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This instruction manual must be accessible to the operating personnel at any time. The present instruction manual has to be read carefully before installation or starting operation of the high-pressure blower. Subject to modifications. In case of doubt clarification with the manufacturer is required. This document is protected by copyright. It is not to be made accessible to third parties without our explicit written consent. Any form of duplication or recording and storage in electronic equipment is forbidden.

1 Technical data

The following data apply to the standard version. Your high-pressure blower may differ from these data (see «rating plate»).

	HD 140	
Volumetric flow rate [m ³ /min]	1,45	1,70
Total pressure difference [mbar]	140	140
Max. permitted blower speed [rpm]	3000	3600
Motor speed [rpm]	2810	3390
Voltage [V]	230/400	277/480
Frequency [Hz]	50	60
Current consumption [A]	1,91/1,1	2,1/1,2
Motor output [kW]	0,46	0,62
Weight [kg]	11,3	11,3

Rating plate

Details of electrical data can be found on the rating plate, which also includes the model identification number and serial number which are required for the ordering of spare parts.

HERZ HERZ GmbH 56566 Neuwied		CE	
Typ	Nr.		
Mot EN 60034-1	IP	W.-Kl.	
kW cos φ	kW cos φ		
Hz ⊕	min ⁻¹	min ⁻¹ ⊕	Hz
	V		V
	A		A

Special versions

With temperature barrier: Conveyed medium up to max. +120° C.

2 Safety

Our high-pressure blowers excel by a high degree of operating safety. As the high-pressure blowers are rather high-powered machines, the safety instructions must be strictly adhered to in order to avoid injuries, damage to objects and to the machine itself.

2.1 Suction effect

High-pressure blowers produce a powerful suction effect.

Warning



Objects, items of clothing and also hair can be sucked into the intake port.

Danger of injury!

Do not stand near the intake opening during operation.

Never operate the high-pressure blower with open intake port. The open intake port must be covered with a wire guard in accordance with DIN EN 294. Do not reach into intake opening.

2.2 Blowing effect



Warning

Powerful blow-out at the discharge flange. Sucked-in objects may be ejected at very high speed (danger of injury).

High-pressure blowers are meant for conveying clean air only. The sucking-in of solid particles and other contaminants – which might be discharged – must be avoided at all times. These objects have to be withheld before entering into the side-channel blower by installing a filter.

The high-pressure blower may never be operated with open discharge flange, and therefore has to be protected with a wire guard in accordance with DIN EN 294. Do not reach into the discharge opening.

2.3 Temperature



Warning

The blower housing heats up during operation. If the temperature exceeds +50° C, the high-pressure blower must be protected by the operator against direct contact (danger of burning!).

2.4 Motor circuit breaker

Before starting operation of the high-pressure blower, the drive motor has to be safeguarded by a motor circuit-breaker.

2.5 Proper application

The high-pressure blowers are designed for conveying clean air only.

Using them for

- aggressive
 - poisonous
 - explosive or
 - very moist
- media is not permitted.

The maximum permissible temperature of the conveyed medium for the standard version is -30° C to +40° C. Solid particles or contaminants must be withheld by a filter unit before entering the side-channel blower.

The maximum ambient temperature must not exceed +60° C, the minimum not below -20° C.

The side-channel blower cannot be operated in an explosive atmosphere.

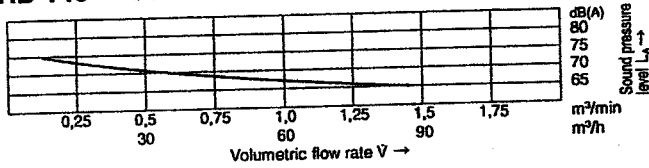
Special versions for applications not mentioned above are available on demand.

Remodelling and modifications of the side-channel blower are not allowed.

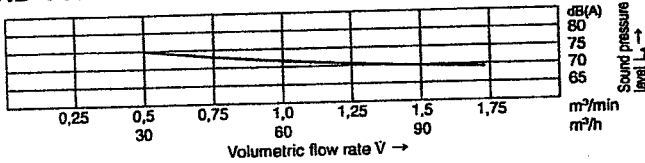
2.6 Generation of noise

The noise generated by the side-channel blower is not constant over the whole performance curve (see diagrams below).

HD 140 50 Hz



HD 140 60 Hz



In certain unfavourable cases a sound-absorbing device may be required (measurements by the operator are recommended).

Sound-absorbing measures are to be carried out by the operator so as not to exceed the legally permitted peak values at the work places near of the side-channel blower.

3 Installation

3.1 Transport

- Check all parts for damage during transport before installation and starting of operation.
- Do not store the side-channel blower unprotected in the open (protect against moisture).
- Attach hoist securely. Only use hoists and load suspension devices with sufficient load-carrying capacity.

3.2 Installation, assembly

- Install side-channel blower horizontally or vertically and weather-protected.
- Do not subject to vibrations or shocks.
- Side-channel blower with base; to be secured tightly at site of operation on solid, even ground.
- High-pressure blowers, which are placed on existing rubber elements, must be secured against twisting.
- Open intake and discharge ports are to be protected by wire guards in accordance with DIN EN 294.
- Ensure adequate motor ventilation.
Permissible ambient temperatures for:
Standard motors -20°C to $+60^{\circ}\text{C}$
with a rated voltage (max. $\pm 10\%$ voltage tolerance) and a rated frequency of 50 Hz or 60 Hz
Special-purpose motors -20°C to $+40^{\circ}\text{C}$
multi-voltage range (50 Hz and/or 60 Hz)
FU/FUK series, UL approval

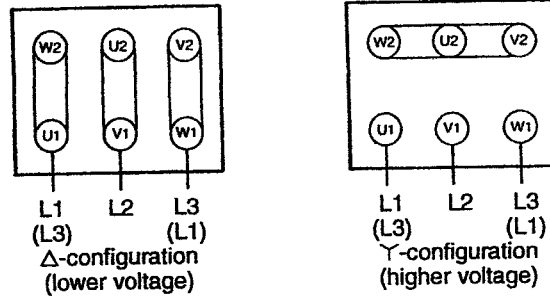
3.3 Electrical connection

Note! The work described under this section may be executed by a qualified electrician only. Connections to be carried out in accordance with wiring diagram in terminal box and relevant local regulations.

As drive motor for the SD blower a three phase a.c. motor is fitted, the SE blower with a single phase a.c. motor with operating capacitor.

- The drive motor has to be safeguarded by a motor circuit-breaker.
- The safety earth terminal can be found in the terminal box.

3.3.1 Connection for three phase units

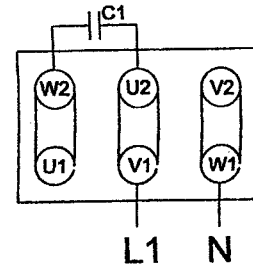


Checking direction of rotation

Start operation of side-channel blower.

The direction of rotation of the impeller must correspond to the directional arrow on the housing. The flow direction of the air flow must also correspond to the directional arrows on the muffler housing. If the direction of rotation is incorrect, the two connecting wires L1 and L3 have to be interchanged.

3.3.2 Connection for three-phase ventilators to single-phase supply with capacitor



4 Operation

If the rated current of the drive motor is exceeded during operation, the voltage and frequency of the power supply should be checked and compared with the data on the unit rating plate.

For high-pressure blowers which cannot be operated over the whole range of the characteristic curve, an overload of the motor may occur in case of excessive system resistance (excessive current consumption). Should it not be possible to exclude overloading due to the system resistance, a pressure control valve must be provided on the suction or pressure side.

The high-pressure blower must not be subjected to vibration or shock loads.

5 Maintenance

High-pressure blowers have non-contact operation and do not normally require maintenance. Wearing parts are subject to the recommended maintenance intervals and are a constituent part of the applicable warranty claims. The service life of wearing parts (ball bearings and filters) depends on the operating hours, the load and other influences, such as temperature, etc.

5.1 Ball Bearings

The high-pressure blower is equipped with enclosed deep groove ball bearings, which do not have to be re-greased and have a minimum service life of approx. 12,000 hours. We recommend exchanging the ball bearings before the end of service life (at least 12,000 hours). The 18-month operating time is not to be exceeded given continuous operations of 24 hours a day.

5.2 Fine filter

The fine filter should be arranged horizontally, so that no dirt can get into the high-pressure blower during maintenance work. If the fine filter is mounted vertically, dismantle the complete filter from the device for maintenance purposes.

5.3 Pressure relief valve

The pressure relief valve is a safety valve and must be checked for its function at regular intervals depending on the operating conditions. Close the operating side before carrying out the check. The pressure relief valve must actuate at the maximum pressure value.



Note!
Repairs must be carried out by the manufacturer only. We cannot accept any liability for repairs carried out by third parties.

6 EC Manufacturer Declaration

HERZ GmbH
 Biberweg 1, D-56566 Neuwied

We certify on our sole responsibility that the product to which this certificate relates, is in conformity with the standards or standard-setting documents listed below.

If a modification of the unit(s) is made without our consent, this certificate becomes invalid.

Description of the machine:

High-pressure blower type HD 140

Relevant regulations to which this machine corresponds:

EC machine directives (98/37/EC)
 Low-voltage directive (73/23/EEC f.)

Source references of harmonised standards:

DIN EN 292, Safety of machines, basic terms, general configuration directives;
 Part 1: Basic terminology, methodology – Part 2: Technical principles and specifications
 EN 60034-1 (DIN VDE 0530 Part 1), Rotating electrical machines;
 EN 60034-5 (DIN VDE 0530-5), Classification of degrees of protection provided by enclosures for rotating machinery
 DIN EN 60204, Safety of machinery; electrical equipment of machines
 Part 1: General requirements (Electric motors)

Source references of national standards:

DIN VDE 0110-1, Insulation co-ordination for equipment within low-voltage systems;
 Part 1: Basic principles, requirements and tests

Starting operation of this machinery part is not allowed as long as it is not assembled into the main installation respectively not all necessary safety devices have been installed which fulfill the requirements of the EC directive for machines with regard to safety and health.

Franz-Josef Herz (Managing director)
 Neuwied, 31. 03. 2006