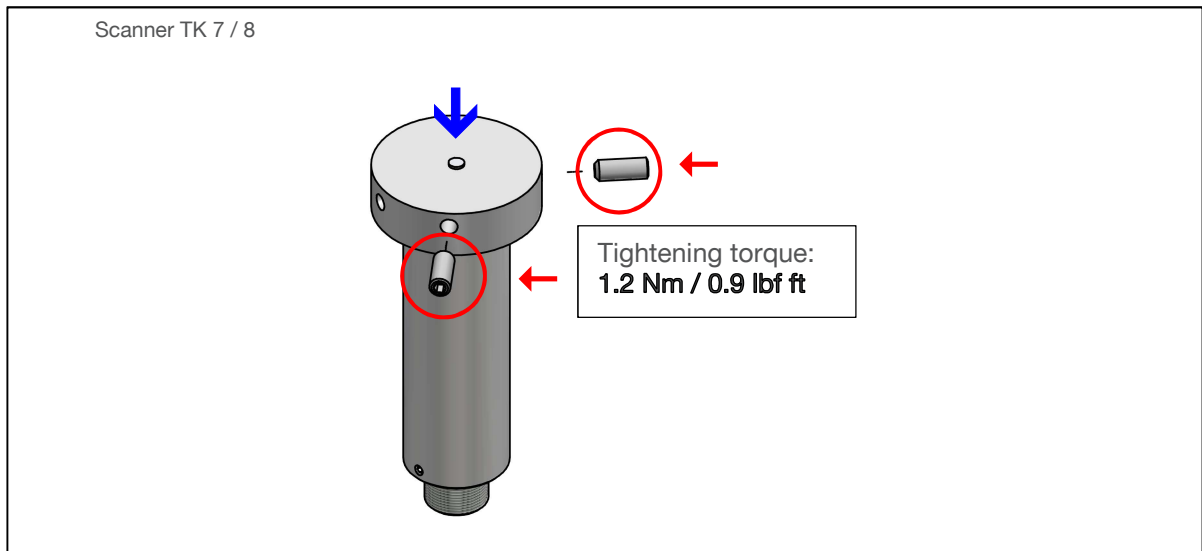


Fig. 2-3: TK 7 / 8 - Assembly of air barrier wand holder

Shift air barrier wand holder from top onto the axis. Now brace with the M3 grub screws as depicted.

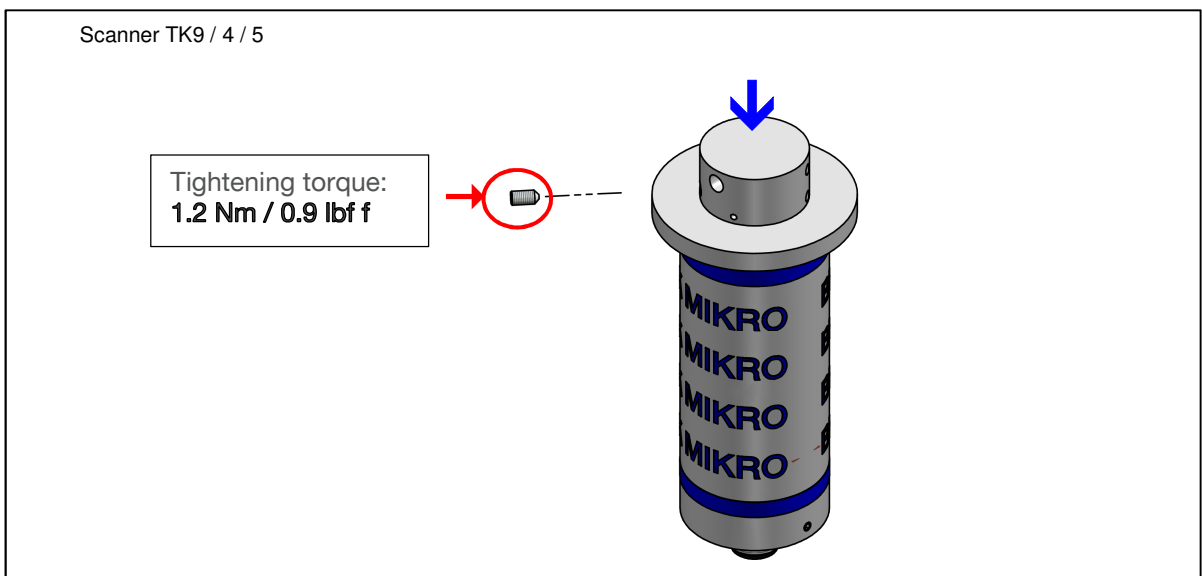


Fig. 2-4: TK9 / 4 / 5 - Assembly of air barrier wand holder

2.3 Assembly of air barrier ring

Lubricate air barrier ring gasket with vaseline. Shift from bottom of the scanner up to the air barrier wand holder in slight circular motion. Brace with the marked M3 grub screws.

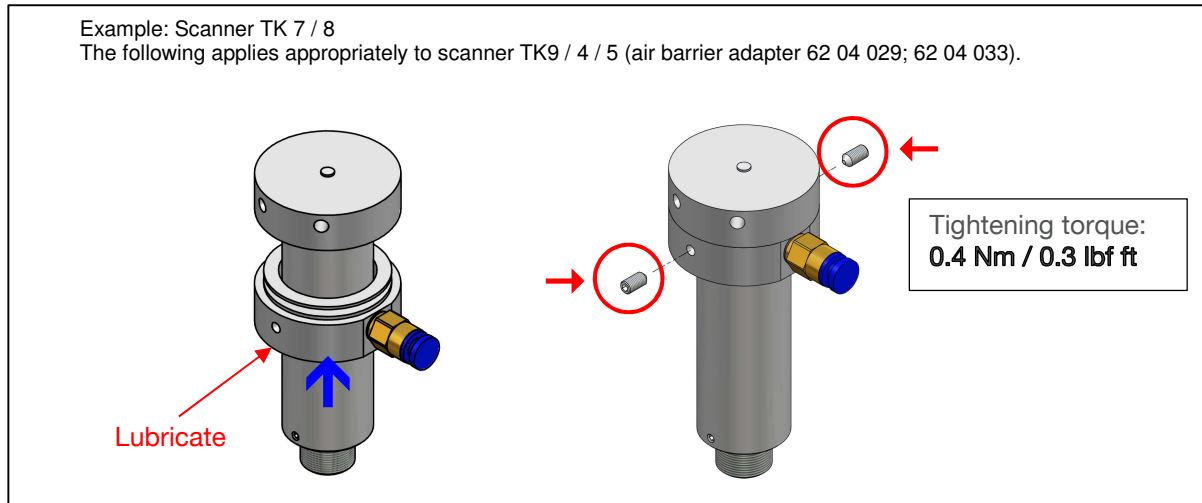


Fig. 2-5: TK 7 / 8 - Assembly of air barrier ring

**Note**

A crack of approx. 0.5 mm must emerge between the air barrier wand holder and the air barrier ring.

Example: Scanner TK 7 / 8 (air barrier adapter 62 04 027; 62 04 028).
The following applies appropriately to scanner TK9 / 4 / 5 (air barrier adapter 62 04 029; 62 04 033).

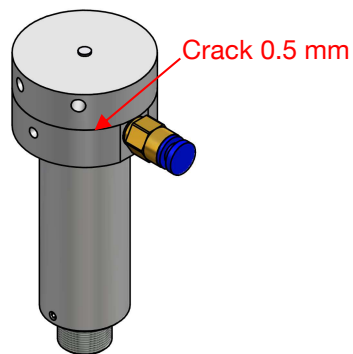


Fig. 2-6: TK 7 / 8 – Crack between wand holder and air barrier ring

Assembly air barrier adapter 62 04 032**Note**

The air barrier ring must be mounted with the following distance.

The following applies appropriately to scanner TK9 (air barrier adapter 62 04 032).

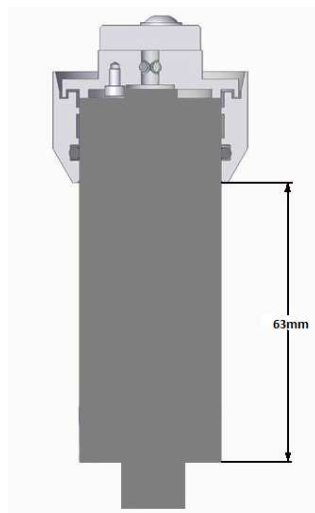


Fig. 2-7: TK 9 – Crack between air barrier ring and scanner

2.4 Assembly of the wand

Shift wand into the appropriate borehole and brace with the marked M3 grub screw.

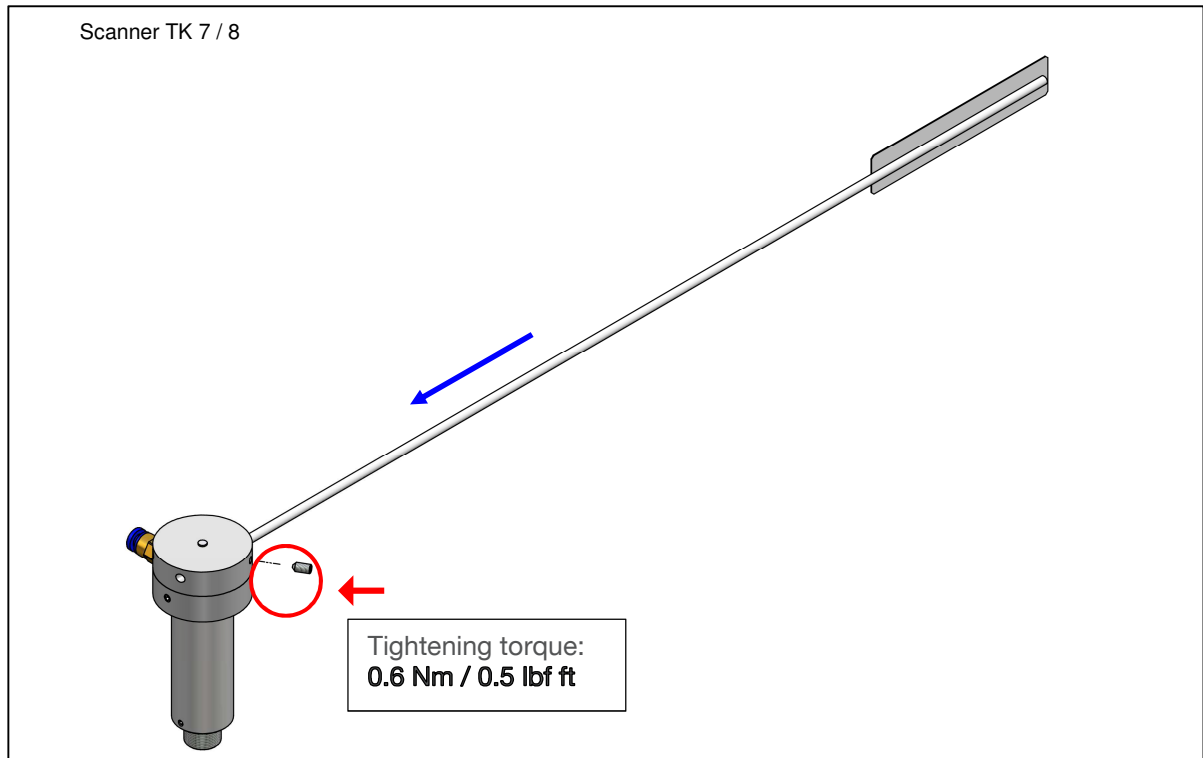


Fig. 2-8: TK 7 / 8 - Assembly of the wand

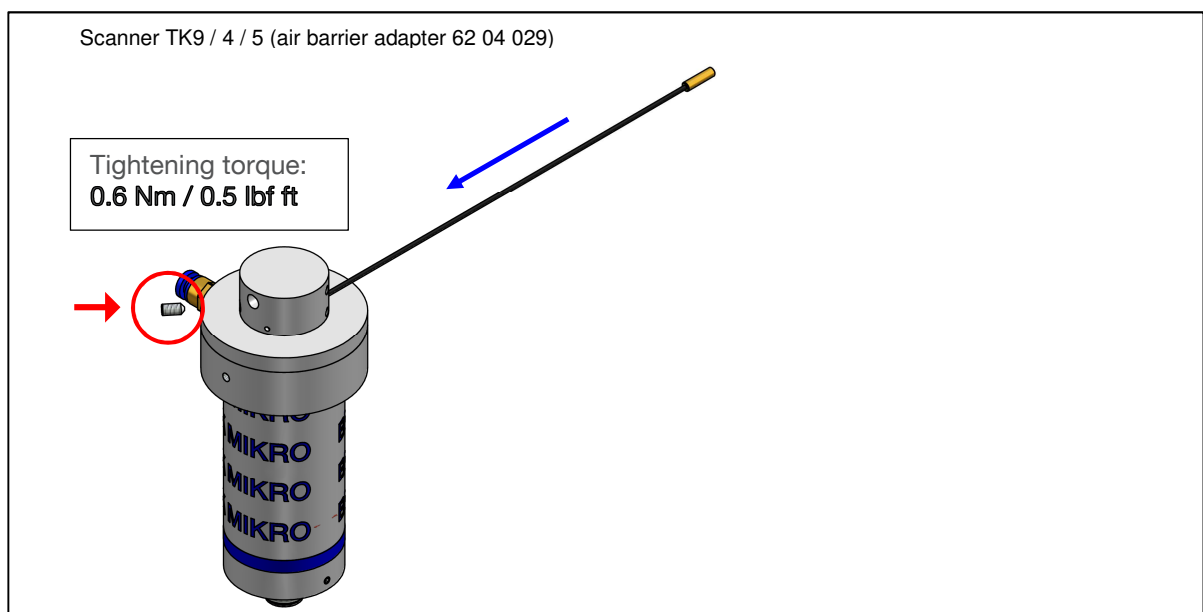


Fig. 2-9: TK9 / 4 / 5 - Assembly of the wand

Fix the scanning wand with the marked screws.

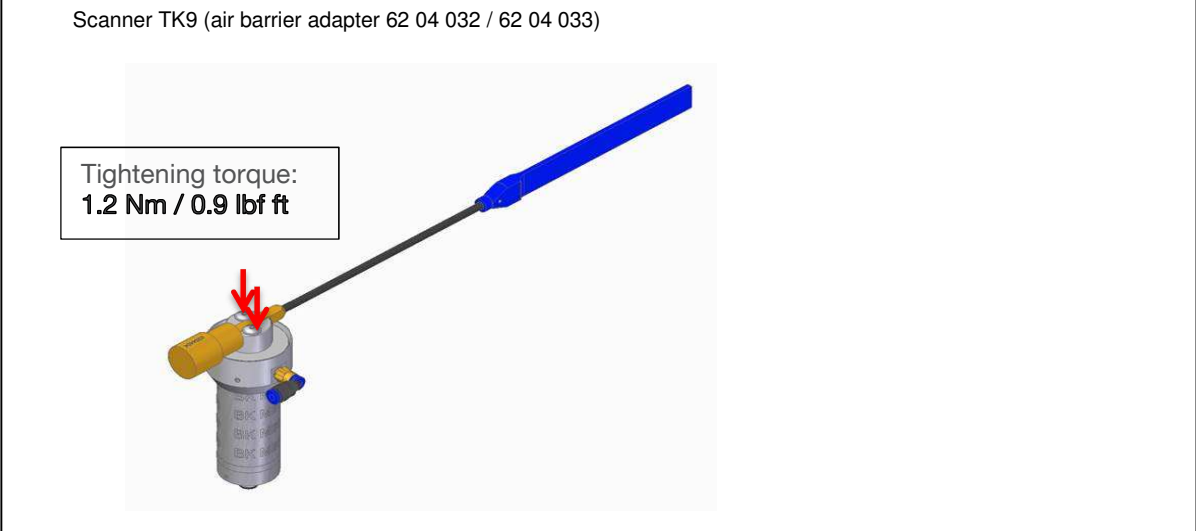


Fig. 2-10: TK9 – mounting scanning wand

2.5 Compressed air connection

The air barrier ring shows a straight compressed air connection. It can be exchanged with the provided angled plug connector.

The plug connectors are arranged for a compressed air hose with the external diameter of 4 mm.

The recommended pressure value is 0.5 bar.

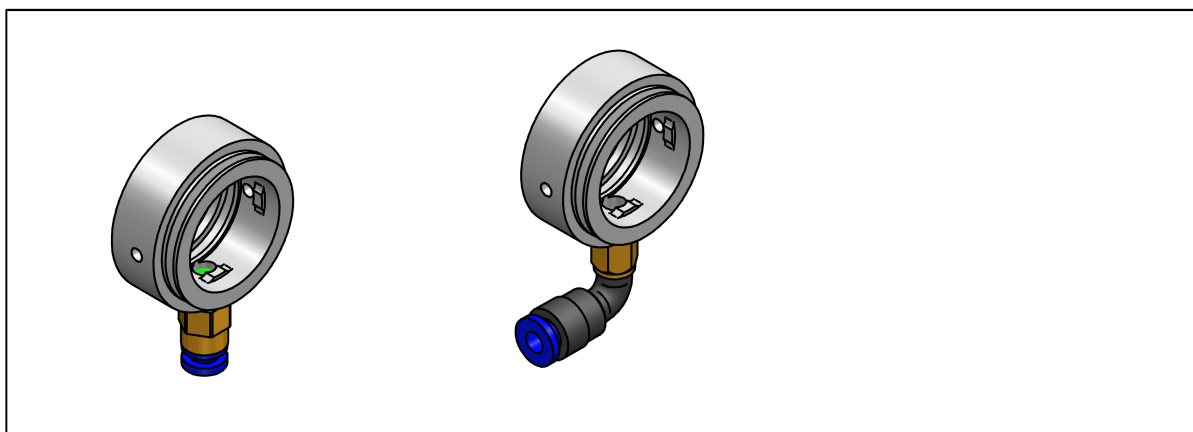


Fig. 2-11: Compressed air connection

3 Mechanical Dimensions

3.1 Air barrier ring

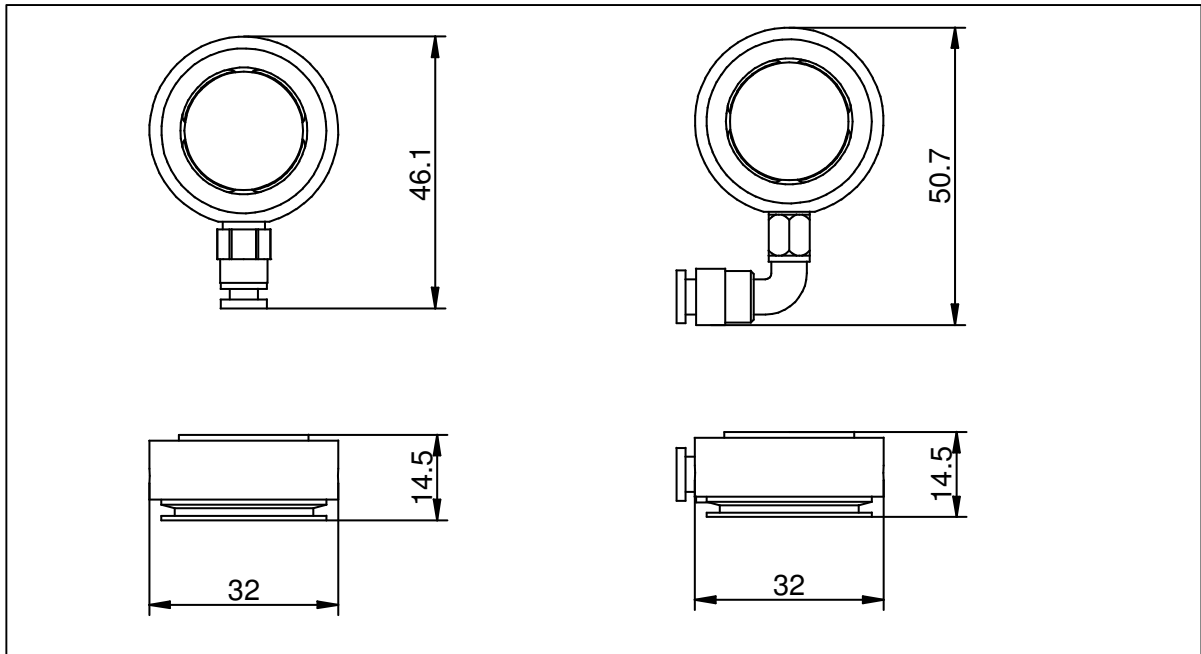


Fig. 3-1: Dimensions air barrier ring (TK 7 / 8) 62 04 027 / 62 04 028

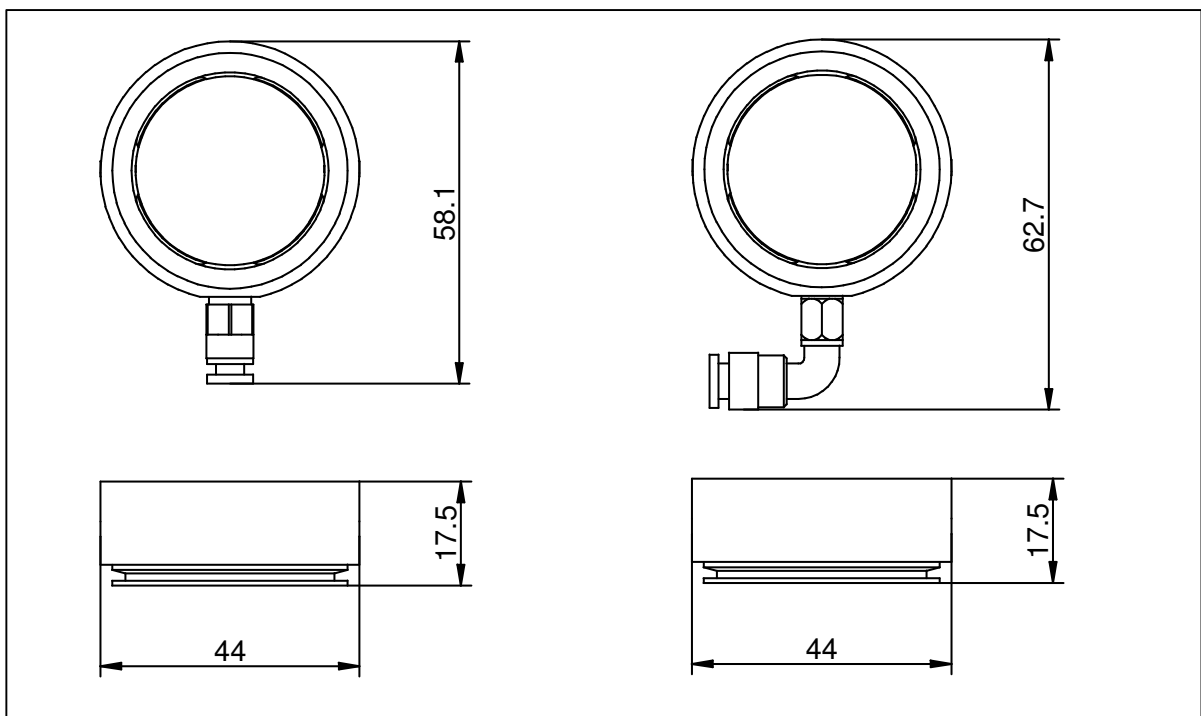


Fig. 3-2: Dimensions air barrier ring (TK9 / 4 / 5) 62 04 029 / 62 04 033

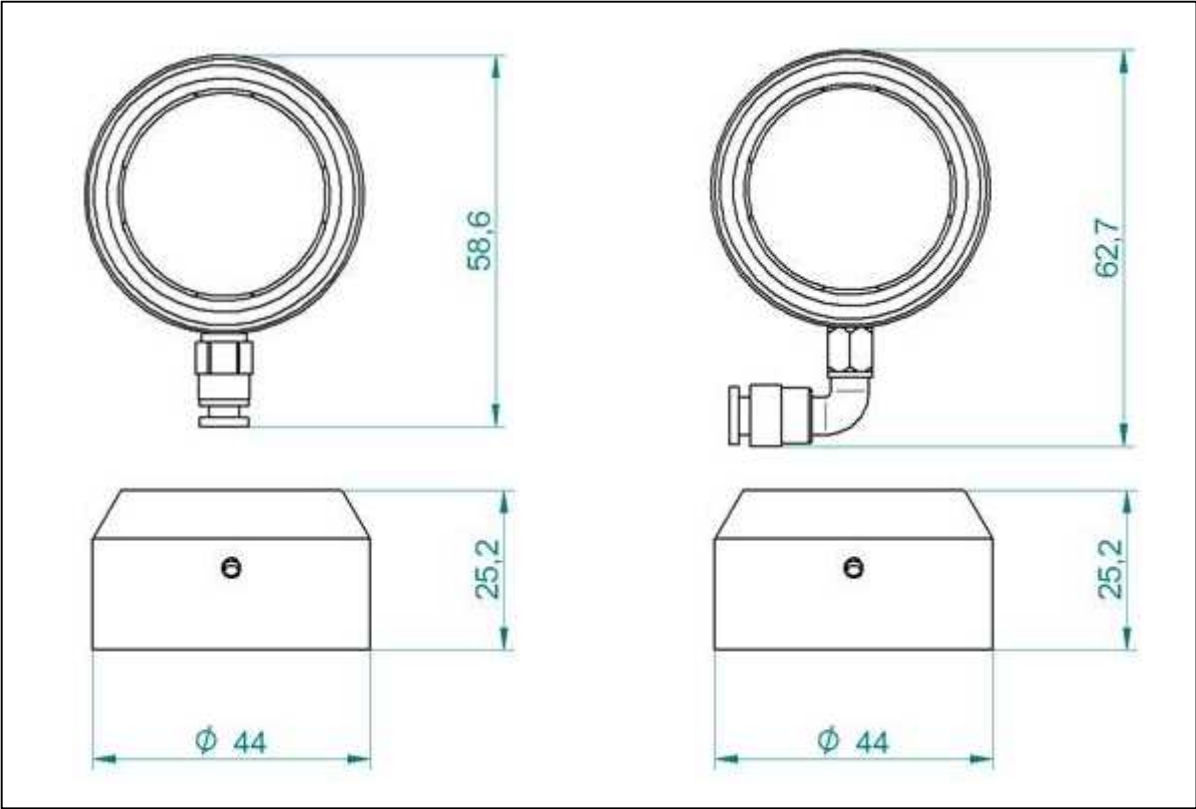


Fig. 3-3: Dimensions air barrier ring (TK9) 62 04 032

3.2 Air barrier wand holder

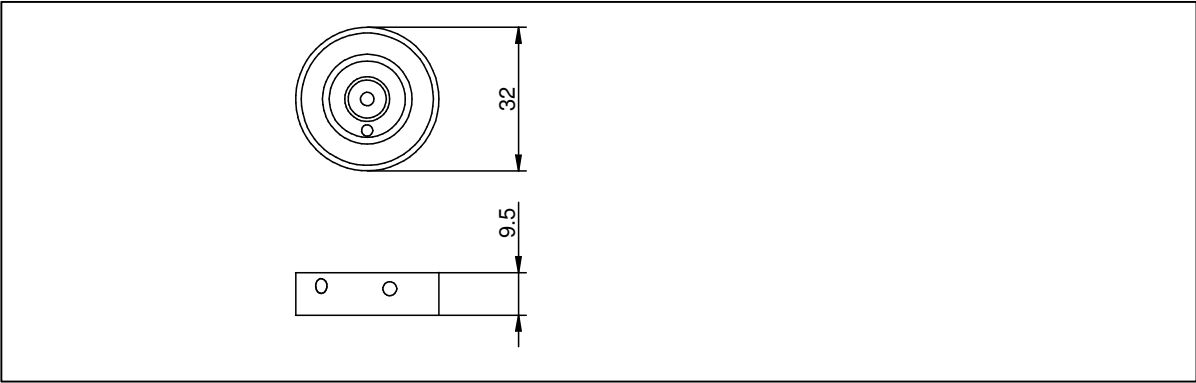


Fig. 3-4: Dimensions air barrier wand holder (TK 8) 62 04 027

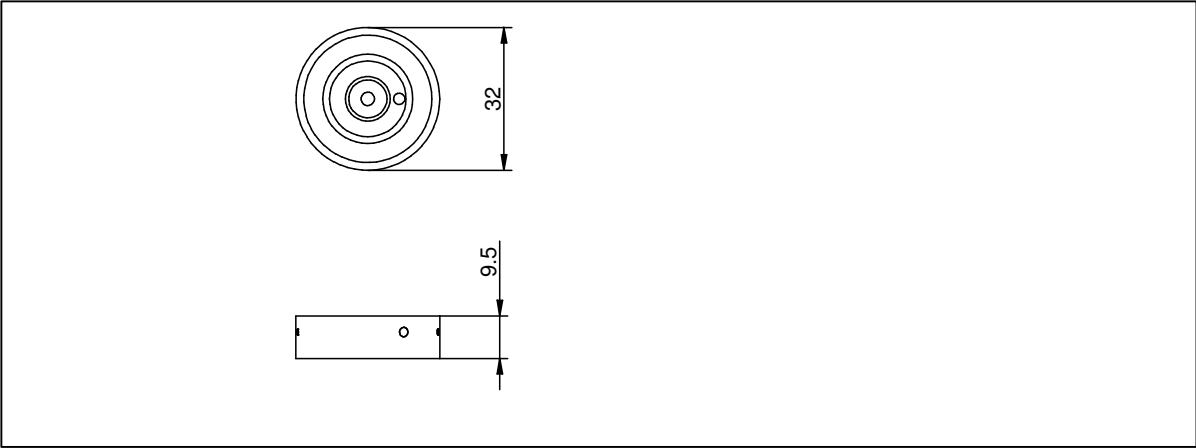


Fig. 3-5: Dimensions air barrier wand holder (TK 7 / 8) 62 04 028

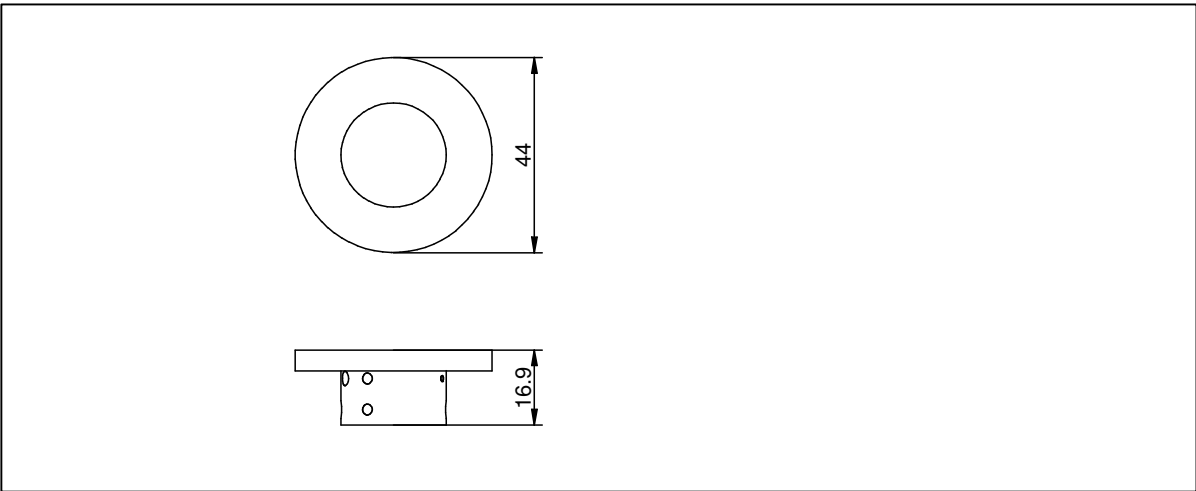


Fig. 3-6: Dimensions air barrier wand holder (TK9 / 4 / 5) 62 04 029 / 62 04 033

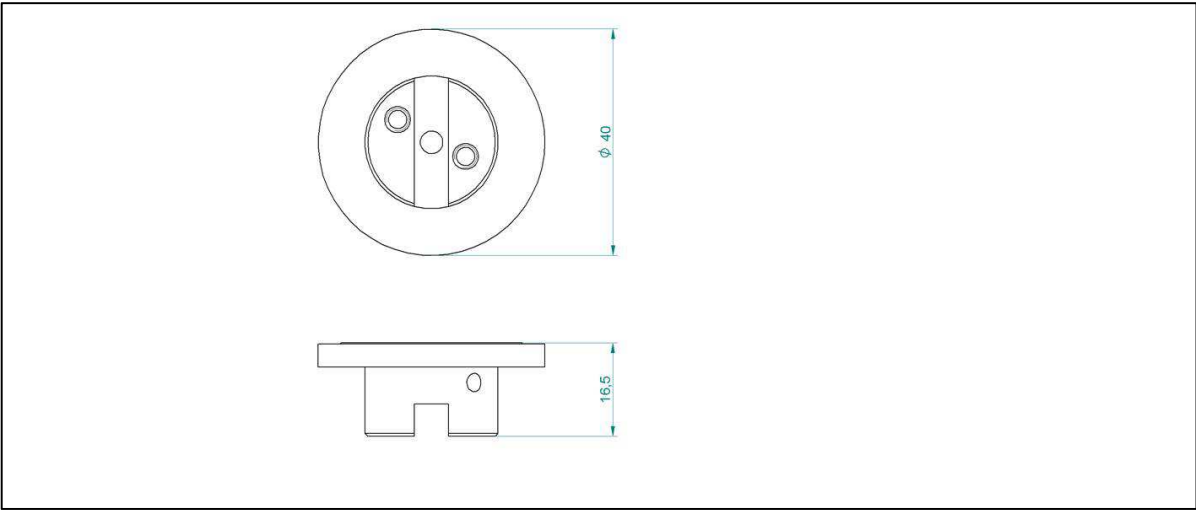


Fig. 3-7: Dimensions air barrier wand holder (TK9 / 4 / 5) 62 04 032

4 Order Information

Accessories and Spare Parts	Article no.
<p>BKM Air barrier adapter axis $\varnothing=3$ mm, wand $\varnothing=3$ mm (for TK 8)</p> 	62 04 027
<p>BKM Air barrier adapter axis $\varnothing=3$ mm, wand $\varnothing=1.2$ mm (for TK 7 / TK 8)</p> 	62 04 028
<p>BKM Air barrier adapter axis $\varnothing=4$ mm, wand $\varnothing=1.2$ mm or 4 mm (for TK 4 / TK 5 / TK9)</p> 	62 04 029
<p>BKM Air barrier adapter type 3 axis $\varnothing=4$ mm, twist-protect wand (for TK9)</p> 	62 04 032
<p>BKM Air barrier adapter axis $\varnothing=4$ mm, twist-protect wand (for TK9)</p> 	62 04 033