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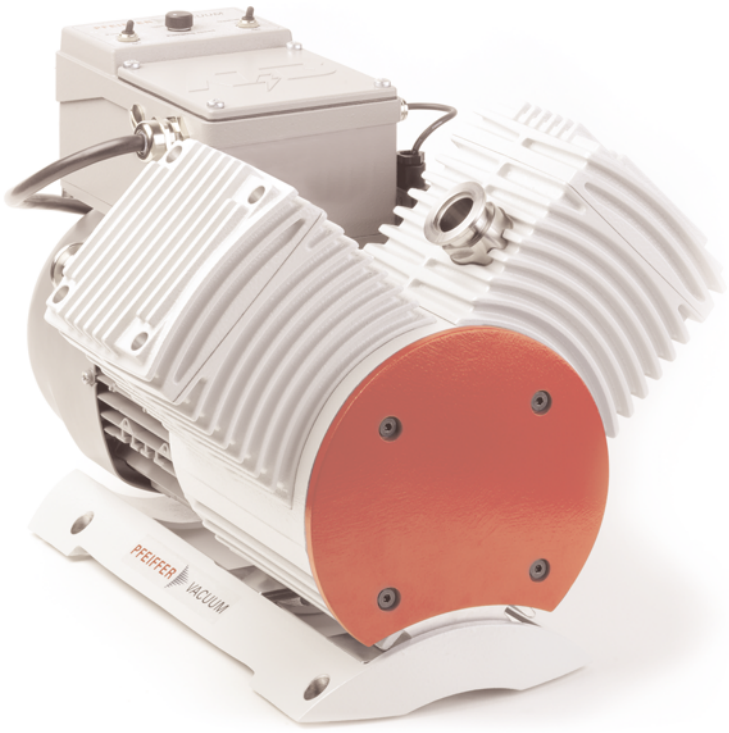
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Betriebsanleitung • Operating Instructions

Piston Vacuum Pump



XtraDry ™ 150-2

XtraDry ™ 250-1

PU 0031 BE/G (0508)

PFEIFFER VACUUM

Inhalt

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Please note:
Current operating instructions are also available at www.pfeiffer-vacuum.net.

1. Safety Precautions

Obey all relevant safety requirements (regulations and guidelines) and adopt suitable safety measures.

☞ Read and follow all the instructions in this manual.

☞ Inform yourself regarding:
- Hazards which can be caused by the pump;
- Hazards which can arise in your system;
- Hazards which can be caused by the medium being pumped.

Use the equipment for the intended use only (for generation of vacuum).

☞ Avoid exposing any part of the body to vacuum.

☞ Adopt suitable measures to prevent any danger arising from the formation of hot surfaces or electric sparks.

☞ Obey notes on correct vacuum and electrical connections, see section "Use and operation".

☞ Make sure that the individual components are only connected, combined and operated according to their design and as indicated in the instructions for use.

☞ Observe all safety and accident prevention regulations.

☞ Check regularly that all safety requirements are being complied with.

☞ Do not carry out any unauthorized conversions or modifications on the pump.

☞ Check that mains voltage and current conform with the equipment (see rating plate).

☞ The mains connection must be subject to a safe connection to the PE.

☞ Pay attention to the condition of cable insulation.

☞ The user must take suitable precautions to prevent any formation of explosive mixtures in the expansion chamber. Mechanically generated sparks, hot surfaces or static electricity may ignite these mixtures.

☞ Adopt suitable measures to prevent the release of dangerous, explosive, corrosive or polluting fluids.

☞ Take adequate precautions to protect people from the effects of dangerous substances, wear appropriate safety clothing.

☞ Obey applicable regulations when disposing of chemicals. Take into consideration that chemicals may be polluted.

Due to the residual leak rate of the equipment, there may be an exchange of gas, albeit extremely slight, between the environment and the vacuum system.

☞ Adopt suitable measures to prevent contamination of the pumped substances or the environment.

Electronic equipment is never 100% fail-safe. This may lead to an indefinite status of the equipment. Provide protective measures against malfunction and failure.

☞ Stopping of the pump or operating a valve must not lead to a critical dangerous situation under any circumstances.

Ensure that in case of failure the pump and the vacuum system always will turn into a safe status.

☞ In the event of cracks or leaks in the manifold pumped substances might be re-leased into the environment or into the pump housing.

☞ Especially obey notes on operation, use and maintenance.

☞ Use only genuine spare parts and accessories.

☞ Otherwise safety and performance of the equipment as well as the electromagnetic compatibility of the equipment might be reduced.

☞ Ensure that maintenance is done only by suitably trained and supervised technicians.
Ensure that the maintenance technician is familiar with the safety procedures which relate to the product processed by the vacuum system and that the equipment, if necessary, is appropriately decontaminated before starting maintenance.

☞ Obey local and national safety regulations.
Before starting maintenance vent the system, isolate the pump and other components from the vacuum pump and the electrical supply and allow sufficient cooling of the pump.

☞ When returning the pump to us please note the shipping instructions in Section 7.

1.1. For Your Orientation

Instructions in the text
➡ Operating instructions: Action should be taken!

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

Ⓥ Vacuum flange (inlet flange)

Ⓐ Exhaust flange

Ⓖ Gas ballast valve

Power supply connection

Position numbers
Identical components and accessories parts have the same position numbers in all illustrations.

Pictogram Definitions



Danger of personal injury.



Danger of damage to the pump or system.



Danger of burns from touching hot parts.



Danger of an electric shock.



Important note.

Proper use

- The XtraDry may only be used for the purpose of generating vacuum.
- The piston vacuum pumps may only be used to pump dry, inert or non reactive media. For other media the operator is required to qualify the pumps for the processes involved.
- To prevent a thermal overload, the rotation speed of the pump may only reduced permanently when the intake pressure is < 5 mbar.

Improper Use

The following are regarded as improper:
- Uses not covered above, and, in particular:
  - Operating the pumps in areas where there is a danger of explosion.
  - The pumping of corrosive or explosive gases.
  - The pumping of gases which are contaminated with particles, dust and condensate.
  - The pumping of liquids.
  - The XtraDry may not be used for the purpose of generating pressure.
  - Connection to units which contain touchable and voltage carrying parts.
  - Connection to pumps and units which is not permitted according to their operating instructions.
  - Using accessories not named in this manual is not permitted without authorization from Pfeiffer Vacuum.
  - Operating the pump at intake pressure > 50 mbar continously --> for N2 and Luft.
  - The evacuating of chamber volume
    > 200 l with XtraDry 150-2 and
    > 400 l with XtraDry 250-1 more than once a day.

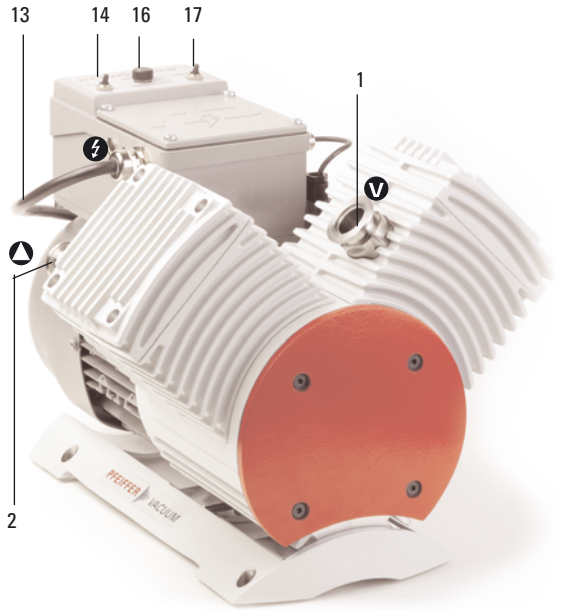
Improper use will cause any rights regarding liability and guarantees to be forfeited.

2. Understanding The Pump

2.1. Main Features

XtraDry

1 Inlet flange
2 Exhaust flange; alternatively exhaust silencer (two connections in parallel configured pumps)
13 Mains connection
14 On/Off switch
16 Variable speed control
17 Gas ballast switch



Description of pump mechanism

The XtraDry is an oil-free vacuum pump, which is based and operates on the piston principle.
Each compression stage consists of a cylinder in which a piston reciprocates in a cylinder.

In the XtraDry model 150-2, two compression stages are internally connected in series. Gas coming from the inlet enters the compression space of the first piston (stage I). After compression, the now higher pressure gas enters the compression space of the second piston (stage II). Once the gas reaches a pressure slightly above atmosphere it leave the pump via a one way valve.

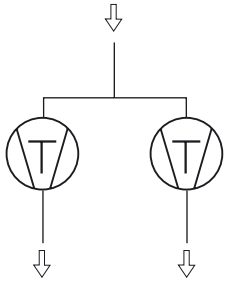
The XtraDry model 250-1 consists of two pistons connected in parallel which during each stroke simultaneously take gas in, compress it to atmospheric pressure and eject it to atmosphere.

Through the use of selected materials it is possible to completely dispense with oil lubricated components. This provides the basis for a low-wear, low-maintenance pump in which the pump chamber is entirely oil-free.

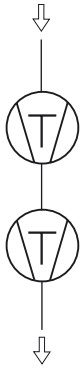
2.2. Differences Between The Pump Types

Feature	XtraDry 250-1	XtraDry 150-2
Line-up of the compression spaces	parallel	series
Inlet connection (flange)	DN 25 ISO-KF	DN 25 ISO-KF
Exhaust flange with small flange	DN 25 ISO-KF twice	DN 25 ISO-KF single
exhaust silencer	standard	standard
Gas ballast valve	yes	yes
Max. volume flow rate	13 m^3/h	7,5 m^3/h
Ultimate pressure	< 4 mbar	< 0,05 mbar
Speed control	variable	variable

XtraDry 250-1



XtraDry 150-2



2.3. Delivery

– Piston Pump XtraDry 150-2/250-1
– Exhaust silencer 1/2 piece/s
– Operating Instructions

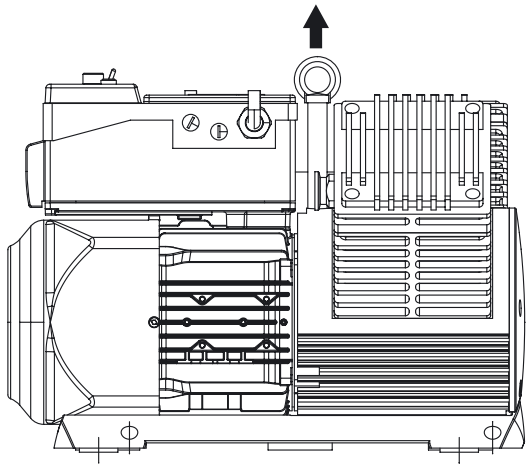
3. Installation

3.1. Setting Up The Pump And Location

Obey national safety regulations and safety requirements concerning the use of vacuum and electrical equipment.

➡ Remove all packing material, remove the product from its packing-box, remove the protective covers from the inlet and outlet connection and keep, inspect the equipment.
➡ Do not use the equipment if it is damaged.
➡ If the equipment is not used immediately, replace the protective covers. Store the equipment in suitable conditions.
➡ Read and obey this manual before installing or operating the equipment.
➡ When transporting, use only the eye bolt provided for the purpose.

Pumpe anheben und transportieren



➡ If the equipment is brought from cold environment into a room for operation, allow the equipment to warm up (pay attention to water condensation on cold surfaces).
➡ Make sure ventilation is adequate if pump is installed in a housing.
➡ Provide a firm level platform for the equipment and check that the system to evacuated is mechanically stable and that all fittings are secure.
Attention: Flexible elements tend to shrink when evacuated.

To the best of our knowledge the equipment is in compliance with the requirements of the applicable EC-directives and harmonized standards (see "Declaration of conformity") with regard to design, type and model, especially directive IEC 1010. This directive gives in detail conditions, under which the equipment can be operated safely (see also IP degree of protection).

➡ Adopt suitable measures in case of differences, e. g. improve cooling measures when installation in altitudes of more than 1000 m above mean sea level.
➡ Ambient temperature range + 12°C (50°F) ... +40 °C (100°F).
➡ If the pump is to be installed in an enclosed space make sure that adequate cooling air can circulate. Maximum temperature in the enclosure cannot be above 40°C (100°F). There needs to be at least 15 cm (6 inch) between the enclosure and the motor fan.

3.2. Connecting The Vacuum Side

➡ Remove locking cap on intake connection.
➡ Connect pump with intake connection to the apparatus.
– Be sure the connection between the vacuum system and the pump is flexible and as short as possible.
➡ Obey maximum permitted pressures and pressure differences, see section "Technical data". Do not operate the pump with overpressure at the inlet.
➡ To protect the pump, separators, filters and cooling traps etc.(see Section 9. Accessories) can be fitted upstream of the pump.
➡ The diameter of the inlet line should be at the least as large as the diameter of the pump connection.

3.3. Connecting The Exhaust Line

CAUTION

Pressure can rise to dangerous levels in exhaust lines. Therefore, lay exhaust lines without shut-off valves. Do not connect the exhaust line with a closed system due to the danger of bursting. In certain applications, exhaust gases and vapors can be very hot and represent a health and/or environment hazard.

➡ Lay exhaust lines from the pump sloping downwards so that condensate cannot run back into the pump, otherwise fit a separator.
➡ Do not permit any uncontrolled pressurizing (e. g. make sure that the exhaust pipeline cannot become blocked). Risk of bursting!
– Interchanging the connections vacuum side/ exhaust line causes dangerous excess pressure levels.
➡ The diameter of the outlet line should be at the least as large as the diameter of the pump connection.

CAUTION

The pumping speed rate can be affected by the exhaust silencer.
It is better to use an exhaust line with extraction system as an alternative.
If condensable vapors are present in the exhaust, the supplied silencer can not be used. Instead, use a length of hose which will reduce the exhaust noise as well as allow the collection of the condensate.
Note: Needs 1/2 inch hose nipple to make connection.

WARNING

If other pumps exhaust into this system exchange of contamination can take place.

3.4. Connecting To Mains Power

The pump is equipped with a frequency variable motor for speed control as standard:

207 ... 253 V; 50/60 Hz,
103 ... 126 V; 50/60 Hz,
90 ... 110 V/AC; 50/60 Hz.

➡ Carry out electrical connections in accordance with local regulations.
- Voltage and frequency values on the rating plate must concur with mains voltage and mains frequency values.
- Attach pump to mains using the protective conductor (PE) always.
- For pumps without a power plug on the connecting cable, have the mains connection made by qualified personnel only.



Mains connection must always apply a contact to the earthed conductor, otherwise electrical voltage could occur on the pump housing.

➡ Switch ON/OFF motor (pump) with switch 14.
- In case of an error (e.g. overheating, overcurrent, overvoltage) the electronics of the frequency converter switches off the motor automatically. If the error doesn´t exist any longer, the pump restarts automatically.

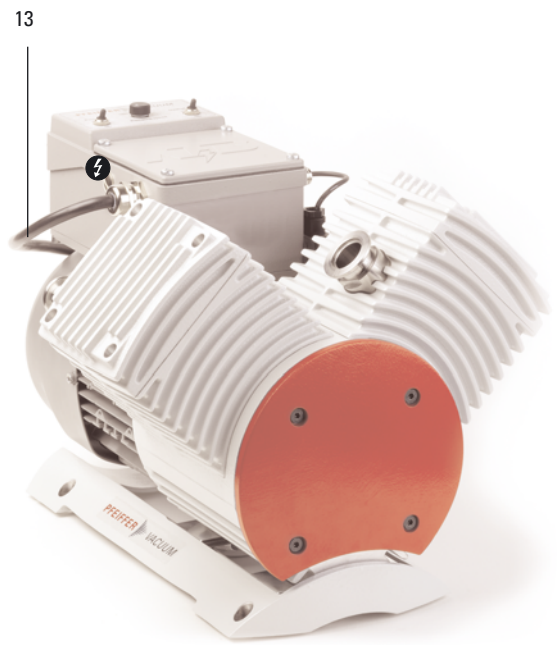


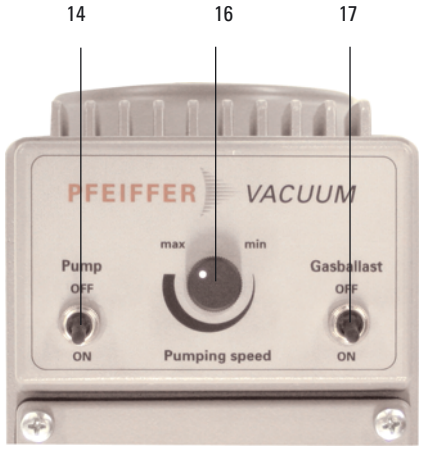
Recommend fuse for mains connection:

207 ... 253 V/AC -->10 A,
103 ... 126 V/AC -->16 A,
90 ... 110 V/AC -->16 A.

Control elements at the terminal box

13 Mains connection
14 On/Off switch
16 Variable speed control
17 Gas ballast switch





4. Operations

4.1. Important Information



Do not start pump if pressure difference between inlet and outlet port exceeds max. 1 bar. Attempts to start pump at higher difference may cause blockade and damage of the motor.
Further on attention should be paid to:
- Max. permissible chamber volume
- Max. permissible intake pressure for continous operation, (see Section 8.0 Technical Data).



Danger of burns!
When the pump is running, surfaces and motor casing become hot.



If the pump is subjected to condensates it should be allowed to run for approximately 30 minutes under atmospheric pressure before switching off. This will insure that the compression spaces are free of any condensables.

4.2. Switching The Pump ON And OFF

The pump can be switched on and off at any time and in any intake pressure range.
- Lowest starting temperature is +12°C (50 Deg. F).

➡ Switch the pump on using the built in ON/OFF switch (14).
- The motor has a thermal protection switch which turns the motor off in case of prolonged very high load operation.
- Please be certain to ascertain the cause of the problem and eliminate it.



After cool-down of the motor protection switch, the pump automatically starts.

Manual Variable Speed Control
The pump motor is equipped with a potentiometer 10 for variable speed control.



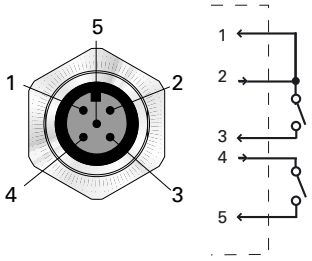
To prevent a thermal overload, only reduce the rotation speed of the pump motor permanently, when the intake pressure is < 5 mbar.



Reducing the motor rotation speed at final pressure may extend service interval.

Remote Control
The pump can be operated remotely, controlled via the connector “Remote control 20”.

Pin assignment (5-pin M12 type)



1 External speed control (bridged to pin 2)
2 + 24 V*
3 Reduced motor speed (approx. 60 %)
4 + 24 V*
5 ON/OFF

* Only for control purpose of the pump

For a well functioning remote control the control elements at the terminal box must have the following settings:

14	On/Off switch	OFF
16	Variable speed control	any
17	Gas ballast switch	manual

Operation with Speed Control Module TCX
In order to operate the XtraDry together with a Pfeiffer Vacuum turbopump the interface TCX (see “Accessories” is required. With this, the speed may be controlled depending on the power consumption of the turbomolecular pump.



Please refer to Operating Instructions for TCX-Interface PT 0132 BN for detailed operating procedures.

4.3. Operation With Gas Ballast

The gas ballast for both pump models has two modes of operation. In both modes the gas ballast valve must be opened with switch 17. They differ in the amount of gas admitted to the pump.

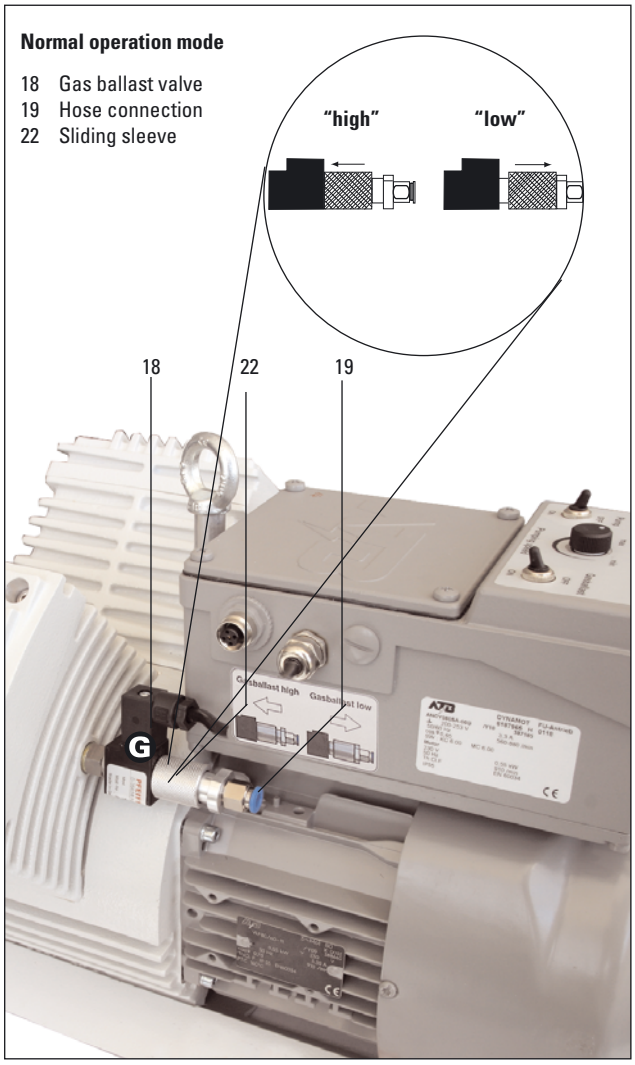
Normal operation mode

(Amount of water vapor < 1g/hour)

PLEASE NOTE

For applications where only small quantities of water are present the gas ballast valve at the **XtraDry 150-2** should be turned on at all times (switch 17). This will make sure that there is no possibility of any accumulation of water traces. The final pressure will not be effected.

➡ Set the sliding sleeve 22 on the gas ballast valve to position “low”
➡ Open the gas ballast valve 18 with gas ballast switch 17.
– The gas ballast valve closes automatically after the pump is switched off.



Gas ballast mode

(Amount of water vapor max. 10 g/hour)

In order to prevent water from condensing in the pump due to process with larger quantities of water it is essential to fully open the gas ballast valve. This ensures the exhaust valve opens before the condensation point of the vapor is reached.

➡ Set the sliding sleeve 22 on the gas ballast valve to position “high”.
➡ Open the gas ballast valve 18 with gas ballast switch 17.
– The gas ballast valve closes automatically after the pump is switched off.
– Close the gas ballast valve (switch 17) only for diagnostic purpose e.g. leak testing!

It is best to use dry gas connected (e.g. nitrogen or dry air) to the ¼" (6mm) compression fitting as the ballasting gas. The gas ballast must be turned on and the ultimate pressure will increase.

CAUTION

Do not exceed the inlet pressure of 0,2 bar (1,2 bar absolute) for ballasting gas.

CAUTION

Do not pump vapor before pump has reached its operating temperature!
Do not pump vapor with gas ballast valve closed!
Pay attention to the water vapor tolerance (see Section 8.0 Technical Data).
It is advisable to operate the pump for approximately 30 mins. with open gas ballast after process is finished. This will ensure that the pump is free of any condensables.

5. What To Do In The Case Of Breakdowns ?

Problem	Possible cause	Remedy
Pump fails to start or stops immediately.	➡ Supply failure?	☞ Check voltage supply.
	➡ Pressure in outlet pipeline too high?	☞ Remove blockade in line, open valve.
	➡ Motor overloaded?	☞ Allow motor to cool, identify cause of failure.
	➡ Ambient temperature < 12 °C	☞ Warm pump.
Pump does not achieve ultimate total pressure or normal pumping speed	➡ Long narrow line?	☞ Use line with larger diameter, length as short as possible.
	➡ Pump has been exposed to condensate?	☞ Run pump at atmospheric pressure for a few minutes.
	➡Outgasing substances or vapor generated in the process?	☞ Check process parameters.
	➡ Leak in system	☞ Repair leak
	➡ Deposits have been formed inside the pump?	☞ Clean and inspect pump heads.
	➡ Pump becomes to hot	☞ Reduce pump rotation speed, ensure enough cooling or reduce input pressure.
Pump stops during operation	➡ Thermal overload of motor or frequency converter	☞ Check ambient temperature: --> < 40°C or insufficient air circulation for the motor fan ☞ Check intake pressure: --> < 5 mbar when motor speed is reduced permanently ☞ Check power supply; input voltage possibly to high
Pump too noisy.	➡ Valves damaged?	☞ Replace valves.
	➡ Atmospheric or high pressure at inlet port?	☞ Connect hose to pump outlet.
	➡ If heavy vibration is experienced, for long periods, check that there are no leaks in the pump or system preventing the pump from reaching a pressure lower than 50 mbar.	☞ Return pump for service.
	➡ None of above mentioned causes?	☞ Return the equipment to Pfeiffer Vacuum service.

6. Maintenance

6.1. Precautionary Measures During Maintenance Work



Whenever working on the pump ensure the pump motor is disconnected from the mains supply.
If necessary, remove pump from the system for inspection. Before dismantling allow the pump to cool down.

➡ Only dismantle the pump as far is necessary to effect repairs.
➡ Use only alcohol or similar cleaning agents for cleaning. Do not use solvents.



Production pumps operating at low pressure (< 2 mbar) require no service for one year. Load lock operation may reduce service interval.

All bearings are sealed and are filled with long-life hydrocarbon-free-lubricant. Under normal operating conditions, the pump is maintenance-free. The piston seals are wear parts. If the rated final pressure is no longer achieved, the pump interior, the piston seals and the valves must be cleaned and the piston rings and valves must be checked for cracks or other damage.
Depending on individual cases it may be advisable to check and clean the pump heads on a regular basis. In case of normal wear the lifetime of the piston seals and valves is > 9000 operating hours.



Prevent internal condensation, ingestion of liquids or dust. The seals and valves will be damaged, if liquids are pumped in significant amount.

7. Service

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

Before Returning:
➡ Remove all accessories.
➡ 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 Contamination Declaration
➡ In every case the "Contamination Declaration" must be completed diligently and truthfully.
➡ A copy of the completed declaration must accompany the unit; any additional copies must be sent to your local Pfeiffer Vacuum Service Center.
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:
➡ Neutralize the pump by flushing with nitrogen or dry air.
➡ Seal all openings to the air.
➡ Seal pump or unit in suitable protective foil.
➡ Ship units only in appropriate transport containers.



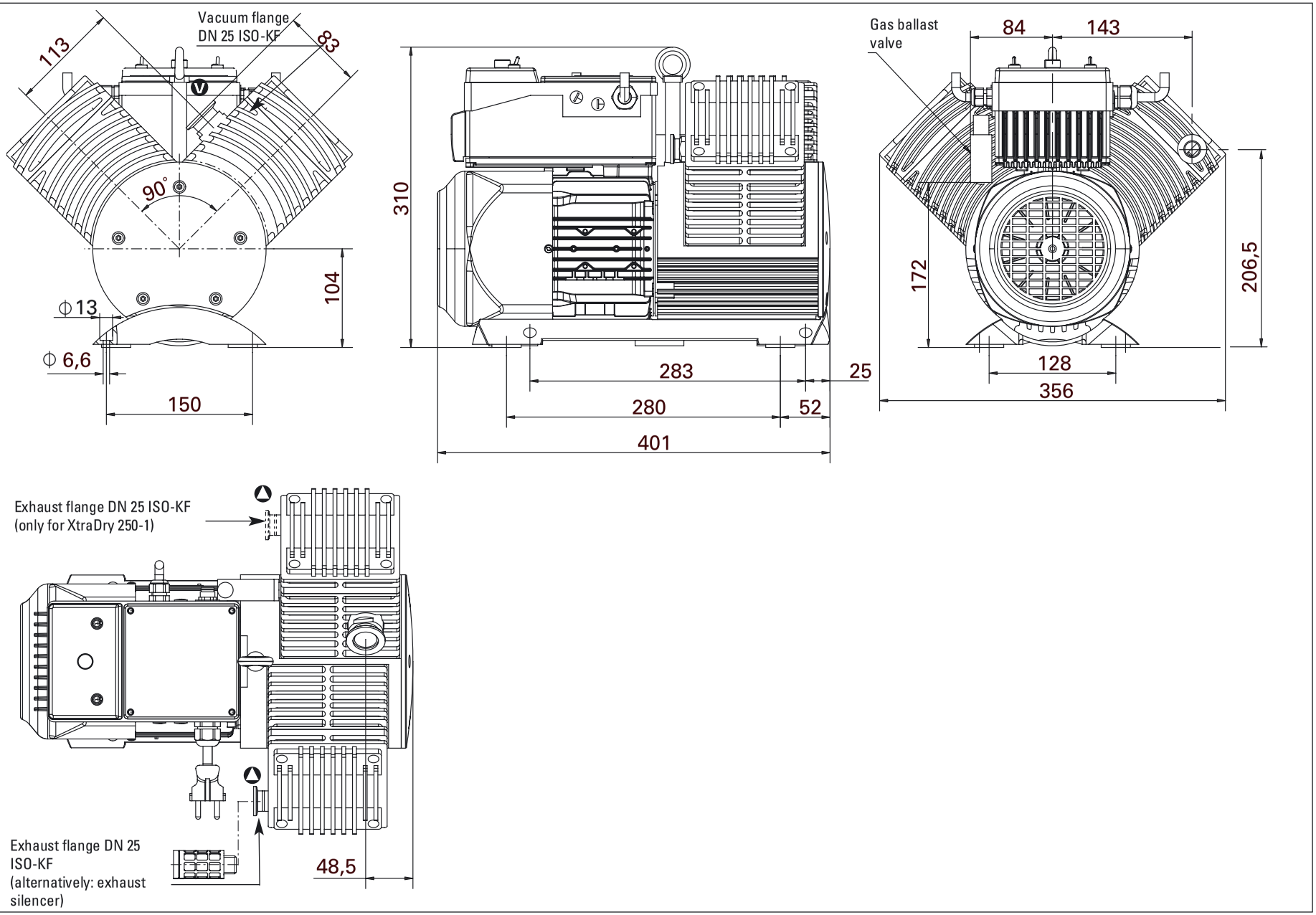
Repair orders are carried out according to our general conditions of sale and supply.

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

8. Technical Data

Size	Unit	XtraDry 250-1	XtraDry 150-2
Connections			
Vacuum flange		DN 25 ISO-KF	DN 25 ISO-KF
Exhaust flange		DN 25 ISO-KF exhaust silencer alternatively	DN 25 ISO-KF exhaust silencer alternatively
Pumping speed at 1000 mbar	m^3/h	13	7.5
Final pressure without gas ballast	mbar	≤ 4	≤ 0.05
Final pressure with gas ballast	mbar	20	≤ 0,2
Max. permissible intake pressure for continous operation (for N_2 and air)	mbar	50	50
Max. permissible chamber volume	l	400 max. 1 time per day	200 max. 1 time per day
Permissible exhaust pressure	mbar	≤ 1100	≤ 1100
Rotation speed at final pressure			
manual operation	min^{-1}	620 ... 950 continuously variable	620 ...950 continuously variable
remote controlled operation	min^{-1}	620 / 950	620 / 950
Water vapor tolerance	mbar	2	2
Water vapor acceptable capacity	g/h	20	10
Leak rate	mbar l/s	$\leq 1 \bullet 10^{-2}$	$\leq 1 \bullet 10^{-2}$
Max. operating altitude (a. s. l)	m	2000	2000
Ambient permissible temperature range	°C °F	+12 ... +40 50°F ... 100°F	+12 ... +40 50°F ... 100°F
Noise level	dB(A)	< 58	< 58
Motor power supply			
50/60 Hz (Europa)	V/AC	207 ... 253	207 ... 253
50/60 Hz (USA)	V/AC	103 ... 126	103 ... 126
50/60 Hz (Japan)	V/AC	90 ... 110	90 ... 110
Nominal motor power	W	550	550
Max. input current at nominal voltage			
230 V	A	6	6
115 V	A	11	11
100 V	A	11,5	11,5
Motor protection		IP 54	IP 54
Weight, approx.	kg	30	30

8.1. Dimensions



9. Accessories

Description	Size	Number	Comments/ Operating Instructions	Order Quantity
TCX 010, speed control [1]		PO 003 307-X	PT 0132 BN	
TCX 020, speed control [2]		PO 033 363-X	PT 0132 BN	
Connection cable, length 1 m		PO 003 346		
Connection cable, length 3 m		PO 003 347		
Dust separator	STP 025	PK Z60 206	PK 0120 BN	
Cooling trap	KLF 025	PK Z80 006	PD 0015 BN	
Krümmer, 45°	DN 25 ISO-KF	PF 125 225 -X		

[1] In combination with Pfeiffer Vacuum turbopumps with electronic drive unit TC 600/750
[2] In combination with Pfeiffer Vacuum turbopumps with electronic drive unit TCP 350

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

Declaration of Contamination of Vacuum Equipment and Components

The repair and/or service of vacuum components will only be carried out if a correctly completed declaration has been submitted. Non-completion will result in delay.

The manufacturer could refuse to accept any equipment without a declaration.

This declaration can only be completed and signed by authorised and qualified staff:

1. Description of component:

- Equipment type/model: _____
- Code No.: _____
- Serial No.: _____
- Invoice No.: _____
- Delivery Date: _____

2. Reason for return:

_____

_____

_____

_____

_____

3. Equipment condition

- Has the equipment been used?
  yes ❒ no ❒
- What type of pump oil was used?
  _____
- Is the equipment free from potentially harmful substances?
  yes ❒ (go to section 5)
  no ❒ (go to section 4)

4. Process related contamination of equipment

- toxic yes ❒ no ❒
- corrosive yes ❒ no ❒
- microbiological hazard*) yes ❒ no ❒
- explosive*) yes ❒ no ❒
- radioactive*) yes ❒ no ❒
- other harmful substances yes ❒ no ❒

*) We will not accept delivery of any equipment that has been radioactively or microbiologically contaminated without written evidence of decontamination!

Please list all substances, gases and by-products which may have come into contact with the equipment:

Tradename Product name Manufacturer	Chemical name (or Symbol)	Danger class	Precautions associated with substance	Action if spillage or human contact
1.				
2.				
3.				
4.				
5.				

5. Legally Binding Declaration

I hereby declare that the information supplied on this form is complete and accurate. The despatch of equipment will be in accordance with the appropriate regulations covering Packaging, Transportation and Labelling of Dangerous Substances.

Name of Organisation: _____

Address: _____ Post code: _____

Tel.: _____

Fax: _____ Telex: _____

Name: _____

Job title: _____

Date: _____ Company stamp: _____

Legally binding signature: _____

PFEIFFER VACUUM

Konformitätserklärung
Declaration of Conformity

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

- **Maschinen/*Machinery* 98/37/EG (Anhang/*Annex* IIA)**
- **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, 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, EU Electromagentic Compatibility Directive 89/336/EEC and EU Low Voltage Directive 73/23/EEC.

Produkt/*Product*:

XtraDry 150-2
XtraDry 250-1

Angewendete Richtlinien, harmonisierte Normen und angewendete nationale Normen:

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

EN ISO 12100-1 EN ISO 12100-2
EN 50 081-1 EN 50 082-1
EN 61 010 EN 1012-2
EN 1050

Unterschrift/*Signature:*

Pfeiffer Vacuum GmbH
Berliner Str. 43
35614 Asslar
Germany

(W. Dondorf)
Geschäftsführer
Managing Director

Konf.I/2003

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