



Flange Heater for Turbomolecular Pumps

Operating instructions 300487320_002_C1

Part numbers

800137V0003 to
800137V0009,
800137V0011

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Published: 7/24/2024

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Disclaimer

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We accept no liability for loss of profit, loss of market or any other indirect or consequential loss whatsoever.

Product warranty and limit of liability are dealt with in our standard terms and conditions of sale or negotiated contract under which this document is supplied.

You must use this product as described in this manual. Read the manual before you install, operate, or maintain the product. For manual enquiries, email documentation@leybold.com.

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Safety and compliance

1 Safety and compliance

For safe operation from the start, read these instructions carefully before you install or commission the equipment and keep them safe for future use. Read all the safety instructions in this section and the rest of this manual carefully and make sure that you obey these instructions.

The instruction manual is an important safety document that we often deliver digitally. It is your responsibility to keep the instruction manual available and visible while working with the equipment. Please download the digital version of the instruction manual for use on your device or print it if a device will not be available.

1.1 Definition of Warnings and Cautions

Important safety information is highlighted as warning and caution instructions which are defined as follows. Different symbols are used according to the type of hazard.

WARNING:

If you do not obey a warning, there is a risk of injury or death.

CAUTION:

If you do not obey a caution, there is a risk of minor injury, damage to equipment, related equipment or process.

NOTICE:

Information about properties or instructions for an action which, if ignored, will cause damage to the equipment.

We reserve the right to change the design and the stated data. The illustrations are not binding.

1.2 Trained personnel

For the operation of this equipment "trained personnel" are:

- skilled workers with knowledge in the fields of mechanics, electrical engineering, pollution abatement and vacuum technology and
- personnel specially trained for the operation of vacuum pumps

Safety and compliance

1.3 Safety symbols

The safety symbols on the products show the areas where care and attention is necessary.

The safety symbols that we use on the product or in the product documentation have the following meanings:

	Warning/Caution Risk of injury and/or damage to equipment. An appropriate safety instruction must be followed or a potential hazard exists.
	Warning - Hot surfaces Risk of injury. Identifies a surface capable of inflicting burns through contact.
	Warning - Dangerous voltage Risk of injury. Identifies possible sources of hazardous electrical shock.

Description

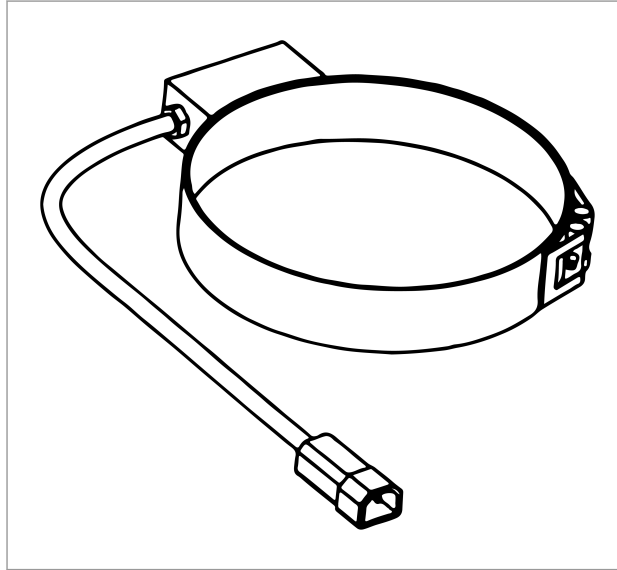
2 Description

The flange heater is intended for baking out turbomolecular pumps equipped with a stainless steel CF flange.

Scope of Delivery

Flange heater with C14 connecting plug, Operating Instructions

Figure 1. Flange heater



2.1 Conforming utilisation

- The flange heater is only suited for baking out turbomolecular pumps equipped with a stainless steel CF flange and adjacent vacuum components.
- A temperature switch limits the maximum temperature of the flange heater to 100 °C.
- Operate the flange heater making sure that it is always in a proper condition and completely fitted as described in the Operating Instructions, and that it is operated only by duly instructed personnel.
- Keep surfaces free of contamination and deposits like dust, for example.
- In the case of the TURBOVAC i/iX the flange heater may be remotely controlled by means of a relay box via a 24 V signal or through the pump itself (see Operating Instructions for the TURBOVAC i/iX).
- Protect the rotor of the pump against excessive and direct thermal radiation. When baking out the forevacuum side, an adsorption trap, for example, make sure that the directly flanged-on components are not heated above 100 °C.
- When baking out the pump, ensure that the water cooling system for the pump is running.
- The forevacuum pump must be running to pump out the vapours from the adsorption trap.
- We recommend inspection and cleaning every 5 years.
- Before opening the flange heater, disconnect the mains plug; the flange heater may only be opened by an electrician.

3 Technical data

Table 1. Technical data

Parameter	Value
Power rating	100 W - 250 W
Voltage	230 or 115 V AC
Cable length	1600 mm
Maximum temperature	100 °C
Type of protection	IP 30
Overvoltage category	II
Degree of pollution	2
Protection class	1

3.1 Ordering Information

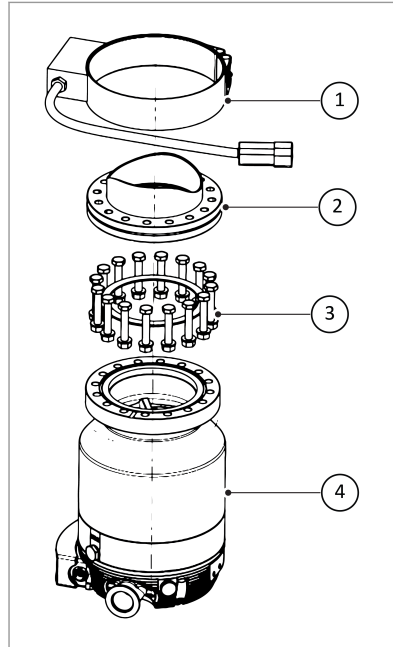
Table 2. Ordering Information

P/N	Voltage	Size
800137V0003	230 V AC	63 CF
800137V0004	115 V AC	63 CF
800137V0005	230 V AC	100 CF
800137V0006	115 V AC	100 CF
800137V0007	230 V AC	160 CF
800137V0008	115 V AC	160 CF
800137V0009	230 V AC	200 CF
800137V0011	230 V AC	250 CF

Installation

4 Installation

Figure 2. Installation



- | | |
|---------------------|-----------------------|
| 1. Flange heater | 2. High vacuum flange |
| 3. Tightening screw | 4. Pump |



Note:

the safety information provided in the Operating Instructions for the pump.

WARNING: DANGEROUS VOLTAGE



Risk of electric shock and damage to equipment. The flange heater must only be operated if installed in compliance with the information provided in the operating instructions and an existing disconnecting device.

The disconnecting device must be easily accessible. The main connector can be used as the disconnecting device

CAUTION: HOT SURFACE

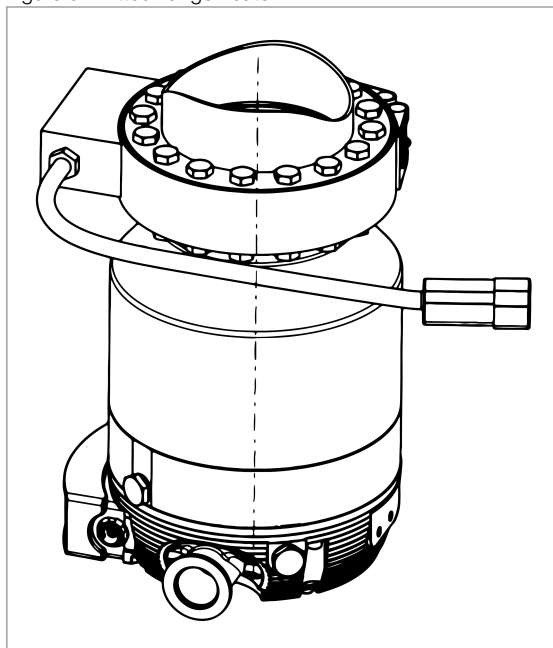


Risk of burn. During bakeout, the surfaces of the turbomolecular pump, the flange heater and the vacuum components get hot. There is the risk of suffering burns. Remove any combustible objects present in the immediate vicinity.

If the warning label is covered during installation, attach an additional warning label.

- Only fit the flange heater to earthed components.
- For operation without relay box, fuse the supply with 10 A.
- Lay the flange heater centrally around the high vacuum flange of the pump and the vacuum chamber, and tighten using the tightening screw.
- Lay the mains power cord safely, ensure accessibility.

Figure 3. Fitted flange heater



5 Service

5.1 Return the equipment or components for service

Before you send your equipment to us for service or for any other reason, you must send us a completed Declaration of Contamination of Vacuum Equipment and Components – Form HS2. The HS2 form tells us if any substances found in the equipment are hazardous, which is important for the safety of our employees and all other people involved in the service of your equipment. The hazard information also lets us select the correct procedures to service your equipment.

We provide instructions for completing the form in the Declaration of Contamination of Vacuum equipment and Components – Procedure HS1.

Download the latest documents from leybold.com/en/downloads/download-documents/declaration-of-contamination/, follow the procedure in HS1, fill in the electronic HS2 form, print it, sign it, and return the signed copy to us.



NOTICE:

If we do not receive a completed HS2 form, your equipment cannot be serviced.

6 Accessories

Table 3. Accessories

Mains power adapter ▪ EU ▪ UK ▪ US	800102V0002 800102V0003 800102V1002
Relay box for controlling and powering the heater by a TURBOVAC i/iX	800110V0030

EU Declaration of Conformity

This declaration of conformity is issued under the sole responsibility of the manufacturer:

Leybold GmbH
Bonner Strasse 498
D-50968 Köln
Germany

Documentation Officer
T: +49(0) 221 347 0
documentation@leybold.com

The product specified and listed below:

- *Flange Heater for Turbomolecular Pumps*
- *DN a1 CF, a2* *a1 = 63,100,160,200,250 (Flange size); a2 = 230V, 115V (Supply Voltage)*
- *800137V00xx* *x = 03 - 12*

Is in conformity with the relevant Union harmonisation legislation:

2014/35/EU	Low voltage directive (LVD)
2014/30/EU	Electromagnetic compatibility (EMC) directive Class A Emissions, Industrial Immunity
2011/65/EU	Restriction of certain hazardous substances (RoHS) directive as amended by Delegated Directive (EU) 2015/863

Based on the relevant requirements of harmonised standards:

EN 60204-1:2018	Safety of machinery. Electrical equipment of machines. General requirements
EN 61000-6-2:2005	Electromagnetic Compatibility (EMC) - Part 6-2: Generic Industrial Immunity Standard
EN 61000-6-4:2007 A1:2011	Electromagnetic Compatibility (EMC) - Part 6-4: Generic Industrial Emission Standard
EN IEC 63000:2018	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

This declaration, based on the requirements of the listed Directives and EN ISO/IEC 17050-1, covers all product serial numbers from this date on: **2024-07-16**

You must retain the signed legal declaration for future reference

This declaration becomes invalid if modifications are made to the product without prior agreement.



Ian Keech – VP Engineering, Scientific Vacuum Division
Burgess Hill



Rene Rose Stueber – General Manager
Product Company Cologne



Declaration of Conformity

Leybold GmbH

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RH15 9TW
documentation@leybold.com

This declaration of conformity is issued under the sole responsibility of the manufacturer.

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- *800137V00xx* *x = 03 - 12*

The object of the declaration described above is in conformity with relevant statutory requirements:

Electrical Equipment (Safety) Regulations 2016

Electromagnetic Compatibility Regulations 2016

Class A Emissions, Industrial Immunity

Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

Relevant designated standards or technical specifications are as follows:

EN 60204-1:2018 Safety of machinery. Electrical equipment of machines. General requirements

EN 61000-6-2:2005 Electromagnetic Compatibility (EMC) - Part 6-2: Generic Industrial Immunity Standard

EN 61000-6-4:2007
A1:2011 Electromagnetic Compatibility (EMC) - Part 6-4: Generic Industrial Emission Standard

EN IEC 63000:2018 Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

This declaration, based on the requirements of the listed Statutory Instruments and EN ISO/IEC 17050-1, covers all product serial numbers from this date on: 2024-07-16

You must retain the signed legal declaration for future reference

This declaration becomes invalid if modifications are made to the product without prior agreement.

Signed for and on behalf of Leybold GmbH



Ian Keach – VP Engineering, Scientific Vacuum Division
Burgess Hill



Rene Rose Stueber – General Manager
Product Company Cologne

ADDITIONAL LEGISLATION AND COMPLIANCE INFORMATION (EU/UK)

EMC (EU, UK): Industrial equipment

Caution: This equipment is not intended for use in residential environments and may not provide adequate protection to radio reception in such environments.

RoHS (EU, UK): Material Exemption Information

This product is compliant with no Exemptions

REACH (EU, UK)

This product is a complex article which is not designed for intentional substance release. To the best of our knowledge the materials used comply with the requirements of REACH. The product manual provides information and instruction to ensure the safe storage, use, maintenance and disposal of the product including any substance based requirements.

Article 33.1 Declaration (EU, UK)

This product does not knowingly or intentionally contain Candidate List Substances of Very High Concern above 0.1%ww by article as clarified under the 2015 European Court of Justice ruling in case C-106/14.

WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (EU,UK)

This product must be disposed of in accordance with the requirements of the WEEE Directive.

ADDITIONAL APPLICABLE REQUIREMENTS

The product is in scope for and complies with the requirements of the following:

TSCA PBTs

Regulation of Persistent, Bioaccumulative, and Toxic Chemicals under TSCA Section 6(h)
The product does not knowingly or intentionally contain substances in contravention with the above requirements.

材料成分声明

China Material Content Declaration



表示该有害物质在该部件的所有均质材料中的含量低于 GB/T 26572 标准规定的限量要求。

Indicates that the hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in GB/T 26572.

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Pioneering products. Passionately applied.

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