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
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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.

<table>
<thead>
<tr>
<th>Adapter Description</th>
<th>Code</th>
</tr>
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</table>
| BKM air barrier adapter  
axis Ø = 3 mm, wand Ø = 3 mm  
(scanner: TK 8) | 62 04 027 |
| BKM air barrier adapter  
axis Ø = 3 mm, wand Ø = 1,2 mm  
(scanner: TK 7 / TK 8) | 62 04 028 |
| BKM air barrier adapter  
axis Ø = 4 mm, wand Ø = 1,2 mm or 4 mm  
(scanner: TK 4 / TK 5 / TK9) | 62 04 029 |
| BKM air barrier adapter type 3  
axis Ø = 4 mm, twist-protect wand  
(scanner: TK9) | 62 04 032 |
| BKM air barrier adapter  
axis Ø = 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
Air barrier ring
Air barrier wand holder
Compressed air connection (90°)

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

Air barrier ring
Air barrier wand holder
Compressed air connection (90°)

Fig. 1-5: Air barrier adapter (TK9) - Lieferumfang 62 04 033
2  **Air Barrier Assembly**

Assembly instruction pertains to the following air barrier adapters:
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
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: TK 9 / 4 / 5 - Assembly of air barrier wand holder

Tightening torque: 1.2 Nm / 0.9 lbf ft
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.

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

![Diagram of air barrier ring assembly](image)

**Tightening torque:**
0.4 Nm / 0.3 lbf ft

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).

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).
2.4 **Assembly of the wand**

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

---

**Tightening torque:**

0.8 Nm / 0.5 lbf ft

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

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**Tightening torque:**

0.6 Nm / 0.5 lbf ft

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**Fig. 2-9: TK 9 / 4 / 5 - Assembly of the wand**
Fix the scanning wand with the marked screws.

Scanner TK9 (air barrier adapter 62 04 032 / 62 04 033)

**Tightening torque:**

1.2 Nm / 0.9 lbf ft

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.

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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 (TK 9 / 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**

![Diagram of Air barrier wand holder (TK 8)](image1)

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

![Diagram of Air barrier wand holder (TK 7 / 8)](image2)

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

![Diagram of Air barrier wand holder (TK9 / 4 / 5)](image3)

**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
## Order Information

<table>
<thead>
<tr>
<th>Accessories and Spare Parts</th>
<th>Article no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BKM Air barrier adapter  ( \phi = 3 \text{ mm} ), wand ( \phi = 3 \text{ mm} ) (for TK 8)</td>
<td>62 04 027</td>
</tr>
<tr>
<td>BKM Air barrier adapter  ( \phi = 3 \text{ mm} ), wand ( \phi = 1.2 \text{ mm} ) (for TK 7 / TK 8)</td>
<td>62 04 028</td>
</tr>
<tr>
<td>BKM Air barrier adapter  ( \phi = 4 \text{ mm} ), wand ( \phi = 1.2 \text{ mm} ) or ( 4 \text{ mm} ) ( ) (for TK 4 / TK 5 / TK9)</td>
<td>62 04 029</td>
</tr>
<tr>
<td>BKM Air barrier adapter type 3  ( \phi = 4 \text{ mm} ), twist-protect wand ( ) (for TK9)</td>
<td>62 04 032</td>
</tr>
<tr>
<td>BKM Air barrier adapter  ( \phi = 4 \text{ mm} ), twist-protect wand ( ) (for TK9)</td>
<td>62 04 033</td>
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