# 无蜗壳离心风机
# radial fans with free-running impeller ; without housing

## 外转子马达电机
## with external rotor motor

## 标准IEC电机
## with IEC-standard motor

ECOFIT

ETRI

rosenberg

THE AIR MOVEMENT GROUP

# 无蜗壳风机

## ***Radial Fans*** *With Free-Running Impeller*

### 参考代码/ Reference code

| | K | N | | | | | | | A | 06 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| D | K | H | R | 355 | -4 | S | W.110 | .4 | EC | - | 001 |

**D** = 三相电机 / Three phase
**E** = 单相电机 / Single phase A.C.
**G** = EC- 直流电机 / EC- Motor Drive

**KH**= 外转子电机驱动无蜗壳风机
Free running impeller with external rotor motor
**KN**= IEC标准电机驱动无蜗壳风机
Free running impeller with IEC motor

**R** = 简便叶轮 / Motorized impeller
**M** = 风机组件 / Fan module
**B** = 带安装支架的风机组件
Fan module with mounting stand

叶轮直径(mm)

电机极数 / **Number of poles**
2 = 2; 4 = 4; 6 = 6; 8 = 8; F = 2-2; G = 4-4; H = 6-6;
M = 8-8; B = 10; C=12; N = 10-10; P = 12-12;
O = 4-6; X = 4-8

S = 电缆引出 / Flying lead
K = 接线盒/ Terminal box

W = 高效后倾叶轮
High efficiency impeller

叶轮宽度(mm)

电机型号 / **Motor type**
4 = 080 (EC-080)
5 = 106 (EC-108)
6 = 137 (EC-150)
7 = 165

电机安装形式 / **Motor design**
A = B3
B = B5

矽钢片长度/ **silicon steel sheet length**

| | | | |
|---|---|---|---|
| A = | 0 | H = | 7 |
| B = | 1 | I = | 8 |
| C = | 2 | K = | 9 |
| D = | 3 | L = | 10 |
| E = | 4 | M = | 11 |
| F = | 5 | N = | 12 |
| G = | 6 | | |

电机尺寸 / **Motor size**

| | | | |
|---|---|---|---|
| 06 = | 063 | 16 = | 160 |
| 07 = | 071 | 18 = | 180 |
| 08 = | 080 | 20 = | 200 |
| 09 = | 090 | 22 = | 225 |
| 10 = | 100 | 25 = | 250 |
| 11 = | 112 | | |
| 13 = | 132 | | |

产品编码 / **Consecutive no.**

## 特点和结构

DKN_..W系列的无蜗壳离心风机设计安装在，如空调箱、卫生环境、无尘过滤室这样的装置里，以及RLT器。这些装置使用无蜗壳后倾式叶轮，在宽广的特性曲线上具有最优的效率，并且，性能好，噪声低。这种风机适合处理空气不具腐蚀性气体或烟尘。可以使用带电子整流器的外转子电机或标准三相IEC电机。

根据电机的型号和风机结构可应用在下列电机：

- _KHR: 机动化叶轮带或不带导流口（外转子电机）
- _KHM: 风机组件（外转子电机）
- DKNB: 风机组件（IEC-电机，型号: IM B3）
- DKNM: 风机组件（IEC-电机，型号: IM B5）

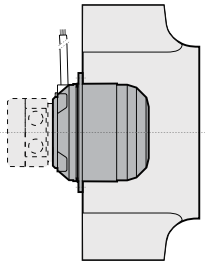
## Features and Construction

The **Rosenberg Centrifugal Fans with free-running impeller** of the range DKN_ .. W were designed for installation in appliances such as air-handling-units, hygienic- and clean room filter units as well as for RLT units. During the development of this unit with backward-curved impeller without scroll casing, special attention was paid to optimize the efficiency over a wide characteristic curve having at the same time high performance and an optimum sound power level. The fans are suitable to handle air and other non aggresive gases or fumes. The motors are available as electronically commutated (EC) external rotor motors or standard three phase IEC-motors.

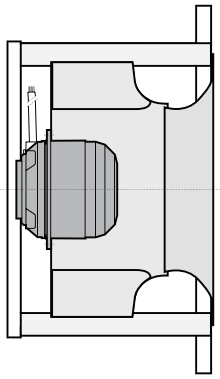
Depending on the type of motor and the fan construction, the following fans are available:

- _KHR: Motorized impeller with or without inlet cone. (External rotor motor)
- _KHM: Fan module (External rotor motor)
- DKNB: Fan module with mounting stand (IEC-Motor; Type. IM B3)
- DKNM: Fan module (IEC-Motor; IM B5)

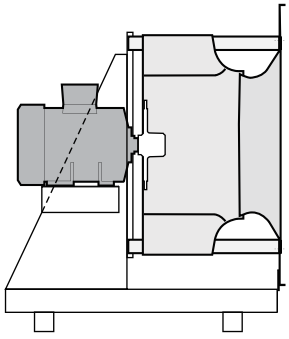
**_KHR**



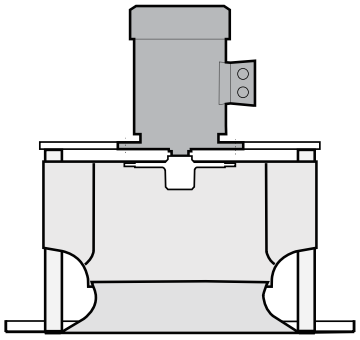
**_KHM**



**DKNB**



**DKNM**



## 叶轮
叶轮带有8片铝(AlMg3)制叶片，并且静平衡和动平衡符合G2,5/6,3 DIN ISO 1940如需叶轮可以喷涂防腐涂层。

## 叶轮 **Impeller**

The impellers with 8 backward curved blades are made of aluminium sheet (AlMg3) and are statically and dynamically balanced with hub according to quality level G2,5/6,3 DIN ISO 1940. The impellers can also be supplied with epoxy coating if requested.

## 旋转方向
从进风口观察叶轮旋转方向为顺时针转向，错误的转向会使电机超载，因此，有必要在初次使用是检查转向。

## **Direction of rotation**
Direction of rotation of the impellers viewed from the inlet side is clockwise. Wrong direction of rotation can overload the motor , therefore it is essential to check the direction of rotation before initial operation.

## 导风圈
导风圈由镀锌钢板制成，并结合叶轮提供最优化的气流。最佳叶轮与导风口配合深度见尺寸图。

## 导风圈 **Inlet cones**

The inlet cones are made of galvanized sheet steel. They are fluidic optimized and offer a good airflow of the impeller. The optimal immersion depth of the impeller is shown on the according dimensional drawings.

## 流量监控/控制
在进风导流口安装测试管，风量易于测量。

## **Volume flow monitor / control**
An easy volume flow determination and monitoring in an installed condition is possible with a ring testing wire on the inlet cone. See page 13 for description.

## 电机
可从风机型号说明书中获得更多有关驱动电机，电机防护等级，转速控制等信息。

## **Motors**
Further information on the Drive Motor, Motor safety, Speed control can be found in the individual special description of each ventilator type.

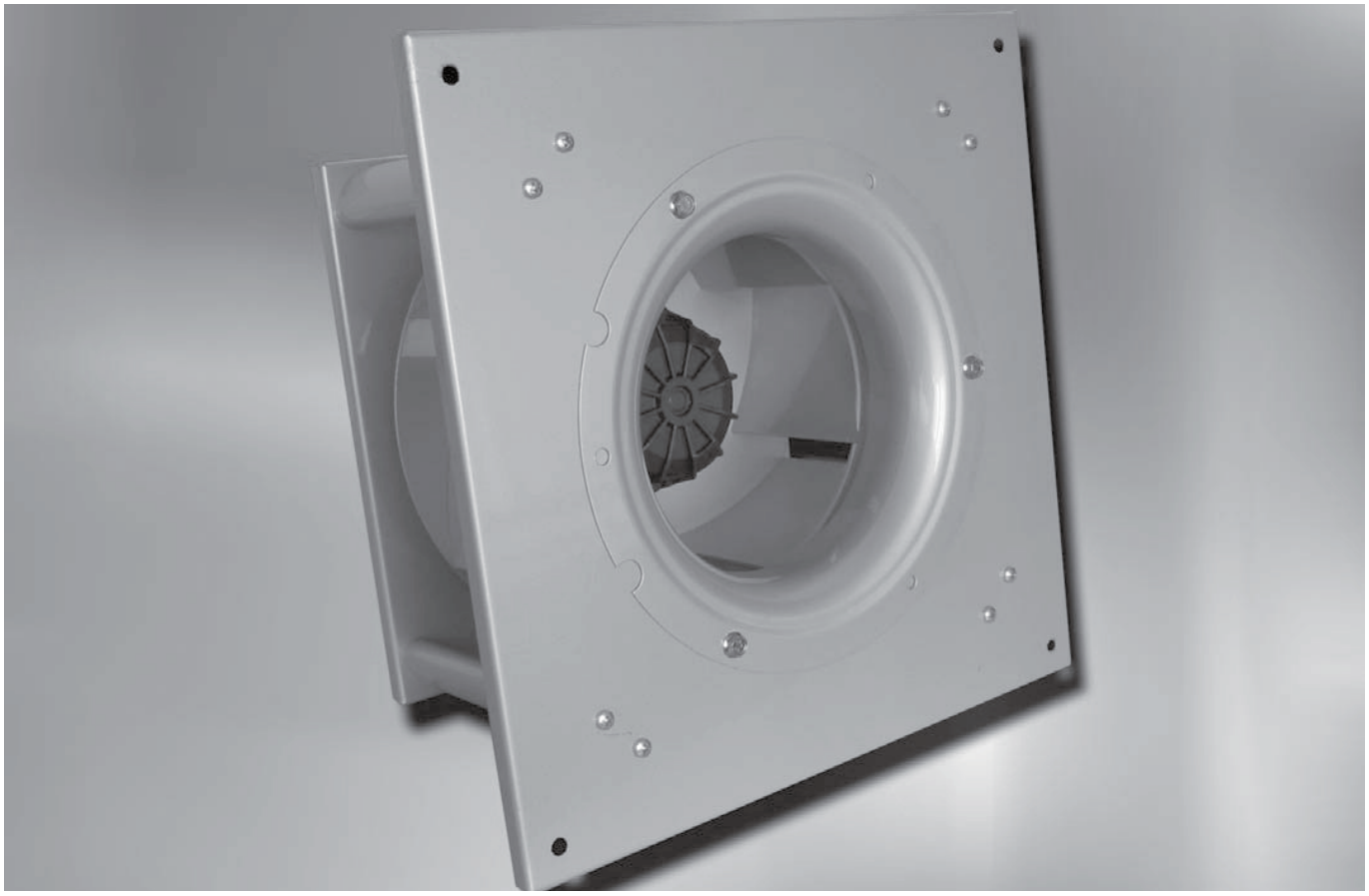
## 防止触电
风机安装于箱体中，因此无需防护网。按照DIN EN 292采取保护措施(“可分离的保护装置”，“技术上的保护措施”)。遵守DIN EN 292(“防止触电”)

## **Protection against accidental contact**
The fans are constructed for installation in units and therefore as a standard are not equipped with a finger protection. Before initial operation all required protection components must be installed and connected. The protective measures must be executed according to DIN EN 292 (“separative protection appliances”, “technical protective measures”), resp. DIN EN 294 (“protection against accidental contact”).

## 防爆
按要求提供防爆电机

## **Explosion protection**
Explosion-proof fans are available on request.

# 无蜗壳风机
# ***Radial Fans*** *With Free-Running Impeller*
*EKH_/DKH_*



**优点:**

- 结构紧凑，节省空间
- 高效后倾叶轮
- 可安装于任何位置
- 电机直联易于维护
- 适宜变压和变频调速

**Advantages:**

- compact, space saving construction
- high power impeller
- highly economical because of high efficiency impeller
- installable in all positions
- easy to maintain due to no attrition
- wide range of voltage- and frequency controllable units

## 易转动的叶轮加载放射状叶片

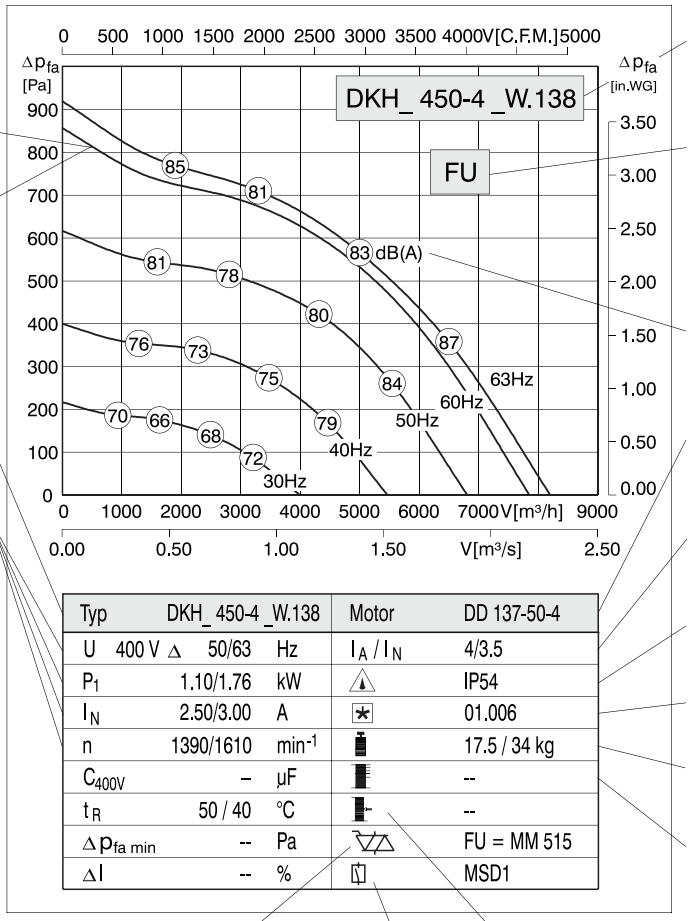
### 性能曲线

性能曲线适用于空气的标准状态（一个大气压，20℃，相对湿度50%，此时空气密度 ρ =1.2kg/m³ ）

## Radial fans with free-running impeller

### Performance Curves

The performance curve indicates the static pressure increase $p_{fa}$ as a function of the volume flow. The performance curves refer to an air density of 1,2 kg/m$^3$.




额定电压和部分电压的特性曲线

Fan performance curves at rated voltage and component voltage resp. with max. frequency and partial frequency

风机型号
Fan type

风机额定数据
Fan rated data

频率可调范围最大不可超过63 Hz(本款型号 )
with frequency control the nominal data for max. frequency and for 50 Hz frequency are stated

风机型号
Type description

调频
Frequency controlled

A声功率级
Noise level $L_{WA8}$

产品编码
Motor type

启动电流与额定电流比值 / Ratio of starting current to rated current

防护等级
Motor protection class

接线图编码
Wiring diagram

风机重量 / weight
DKHR / DKHM

5级调速器
5-step controller

无极调速器，电子控制
Stepless adjustable, electronic controller (with frequency converter use the f.c. type is stated)

无极调速器，变压器控制
Continously adjustable controller, transformer type

电机保护器 / Motor protection unit

建议：关于控制器部分，请参见样册–洛森集团介绍
Advice ：For controllers see basic catalogue

## 技术规定 / Technical Formula

| | 表示 / Designation | Einheit / Unit |
|---|---|---|
| U | 额定电压 / Rated voltage | V |
| $P_1$ | 电机功率 / Motor power consumption | kW |
| $I_N$ | 额定电流 / Rated current | A |
| n | 风机速度 / Fan speed | $min^{-1}$ |
| $C_{400V}$ | 电容器 / Capacitor | F |
| $t_R$ | 最大可允许的媒介温度 / Max. permissible medium temperature | °C |
| $\triangle pfa_{min}$ | 自由出风的静压升 / Min. required counter pressure | Pa |
| $\triangle I$ | 部分电压下的电流增量 / Current increase in partial voltage | % |
| $I_A / I_N$ | 启动电流与额定电流的比率 / Ratio of starting current to rated current | - |

Ausgabe 03/06

## 特点和结构

洛森集团E/DKHR和E/DKHM无蜗壳离心风机结构紧凑，设计完美。他们是可变压外转子电机和新式设计叶轮的完美结合。这种风机适合多种外壳，使风机结构形式多样化，也就能满足客户对风机结构要求的多样化。

可提供的风机组件如下：

E/DKHR：风机化叶轮，可带导风圈

E/DKHM：组件安装

### 电机

洛森外转子电机防护等级为 IP54，绝缘等级F，使用SKF带特殊润滑脂的密封深沟球轴承保持流畅低噪声运行。

### 电机保护

洛森集团的外转子电机都装配热保护器，包埋在线圈绕组里来保护电机。热保护器是依靠温度的金属断流器，用以控制线圈温度。热保护器被正确安装后，启动时可使电机停止运转；用以防止过载、相位失调、电机失速和过高环境温度。

### 电子连接

在产品标牌上的标称电压最大可允许电压耐受量±10%；标准引线，不带电机的标准电线长度（从电机法兰处）80和106是68cm；加上电机尺寸的长度137和165是88cm。客户需求定制化：特殊电线长度、特殊的带可装配接线盒的风机也是可达成的。

## Features and Construction

**Rosenberg centrifugal fans of the ranges E/DKHR and E/DKHM with free running impeller** are very compact units. With regard to the air movement, the fans have been optimally designed. They combine a voltage controlled external rotor motor and a newly designed impeller.

This combination together with flexible production of impellers and efficient sheet metal handling makes it possible to manufacture fan modules for various applications. Constructive demands of the customer can be met.

The fan modules can be provided (as shown on page 6) as:

| | |
|---|---|
| E/DKHR: | motorized impeller (mounted and balanced) with or without inlet cone (loose) |
| E/DKHM: | module for installation |

### Motors

Rosenberg external rotor motors have protection class IP54.
The winding insulation corresponds to insulation class F. By use of deep groove ball bearings, closed on both sides, with special grease lubrication a maintenance free and low noise operation is possible.

### Motor protection

All motors are equipped with thermal contacts, wired in series. Thermal contacts are temperature dependent control elements, controlling the winding temperature of the motor. If they are installed correctly they protect the motor windings from overload, failure of a mains phase, standstill of the motor and from too high temperatures of the medium to be ventilated. In connection with the mounted thermal contacts we recommend the usage of our motor protection control units. We also offer 5-step speed controllers, RTE and RTD Types are equipped with thermal contact motor protection. An additional motor protection switch is not required.

### Electrical Connection

The nominal voltage indicated on the type plate is valid with a max. allowed voltage tolerance of 10%. Flying leads as standard. The connection ends are 10 cm dismantled and equipped with end splices. Standard cable length with motor size **80** and **106** is 68 cm and with motor sizes **137** and **165** 88 cm from motor flange. Special cable lengths and fans with mounted terminal box are available on request.

### 电压类型

性能曲线图表上显示的性能资料是为标准版本50 Hz 1230V, 3400V制作的。客户要求的其他电压或其他频率的电机，在洛森也可以达成。页码A24、A25可以看到我们60 Hz标准款。

### 速度控制

我们用一种合适的系统来进行速度调节，实现客户对工况点的要求。
有两种速度控制方法能够被应用在洛森系列风扇上。

**– 电压控制**

（性能曲线上同时显示标称电压和局部电压）。

通过降低终端电压来实现速度控制。所以通过负载控制来实现滑移增量的减小，并且空气流动也相应的减少。用户可在我们的产品铭牌上可以看到相匹配的电压控制器。对于三厢电，我们所有的电压可控离心风扇也能通过变频器下调频率实现速度控制。

**– 频率控制**

（性能曲线上同时显示最大频率和局部频率）。
通过降低频率来实现速度控制。我们所有的风机可以在变频器上可调节的截止频率是50Hz， 60HZ型号的风机请参见本样册页面A24和A25。
每条性能曲线上显示了最高频率.使用比额定频率更高的频率，电机会出现热过载。万一变频器出现故障，所有可控频率的型号（风机）也能直接在400V/50Hz的条件下工作。

频率控制器上的电机运转，最大电压增速不可超过500V/s。根据变频器的类型以及电机和变频器间的电线长度，也可能需要附加组件。

### Voltage types

The performance data as indicated on the performance curve charts are for the standard versions at 50 Hz 1 230 V and 3400 V. Motors for other voltages or frequencies are available on request for additional charge. Please see pages A24 and A25 for 60 Hz standard models.

### Speed control

The installation-specific optimal adjustment for the required operation point can only be realized with a suitable system for speed adjustment. Two common systems can be used for the speed control of this fan series.

**- Voltage control**

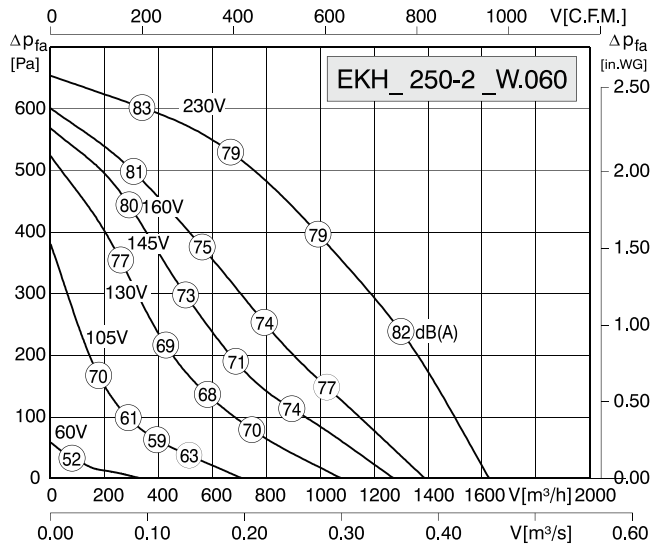
(The performance curves show both nominal voltage and partial voltage).

The speed control is provided by reduction of the terminal voltage. So by load-controlled increase of the slippage the speed is reduced and the air volume flow is reduced in proportion to the speed. The matching voltage controllers can be found on the fan name plate. All voltage controllable centrifugal fans for three-phase current construction can also be speed controlled by frequency converter from rated frequency downwards.

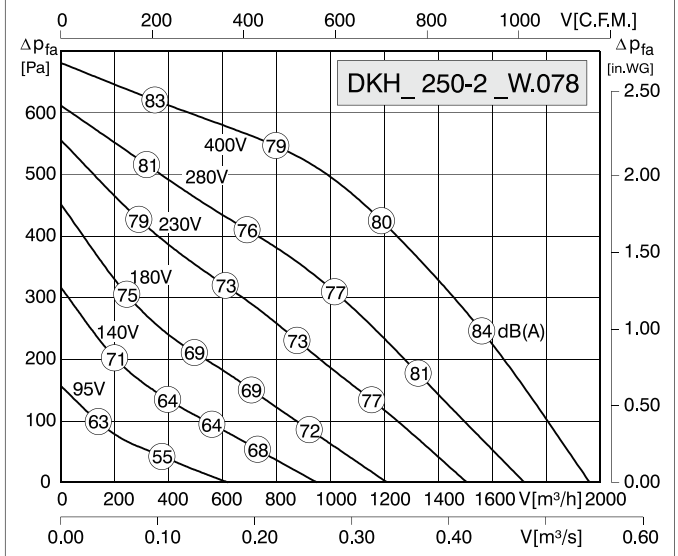
**- Frequency control**

(The performance curves show both maximum frequency fmax and partial frequency).
The speed control is provided by reduction of the frequency. The cut-off frequency adjustable on the frequency converter is 50Hz for all fans. The maximum frequency adjustable on the frequency converter is 50 Hz respectively 60 Hz for 60 Hz models pages A 24 and A 25. Each performance curve shows the max. possible frequency. With higher frequencies than the rated frequency the motor will thermally overload. In case of emergency service or failure of the frequency converter all frequency controllable types can be used also direct with 400V on the 50 Hz mains supply.

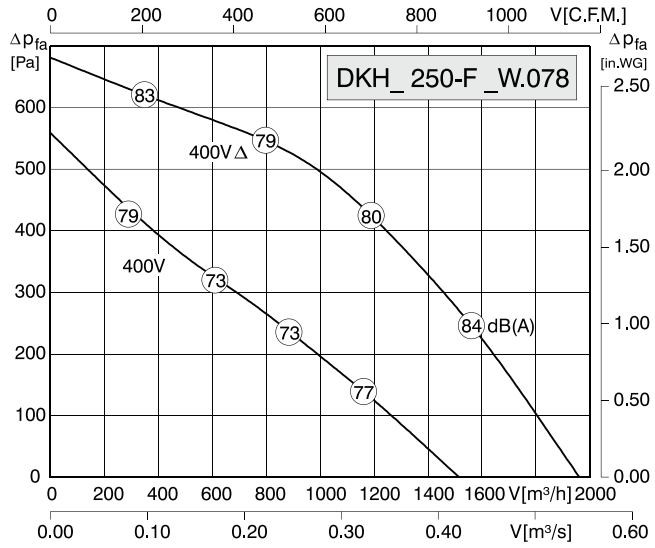
With operation of the motors on a frequency controller the max. speed of voltage increase of 500 V/ s must not be exceeded. According to the frequency converter type and the length of the cable between motor and frequency converter additional components may be required.



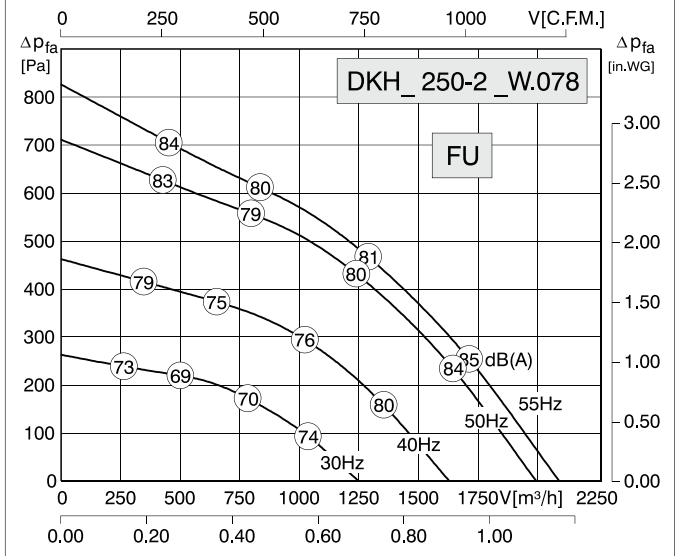

| Typ | EKH_ 250-2 _W.060 | | Motor | ED 080-55-2 |
|---|---|---|---|---|
| U 230 V | 50 | Hz | $I_A / I_N$ | 2.2 |
| $P_1$ | 0.36 | kW | | IP54 |
| $I_N$ | 1.55 | A | | 01.024 |
| n | 2680 | $min^{-1}$ | | 4,5 / 10,5 kg |
| $C_{400V}$ | 8 | µF | | RE/RTE 3.2 |
| $t_R$ | 40 | °C | | RSE 2.5 |
| $\Delta p_{fa\ min}$ | – | Pa | | ED 2,5 |
| ΔI | 26 | % | | MSE1 |



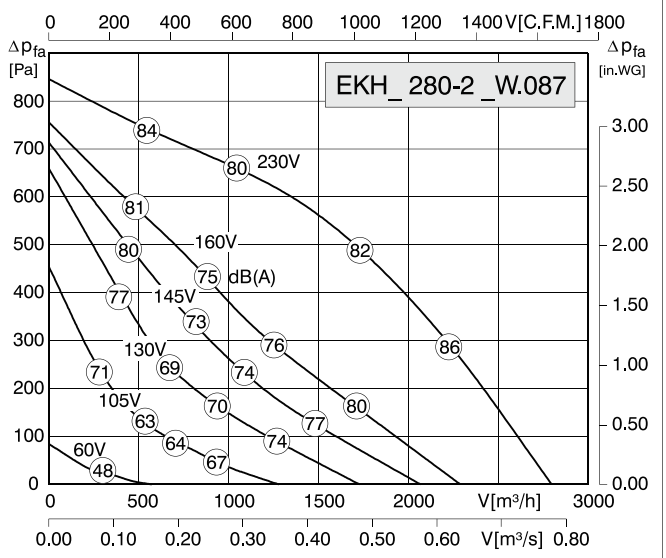

| Typ | DKH_ 250-2 _W.078 | | Motor | DD 080-55-2 |
|---|---|---|---|---|
| U 400 V Δ | 50 | Hz | $I_A / I_N$ | 3 |
| $P_1$ | 0.43 | kW | | IP54 |
| $I_N$ | 0.72 | A | | 01.006 |
| n | 2600 | $min^{-1}$ | | 4,5 / 11 kg |
| $C_{400V}$ | – | µF | | RTD 1.2 |
| $t_R$ | 45 | °C | | – |
| $\Delta p_{fa\ min}$ | -- | Pa | | RED 8P |
| ΔI | 11 | % | | MSD1 |



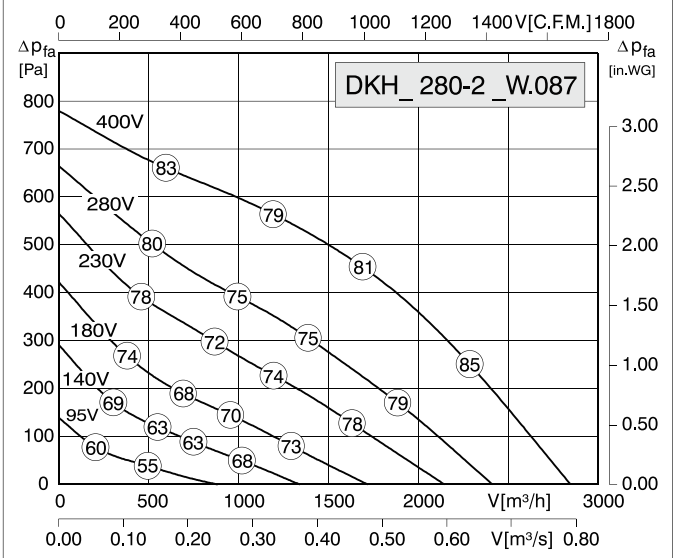

| Typ | DKH_ 250-F _W.078 | | Motor | DD 080-55-2 |
|---|---|---|---|---|
| U 400 V Δ / | 50 | Hz | $I_A / I_N$ | 3 |
| $P_1$ | 0.43/0.29 | kW | | IP54 |
| $I_N$ | 0.72/0.44 | A | | 01.045 |
| n | 2600/1920 | $min^{-1}$ | | 4,5 / 11 kg |
| $C_{400V}$ | -- | µF | | -- |
| $t_R$ | 45 | °C | | -- |
| $\Delta p_{fa\ min}$ | – | Pa | | -- |
| ΔI | – | % | | MSD2 |



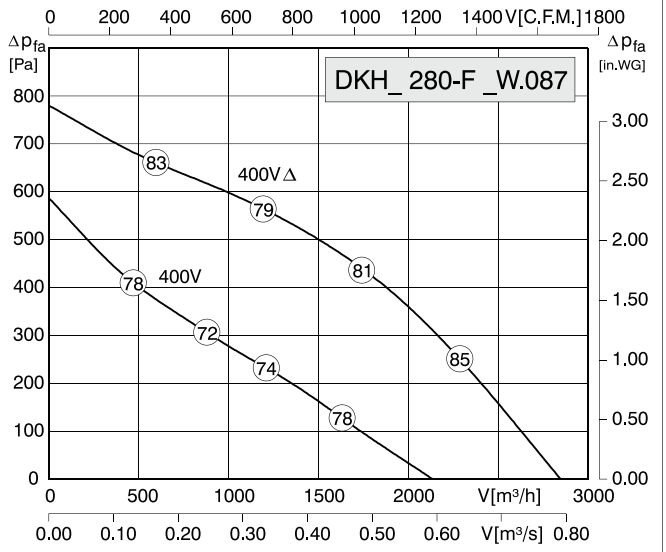

| Typ | DKH_ 250-2 _W.078 | | Motor | DD 080-55-2 |
|---|---|---|---|---|
| U 400 V Δ | 50/55 | Hz | $I_A / I_N$ | 3/2.3 |
| $P_1$ | 0.43/0.50 | kW | | IP54 |
| $I_N$ | 0.72/0.80 | A | | 01.006 |
| n | 2600/2690 | $min^{-1}$ | | 4,5 / 11 kg |
| $C_{400V}$ | – | µF | | -- |
| $t_R$ | 60/45 | °C | | -- |
| $\Delta p_{fa\ min}$ | – | Pa | | FU = MM507 |
| ΔI | – | % | | MSD1 |



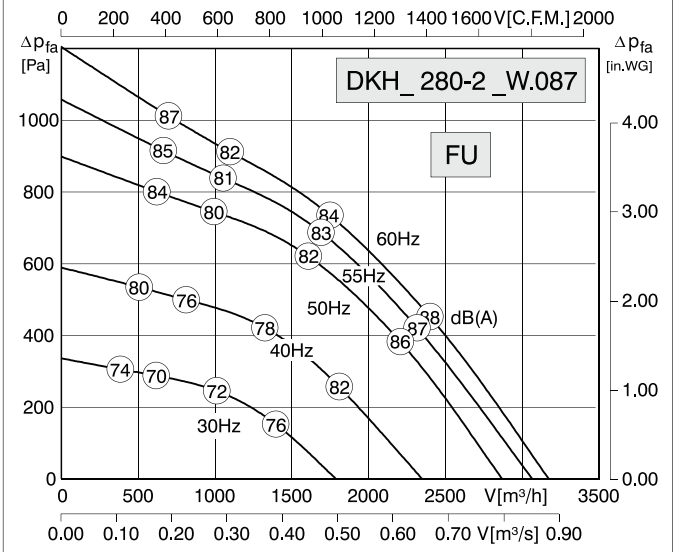

| Typ | EKH _ 280-2 W.087 | | Motor | ED 106-50-2 |
|---|---|---|---|---|
| U 230 V | 50 | Hz | $I_A / I_N$ | 2.2 |
| $P_1$ | 0.77 | kW | | IP54 |
| $I_N$ | 3.40 | A | | 01.024 |
| n | 2520 | $min^{-1}$ | | 7,5 / 18 kg |
| $C_{400V}$ | 14 | µF | | RE/RTE 5 |
| $t_R$ | 40 | °C | | RSE 5.5 |
| $\Delta p_{fa\ min}$ | -- | Pa | | ED 5,0 |
| ΔI | 13 | % | | MSE1 |



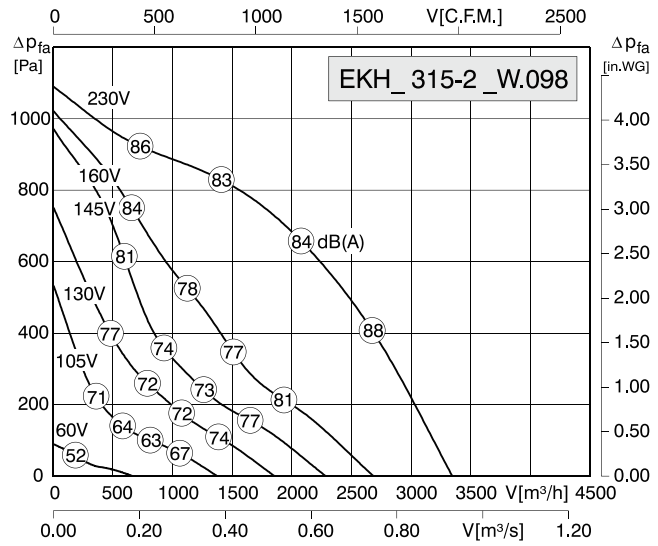

| Typ | DKH_ 280-2 _W.087 | | Motor | DD 106-35-2 |
|---|---|---|---|---|
| U 400 V Δ | 50 | Hz | $I_A / I_N$ | 2.7 |
| $P_1$ | 0.66 | kW | | IP54 |
| $I_N$ | 1.10 | A | | 01.006 |
| n | 2400 | $min^{-1}$ | | 6.5 / 17 kg |
| $C_{400V}$ | – | µF | | RTD 1.2 |
| $t_R$ | 50 | °C | | – |
| $\Delta p_{fa\ min}$ | -- | Pa | | RED 8P |
| ΔI | -- | % | | MSD1 |



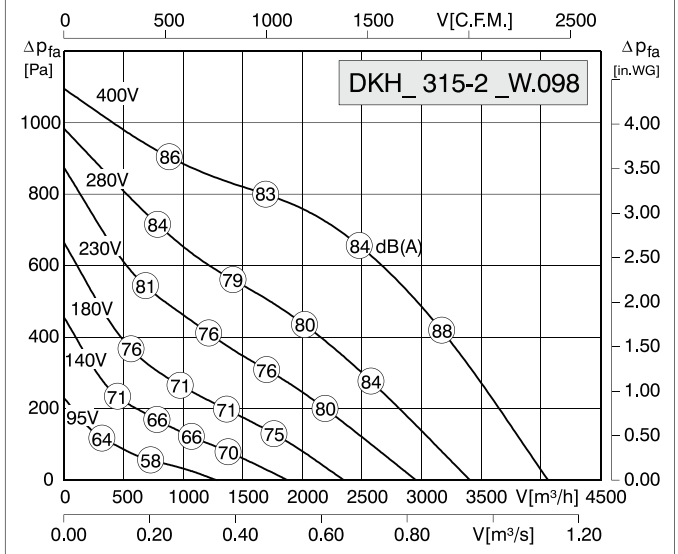

| Typ | DKH_ 280-F _W.087 | | Motor | DD 106-35-2 |
|---|---|---|---|---|
| U 400 V Δ/ | 50 | Hz | $I_A / I_N$ | 2.7 |
| $P_1$ | 0.66/0.40 | kW | | IP54 |
| $I_N$ | 1.10/0.60 | A | | 01.045 |
| n | 2400/1720 | $min^{-1}$ | | 6.5 / 17 kg |
| $C_{400V}$ | – | µF | | – |
| $t_R$ | 50 | °C | | – |
| $\Delta p_{fa\ min}$ | -- | Pa | | – |
| ΔI | -- | % | | MSD2 |



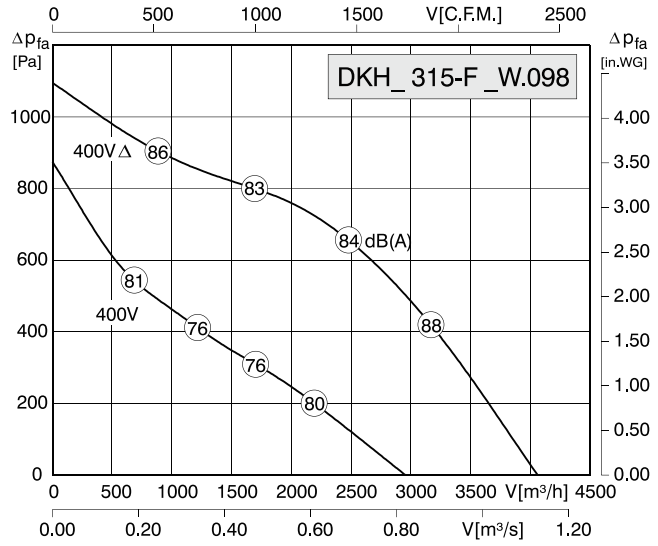

| Typ | DKH_ 280-2 _W.87 | | Motor | DD 106-50-2 |
|---|---|---|---|---|
| U 400 V Δ | 50/60 | Hz | $I_A / I_N$ | 2.6/2.6 |
| $P_1$ | 0.90/1.05 | kW | | IP54 |
| $I_N$ | 1.30/1.60 | A | | 01.006 |
| n | 2600/2810 | $min^{-1}$ | | 7.5 / 18 kg |
| $C_{400V}$ | – | µF | | – |
| $t_R$ | 60/40 | °C | | – |
| $\Delta p_{fa\ min}$ | -- | Pa | | FU = MM507 |
| ΔI | -- | % | | MSD1 |



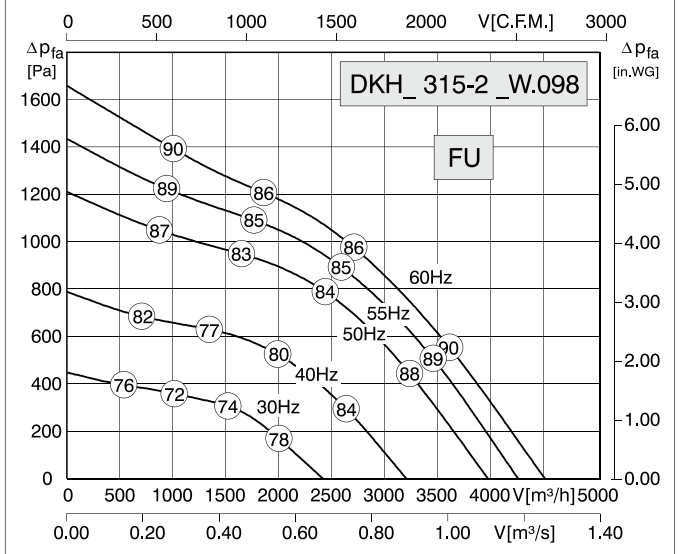

| Typ | EKH_ 315-2 _W.098 | | Motor | ED 137-50-2 |
|---|---|---|---|---|
| U 230 V | 50 | Hz | $I_A / I_N$ | 1.5 |
| $P_1$ | 1.50 | kW | | IP54 |
| $I_N$ | 6.70 | A | | 01.024 |
| n | 2610 | $min^{-1}$ | | 15 / 26 kg |
| $C_{400V}$ | 25 | µF | | RE/RTE 7.5 |
| $t_R$ | 50 | °C | | -- |
| $\Delta p_{fa\ min}$ | -- | Pa | | -- |
| $\Delta I$ | 11 | % | | MSE1 |



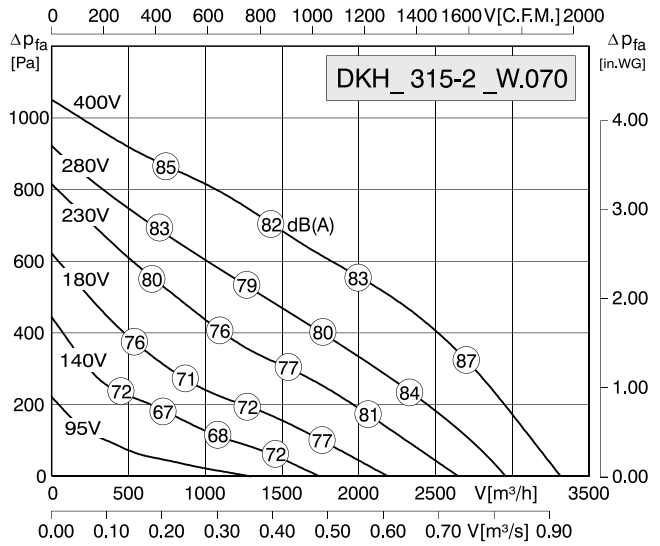

| Typ | DKH_ 315-2 _W.098 | | Motor | DD 137-35-2 |
|---|---|---|---|---|
| U 400 V Δ | 50 | Hz | $I_A / I_N$ | 2.6 |
| $P_1$ | 1.30 | kW | | IP54 |
| $I_N$ | 2.20 | A | | 01.006 |
| n | 2550 | $min^{-1}$ | | 12 / 23 kg |
| $C_{400V}$ | – | µF | | RTD 2,5 |
| $t_R$ | 40 | °C | | – |
| $\Delta p_{fa\ min}$ | -- | Pa | | RED 8P |
| $\Delta I$ | 3 | % | | MSD1 |



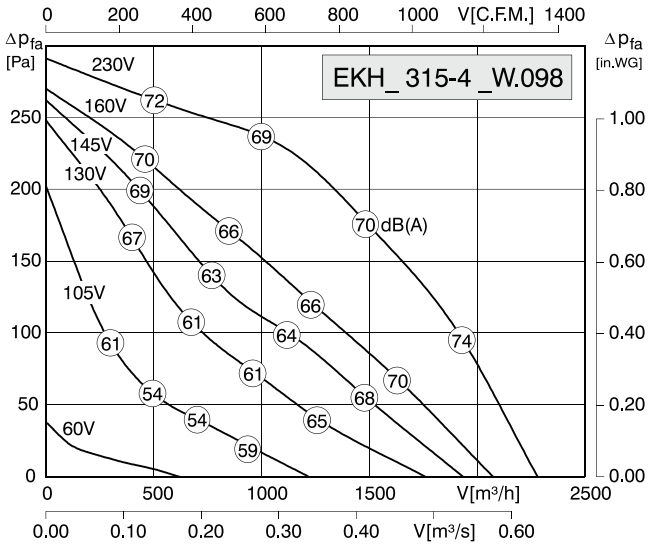

| Typ | DKH_ 315-F _W.098 | | Motor | DD 137-35-2 |
|---|---|---|---|---|
| U 400 V Δ/ | 50 | Hz | $I_A / I_N$ | 2.6 |
| $P_1$ | 1.30/0.80 | kW | | IP54 |
| $I_N$ | 2.20/1.30 | A | | 01.045 |
| n | 2550/1750 | $min^{-1}$ | | 12 / 23 kg |
| $C_{400V}$ | – | µF | | – |
| $t_R$ | 40 | °C | | – |
| $\Delta p_{fa\ min}$ | -- | Pa | | – |
| $\Delta I$ | -- | % | | MSD2 |



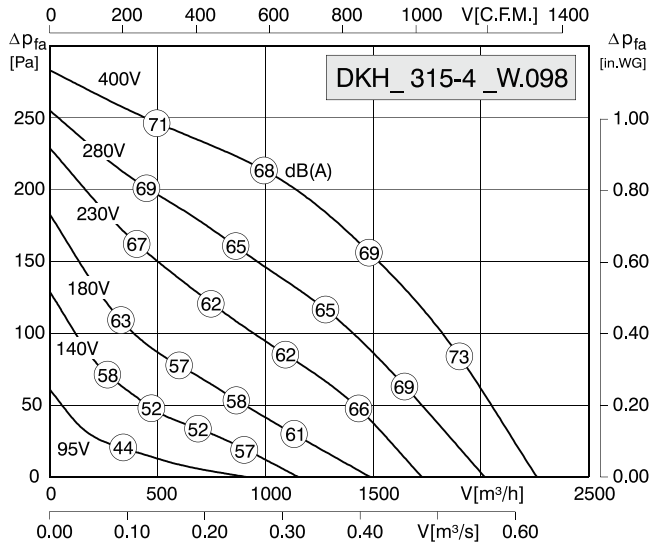

| Typ | DKH_ 315-2 _W.098 | | Motor | DD 137-50-2 |
|---|---|---|---|---|
| U 400 V Δ | 50/60 | Hz | $I_A / I_N$ | 4.2/3.2 |
| $P_1$ | 1.4/2.1 | kW | | IP54 |
| $I_N$ | 2.5/3.4 | A | | 01.006 |
| n | 2750/3060 | $min^{-1}$ | | 15 / 26 kg |
| $C_{400V}$ | – | µF | | RTD 2.5 |
| $t_R$ | 70/40 | °C | | – |
| $\Delta p_{fa\ min}$ | -- | Pa | | FU = MM 515 |
| $\Delta I$ | -- | % | | MSD1 |



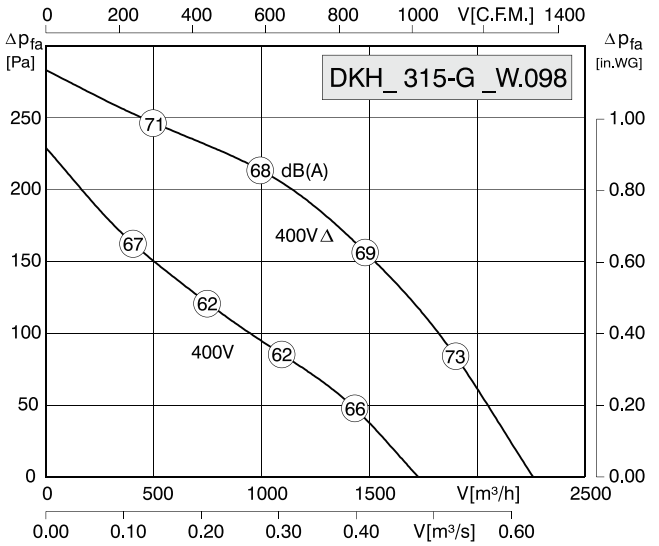

| Typ | DKH_315-2 _W.070 | | Motor | DD 106-50-2 |
|---|---|---|---|---|
| U 400 V Δ | 50 | Hz | $I_A / I_N$ | 2.9 |
| $P_1$ | 0.85 | kW | | IP54 |
| $I_N$ | 1.45 | A | | 01.006 |
| n | 2480- | $min^{-1}$ | | 8 / 15.5 kg |
| $C_{400V}$ | – | µF | | RTD 2.5 |
| $t_R$ | 50 | °C | | -- |
| $\Delta p_{fa\ min}$ | – | Pa | | RED 8P |
| Δl | 5 | % | | MSD1 |



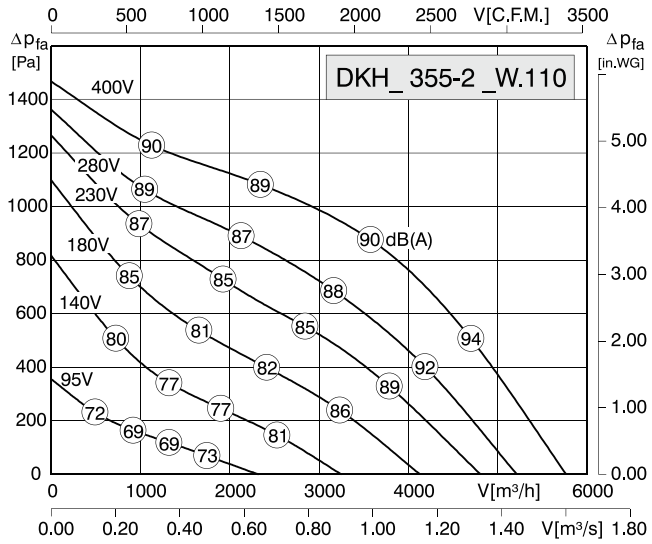

| Typ | EKH_315-4 _W.098 | | Motor | ED 080-42-4 |
|---|---|---|---|---|
| U 230 V | 50 | Hz | $I_A / I_N$ | 1.6 |
| $P_1$ | 0.22 | kW | | IP54 |
| $I_N$ | 1.00 | A | | 01.024 |
| n | 1350 | $min^{-1}$ | | 4.5 / 12 kg |
| $C_{400V}$ | 5 | µF | | RE/RTE 1.5 |
| $t_R$ | 60 | °C | | RSE 1.4 |
| $\Delta p_{fa\ min}$ | -- | Pa | | – |
| Δl | 18 | % | | MSE1 |



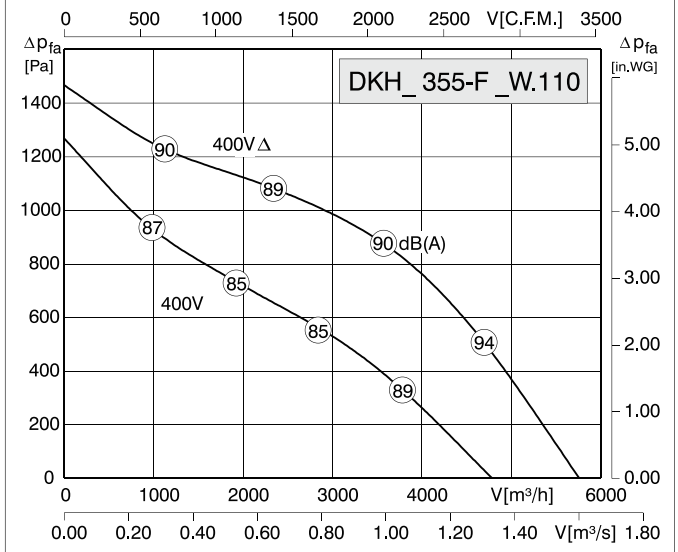

| Typ | DKH_315-4 _W.098 | | Motor | DD 080-30-4 |
|---|---|---|---|---|
| U 400 V Δ | 50 | Hz | $I_A / I_N$ | 2.4 |
| $P_1$ | 0.20 | kW | | IP54 |
| $I_N$ | 0.38 | A | | 01.006 |
| n | 1300 | $min^{-1}$ | | 4 / 11.5 kg |
| $C_{400V}$ | – | µF | | RTD 1.2 |
| $t_R$ | 55 | °C | | – |
| $\Delta p_{fa\ min}$ | -- | Pa | | RED 8P |
| Δl | -- | % | | MSD1 |



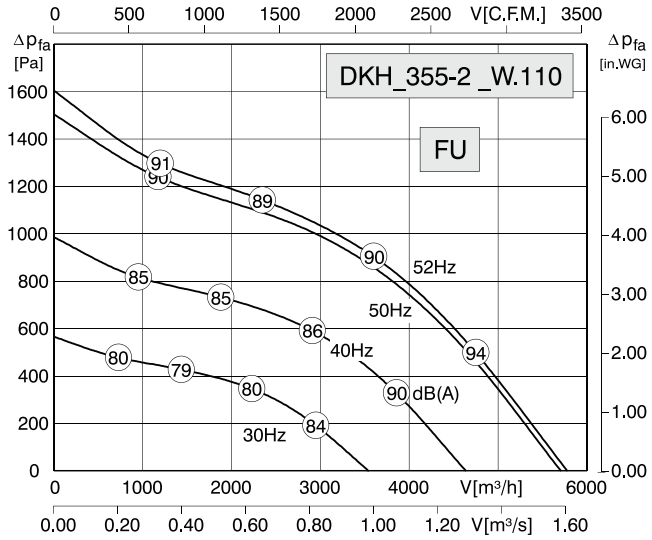

| Typ | DKH_315-G _W.098 | | Motor | DD 080-30-4 |
|---|---|---|---|---|
| U 400 V Δ/ | 50 | Hz | $I_A / I_N$ | 2.4 |
| $P_1$ | 0.20/0.12 | kW | | IP54 |
| $I_N$ | 0.38/0.20 | A | | 01.045 |
| n | 1300/960 | $min^{-1}$ | | 4 / 11.5 kg |
| $C_{400V}$ | – | µF | | – |
| $t_R$ | 55 | °C | | – |
| $\Delta p_{fa\ min}$ | -- | Pa | | – |
| Δl | -- | % | | MSD2 |



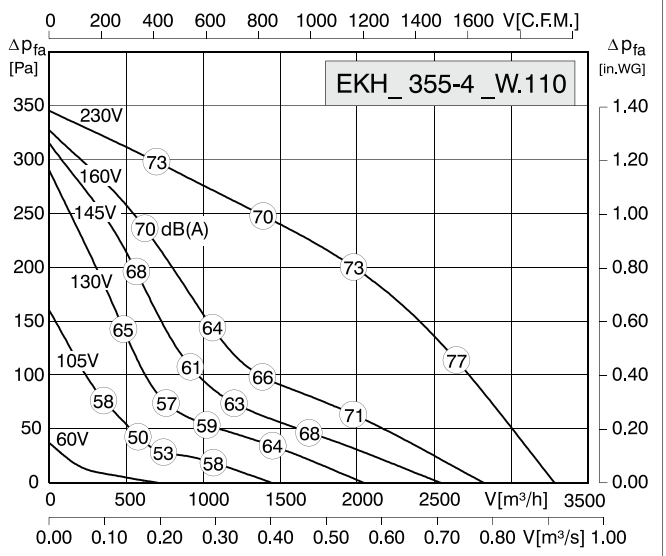

| Typ | DKH_ 355-2 _W.110 | | Motor | DD 137-75-2 |
|---|---|---|---|---|
| U | 400 V Δ | 50 Hz | $I_A / I_N$ | 3 |
| $P_1$ | 2.35 | kW | | IP54 |
| $I_N$ | 4.0 | A | | 01.006 |
| n | 2650 | $min^{-1}$ | | 20 / 31 kg |
| $C_{400V}$ | – | µF | | RTD 5 |
| $t_R$ | 45 | °C | | – |
| $\Delta p_{fa\ min}$ | – | Pa | | RED 8P |
| ΔI | 6 | % | | MSD1 |



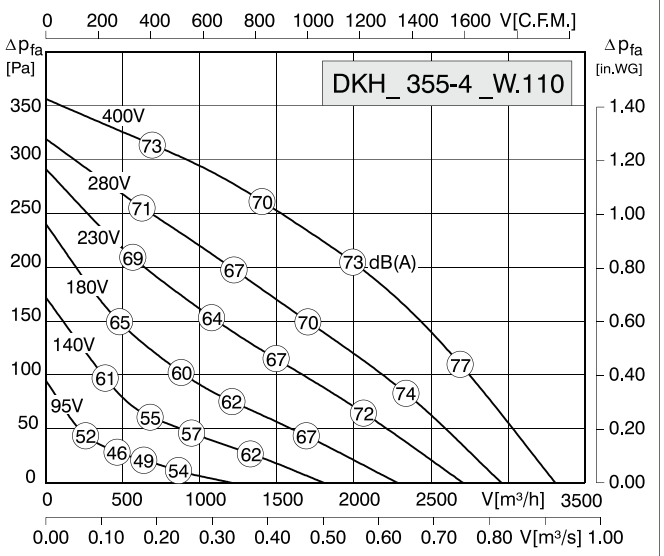

| Typ | DKH_ 355-F _W.110 | | Motor | DD 137-75-2 |
|---|---|---|---|---|
| U | 400 V Δ/ 50 | Hz | $I_A / I_N$ | 3 |
| $P_1$ | 2.35/1.50 | kW | | IP54 |
| $I_N$ | 4.0/2.5 | A | | 01.045 |
| n | 2650/2050 | $min^{-1}$ | | 20 / 31 kg |
| $C_{400V}$ | -- | µF | | – |
| $t_R$ | 45 | °C | | – |
| $\Delta p_{fa\ min}$ | – | Pa | | – |
| ΔI | – | % | | MSD2 |



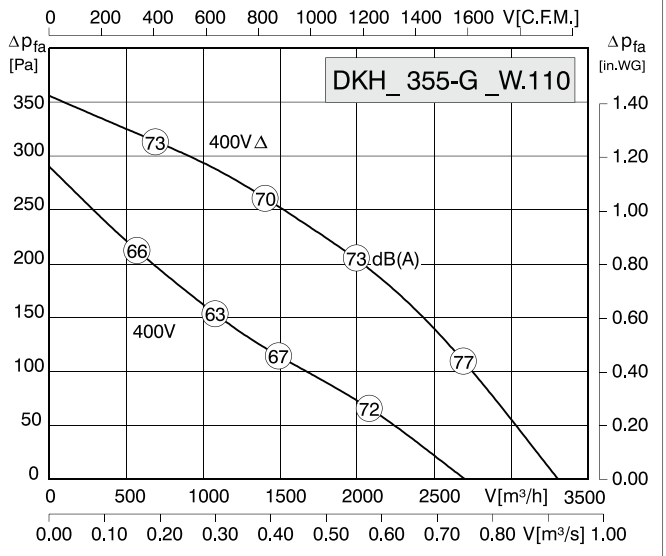

| Typ | DKH_ 355-2 _W.110 | | Motor | DD 137-75-2 |
|---|---|---|---|---|
| U | 400 V Δ 50/52 | Hz | $I_A / I_N$ | 3 |
| $P_1$ | 2.35/2.55 | kW | | IP54 |
| $I_N$ | 4.00/4.25 | A | | 01.006 |
| n | 2650/2710 | $min^{-1}$ | | 20 / 31 kg |
| $C_{400V}$ | -- | µF | | – |
| $t_R$ | 45/40 | °C | | – |
| $\Delta p_{fa\ min}$ | – | Pa | | FU = MM 522 |
| ΔI | – | % | | MSD1 |



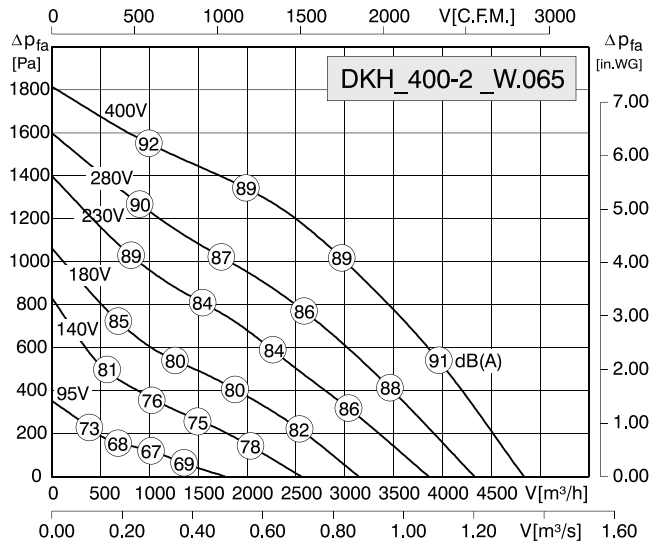

| Typ | EKH_ 355-4 _W.110 | | Motor | ED 080-55-4 |
|---|---|---|---|---|
| U 230 V | 50 | Hz | $I_A / I_N$ | 2 |
| $P_1$ | 0.32 | kW | | IP54 |
| $I_N$ | 1.40 | A | | 01.024 |
| n | 1300 | $min^{-1}$ | | 5.5 / 16.5 kg |
| $C_{400V}$ | 6 | µF | | RE/RTE 3.2 |
| $t_R$ | 50 | °C | | RSE 2.5 |
| $\Delta p_{fa\ min}$ | – | Pa | | ED 2,5 |
| ΔI | 18 | % | | MSE1 |



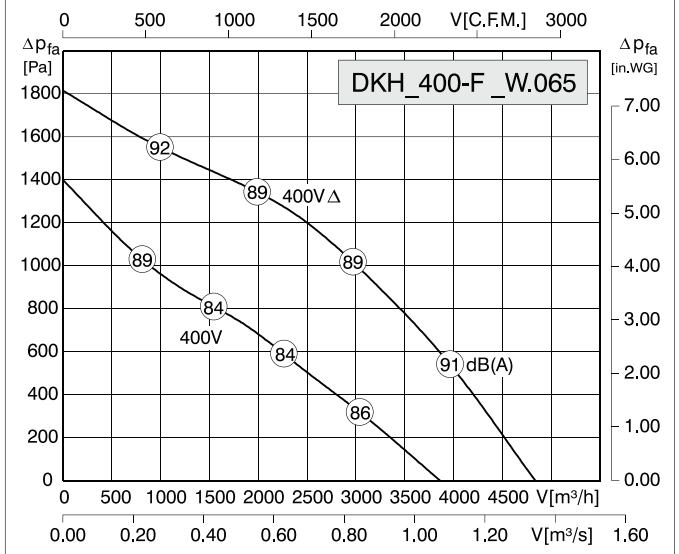

| Typ | DKH_ 355-4 _W.110 | | Motor | DD 080-42-4 |
|---|---|---|---|---|
| U 400 V Δ | 50 | Hz | $I_A / I_N$ | 2.9 |
| $P_1$ | 0.29 | kW | | IP54 |
| $I_N$ | 0.60 | A | | 01.006 |
| n | 1310 | $min^{-1}$ | | 5 / 16 kg |
| $C_{400V}$ | – | µF | | RTD 1.2 |
| $t_R$ | 55 | °C | | – |
| $\Delta p_{fa\ min}$ | -- | Pa | | RED 8P |
| ΔI | -- | % | | MSD1 |



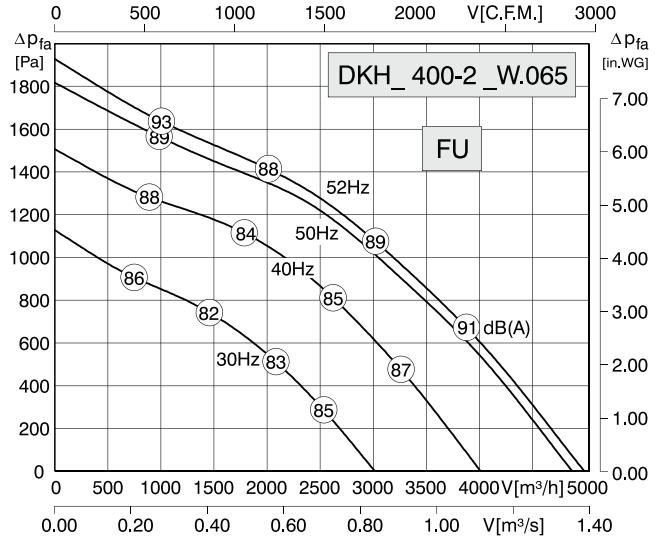

| Typ | DKH_ 355-G _W.110 | | Motor | DD 080-42-4 |
|---|---|---|---|---|
| U 400 V Δ/ | 50 | Hz | $I_A / I_N$ | 2.9 |
| $P_1$ | 0.29/0.19 | kW | | IP54 |
| $I_N$ | 0.60/0.30 | A | | 01.045 |
| n | 1310/990 | $min^{-1}$ | | 5 / 16 kg |
| $C_{400V}$ | – | µF | | – |
| $t_R$ | 55 | °C | | – |
| $\Delta p_{fa\ min}$ | – | Pa | | – |
| ΔI | – | % | | MSD2 |



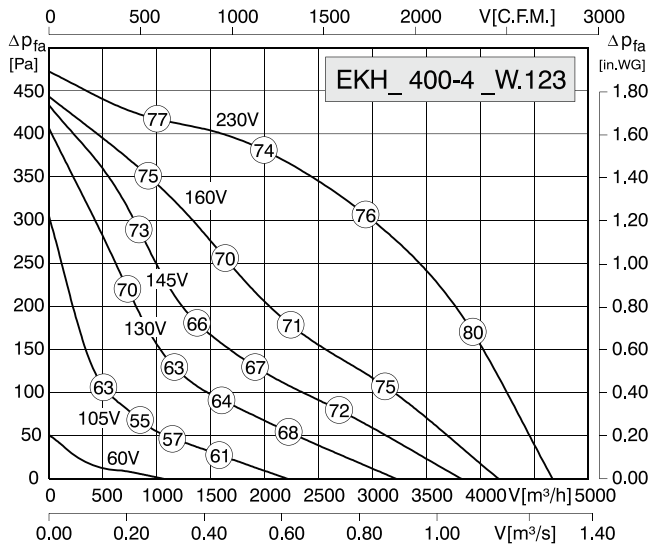

| Typ | DKH_ 400-2 _W.065 | | Motor | DD 137-75-2 |
|---|---|---|---|---|
| U 400 V Δ | 50 | Hz | $I_A / I_N$ | 3 |
| $P_1$ | 2.35 | kW | | IP54 |
| $I_N$ | 4.0 | A | | 01.006 |
| n | 2650 | $min^{-1}$ | | 20 / 31 kg |
| $C_{400V}$ | – | µF | | RTD 5 |
| $t_R$ | 45 | °C | | -- |
| $\Delta p_{fa\ min}$ | – | Pa | | RED 8P |
| ΔI | 6 | % | | MSD1 |



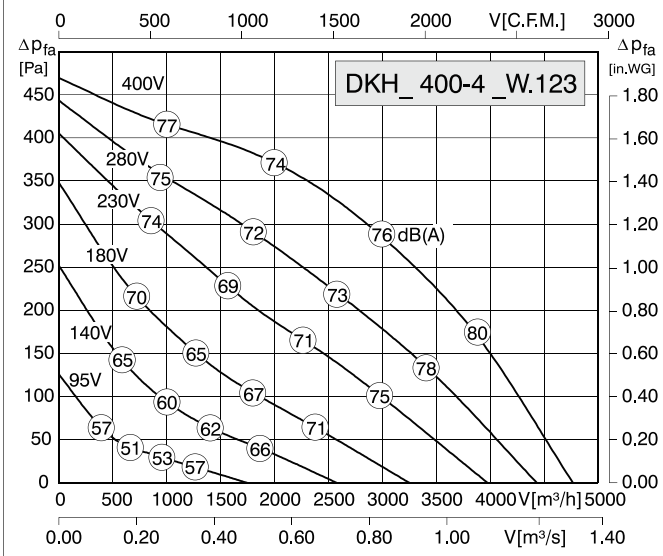

| Typ | DKH_ 400-F _W.065 | | Motor | DD 137-75-2 |
|---|---|---|---|---|
| U 400 V Δ/ | 50 | Hz | $I_A / I_N$ | 3 |
| $P_1$ | 2.35/1.5 | kW | | IP54 |
| $I_N$ | 4.0/2.5 | A | | 01.045 |
| n | 2650/2040 | $min^{-1}$ | | 20 / 31 kg |
| $C_{400V}$ | -- | µF | | -- |
| $t_R$ | 45 | °C | | -- |
| $\Delta p_{fa\ min}$ | – | Pa | | -- |
| ΔI | – | % | | MSD2 |



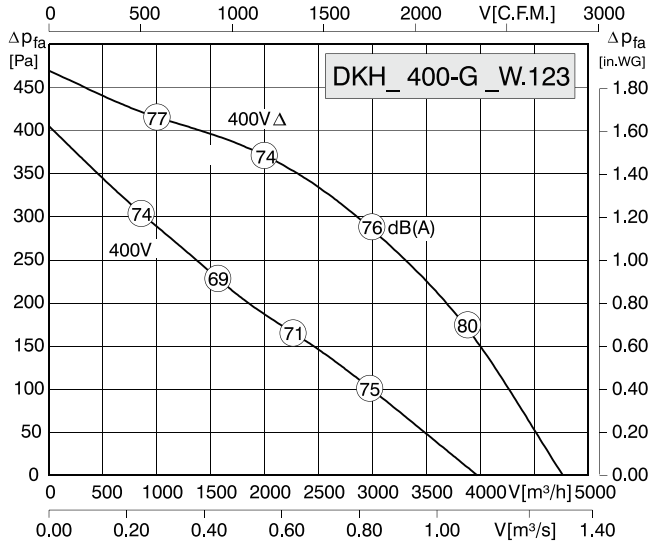

| Typ | DKH_ 400-2 _W.065 | | Motor | DD 137-75-2 |
|---|---|---|---|---|
| U 400 V Δ | 50/52 | Hz | $I_A / I_N$ | 3/3 |
| $P_1$ | 2.35/2.55 | kW | | IP54 |
| $I_N$ | 4.0/4.25 | A | | 01.006 |
| n | 2650/2700 | $min^{-1}$ | | 20 / 31 kg |
| $C_{400V}$ | – | µF | | – |
| $t_R$ | 45/40 | °C | | – |
| $\Delta p_{fa\ min}$ | – | Pa | | FU = MM 522 |
| ΔI | – | % | | MSD1 |



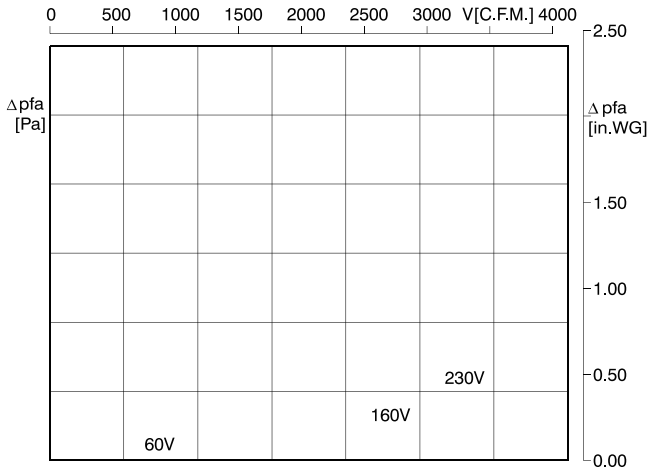

| Typ | EKH_ 400-4 _W.123 | | Motor | ED 106-50-4 |
|---|---|---|---|---|
| U 230 V | 50 | Hz | $I_A / I_N$ | 2.3 |
| $P_1$ | 0.60 | kW | | IP54 |
| $I_N$ | 2.80 | A | | 01.024 |
| n | 1350 | $min^{-1}$ | | 12 / 20 kg |
| $C_{400V}$ | 12 | µF | | RE/RTE 3.2 |
| $t_R$ | 40 | °C | | RSE 3.7 |
| $\Delta p_{fa\ min}$ | – | Pa | | ED 5,0 |
| $\Delta I$ | 12 | % | | MSE1 |



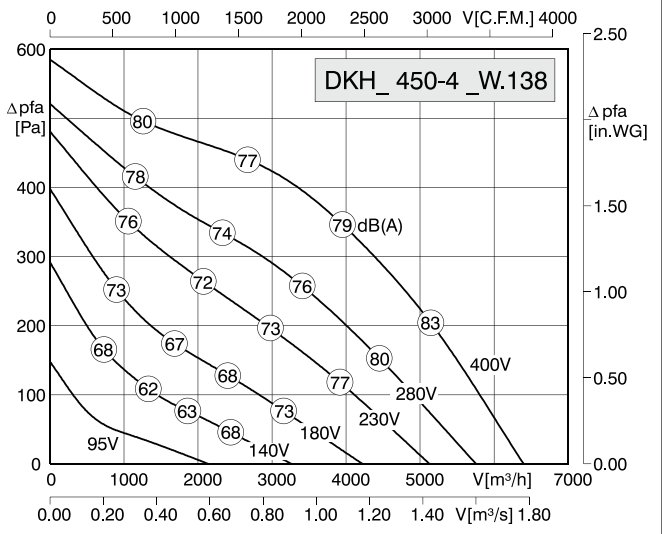

| Typ | DKH_ 400-4 _W.123 | | Motor | DD 106-50-4 |
|---|---|---|---|---|
| U 400 V Δ | 50 | Hz | $I_A / I_N$ | 3.1 |
| $P_1$ | 0.54 | kW | | IP54 |
| $I_N$ | 1.15 | A | | 01.006 |
| n | 1340 | $min^{-1}$ | | 12 / 20 kg |
| $C_{400V}$ | – | µF | | RTD 2.5 |
| $t_R$ | 60 | °C | | – |
| $\Delta p_{fa\ min}$ | -- | Pa | | RED 8P |
| $\Delta I$ | -- | % | | MSD1 |



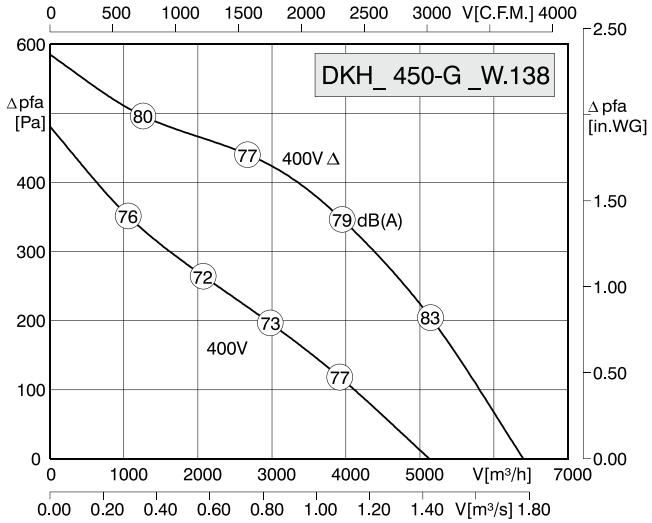

| Typ | DKH_ 400-G _W.123 | | Motor | DD 106-50-4 |
|---|---|---|---|---|
| U 400 V Δ / | 50 | Hz | $I_A / I_N$ | 3.1 |
| $P_1$ | 0.54/0.35 | kW | | IP54 |
| $I_N$ | 1.15/0.65 | A | | 01.045 |
| n | 1340/1050 | $min^{-1}$ | | 12 / 20 kg |
| $C_{400V}$ | – | µF | | – |
| $t_R$ | 60 | °C | | – |
| $\Delta p_{fa\ min}$ | – | Pa | | – |
| $\Delta I$ | – | % | | MSD2 |



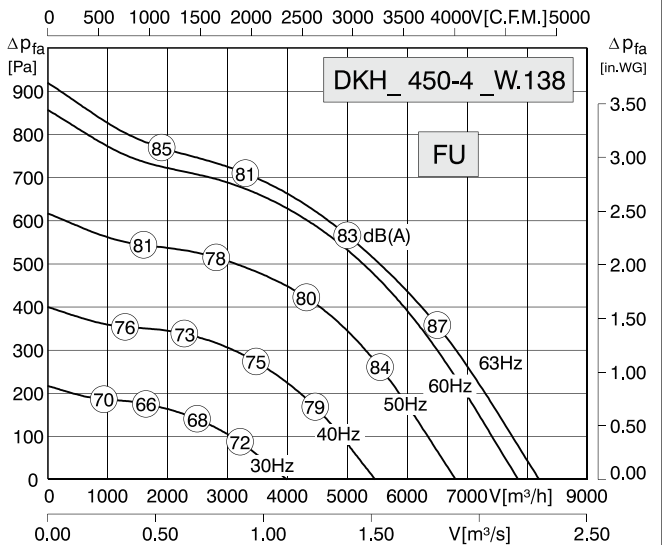

| | | | |
|---|---|---|---|
| U 230 V | | Hz | 1.9 |
| $P_1$ | 0.82 | kW | IP54 |
| $I_N$ | | A | 01.024 |
| n | | $min^{-1}$ | 12 / 30 kg |
| $C_{400V}$ | | µF | RE/RTE 5 |
| $t_R$ | | °C | RSE 5.5 |
| | | Pa | ED 5,0 |
| | | % | MSE1 |



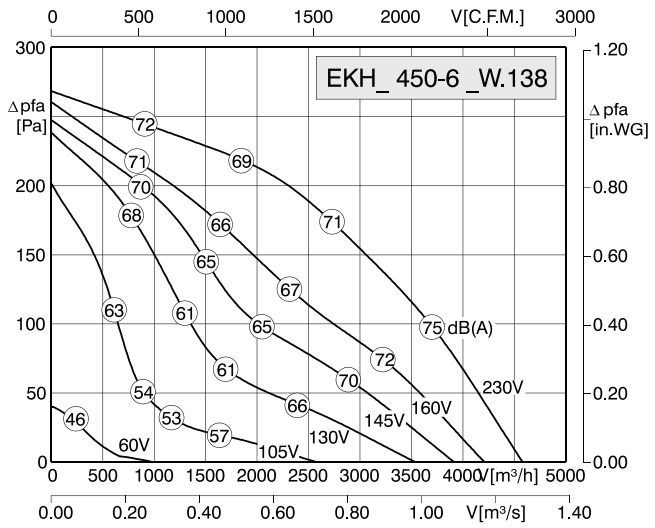

| Typ | DKH_ 450-4 _W.138 | | Motor | DD 106-70-4 |
|---|---|---|---|---|
| U 400 V Δ | 50 | Hz | $I_A / I_N$ | 3.3 |
| $P_1$ | 0.91 | kW | | IP54 |
| $I_N$ | 1.65 | A | | 01.006 |
| n | 1300 | $min^{-1}$ | | 12 / 30 kg |
| $C_{400V}$ | – | µF | | RTD 2.5 |
| $t_R$ | 45 | °C | | – |
| $\Delta p_{fa\ min}$ | – | Pa | | RED 8P |
| ΔI | 8 | % | | MSD1 |



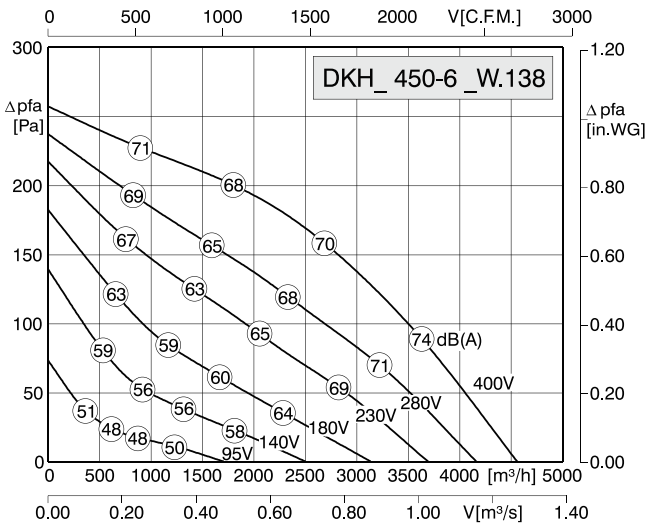

| Typ | DKH_ 450-G _W.138 | | Motor | DD 106-70-4 |
|---|---|---|---|---|
| U 400 V Δ/ | 50 | Hz | $I_A / I_N$ | 3.3 |
| $P_1$ | 0.91/0.58 | kW | | IP54 |
| $I_N$ | 1.65/1.0 | A | | 01.045 |
| n | 1300/980 | $min^{-1}$ | | 12 / 30 kg |
| $C_{400V}$ | – | µF | | – |
| $t_R$ | 45 | °C | | – |
| $\Delta p_{fa\ min}$ | – | Pa | | – |
| ΔI | – | % | | MSD 2 |



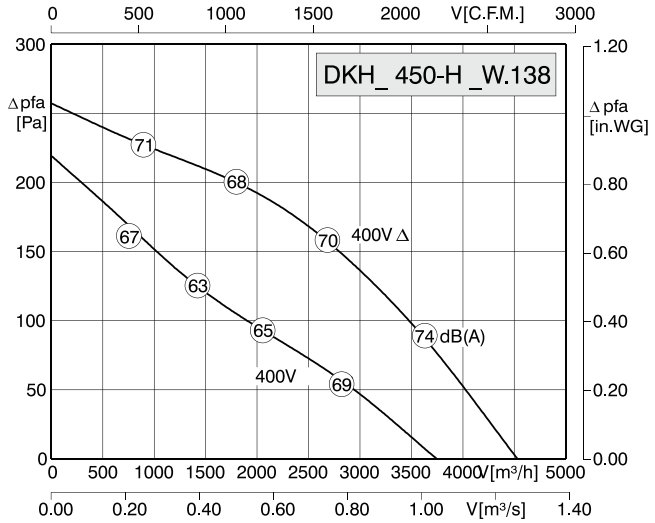

| Typ | DKH_ 450-4 _W.138 | | Motor | DD 137-50-4 |
|---|---|---|---|---|
| U 400 V Δ | 50/63 | Hz | $I_A / I_N$ | 4/3.5 |
| $P_1$ | 1.10/1.76 | kW | | IP54 |
| $I_N$ | 2.50/3.00 | A | | 01.006 |
| n | 1390/1610 | $min^{-1}$ | | 17.5 / 34 kg |
| $C_{400V}$ | – | µF | | – |
| $t_R$ | 50 / 40 | °C | | – |
| $\Delta p_{fa\ min}$ | -- | Pa | | FU = MM 515 |
| ΔI | -- | % | | MSD1 |



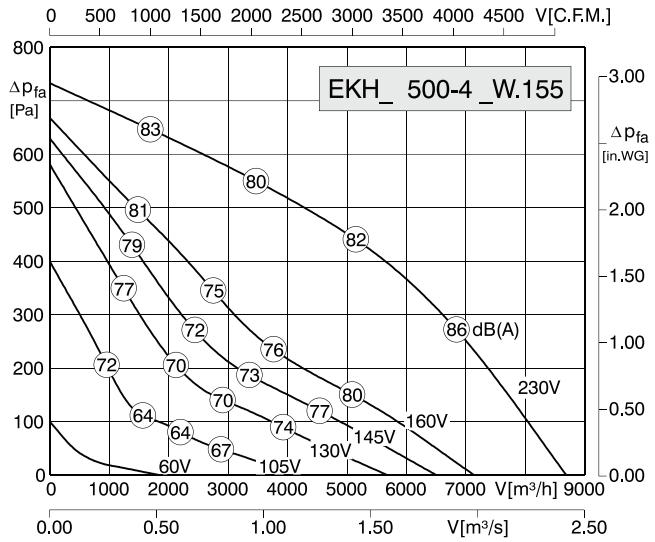

| Typ | EKH_ 450-6 _W.138 | | Motor | ED 106-50-6 |
|---|---|---|---|---|
| U 230 V | 50 | Hz | $I_A / I_N$ | 2.4 |
| $P_1$ | 0.37 | kW | | IP54 |
| $I_N$ | 1.9 | A | | 01.024 |
| n | 910 | $min^{-1}$ | | 9.5 / 28 kg |
| $C_{400V}$ | 6 | µF | | RE/RTE 3.2 |
| $t_R$ | 40 | °C | | RSE 2.5 |
| $\Delta p_{fa\ min}$ | – | Pa | | -- |
| ΔI | 23 | % | | MSE1 |



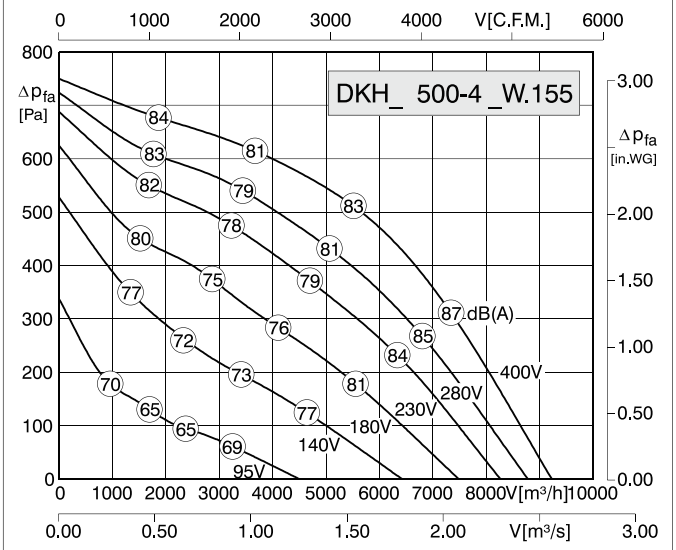

| Typ | DKH_ 450-6 _W.138 | | Motor | DD 106-35-6 |
|---|---|---|---|---|
| U 400 V Δ | 50 | Hz | $I_A / I_N$ | 2.6 |
| $P_1$ | 0.31 | kW | | IP54 |
| $I_N$ | 0.64 | A | | 01.006 |
| n | 880 | $min^{-1}$ | | 8.5 / 27 kg |
| $C_{400V}$ | – | µF | | RTD 1.2 |
| $t_R$ | 70 | °C | | – |
| $\Delta p_{fa\ min}$ | – | Pa | | RED 8P |
| ΔI | – | % | | MSD1 |



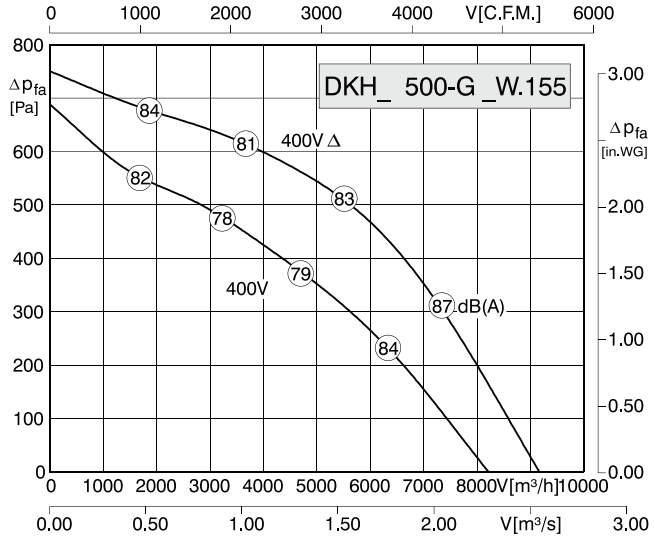

| Typ | DKH_ 450-H _W.138 | | Motor | DD 106-35-6 |
|---|---|---|---|---|
| U 400 V Δ / | 50 | Hz | $I_A / I_N$ | 2.6 |
| $P_1$ | 0.31/0.2 | kW | | IP54 |
| $I_N$ | 0.64/0.34 | A | | 01.045 |
| n | 880/675 | $min^{-1}$ | | 8.5 / 27 kg |
| $C_{400V}$ | – | µF | | -- |
| $t_R$ | 70 | °C | | -- |
| $\Delta p_{fa\ min}$ | – | Pa | | -- |
| ΔI | – | % | | MSD2 |



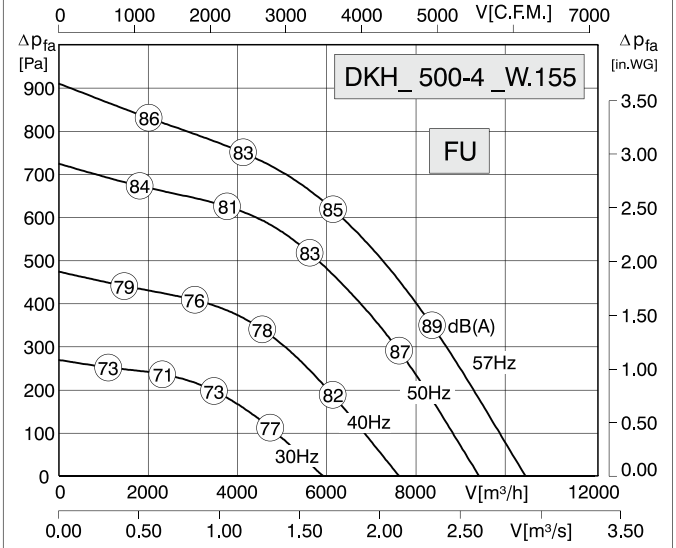

| Typ | EKH_ 500-4 _W.155 | | Motor | ED 137-75-4 |
|---|---|---|---|---|
| U 230 V | 50 | Hz | $I_A / I_N$ | 2.2 |
| $P_1$ | 1.7 | kW | | IP54 |
| $I_N$ | 7.5 | A | | 01.024 |
| n | 1290 | $min^{-1}$ | | 21.5 / 39 kg |
| $C_{400V}$ | 30 | µF | | RE/RTE 10 |
| $t_R$ | 40 | °C | | -- |
| $\Delta p_{fa\ min}$ | – | Pa | | -- |
| $\Delta I$ | 7 | % | | MSE1 3,6kW |



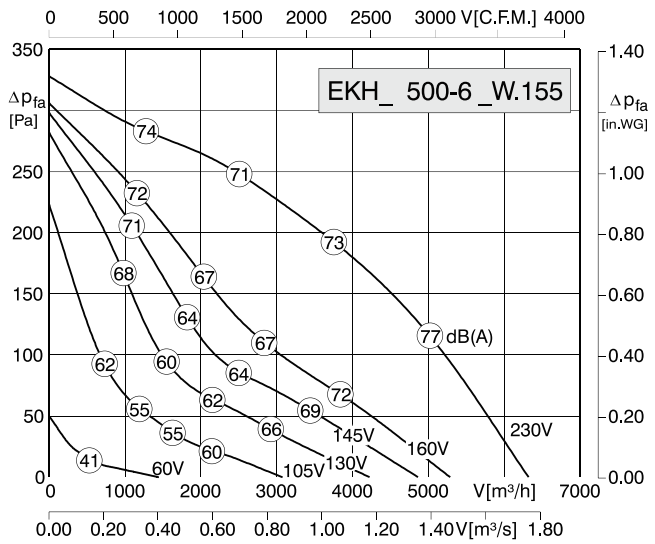

| Typ | DKH_ 500-4 _W.155 | | Motor | DD 137-75-4 |
|---|---|---|---|---|
| U 400 V Δ | 50 | Hz | $I_A / I_N$ | 4.0 |
| $P_1$ | 1.8 | kW | | IP54 |
| $I_N$ | 3.5 | A | | 01.006 |
| n | 1380 | $min^{-1}$ | | 21.5 / 39 kg |
| $C_{400V}$ | -- | µF | | RTD 5 |
| $t_R$ | 55 | °C | | – |
| $\Delta p_{fa\ min}$ | – | Pa | | RED 8P |
| $\Delta I$ | 11 | % | | MSD1 |



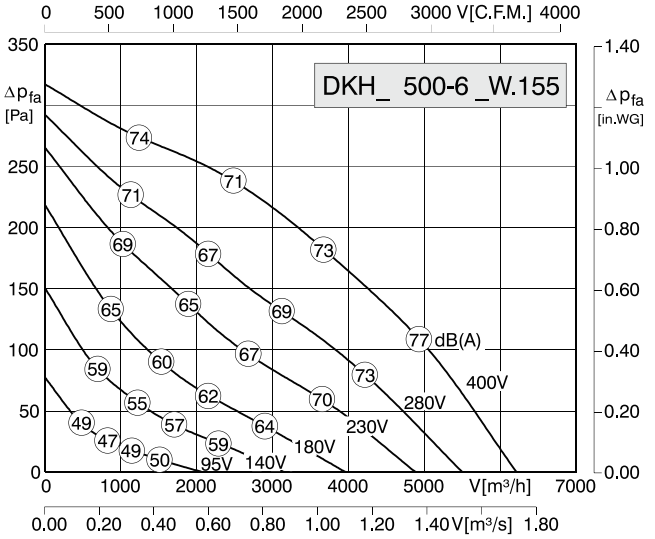

| Typ | DKH_ 500-G _W.155 | | Motor | DD 137-75-4 |
|---|---|---|---|---|
| U 400 V Δ / | 50 | Hz | $I_A / I_N$ | 4.0 |
| $P_1$ | 1.8/1.3 | kW | | IP54 |
| $I_N$ | 3.5/2.1 | A | | 01.045 |
| n | 1380/1190 | $min^{-1}$ | | 21.5 / 39 kg |
| $C_{400V}$ | – | µF | | – |
| $t_R$ | 55 | °C | | – |
| $\Delta p_{fa\ min}$ | – | Pa | | – |
| $\Delta I$ | – | % | | MSD2 |



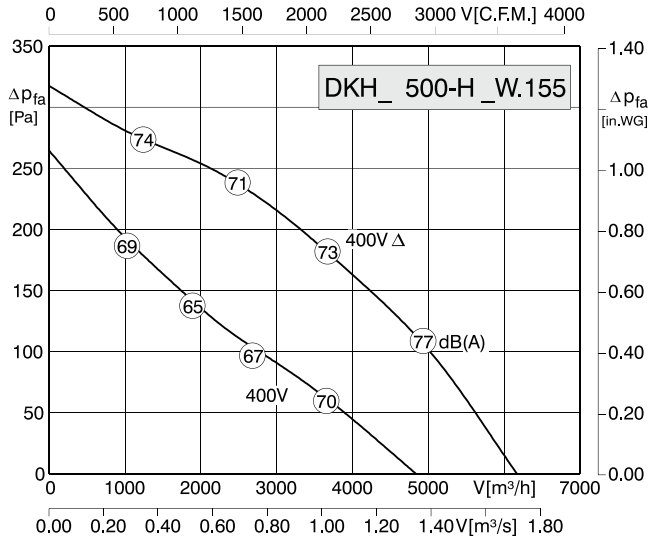

| Typ | DKH_ 500-4 _W.155 | | Motor | DD 137-75-4 |
|---|---|---|---|---|
| U 400 V Δ | 50/57 | Hz | $I_A / I_N$ | 4 |
| $P_1$ | 1.8/2.4 | kW | | IP54 |
| $I_N$ | 3.5/4.0 | A | | 01.006 |
| n | 1380/1500 | $min^{-1}$ | | 21.5 / 39 kg |
| $C_{400V}$ | – | µF | | – |
| $t_R$ | 55/40 | °C | | – |
| $\Delta p_{fa\ min}$ | -- | Pa | | FU = MM 515 |
| $\Delta I$ | -- | % | | MSD1 |



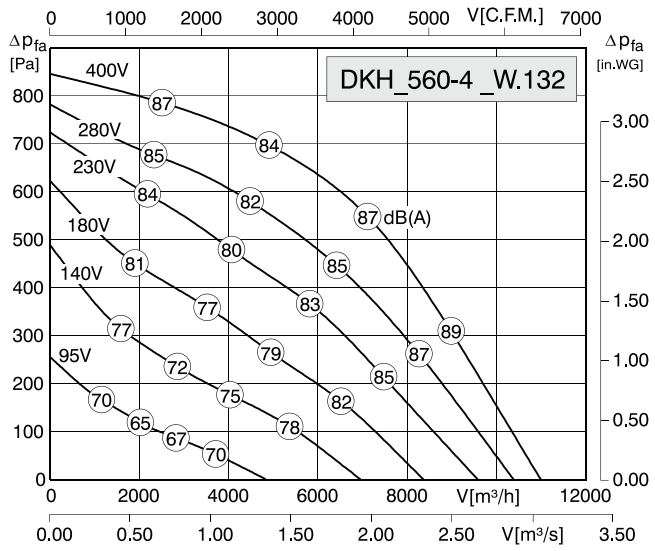

| Typ | EKH_ 500-6 _W.155 | | Motor | ED 106-70-6 |
|---|---|---|---|---|
| U 230 V | 50 | Hz | $I_A / I_N$ | 2.3 |
| $P_1$ | 0.57 | kW | | IP54 |
| $I_N$ | 2.6 | A | | 01.024 |
| n | 890 | $min^{-1}$ | | 13 / 30 kg |
| $C_{400V}$ | 12 | µF | | RE/RTE 3.2 |
| $t_R$ | 45 | °C | | RSE 3.7 |
| $\Delta p_{fa\ min}$ | -- | Pa | | ED 5,0 |
| ΔI | 7 | % | | MSE1 |



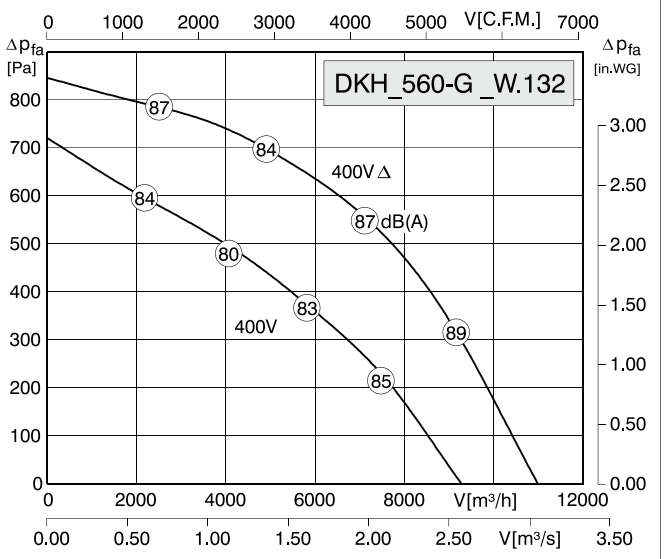

| Typ | DKH_ 500-6 _W.155 | | Motor | DD 106-50-6 |
|---|---|---|---|---|
| U 400 V Δ | 50 | Hz | $I_A / I_N$ | 2.9 |
| $P_1$ | 0.52 | kW | | IP54 |
| $I_N$ | 0.95 | A | | 01.006 |
| n | 860 | $min^{-1}$ | | 11 / 28 kg |
| $C_{400V}$ | – | µF | | RTD 1.2 |
| $t_R$ | 55 | °C | | – |
| $\Delta p_{fa\ min}$ | -- | Pa | | RED 8P |
| ΔI | -- | % | | MSD1 |



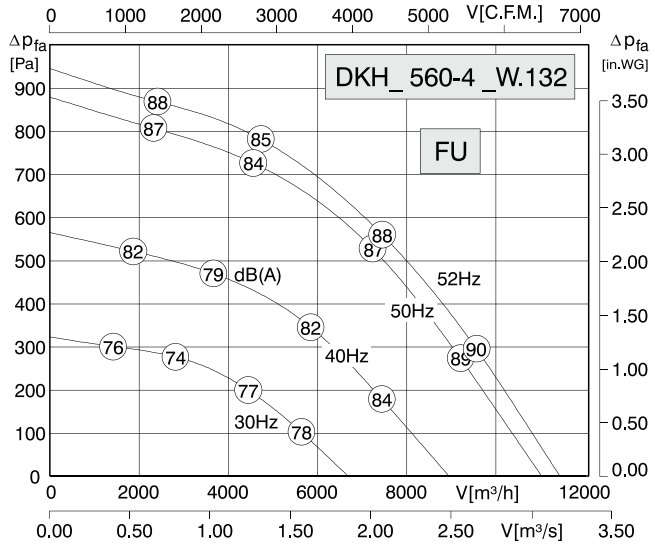

| Typ | DKH_ 500-H _W.155 | | Motor | DD 106-50-6 |
|---|---|---|---|---|
| U 400 V Δ / | 50 | Hz | $I_A / I_N$ | 2.9 |
| $P_1$ | 0.52/0.33 | kW | | IP54 |
| $I_N$ | 0.95/0.55 | A | | 01.045 |
| n | 860/640 | $min^{-1}$ | | 11 / 28 kg |
| $C_{400V}$ | – | µF | | – |
| $t_R$ | 55 | °C | | – |
| $\Delta p_{fa\ min}$ | -- | Pa | | – |
| ΔI | -- | % | | MSD2 |



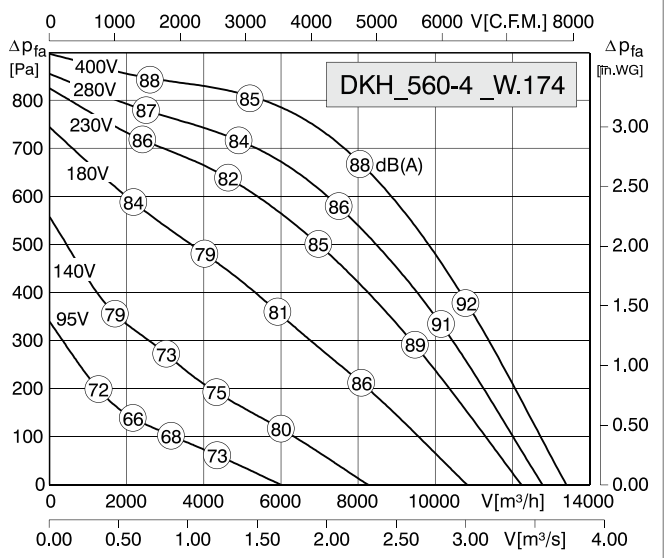

| Typ | DKH_ 560-4 _W.132 | | Motor | DD 137-100-4 |
|---|---|---|---|---|
| U | 400 V Δ | 50 Hz | $I_A / I_N$ | 4.5 |
| $P_1$ | 2.3 | kW | | IP54 |
| $I_N$ | 4.4 | A | | 01.006 |
| n | 1350 | $min^{-1}$ | | 27 / 52 kg |
| $C_{400V}$ | – | µF | | RTD 5,0 |
| $t_R$ | 50 | °C | | -- |
| $\Delta p_{fa\ min}$ | – | Pa | | RED 8P |
| ΔI | 2 | % | | MSD1 |



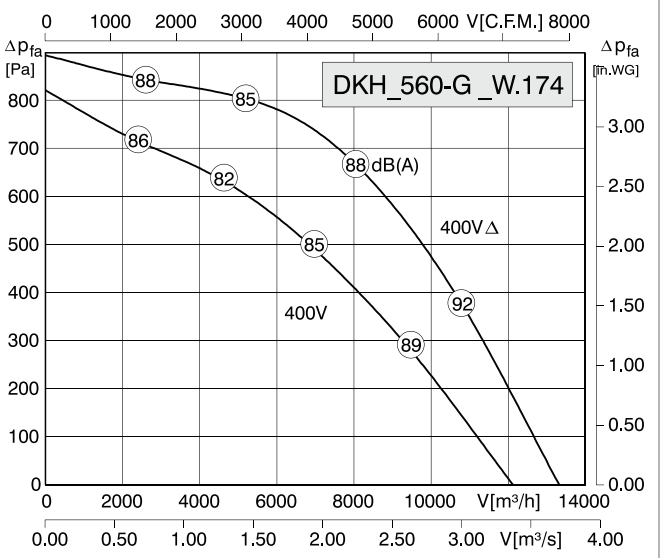

| Typ | DKH_ 560-G _W.132 | | Motor | DD 137-100-4 |
|---|---|---|---|---|
| U | 400 V Δ / 50 | Hz | $I_A / I_N$ | 4.5 |
| $P_1$ | 2.3/1.6 | kW | | IP54 |
| $I_N$ | 4.4/2.65 | A | | 01.045 |
| n | 1350/1140 | $min^{-1}$ | | 27 / 52 kg |
| $C_{400V}$ | -- | µF | | -- |
| $t_R$ | 50 | °C | | -- |
| $\Delta p_{fa\ min}$ | – | Pa | | -- |
| ΔI | – | % | | MSD2 |



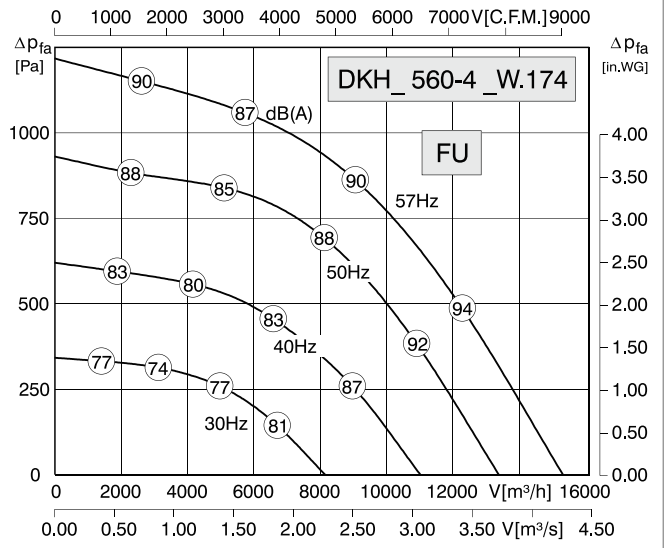

| Typ | DKH_ 560-4 _W.132 | | Motor | DD 137-100-4 |
|---|---|---|---|---|
| U | 400 V Δ 50/52 | Hz | $I_A / I_N$ | 4/3.8 |
| $P_1$ | 2.3/2.5 | kW | | IP54 |
| $I_N$ | 4.6/4.8 | A | | 01.006 |
| n | 1350/1420 | $min^{-1}$ | | 27 / 52 kg |
| $C_{400V}$ | – | µF | | -- |
| $t_R$ | 50/40 | °C | | -- |
| $\Delta p_{fa\ min}$ | -- | Pa | | FU = MM 522 |
| ΔI | -- | % | | MSD1 |



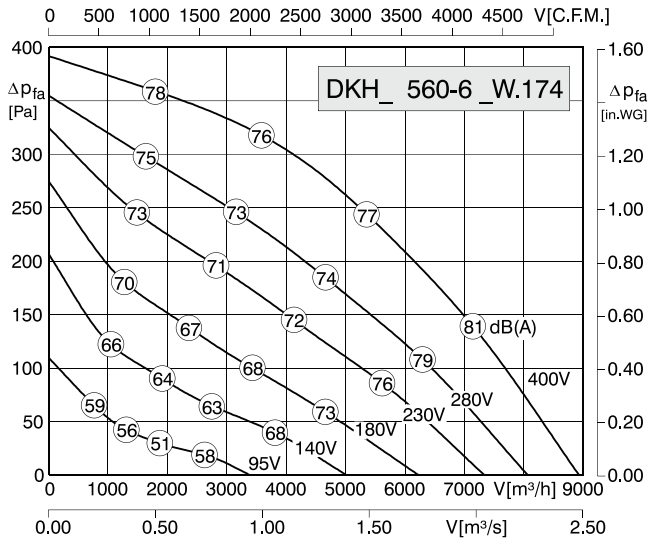

| Typ | DKH_ 560-4 _W.174 | | Motor | DD 165-95-4 |
|---|---|---|---|---|
| U 400 V Δ | 50 | Hz | $I_A / I_N$ | 5 |
| $P_1$ | 3.1 | kW | | IP54 |
| $I_N$ | 5.5 | A | | 01.006 |
| n | 1410 | $min^{-1}$ | | 37.5 / 62 kg |
| $C_{400V}$ | – | µF | | RTD 10 |
| $t_R$ | 40 | °C | | – |
| $\Delta p_{fa\ min}$ | -- | Pa | | RED 8P |
| ΔI | 30 | % | | MSD1 (7,5 kW) |



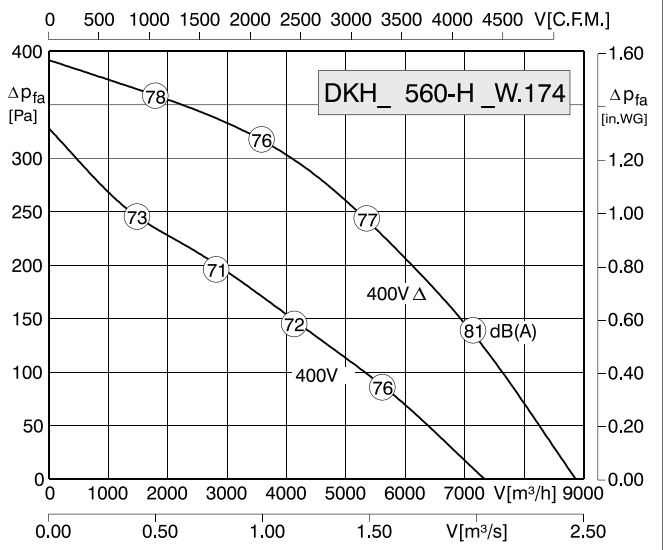

| Typ | DKH_ 560-G _W.174 | | Motor | DD 165-95-4 |
|---|---|---|---|---|
| U 400 V Δ/ | 50 | Hz | $I_A / I_N$ | 5 |
| $P_1$ | 3.1/2.4 | kW | | IP54 |
| $I_N$ | 5.5/4.0 | A | | 01.045 |
| n | 1410/1225 | $min^{-1}$ | | 37.5 / 62 kg |
| $C_{400V}$ | – | µF | | – |
| $t_R$ | 40 | °C | | – |
| $\Delta p_{fa\ min}$ | -- | Pa | | – |
| ΔI | -- | % | | MSD2 (7,5 kW) |



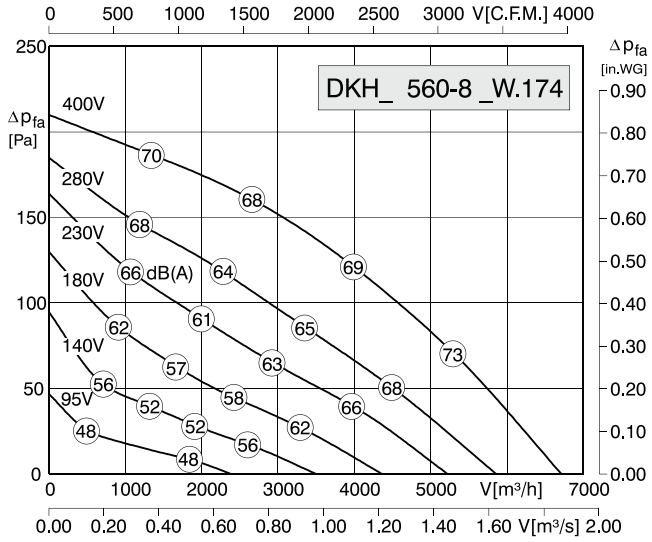

| Typ | DKH_ 560-4 _W.174 | | Motor | DD 165-95-4 |
|---|---|---|---|---|
| U 400 V Δ | 50/57 | Hz | $I_A / I_N$ | 5/4.5 |
| $P_1$ | 3.1/4.3 | kW | | IP54 |
| $I_N$ | 5.5/7.2 | A | | 01.006 |
| n | 1410/1560 | $min^{-1}$ | | 37.5 / 62 kg |
| $C_{400V}$ | – | µF | | – |
| $t_R$ | 70/40 | °C | | – |
| $\Delta p_{fa\ min}$ | – | Pa | | FU = MM 540 |
| ΔI | – | % | | MSD1 (7,5 kW) |



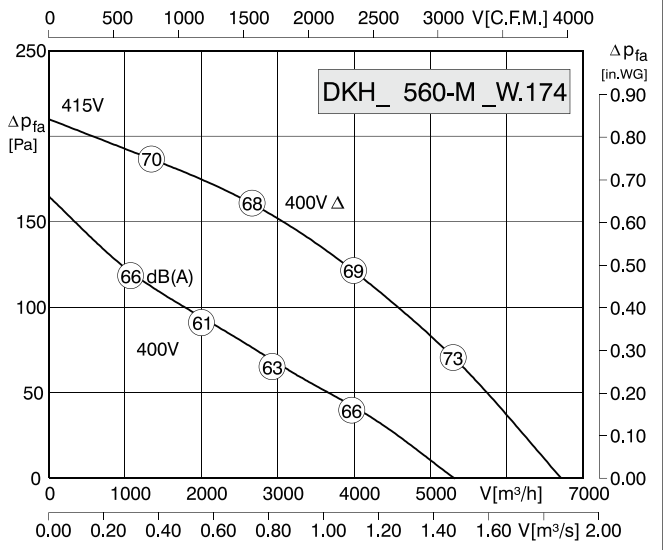

| Typ | DKH_ 560-6 _W.174 | | Motor | DD 137-50-6 |
|---|---|---|---|---|
| U | 400 V Δ 50 | Hz | $I_A / I_N$ | 2.9 |
| $P_1$ | 0.87 | kW | | IP54 |
| $I_N$ | 1.9 | A | | 01.006 |
| n | 870 | $min^{-1}$ | | 19 / 44 kg |
| $C_{400V}$ | – | µF | | RTD 2.5 |
| $t_R$ | 50 | °C | | -- |
| $\Delta p_{fa\ min}$ | – | Pa | | RED 8P |
| ΔI | – | % | | MSD1 |



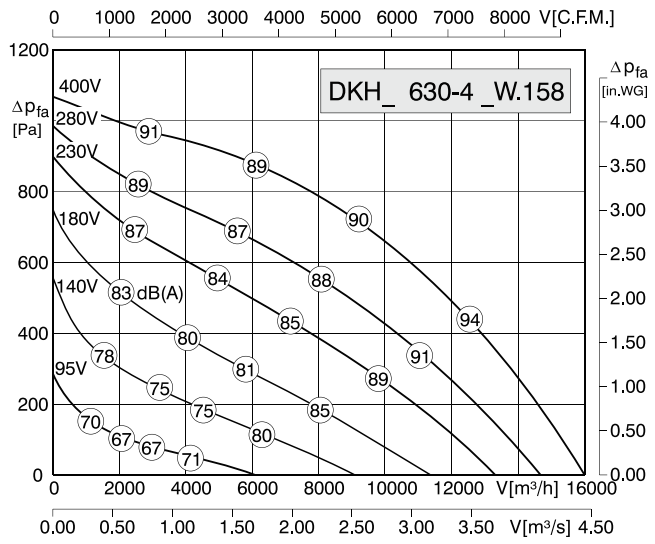

| Typ | DKH._ 560-H W.174 | | Motor | DD 137-50-6 |
|---|---|---|---|---|
| U | 400 V Δ / 50 | Hz | $I_A / I_N$ | 2.9 |
| $P_1$ | 0.87/0.53 | kW | | IP54 |
| $I_N$ | 1.9/0.95 | A | | 01.045 |
| n | 870/680 | $min^{-1}$ | | 19 / 44 kg |
| $C_{400V}$ | -- | µF | | -- |
| $t_R$ | 50 | °C | | -- |
| $\Delta p_{fa\ min}$ | – | Pa | | -- |
| ΔI | – | % | | MSD2 |



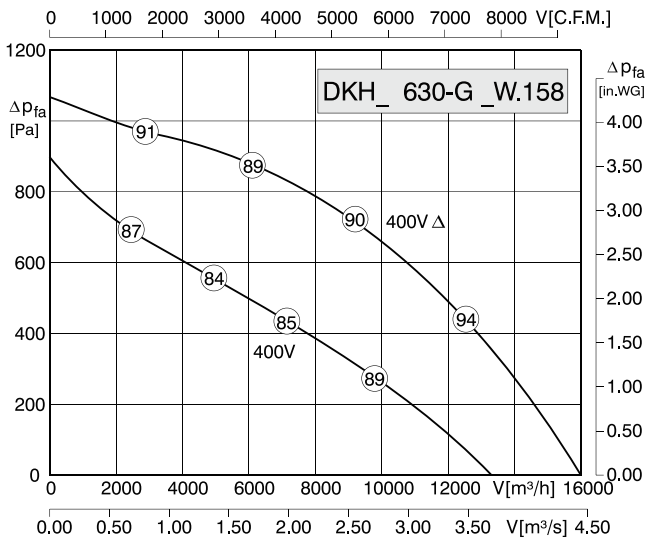

| Typ | DKH_ 560-8 _W.174 | | Motor | DD 137-35-8 |
|---|---|---|---|---|
| U | 400 V Δ 50 | Hz | $I_A / I_N$ | 2.0 |
| $P_1$ | 0.4 | kW | | IP54 |
| $I_N$ | 1.0 | A | | 01.006 |
| n | 620 | $min^{-1}$ | | 16 / 41.5 kg |
| $C_{400V}$ | – | µF | | RTD 1.2 |
| $t_R$ | 50 | °C | | -- |
| $\Delta p_{fa\ min}$ | – | Pa | | RED 8P |
| ΔI | – | % | | MSD1 |



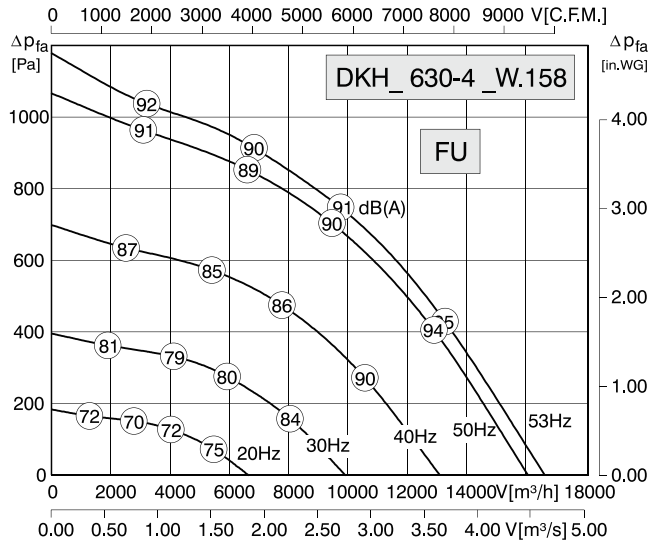

| Typ | DKH_ 560-M _W.174 | | Motor | DD 137-35-8 |
|---|---|---|---|---|
| U | 400 V Δ / 50 | Hz | $I_A / I_N$ | 2 |
| $P_1$ | 0.4/0.21 | kW | | IP54 |
| $I_N$ | 1.0/0.42 | A | | 01.045 |
| n | 620/460 | $min^{-1}$ | | 16 / 41.5 kg |
| $C_{400V}$ | -- | µF | | -- |
| $t_R$ | 50 | °C | | -- |
| $\Delta p_{fa\ min}$ | – | Pa | | -- |
| ΔI | – | % | | MSD2 |



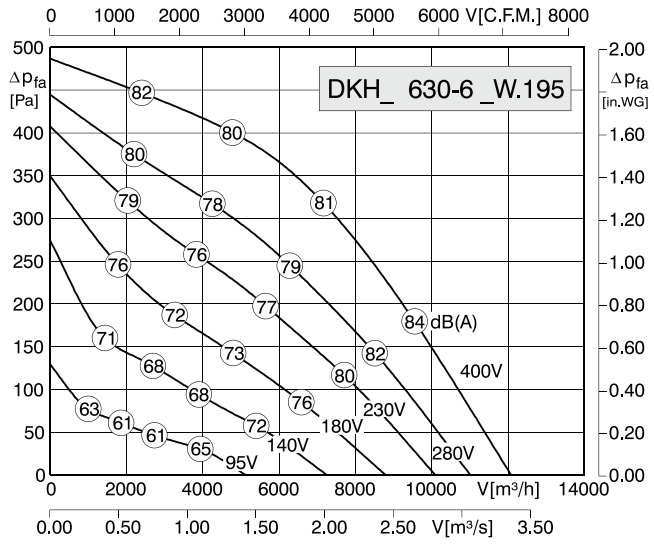

| Typ | DKH_ 630-4 _W.158 | | Motor | DD 165-120-4 |
|---|---|---|---|---|
| U 400 V Δ | 50 | Hz | $I_A / I_N$ | 5.8 |
| $P_1$ | 4.0 | kW | | IP54 |
| $I_N$ | 6.9 | A | | 01.006 |
| n | 1340 | $min^{-1}$ | | 43 / 70 kg |
| $C_{400V}$ | – | µF | | RTD 10 |
| $t_R$ | 40 | °C | | – |
| $\Delta p_{fa\ min}$ | – | Pa | | nicht el. spg. steuerbar |
| ΔI | 21 | % | | MSD1 (7,5 kW) |



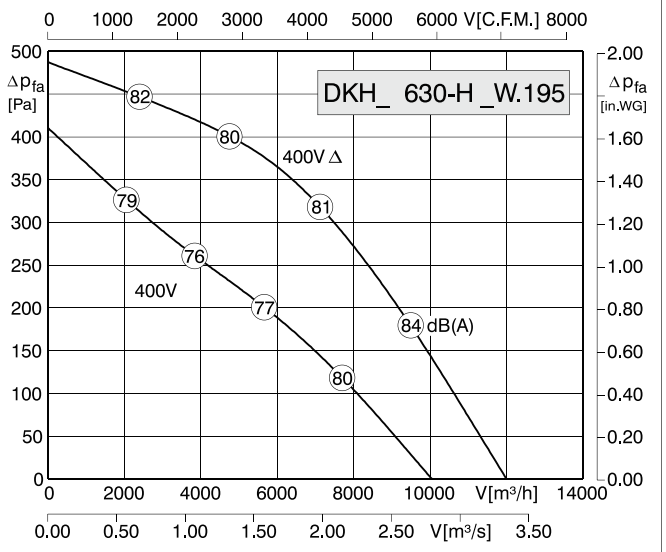

| Typ | DKH_ 630-G _W.158 | | Motor | DD 165-120-4 |
|---|---|---|---|---|
| U 400 V Δ / | 50 | Hz | $I_A / I_N$ | 5.8 |
| $P_1$ | 4.0/2.6 | kW | | IP54 |
| $I_N$ | 6.9/4.4 | A | | 01.045 |
| n | 1340/1070 | $min^{-1}$ | | 43 / 70 kg |
| $C_{400V}$ | -- | µF | | – |
| $t_R$ | 40 | °C | | – |
| $\Delta p_{fa\ min}$ | – | Pa | | – |
| ΔI | – | % | | MSD2 (7,5 kW) |



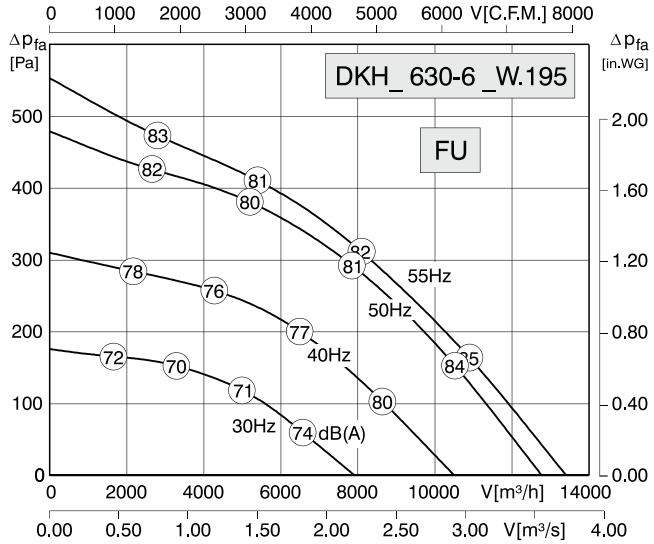

| Typ | DKH_ 630-4 _W.158 | | Motor | DD 165-120-4 |
|---|---|---|---|---|
| U 400 V Δ | 50/53 | Hz | $I_A / I_N$ | 5.8 |
| $P_1$ | 4.0/4.5 | kW | | IP54 |
| $I_N$ | 6.9/7.6 | A | | 01.006 |
| n | 1340/1380 | $min^{-1}$ | | 43 / 70 kg |
| $C_{400V}$ | – | µF | | – |
| $t_R$ | 40 | °C | | – |
| $\Delta p_{fa\ min}$ | -- | Pa | | FU = MM 540 |
| ΔI | -- | % | | MSD1 (7,5 kW) |



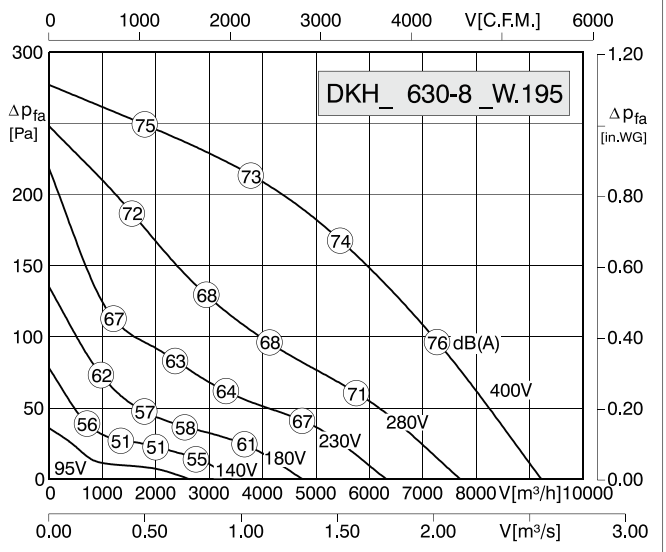

| Typ | DKH_ 630-6 _W.195 | | Motor | DD 137-100-6 |
|---|---|---|---|---|
| U | 400 V Δ 50 | Hz | $I_A / I_N$ | 3.2 |
| $P_1$ | 1.4 | kW | | IP54 |
| $I_N$ | 3.0 | A | | 01.006 |
| n | 880 | $min^{-1}$ | | 28 / 57 kg |
| $C_{400V}$ | -- | µF | | RTD 3,8 |
| $t_R$ | 65 | °C | | -- |
| $\Delta p_{fa\ min}$ | – | Pa | | RED 8P |
| ΔI | – | % | | MSD1 |



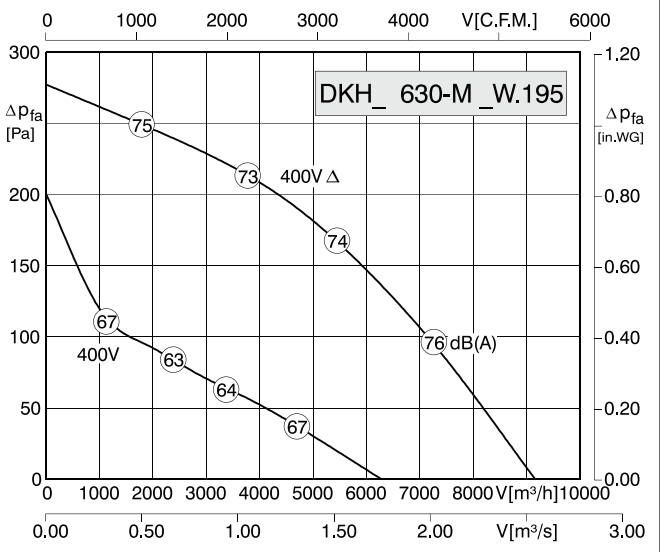

| Typ | DKH_ 630-H _W.195 | | Motor | DD 137-100-6 |
|---|---|---|---|---|
| U | 400 V Δ / 50 | Hz | $I_A / I_N$ | 3.2 |
| $P_1$ | 1.4/0.9 | kW | | IP54 |
| $I_N$ | 3.0/1.6 | A | | 01.045 |
| n | 880/710 | $min^{-1}$ | | 28 / 57 kg |
| $C_{400V}$ | – | µF | | – |
| $t_R$ | 65 | °C | | – |
| $\Delta p_{fa\ min}$ | -- | Pa | | – |
| ΔI | -- | % | | MSD2 |



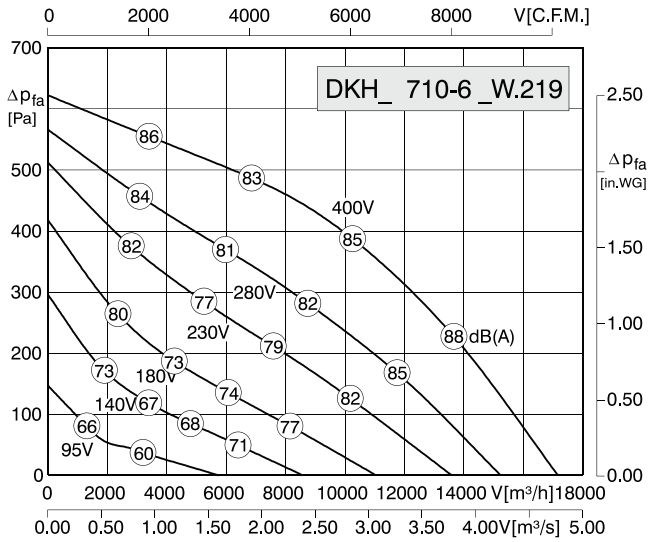

| Typ | DKH_ 630-6 _W.195 | | Motor | DD 137-100-6 |
|---|---|---|---|---|
| U | 400 V Δ 50/55 | Hz | $I_A / I_N$ | 3.2/2.5 |
| $P_1$ | 1.40/1.75 | kW | | IP54 |
| $I_N$ | 3.0/3.6 | A | | 01.006 |
| n | 860/890 | $min^{-1}$ | | 28 / 57 kg |
| $C_{400V}$ | – | µF | | -- |
| $t_R$ | 65/40 | °C | | -- |
| $\Delta p_{fa\ min}$ | -- | Pa | | FU = MM 515 |
| ΔI | -- | % | | MSD1 |



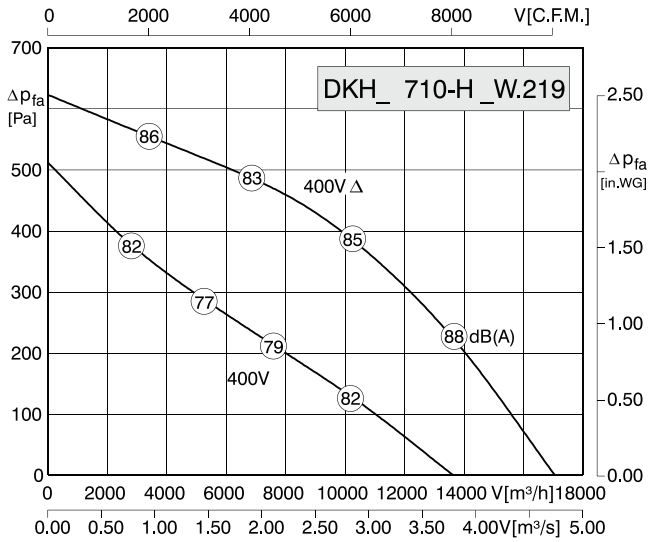

| Typ | DKH_ 630-8 _W.195 | | Motor | DD 137-50-8 |
|---|---|---|---|---|
| U 400 V Δ | 50 | Hz | $I_A / I_N$ | 2.2 |
| $P_1$ | 0.7 | kW | | IP54 |
| $I_N$ | 1.4 | A | | 01.006 |
| n | 650 | $min^{-1}$ | | 21 / 50 kg |
| $C_{400V}$ | -- | µF | | RTD 2.5 |
| $t_R$ | 40 | °C | | – |
| $\Delta p_{fa\ min}$ | – | Pa | | RED 8P |
| Δl | – | % | | MSD1 |



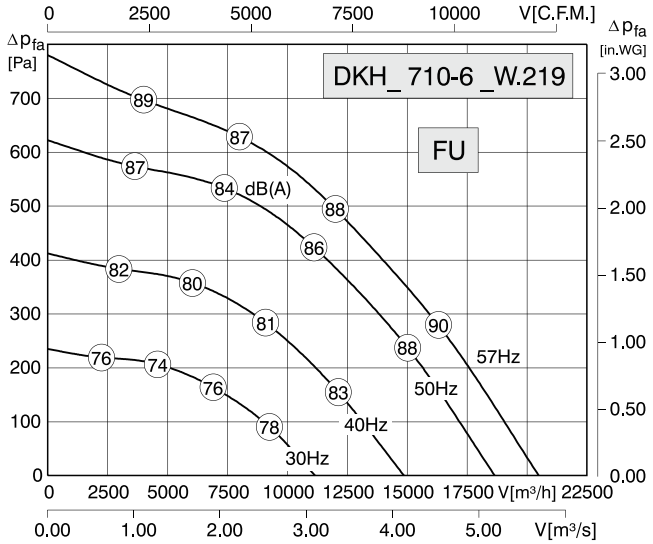

| Typ | DKH_ 630-M _W.195 | | Motor | DD 137-50-8 |
|---|---|---|---|---|
| U 400 V Δ / | 50 | Hz | $I_A / I_N$ | 2.2 |
| $P_1$ | 0.7/0.38 | kW | | IP54 |
| $I_N$ | 1.4/0.72 | A | | 01.045 |
| n | 650/405 | $min^{-1}$ | | 21 / 50 kg |
| $C_{400V}$ | -- | µF | | – |
| $t_R$ | 40 | °C | | – |
| $\Delta p_{fa\ min}$ | – | Pa | | – |
| Δl | – | % | | MSD2 |



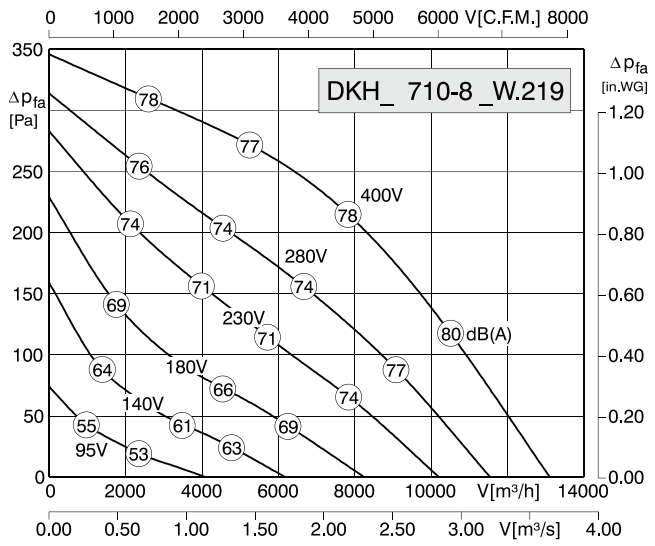

| Typ | DKH_ 710-6 _W.219 | | Motor | DD 165-95-6 |
|---|---|---|---|---|
| U 400 V Δ | 50 | Hz | $I_A / I_N$ | 3.6 |
| $P_1$ | 2.5 | kW | | IP54 |
| $I_N$ | 4.8 | A | | 01.006 |
| n | 890 | $min^{-1}$ | | 40 / 88 kg |
| $C_{400V}$ | -- | µF | | RTD 7 |
| $t_R$ | 45 | °C | | -- |
| $\Delta p_{fa\ min}$ | – | Pa | | RED 8P |
| ΔI | 10 | % | | MSD1 |



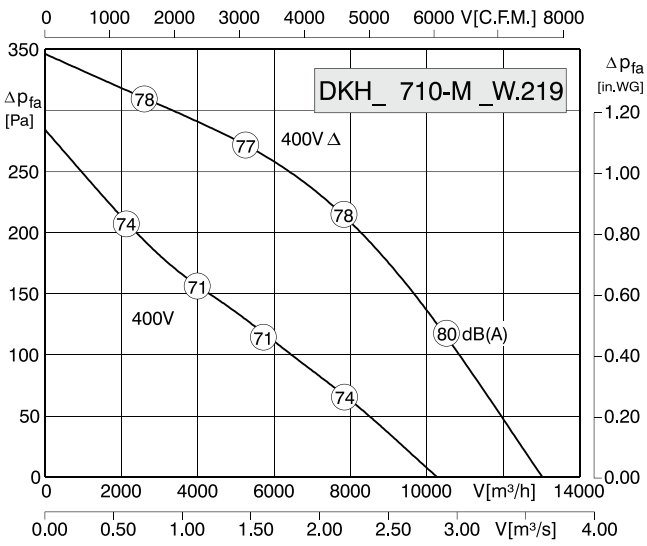

| Typ | DKH_ 710-H _W.219 | | Motor | DD 165-95-6 |
|---|---|---|---|---|
| U 400 V Δ / | 50 | Hz | $I_A / I_N$ | 3.6 |
| $P_1$ | 2.5/1.5 | kW | | IP54 |
| $I_N$ | 4.8/2.9 | A | | 01.045 |
| n | 890/670 | $min^{-1}$ | | 40 / 88 kg |
| $C_{400V}$ | – | µF | | – |
| $t_R$ | 45 | °C | | – |
| $\Delta p_{fa\ min}$ | -- | Pa | | – |
| ΔI | -- | % | | MSD2 |




| Typ | DKH_ 710-6 _W.219 | | Motor | DD 165-120-6 |
|---|---|---|---|---|
| U 400 V Δ | 50/57 | Hz | $I_A / I_N$ | 3.6/3.1 |
| $P_1$ | 2.6/3.55 | kW | | IP54 |
| $I_N$ | 5.2/6.6 | A | | 01.006 |
| n | 920/990 | $min^{-1}$ | | 43 / 91 kg |
| $C_{400V}$ | – | µF | | -- |
| $t_R$ | 70/40 | °C | | -- |
| $\Delta p_{fa\ min}$ | -- | Pa | | FU = MM 540 |
| ΔI | -- | % | | MSD1 |

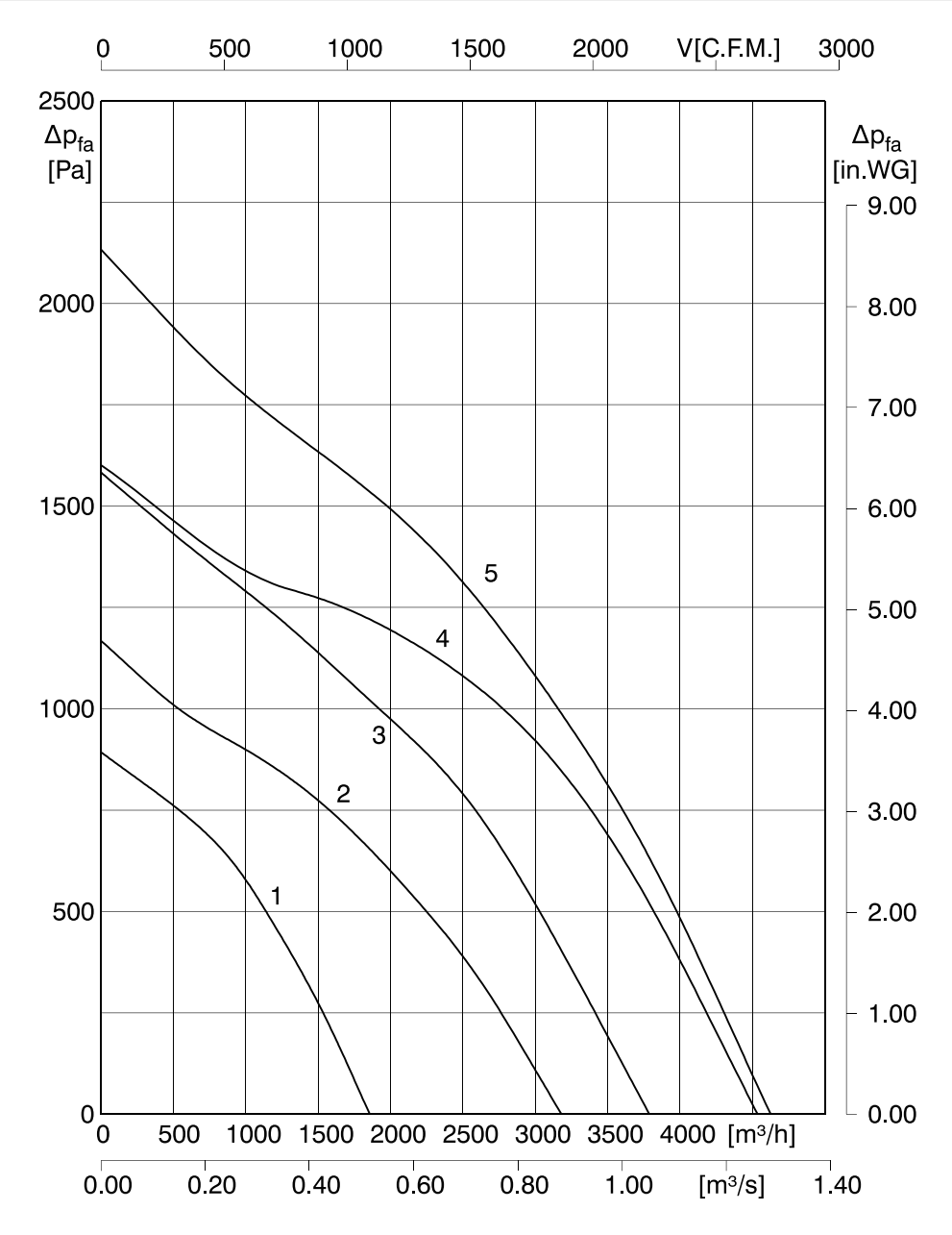



| Typ | DKH_ 710-8 _W.219 | | Motor | DD 165-70-8 |
|---|---|---|---|---|
| U | 400 V Δ 50 | Hz | $I_A / I_N$ | 3.0 |
| $P_1$ | 1.15 | kW | | IP54 |
| $I_N$ | 2.6 | A | | 01.006 |
| n | 660 | $min^{-1}$ | | 34 / 82 kg |
| $C_{400V}$ | – | µF | | RTD 3 |
| $t_R$ | 70 | °C | | – |
| $\Delta p_{fa\ min}$ | -- | Pa | | RED 8P |
| ΔI | -- | % | | MSD1 |




| Typ | DKH_ 710-M _W.219 | | Motor | DD 165-70-8 |
|---|---|---|---|---|
| U | 400 V Δ / 50 | Hz | $I_A / I_N$ | 3.0 |
| $P_1$ | 1.15/0.7 | kW | | IP54 |
| $I_N$ | 2.6/1.4 | A | | 01.045 |
| n | 660/495 | $min^{-1}$ | | 34 / 82 kg |
| $C_{400V}$ | – | µF | | – |
| $t_R$ | 70 | °C | | – |
| $\Delta p_{fa\ min}$ | -- | Pa | | – |
| ΔI | -- | % | | MSD2 |

## 快速选型 Quick Selection




1 DKH_ 250-2_W.060

2 DKH_ 280-2_W.087

3 DKH_ 315-2_W.070

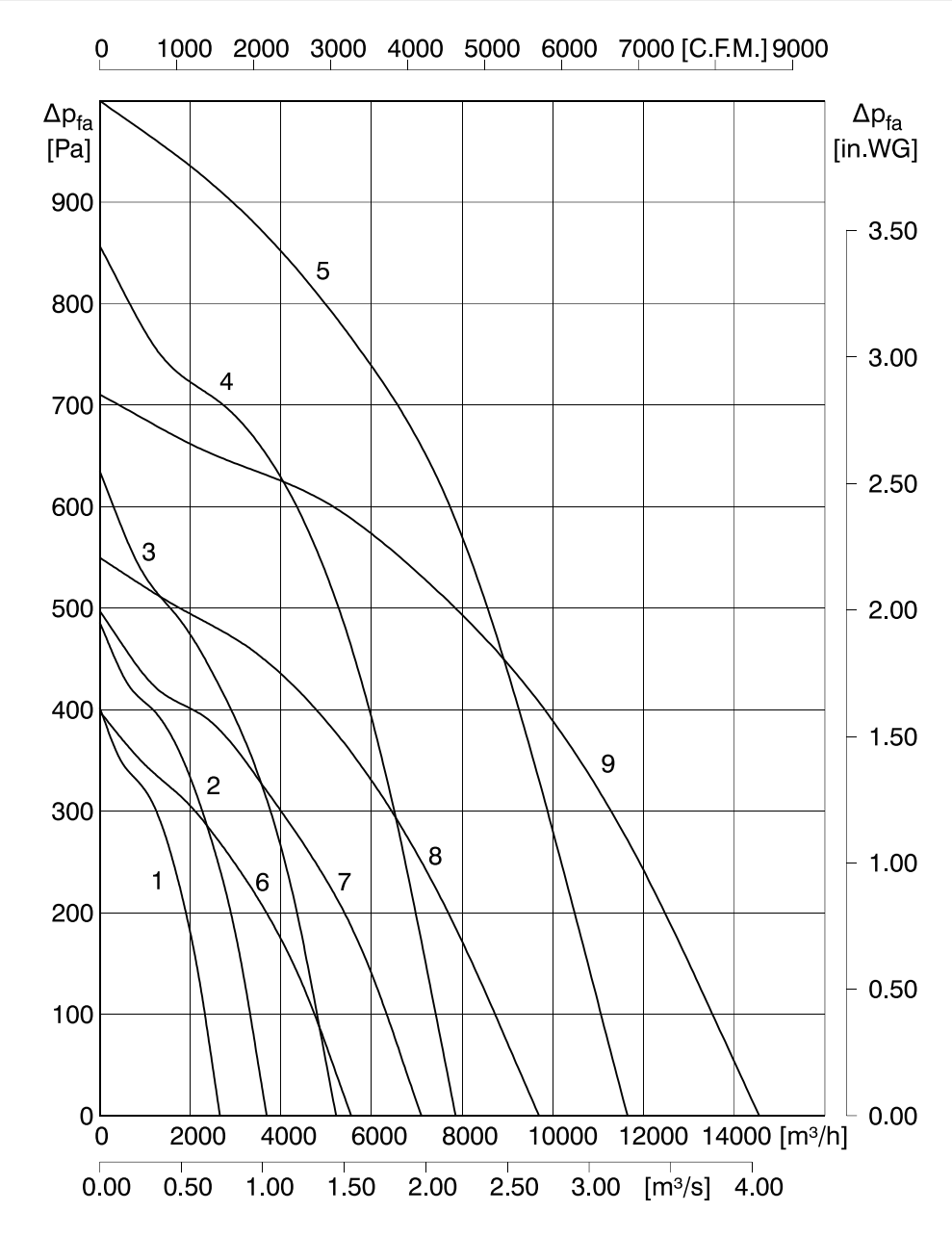
4 DKH_ 315-2_W.098

5 DKH_ 355-2_W.078

.KHR /.KHM

| Typ | Motor | U [V] | f [Hz] | $P_1$ [kW] | $I_N$ [kW] | n [$min^{-1}$] | $t_R$ [°C] | Δ I [%] | $I_A/I_N$ [ - ] | ⚠ | ✱ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DKH_250-2_W.060 | DD 080-055-2 | 440 Δ | 60 | 0.5 | 0.75 | 3050 | 55 | - | 3 | 44 | 01.006 | 4.5 / 10.5 kg | RTD1,2 | MSD1 |
| DKH_280-2_W.087 | DD 106-050-2 | 440 Δ | 60 | 1.08 | 1.6 | 2830 | 40 | - | 2.6 | 54 | 01.006 | 7.5 / 18 kg | RTD2,5 | MSD1 |
| DKH_315-2_W.070 | DD 106-070-2 | 440 Δ | 60 | 1.47 | 2.2 | 3065 | 40 | 5 | 3.1 | 54 | 01.006 | 9 / - kg | RTD2,5 | MSD1 |
| DKH_315-2_W.098 | DD 137-050-2 | 440 Δ | 60 | 2.2 | 3.3 | 3140 | 40 | 12 | 3.2 | 54 | 01.006 | 15 / 26 kg | RTD3,8 | MSD1 |
| DKH_355-2_W.078 | DD 137-075-2 | 440 Δ | 60 | 2.7 | 4.1 | 3220 | 50 | 12 | 3.3 | 54 | 01.006 | 19 / - kg | RTD5,0 | a.A. |

## 快速选型 Quick Selection



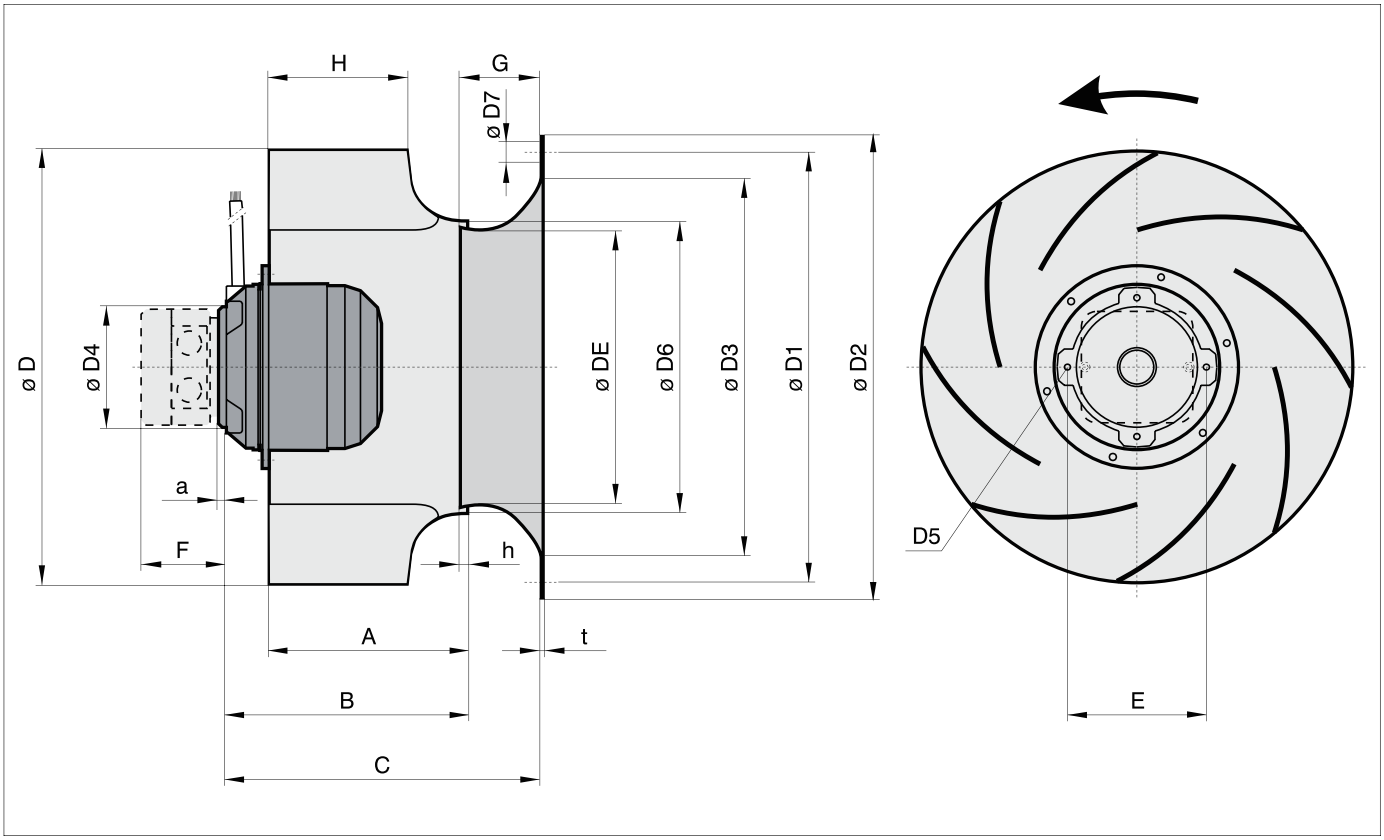

1 DKH_ 315-4_W.098
2 DKH_ 355-4_W.110
3 DKH_ 400-4_W.123
4 DKH_ 450-4_W.138
5 DKH_ 500-4_W.155
6 DKH_ 450-6_W.138
7 DKH_ 500-6_W.155
8 DKH_ 560-6_W.174
9 DKH_ 630-6_W.195

.KHR /.KHM

| Typ | Motor | U [V] | f [Hz] | $P_1$ [kW] | $I_N$ [kW] | n [$min^{-1}$] | $t_R$ [°C] | Δ I [%] | $I_A/I_N$ [ - ] | ⚠ | ✱ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DKH_315-4_W.098 | DD 080-042-4 | 440 Δ | 60 | 0.39 | 0.50 | 1610 | 70 | - | 2.5 | 44 | 01.006 | 4.5 / 10.5 kg | RTD1,2 | MSD1 |
| DKH_355-4_W.110 | DD 080-055-4 | 440 Δ | 60 | 0.49 | 0.80 | 1560 | 50 | 4 | 2.9 | 44 | 01.006 | 7.5 / 18 kg | RTD1,2 | MSD1 |
| DKH_400-4_W.123 | DD 106-070-4 | 440 Δ | 60 | 0.79 | 1.5 | 1475 | 65 | - | 2.6 | 54 | 01.006 | 9.0 / 20 kg | RTD2,5 | MSD1 |
| DKH_450-4_W.138 | DD 137-050-4 | 440 Δ | 60 | 1.6 | 2.7 | 1600 | 60 | 8 | 3.5 | 54 | 01.006 | 15 / 26 kg | RTD3,8 | MSD1 |
| DKH_500-4_W.155 | DD 137-100-4 | 440 Δ | 60 | 2.8 | 4.5 | 1610 | 50 | 13 | 4.4 | 54 | 01.006 | 24 / 41.5 kg | RTD5,0 | a.A. |
| DKH_450-6_W.138 | DD 106-050-6 | 440 Δ | 60 | 0.67 | 0.9 | 1060 | 60 | 8 | 3.2 | 54 | 01.006 | 9.5 / 28 kg | RTD1,2 | MSD1 |
| DKH_500-6_W.155 | DD 137-050-6 | 440 Δ | 60 | 0.87 | 1.7 | 1030 | 70 | - | 3.6 | 54 | 01.006 | 19 / 36 kg | RTD2,5 | MSD1 |
| DKH_560-6_W.174 | DD 137-100-6 | 440 Δ | 60 | 1.4 | 3.0 | 1070 | 70 | - | 3.2 | 54 | 01.006 | 26 / 51 kg | RTD3,0 | MSD1 |
| DKH_630-6_W.195 | DD 165-095-6 | 440 Δ | 60 | 2.6 | 4.5 | 1090 | 50 | 13 | 3.0 | 54 | 01.006 | 40 / 67 kg | RTD5,0 | MSD1 |

# .KHR .. W

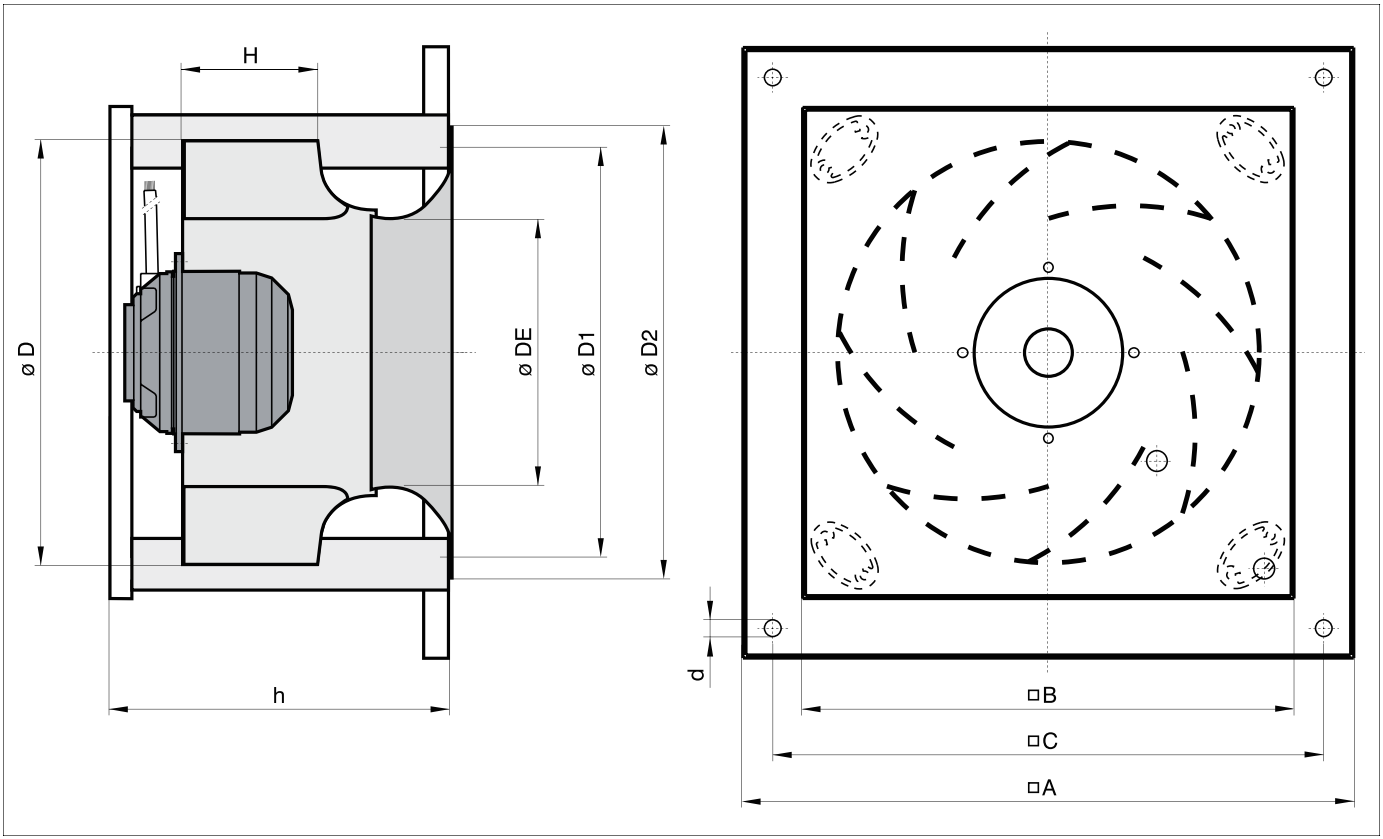
## 尺寸 / Dimensions




| Ventilator / fan | A | B | C | H | D | a | D4 | D5 | E | F | D6 | h | DE | D3 | D2 | D1 | D7 | G | t |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **.KHR 710 -6 / -8** | 328 | 367 | 490 | **219** | 718 | 7 | 160 | M12/8*45° | 190 | 70 | 476 | 12.5 | 438 | 630 | 710 | 674/8*45° | 14 | 135 | 2 |
| **.KHR 630 -6 / -8** | 292 | 327 | 430 | **195** | 640 | 6 | 140 | M10/4*90° | 162 | 70 | 424 | 11 | 390 | 560 | 638 | 608/8*45° | 14 | 114 | 1.5 |
| **.KHR 630 -4** | 255 | 296 | 399 | **158** | 640 | 7 | 160 | M12/8*45° | 190 | 70 | 424 | 11 | 390 | 560 | 638 | 608/8*45° | 14 | 114 | 1.5 |
| **.KHR 560 -6 / -8** | 262 | 296 | 391 | **174** | 570 | 6 | 140 | M10/4*90° | 162 | 70 | 377 | 10 | 348 | 500 | 564 | 541/8*45° | 11 | 105 | 1.5 |
| **.KHR 560 -4** | 262 | 302 | 397 | **174** | 570 | 7 | 160 | M12/8*45° | 190 | 70 | 377 | 10 | 348 | 500 | 564 | 541/8*45° | 11 | 105 | 1.5 |
| **.KHR 560 -4** | 219 | 253 | 350 | **132** | 570 | 6 | 140 | M10/4*90° | 162 | 70 | 377 | 10 | 348 | 500 | 564 | 541/8*45° | 11 | 105 | 1.5 |
| **.KHR 500 -6** | 234 | 270 | 359 | **155** | 510 | 6.5 | 100 | M6 / 4*90° | 115 | 70 | 337 | 9 | 310 | 450 | 515 | 490/8*45° | 11 | 98 | 1.5 |
| **.KHR 500 -4** | 234 | 270 | 359 | **155** | 510 | 6 | 140 | M10/4*90° | 162 | 70 | 337 | 9 | 310 | 450 | 515 | 490/8*45° | 11 | 98 | 1.5 |
| **.KHR 450 -4 *** | 209 | 244 | 318 | **138** | 454 | 6 | 140 | M10/4*90° | 162 | 70 | 300 | 8 | 277 | 400 | 464 | 438/8*45° | 11 | 82 | 1.5 |
| **.KHR 450 -4 / -6** | 209 | 244 | 318 | **138** | 454 | 6.5 | 100 | M6/ 4*90° | 115 | 70 | 300 | 8 | 277 | 400 | 464 | 438/8*45° | 11 | 82 | 1.5 |
| **.KHR 400 -4 / -6** | 184 | 212 | 281 | **123** | 404 | 6.5 | 100 | M6 / 4*90° | 115 | 70 | 267 | 7 | 248 | 355 | 422 | 395/8*45° | 11 | 76 | 1.5 |
| **.KHR 400 -2** | 126 | 173 | 242 | **65** | 404 | 6 | 140 | M10/4*90° | 162 | 70 | 267 | 7 | 248 | 355 | 422 | 395/8*45° | 11 | 76 | 1.5 |
| **.KHR 355 -4** | 164 | 189 | 250 | **110** | 359 | 2.5 | 75 | M6 / 4*90° | 90 | 70 | 238 | 6 | 219 | 315 | 382 | 356/6*60° | 11 | 67 | 1.5 |
| **.KHR 355 -2** | 164 | 211 | 272 | **110** | 359 | 6 | 140 | M10/4*90° | 162 | 70 | 238 | 6 | 219 | 315 | 382 | 356/6*60° | 11 | 67 | 1.5 |
| **.KHR 315 -4** | 146 | 171 | 225 | **98** | 319 | 2.5 | 75 | M6 / 4*90° | 90 | 70 | 212 | 5.5 | 195 | 282 | 348 | 320/6*60° | 11 | 59 | 1.5 |
| **.KHR 315 -2** | 146 | 194 | 247 | **98** | 319 | 6 | 140 | M10/4*90° | 162 | 70 | 212 | 5.5 | 195 | 282 | 348 | 320/6*60° | 11 | 59 | 1.5 |
| **DKHR 315 -2** | 118 | 154 | 207 | **70** | 319 | 6.5 | 100 | M6 / 4*90° | 115 | 70 | 212 | 5.5 | 195 | 282 | 348 | 320/6*60° | 11 | 59 | 1.5 |
| **.KHR 280 -2** | 133 | 169 | 216 | **87** | 284 | 6.5 | 100 | M6 / 4*90° | 115 | 70 | 188 | 5 | 174 | 250 | 307 | 286/6*60° | 7 | 52 | 1.5 |
| **DKHR 250 -2** | 118 | 143 | 185 | **78** | 252 | 2.5 | 75 | M6 / 4*90° | 90 | 70 | 168 | 4.5 | 155 | 225 | 280 | 259/6*60° | 7 | 46 | 1.5 |
| **.KHR 250 -2** | 100 | 125 | 167 | **60** | 252 | 2.5 | 75 | M6 / 4*90° | 90 | 70 | 168 | 4.5 | 155 | 225 | 280 | 259/6*60° | 7 | 46 | 1.5 |

# .KHM .. W

## 尺寸 / Dimensions




| Ventilator / fan | A | B | C | d | **H** | h | D | DE | D1 | D2 |
|---|---|---|---|---|---|---|---|---|---|---|
| **.KHM 710 -6 / -8** | 900 | 720 | 850 | 18 | **219** | 510 | 718 | 438 | 674 | 710 |
| **.KHM 630 -6 / -8** | 800 | 625 | 750 | 14 | **195** | 451 | 640 | 390 | 608 | 638 |
| **.KHM 630 -4** | 800 | 625 | 750 | 14 | **158** | 414 | 640 | 390 | 608 | 638 |
| **.KHM 560 -4 / -6 / -8** | 800 | 585 | 750 | 14 | **174** | 410 | 570 | 348 | 541 | 564 |
| **.KHM 560 -4** | 800 | 585 | 750 | 14 | **132** | 368 | 570 | 348 | 541 | 564 |
| **.KHM 500 -4 / -6** | 630 | 535 | 580 | 14 | **155** | 374 | 510 | 310 | 487 | 515 |
| **.KHM 450 -4 / -6** | 630 | 470 | 580 | 14 | **138** | 333 | 454 | 277 | 438 | 464 |
| **.KHM 400 -4 / -6** | 500 | 420 | 450 | 11 | **123** | 296 | 404 | 248 | 395 | 422 |
| **.KHM 400 -2** | 500 | 420 | 450 | 11 | **65** | 257 | 404 | 248 | 395 | 422 |
| **.KHM 355 -4** | 500 | 395 | 450 | 11 | **110** | 265 | 359 | 219 | 356 | 382 |
| **.KHM 355 -2** | 500 | 395 | 450 | 11 | **110** | 292 | 359 | 219 | 356 | 382 |
| **.KHM 315 -4** | 500 | 360 | 450 | 11 | **98** | 240 | 319 | 195 | 320 | 348 |
| **.KHM 315 -2** | 500 | 360 | 450 | 11 | **98** | 267 | 319 | 195 | 320 | 348 |
| **.KHM 280 -2** | 500 | 320 | 450 | 11 | **87** | 232 | 284 | 174 | 286 | 307 |
| **DKHM 250 -2** | 500 | 290 | 450 | 11 | **78** | 200 | 252 | 155 | 259 | 280 |
| **.KHM 250 -2** | 500 | 290 | 450 | 11 | **60** | 182 | 252 | 155 | 259 | 280 |

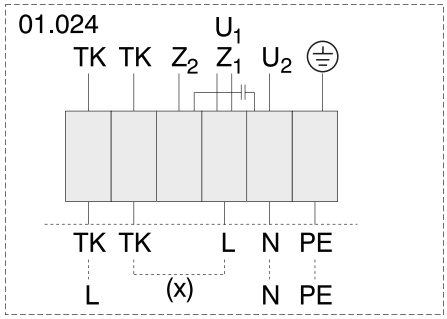
Andere Abmessungen auf Anfrage / Other dimensions on request.

## 接线图 / Wiring diagrams

### Nr. 01.024 - 顺时针 / clockwise

单相交流电机工作电容和热保护器。热保护器串联在线圈绕组中，如果使用RE控制器。插入电桥和连接在图中用点线表示。

Single phase A.C. motor with operating capacitor and thermal contacts. Thermal contact wired in series with windings, if RE controllers are used. Insert bridge (x) and wire connections shown as dash-line on the drawings.

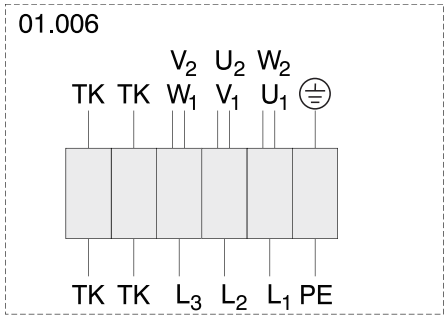



U1 褐色/brown
U2 蓝/blue
Z1 黑/black
Z2 桔黄/orange
TK 白/white
PE 黄绿/yellow-green

### Nr. 01.006

带热保护器的三角连接三相电机。通过互换2相来改变转向。

Three phase motor in delta connection with thermal contacts. Changing of rotation direction by interchanging of 2 phases.




U1 褐色/brown
V1 蓝/blue
W1 黑/black
U2 红/red
V2 灰色/grey
W2 桔黄/orange
TK 白//white
PE 黄绿/yellow-green

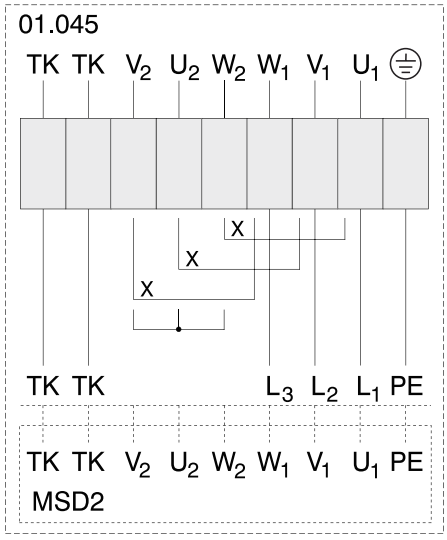
### Nr. 01.045

带2速和热保护器的三相电机。通过△/ Y开关改变速度。互换2相来改变转向。

使用2步开关装置MSD 2 无需桥形连接。使用点线连接控制器。

Three phase motor with 2 speeds and thermal contact. Changing of rotation direction by interchanging of 2 phases.

When using the 2-steps switchgear MSD2 a bridge is not needed. Connection of the dashed-line to the controller has to be made and make connections as indicated by the dotted lines to the controller.




U1 褐色/brown
V1 蓝/blue
W1 黑/black
U2 红/red
V2 灰色/grey
W2 桔黄/orange
TK 白//white
PE 黄绿/yellow-green

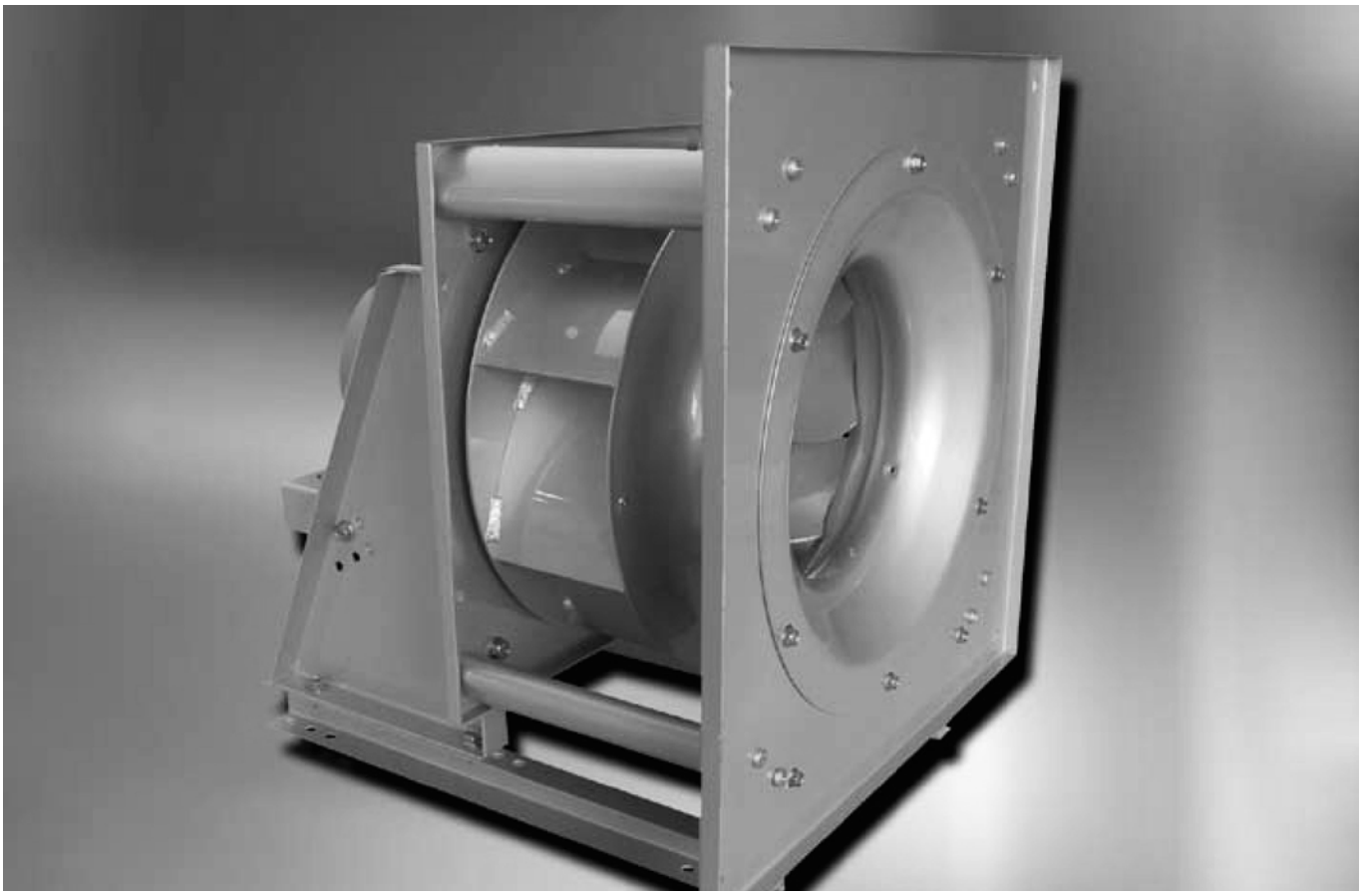
X 桥形连接用于高速

Y 桥形连接用于低速

# IEC 标准电机无蜗壳风机

## ***Free Blowing Fan*** *With Standard IEC- Motor*

*DKN_*



**优势:**

- 结构紧凑，节省空间
- 高效叶轮
- 高性价比，由于采用高效叶轮及EC驱动
- 可安装在多种位置
- 易维护保养：无风机传送带磨损或自然磨损

**Advantages:**

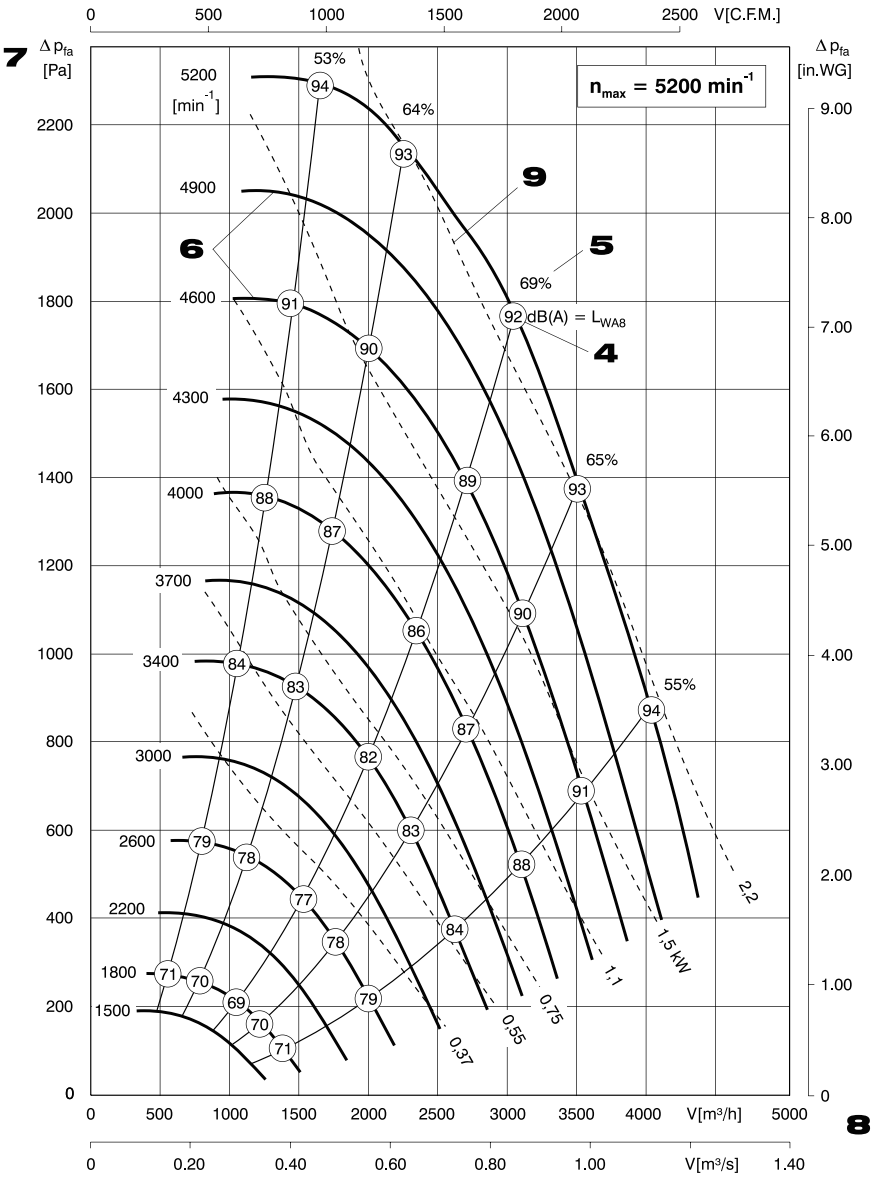
- compact, space saving construction
- high power impeller
- economical due to high efficiency impeller
- installable in various positions
- easy to maintain as a result of no fan belt abrasion or wear and tear.

## IEC标准电机无蜗壳风机

特性曲线显示了静压随流量变化的关系，特性曲线参考的空气密度为1.2kg/m³。

## Free blowing fan with standard IEC- motor

The performance curve indicates the static pressure increase $\Delta p_{fa}$ as a function of the volume flow. The performance curves refer to an air density of 1,2 kg/m³.




| 1 n [min-1] | 2 u [m/s] | 3 η Korr |
|---|---|---|
| 5200 | 68,6 | 1 |
| 4900 | 64,7 | 1 |
| ... | ... | ... |

**1** 恒定转速的特性曲线/ performance curves at constant speed

**2** 线速度 / radial speed

**3** 效率系数 / correction of efficiency

**4** 声功率级 / sound power level

**5** 效率 / efficiency

**6** 在不同转速下的特性曲线 / performance curve at various speeds

**7** 静压 / static pressure

**8** 空气流量 / air volume

**9** Leistungsbedarf Laufrad / shaft power

## Formelzeichen / Technical Formula

| | 表示 / Description | 单位 Unit |
|---|---|---|
| U | 额定电压 / Rated voltage | V |
| $P_{max}$ | 最大允许功率 / Motor power consumption | kW |
| $I_{max}$ | 最大允许电流 / Rated current | A |
| $n_{max}$ | 最大允许转速 / Fan speed | $min^{-1}$ |
| $t_R$ | 最大允许环境温度 / max. permissible medium temperature | °C |
| $\Delta p_{fa}$ | 静压 / static pressure increase | Pa |
| $L_{WA}$ | A 声功率级 / A - sound power level | dB(A) |

| | Benennung / Description | Einheit / Unit |
|---|---|---|
| $L_{WRel}$ | 相关声功率级 / relative sound power level | dB |
| $L_{WOkt}$ | 倍频程声功率级 / Octave sound power level | dB(A) |
| $L_{WA5}$ | 进风口声功率级 / Free inlet sound power level | dB(A) |
| $L_{WA6}$ | 出风口声功率级 / Free outlet sound power level | dB(A) |
| $L_{WA8}$ | 外壳与出风口声功率级 / Casing and free-outlet sound power level | dB(A) |

## 特点和结构

洛森集团DKN_系列的无蜗壳离心风机设计用于AHUS的安装和操作，可提供如下：

- **DKNB**

  风机组件有电机支撑和基座，进风导流圈安装在支架上并调节到恰当的深度。整体单元安装减震或弹簧。电机安装形式IMB3、IMB5按要求使用，部分水平安装是标准形式，垂直安装需要使用附加的支撑杆。

- **DKNM**

  风机组件没有底座结构，进风导流口安装在支架上并调整到恰当的深度。安装形式IMB5。

### 电机

IEC标准三相电机安装形式一般IMB3，个别IMB5。防护等级 IP54，380V/50Hz，绝缘等级 F。电机可使用变频器。在启动操作之前或维修期间，必须遵循厂家提供的有关电机保护安装的详细用法说明。

### 电机保护

所有电机预装PTC热保护器，正确连接可保护电机因过载，单相击穿，电机锁定，过高的空气温度产生的损坏。洛森集团提供电机保护开关，型号**MSD1 K**允许电机的PTC中心连接，通常也要连接变频器。

### 电路连接

我们可提供接线盒连接，并提供接线图以便连接。如使用变频器，请查阅操作手册。

## Features and Construction

**Rosenberg centrifugal fans with free running impeller of the DKN_** ranges are designed for installation and operation in AHUs. They can be supplied as follows:

- **DKNB**

  Fan module with motor support and base frame. Inlet cone mounted and adjusted to correct depth. Complete unit installable with vibration dampers or springs. Motor in version IMB3. IMB5 available on request. Unit to be installed with horizontal shaft in standard version. Vertical installation with additional support bar.

- **DKNM**

  Fan module without base frame. Inlet cone mounted and adjusted to correct depth. Motor IMB5.

### Motors

Standard IEC three phase motors in size IMB3 respectively IMB5, protection class IP55, 400V/50Hz, insulation class F. The motors are suitable for operation with frequency converter. Before initial operation and during maintenance, the detailed instructions of the motor supplier regarding motor protection installations which re- quired on site, have to be followed.

### Motor protection

All motors are equipped with PTC (thermal contacts available on request) control the temperature of the motor. If wired correctly, they protect the motor from overload, breakdown of one phase, locking of the motor, and too high air temperatures. Rosenberg offers motor protection switches. Version **MSD1 K** allows a connection of the motor's PTC cores. The cores can usually also be wired to a frequency converter.

### Electrical Connection

The wiring box of the motor is easily accessable. The motor has to be connected according to the wiring diagram (see on page C18 Connection diagram) and in accordance with valid regulations and local laws. In case of operation with frequency transformer, please check the operation manual.

## 速度控制

转速可通过变频器调节，风机技术参数中包含了允许的最高频率。

电机选择基于功率大小。超过电机最高承受频率将使电机过热，到一定温度时温度感应器做出反应。所有风机变频器的切断功率是50Hz。在紧急情况或变频器故障情况下，所有风机能再380，50Hz电源下运行。当电机通过变频器 500V/$\mu$s 压增最大速度时不会过载运行。根据变频器的型号和电机和其之间的电缆长度，必须提供附件，例如凹面过滤器。

## Speed control

The installation specific optimal adjustment for the required operating point can only be realised with a suitable speed control system.

The speed is changed by changing the frequency with a frequency converter. The highest possible frequency for the determined motortype can be found in the technical data of the fans. The motor selection is based on the power reserves of the motor. At higher frequencies than $f_{max}$ the motor will thermally overload and the temperature sensor will react after a certain period of heating up. The cut-off frequency adjustable on the frequency converter is 50Hz for all fans. In case of an emergency or failure of the frequency converter, all fans can be operated at 400V, 50Hz main supply. When the motors are operated by frequency converter the max. speed of voltage increase of 500V/$\mu$s should not be exceeded. Depending on the type of frequency converter, and the length of the cable between motor and frequency converter, additional components must be provided, such as a sinus filter.

## 一体化变频器

一般变频器与电机分离。但为了节省空间，我们提供电机和变频器一体化可至尺寸630。

优点是接线无须屏蔽导线和节省空间。

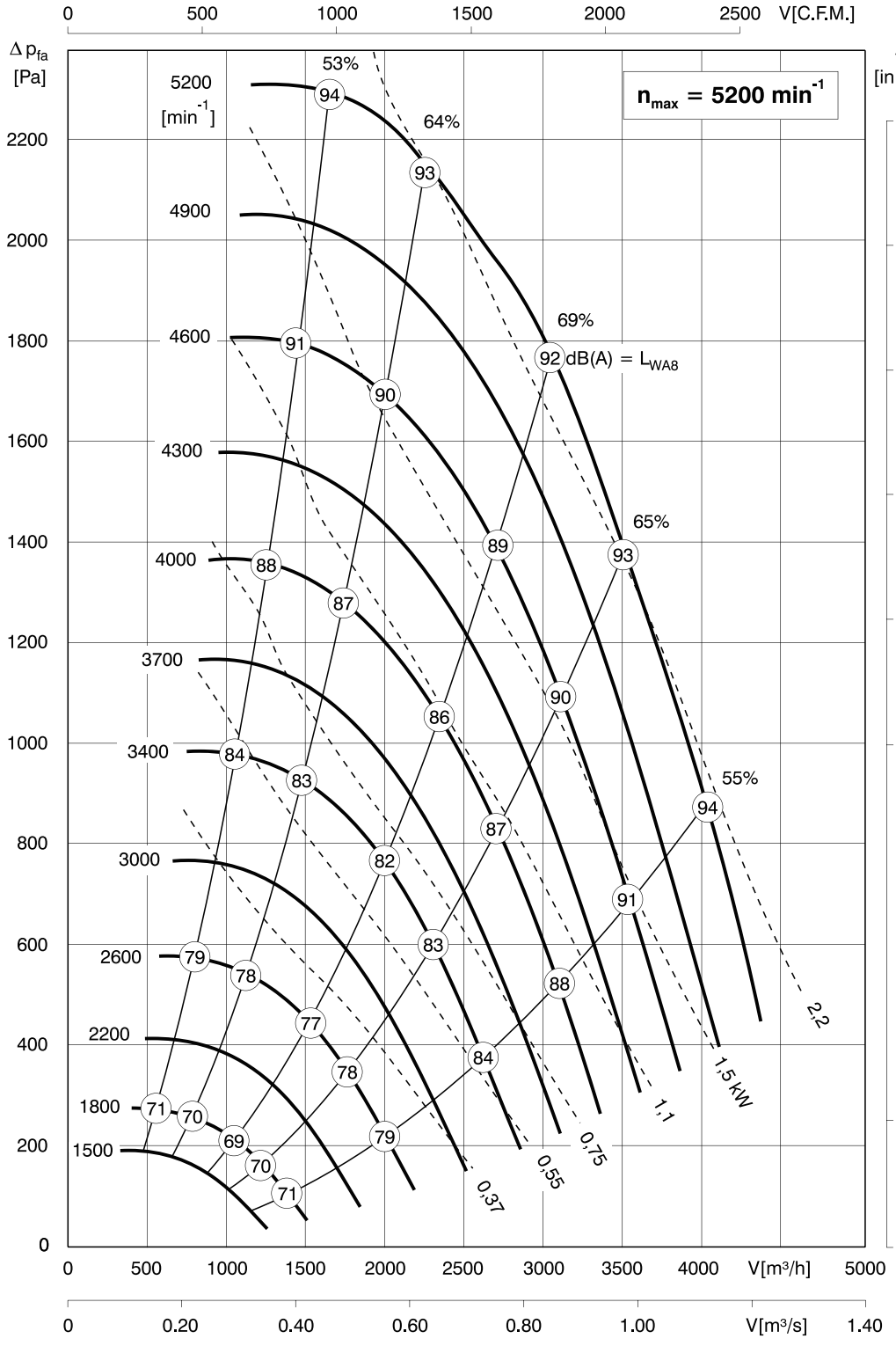
一体化电机类似IEC标准电机：尺寸从80-132为2，极个别为4极。

## Motors with integrated frequency converter

Normally frequency converters are separated from the IEC-motor. As a space saving alternative we offer motors with integrated frequency converters up to fan size 630.

Advantages are also wiring requirements, no need for shielded leads, space requirements of the AHU's complete control unit are minimal.

The allocation of the motors with integrated frequency converter analogous to the standard IEC-motor. All motors with integrated frequency converter of the sizes 80 to 132 are available in 2- pole respectively 4-pole versions.




| n [min-1] | u [m/s] | η Korr |
|---|---|---|
| 5200 | 68,6 | 1 |
| 4900 | 64,7 | 1 |
| 4600 | 60,7 | 1 |
| 4300 | 56,7 | 0,99 |
| 4000 | 52,8 | 0,99 |
| 3700 | 48,8 | 0,99 |
| 3400 | 44,9 | 0,99 |
| 3000 | 39,6 | 0,98 |
| 2600 | 34,3 | 0,98 |
| 2200 | 29 | 0,98 |
| 1800 | 23,8 | 0,97 |
| 1500 | 19,8 | 0,97 |

$L_{WA5} = L_{WA8} - 6$ dB
$L_{WA6} = L_{WA8} - 3$ dB
$L_{Wokt\ Austritt} = L_{WA8} - L_{Wrel}$
$L_{Wokt\ Eintritt} = L_{WA5} - L_{Wrel}$

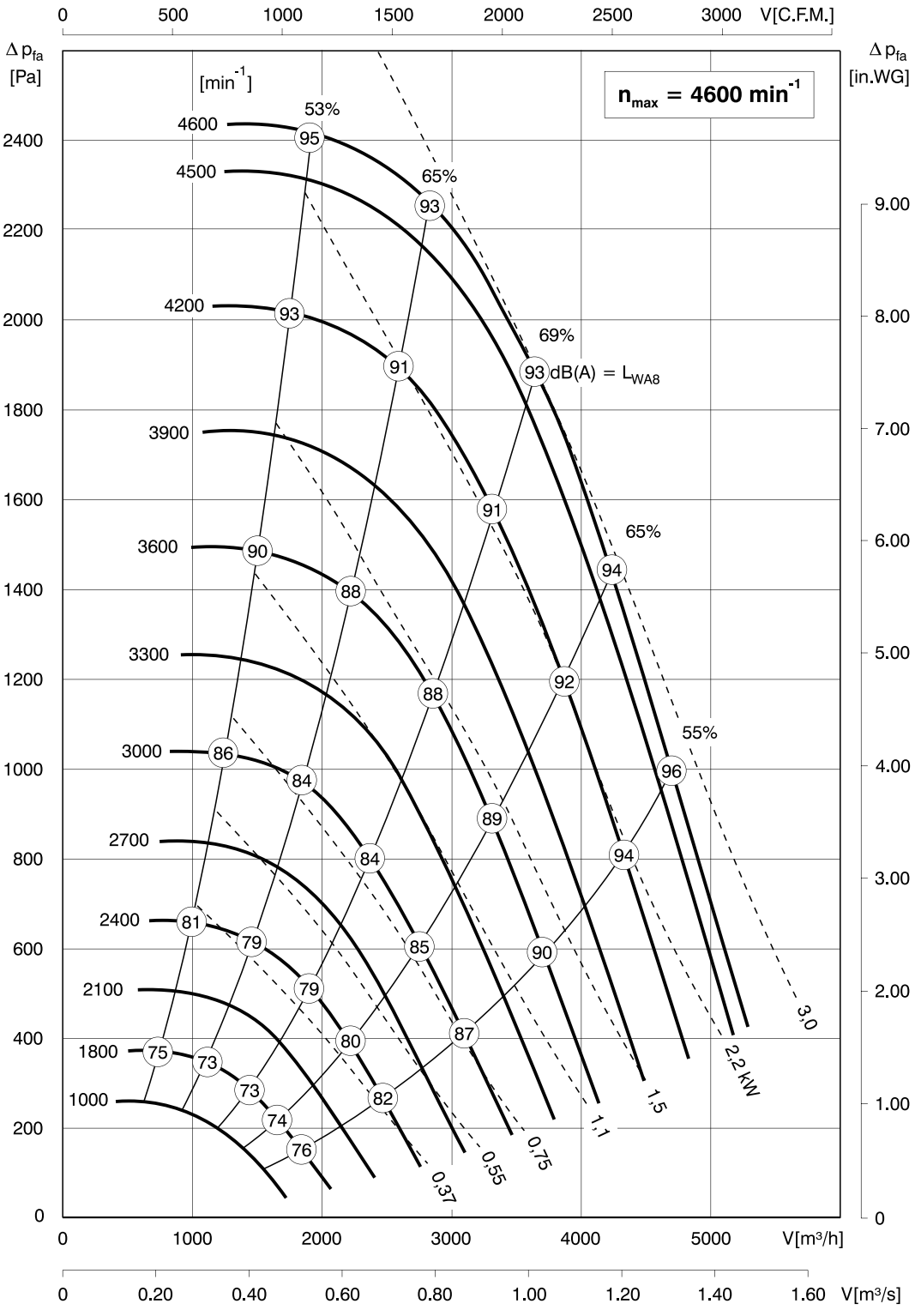
$L_{Woct\ outlet} = L_{WA8} - L_{Wrel}$
$L_{Woct\ inlet} = L_{WA5} - L_{Wrel}$

| f [Hz] | $L_{Wrel}$ Eintritt-Seite / inlet side [dB] | $L_{Wrel}$ Austritt-Seite / outlet side [dB] |
|---|---|---|
| 63 | -11 | -8 |
| 125 | -8 | -11 |
| 250 | -1 | -4 |
| 500 | -4 | -4 |
| 1K | -6 | -4 |
| 2K | -7 | -7 |
| 4K | -9 | -11 |
| 8K | -16 | -18 |

Düsenbeiwert / calibration factor $k_{10} = 46$

| Typenbezeichnung | Motortyp | $n_N$ [min-1] | $P_N$ [kW] | $I_N$ [A] | $f_{max}$ Hz | $n_{max}$ [min-1] | Gewicht / Weight [kg] DKNB | / DKNM |
|---|---|---|---|---|---|---|---|---|
| DKN_ 250-2KW.078.A07-001 | 71-2 | 2800 | 0,55 | 1,36 | 55 | 3080 | a.A. | a.A. |
| DKN_ 250-2KW.078.A08-001 | 80-2 | 2855 | 0,75 | 1,73 | 60 | 3425 | 20 | a.A. |
| DKN_ 250-2KW.078.A08-002 | 80-2 | 2845 | 1,1 | 2,4 | 68 | 3780 | 21 | a.A. |
| DKN_ 250-2KW.078.A09-001 | 90S-2 | 2860 | 1,5 | 3,25 | 75 | 4290 | a.A. | a.A. |
| DKN_ 250-2KW.078.A09-001 | 90L-2 | 2880 | 2,2 | 4,6 | 85 | 4900 | a.A. | a.A. |
| DKN_ 250-2KW.078.A10-001 | 100L-2 | 2895 | 3,0 | 6,1 | 89 | 5200 | a.A. | a.A. |

a.A. = auf Anfrage / on request




| n [min-1] | u [m/s] | η Korr |
|---|---|---|
| 4600 | 68,4 | 1 |
| 4500 | 66,9 | 1 |
| 4200 | 62,5 | 1 |
| 3900 | 58 | 0,99 |
| 3600 | 53,5 | 0,99 |
| 3300 | 49,1 | 0,99 |
| 3000 | 44,6 | 0,99 |
| 2700 | 40,1 | 0,98 |
| 2400 | 35,7 | 0,98 |
| 2100 | 31,2 | 0,98 |
| 1800 | 26,8 | 0,97 |
| 1500 | 22,3 | 0,97 |

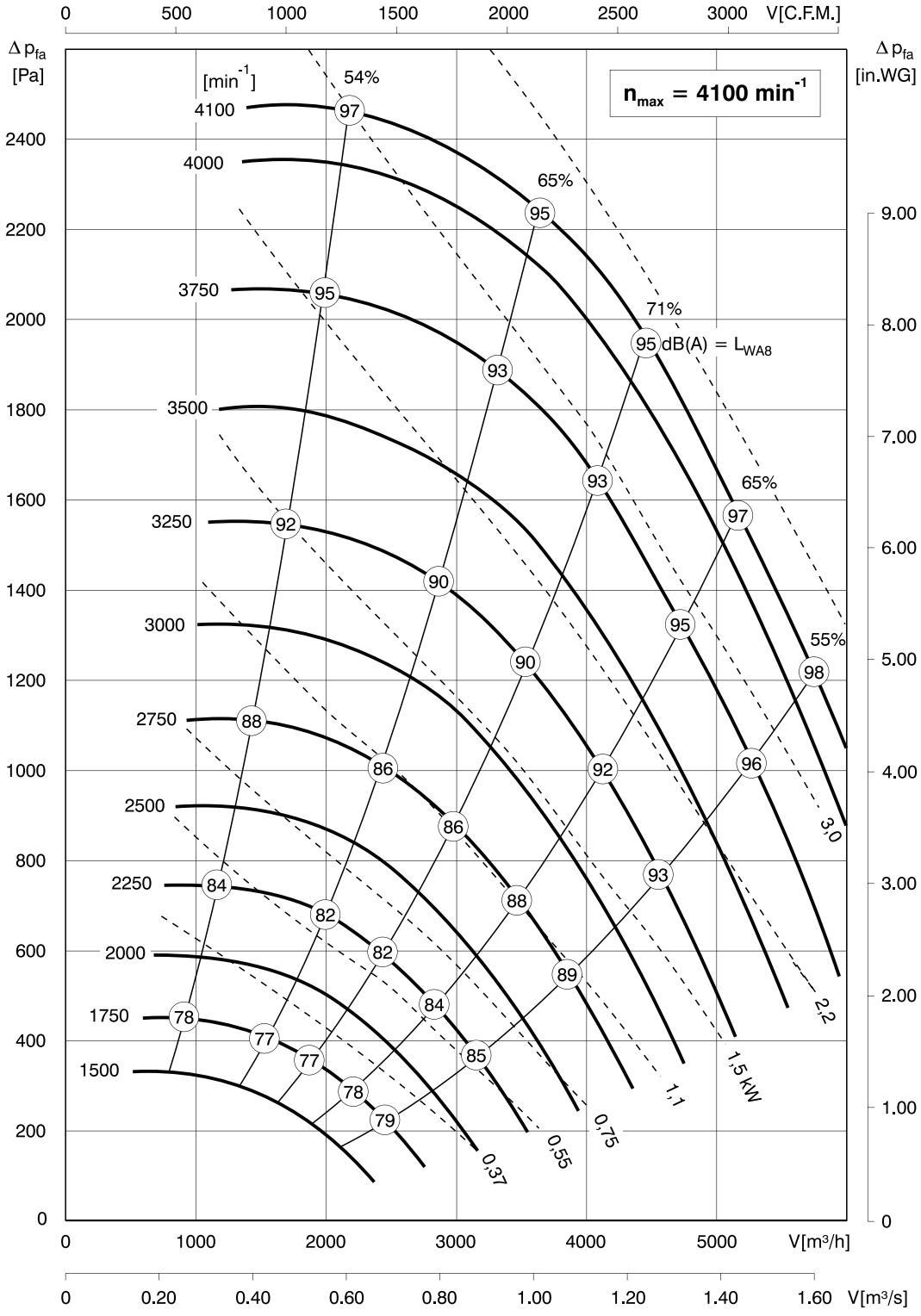
$L_{WA5} = L_{WA8} - 6$ dB
$L_{WA6} = L_{WA8} - 3$ dB
$L_{Wokt\ Austritt} = L_{WA8} - L_{Wrel}$
$L_{Wokt\ Eintritt} = L_{WA5} - L_{Wrel}$

$L_{Woct\ outlet} = L_{WA8} - L_{Wrel}$
$L_{Woct\ inlet} = L_{WA5} - L_{Wrel}$

| f [Hz] | $L_{Wrel}$ Eintritt-Seite / inlet side [dB] | $L_{Wrel}$ Austritt-Seite / outlet side [dB] |
|---|---|---|
| 63 | -11 | -8 |
| 125 | -8 | -11 |
| 250 | -1 | -4 |
| 500 | -4 | -4 |
| 1K | -6 | -4 |
| 2K | -7 | -7 |
| 4K | -9 | -11 |
| 8K | -16 | -18 |

Düsenbeiwert / calibration factor $k_{10} = 55$

| Typenbezeichnung | Motortyp | $n_N$ [min-1] | $P_N$ [kW] | $I_N$ [A] | $f_{max}$ [Hz] | $n_{max}$ [min-1] | Gewicht / Weight [kg] DKNB | / DKNM |
|---|---|---|---|---|---|---|---|---|
| DKN_ 280-4KW.087.A08-001 | 80-4 | 1395 | 0,55 | 1,45 | 90 | 2510 | 20 | 18 |
| DKN_ 280-2KW.087.A08-001 | 80-2 | 2855 | 0,75 | 1,73 | 50 | 2855 | 20 | 18,5 |
| DKN_ 280-2KW.087.A08-002 | 80-2 | 2845 | 1,1 | 2,4 | 55 | 3130 | 22 | 20 |
| DKN_ 280-2KW.087.A09-001 | 90S-2 | 2860 | 1,5 | 3,25 | 61 | 3490 | 24 | 23 |
| DKN_ 280-2KW.087.A09-002 | 90L-2 | 2880 | 2,2 | 4,6 | 70 | 3980 | 27 | 26 |
| DKN_ 280-2KW.087.A10-001 | 100L-2 | 2895 | 3,0 | 6,1 | 76 | 4400 | 34 | 32 |
| DKN_ 280-2KW.087.A11-001 | 112M-2 | 2900 | 4,0 | 7,7 | 79 | 4600 | 41 | 39 |




| n [min$^{-1}$] | u [m/s] | $\eta$ Korr |
|---|---|---|
| 4100 | 68,5 | 1 |
| 4000 | 66,8 | 1 |
| 3750 | 62,6 | 1 |
| 3500 | 58,5 | 0,99 |
| 3250 | 54,3 | 0,99 |
| 3000 | 50,1 | 0,99 |
| 2750 | 45,9 | 0,99 |
| 2500 | 41,8 | 0,98 |
| 2250 | 37,6 | 0,98 |
| 2000 | 33,4 | 0,98 |
| 1750 | 29,2 | 0,97 |
| 1500 | 25,1 | 0,97 |

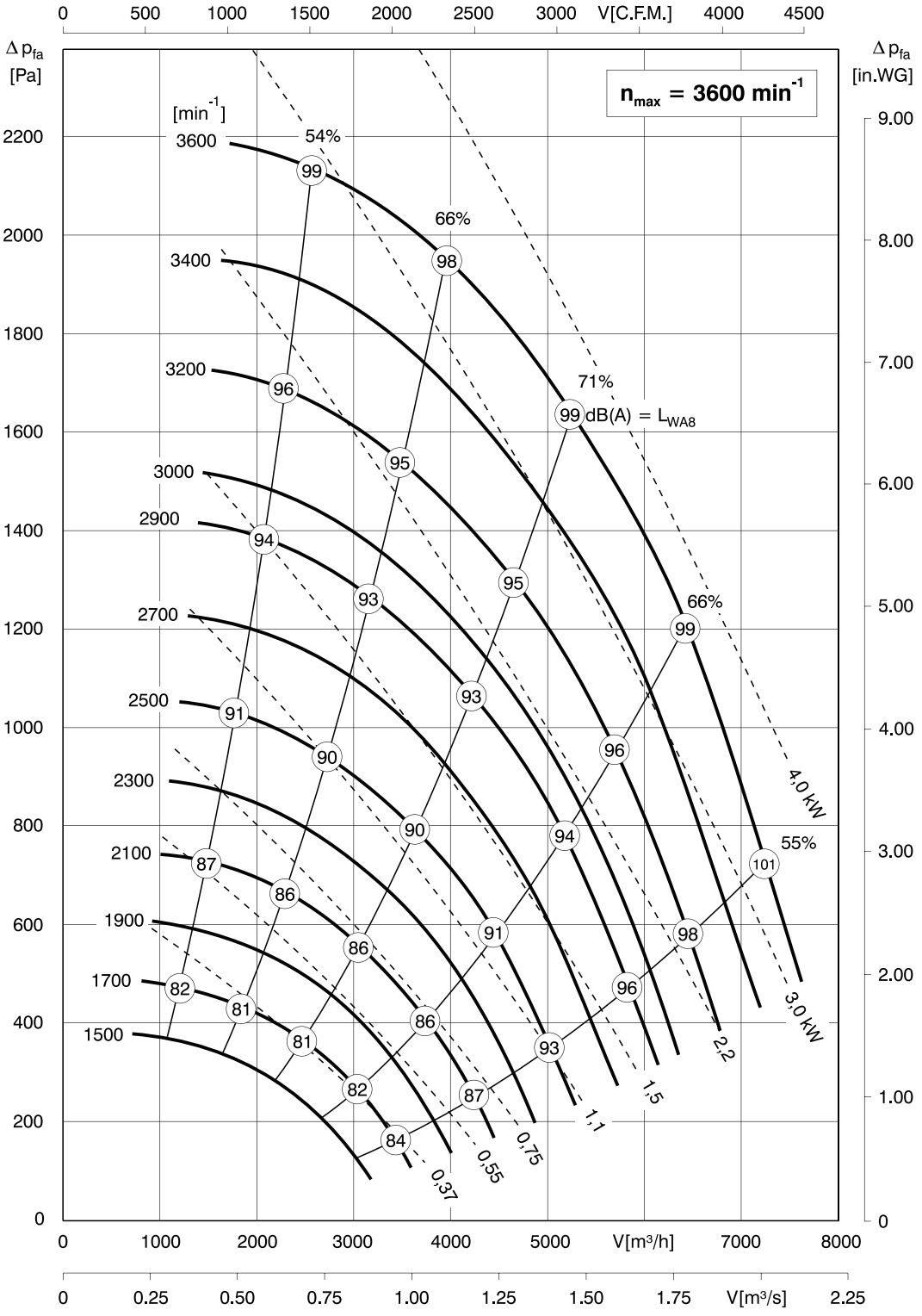
$L_{WA5} = L_{WA8} - 6$ dB
$L_{WA6} = L_{WA8} - 3$ dB
$L_{Wokt\ Austritt} = L_{WA8} - L_{Wrel}$
$L_{Wokt\ Eintritt} = L_{WA5} - L_{Wrel}$

$L_{Woct\ outlet} = L_{WA8} - L_{Wrel}$
$L_{Woct\ inlet} = L_{WA5} - L_{Wrel}$

| f [Hz] | $L_{Wrel}$ Eintritt-Seite / inlet side [dB] | $L_{Wrel}$ Austritt-Seite / outlet side [dB] |
|---|---|---|
| 63 | -11 | -8 |
| 125 | -7 | -11 |
| 250 | 0 | -3 |
| 500 | -3 | -2 |
| 1K | -5 | -6 |
| 2K | -9 | -7 |
| 4K | -10 | -11 |
| 8K | -16 | -18 |

Düsenbeiwert / calibration factor $k_{10} = 70$

| Typenbezeichnung | Motortyp | $n_N$ [min$^{-1}$] | $P_N$ [kW] | $I_N$ [A] | $f_{max}$ [Hz] | $n_{max}$ [min$^{-1}$] | Gewicht / Weight [kg] DKNB | / DKNM |
|---|---|---|---|---|---|---|---|---|
| DKN_ 315-4KW.098.A08-001 | 80-4 | 1395 | 0,55 | 1,45 | 74 | 2065 | 20 | 19 |
| DKN_ 315-4KW.098.A08-002 | 80-4 | 1395 | 0,75 | 1,86 | 82 | 2290 | 21 | 20 |
| DKN_ 315-4KW.098.A09-001 | 90S-4 | 1410 | 1,1 | 2,65 | 93 | 2620 | 25 | 24 |
| DKN_ 315-2KW.098.A09-001 | 90S-2 | 2860 | 1,5 | 3,25 | 51 | 2920 | 25 | 25 |
| DKN_ 315-2KW.098.A09-002 | 90L-2 | 2880 | 2,2 | 4,6 | 57 | 3280 | 28 | 28 |
| DKN_ 315-2KW.098.A10-001 | 100L-2 | 2895 | 3,0 | 6,1 | 63 | 3650 | 34 | 34 |
| DKN_ 315-2KW.098.A11-001 | 112M-2 | 2900 | 4,0 | 7,7 | 69 | 4000 | 41 | 41 |




| n [min$^{-1}$] | u [m/s] | $\eta$ Korr |
|---|---|---|
| 3600 | 67,7 | 1 |
| 3400 | 63,9 | 1 |
| 3200 | 60,2 | 1 |
| 3000 | 56,4 | 0,99 |
| 2900 | 54,5 | 0,99 |
| 2700 | 50,8 | 0,99 |
| 2500 | 47 | 0,99 |
| 2300 | 43,2 | 0,98 |
| 2100 | 39,5 | 0,98 |
| 1900 | 35,7 | 0,98 |
| 1700 | 32 | 0,97 |
| 1500 | 28,2 | 0,97 |

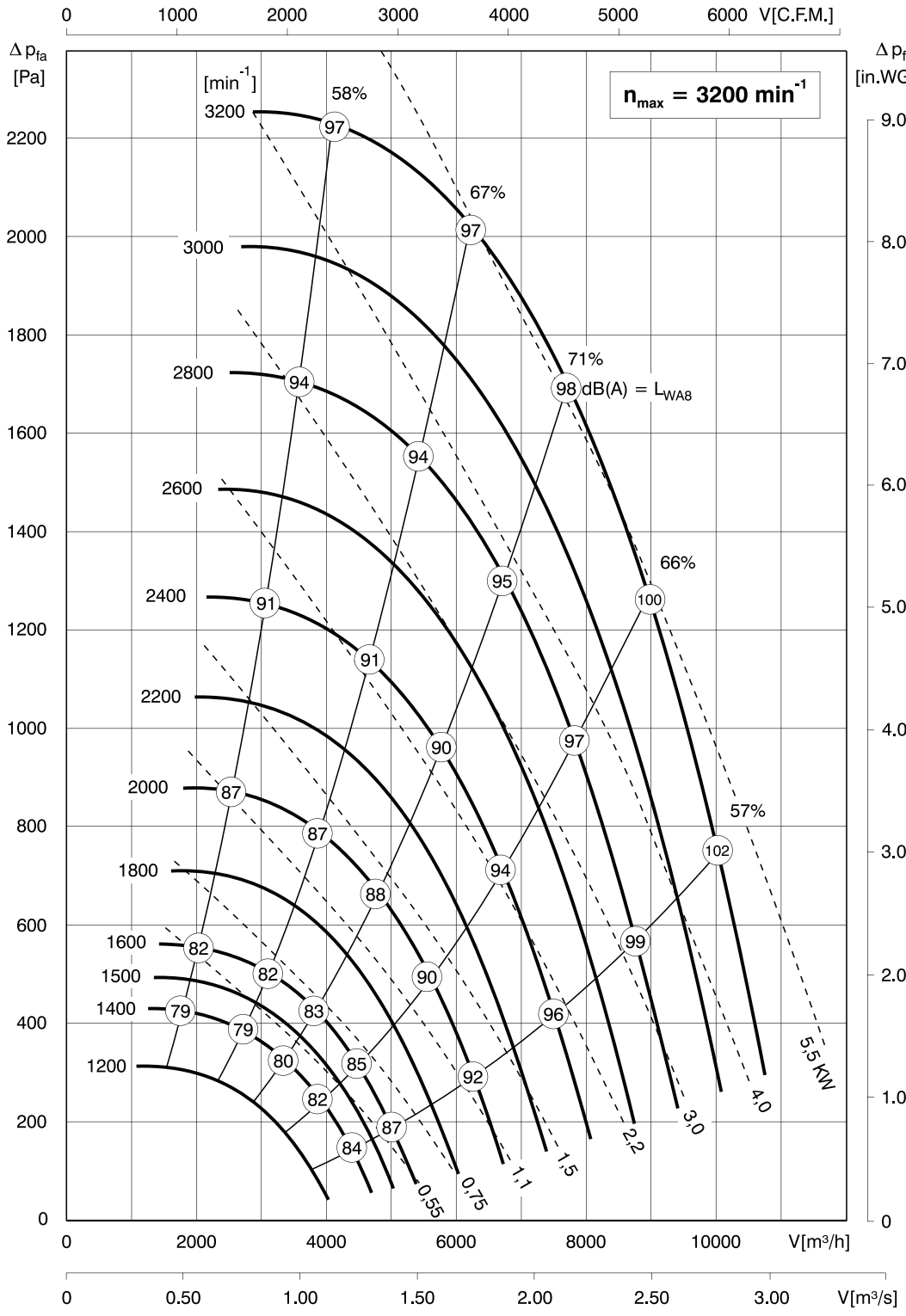
$L_{WA5} = L_{WA8} - 6$ dB
$L_{WA6} = L_{WA8} - 3$ dB
$L_{Wokt\ Austritt} = L_{WA8} - L_{Wrel}$
$L_{Wokt\ Eintritt} = L_{WA5} - L_{Wrel}$

$L_{Woct\ outlet} = L_{WA8} - L_{Wrel}$
$L_{Woct\ inlet} = L_{WA5} - L_{Wrel}$

| f [Hz] | $L_{Wrel}$ Eintritt-Seite / inlet side [dB] | $L_{Wrel}$ Austritt-Seite / outlet side [dB] |
|---|---|---|
| 63 | -11 | -8 |
| 125 | -7 | -11 |
| 250 | 0 | -3 |
| 500 | -3 | -2 |
| 1K | -5 | -6 |
| 2K | -9 | -7 |
| 4K | -10 | -11 |
| 8K | -16 | -18 |

Düsenbeiwert / calibration factor $k_{10} = 90$

| Typenbezeichnung | Motortyp | $n_N$ [min$^{-1}$] | $P_N$ [kW] | $I_N$ [A] | $f_{max}$ [Hz] | $n_{max}$ [min$^{-1}$] | Gewicht / Weight [kg] DKNB | / DKNM |
|---|---|---|---|---|---|---|---|---|
| DKN_ 355-4KW.110.A08-001 | 80-4 | 1395 | 0,55 | 1,45 | 66 | 1840 | 26 | 20 |
| DKN_ 355-4KW.110.A08-002 | 80-4 | 1395 | 0,75 | 1,86 | 73 | 2035 | 26 | 21,5 |
| DKN_ 355-4KW.110.A09-001 | 90S-4 | 1410 | 1,1 | 2,65 | 82 | 2310 | 30 | 24,5 |
| DKN_ 355-4KW.110.A09-002 | 90L-4 | 1420 | 1,5 | 3,45 | 90 | 2550 | 33 | 27,5 |
| DKN_ 355-2KW.110.A09-001 | 90L-2 | 2880 | 2,2 | 4,6 | 51 | 2940 | 33 | 28 |
| DKN_ 355-2KW.110.A10-001 | 100L-2 | 2895 | 3,0 | 6,1 | 56 | 3240 | 39 | 34 |
| DKN_ 355-2KW.110.A11-001 | 112M-2 | 2900 | 4,0 | 7,7 | 61 | 3540 | 46 | 41 |




| n [min-1] | u [m/s] | η Korr |
|---|---|---|
| 3200 | 67,7 | 1 |
| 3000 | 63,5 | 1 |
| 2800 | 59,2 | 1 |
| 2600 | 55 | 0,99 |
| 2400 | 50,8 | 0,99 |
| 2200 | 46,5 | 0,99 |
| 2000 | 42,3 | 0,99 |
| 1800 | 38,1 | 0,98 |
| 1600 | 33,8 | 0,98 |
| 1500 | 31,7 | 0,98 |
| 1400 | 29,6 | 0,97 |
| 1200 | 25,4 | 0,97 |

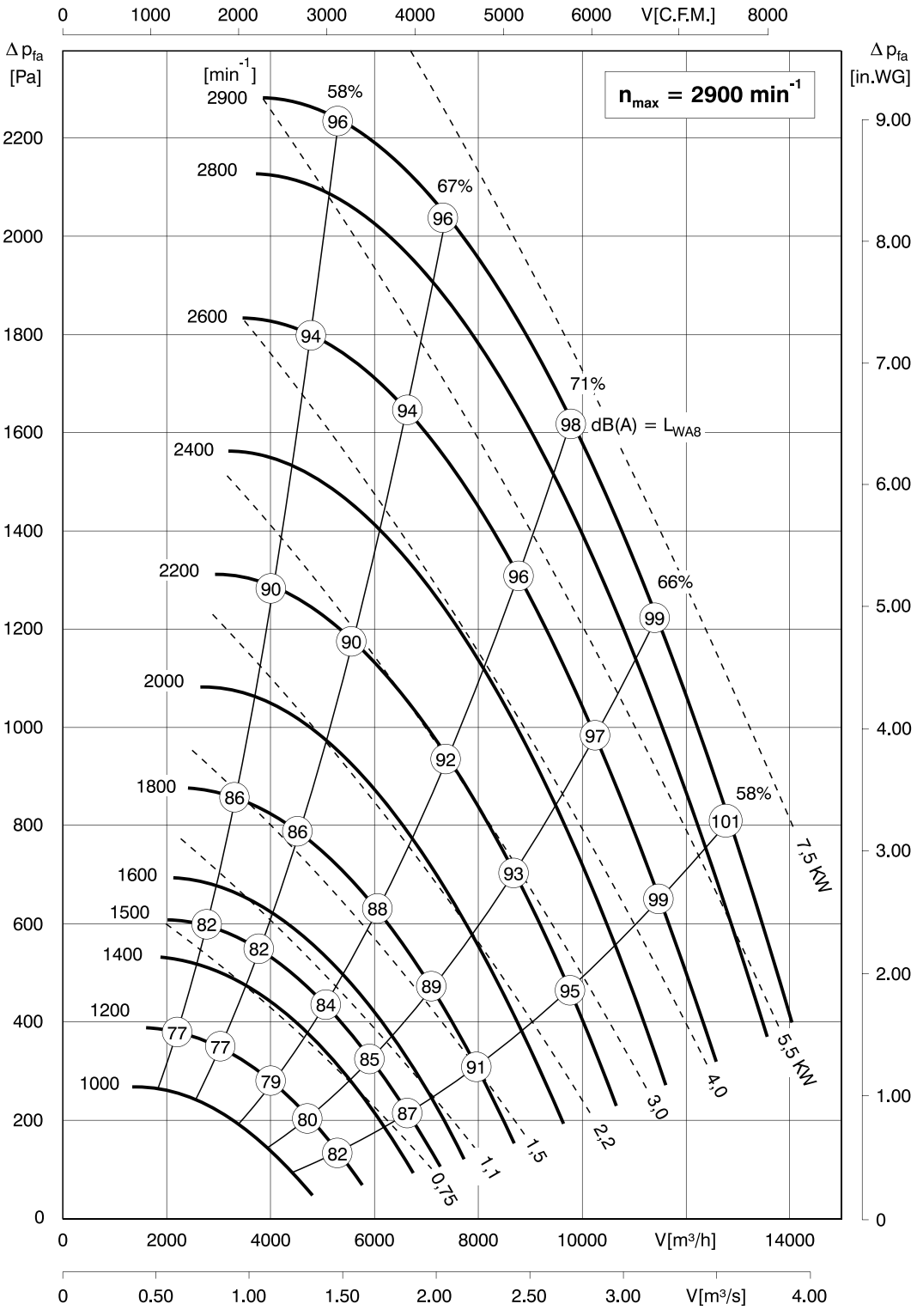
$L_{WA5} = L_{WA8} - 6$ dB
$L_{WA6} = L_{WA8} - 3$ dB
$L_{Wokt\ Austritt} = L_{WA8} - L_{Wrel}$
$L_{Wokt\ Eintritt} = L_{WA5} - L_{Wrel}$

$L_{Woct\ outlet} = L_{WA8} - L_{Wrel}$
$L_{Woct\ inlet} = L_{WA5} - L_{Wrel}$

| f [Hz] | $L_{Wrel}$ Eintritt-Seite / inlet side [dB] | $L_{Wrel}$ Austritt-Seite / outlet side [dB] |
|---|---|---|
| 63 | -11 | -9 |
| 125 | -4 | -8 |
| 250 | 0 | -2 |
| 500 | -3 | -2 |
| 1K | -5 | -5 |
| 2K | -8 | -8 |
| 4K | -12 | -13 |
| 8K | -18 | -19 |

Düsenbeiwert / calibration factor $k_{10} = 113$

| Typenbezeichnung | Motortyp | $n_N$ [min-1] | $P_N$ [kW] | $I_N$ [A] | $f_{max}$ [Hz] | $n_{max}$ [min-1] | Gewicht / Weight [kg] DKNB | / DKNM |
|---|---|---|---|---|---|---|---|---|
| DKN_ 400-4KW.123.A08-001 | 80-4 | 1395 | 0,75 | 1,86 | 56 | 1560 | 27 | 22,5 |
| DKN_ 400-4KW.123.A09-001 | 90S-4 | 1410 | 1,1 | 2,65 | 64 | 1800 | 32 | 25,5 |
| DKN_ 400-4KW.123.A09-002 | 90L-4 | 1420 | 1,5 | 3,45 | 70 | 1985 | 35 | 29 |
| DKN_ 400-4KW.123.A10-001 | 100L-4 | 1420 | 2,2 | 4,90 | 79 | 2240 | 40 | 35 |
| DKN_ 400-4KW.123.A10-002 | 100L-4 | 1420 | 3,0 | 6,40 | 88 | 2500 | 43 | 38 |
| DKN_ 400-4KW.123.A11-001 | 112M-4 | 1440 | 4,0 | 8,30 | 95 | 2735 | 50 | 44 |
| DKN_ 400-2KW.123.A13-001 | 132S-2 | 2915 | 5,5 | 11,1 | 52 | 3030 | 66 | 54 |
| DKN_ 400-2KW.123.A13-002 | 132S-2 | 2915 | 7,5 | 14,7 | 55 | 3200 | 68 | 62 |




| n [min-1] | u [m/s] | η Korr |
|---|---|---|
| 2900 | 68,9 | 1 |
| 2800 | 66,6 | 1 |
| 2600 | 61,8 | 1 |
| 2400 | 57,1 | 0,99 |
| 2200 | 52,3 | 0,99 |
| 2000 | 47,5 | 0,99 |
| 1800 | 42,8 | 0,99 |
| 1600 | 38 | 0,98 |
| 1500 | 35,7 | 0,98 |
| 1400 | 33,3 | 0,98 |
| 1200 | 28,5 | 0,97 |
| 1000 | 23,8 | 0,97 |

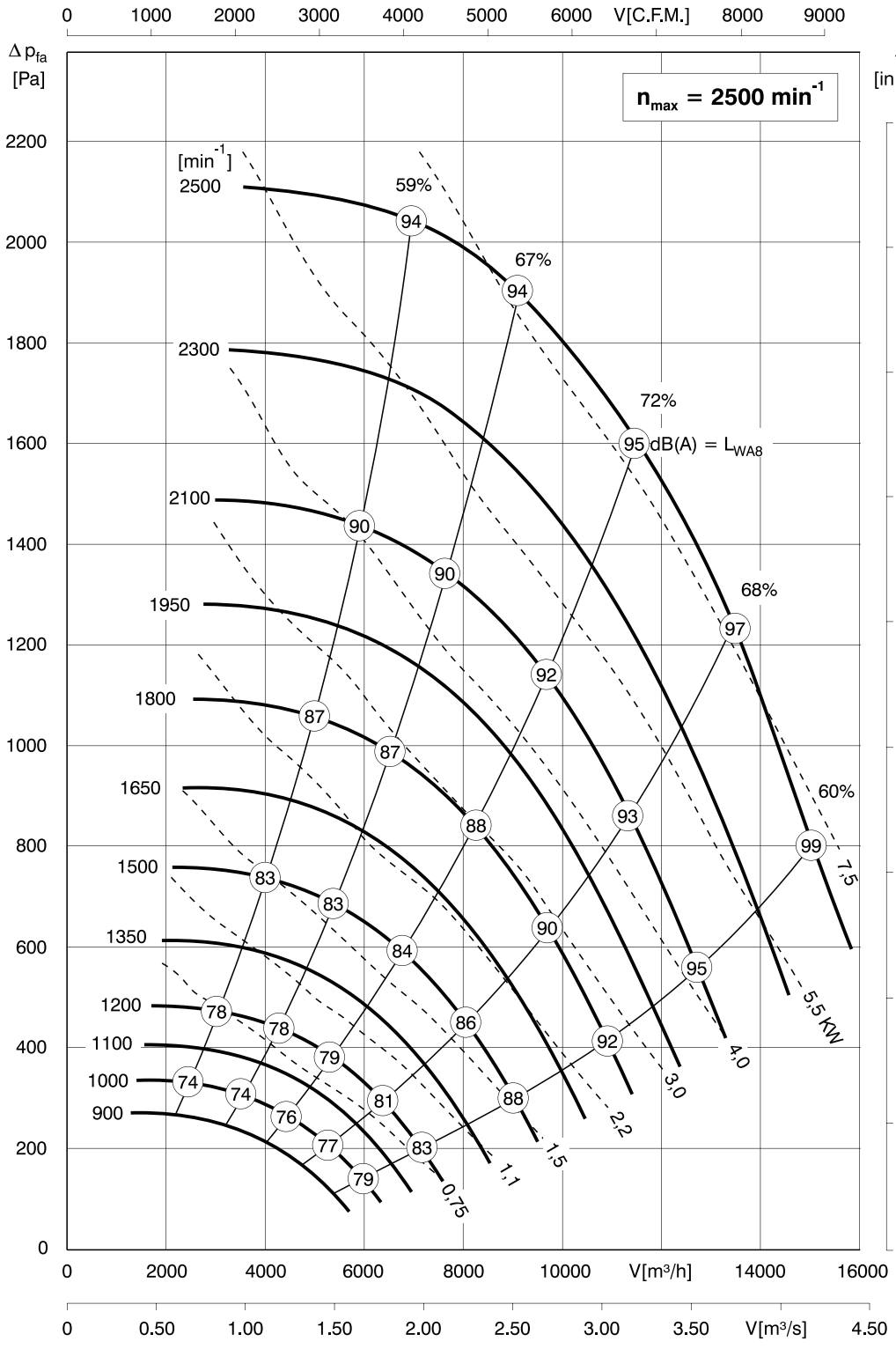
$L_{WA5} = L_{WA8} - 6$ dB
$L_{WA6} = L_{WA8} - 3$ dB
$L_{Wokt\ Austritt} = L_{WA8} - L_{Wrel}$
$L_{Wokt\ Eintritt} = L_{WA5} - L_{Wrel}$

$L_{Woct\ outlet} = L_{WA8} - L_{Wrel}$
$L_{Woct\ inlet} = L_{WA5} - L_{Wrel}$

| f [Hz] | $L_{Wrel}$ Eintritt-Seite / inlet side [dB] | $L_{Wrel}$ Austritt-Seite / outlet side [dB] |
|---|---|---|
| 63 | -11 | -9 |
| 125 | -4 | -8 |
| 250 | 0 | -2 |
| 500 | -3 | -2 |
| 1K | -5 | -5 |
| 2K | -8 | -8 |
| 4K | -12 | -13 |
| 8K | -19 | -19 |

Düsenbeiwert / calibration factor $k_{10} = 145$

| Typenbezeichnung | Motortyp | $n_N$ [min-1] | $P_N$ [kW] | $I_N$ [A] | $f_{max}$ [Hz] | $n_{max}$ [min-1] | Gewicht / Weight [kg] DKNB | / DKNM |
|---|---|---|---|---|---|---|---|---|
| DKN_ 450-4KW.138.A09-001 | 90S-4 | 1410 | 1,1 | 2,65 | 53 | 1490 | 41 | 31,5 |
| DKN_ 450-4KW.138.A09-002 | 90L-4 | 1420 | 1,5 | 3,45 | 59 | 1670 | 42 | 35 |
| DKN_ 450-4KW.138.A10-001 | 100L-4 | 1420 | 2,2 | 4,90 | 67 | 1900 | 48 | 41 |
| DKN_ 450-4KW.138.A10-002 | 100L-4 | 1420 | 3,0 | 6,40 | 74 | 2100 | 51 | 44 |
| DKN_ 450-4KW.138.A11-001 | 112M-4 | 1440 | 4,0 | 8,30 | 80 | 2300 | 57 | 50 |
| DKN_ 450-4KW.138.A13-001 | 132S-4 | 1455 | 5,5 | 11,4 | 89 | 2590 | 70 | 62 |
| DKN_ 450-2KW.138.A13-001 | 132S-2 | 2915 | 7,5 | 14,7 | 50 | 2915 | 77 | 69 |




| n [min$^{-1}$] | u [m/s] | $\eta$ Korr |
|---|---|---|
| 2500 | 66,8 | 1 |
| 2300 | 61,4 | 1 |
| 2100 | 56,1 | 1 |
| 1950 | 52,1 | 0,99 |
| 1800 | 48,1 | 0,99 |
| 1650 | 44,1 | 0,99 |
| 1500 | 40,1 | 0,99 |
| 1350 | 36 | 0,98 |
| 1200 | 32 | 0,98 |
| 1100 | 29,4 | 0,98 |
| 1000 | 26,7 | 0,97 |
| 900 | 24 | 0,97 |

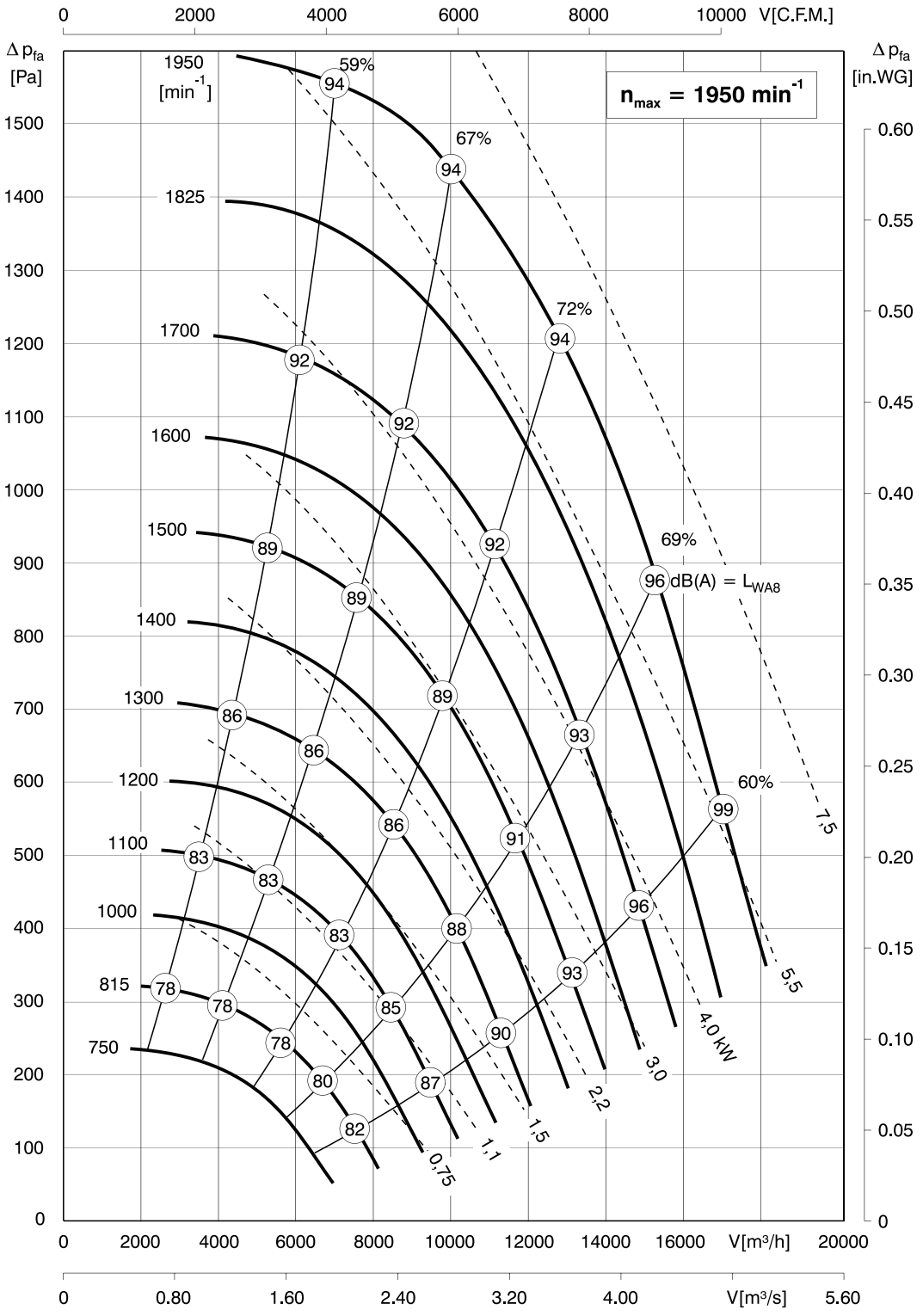
$L_{WA5} = L_{WA8} - 6$ dB
$L_{WA6} = L_{WA8} - 3$ dB
$L_{Wokt\ Austritt} = L_{WA8} - L_{Wrel}$
$L_{Wokt\ Eintritt} = L_{WA5} - L_{Wrel}$

$L_{Woct\ outlet} = L_{WA8} - L_{Wrel}$
$L_{Woct\ inlet} = L_{WA5} - L_{Wrel}$

| f [Hz] | $L_{Wrel}$ Eintritt-Seite / inlet side [dB] | $L_{Wrel}$ Austritt-Seite / outlet side [dB] |
|---|---|---|
| 63 | -10 | -10 |
| 125 | -3 | -7 |
| 250 | 0 | -1 |
| 500 | -4 | -3 |
| 1K | -5 | -4 |
| 2K | -8 | -8 |
| 4K | -12 | -13 |
| 8K | -19 | -20 |

Düsenbeiwert / calibration factor $k_{10} = 180$

| Typenbezeichnung | Motortyp | $n_N$ [min$^{-1}$] | $P_N$ [kW] | $I_N$ [A] | $f_{max}$ [Hz] | $n_{max}$ [min$^{-1}$] | Gewicht / Weight [kg] DKNB | / DKNM |
|---|---|---|---|---|---|---|---|---|
| DKN_ 500-6KW.155.A09-001 | 90L-6 | 915 | 1,1 | 2,9 | 68 | 1245 | 40 | 35 |
| DKN_ 500-6KW.155.A10-001 | 100L-6 | 925 | 1,5 | 3,9 | 74 | 1370 | 45 | 43 |
| DKN_ 500-4KW.155.A10-001 | 100L-4 | 1420 | 2,2 | 4,9 | 55 | 1560 | 45 | 51 |
| DKN_ 500-4KW.155.A10-002 | 100L-4 | 1420 | 3,0 | 6,4 | 60 | 1700 | 48 | 54 |
| DKN_ 500-4KW.155.A11-001 | 112M-4 | 1440 | 4,0 | 8,3 | 66 | 1900 | 55 | 60 |
| DKN_ 500-4KW.155.A13-001 | 132S-4 | 1455 | 5,5 | 11,4 | 73 | 2120 | 72 | 72 |
| DKN_ 500-4KW.155.A13-002 | 132M-4 | 1455 | 7,5 | 15,1 | 81 | 2350 | 75 | 78 |
| DKN_ 500-4KW.155.A16-001 | 160M-4 | 1460 | 11 | 21,4 | 85 | 2480 | 104 | 97 |




| n [min$^{-1}$] | u [m/s] | $\eta$ Korr |
|---|---|---|
| 1950 | 58,2 | 1 |
| 1825 | 54,5 | 1 |
| 1700 | 50,7 | 1 |
| 1600 | 47,8 | 0,99 |
| 1500 | 44,8 | 0,99 |
| 1400 | 41,8 | 0,99 |
| 1300 | 38,8 | 0,99 |
| 1200 | 35,8 | 0,98 |
| 1100 | 32,8 | 0,98 |
| 1000 | 29,8 | 0,98 |
| 815 | 24,3 | 0,97 |
| 750 | 22,4 | 0,97 |

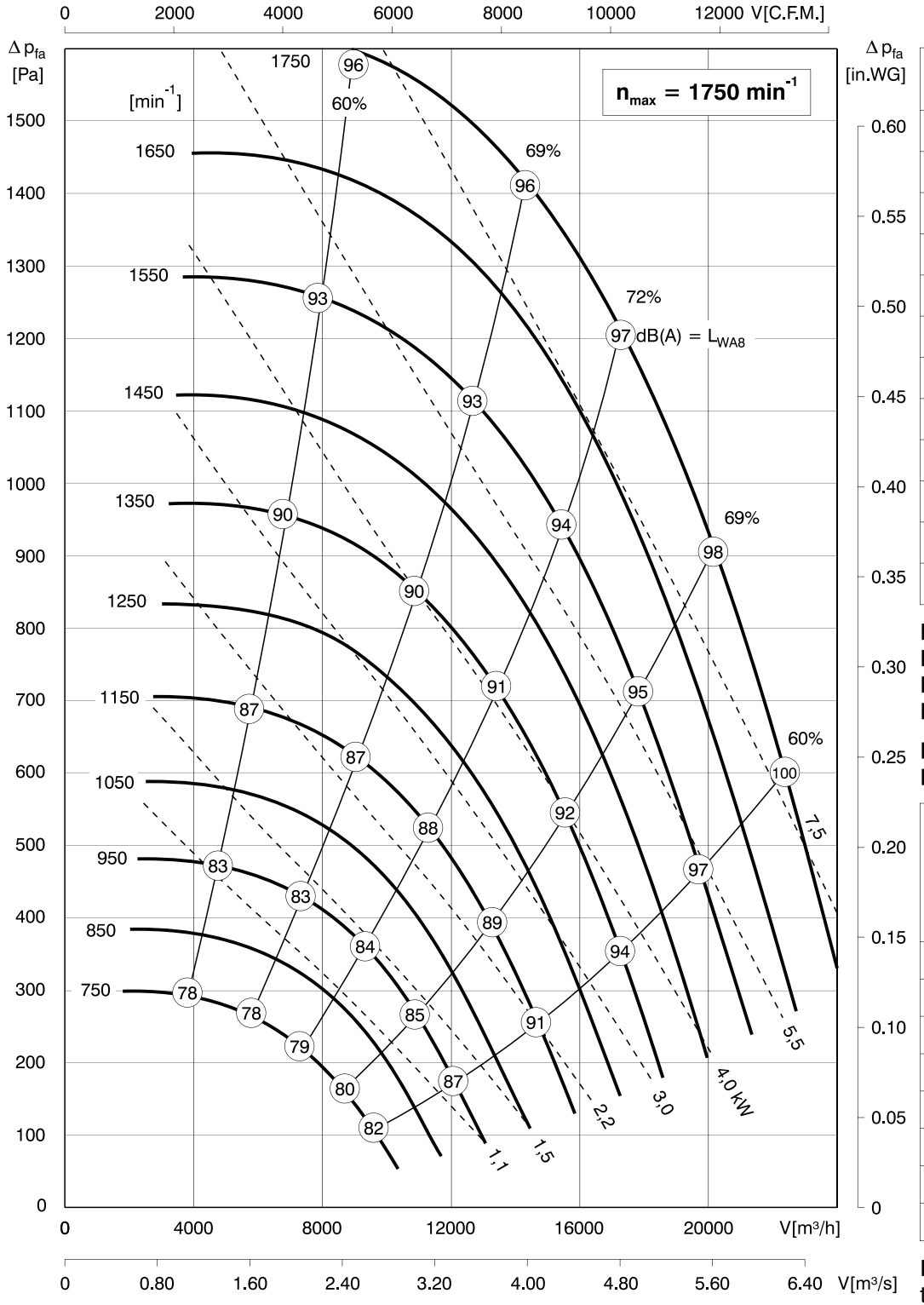
$L_{WA5} = L_{WA8} - 6$ dB
$L_{WA6} = L_{WA8} - 3$ dB
$L_{Wokt\ Austritt} = L_{WA8} - L_{Wrel}$
$L_{Wokt\ Eintritt} = L_{WA5} - L_{Wrel}$

$L_{Woct\ outlet} = L_{WA8} - L_{Wrel}$
$L_{Woct\ inlet} = L_{WA5} - L_{Wrel}$

| f [Hz] | $L_{Wrel}$ Eintritt-Seite / inlet side [dB] | $L_{Wrel}$ Austritt-Seite / outlet side [dB] |
|---|---|---|
| 63 | -10 | -10 |
| 125 | -3 | -7 |
| 250 | 0 | -1 |
| 500 | -4 | -3 |
| 1K | -5 | -4 |
| 2K | -8 | -8 |
| 4K | -12 | -13 |
| 8K | -19 | -20 |

Düsenbeiwert / calibration factor $k_{10} = 220$

| Typenbezeichnung | Motortyp | $n_N$ [min$^{-1}$] | $P_N$ [kW] | $I_N$ [A] | $f_{max}$ [Hz] | $n_{max}$ [min$^{-1}$] | Gewicht / Weight [kg] DKNB | / DKNM |
|---|---|---|---|---|---|---|---|---|
| DKN_ 560-6KW.174.A09-001 | 90L-6 | 915 | 1,1 | 2,9 | 56 | 1025 | 51 | 42 |
| DKN_ 560-6KW.174.A10-001 | 100L-6 | 925 | 1,5 | 3,9 | 62 | 1150 | 58 | 50 |
| DKN_ 560-4KW.174.A10-001 | 100L-4 | 1420 | 3,0 | 6,4 | 51 | 1450 | 61 | 50 |
| DKN_ 560-4KW.174.A11-001 | 112M-4 | 1440 | 4,0 | 8,3 | 55 | 1580 | 68 | 56 |
| DKN_ 560-4KW.174.A13-001 | 132S-4 | 1455 | 5,5 | 11,4 | 61 | 1775 | 81 | 68 |
| DKN_ 560-4KW.174.A13-002 | 132M-4 | 1455 | 7,5 | 15,1 | 67 | 1950 | 89 | 74 |




| n [min$^{-1}$] | u [m/s] | $\eta$ Korr |
|---|---|---|
| 1750 | 58,6 | 1 |
| 1650 | 55,3 | 1 |
| 1550 | 52 | 1 |
| 1450 | 48,6 | 0,99 |
| 1350 | 45,2 | 0,99 |
| 1250 | 41,9 | 0,99 |
| 1050 | 35,2 | 0,99 |
| 950 | 31,8 | 0,98 |
| 850 | 28,5 | 0,98 |
| 750 | 25 | 0,98 |
| | | |
| | | |

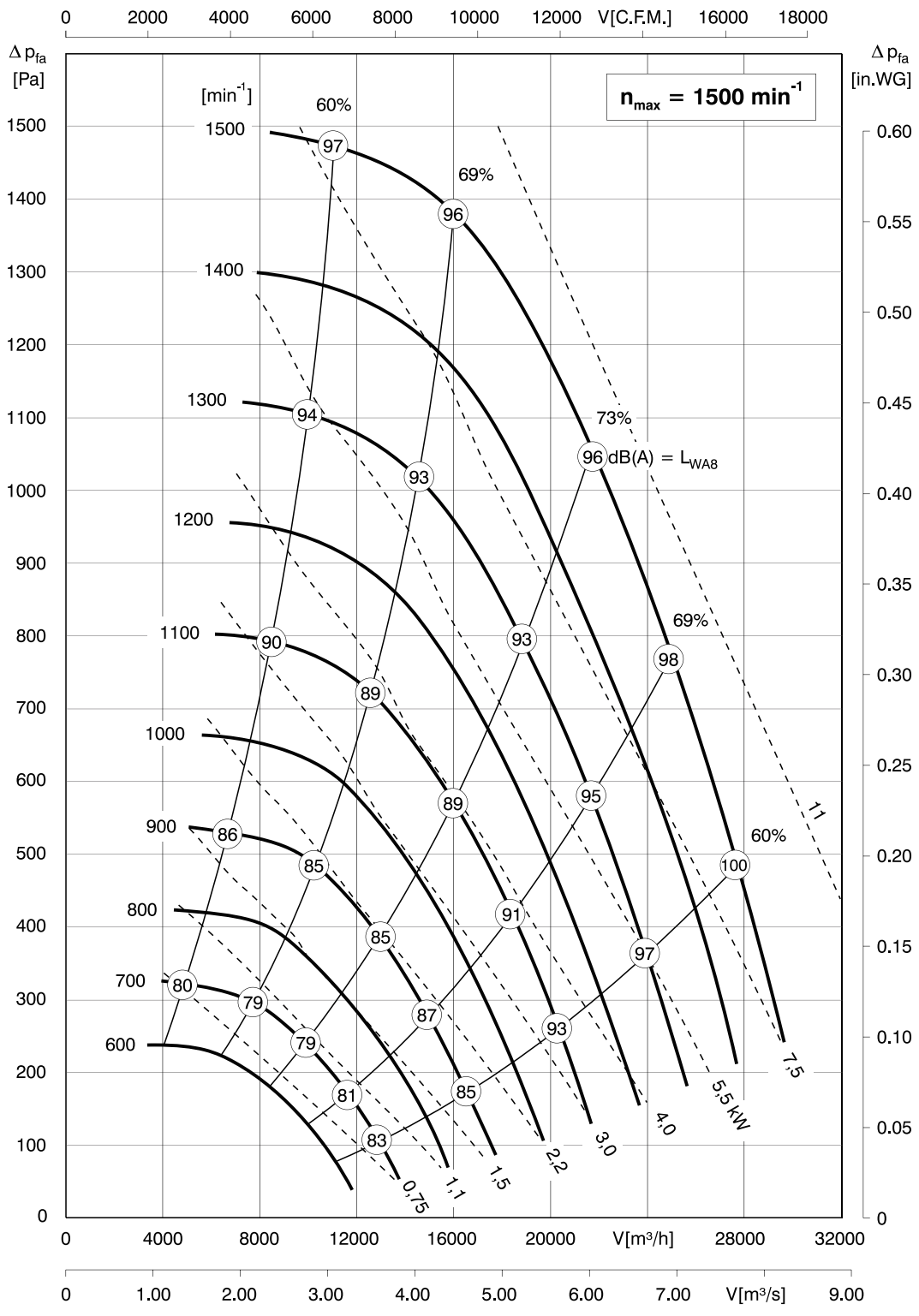
$L_{WA5} = L_{WA8} - 6$ dB
$L_{WA6} = L_{WA8} - 3$ dB
$L_{Wokt\ Austritt} = L_{WA8} - L_{Wrel}$
$L_{Wokt\ Eintritt} = L_{WA5} - L_{Wrel}$

$L_{Woct\ outlet} = L_{WA8} - L_{Wrel}$
$L_{Woct\ inlet} = L_{WA5} - L_{Wrel}$

| f [Hz] | $L_{Wrel}$ Eintritt-Seite / inlet side [dB] | $L_{Wrel}$ Austritt-Seite / outlet side [dB] |
|---|---|---|
| 63 | -10 | -10 |
| 125 | -2 | -3 |
| 250 | 1 | 0 |
| 500 | -5 | -4 |
| 1K | -5 | -5 |
| 2K | -7 | -7 |
| 4K | -12 | -12 |
| 8K | -19 | -20 |

Düsenbeiwert / calibration factor $k_{10} = 287$

| Typenbezeichnung | Motortyp | $n_N$ [min$^{-1}$] | $P_N$ [kW] | $I_N$ [A] | $f_{max}$ [Hz] | $n_{max}$ [min$^{-1}$] | Gewicht / Weight [kg] DKNB | / DKNM |
|---|---|---|---|---|---|---|---|---|
| DKN_ 630-6KW.195.A10-001 | 100L-6 | 925 | 1,5 | 3,9 | 50 | 925 | 60 | 54 |
| DKN_ 630-6KW.195.A11-001 | 112M-6 | 940 | 2,2 | 5,2 | 56 | 1050 | 65 | 56 |
| DKN_ 630-6KW.195.A13-001 | 132S-6 | 950 | 3,0 | 7,2 | 62 | 1180 | 80 | 70 |
| DKN_ 630-4KW.195.A13-001 | 132S-4 | 1455 | 5,5 | 11,4 | 50 | 1455 | 83 | 72 |
| DKN_ 630-4KW.195.A13-002 | 132S-4 | 1455 | 7,5 | 15,1 | 55 | 1600 | 91 | 78 |
| DKN_ 630-4KW.195.A16-001 | 160M-4 | 1460 | 11 | 21,4 | 60 | 1750 | 116 | 97 |




| n [min-1] | u [m/s] | η Korr |
|---|---|---|
| 1500 | 56,4 | 1 |
| 1400 | 52,6 | 1 |
| 1300 | 48,9 | 1 |
| 1200 | 45,1 | 0,99 |
| 1100 | 41,4 | 0,99 |
| 1000 | 37,6 | 0,99 |
| 900 | 33,8 | 0,99 |
| 800 | 30,1 | 0,98 |
| 700 | 26,3 | 0,98 |
| 600 | 22,6 | 0,98 |
| | | |
| | | |

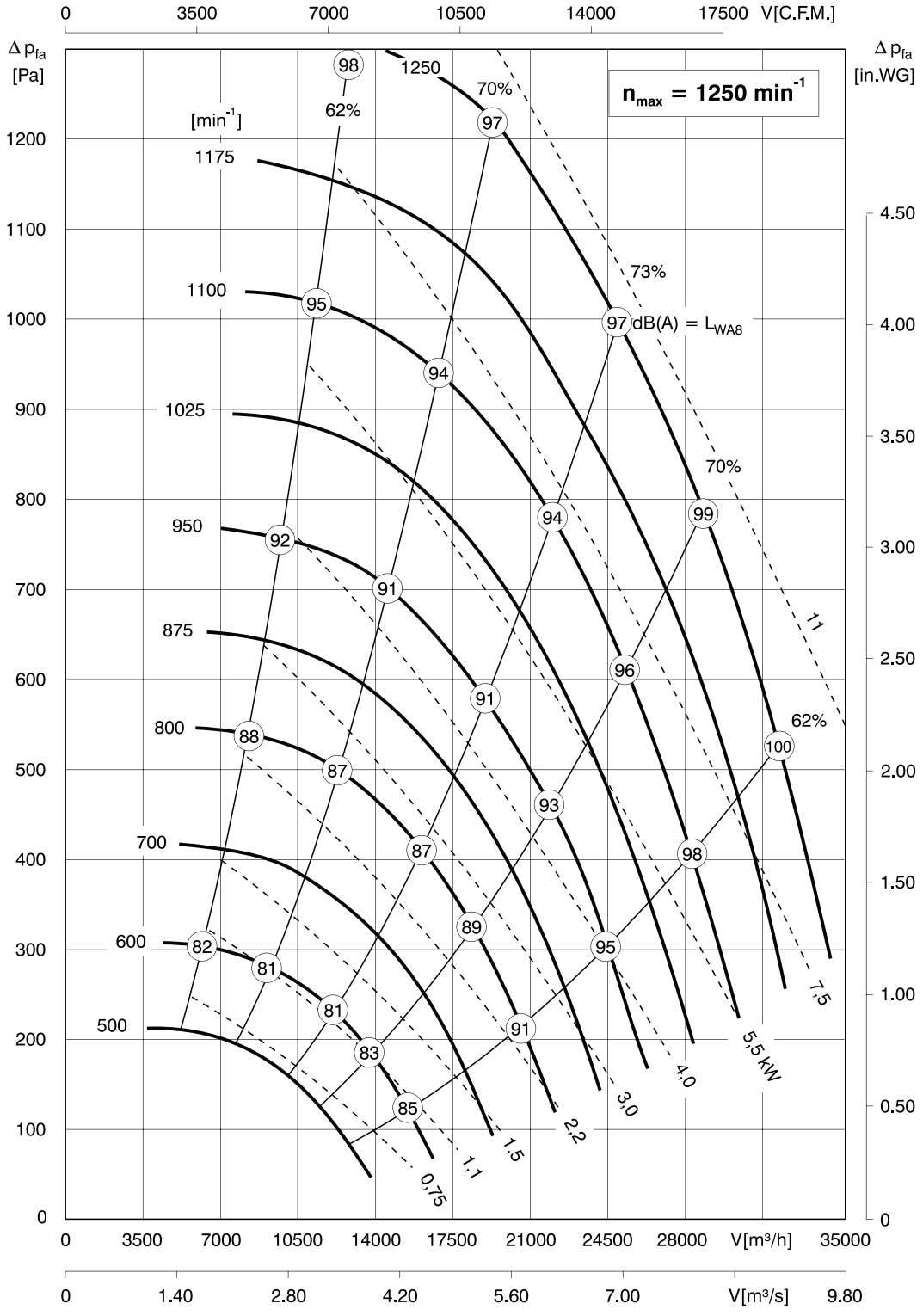
$L_{WA5} = L_{WA8} - 6$ dB
$L_{WA6} = L_{WA8} - 3$ dB
$L_{Wokt\ Austritt} = L_{WA8} - L_{Wrel}$
$L_{Wokt\ Eintritt} = L_{WA5} - L_{Wrel}$

$L_{Woct\ outlet} = L_{WA8} - L_{Wrel}$
$L_{Woct\ inlet} = L_{WA5} - L_{Wrel}$

| f [Hz] | $L_{Wrel}$ Eintritt-Seite / inlet side [dB] | $L_{Wrel}$ Austritt-Seite / outlet side [dB] |
|---|---|---|
| 63 | -3 | -2 |
| 125 | 1 | 0 |
| 250 | -4 | -4 |
| 500 | -5 | -5 |
| 1K | -2 | -2 |
| 2K | -11 | -11 |
| 4K | -17 | -17 |
| 8K | -24 | -25 |

Düsenbeiwert / calibration factor $k_{10} = 370$

| Typenbezeichnung | Motortyp | $n_N$ [min-1] | $P_N$ [kW] | $I_N$ [A] | $f_{max}$ [Hz] | $n_{max}$ [min-1] | Gewicht / Weight [kg] DKNB | / DKNM |
|---|---|---|---|---|---|---|---|---|
| DKN_ 710-8KW.219.A11-001 | 112M-8 | 705 | 1,5 | 3,9 | 54 | 760 | 138 | - |
| DKN_ 710-8KW.219.A13-001 | 132S-8 | 700 | 2,2 | 5,7 | 62 | 870 | 155 | - |
| DKN_ 710-6KW.219.A13-001 | 132S-6 | 950 | 3,0 | 7,2 | 51 | 970 | 155 | - |
| DKN_ 710-6KW.219.A13-002 | 132M-6 | 950 | 4,0 | 9,4 | 56 | 1060 | 160 | - |
| DKN_ 710-6KW.219.A13-003 | 132M-6 | 950 | 5,5 | 12,8 | 62 | 1180 | 168 | - |
| DKN_ 710-6KW.219.A16-001 | 160M-6 | 960 | 7,5 | 17,0 | 68 | 1305 | 190 | - |
| DKN_ 710-4KW.219.A16-001 | 160M-4 | 1460 | 11 | 21,4 | 51 | 1500 | 182 | - |




| n [min$^{-1}$] | u [m/s] | $\eta$ Korr |
|---|---|---|
| 1250 | 52,9 | 1 |
| 1175 | 49,7 | 1 |
| 1100 | 46,5 | 1 |
| 1025 | 43,4 | 0,99 |
| 950 | 40,2 | 0,99 |
| 875 | 37 | 0,99 |
| 800 | 33,8 | 0,99 |
| 700 | 29,6 | 0,98 |
| 600 | 25,4 | 0,98 |
| 500 | 21,2 | 0,98 |
| | | |
| | | |

$L_{WA5} = L_{WA8} - 6$ dB
$L_{WA6} = L_{WA8} - 3$ dB
$L_{Wokt\ Austritt} = L_{WA8} - L_{Wrel}$
$L_{Wokt\ Eintritt} = L_{WA5} - L_{Wrel}$

$L_{Woct\ outlet} = L_{WA8} - L_{Wrel}$
$L_{Woct\ inlet} = L_{WA5} - L_{Wrel}$

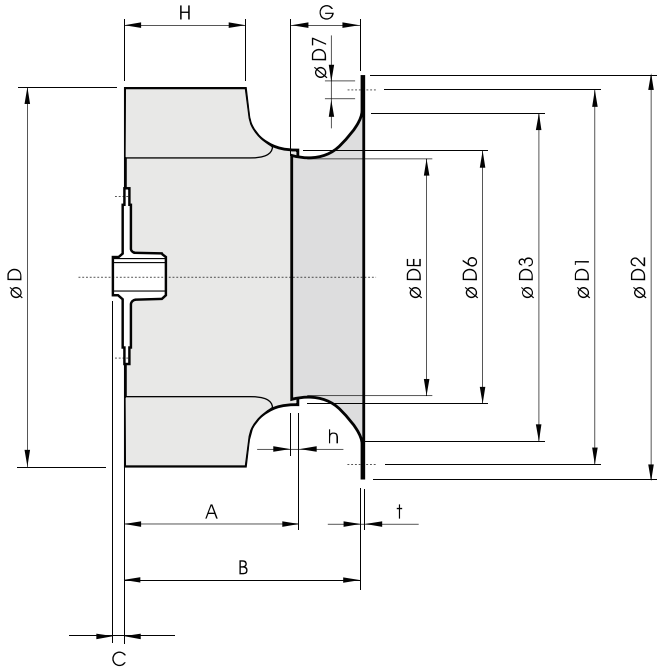
| f [Hz] | $L_{Wrel}$ Eintritt-Seite / inlet side [dB] | $L_{Wrel}$ Austritt-Seite / outlet side [dB] |
|---|---|---|
| 63 | -3 | -2 |
| 125 | 1 | 0 |
| 250 | -4 | -4 |
| 500 | -5 | -5 |
| 1K | -2 | -2 |
| 2K | -11 | -11 |
| 4K | -17 | -17 |
| 8K | -24 | -24 |

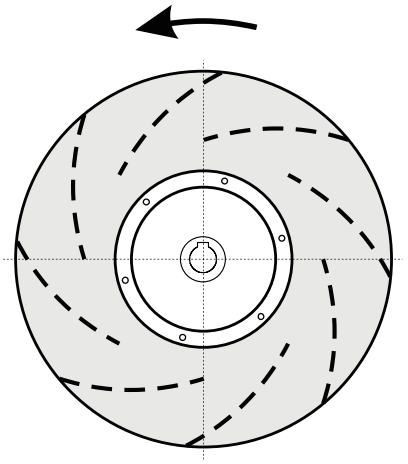
Düsenbeiwert / calibration factor $k_{10} = 475$

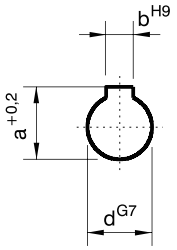
| Typenbezeichnung | Motortyp | $n_N$ [min$^{-1}$] | $P_N$ [kW] | $I_N$ [A] | $f_{max}$ [Hz] | $n_{max}$ [min$^{-1}$] | Gewicht / Weight [kg] DKNB | / DKNM |
|---|---|---|---|---|---|---|---|---|
| DKN_ 800-8KW.246.A13-001 | 132M-8 | 700 | 3,0 | 7,6 | 53 | 740 | 163 | - |
| DKN_ 800-6KW.246.A13-001 | 132M-6 | 950 | 5,5 | 12,8 | 51 | 970 | 168 | - |
| DKN_ 800-6KW.246.A16-001 | 160M-6 | 960 | 7,5 | 17,0 | 56 | 1075 | 190 | - |
| DKN_ 800-6KW.246.A16-002 | 160L-6 | 960 | 11 | 24,5 | 65 | 1250 | 216 | - |

## LRHF : Laufrad mit Nabe

## Impeller with hub

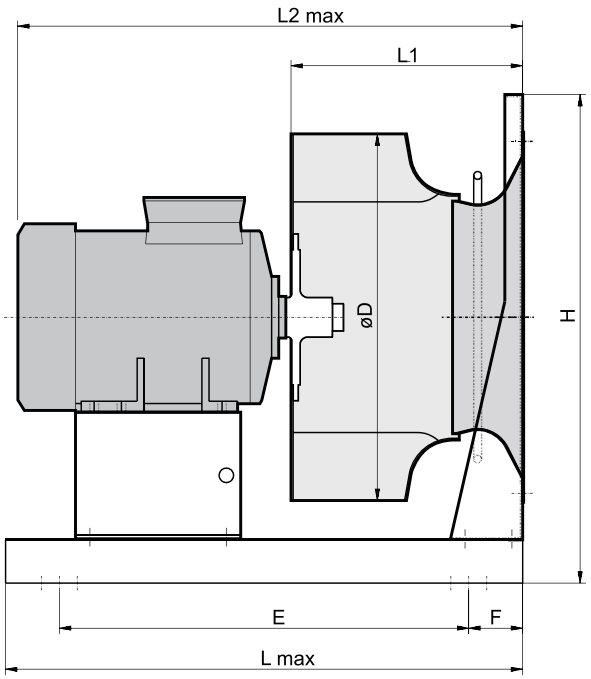


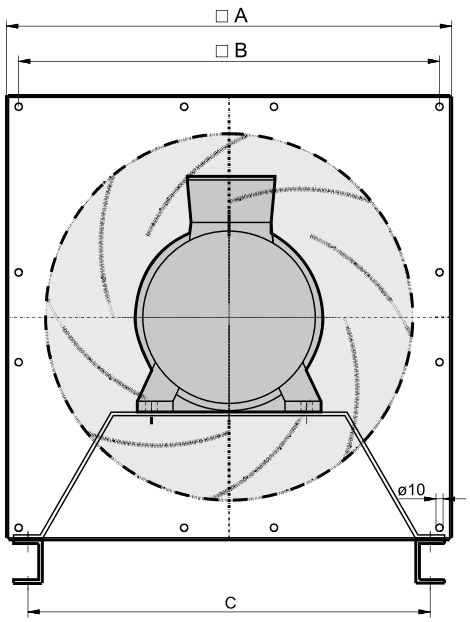





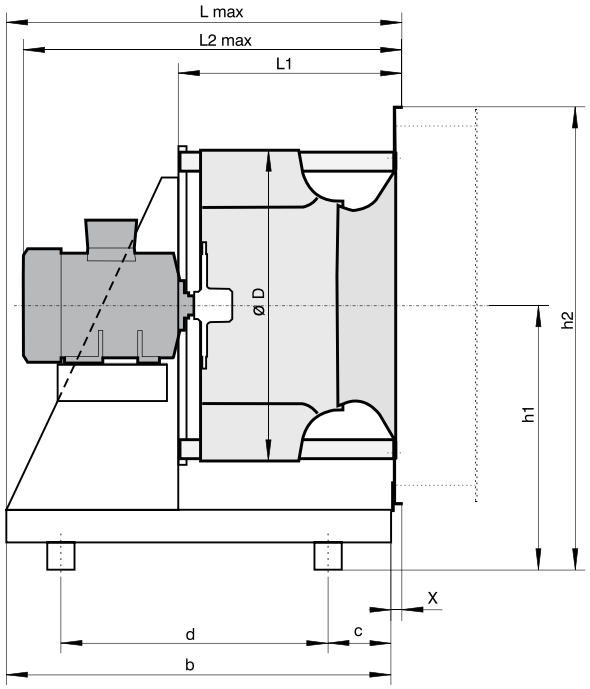

| Artikel-Nr | A | B | C | H | øD | a | b | d | øD6 | h | øDE | øD3 | øD2 | øD1 | øD7 | G | t |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R63-25014 | 118 | 160 | 6 | **78** | 252 | 16,3 | 5 | 14 | 168 | 4,5 | 155 | 225 | 280 | 259 / 6x60° | 7 | 46 | 1,5 |
| R63-25019 | | | 6 | | | 21,8 | 6 | 19 | | | | | | | | | |
| R63-25024 | | | 9,5 | | | 27,3 | 8 | 24 | | | | | | | | | |
| R63-25028 | | | 9,5 | | | 31,3 | 8 | 28 | | | | | | | | | |
| R63-28019 | 133 | 182 | 9,5 | **87** | 284 | 21,8 | 6 | 19 | 188 | 5 | 174 | 250 | 307 | 286 / 6x60° | 7 | 52 | 1,5 |
| R63-28024 | | | | | | 27,3 | 8 | 24 | | | | | | | | | |
| R63-28028 | | | | | | 31,3 | 8 | 28 | | | | | | | | | |
| R63-315-19 | 146 | 200 | 9,5 | **98** | 319 | 21,8 | 6 | 19 | 212 | 5,5 | 195 | 282 | 348 | 320 / 6x60° | 11 | 52 | 1,5 |
| R63-315-24 | | | | | | 27,3 | 8 | 24 | | | | | | | | | |
| R63-315-28 | | | | | | 31,3 | 8 | 28 | | | | | | | | | |
| R63-355-19 | 164 | 225 | 9,5 | **110** | 359 | 21,8 | 6 | 19 | 238 | 6 | 219 | 315 | 382 | 356 / 6x60° | 11 | 67 | 1,5 |
| R63-355-24 | | | | | | 27,3 | 8 | 24 | | | | | | | | | |
| R63-355-28 | | | | | | 31,3 | 8 | 28 | | | | | | | | | |
| R63-400-19 | 184 | 253 | 9,5 | **123** | 404 | 21,8 | 6 | 19 | 267 | 7 | 248 | 355 | 422 | 395 / 8x45° | 11 | 76 | 1,5 |
| R63-400-24 | | | 9,5 | | | 27,3 | 8 | 24 | | | | | | | | | |
| R63-400-28 | | | 9,5 | | | 31,3 | 8 | 28 | | | | | | | | | |
| R63-400-38 | | | 17 | | | 41,3 | 10 | 38 | | | | | | | | | |
| R63-450-24 | 209 | 283 | 17 | **138** | 454 | 27,3 | 8 | 24 | 300 | 8 | 277 | 400 | 464 | 438 / 8x45° | 11 | 82 | 1,5 |
| R63-450-28 | | | | | | 31,3 | 8 | 28 | | | | | | | | | |
| R63-450-38 | | | | | | 41,3 | 10 | 38 | | | | | | | | | |
| R63-500-24 | 234 | 323 | 17 | **155** | 510 | 27,3 | 8 | 24 | 337 | 9 | 310 | 450 | 515 | 490 / 8x45° | 11 | 98 | 1,5 |
| R63-500-28 | | | | | | 31,3 | 8 | 28 | | | | | | | | | |
| R63-500-38 | | | | | | 41,3 | 10 | 38 | | | | | | | | | |
| R63-500-42 | | | | | | 45,3 | 12 | 42 | | | | | | | | | |
| R63-560-24 | 262 | 357 | 17 | **174** | 570 | 27,3 | 8 | 24 | 377 | 10 | 348 | 500 | 564 | 541 / 8x45° | 11 | 105 | 1,5 |
| R63-560-28 | | | | | | 31,3 | 8 | 28 | | | | | | | | | |
| R63-560-38 | | | | | | 41,3 | 10 | 38 | | | | | | | | | |
| R63-630-28 | 292 | 395 | 17 | **195** | 640 | 31,3 | 8 | 28 | 424 | 11 | 390 | 560 | 638 | 608 / 8 x45° | 14 | 114 | 1,5 |
| R63-630-38 | | | | | | 41,3 | 10 | 38 | | | | | | | | | |
| R63-630-42 | | | | | | 45,3 | 12 | 42 | | | | | | | | | |
| R63-710-28 | 326 | 449 | 16 | **219** | 718 | 31,3 | 8 | 28 | 476 | 12,5 | 438 | 630 | 710 | 674 / 8x45° | 14 | 135 | 1,5 |
| R63-710-38 | | | | | | 41,3 | 10 | 38 | | | | | | | | | |
| R63-710-42 | | | | | | 45,3 | 12 | 42 | | | | | | | | | |
| R63-800-38 | 366 | 506 | 15 | **246** | 808 | 41,3 | 10 | 38 | 534 | 14 | 491 | 710 | 785 | 751 / 8x45° | 14 | 154 | 2,0 |
| R63-800-42 | | | | | | 45,3 | 12 | 42 | | | | | | | | | |

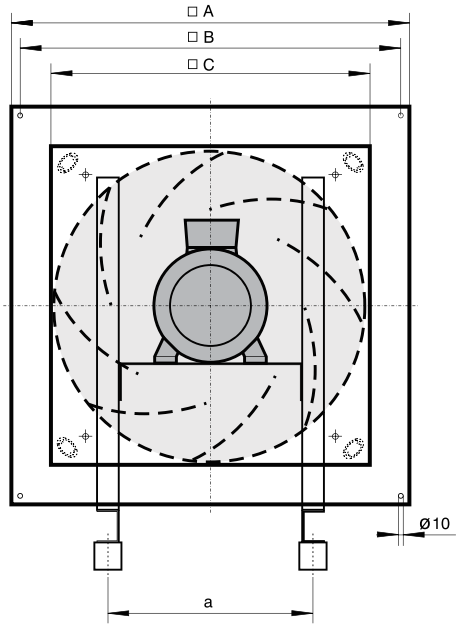
**DKNB**



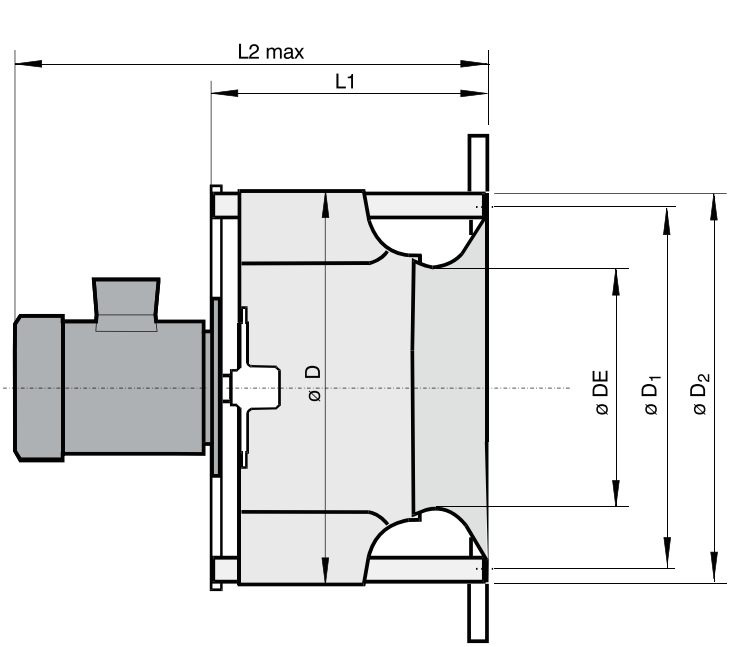

| Typ | A | B | C | øD | E | F | Lmax | H | L1 | L2max | Stutzen |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DKNB 250 | 415 | 381 | 355 | 252 | 370 | 75 | 520 | 455 | 160 | 481 | ELS280-0355N |
| DKNB 280 | 415 | 381 | 355 | 284 | 370 | 75 | 520 | 455 | 180 | 525 | |
| DKNB 315 | 415 | 381 | 355 | 319 | 370 | 75 | 520 | 455 | 200 | 545 | |
| DKNB 355 | 510 | 476 | 450 | 359 | 450 | 75 | 600 | 550 | 225 | 570 | ELS355-0450N |
| DKNB 400 | 510 | 476 | 450 | 404 | 450 | 75 | 600 | 550 | 255 | 645 | |
| DKNB 450 | 620 | 586 | 560 | 454 | 570 | 75 | 720 | 680 | 285 | 665 | ELS450-0560N |
| DKNB 500 | 620 | 586 | 560 | 510 | 570 | 75 | 720 | 680 | 325 | 807 | |
| DKNB 560 | 770 | 736 | 710 | 570 | 650 | 75 | 800 | 830 | 357 | 747 | ELS560-0710N |
| DKNB 630 | 770 | 736 | 710 | 640 | 650 | 75 | 800 | 830 | 395 | 892 | |

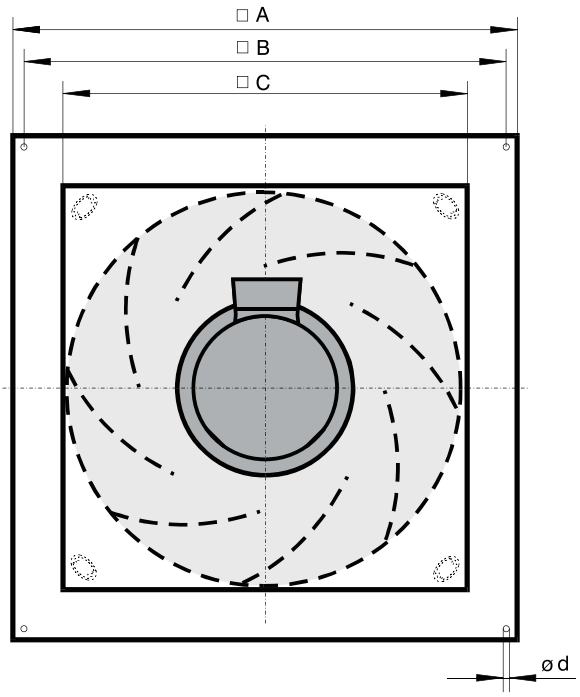



| Typ | A | B | C | øD | Lmax | L2max | L1 | a | b | c | d | h1 | h2 | x |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DKNB 710 | 971 | 929 | - | 718 | 1050 | 1000 | 513 | 650 | 1030 | 135 | 800 | 615,5 | 1101 | 20 |
| DKNB 800 | 971 | 929 | - | 808 | 1050 | 1060 | 570 | 650 | 1030 | 135 | 800 | 615,5 | 1101 | 20 |

## DKNM



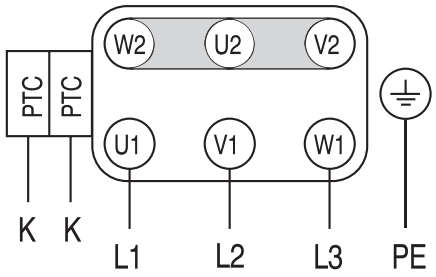




| Typ | A | B | C | d | D | $L2_{max}$ | L1 | DE | D1 | D2 |
|---|---|---|---|---|---|---|---|---|---|---|
| DKNM 280 | 500 | 450 | 320 | 11 | 284 | 555 | 210 | 174 | 286 | 307 |
| DKNM 315 | 500 | 450 | 360 | 11 | 319 | 575 | 230 | 195 | 320 | 348 |
| DKNM 355 | 500 | 450 | 395 | 11 | 359 | 600 | 255 | 219 | 356 | 382 |
| DKNM 400 | 500 | 450 | 420 | 11 | 404 | 710 | 287 | 248 | 395 | 422 |
| DKNM 450 | 630 | 580 | 470 | 14 | 454 | 745 | 322 | 277 | 438 | 464 |
| DKNM 500 | 630 | 580 | 535 | 14 | 510 | 840 | 356 | 310 | 487 | 515 |
| DKNM 560 | 800 | 750 | 585 | 14 | 570 | 820 | 396 | 348 | 541 | 564 |
| DKNM 630 | 800 | 750 | 625 | 14 | 640 | 920 | 436 | 390 | 608 | 638 |

Andere Abmessungen auf Anfrage.
Other dimensions on request.

**接线图**

**带热保护器的三相交流电机**




(Y) 星型连接 / Star connection

电机连接方式见电机铭牌，通过互换任意两相可以改变旋转方向。

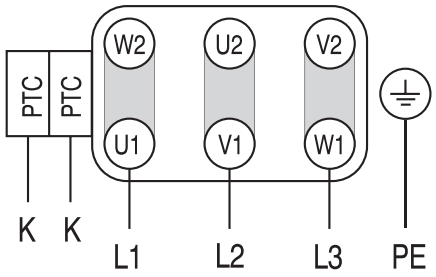
电机电压：220 V / 380V：

- 如果电源是380V，电机必须按照如图的星形连接接线。
- 如果电源是220V，电机必须按照如图的三角形连接接线。

备注：电源是220V，可用在外置变频器上。

**Wiring diagrams**

**Three- phase A.C. motor with PTC resistor**




(Δ) 三角连接 / Delta connection

Motor must be wired according to motor label. Reversible rotation by interchanging phases.

Motor voltages 230 V Δ / 400 V Y :

- Motor must be wired up in star connection (Y) according to the connection diagram, if power supply is 400 V / 3~.
- Motor must be wired up in delta connection (Δ) according to the connection diagram, if power supply is 230 V / 3~.
  Note: The above mentioned supplies are available on the “out” of a frequency converter if it is supplied with 230 V / 1~.

Motor voltages 400 V Δ / 690 V Y :

- Motor must be wired up in delta connection (Δ) according to the connection diagram, if power supply is 400 V / 3~.
  Note: The above mentioned motors can be started in delta-star.