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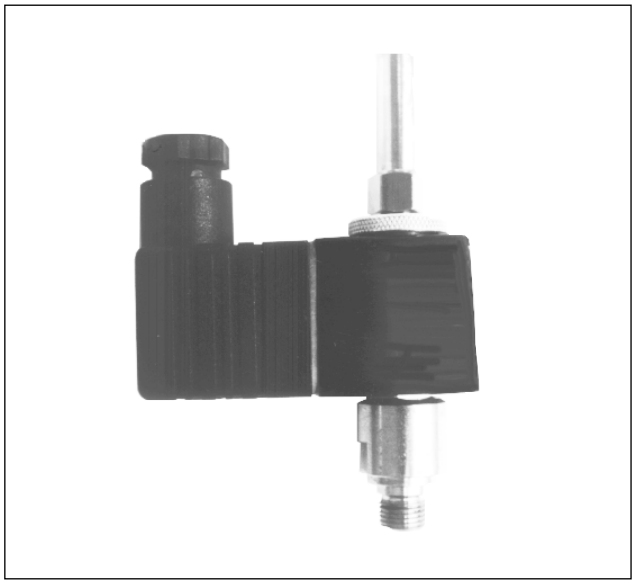
PFEIFFER VACUUM

Operating Instructions

TSF 010

Power Failure Venting Unit





PM 800 032 BNE/L (0007)

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1. Safety Instructions

☞ Read and follow all the instructions in this manual.
☞ Inform yourself regarding:
  – Hazards which can be caused by the power failure veting unit;
  – Hazards which can arise in your system.
☞ Observe all safety and accident prevention regulations.
☞ Check regularly that all safety requirements are being complied with.
☞ Do not carry out any unauthorised conversions or modifications on the unit.
☞ When returning the power failure venting unit to us please note the shipping instructions in Section “Service”.

Modifications reserved.

1.1. Pictogram Definitions



Danger of damage to the power failure venting unit or system.

2. Understanding The Power Failure Venting Unit

2.1. Main Features

The Power Failure Venting Unit TSF 010 is designed to vent all PFEIFFER turbomolecular pumps which are fitted with a venting unit connection. When current is flowing the TSF 010 is closed and it opens (vents) in the event of a power failure or by switching off without delay.
The diameter for free flow for the venting medium is 2 mm.
If the TSF 010 is connected to a Pumping Station Controller TCS 303, the turbomolecular pump is also vented if a malfunction occurs, for example a failure in the water supply.

A Drying Unit TTV 001 (see Accessories) or a gas canister (for example N_2) can be connected to the hose nipple of the power failure venting unit if venting with dry air or other gases is required.

Two versions of the power failure venting unit, depending on turbopump venting connection, are available.
- Small flange connection DN 10 ISO-KF for turbopumps with small flange connection DN 10 ISO-KF.
- Threaded connection G1/8" for turbopumps which are fitted with a venting screw as standard.

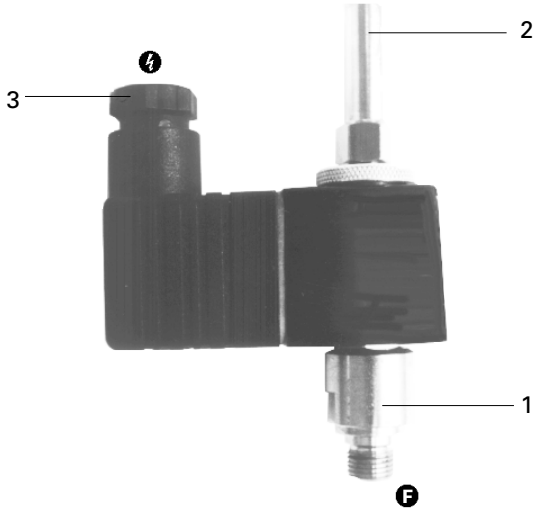
Power Failure Venting Unit TSF 010 with connection DN 10 ISO-KF

1 Small flange
2 Connection adapter
3 Power connection



Power Failure Venting Unit TSF 010 with connection G1/8"

1 Small flange
2 Connection adapter
3 Power connection



Power failure venting units with DN 10 ISO-KF connection can be fitted to turbopumps with the G1/8" threaded connection using the venting flange (adapter flange) PM 033 737 -T.

2.2. For Your Orientation

In the text
➡ Working instruction: Here, you have to do something.

Symbols used
The following symbols are used throughout in all illustrations:

F Venting connection

Electrical connection

Position numbers
Identical units and accessory parts have the same position numbers in all illustrations.

3. Installation



Do not carry out any unauthorised conversions or modifications to the power failure venting unit.
Clean sealed surfaces, centering rings and O-rings before connecting.

3.1. Turbopumps With ISO-KF Venting Connections

➡ Connect power failure venting unit to the turbopump venting connection.
➡ Using a PVC hose (see Accessories), connect the power failure venting unit to Drying Unit TTV 001 (see Accessories) or to a gas canister (for example N_2).

3.2. Turbopumps With Venting Screws

➡ Unscrew venting screw.
➡ Remove seal from the venting connection.

Power failure Venting Unit TSF 010 with threaded connection

➡ Insert QUAD ring (supplied with the power failure venting unit) in the venting connection.
➡ Screw in power failure venting unit.
➡ Using a PVC hose, connect the power failure venting unit to Drying Unit TTV 001 or to a gas canister (for example N_2).

Power Failure Venting Unit TSF 010 with connection ISO-KF

➡ Insert QUAD ring in the venting connection.
➡ Screw in venting flange PM 033 737 -T (see Accessories) and tighten.
➡ Connect power failure venting unit.
➡ Using a PVC hose, connect the power failure venting unit to Drying Unit TTV 001.

3.3. Electrical Connections



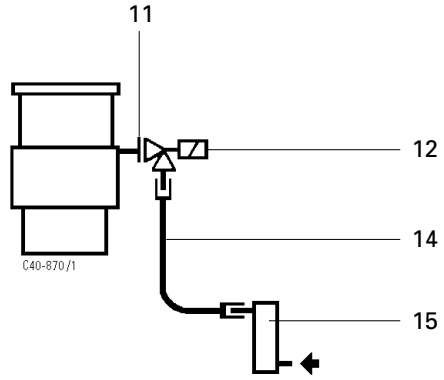
Electrical connections must be carried out in accordance with local regulations.

➡ The electrical connection of the power failure venting unit is carried out in accordance with the required function. This means that it is possible, for example during a power failure, that switching off or in the event of a malfunction, venting will occur. It can be connected in parallel or instead of a fore-vacuum valve.
➡ Connection should be carried out in accordance with the wiring diagram of the respective electronic drive unit.

Please note:
It is essential to have regard to the connection voltage shown on the rating plate when connecting the Power Failure Venting Unit TSF 010.

Connection TSF 010

11 Venting connection, turbopump
12 Power Failure Venting Unit TSF 010
14 PVC hose
15 Drying Unit TTV 001



4. Maintenance

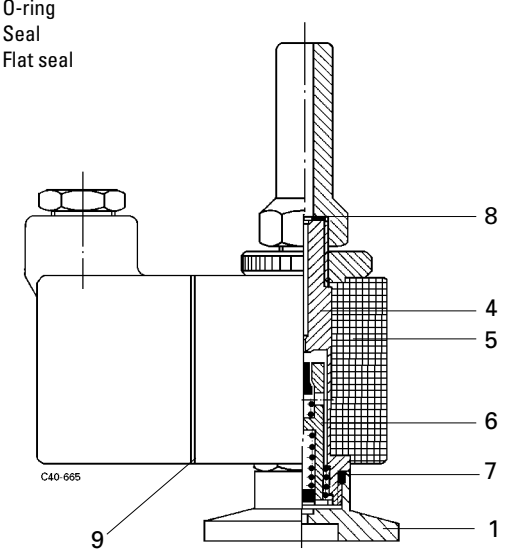
Under clean operating conditions, the Power Failure Venting Unit TSF 010 needs no maintenance.
Dirt can cause the TSF 010 to become leaky in the closed position.

4.1. Cleaning

- ➡ Unscrew small flange DN 10 ISO-KF or threaded connection G1/8" from the unit housing.
- ➡ Remove anchor with opening spring (the valve seat is located on the side which faces the hose piece).
- ➡ Using compressed air or a cleaning agent (pure alcohol), clean out housing and anchor. Take special care with the O-ring in the small flange or threaded connection.
- ➡ Once the parts have dried, fit the power failure venting unit using new seals.

Cleaning the TSF 010 with small flange DN 10 ISO-KF

1 Small flange
4 Unit housing
5 Magnetic coil
6 Anchor
7 O-ring
8 Seal
9 Flat seal



5. Service

Do make use of our service facilities
In the event that repairs are necessary a number of options are available to you to ensure any system down time is kept to a minimum:
– Have the power failure venting unit repaired on the spot by PFEIFFER Service Engineers;
– Return the unit to the manufacturer for repairs;

Local PFEIFFER representatives can provide full details.

Please note:
Repair orders are carried out according to our general conditions of sale and supply. If repairs are necessary, please send the power failure venting unit to your nearest PFEIFFER Service Center.

Contact addresses and service hotline
Contact addresses and telephone numbers can be found on the back cover of these operating instructions.

6. Technical Data

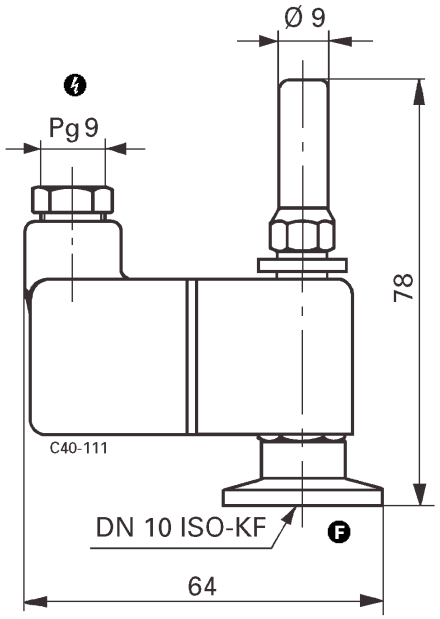
Feature	Unit	TSF 010
Connection nominal diameter		DN 10 ISO-KF / G 1/8"
Leak rate (Elastomer sealed)	mbar l/s	$\leq 1{,}3 \cdot 10^{-8}$
Seating diameter	mm	2
Venting gas over pressure, max.	bar	1,5 (absolute)
Weight	g	140

Connection voltage TSF 010

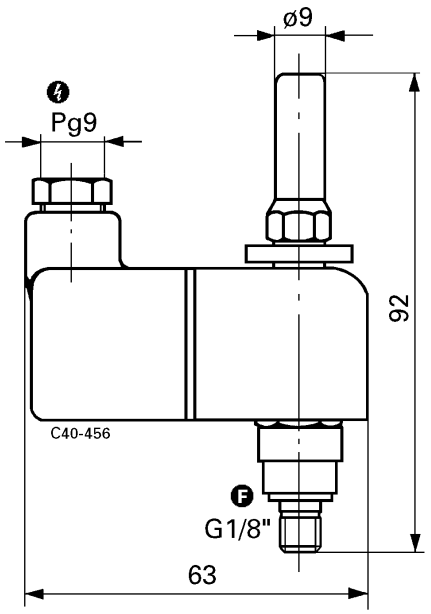
Connection-Voltage	Power-Consumption	Order Number DN 10 ISO-KF	Order Number G 1/8"
220 V, 50/60 Hz	13/9 VA	PM Z01 010	PM Z01 111
24 V, DC	4 W	PM Z01 012	PM Z01 113
6 V, DC	4 W	PM Z01 013	
24 V, 50/60 Hz	13/9 VA	PM Z01 014	
240 V, 50/60 Hz	13/9 VA	PM Z01 016	PM Z01 112
110 V, 60 Hz	10/8 VA	PM Z01 017	PM Z01 110

6.1. Dimensions

Small flange Connection DN 10 ISO-KF



Threaded connection G1/8"



7. Accessories

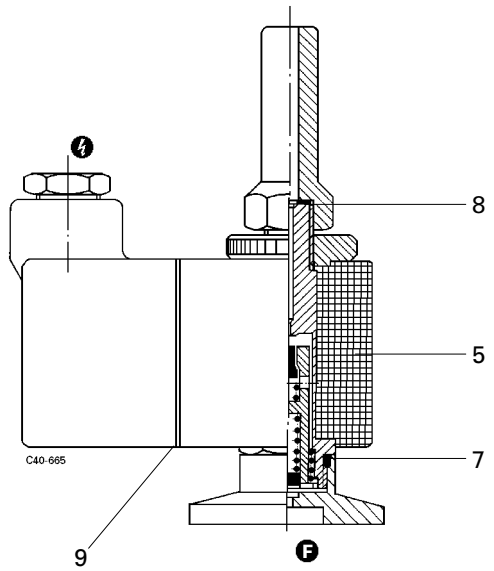
Description	Size	Number	Order Quantity
PVC hose	8 x 14 (state length)	N 2358 170 JS	
Drying Unit TTV 001 (filled with zeolite)		PM Z00 121	
Replacement filling for TTV 001	ca. 260 cm^3	PM 006 786 -T	
Adapter flange	DN 10/G 1/8"	PM 033 737 -T	
For connecting flange DN 10 ISO-KF			
Centering ring with O-ring	DN 10 ISO-KF	BP 213 326 -T	
O-ring separate	15 x 5	P 4070 262 PV	
Circlip	DN 10-16 ISO-KF	BP 217 426 -T	

8. Spare Parts

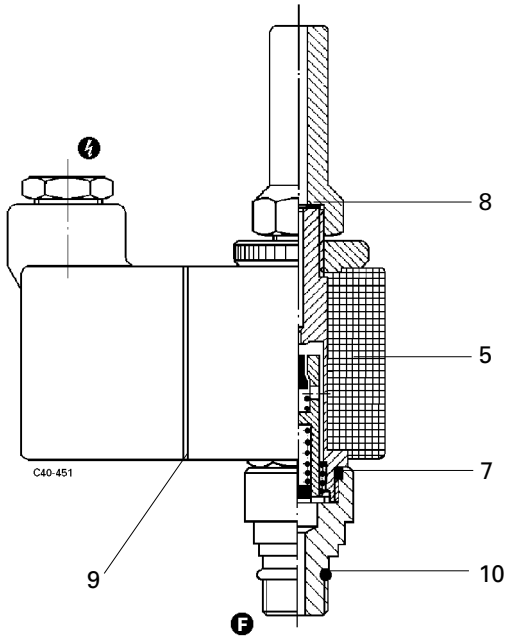
Position	Description	Pieces	Size	Number	Comments	Order Quantity
	Spare Parts TSF 010					
5	Magnetic coil	1	220 V, 50/60 Hz	P 4150 483 CA		
		1	6 V, DC	P 4150 433 AD		
		1	24 V, DC	P 4150 433 AE		
		1	24 V, 50/60 Hz	P 4150 483 AG		
		1	110 V, 60 Hz	P 4150 483 AN		
		1	240 V, 60 Hz	P 4150 483 AR		
7	O-ring	1	10 x 1	P 4070 160 PV		
8	Seal	1	Ø 4/7 x 1	P 4088 010 A1		
9	Flat seal	1	GM 207-3	P 4713 403 ZB		
10	QUAD ring	1	10,82 x 1,78	P 4081 630 C		

When ordering accessories and spare parts please be sure to state the full part number. Please use this list as an order form (by taking a copy).

Spare parts DN 10 ISO-KF



Spare parts G 1/8"



PFEIFFER VACUUM

Konformitätserklärung
Declaration of Conformity

im Sinne folgender EU-Richtlinien:
pursuant to the following EU directives:

- **Maschinen/*Machinery* 98/37/EG**
- **Elektromagnetische Verträglichkeit/*Electromagnetic Compatibility* 89/336/EWG**
- **Niederspannung/*Low Voltage* 73/23/EWG**

Hiermit erklären wir, daß das unten aufgeführte Produkt den Bestimmungen der EU-Maschinenrichtlinie 98/37/EG - Anhang IIA, der EU-Richtlinie über elektromagnetische Verträglichkeit 89/336/EWG und der EU-Niederspannungsrichtlinie 73/23/EWG entspricht.

We hereby certify that the product specified below is in accordance with the provision of EU Machinery Directive 98/37/EEC - Annex II A, EU Electromagentic Compatibility Directive 89/336/EEC and EU Low Voltage Directive 73/23/EEC.

Produkt/*Product*:

TSF 010

Angewendete Richtlinien, harmonisierte Normen und angewendete, nationale Normen:

Guidelines, harmonised standards, national standards which have been applied:

EN 292-1
EN 292-2
EN 294
EN 61 010
EN 55 011
EN 50 081-1
EN 50 082-2

Unterschrift/*Signature:*

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Geschäftsführer
Managing Director

Konf.I/2000

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