

# Blower SGBL-DG-165-180

## Operating Manual

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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 side-channel blower.

Subject to modifications. In case of doubt clarification with the manufacturer is required.

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## 1 Technical data

The following data apply to the standard version. Your side-channel blower may differ from these data (see "rating plate").

	SGBL-DG... / VG4 E	
Volumetric flow rate [m <sup>3</sup> /min]	2,8	3,4
Total pressure difference [mbar]	180	240
Max. permitted blower speed [rpm]	3000	3600
Motor speed [rpm]	2730	3400
Voltage [V]	230/ 400	277/ 480
Frequency [Hz]	50	60
Current consumption [A]	4,0/ 2,3	5,7/ 3,3
Motor output [kW]	0,95	1,6
Operating capacitor [ $\mu$ F/V]	-	-
Weight [kg]	20,0	21,2 SB

### 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.

## 2 Safety

Our side-channel blowers excel by a high degree of operating safety. As the side-channel 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

Side-channel 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 side-channel 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). Side-channel 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 side-channel 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 side-channel blower must be protected by the operator against direct contact (danger of burning!).**

### 2.4 Motor circuit breaker

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

### 2.5 Proper application

The side-channel 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 +40° 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).

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.
- Side-channel 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 cooling, max. ambient temperature +40° C.



### 3.3 Electrical connection

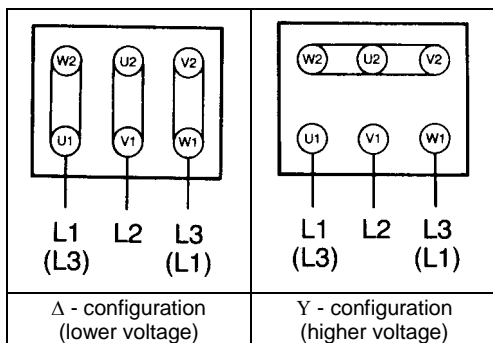
**Note!**

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.

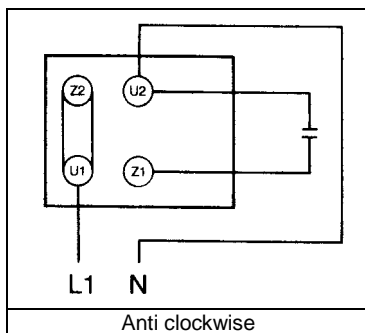
#### 3.3.1 Connection for three phase units



#### 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 single phase units



## 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 side-channel 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 side-channel blower must not be subjected to vibration or shock loads.

## 5 Maintenance

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

## 6 List of spare parts

When ordering please state

**Note!**

- Serial no. (rating plate)
- Blower type (rating plate)
- Part No. and/or item no. (spare parts list)