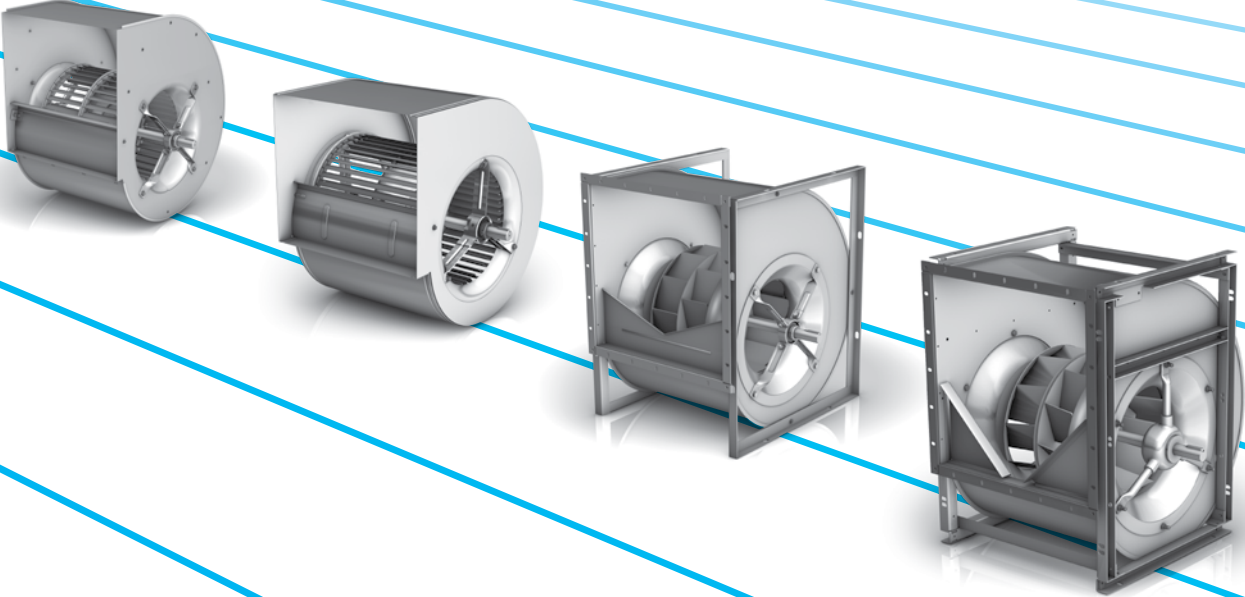


# Centrifugal Fans RZR

belt driven

Issue 2.5 EN  
August 2013





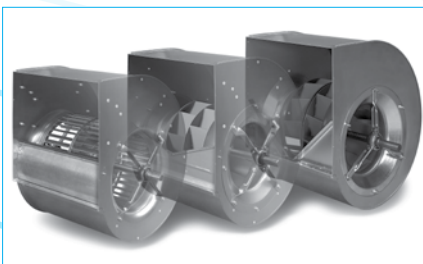
**Nicotra Gebhardt S.p.A.** (Italy) certifies that ADH-E fans of the E0, E2, E4, E6 and E7 versions, from sizes 0160 to 0560, RDH-E fans of the E0, E2, E4, E6 and E7 versions, from sizes 0180 to 0560, ADH and RDH fans of the L, R, K, K1 and K2 versions, from sizes 0630 to 1000, AT fans of the S, SC, C and TIC versions, from sizes 7/7 to 30/28, shown herein are licensed to bear the AMCA Seal.

**Nicotra Gebhardt GmbH** (Germany) certifies that RZR fans of the 11, 12, 15 versions, from sizes 0355 to 1000, shown herein are licensed to bear the AMCA Seal.

The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

Air performance with Installation Type “A” (“with free outlet”), and that of the twin fan versions G2L, G2R, G2K, G2K2, G2E0, G2E2, G2E4, G2E7, SC2, G2C and G2C-C2, and that of the triple fan versions G3C and G3C-C2 in any installation type is not AMCA licensed.

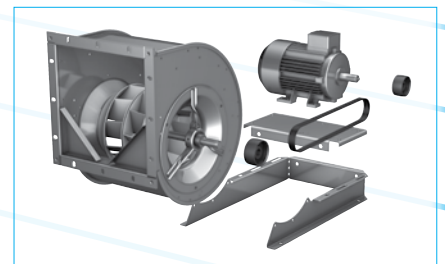
## Nicotra Gebhardt stands for:



► Maximised flexibility and minimised design effort for customers, because all radial fan casings have identical dimensions – no matter what kind of impeller geometry



► Top product quality and shorter delivery times – thanks to state-of-the-art production technology



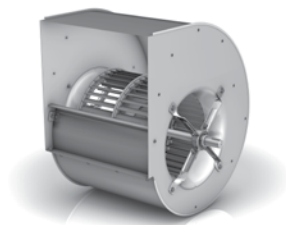
► Energy efficiency through comprehensive system know-how

# The Nicotra Gebhardt portfolio

## A strong provider for many optimal solutions

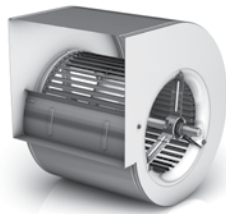
When it comes to radial fans, we are the first people you should talk to. From belt-driven radial fans to plugfans, it's all there in our product portfolio. We offer the largest, most comprehensive range of products in this area – and of course the matching services.

### ADH-E / ADH



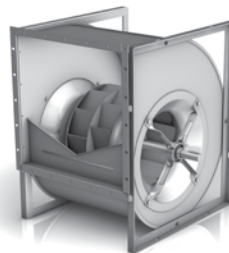
double-inlet  
forward-curved  
impeller geometry

### AT



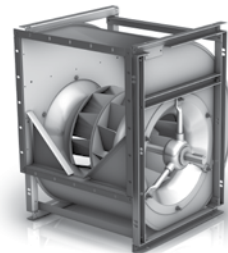
double-inlet  
inch diameters  
forward-curved impeller  
geometry

### RDH-E / RDH



double-inlet  
backward-curved  
impeller geometry

### RZR



double-inlet  
hollow aerofoil  
impeller geometry

## When everything fits

To us, perfection in our product portfolio means that all product series in the area of encased radial fans are attuned to one another and are 100% compatible in their dimensions.

How did we do it?

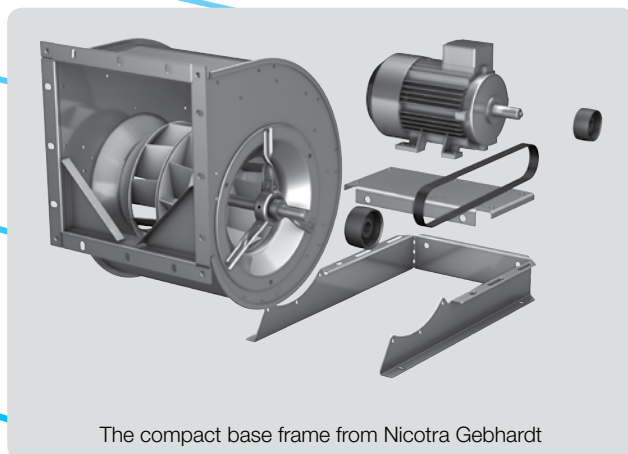
By using an identical design for the connection dimensions of every fan size in our newly developed series ADH-E and RDH-E and carefully coordinating our options and accessories.

In this way, we have standardised and harmonised our product portfolio in all relevant areas.

## Well designed, easy to install, economical

A system that saves space, time, and money – in an air handling unit or any other application: our compact base frame offers decisive advantages:

- ▶ The frame lengths have been optimised and adjusted for the casing position and motor installation height to achieve the smallest possible overall height and length
- ▶ Exact, optimised coordination of all components, all the way through to installation, adjustment and testing
- ▶ Suitable for all fans of the series ADH-E0, RDH-E0 and RZR-11 up to size 0500



The compact base frame from Nicotra Gebhardt

# proSELECTA II

proSELECTA II is a technical selection program that allows you to configure your own individually designed fan. It provides you with the opportunity to choose from the entire range of fan types and their associated options.

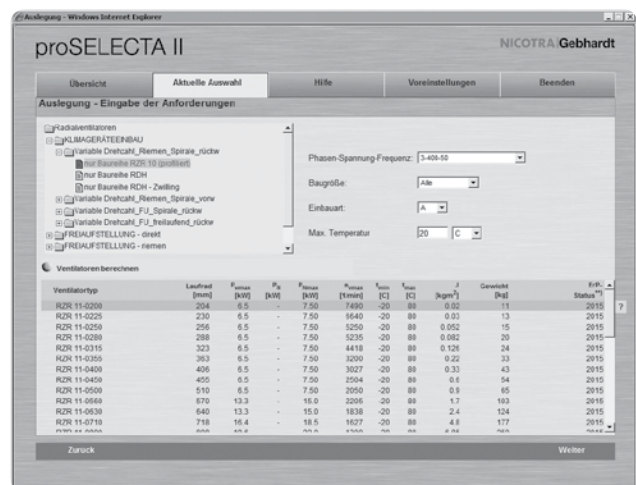


## Simple and reliable selection

The result from **proSELECTA II** is the provision of all the technical data for your fan, including sound level data, dimension specifications and accessories. Apart from that, as a registered user, your purchase prices are provided. Additionally fully dimensioned drawings in DXF format are available, which can be downloaded and transferred straight into your CAD system.

## So that you can be sure

Models and options that are technically not permissible, are automatically excluded in proSELECTA II. So there is no chance that you will configure a "wrong" device option.



## What else is important to you

During the fan selection process, you can choose any of the standardised ATEX options.

Free registration and many advantages

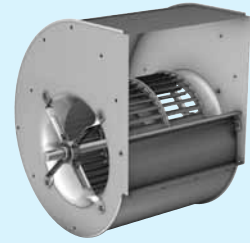
You can register as a proSELECTA II user with us, which enables us to offer you faster order processing. What this means for you is:

- ▶ The complete configuration of your fan with its associated system accessories and belt drive layout.
- ▶ The possibility to produce fans that operate via a frequency inverter.
- ▶ The option of saving your own fan configuration on our server.
- ▶ The opportunity to modify your saved configuration, even over the phone to your Nicotra Gebhardt representative.

### High performance centrifugal fan ADH

double inlet for belt drive  
impeller with forward curved blades of galvanised sheet steel

- ▶ Volume up to 300,000 m<sup>3</sup>/h
- ▶ Pressure up to 2,200 Pa

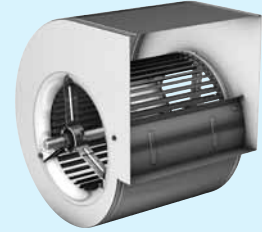


ADH

### High performance centrifugal fan AT

double inlet for belt drive  
impeller with forward curved blades of galvanised sheet steel

- ▶ Volume up to 65,000 m<sup>3</sup>/h
- ▶ Pressure up to 2,500 Pa

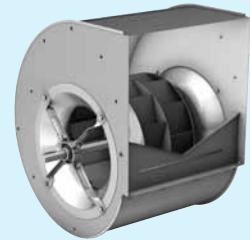


AT

### High performance centrifugal fan RDH

double inlet for belt drive  
centrifugal impeller with backward inclined blades

- ▶ Volume up to 290,000 m<sup>3</sup>/h
- ▶ Pressure up to 3,500 Pa

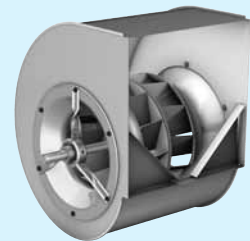


RDH

### High performance centrifugal fan RZR

double inlet for belt drive  
high performance impeller with backward curved hollow section true aerofoil blades

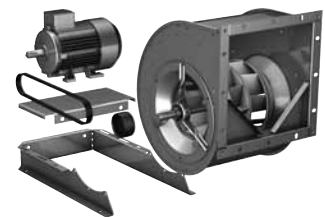
- ▶ Volume up to 300,000 m<sup>3</sup>/h
- ▶ Pressure up to 3,500 Pa



RZR

### Fittings / Accessories

- ▶ complete system accessories
- ▶ miscellaneous fittings



Accessories

### Description

- ▶ technical description
- ▶ operating limits



Description

# Highest system performance and best energy efficiency



## The RZR series

It is not difficult to make a centrifugal fan for an air conditioning unit a few euros cheaper.

But to construct it so that it saves valuable energy during operation is a real technological challenge.

In this respect, the RZR from Nicotra Gebhardt continues to provide the technology with the highest level of system performance and with that, the best solution where energy efficiency counts.

*rotavent* – the efficient fan technology with centrifugal impeller and airfoil blades.

## Top quality for performance and a long service life!

### The advantages:

- ▶ Wide range of application even for high pressures
- ▶ Easy adaption to changed operating conditions thanks to the belt drive
- ▶ Easy and reliable layout, performance data complying with tolerance class 1
- ▶ High degree of performance density at the best efficiency
- ▶ Low level of noise thanks to the blade profile, a patented blade positioning and the V-cut off
- ▶ Easy selection via the proSELECTA II electronic catalogue

### We do it very precisely!

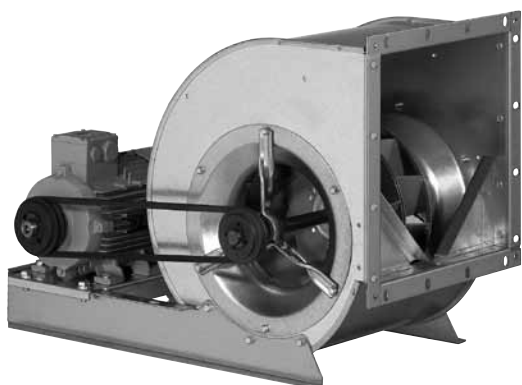
Or

### Why you should not compare apples with pears!

Nicotra-Gebhardt manufactures its centrifugal fans RZR with tolerance class 1 in compliance with DIN 24166.

This gives you the necessary degree of security that you need when designing and planning ventilation installations. The tolerance class is also an important criterion for the objective comparison of fans.

If you compare the price/performance ratio of two fans, you should also always take the tolerance class of each into account, only then do you avoid comparing "apples with pears"!



| Performance data               |          | Deviations per tolerance class |       |       |
|--------------------------------|----------|--------------------------------|-------|-------|
|                                |          | 1                              | 2     | 3     |
| Volume flow                    | $q_V$    | 2.5 %                          | 5 %   | 10 %  |
| Pressure increase              | $p_F$    | 2.5 %                          | 5 %   | 10 %  |
| Power consumption              | $P$      | +3 %                           | +8 %  | +16 % |
| Efficiency                     | $\eta$   | -2 %                           | -5 %  | -     |
| Sound power level (A weighted) | $L_{WA}$ | +3 dB                          | +4 dB | +6 dB |

# Variety has a name

## RZR rotavent

RZR fans, double inlet with patented impeller geometry and tapered trailing airfoil blades are the leading edge for standard fans for ventilation and air conditioning units.

### Series RZR





- ▶ Sizes 0200/-1600
- ▶ Lap jointed scroll of galvanised sheet steel with V-Cut off (RZR 11; 12; 14; 15; 18)
- ▶ Scroll casing stitch welded and coated, with V-cut off (RZR 13; 19)
- ▶ Centrifugal impeller with 11 backward inclined steel blades, welded and coated (0200/-0280)
- ▶ High performance impeller with 12 hollow section true airfoil blades (0315/-1600)





### Series RZR

- ▶ Volume up to 300,000 m<sup>3</sup>/h
- ▶ Pressure up to 3,500 Pa

## The right fan for every specification!

Depending on the fan size, the RZR series have up to 7 mechanical versions of the single fan. In this way, we ensure that we have the perfect model for all requirements and any application.

| Version           | Description  | Figure  |
|-------------------|--|---|
| RZR 11-0200/-0710 | Lap jointed scroll with multi-position feet and discharge flange.<br>Light duty bearing execution with pressed steel housing/strut assemblies.                             |   |
| RZR 12-0200/-0710 | Lap jointed scroll with rectangular side frame and discharge flange.<br>Light duty bearing execution with pressed steel housing/strut assemblies.                          |  |
| RZR 15-0400/-1000 | Lap jointed scroll with heavy duty reinforced side frames and discharge flange.<br>Medium-heavy duty bearing execution with cast iron housing/strut assemblies.            |  |
| RZR 18-0400/-1000 | Lap jointed scroll with discharge flange and heavy duty reinforced side frames.<br>Heavy duty bearing execution with split-type plummer block, mounted on robust pedestal. |  |

| Version           | Description  | Figure  |
|-------------------|--|---|
| RZR 19-0200/-0355 | Scroll casing stitch welded with discharge flange and multi-position feet.<br>Medium-heavy bearing execution with cast iron housing and tubular struts.  |  |
| RZR 19-0400/-1000 | Scroll casing stitch welded with discharge flange, and heavy duty reinforced side frames, epoxy coated.<br>Medium-heavy bearing execution with cast iron housing and tubular struts.   |  |
| RZR 13-0400/-1000 | Scroll casing stitch welded with discharge flange and heavy duty reinforced side frames, epoxy coated.<br>Heavy duty bearing execution with split-type plummer blocks, mounted on robust pedestal.   |  |
| RZR 13-1120/-1600 | Heavy duty casing of sheet steel with stiffening members, step welded and painted, with discharge flange. Casing is split on one axis (Size 1120), split on two axis (Sizes 1250, 1400, 1600).<br>Heavy duty bearing execution with split-type plummer blocks, mounted on robust pedestal. |  |

**Technical Data**

**Impeller Data**

|                   |       |                        |
|-------------------|-------|------------------------|
| Impeller diameter | $D_r$ | 204 mm                 |
| Number of blades  | $z$   | 11                     |
| Moment of Inertia | $J$   | 0.020 kgm <sup>2</sup> |

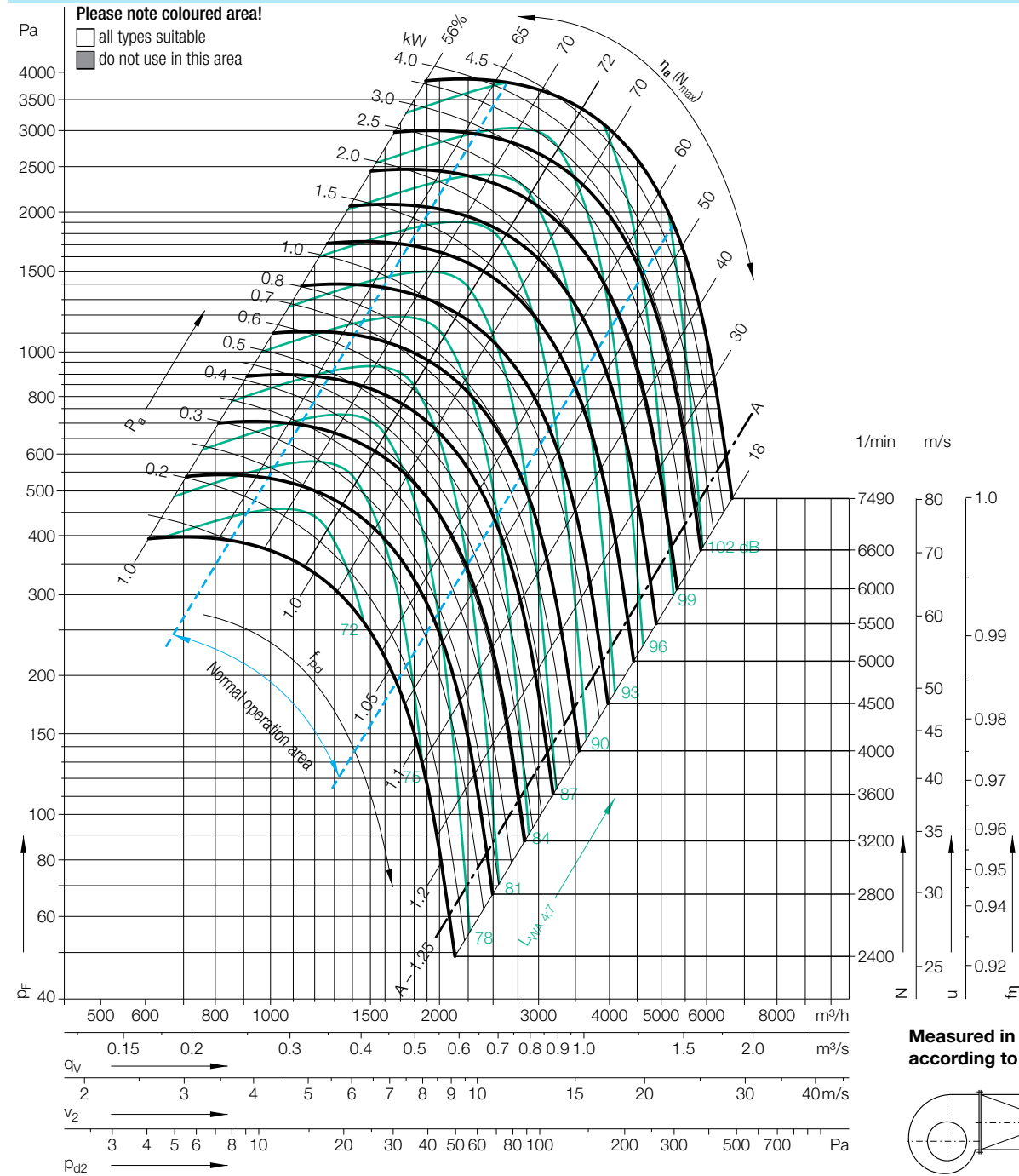
**Impeller Data**

|                             |          |                       |
|-----------------------------|----------|-----------------------|
| Impeller weight             | $m$      | 2.7 kg                |
| Density of media            | $\rho_1$ | 1.2 kg/m <sup>3</sup> |
| Tolerance class (DIN 24166) |          | 2                     |

**Speed limits  $N_{max}$  for ATEX execution**

|              |             |       |
|--------------|-------------|-------|
| RZR 11/12/19 | <b>6513</b> | 1/min |
|--------------|-------------|-------|

**Performance Curves**



Relative sound power level for inlet side  $L_{Wrel7}$  at octave centre frequencies  $f_c$

| Speed             | Duty point           | 63  | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz  |
|-------------------|----------------------|-----|-----|-----|-----|------|------|------|------|-----|
| $\leq 3745$ 1/min | $\leq 0.8 q_{Vopt}$  | -4  | 2   | 0   | -2  | -5   | -10  | -14  | -21  | dB  |
|                   | $> 0.8-1.2 q_{Vopt}$ | -7  | 0   | -2  | -2  | -5   | -9   | -14  | -22  | dB  |
|                   | $> 1.2-1.6 q_{Vopt}$ | -10 | -4  | -4  | -2  | -4   | -8   | -15  | -24  | dB  |
|                   | $> 1.6 q_{Vopt}$     | -12 | -7  | -6  | -2  | -4   | -8   | -13  | -24  | dB  |
|                   |                      |     | -15 | -10 | -11 | -4   | -4   | -9   | -12  | -19 |
| $> 3745$ 1/min    | $\leq 0.8 q_{Vopt}$  | -7  | -1  | -2  | -2  | -4   | -10  | -16  | -23  | dB  |
|                   | $> 0.8-1.2 q_{Vopt}$ | -12 | -4  | -5  | -3  | -4   | -10  | -15  | -23  | dB  |
|                   | $> 1.2-1.6 q_{Vopt}$ | -14 | -7  | -8  | -4  | -4   | -9   | -12  | -21  | dB  |
|                   | $> 1.6 q_{Vopt}$     | -15 | -10 | -11 | -4  | -4   | -9   | -12  | -19  | dB  |
|                   |                      |     | -15 | -10 | -11 | -4   | -4   | -9   | -12  | -19 |

Relative sound power level for discharge side  $L_{Wrel4}$  at octave centre frequencies  $f_c$

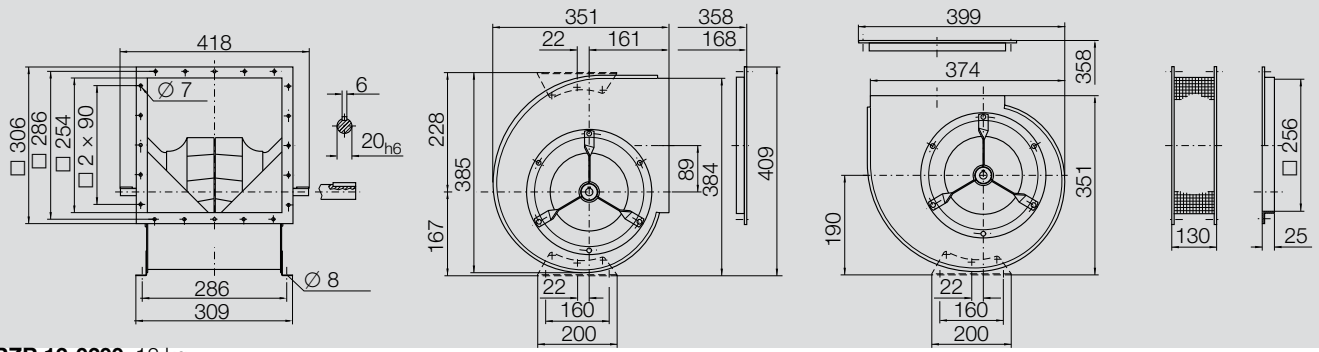
| Speed             | Duty point           | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz  |
|-------------------|----------------------|----|-----|-----|-----|------|------|------|------|-----|
| $\leq 3745$ 1/min | $\leq 0.8 q_{Vopt}$  | 11 | 8   | 3   | -2  | -8   | -13  | -19  | -29  | dB  |
|                   | $> 0.8-1.2 q_{Vopt}$ | 7  | 5   | 1   | -1  | -7   | -11  | -18  | -29  | dB  |
|                   | $> 1.2-1.6 q_{Vopt}$ | 5  | 3   | -1  | -1  | -6   | -9   | -17  | -20  | dB  |
|                   | $> 1.6 q_{Vopt}$     | 6  | 1   | -2  | -2  | -6   | -8   | -14  | -29  | dB  |
|                   |                      |    | 6   | 1   | -2  | -2   | -6   | -8   | -14  | -29 |
| $> 3745$ 1/min    | $\leq 0.8 q_{Vopt}$  | 8  | 7   | 2   | -2  | -6   | -11  | -19  | -28  | dB  |
|                   | $> 0.8-1.2 q_{Vopt}$ | 4  | 3   | -2  | -4  | -6   | -8   | -15  | -26  | dB  |
|                   | $> 1.2-1.6 q_{Vopt}$ | 2  | 0   | -4  | -5  | -6   | -8   | -13  | -24  | dB  |
|                   | $> 1.6 q_{Vopt}$     | 4  | 0   | -4  | -6  | -6   | -8   | -12  | -21  | dB  |
|                   |                      |    | 4   | 0   | -4  | -6   | -6   | -8   | -12  | -21 |



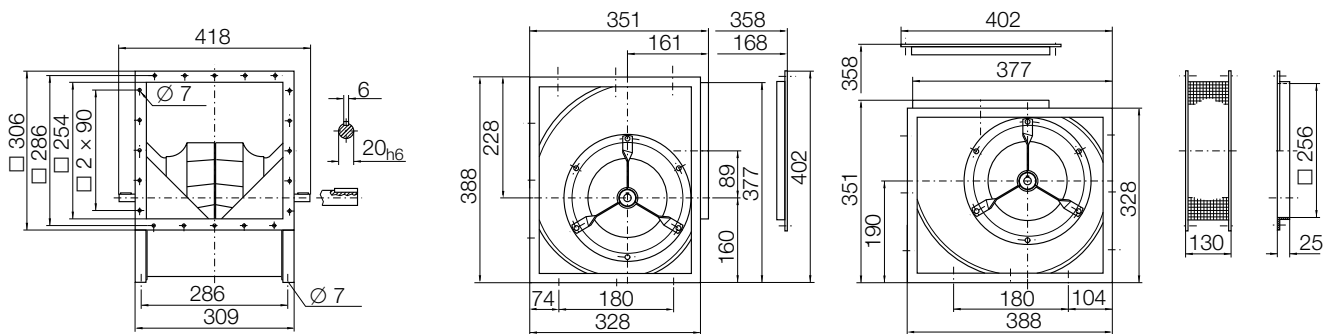
# RZR \_-0200

Dimensions in mm, subject to change.

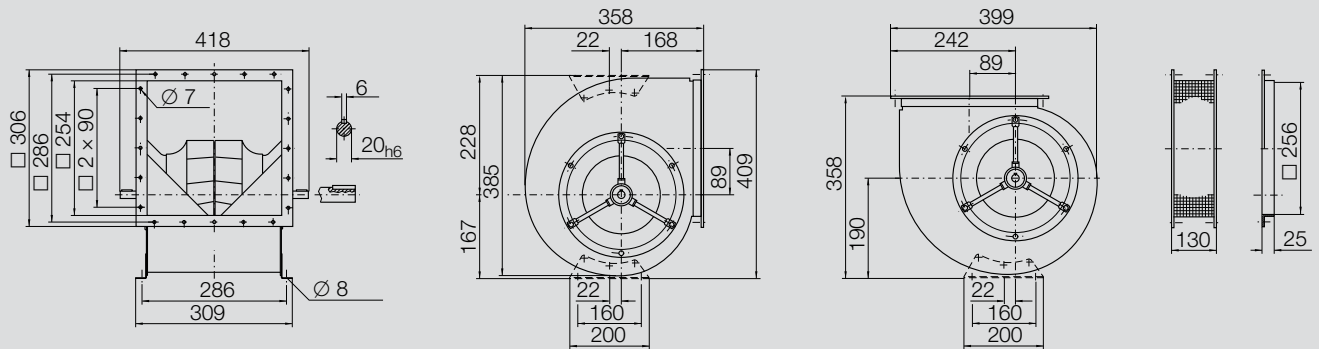
**RZR 11-0200** 11 kg



**RZR 12-0200** 12 kg



**RZR 19-0200** 13 kg



**Technical Data**

**Impeller Data**

|                   |       |                        |
|-------------------|-------|------------------------|
| Impeller diameter | $D_r$ | 230 mm                 |
| Number of blades  | $z$   | 11                     |
| Moment of Inertia | $J$   | 0.030 kgm <sup>2</sup> |

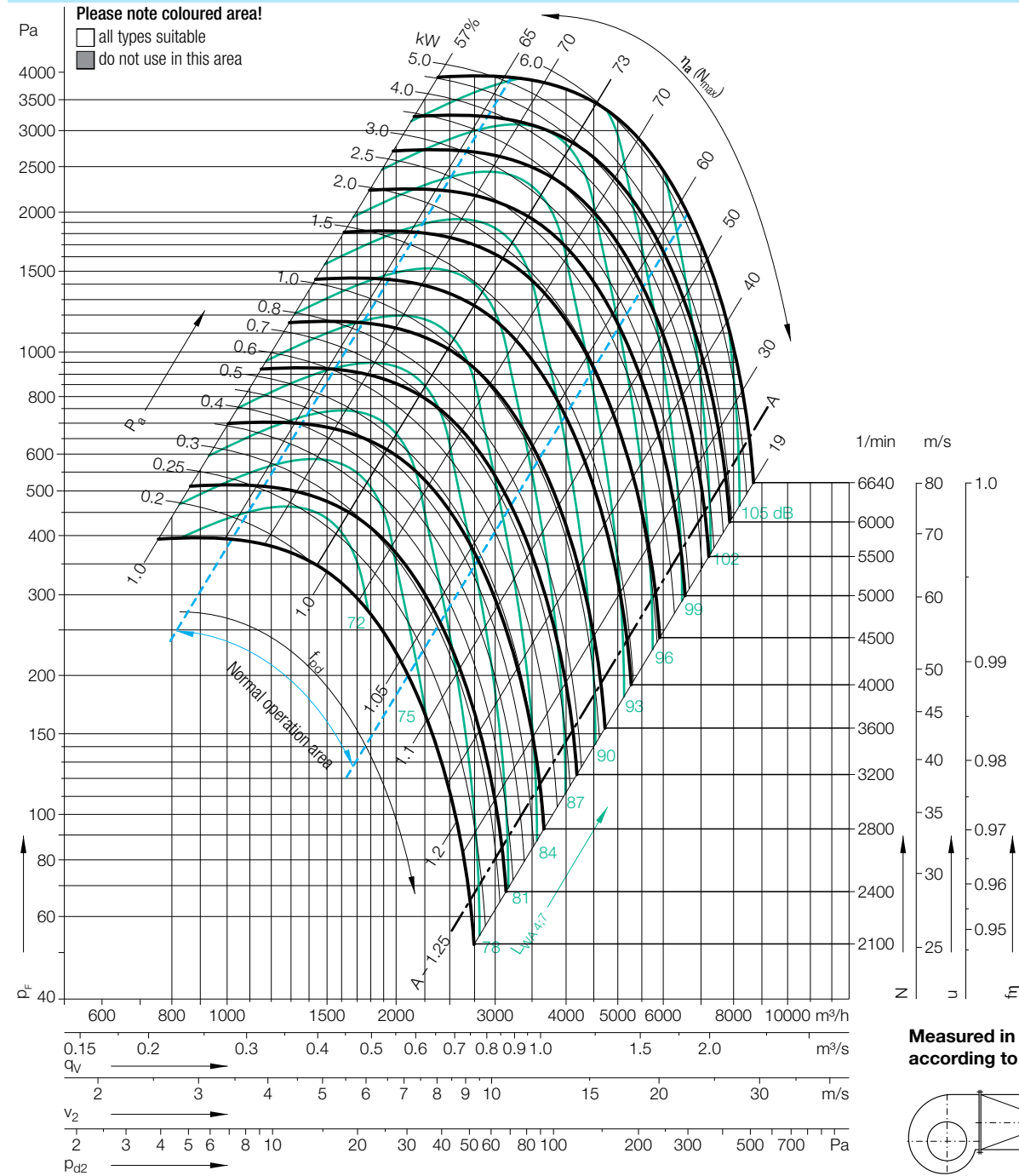
**Impeller Data**

|                             |          |                       |
|-----------------------------|----------|-----------------------|
| Impeller weight             | $m$      | 3.5 kg                |
| Density of media            | $\rho_1$ | 1.2 kg/m <sup>3</sup> |
| Tolerance class (DIN 24166) |          | 2                     |

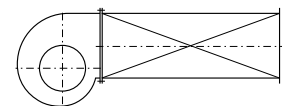
**Speed limits  $N_{max}$  for ATEX execution**

|              |                   |
|--------------|-------------------|
| RZR 11/12/19 | <b>5774</b> 1/min |
|--------------|-------------------|

**Performance Curves**



Measured in installation B according to ISO 5801:



Relative sound power level for inlet side  $L_{Wrel7}$  at octave centre frequencies  $f_c$

| Speed       | Duty point          | 63  | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|-------------|---------------------|-----|-----|-----|-----|------|------|------|------|----|
| ≤3321 1/min | ≤0.8 $q_{Vopt}$     | -4  | 2   | 0   | -2  | -5   | -10  | -14  | -21  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | -7  | 0   | -2  | -2  | -5   | -9   | -14  | -22  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | -10 | -4  | -4  | -2  | -4   | -8   | -15  | -24  | dB |
|             | >1.6-2.0 $q_{Vopt}$ | -12 | -7  | -6  | -2  | -4   | -8   | -13  | -24  | dB |
|             | >2.0 $q_{Vopt}$     | -15 | -10 | -11 | -4  | -4   | -9   | -12  | -19  | dB |
| >3321 1/min | ≤0.8 $q_{Vopt}$     | -7  | -1  | -2  | -2  | -4   | -10  | -16  | -23  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | -12 | -4  | -5  | -3  | -4   | -10  | -15  | -23  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | -14 | -7  | -8  | -4  | -4   | -9   | -12  | -21  | dB |
|             | >1.6-2.0 $q_{Vopt}$ | -15 | -10 | -11 | -4  | -4   | -9   | -12  | -19  | dB |
|             | >2.0 $q_{Vopt}$     | -15 | -10 | -11 | -4  | -4   | -9   | -12  | -19  | dB |

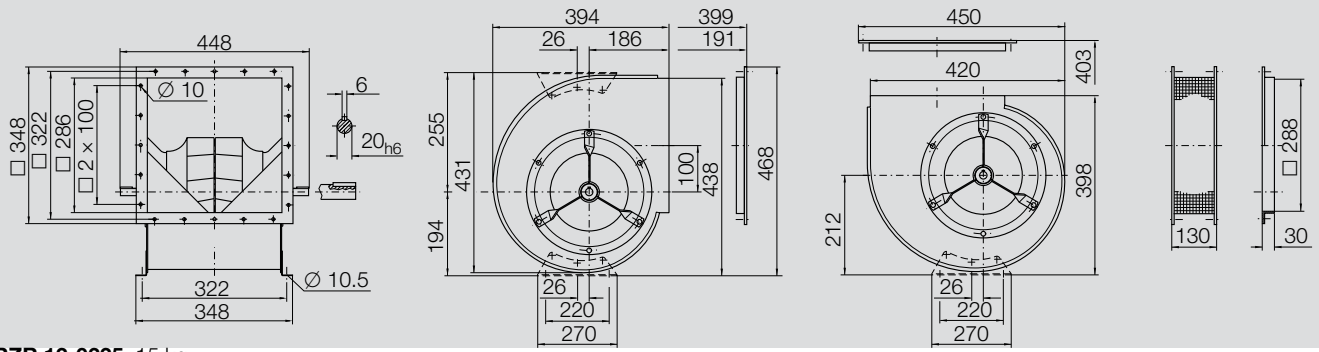
Relative sound power level for discharge side  $L_{Wrel4}$  at octave centre frequencies  $f_c$

| Speed       | Duty point          | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|-------------|---------------------|----|-----|-----|-----|------|------|------|------|----|
| ≤3321 1/min | ≤0.8 $q_{Vopt}$     | 11 | 8   | 3   | -2  | -8   | -13  | -19  | -29  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | 7  | 5   | 1   | -1  | -7   | -11  | -18  | -29  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | 5  | 3   | -1  | -1  | -6   | -9   | -17  | -20  | dB |
|             | >1.6-2.0 $q_{Vopt}$ | 6  | 1   | -2  | -2  | -6   | -8   | -14  | -29  | dB |
|             | >2.0 $q_{Vopt}$     | 6  | 1   | -2  | -2  | -6   | -8   | -14  | -29  | dB |
| >3321 1/min | ≤0.8 $q_{Vopt}$     | 8  | 7   | 2   | -2  | -6   | -11  | -19  | -28  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | 4  | 3   | -2  | -4  | -6   | -8   | -15  | -26  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | 2  | 0   | -4  | -5  | -6   | -8   | -13  | -24  | dB |
|             | >1.6-2.0 $q_{Vopt}$ | 4  | 0   | -4  | -6  | -6   | -8   | -12  | -21  | dB |
|             | >2.0 $q_{Vopt}$     | 4  | 0   | -4  | -6  | -6   | -8   | -12  | -21  | dB |

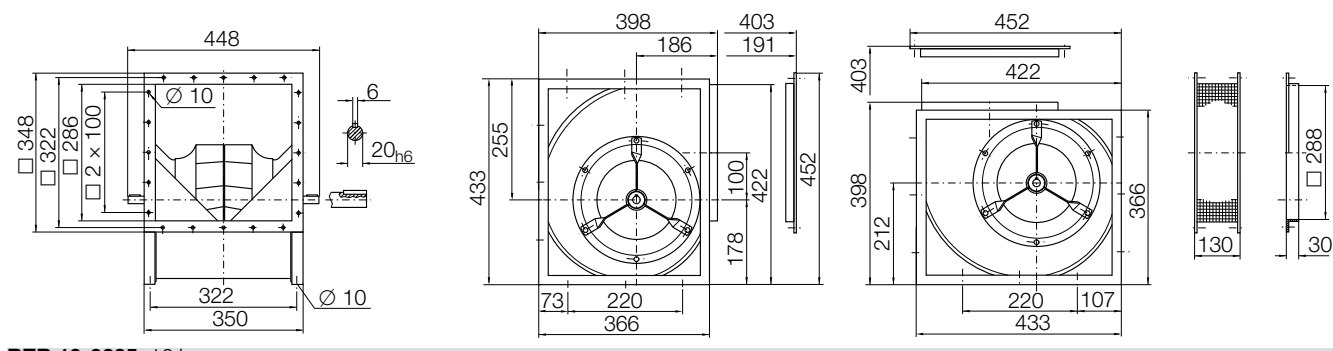
# RZR \_-0225

Dimensions in mm, subject to change.

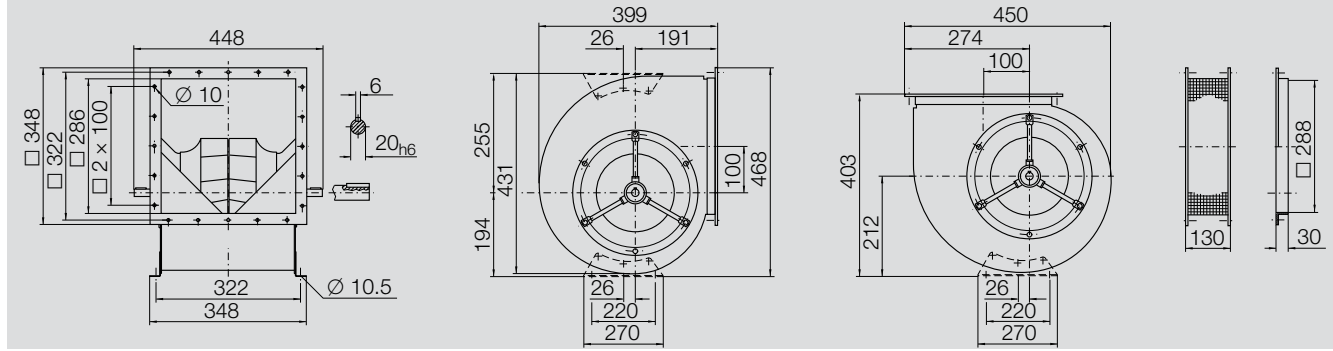
**RZR 11-0225** 13 kg



**RZR 12-0225** 15 kg



**RZR 19-0225** 16 kg



**Technical Data**

**Impeller Data**

|                   |       |                        |
|-------------------|-------|------------------------|
| Impeller diameter | $D_r$ | 256 mm                 |
| Number of blades  | $z$   | 11                     |
| Moment of Inertia | $J$   | 0.052 kgm <sup>2</sup> |

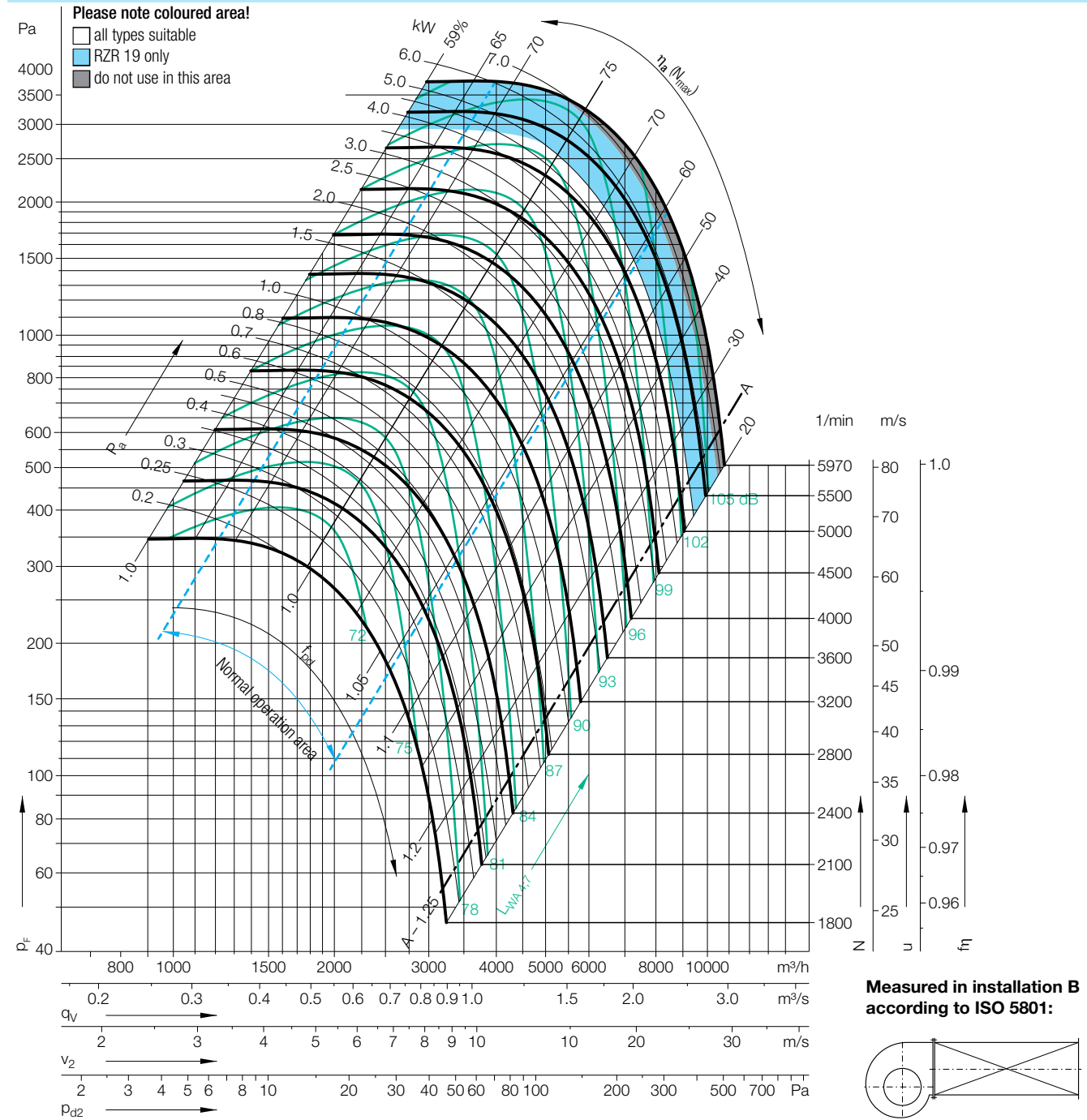
**Impeller Data**

|                             |          |                       |
|-----------------------------|----------|-----------------------|
| Impeller weight             | $m$      | 4.8 kg                |
| Density of media            | $\rho_1$ | 1.2 kg/m <sup>3</sup> |
| Tolerance class (DIN 24166) |          | 2                     |

**Speed limits  $N_{max}$  for ATEX execution**

|           |             |       |
|-----------|-------------|-------|
| RZR 11/12 | <b>4620</b> | 1/min |
| RZR 19    | <b>5076</b> | 1/min |

**Performance Curves**



**Measured in installation B according to ISO 5801:**

Relative sound power level for inlet side  $L_{Wrel7}$  at octave centre frequencies  $f_c$

| Speed       | Duty point          | 63  | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|-------------|---------------------|-----|-----|-----|-----|------|------|------|------|----|
| ≤2984 1/min | ≤0.8 $q_{Vopt}$     | -4  | 2   | 0   | -2  | -5   | -10  | -14  | -21  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | -7  | 0   | -2  | -2  | -5   | -9   | -14  | -22  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | -10 | -4  | -4  | -2  | -4   | -8   | -15  | -24  | dB |
|             | >1.6 $q_{Vopt}$     | -12 | -7  | -6  | -2  | -4   | -8   | -13  | -24  | dB |
|             |                     |     |     |     |     |      |      |      |      |    |
| >2984 1/min | ≤0.8 $q_{Vopt}$     | -7  | -1  | -2  | -2  | -4   | -10  | -16  | -23  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | -12 | -4  | -5  | -3  | -4   | -10  | -15  | -23  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | -14 | -7  | -8  | -4  | -4   | -9   | -12  | -21  | dB |
|             | >1.6 $q_{Vopt}$     | -15 | -10 | -11 | -4  | -4   | -9   | -12  | -19  | dB |
|             |                     |     |     |     |     |      |      |      |      |    |

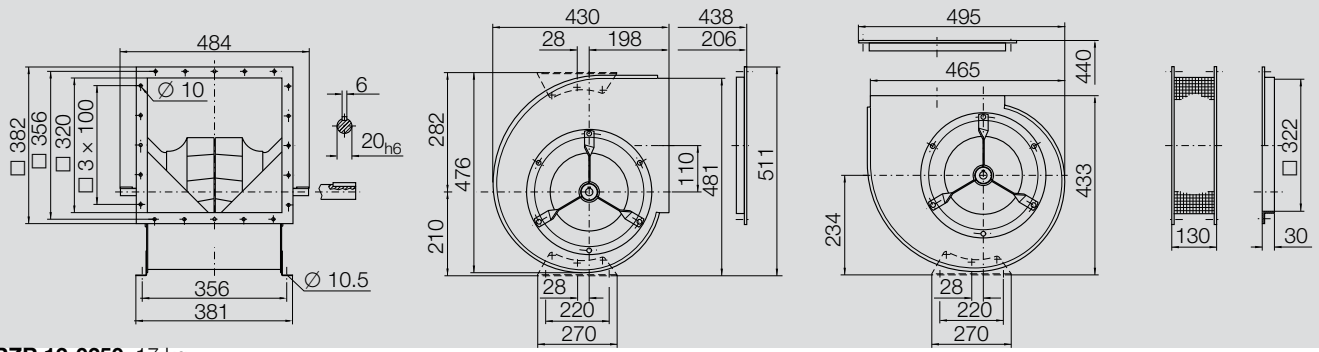
Relative sound power level for discharge side  $L_{Wrel4}$  at octave centre frequencies  $f_c$

| Speed       | Duty point          | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|-------------|---------------------|----|-----|-----|-----|------|------|------|------|----|
| ≤2984 1/min | ≤0.8 $q_{Vopt}$     | 11 | 8   | 3   | -2  | -8   | -13  | -19  | -29  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | 7  | 5   | 1   | -1  | -7   | -11  | -18  | -29  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | 5  | 3   | -1  | -1  | -6   | -9   | -17  | -20  | dB |
|             | >1.6 $q_{Vopt}$     | 6  | 1   | -2  | -2  | -6   | -8   | -14  | -29  | dB |
|             |                     |    |     |     |     |      |      |      |      |    |
| >2984 1/min | ≤0.8 $q_{Vopt}$     | 8  | 7   | 2   | -2  | -6   | -11  | -19  | -28  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | 4  | 3   | -2  | -4  | -6   | -8   | -15  | -26  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | 2  | 0   | -4  | -5  | -6   | -8   | -13  | -24  | dB |
|             | >1.6 $q_{Vopt}$     | 4  | 0   | -4  | -6  | -6   | -8   | -12  | -21  | dB |
|             |                     |    |     |     |     |      |      |      |      |    |

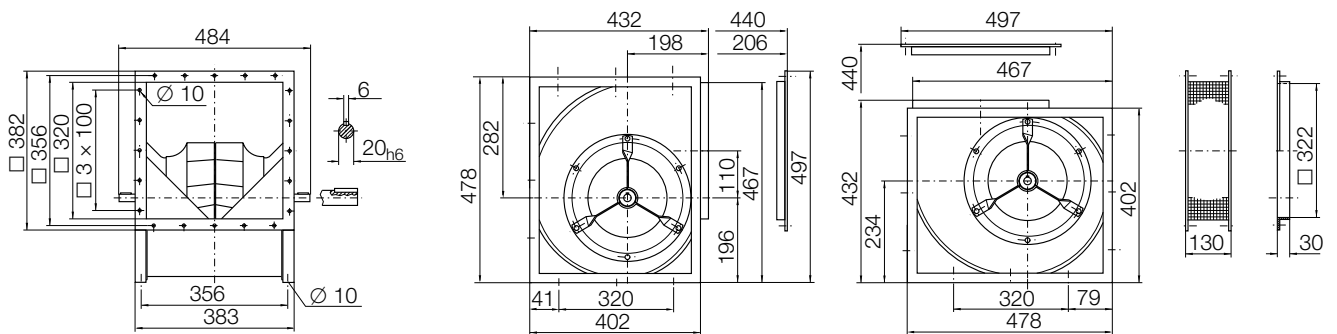
# RZR \_-0250

Dimensions in mm, subject to change.

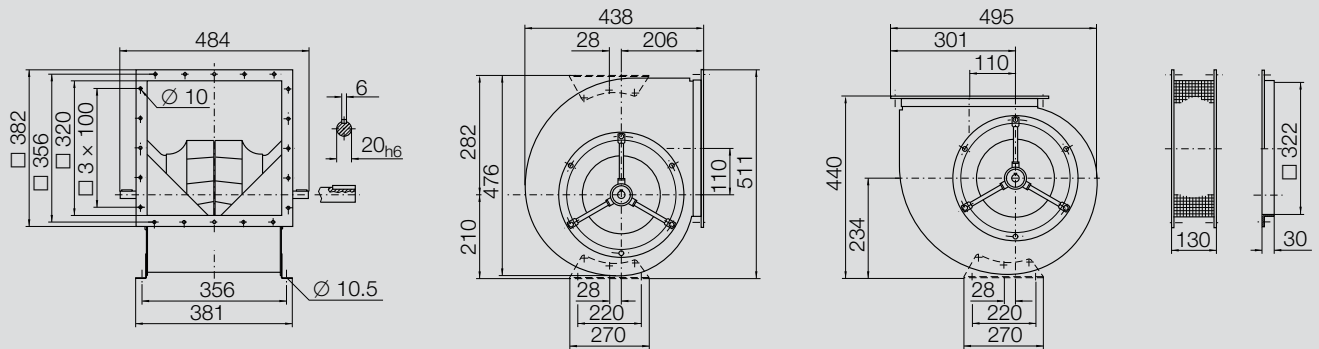
**RZR 11-0250** 15 kg



**RZR 12-0250** 17 kg



**RZR 19-0250** 17 kg



**Technical Data**

**Impeller Data**

|                   |       |                        |
|-------------------|-------|------------------------|
| Impeller diameter | $D_r$ | 288 mm                 |
| Number of blades  | $z$   | 11                     |
| Moment of Inertia | $J$   | 0.082 kgm <sup>2</sup> |

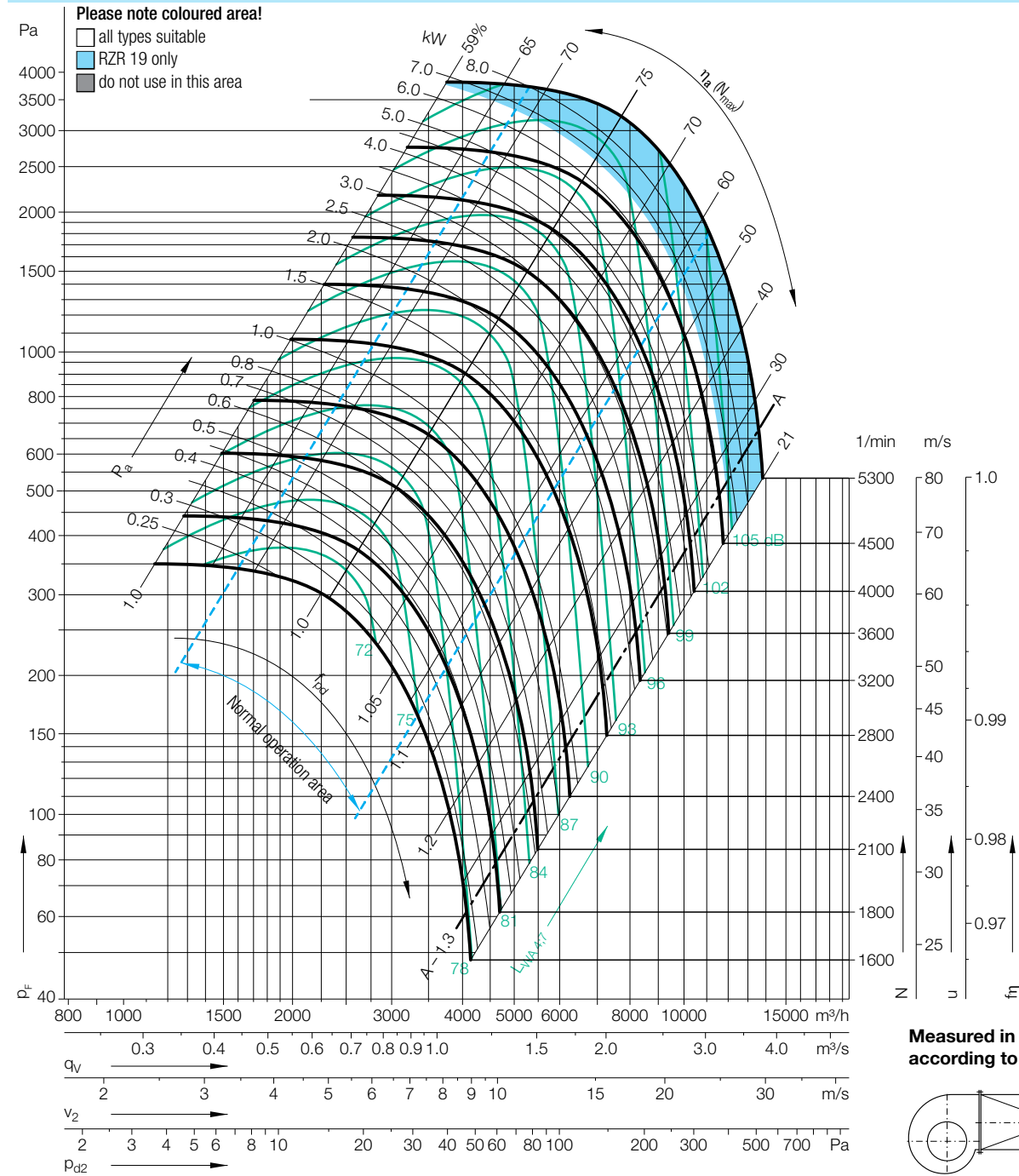
**Impeller Data**

|                             |          |                       |
|-----------------------------|----------|-----------------------|
| Impeller weight             | $m$      | 5.7 kg                |
| Density of media            | $\rho_1$ | 1.2 kg/m <sup>3</sup> |
| Tolerance class (DIN 24166) |          | 2                     |

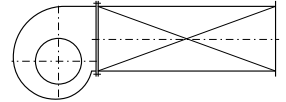
**Speed limits  $N_{max}$  for ATEX execution**

|              |             |       |
|--------------|-------------|-------|
| RZR 11/12/19 | <b>4582</b> | 1/min |
|--------------|-------------|-------|

**Performance Curves**



Measured in installation B according to ISO 5801:



Relative sound power level for inlet side  $L_{Wrel7}$  at octave centre frequencies  $f_c$

| Speed       | Duty point          | 63  | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|-------------|---------------------|-----|-----|-----|-----|------|------|------|------|----|
| ≤2653 1/min | ≤0.8 $Q_{Vopt}$     | -4  | 2   | 0   | -2  | -5   | -10  | -14  | -21  | dB |
|             | >0.8-1.2 $Q_{Vopt}$ | -7  | 0   | -2  | -2  | -5   | -9   | -14  | -22  | dB |
|             | >1.2-1.6 $Q_{Vopt}$ | -10 | -4  | -4  | -2  | -4   | -8   | -15  | -24  | dB |
|             | >1.6-2.0 $Q_{Vopt}$ | -12 | -7  | -6  | -2  | -4   | -8   | -13  | -24  | dB |
|             | >2.0 $Q_{Vopt}$     | -15 | -10 | -11 | -4  | -4   | -9   | -12  | -19  | dB |
| >2653 1/min | ≤0.8 $Q_{Vopt}$     | -7  | -1  | -2  | -2  | -4   | -10  | -16  | -23  | dB |
|             | >0.8-1.2 $Q_{Vopt}$ | -12 | -4  | -5  | -3  | -4   | -10  | -15  | -23  | dB |
|             | >1.2-1.6 $Q_{Vopt}$ | -14 | -7  | -8  | -4  | -4   | -9   | -12  | -21  | dB |
|             | >1.6-2.0 $Q_{Vopt}$ | -15 | -10 | -11 | -4  | -4   | -9   | -12  | -19  | dB |
|             | >2.0 $Q_{Vopt}$     | -15 | -10 | -11 | -4  | -4   | -9   | -12  | -19  | dB |

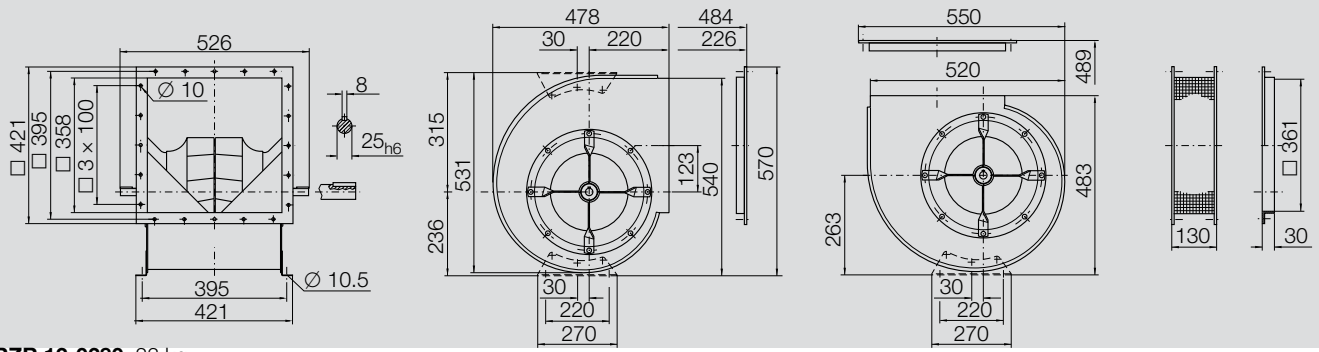
Relative sound power level for discharge side  $L_{Wrel4}$  at octave centre frequencies  $f_c$

| Speed       | Duty point          | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|-------------|---------------------|----|-----|-----|-----|------|------|------|------|----|
| ≤2653 1/min | ≤0.8 $Q_{Vopt}$     | 11 | 8   | 3   | -2  | -8   | -13  | -19  | -29  | dB |
|             | >0.8-1.2 $Q_{Vopt}$ | 7  | 5   | 1   | -1  | -7   | -11  | -18  | -29  | dB |
|             | >1.2-1.6 $Q_{Vopt}$ | 5  | 3   | -1  | -1  | -6   | -9   | -17  | -20  | dB |
|             | >1.6-2.0 $Q_{Vopt}$ | 6  | 1   | -2  | -2  | -6   | -8   | -14  | -29  | dB |
|             | >2.0 $Q_{Vopt}$     | 6  | 1   | -2  | -2  | -6   | -8   | -14  | -29  | dB |
| >2653 1/min | ≤0.8 $Q_{Vopt}$     | 8  | 7   | 2   | -2  | -6   | -11  | -19  | -28  | dB |
|             | >0.8-1.2 $Q_{Vopt}$ | 4  | 3   | -2  | -4  | -6   | -8   | -15  | -26  | dB |
|             | >1.2-1.6 $Q_{Vopt}$ | 2  | 0   | -4  | -5  | -6   | -8   | -13  | -24  | dB |
|             | >1.6-2.0 $Q_{Vopt}$ | 4  | 0   | -4  | -6  | -6   | -8   | -12  | -21  | dB |
|             | >2.0 $Q_{Vopt}$     | 4  | 0   | -4  | -6  | -6   | -8   | -12  | -21  | dB |

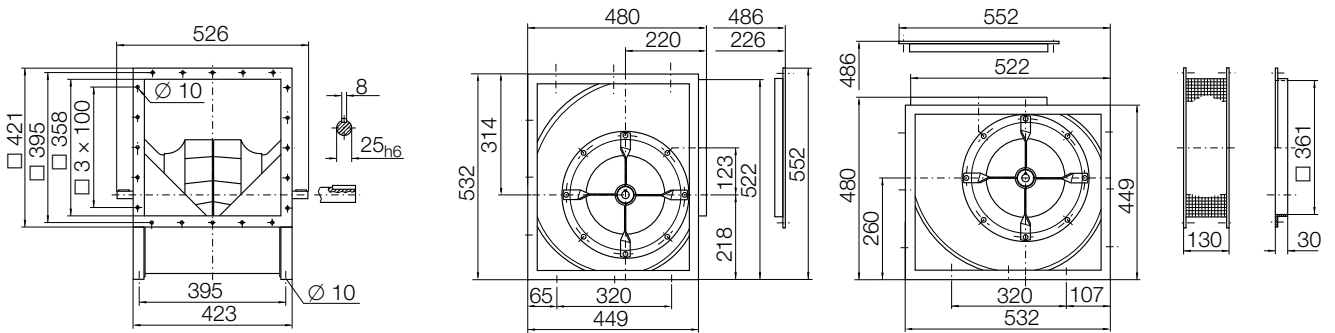
# RZR \_-0280

Dimensions in mm, subject to change.

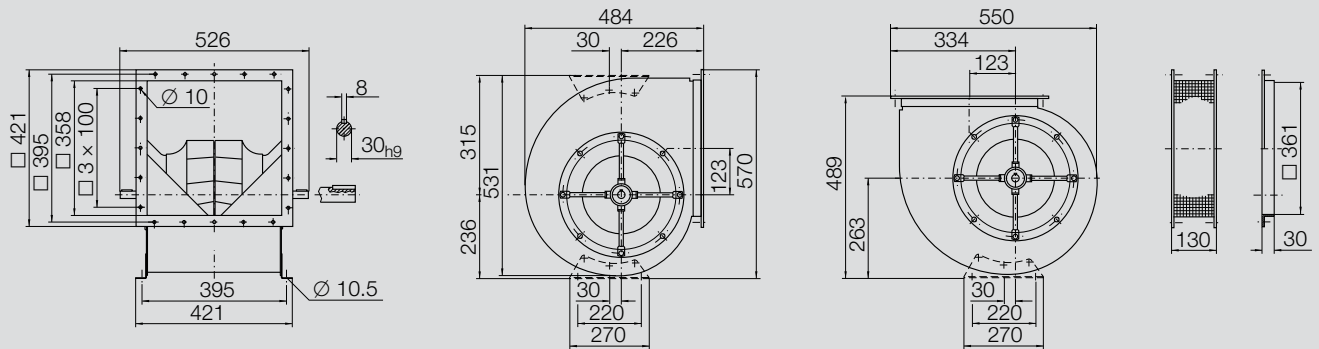
**RZR 11-0280** 20 kg



**RZR 12-0280** 23 kg



**RZR 19-0280** 23 kg



# RZR \_-0315

## Technical Data

### Impeller Data

|                   |       |                        |
|-------------------|-------|------------------------|
| Impeller diameter | $D_r$ | 323 mm                 |
| Number of blades  | $z$   | 12                     |
| Moment of Inertia | $J$   | 0.126 kgm <sup>2</sup> |

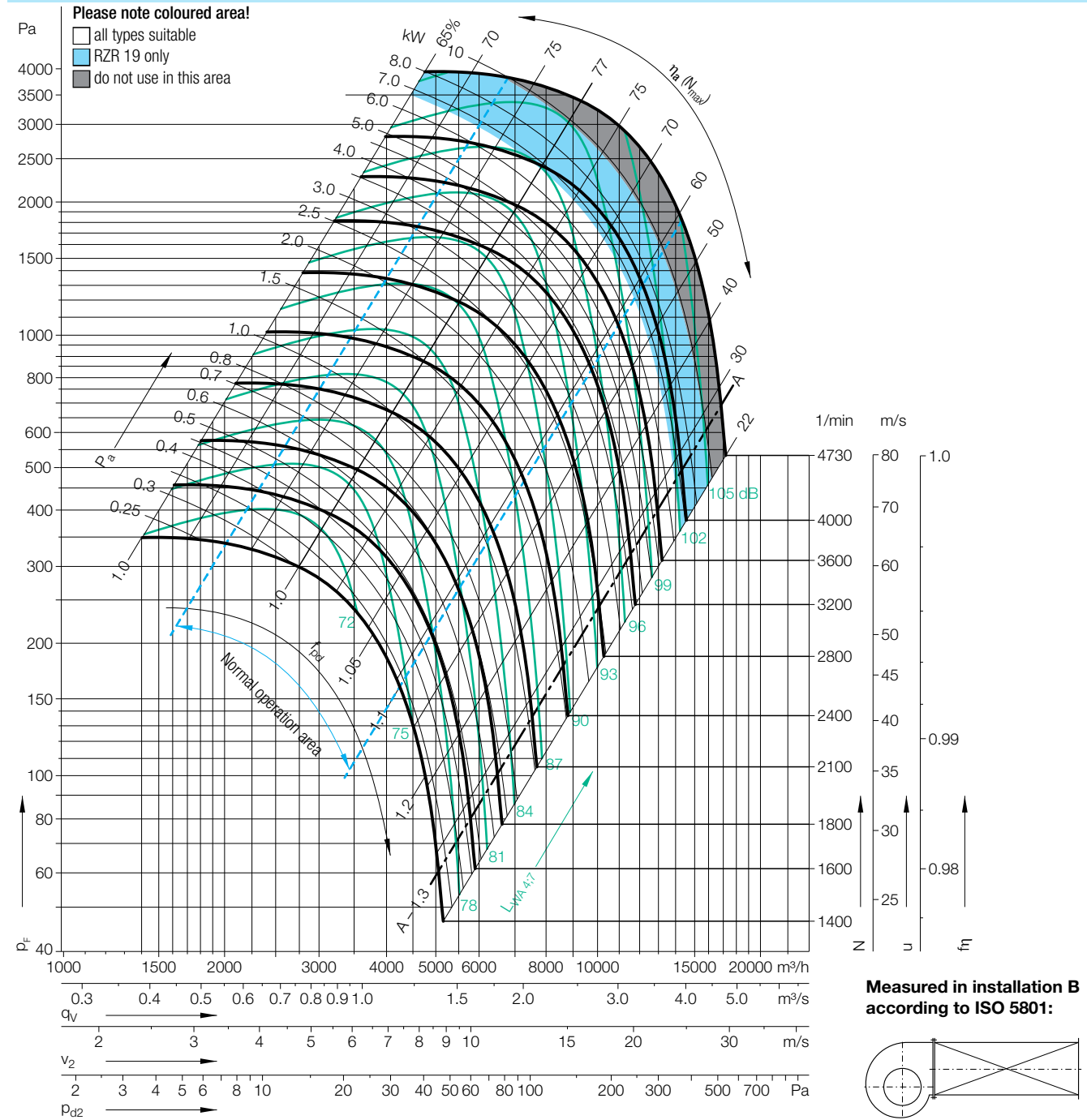
### Impeller Data

|                             |          |                       |
|-----------------------------|----------|-----------------------|
| Impeller weight             | $m$      | 7.1 kg                |
| Density of media            | $\rho_1$ | 1.2 kg/m <sup>3</sup> |
| Tolerance class (DIN 24166) |          | 1                     |

### Speed limits $N_{max}$ for ATEX execution

|           |             |       |
|-----------|-------------|-------|
| RZR 11/12 | <b>3793</b> | 1/min |
| RZR 19    | <b>4113</b> | 1/min |

## Performance Curves



Relative sound power level for inlet side  $L_{Wrel7}$  at octave centre frequencies  $f_c$

| Speed       | Duty point          | 63  | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|-------------|---------------------|-----|-----|-----|-----|------|------|------|------|----|
| ≤2365 1/min | ≤0.8 $q_{Vopt}$     | 0   | 2   | 0   | -3  | -6   | -9   | -12  | -19  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | -2  | 1   | -2  | -3  | -6   | -8   | -14  | -20  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | -3  | 0   | -1  | -3  | -6   | -8   | -14  | -21  | dB |
|             | >1.6-2.0 $q_{Vopt}$ | -5  | -3  | -3  | -3  | -6   | -7   | -13  | -21  | dB |
|             | >2.0-2.5 $q_{Vopt}$ | -5  | -3  | -3  | -3  | -6   | -7   | -13  | -21  | dB |
| >2365 1/min | ≤0.8 $q_{Vopt}$     | -2  | -1  | -3  | -1  | -6   | -10  | -15  | -21  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | -7  | -4  | -5  | -1  | -6   | -9   | -14  | -21  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | -10 | -7  | -8  | -1  | -5   | -8   | -13  | -21  | dB |
|             | >1.6-2.0 $q_{Vopt}$ | -10 | -8  | -8  | -2  | -6   | -8   | -11  | -18  | dB |
|             | >2.0-2.5 $q_{Vopt}$ | -10 | -8  | -8  | -2  | -6   | -8   | -11  | -18  | dB |

Relative sound power level for discharge side  $L_{Wrel4}$  at octave centre frequencies  $f_c$

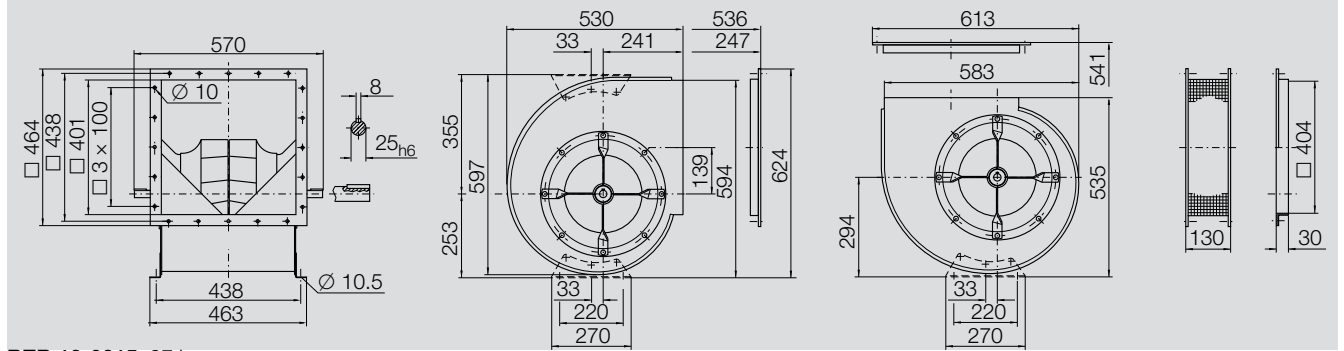
| Speed       | Duty point          | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|-------------|---------------------|----|-----|-----|-----|------|------|------|------|----|
| ≤2365 1/min | ≤0.8 $q_{Vopt}$     | 13 | 7   | 4   | -3  | -8   | -14  | -17  | -25  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | 10 | 5   | 3   | -2  | -7   | -13  | -17  | -25  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | 7  | 2   | 2   | -2  | -6   | -12  | -18  | -27  | dB |
|             | >1.6-2.0 $q_{Vopt}$ | 5  | 1   | 1   | -2  | -6   | -10  | -17  | -27  | dB |
|             | >2.0-2.5 $q_{Vopt}$ | 5  | 1   | 1   | -2  | -6   | -10  | -17  | -27  | dB |
| >2365 1/min | ≤0.8 $q_{Vopt}$     | 11 | 4   | 2   | 0   | -7   | -12  | -17  | -24  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | 7  | 1   | -2  | -3  | -6   | -10  | -15  | -23  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | 3  | -2  | -4  | -3  | -5   | -9   | -14  | -23  | dB |
|             | >1.6-2.0 $q_{Vopt}$ | 2  | -3  | -5  | -3  | -5   | -9   | -12  | -21  | dB |
|             | >2.0-2.5 $q_{Vopt}$ | 2  | -3  | -5  | -3  | -5   | -9   | -12  | -21  | dB |



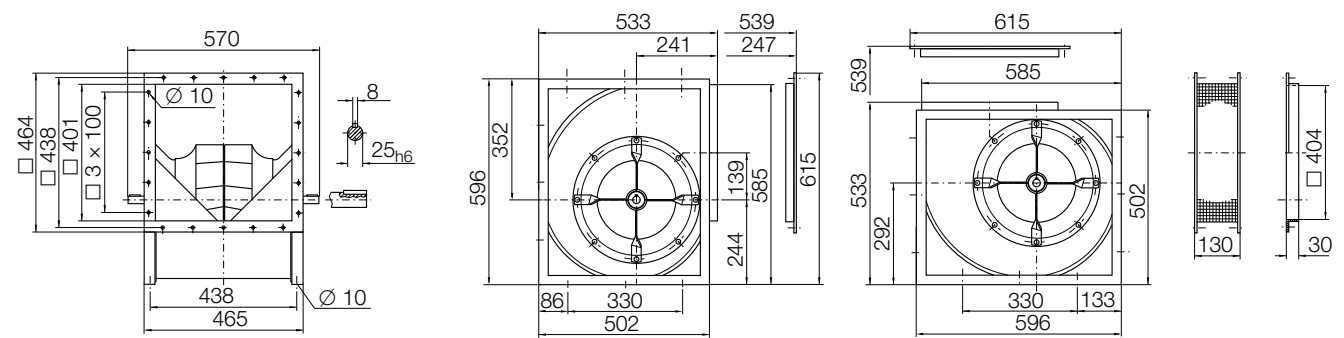
# RZR \_-0315

Dimensions in mm, subject to change.

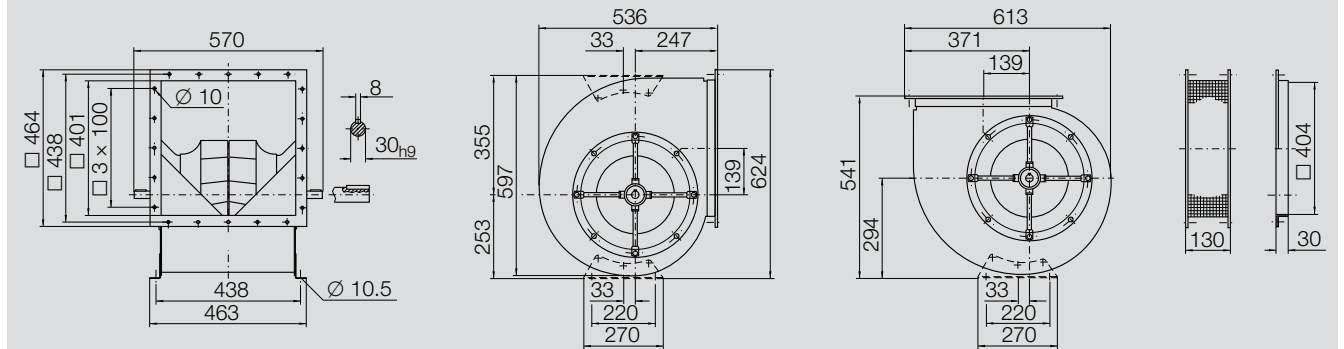
**RZR 11-0315** 24 kg



**RZR 12-0315** 27 kg



**RZR 19-0315** 28 kg



Performance certified is for installation type B - free inlet, ducted outlet.  
 Power rating (kW) does not include transmission losses.  
 Performance ratings do not include the effects of appurtenances (accessories).

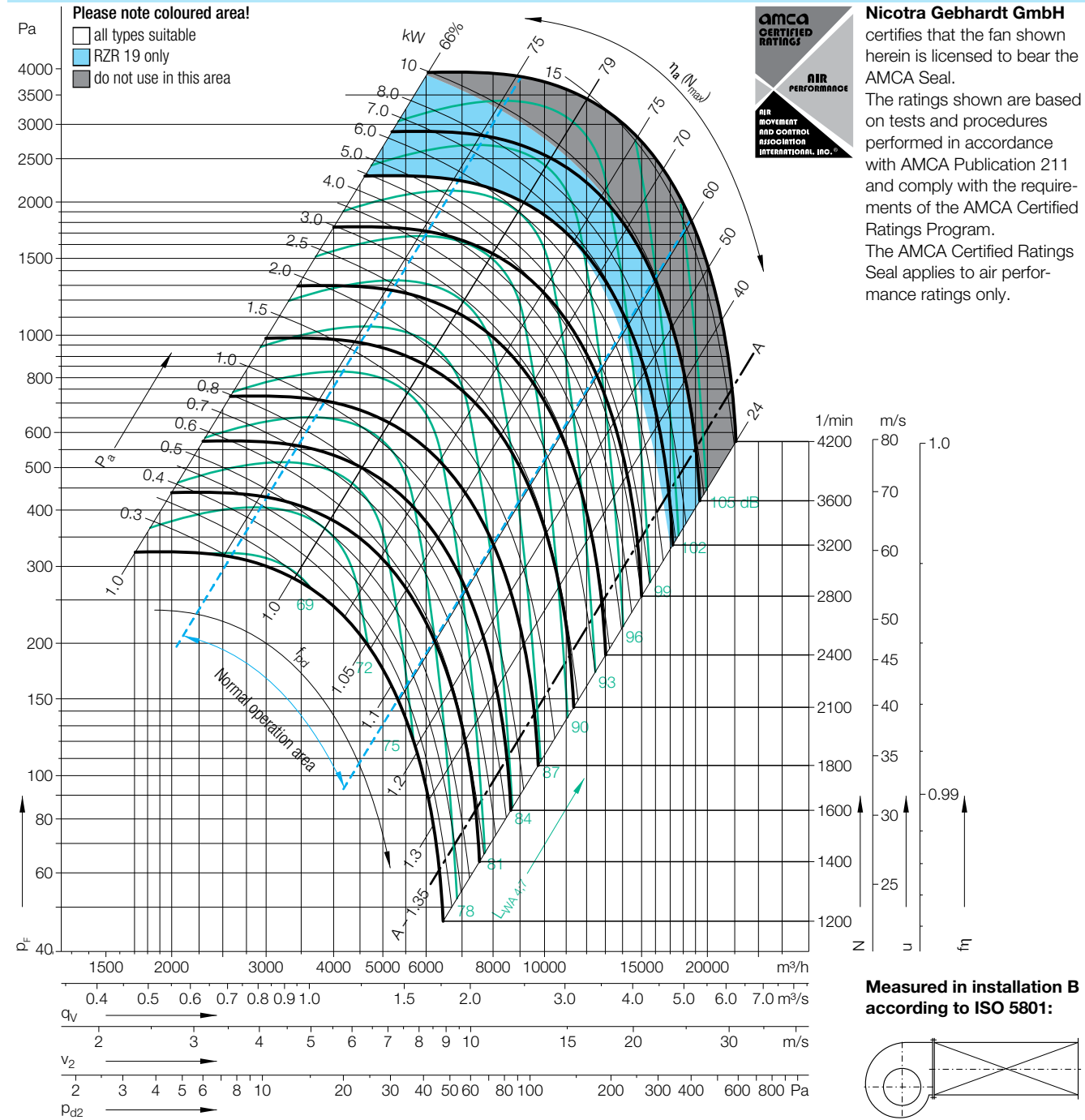
**Technical Data**

| Impeller Data     |       |                        |
|-------------------|-------|------------------------|
| Impeller diameter | $D_r$ | 363 mm                 |
| Number of blades  | $z$   | 12                     |
| Moment of Inertia | $J$   | 0.220 kgm <sup>2</sup> |

| Impeller Data               |          |                       |
|-----------------------------|----------|-----------------------|
| Impeller weight             | $m$      | 9.1 kg                |
| Density of media            | $\rho_1$ | 1.2 kg/m <sup>3</sup> |
| Tolerance class (DIN 24166) |          | 1                     |

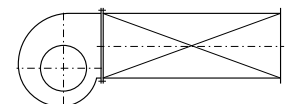
| Speed limits $N_{max}$ for ATEX execution |             |       |
|---|-------------|-------|
| RZR 11/12                                 | <b>3110</b> | 1/min |
| RZR 19                                    | <b>3555</b> | 1/min |

**Performance Curves**



**Nicotra Gebhardt GmbH** certifies that the fan shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to air performance ratings only.

**Measured in installation B according to ISO 5801:**



Relative sound power level for inlet side  $L_{Wrel7}$  at octave centre frequencies  $f_c$

| Speed       | Duty point          | 63  | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|-------------|---------------------|-----|-----|-----|-----|------|------|------|------|----|
| ≤2105 1/min | ≤0.8 $q_{Vopt}$     | 0   | 2   | 0   | -3  | -6   | -9   | -12  | -19  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | -2  | 1   | -2  | -3  | -6   | -8   | -14  | -20  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | -3  | 0   | -1  | -3  | -6   | -8   | -14  | -21  | dB |
|             | >1.6-2.0 $q_{Vopt}$ | -5  | -3  | -3  | -3  | -6   | -7   | -13  | -21  | dB |
|             | >2.0 $q_{Vopt}$     | -5  | -3  | -3  | -3  | -6   | -7   | -13  | -21  | dB |
| >2105 1/min | ≤0.8 $q_{Vopt}$     | -2  | -1  | -3  | -1  | -6   | -10  | -15  | -21  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | -7  | -4  | -5  | -1  | -6   | -9   | -14  | -21  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | -10 | -7  | -8  | -1  | -5   | -8   | -13  | -21  | dB |
|             | >1.6-2.0 $q_{Vopt}$ | -10 | -8  | -8  | -2  | -6   | -8   | -11  | -18  | dB |
|             | >2.0 $q_{Vopt}$     | -10 | -8  | -8  | -2  | -6   | -8   | -11  | -18  | dB |

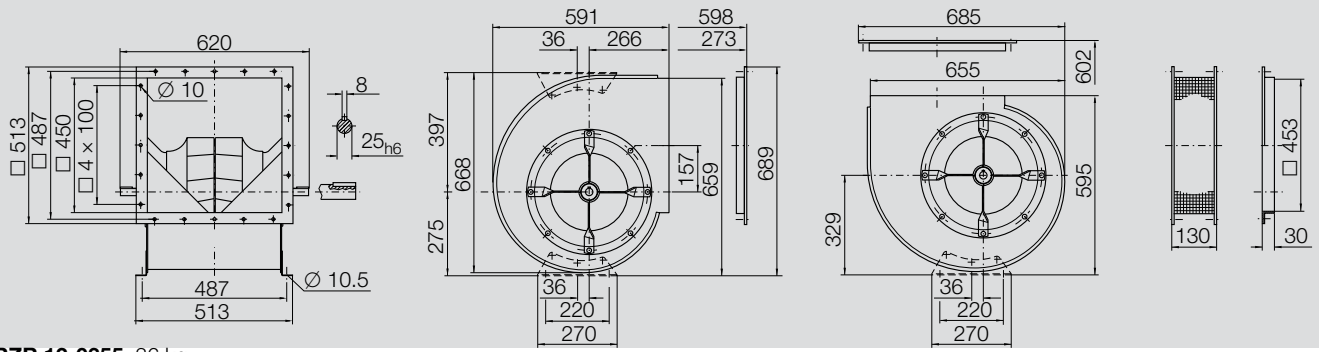
Relative sound power level for discharge side  $L_{Wrel4}$  at octave centre frequencies  $f_c$

| Speed       | Duty point          | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|-------------|---------------------|----|-----|-----|-----|------|------|------|------|----|
| ≤2105 1/min | ≤0.8 $q_{Vopt}$     | 13 | 7   | 4   | -3  | -8   | -14  | -17  | -25  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | 10 | 5   | 3   | -2  | -7   | -13  | -17  | -25  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | 7  | 2   | 2   | -2  | -6   | -12  | -18  | -27  | dB |
|             | >1.6-2.0 $q_{Vopt}$ | 5  | 1   | 1   | -2  | -6   | -10  | -17  | -27  | dB |
|             | >2.0 $q_{Vopt}$     | 5  | 1   | 1   | -2  | -6   | -10  | -17  | -27  | dB |
| >2105 1/min | ≤0.8 $q_{Vopt}$     | 11 | 4   | 2   | 0   | -7   | -12  | -17  | -24  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | 7  | 1   | -2  | -3  | -6   | -10  | -15  | -23  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | 3  | -2  | -4  | -3  | -5   | -9   | -14  | -23  | dB |
|             | >1.6-2.0 $q_{Vopt}$ | 2  | -3  | -5  | -3  | -5   | -9   | -12  | -21  | dB |
|             | >2.0 $q_{Vopt}$     | 2  | -3  | -5  | -3  | -5   | -9   | -12  | -21  | dB |

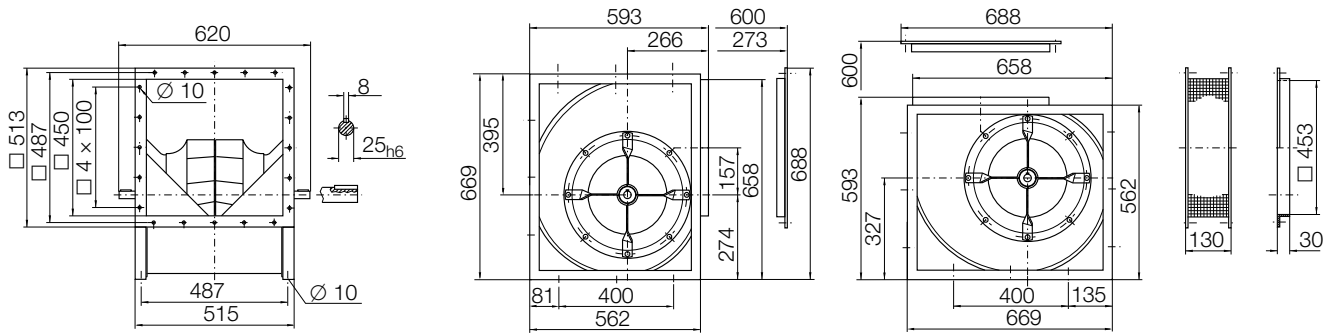
# RZR \_-0355

Dimensions in mm, subject to change.

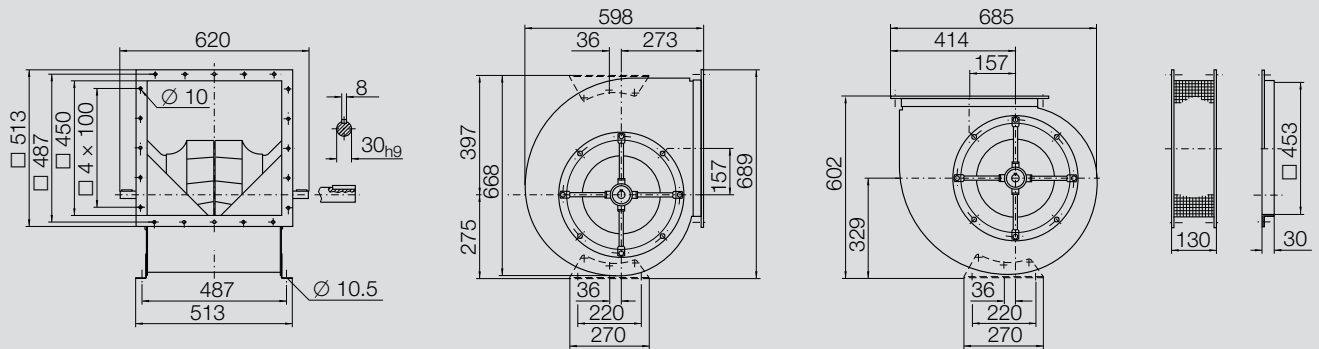
**RZR 11-0355** 33 kg



**RZR 12-0355** 36 kg



**RZR 19-0355** 39 kg



Performance certified is for installation type B - free inlet, ducted outlet.  
 Power rating (kW) does not include transmission losses.  
 Performance ratings do not include the effects of appurtenances (accessories).

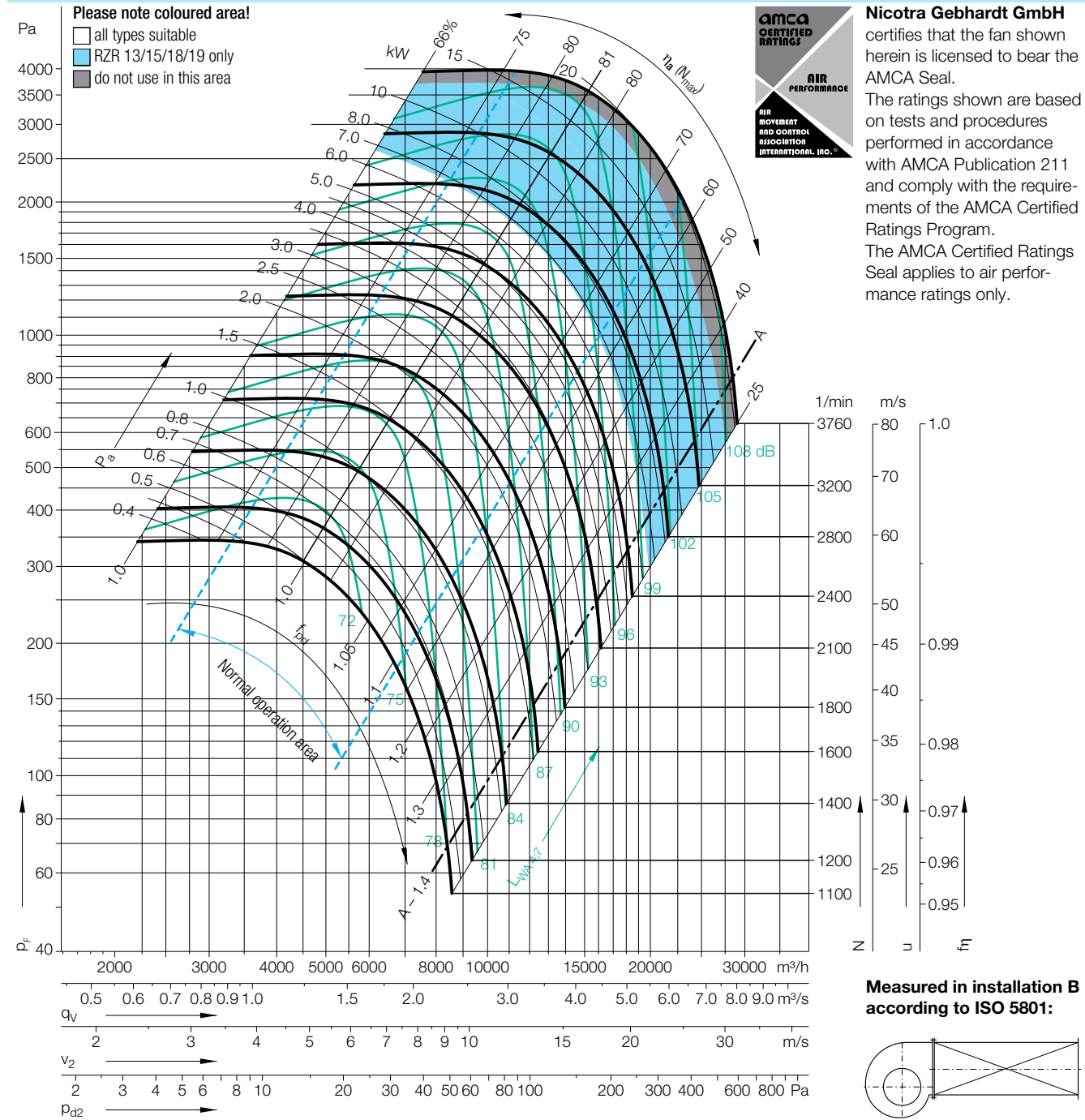
**Technical Data**

| Impeller Data     |       |                       |
|-------------------|-------|-----------------------|
| Impeller diameter | $D_r$ | 406 mm                |
| Number of blades  | $z$   | 12                    |
| Moment of Inertia | $J$   | 0.33 kgm <sup>2</sup> |

| Impeller Data               |          |                       |
|-----------------------------|----------|-----------------------|
| Impeller weight             | $m$      | 10.5 kg               |
| Density of media            | $\rho_1$ | 1.2 kg/m <sup>3</sup> |
| Tolerance class (DIN 24166) |          | 1                     |

| Speed limits $N_{max}$ for ATEX execution |             |       |
|---|-------------|-------|
| RZR 11/12                                 | <b>2552</b> | 1/min |
| RZR 18                                    | <b>2913</b> | 1/min |
| RZR 13                                    | <b>3145</b> | 1/min |

**Performance Curves**



Relative sound power level for inlet side  $L_{Wrel7}$  at octave centre frequencies  $f_c$

| Speed       | Duty point          | 63  | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|-------------|---------------------|-----|-----|-----|-----|------|------|------|------|----|
| ≤1882 1/min | ≤0.8 $q_{Vopt}$     | 0   | 2   | 0   | -3  | -6   | -9   | -12  | -19  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | -2  | 1   | -2  | -3  | -6   | -8   | -14  | -20  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | -3  | 0   | -1  | -3  | -6   | -8   | -14  | -21  | dB |
|             | >1.6-1.8 $q_{Vopt}$ | -5  | -3  | -3  | -3  | -6   | -7   | -13  | -21  | dB |
|             | >1.8-2.0 $q_{Vopt}$ | -5  | -3  | -3  | -3  | -6   | -7   | -13  | -21  | dB |
| >1882 1/min | ≤0.8 $q_{Vopt}$     | -2  | -1  | -3  | -1  | -6   | -10  | -15  | -21  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | -7  | -4  | -5  | -1  | -6   | -9   | -14  | -21  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | -10 | -7  | -8  | -1  | -5   | -8   | -13  | -21  | dB |
|             | >1.6-1.8 $q_{Vopt}$ | -10 | -8  | -8  | -2  | -6   | -8   | -11  | -18  | dB |
|             | >1.8-2.0 $q_{Vopt}$ | -10 | -8  | -8  | -2  | -6   | -8   | -11  | -18  | dB |

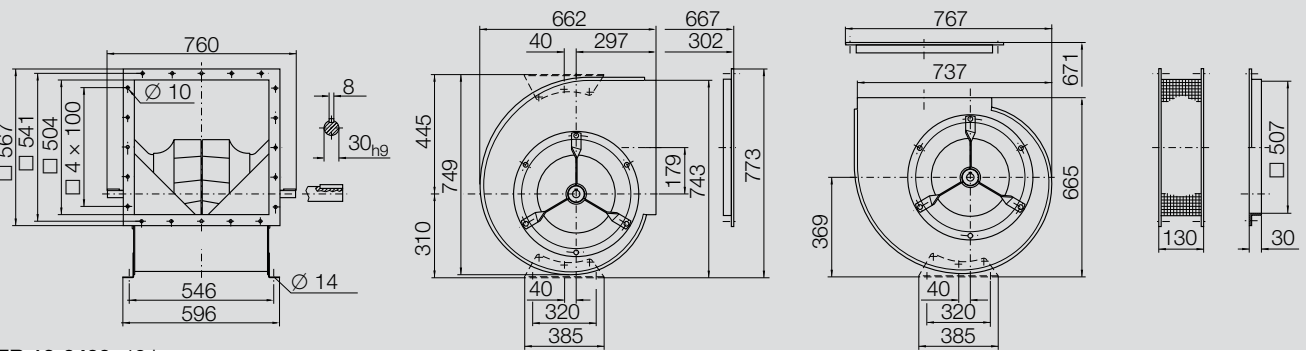
Relative sound power level for discharge side  $L_{Wrel4}$  at octave centre frequencies  $f_c$

| Speed       | Duty point          | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|-------------|---------------------|----|-----|-----|-----|------|------|------|------|----|
| ≤1882 1/min | ≤0.8 $q_{Vopt}$     | 13 | 7   | 4   | -3  | -8   | -14  | -17  | -25  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | 10 | 5   | 3   | -2  | -7   | -13  | -17  | -25  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | 7  | 2   | 2   | -2  | -6   | -12  | -18  | -27  | dB |
|             | >1.6-1.8 $q_{Vopt}$ | 5  | 1   | 1   | -2  | -6   | -10  | -17  | -27  | dB |
|             | >1.8-2.0 $q_{Vopt}$ | 5  | 1   | 1   | -2  | -6   | -10  | -17  | -27  | dB |
| >1882 1/min | ≤0.8 $q_{Vopt}$     | 11 | 4   | 2   | 0   | -7   | -12  | -17  | -24  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | 7  | 1   | -2  | -3  | -6   | -10  | -15  | -23  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | 3  | -2  | -4  | -3  | -5   | -9   | -14  | -23  | dB |
|             | >1.6-1.8 $q_{Vopt}$ | 2  | -3  | -5  | -3  | -5   | -9   | -12  | -21  | dB |
|             | >1.8-2.0 $q_{Vopt}$ | 2  | -3  | -5  | -3  | -5   | -9   | -12  | -21  | dB |

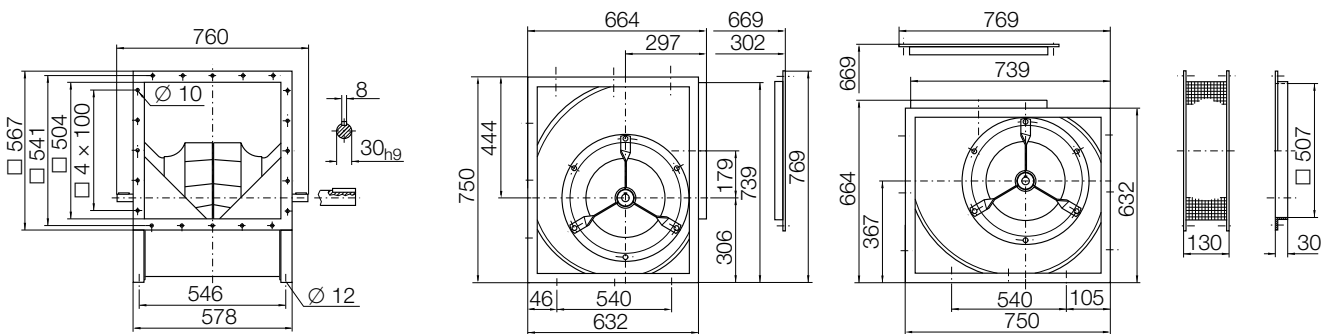
# RZR -0400

Dimensions in mm, subject to change.

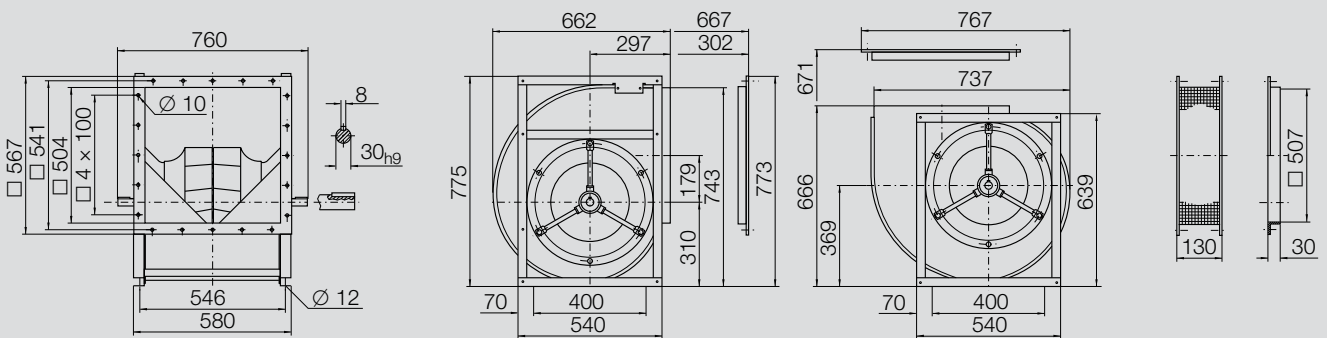
**RZR 11-0400** 43 kg



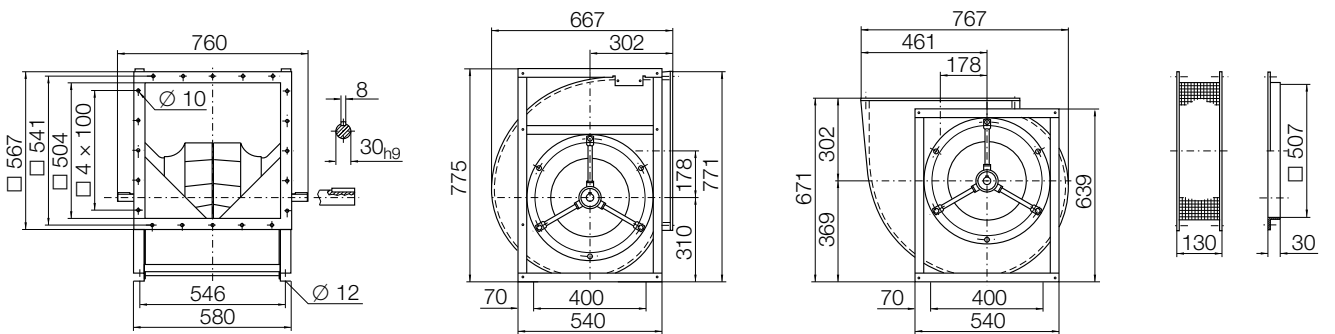
**RZR 12-0400** 49 kg



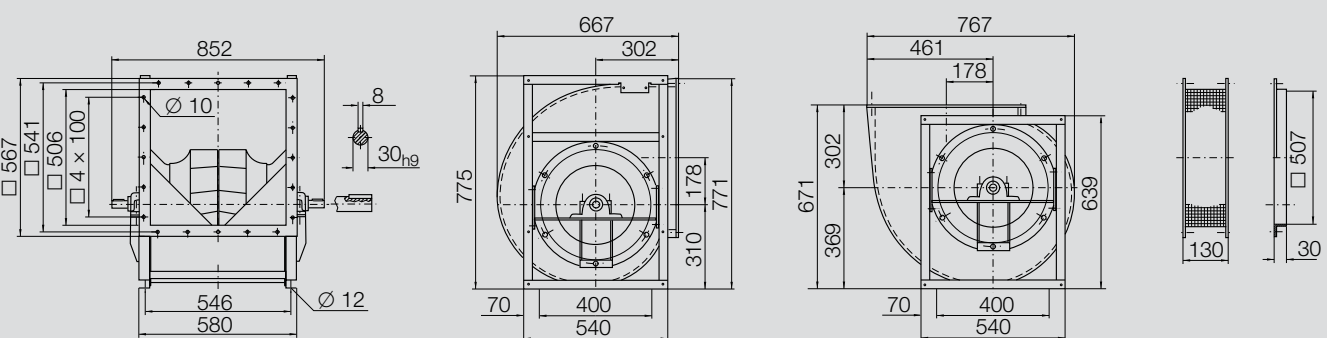
**RZR 15-0400** 61 kg



**RZR 19-0400** 66 kg



**RZR 18-0400** 70 kg    **RZR 13-0400** 75 kg



Performance certified is for installation type B - free inlet, ducted outlet.  
 Power rating (kW) does not include transmission losses.  
 Performance ratings do not include the effects of appurtenances (accessories).

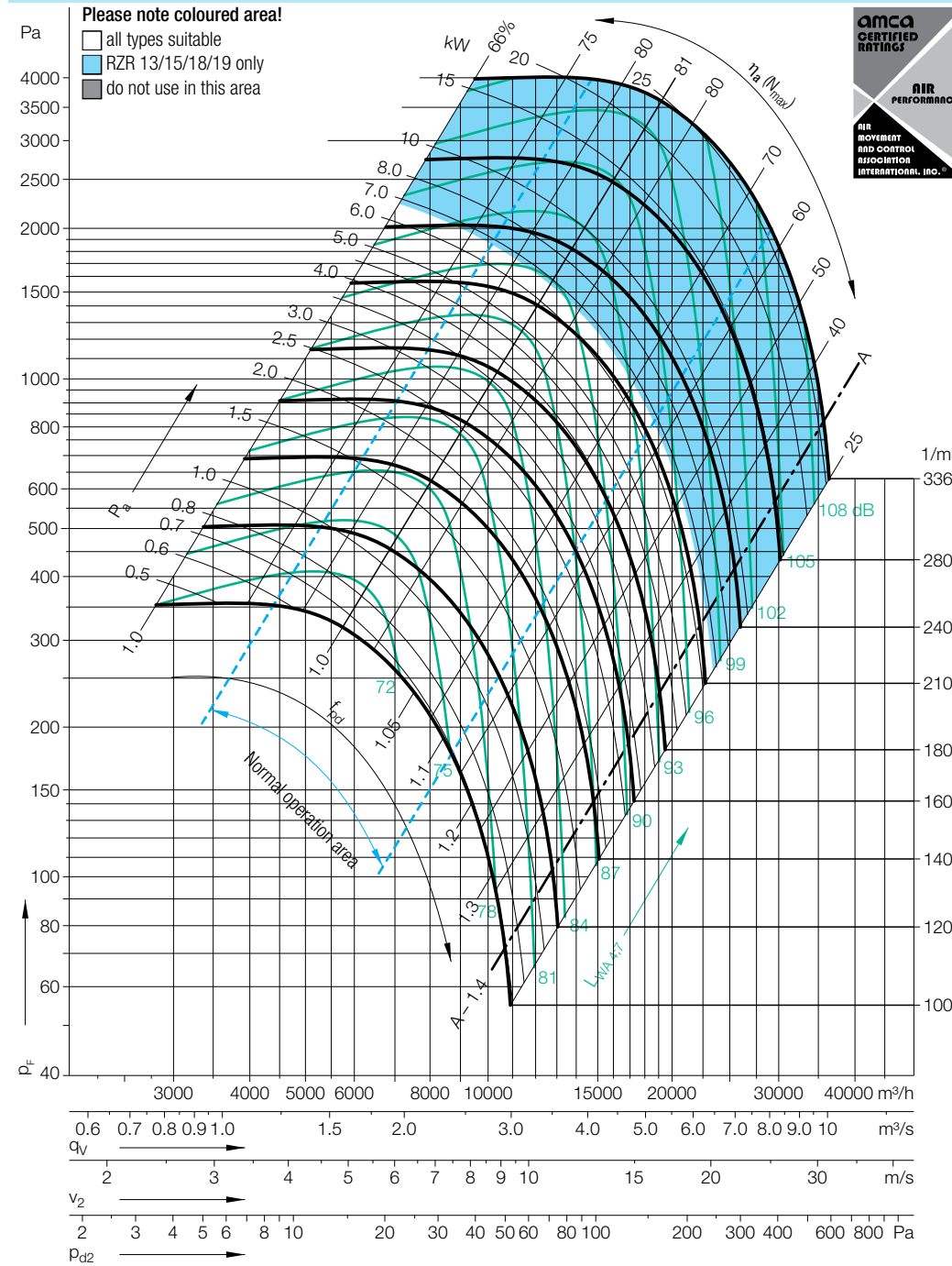
**Technical Data**

| Impeller Data     |       |                      |
|-------------------|-------|----------------------|
| Impeller diameter | $D_r$ | 455 mm               |
| Number of blades  | $z$   | 12                   |
| Moment of Inertia | $J$   | 0.6 kgm <sup>2</sup> |

| Impeller Data               |          |                       |
|-----------------------------|----------|-----------------------|
| Impeller weight             | $m$      | 15.8 kg               |
| Density of media            | $\rho_1$ | 1.2 kg/m <sup>3</sup> |
| Tolerance class (DIN 24166) |          | 1                     |

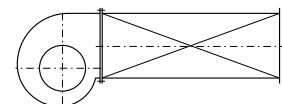
| Speed limits $N_{max}$ for ATEX execution |             |       |
|---|-------------|-------|
| RZR 11/12                                 | <b>2111</b> | 1/min |
| RZR 18                                    | <b>2410</b> | 1/min |
| RZR 13                                    | <b>2922</b> | 1/min |

**Performance Curves**



**Nicotra Gebhardt GmbH** certifies that the fan shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to air performance ratings only.

**Measured in installation B according to ISO 5801:**



Relative sound power level for inlet side  $L_{Wrel7}$  at octave centre frequencies  $f_c$

| Speed       | Duty point          | 63  | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|-------------|---------------------|-----|-----|-----|-----|------|------|------|------|----|
| ≤1679 1/min | ≤0.8 $q_{Vopt}$     | 0   | 2   | 0   | -3  | -6   | -9   | -12  | -19  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | -2  | 1   | -2  | -3  | -6   | -8   | -14  | -20  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | -3  | 0   | -1  | -3  | -6   | -8   | -14  | -21  | dB |
|             | >1.6 $q_{Vopt}$     | -5  | -3  | -3  | -3  | -6   | -7   | -13  | -21  | dB |
|             | >1.6 $q_{Vopt}$     | -5  | -3  | -3  | -3  | -6   | -7   | -13  | -21  | dB |
| >1679 1/min | ≤0.8 $q_{Vopt}$     | -2  | -1  | -3  | -1  | -6   | -10  | -15  | -21  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | -7  | -4  | -5  | -1  | -6   | -9   | -14  | -21  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | -10 | -7  | -8  | -1  | -5   | -8   | -13  | -21  | dB |
|             | >1.6 $q_{Vopt}$     | -10 | -8  | -8  | -2  | -6   | -8   | -11  | -18  | dB |
|             | >1.6 $q_{Vopt}$     | -10 | -8  | -8  | -2  | -6   | -8   | -11  | -18  | dB |

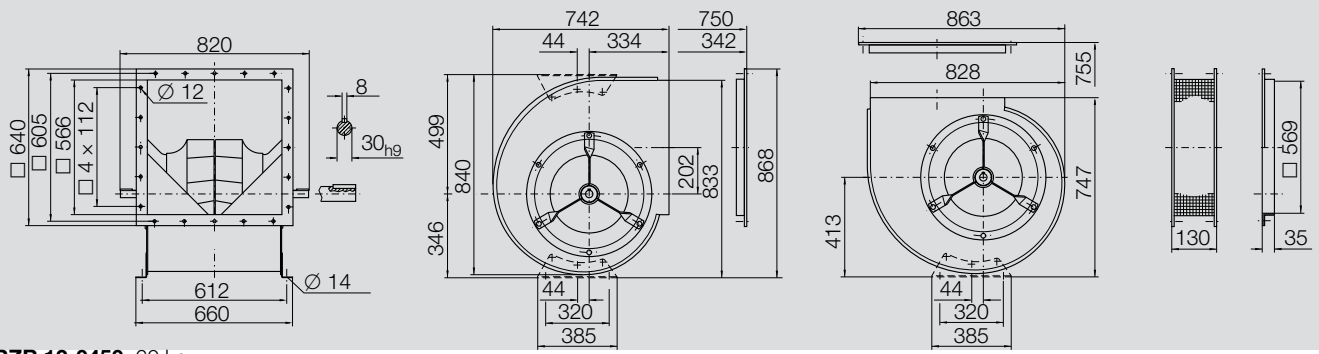
Relative sound power level for discharge side  $L_{Wrel4}$  at octave centre frequencies  $f_c$

| Speed       | Duty point          | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|-------------|---------------------|----|-----|-----|-----|------|------|------|------|----|
| ≤1679 1/min | ≤0.8 $q_{Vopt}$     | 13 | 7   | 4   | -3  | -8   | -14  | -17  | -25  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | 10 | 5   | 3   | -2  | -7   | -13  | -17  | -25  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | 7  | 2   | 2   | -2  | -6   | -12  | -18  | -27  | dB |
|             | >1.6 $q_{Vopt}$     | 5  | 1   | 1   | -2  | -6   | -10  | -17  | -27  | dB |
|             | >1.6 $q_{Vopt}$     | 5  | 1   | 1   | -2  | -6   | -10  | -17  | -27  | dB |
| >1679 1/min | ≤0.8 $q_{Vopt}$     | 11 | 4   | 2   | 0   | -7   | -12  | -17  | -24  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | 7  | 1   | -2  | -3  | -6   | -10  | -15  | -23  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | 3  | -2  | -4  | -3  | -5   | -9   | -14  | -23  | dB |
|             | >1.6 $q_{Vopt}$     | 2  | -3  | -5  | -3  | -5   | -9   | -12  | -21  | dB |
|             | >1.6 $q_{Vopt}$     | 2  | -3  | -5  | -3  | -5   | -9   | -12  | -21  | dB |

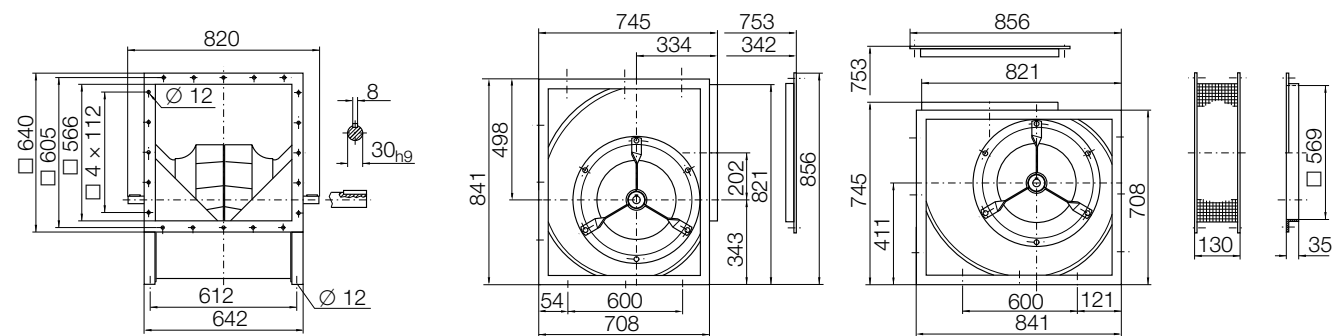
# RZR \_-0450

Dimensions in mm, subject to change.

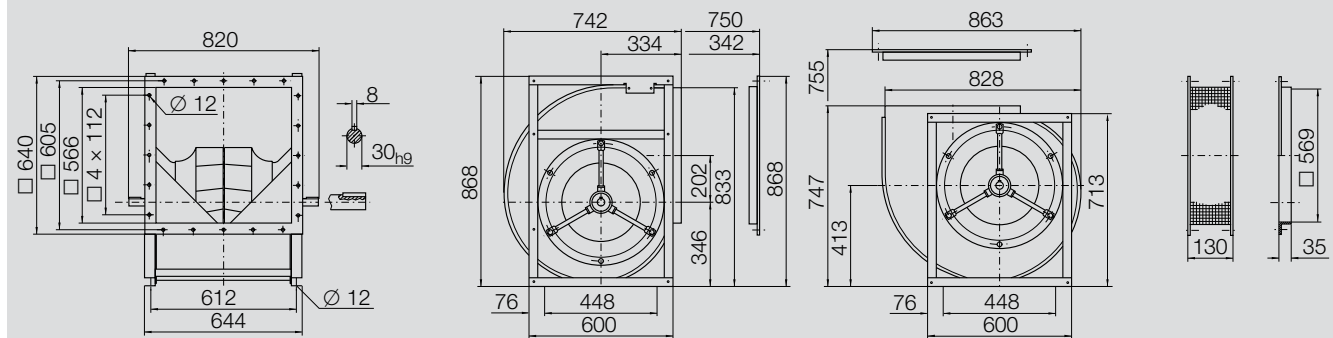
**RZR 11-0450** 54 kg



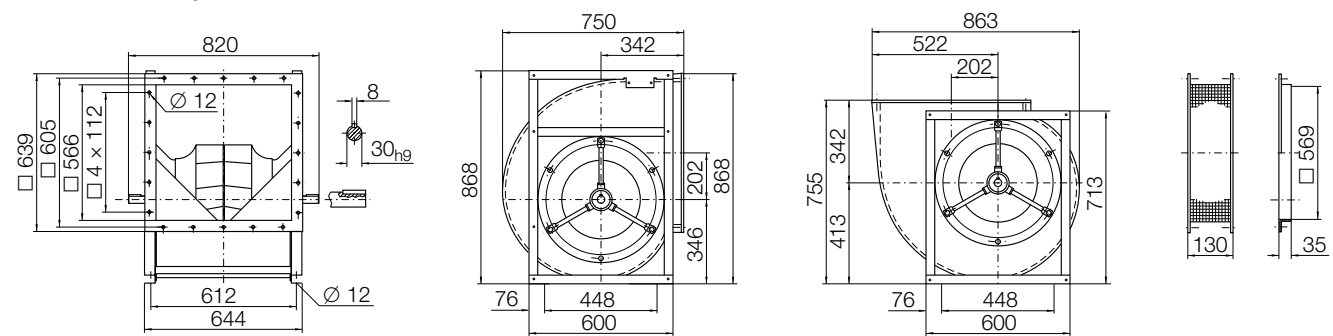
**RZR 12-0450** 60 kg



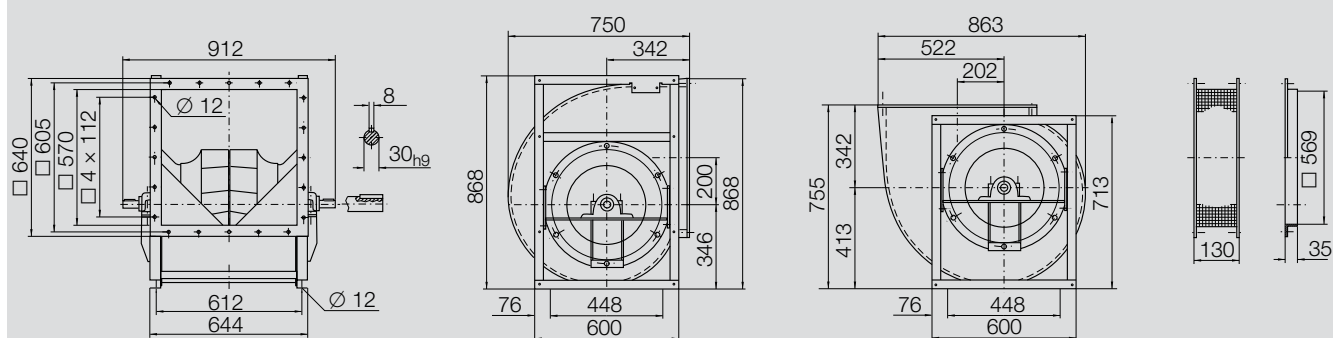
**RZR 15-0450** 73 kg



**RZR 19-0450** 82 kg



**RZR 18-0450** 83 kg **RZR 13-0450** 92 kg



Performance certified is for installation type B - free inlet, ducted outlet.  
 Power rating (kW) does not include transmission losses.  
 Performance ratings do not include the effects of appurtenances (accessories).

**Technical Data**

**Impeller Data**

|                   |       |                      |
|-------------------|-------|----------------------|
| Impeller diameter | $D_r$ | 510 mm               |
| Number of blades  | $z$   | 12                   |
| Moment of Inertia | $J$   | 0.9 kgm <sup>2</sup> |

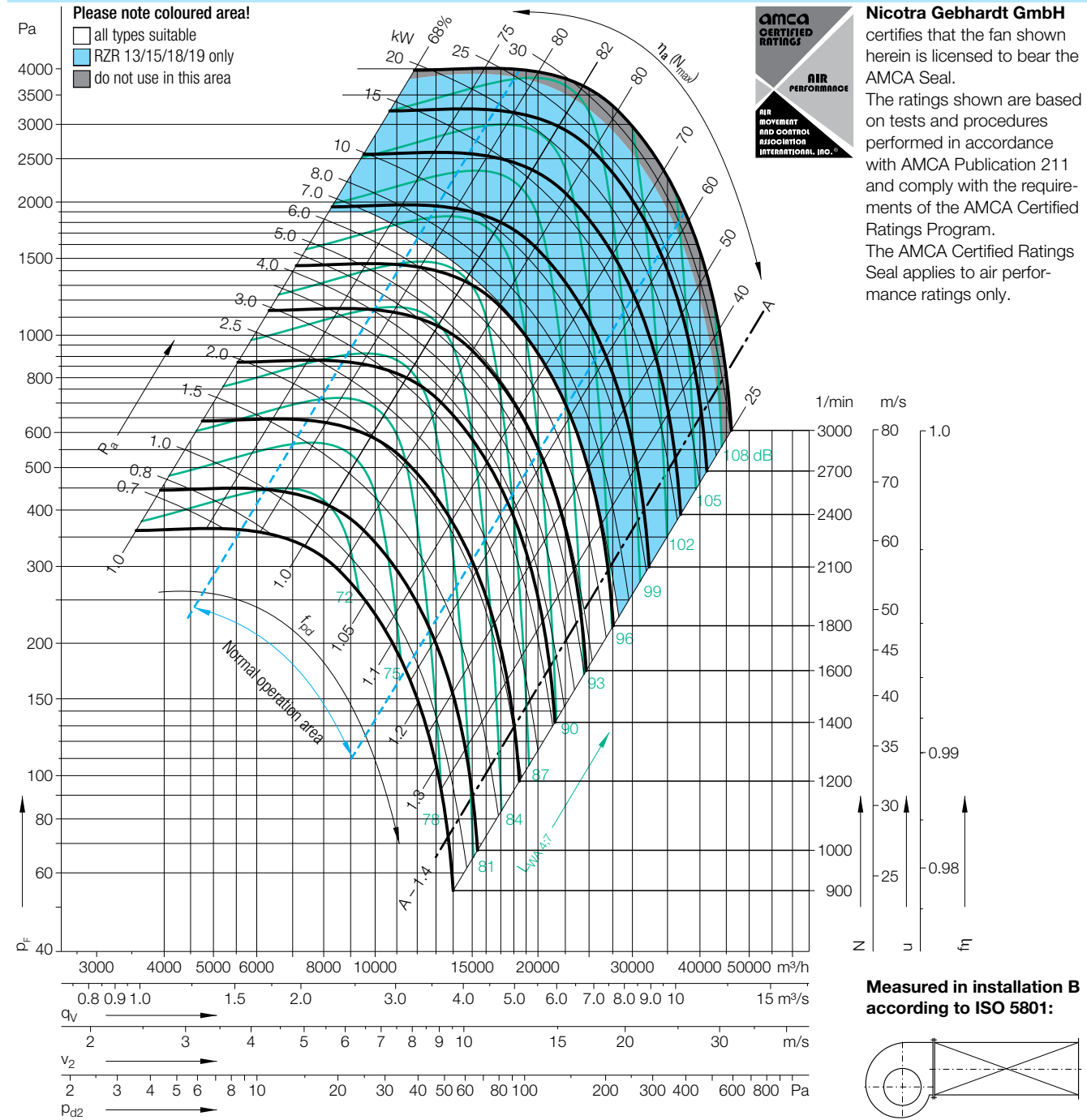
**Impeller Data**

|                             |          |                       |
|-----------------------------|----------|-----------------------|
| Impeller weight             | $m$      | 19.9 kg               |
| Density of media            | $\rho_1$ | 1.2 kg/m <sup>3</sup> |
| Tolerance class (DIN 24166) |          | 1                     |

**Speed limits  $N_{max}$  for ATEX execution**

|           |             |       |
|-----------|-------------|-------|
| RZR 11/12 | <b>1752</b> | 1/min |
| RZR 18    | <b>2000</b> | 1/min |
| RZR 13    | <b>2534</b> | 1/min |

**Performance Curves**



| Speed       | Duty point          |
|-------------|---------------------|
| ≤1498 1/min | ≤0.8 $Q_{Vopt}$     |
|             | >0.8-1.2 $Q_{Vopt}$ |
|             | >1.2-1.6 $Q_{Vopt}$ |
|             | >1.6 $Q_{Vopt}$     |
| Speed       | Duty point          |
| >1498 1/min | ≤0.8 $Q_{Vopt}$     |
|             | >0.8-1.2 $Q_{Vopt}$ |
|             | >1.2-1.6 $Q_{Vopt}$ |
|             | >1.6 $Q_{Vopt}$     |

Relative sound power level for inlet side  $L_{Wrel7}$  at octave centre frequencies  $f_c$

| 63  | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|-----|-----|-----|-----|------|------|------|------|----|
| 0   | 2   | 0   | -3  | -6   | -9   | -12  | -19  | dB |
| -2  | 1   | -2  | -3  | -6   | -8   | -14  | -20  | dB |
| -3  | 0   | -1  | -3  | -6   | -8   | -14  | -21  | dB |
| -5  | -3  | -3  | -3  | -6   | -7   | -13  | -21  | dB |
| 63  | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
| -2  | -1  | -3  | -1  | -6   | -10  | -15  | -21  | dB |
| -7  | -4  | -5  | -1  | -6   | -9   | -14  | -21  | dB |
| -10 | -7  | -8  | -1  | -5   | -8   | -13  | -21  | dB |
| -10 | -8  | -8  | -2  | -6   | -8   | -11  | -18  | dB |

Relative sound power level for discharge side  $L_{Wrel4}$  at octave centre frequencies  $f_c$

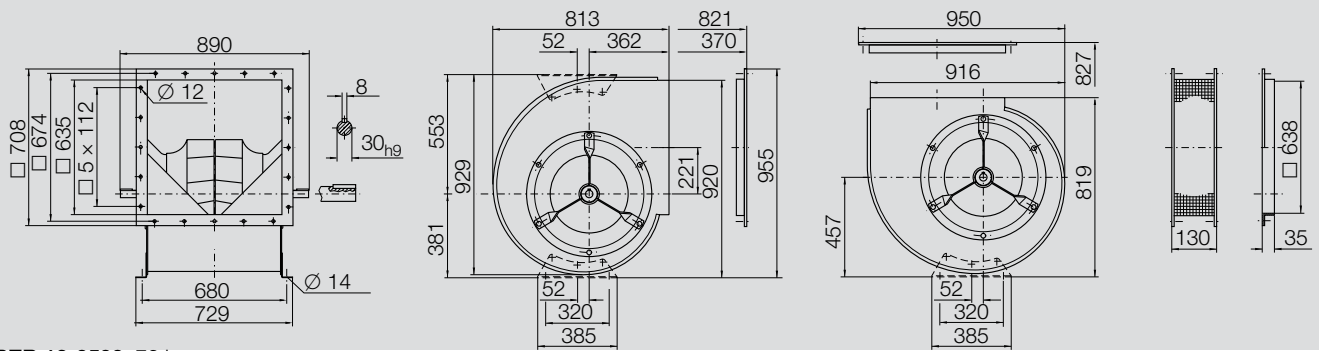
| 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|----|-----|-----|-----|------|------|------|------|----|
| 13 | 7   | 4   | -3  | -8   | -14  | -17  | -25  | dB |
| 10 | 5   | 3   | -2  | -7   | -13  | -17  | -25  | dB |
| 7  | 2   | 2   | -2  | -6   | -12  | -18  | -27  | dB |
| 5  | 1   | 1   | -2  | -6   | -10  | -17  | -27  | dB |
| 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
| 11 | 4   | 2   | 0   | -7   | -12  | -17  | -24  | dB |
| 7  | 1   | -2  | -3  | -6   | -10  | -15  | -23  | dB |
| 3  | -2  | -4  | -3  | -5   | -9   | -14  | -23  | dB |
| 2  | -3  | -5  | -3  | -5   | -9   | -12  | -21  | dB |



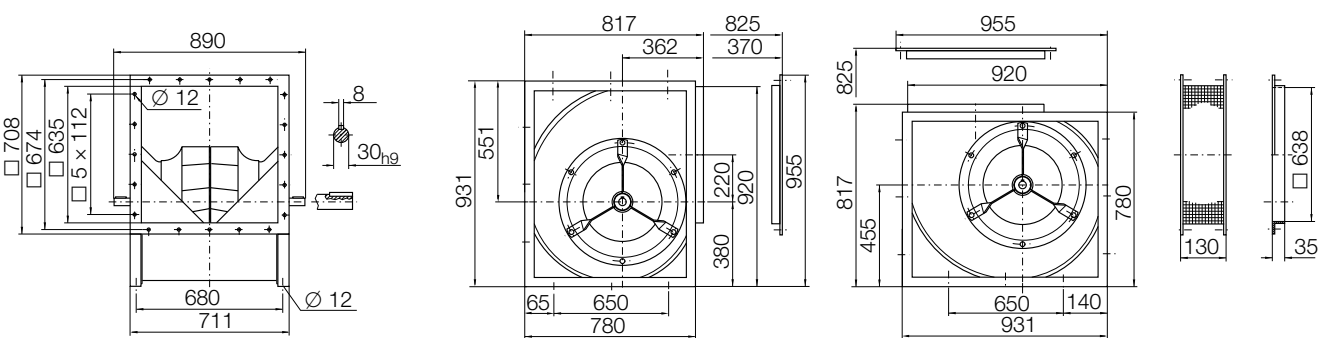
# RZR -0500

Dimensions in mm, subject to change.

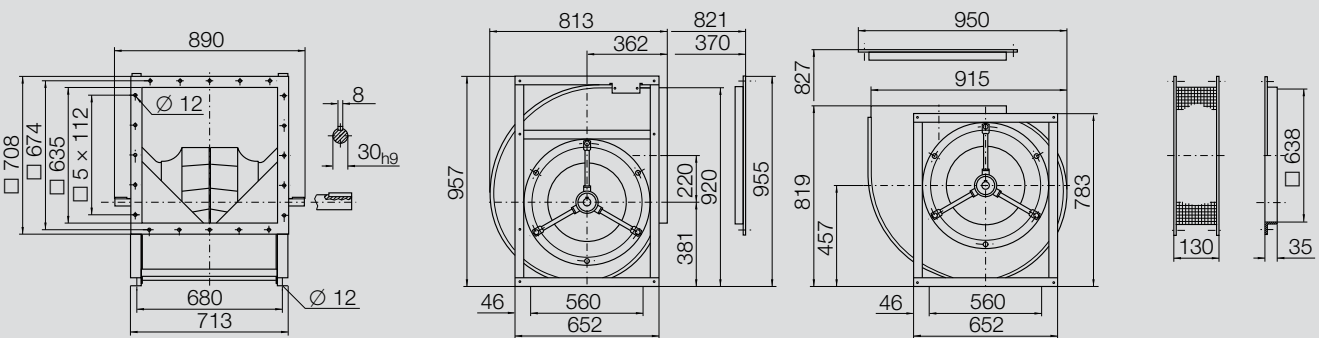
**RZR 11-0500** 65 kg



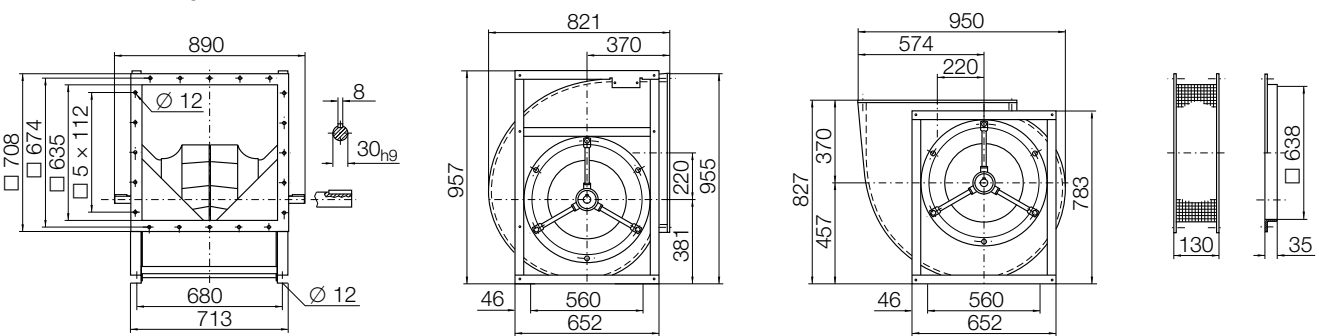
**RZR 12-0500** 72 kg



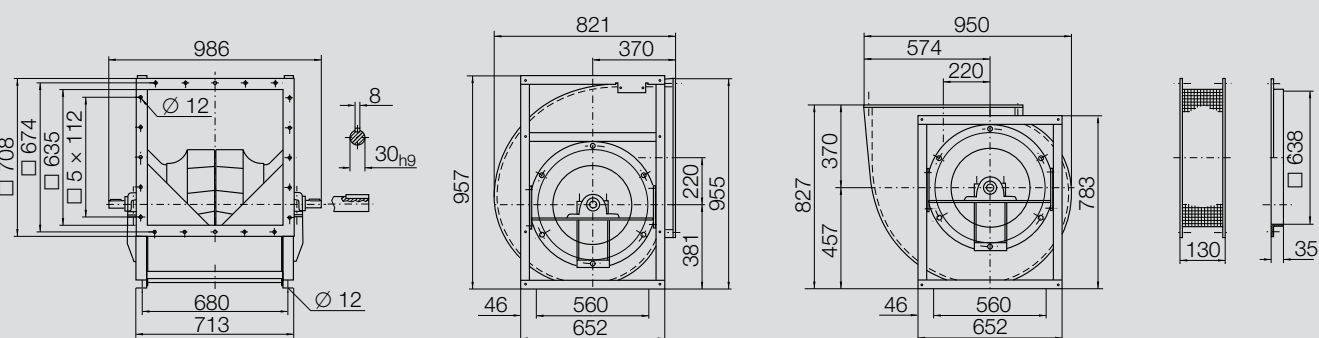
**RZR 15-0500** 94 kg



**RZR 19-0500** 105 kg



**RZR 18-0500** 105 kg **RZR 13-0500** 116 kg



Performance certified is for installation type B - free inlet, ducted outlet.  
Power rating (kW) does not include transmission losses.  
Performance ratings do not include the effects of appurtenances (accessories).

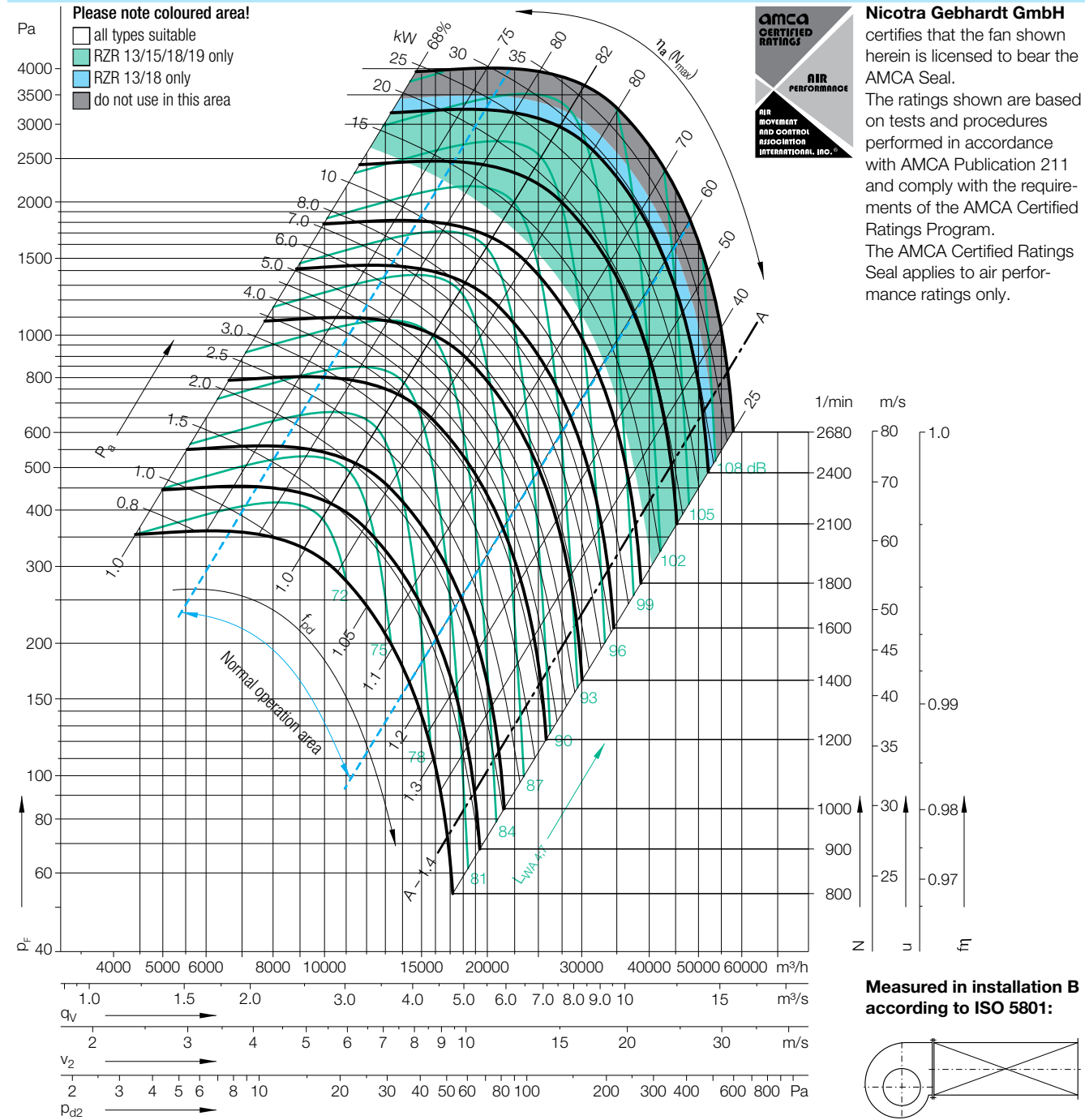
**Technical Data**

| Impeller Data     |       |                      |
|-------------------|-------|----------------------|
| Impeller diameter | $D_r$ | 570 mm               |
| Number of blades  | $z$   | 12                   |
| Moment of Inertia | $J$   | 1.7 kgm <sup>2</sup> |

| Impeller Data               |          |                       |
|-----------------------------|----------|-----------------------|
| Impeller weight             | $m$      | 30 kg                 |
| Density of media            | $\rho_1$ | 1.2 kg/m <sup>3</sup> |
| Tolerance class (DIN 24166) |          | 1                     |

| Speed limits $N_{max}$ for ATEX execution |             |       |
|---|-------------|-------|
| RZR 11/12/18                              | <b>1660</b> | 1/min |
| RZR 13                                    | <b>2163</b> | 1/min |

**Performance Curves**



| Speed       | Duty point          |
|-------------|---------------------|
| ≤1340 1/min | ≤0.8 $q_{Vopt}$     |
|             | >0.8-1.2 $q_{Vopt}$ |
|             | >1.2-1.6 $q_{Vopt}$ |
|             | >1.6 $q_{Vopt}$     |
| Speed       | Duty point          |
| >1340 1/min | ≤0.8 $q_{Vopt}$     |
|             | >0.8-1.2 $q_{Vopt}$ |
|             | >1.2-1.6 $q_{Vopt}$ |
|             | >1.6 $q_{Vopt}$     |

Relative sound power level for inlet side  $L_{Wrel7}$  at octave centre frequencies  $f_c$

|     | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|-----|----|-----|-----|-----|------|------|------|------|----|
| 0   | 2  | 0   | -3  | -6  | -9   | -12  | -19  |      | dB |
| -2  | 1  | -2  | -3  | -6  | -8   | -14  | -20  |      | dB |
| -3  | 0  | -1  | -3  | -6  | -8   | -14  | -21  |      | dB |
| -5  | -3 | -3  | -3  | -6  | -7   | -13  | -21  |      | dB |
|     | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
| -2  | -1 | -3  | -1  | -6  | -10  | -15  | -21  |      | dB |
| -7  | -4 | -5  | -1  | -6  | -9   | -14  | -21  |      | dB |
| -10 | -7 | -8  | -1  | -5  | -8   | -13  | -21  |      | dB |
| -10 | -8 | -8  | -2  | -6  | -8   | -11  | -18  |      | dB |

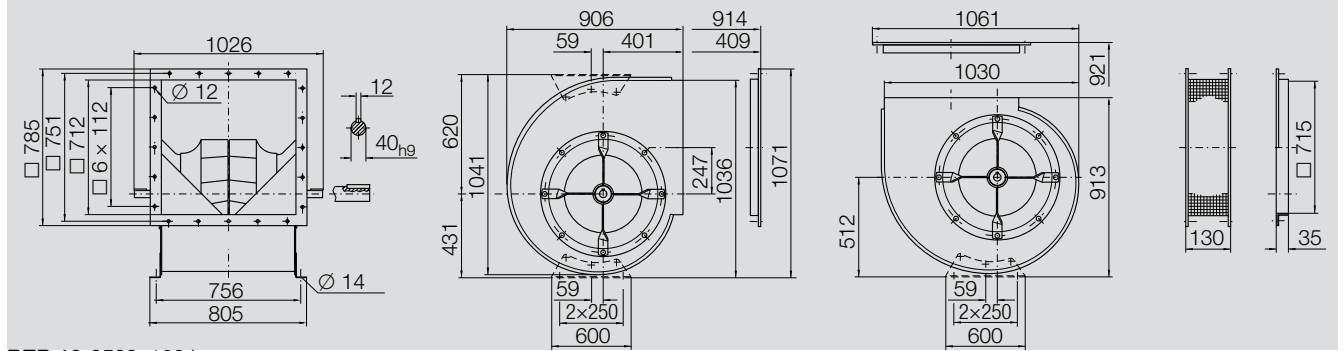
Relative sound power level for discharge side  $L_{Wrel4}$  at octave centre frequencies  $f_c$

|    | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|----|----|-----|-----|-----|------|------|------|------|----|
| 13 | 7  | 4   | -3  | -8  | -14  | -17  | -25  |      | dB |
| 10 | 5  | 3   | -2  | -7  | -13  | -17  | -25  |      | dB |
| 7  | 2  | 2   | -2  | -6  | -12  | -18  | -27  |      | dB |
| 5  | 1  | 1   | -2  | -6  | -10  | -17  | -27  |      | dB |
|    | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
| 11 | 4  | 2   | 0   | -7  | -12  | -17  | -24  |      | dB |
| 7  | 1  | -2  | -3  | -6  | -10  | -15  | -23  |      | dB |
| 3  | -2 | -4  | -3  | -5  | -9   | -14  | -23  |      | dB |
| 2  | -3 | -5  | -3  | -5  | -9   | -12  | -21  |      | dB |

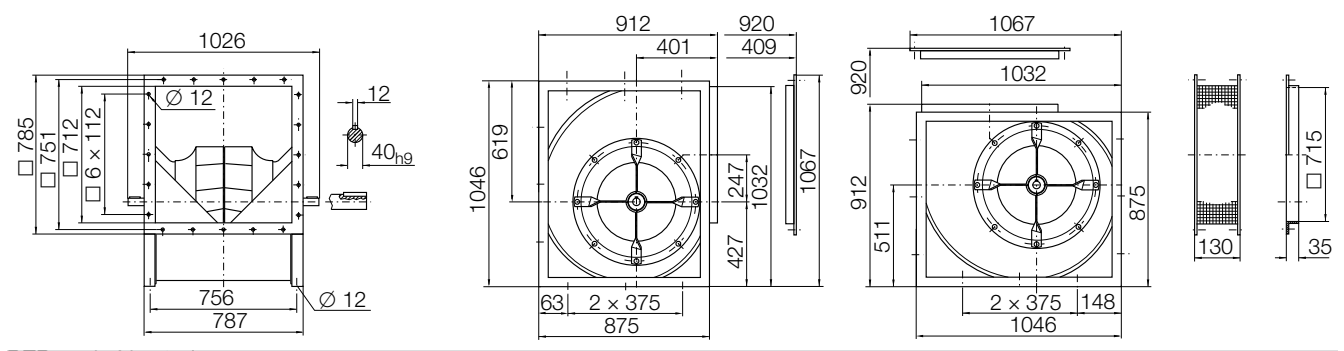
# RZR -0560

Dimensions in mm, subject to change.

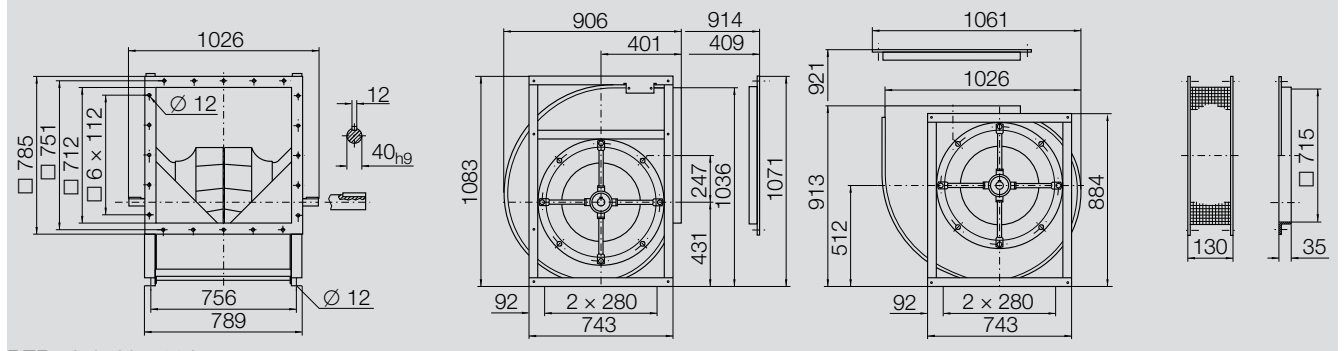
**RZR 11-0560** 103 kg



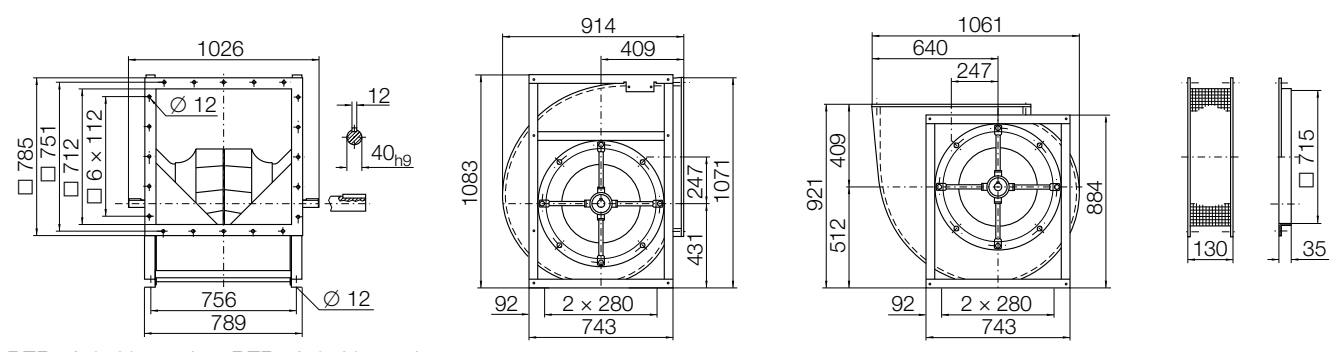
**RZR 12-0560** 109 kg



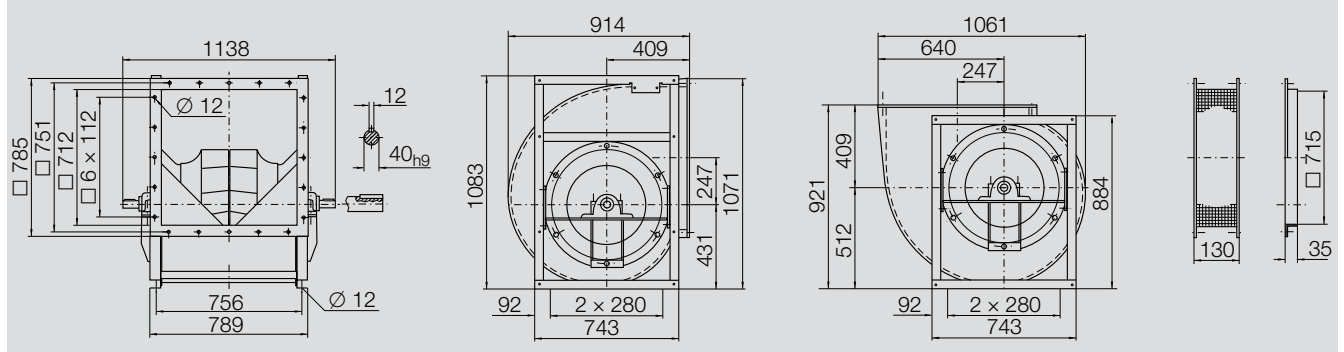
**RZR 15-0560** 125 kg



**RZR 19-0560** 136 kg



**RZR 18-0560** 140 kg **RZR 13-0560** 151 kg



Performance certified is for installation type B - free inlet, ducted outlet.  
 Power rating (kW) does not include transmission losses.  
 Performance ratings do not include the effects of appurtenances (accessories).

**Technical Data**

**Impeller Data**

|                   |       |                      |
|-------------------|-------|----------------------|
| Impeller diameter | $D_r$ | 640 mm               |
| Number of blades  | $z$   | 12                   |
| Moment of Inertia | $J$   | 2.4 kgm <sup>2</sup> |

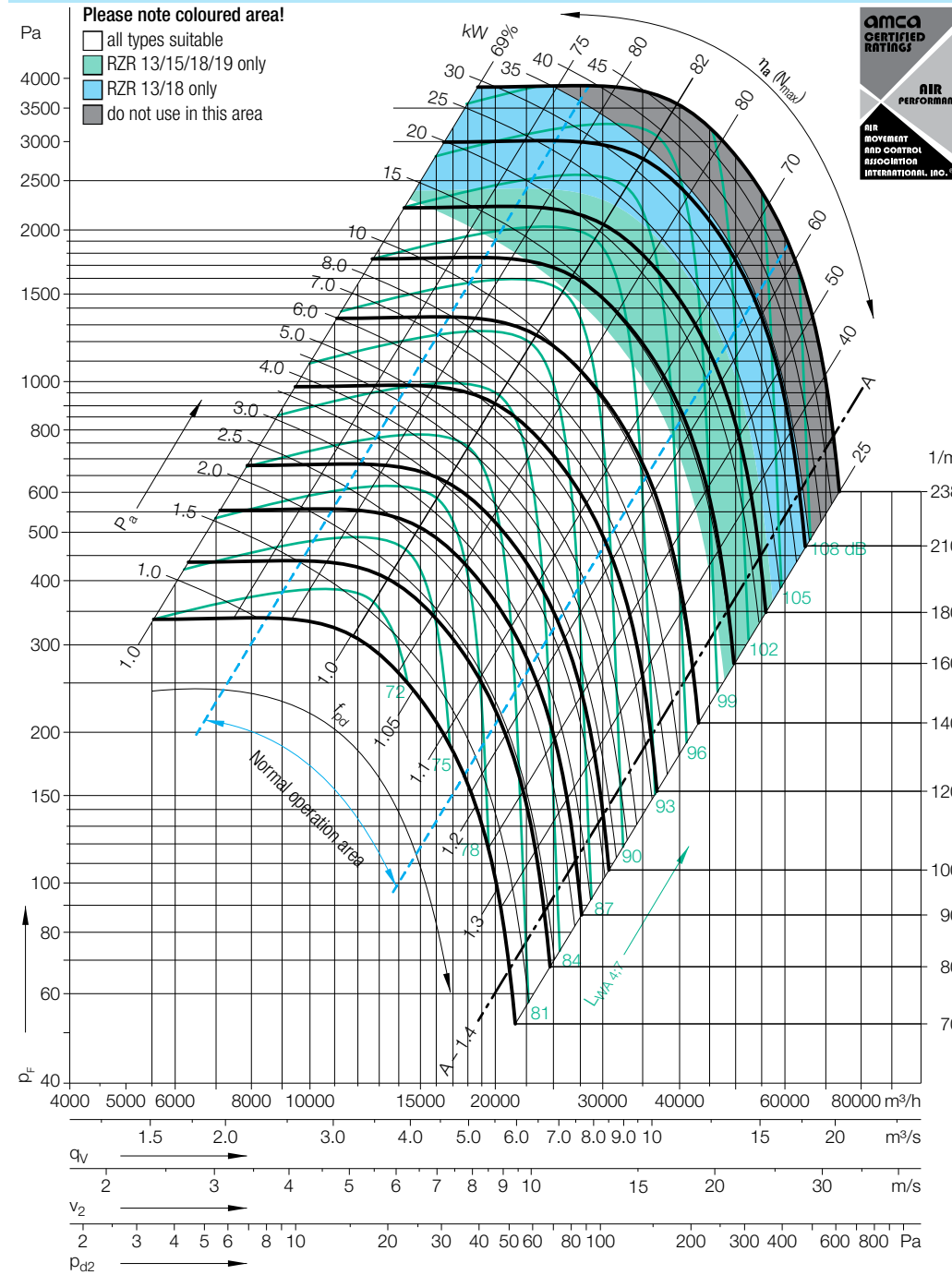
**Impeller Data**

|                             |          |                       |
|-----------------------------|----------|-----------------------|
| Impeller weight             | $m$      | 38 kg                 |
| Density of media            | $\rho_1$ | 1.2 kg/m <sup>3</sup> |
| Tolerance class (DIN 24166) |          | 1                     |

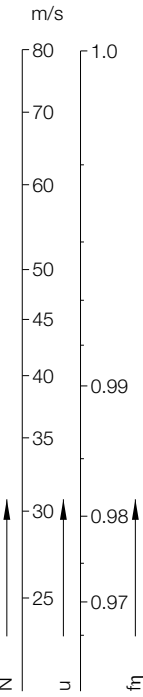
**Speed limits  $N_{max}$  for ATEX execution**

|              |             |       |
|--------------|-------------|-------|
| RZR 11/12/18 | <b>1367</b> | 1/min |
| RZR 13       | <b>2055</b> | 1/min |

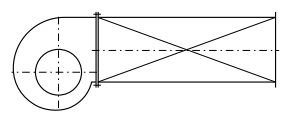
**Performance Curves**



**Nicotra Gebhardt GmbH** certifies that the fan shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to air performance ratings only.



**Measured in installation B according to ISO 5801:**



Relative sound power level for inlet side  $L_{Wrel7}$  at octave centre frequencies  $f_c$

| Speed       | Duty point          | 63  | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|-------------|---------------------|-----|-----|-----|-----|------|------|------|------|----|
| ≤1194 1/min | ≤0.8 $q_{Vopt}$     | 0   | 2   | 0   | -3  | -6   | -9   | -12  | -19  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | -2  | 1   | -2  | -3  | -6   | -8   | -14  | -20  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | -3  | 0   | -1  | -3  | -6   | -8   | -14  | -21  | dB |
|             | >1.6-2.0 $q_{Vopt}$ | -5  | -3  | -3  | -3  | -6   | -7   | -13  | -21  | dB |
|             | >2.0 $q_{Vopt}$     | -5  | -3  | -3  | -3  | -6   | -7   | -13  | -21  | dB |
| >1194 1/min | ≤0.8 $q_{Vopt}$     | -2  | -1  | -3  | -1  | -6   | -10  | -15  | -21  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | -7  | -4  | -5  | -1  | -6   | -9   | -14  | -21  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | -10 | -7  | -8  | -1  | -5   | -8   | -13  | -21  | dB |
|             | >1.6-2.0 $q_{Vopt}$ | -10 | -8  | -8  | -2  | -6   | -8   | -11  | -18  | dB |
|             | >2.0 $q_{Vopt}$     | -10 | -8  | -8  | -2  | -6   | -8   | -11  | -18  | dB |

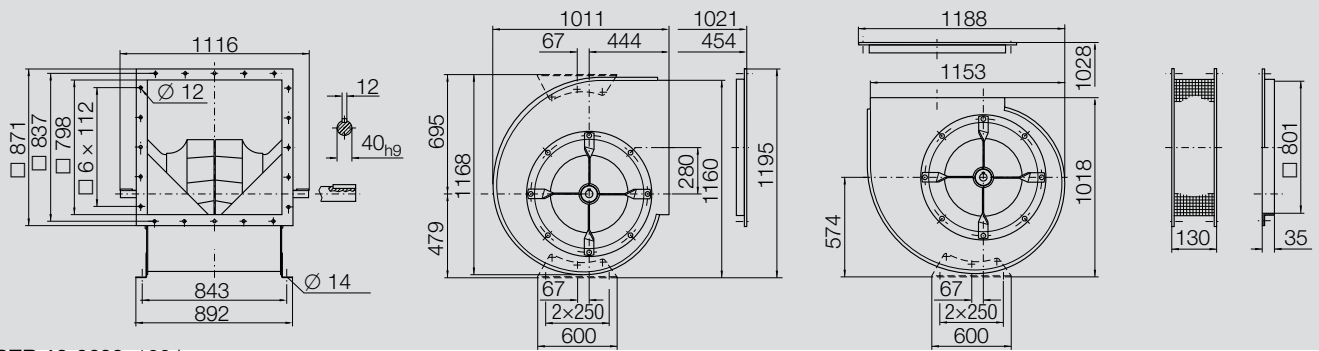
Relative sound power level for discharge side  $L_{Wrel4}$  at octave centre frequencies  $f_c$

| Speed       | Duty point          | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|-------------|---------------------|----|-----|-----|-----|------|------|------|------|----|
| ≤1194 1/min | ≤0.8 $q_{Vopt}$     | 13 | 7   | 4   | -3  | -8   | -14  | -17  | -25  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | 10 | 5   | 3   | -2  | -7   | -13  | -17  | -25  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | 7  | 2   | 2   | -2  | -6   | -12  | -18  | -27  | dB |
|             | >1.6-2.0 $q_{Vopt}$ | 5  | 1   | 1   | -2  | -6   | -10  | -17  | -27  | dB |
|             | >2.0 $q_{Vopt}$     | 5  | 1   | 1   | -2  | -6   | -10  | -17  | -27  | dB |
| >1194 1/min | ≤0.8 $q_{Vopt}$     | 11 | 4   | 2   | 0   | -7   | -12  | -17  | -24  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | 7  | 1   | -2  | -3  | -6   | -10  | -15  | -23  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | 3  | -2  | -4  | -3  | -5   | -9   | -14  | -23  | dB |
|             | >1.6-2.0 $q_{Vopt}$ | 2  | -3  | -5  | -3  | -5   | -9   | -12  | -21  | dB |
|             | >2.0 $q_{Vopt}$     | 2  | -3  | -5  | -3  | -5   | -9   | -12  | -21  | dB |

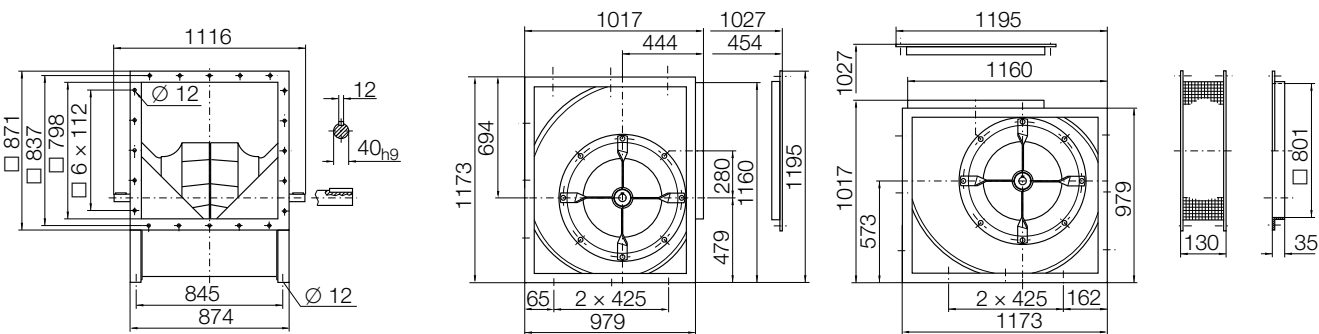
# RZR -0630

Dimensions in mm, subject to change.

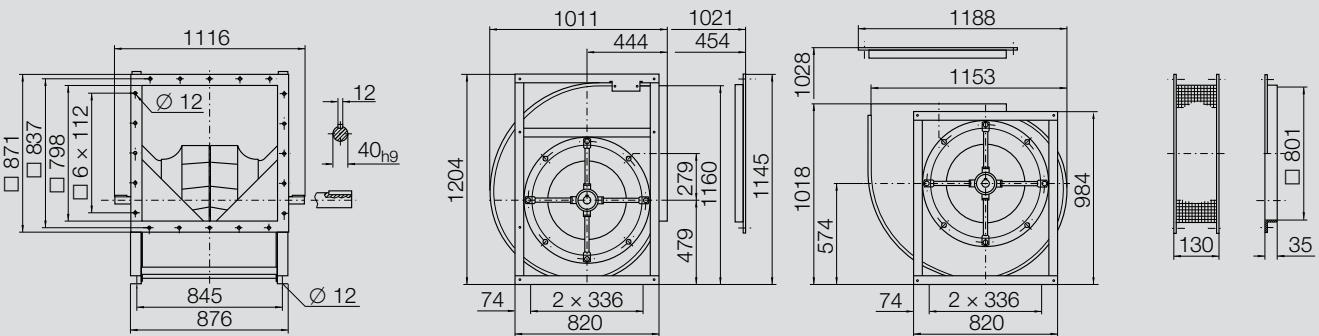
**RZR 11-0630** 124 kg



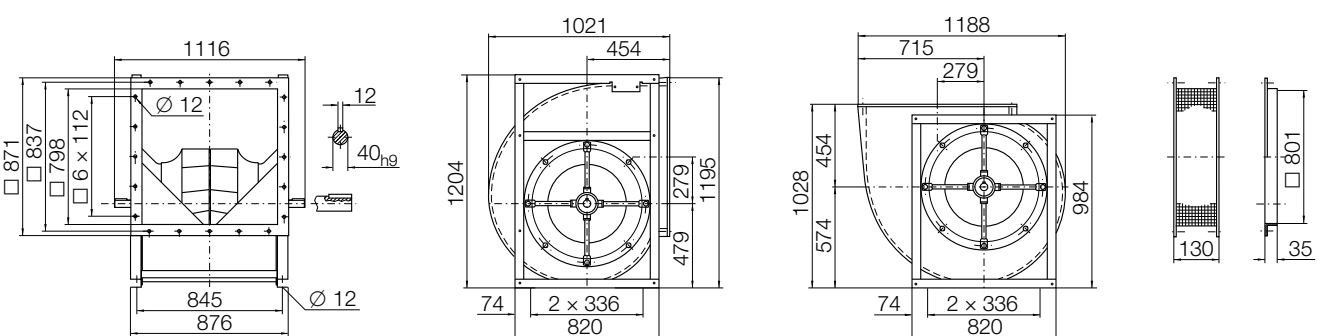
**RZR 12-0630** 132 kg



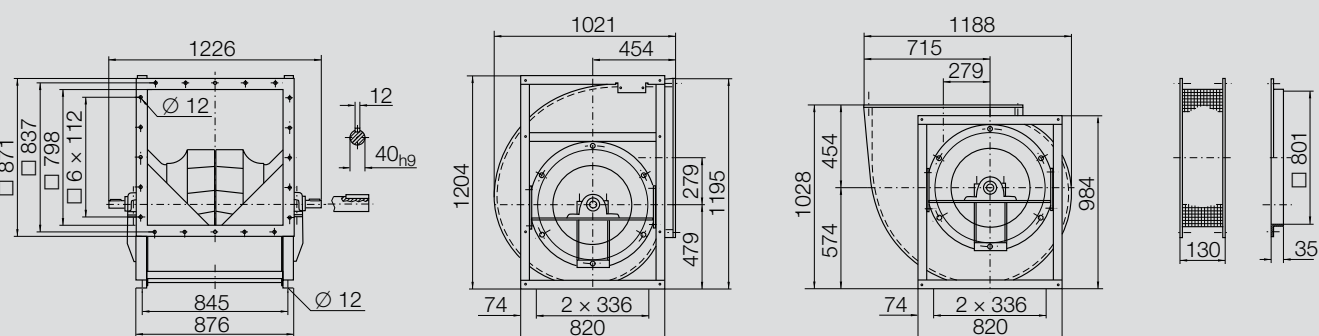
**RZR 15-0630** 149 kg



**RZR 19-0630** 162 kg



**RZR 18-0630** 167 kg **RZR 13-0630** 180 kg



Performance certified is for installation type B - free inlet, ducted outlet.  
 Power rating (kW) does not include transmission losses.  
 Performance ratings do not include the effects of appurtenances (accessories).

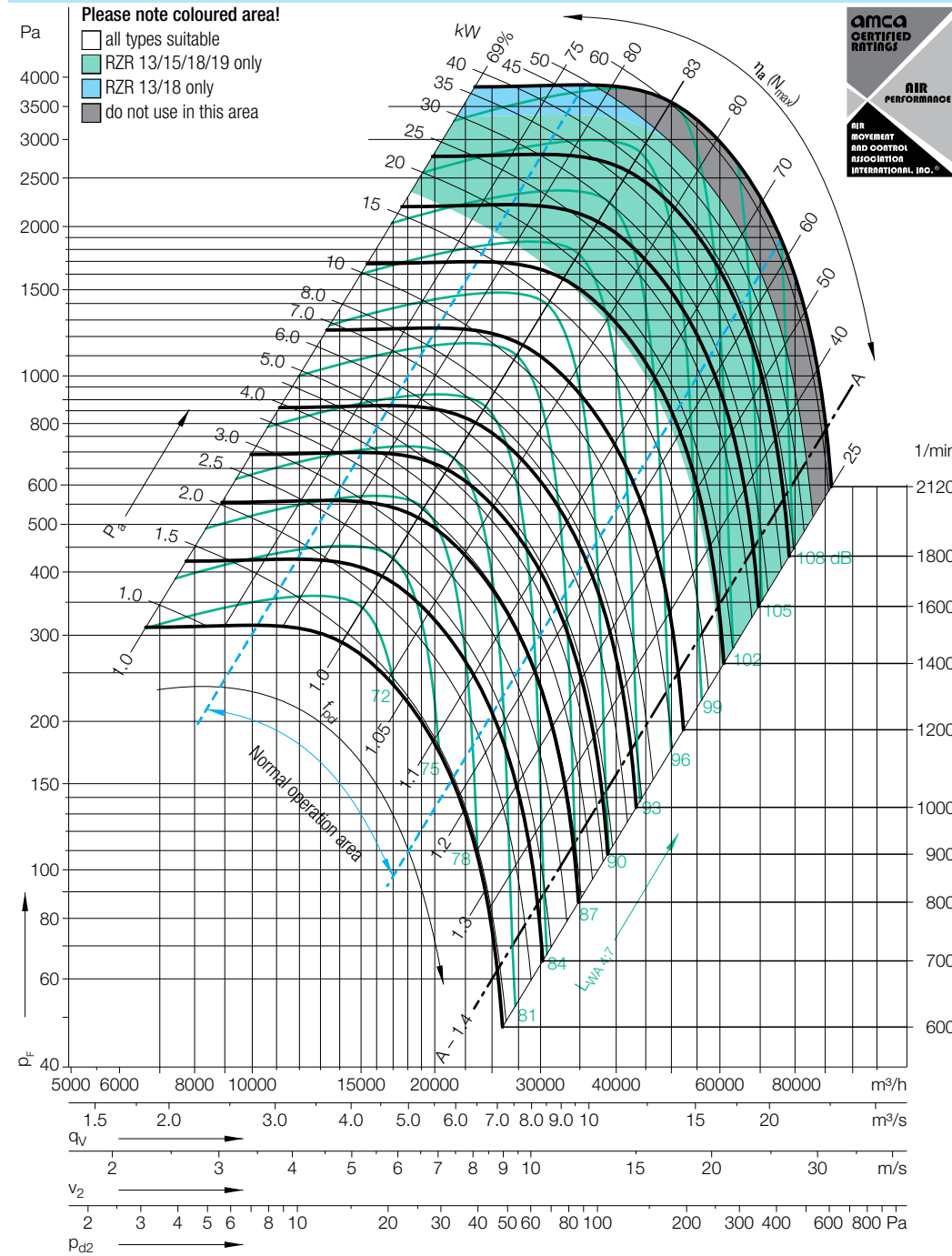
**Technical Data**

| Impeller Data     |       |                      |
|-------------------|-------|----------------------|
| Impeller diameter | $D_r$ | 718 mm               |
| Number of blades  | $z$   | 12                   |
| Moment of Inertia | $J$   | 4.8 kgm <sup>2</sup> |

| Impeller Data               |          |                       |
|-----------------------------|----------|-----------------------|
| Impeller weight             | $m$      | 52 kg                 |
| Density of media            | $\rho_1$ | 1.2 kg/m <sup>3</sup> |
| Tolerance class (DIN 24166) |          | 1                     |

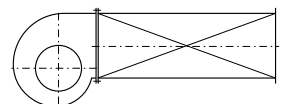
| Speed limits $N_{max}$ for ATEX execution |             |       |
|---|-------------|-------|
| RZR 11/12/18                              | <b>1128</b> | 1/min |
| RZR 13                                    | <b>1825</b> | 1/min |

**Performance Curves**



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**Measured in installation B according to ISO 5801:**



Relative sound power level for inlet side  $L_{Wrel7}$  at octave centre frequencies  $f_c$

| Speed       | Duty point          | 63  | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|-------------|---------------------|-----|-----|-----|-----|------|------|------|------|----|
| ≤1064 1/min | ≤0.8 $q_{Vopt}$     | 0   | 2   | 0   | -3  | -6   | -9   | -12  | -19  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | -2  | 1   | -2  | -3  | -6   | -8   | -14  | -20  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | -3  | 0   | -1  | -3  | -6   | -8   | -14  | -21  | dB |
|             | >1.6-2.0 $q_{Vopt}$ | -5  | -3  | -3  | -3  | -6   | -7   | -13  | -21  | dB |
|             | >2.0 $q_{Vopt}$     | -5  | -3  | -3  | -3  | -6   | -7   | -13  | -21  | dB |
| >1064 1/min | ≤0.8 $q_{Vopt}$     | -2  | -1  | -3  | -1  | -6   | -10  | -15  | -21  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | -7  | -4  | -5  | -1  | -6   | -9   | -14  | -21  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | -10 | -7  | -8  | -1  | -5   | -8   | -13  | -21  | dB |
|             | >1.6-2.0 $q_{Vopt}$ | -10 | -8  | -8  | -2  | -6   | -8   | -11  | -18  | dB |
|             | >2.0 $q_{Vopt}$     | -10 | -8  | -8  | -2  | -6   | -8   | -11  | -18  | dB |

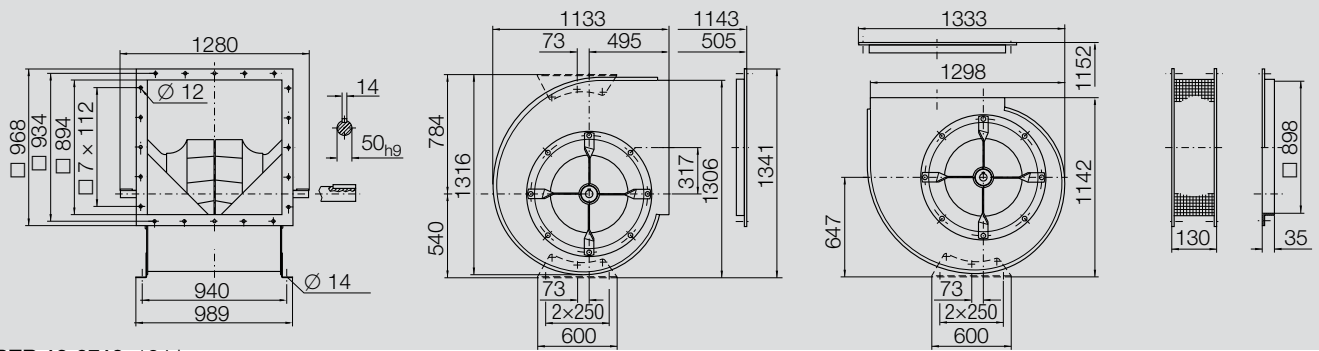
Relative sound power level for discharge side  $L_{Wrel4}$  at octave centre frequencies  $f_c$

| Speed       | Duty point          | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|-------------|---------------------|----|-----|-----|-----|------|------|------|------|----|
| ≤1064 1/min | ≤0.8 $q_{Vopt}$     | 13 | 7   | 4   | -3  | -8   | -14  | -17  | -25  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | 10 | 5   | 3   | -2  | -7   | -13  | -17  | -25  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | 7  | 2   | 2   | -2  | -6   | -12  | -18  | -27  | dB |
|             | >1.6-2.0 $q_{Vopt}$ | 5  | 1   | 1   | -2  | -6   | -10  | -17  | -27  | dB |
|             | >2.0 $q_{Vopt}$     | 5  | 1   | 1   | -2  | -6   | -10  | -17  | -27  | dB |
| >1064 1/min | ≤0.8 $q_{Vopt}$     | 11 | 4   | 2   | 0   | -7   | -12  | -17  | -24  | dB |
|             | >0.8-1.2 $q_{Vopt}$ | 7  | 1   | -2  | -3  | -6   | -10  | -15  | -23  | dB |
|             | >1.2-1.6 $q_{Vopt}$ | 3  | -2  | -4  | -3  | -5   | -9   | -14  | -23  | dB |
|             | >1.6-2.0 $q_{Vopt}$ | 2  | -3  | -5  | -3  | -5   | -9   | -12  | -21  | dB |
|             | >2.0 $q_{Vopt}$     | 2  | -3  | -5  | -3  | -5   | -9   | -12  | -21  | dB |

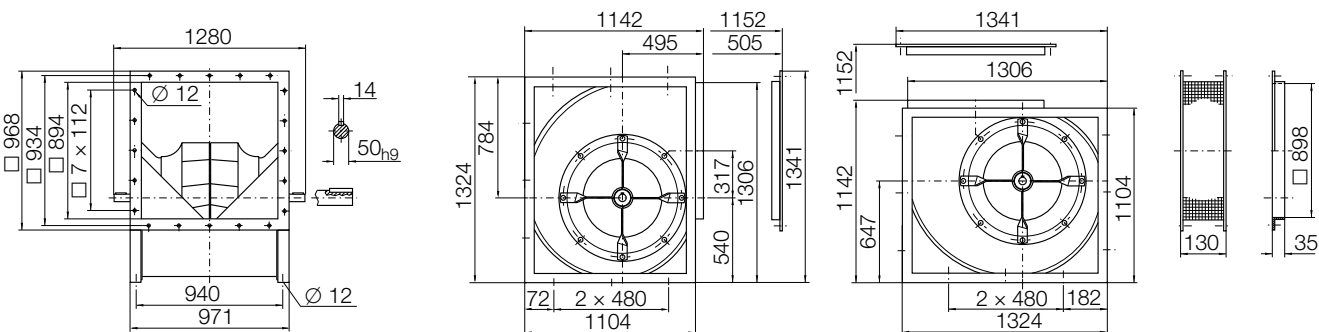
# RZR \_-0710

Dimensions in mm, subject to change.

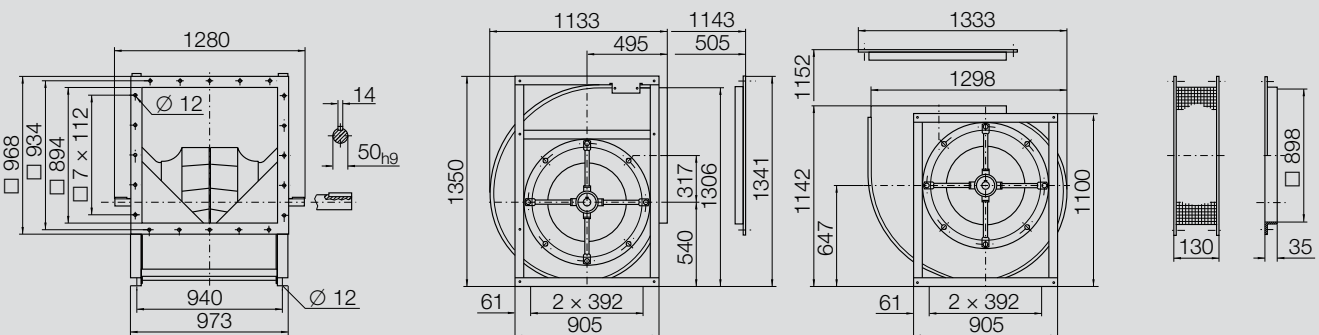
**RZR 11-0710** 177 kg



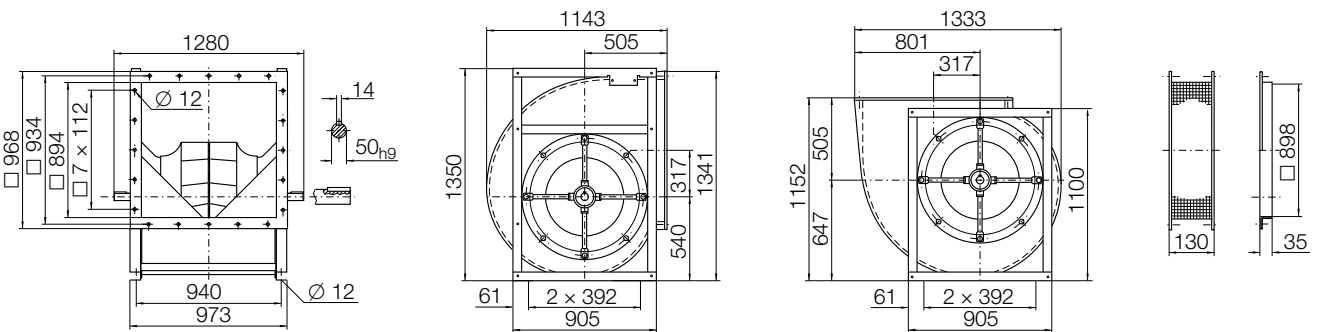
**RZR 12-0710** 194 kg



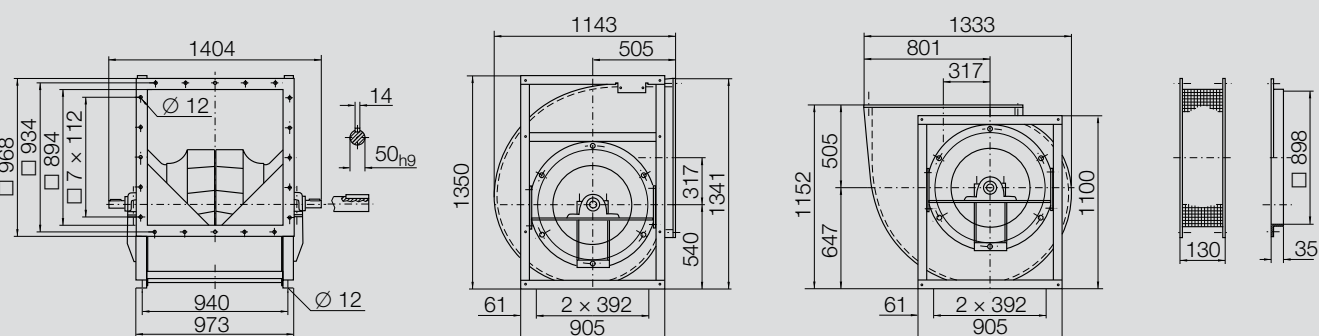
**RZR 15-0710** 201 kg



**RZR 19-0710** 225 kg



**RZR 18-0710** 230 kg **RZR 13-0710** 254 kg



Performance certified is for installation type B - free inlet, ducted outlet.  
 Power rating (kW) does not include transmission losses.  
 Performance ratings do not include the effects of appurtenances (accessories).

**Technical Data**

**Impeller Data**

|                   |       |                       |
|-------------------|-------|-----------------------|
| Impeller diameter | $D_r$ | 808 mm                |
| Number of blades  | $z$   | 12                    |
| Moment of Inertia | $J$   | 6.85 kgm <sup>2</sup> |

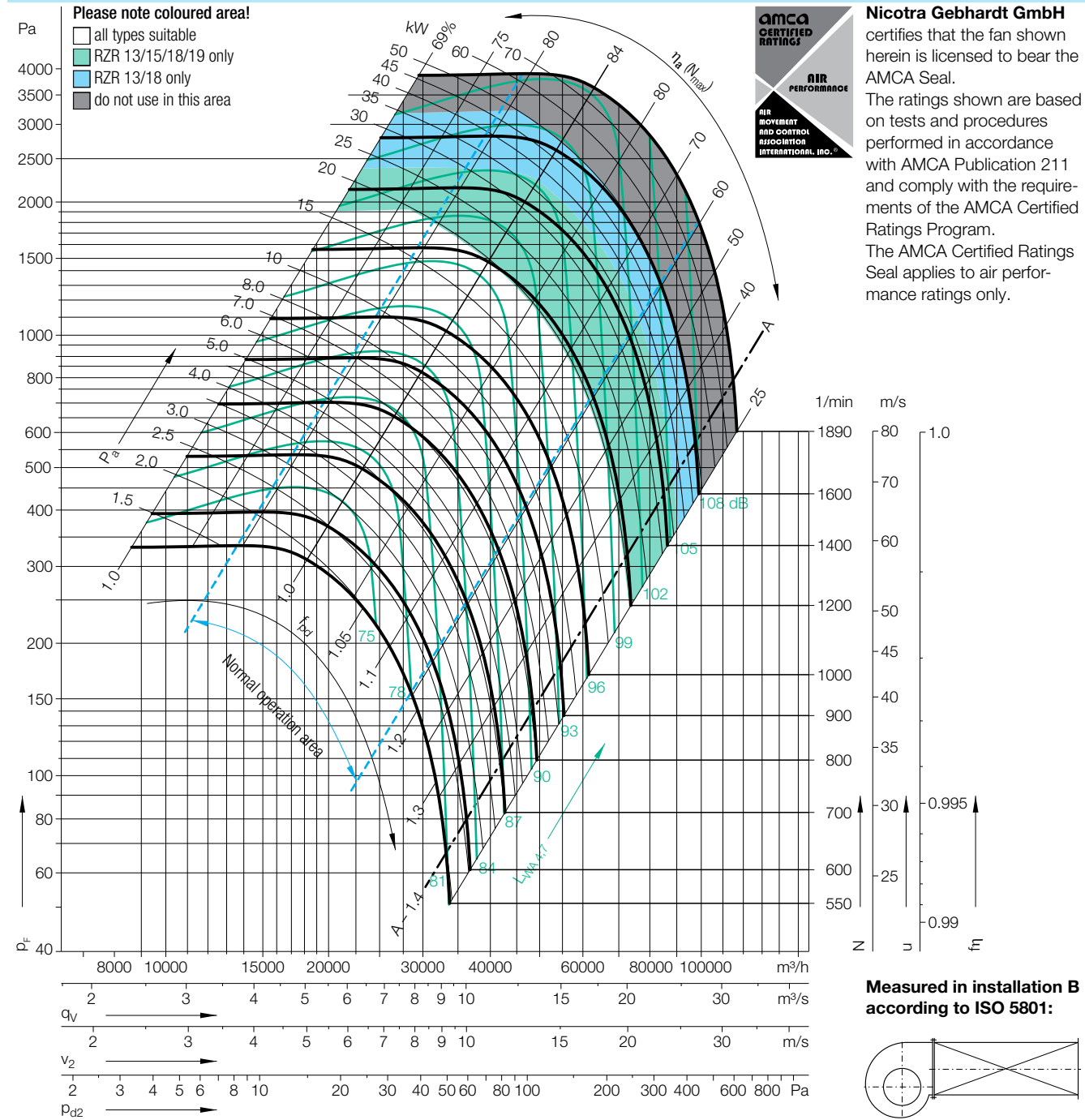
**Impeller Data**

|                             |          |                       |
|-----------------------------|----------|-----------------------|
| Impeller weight             | $m$      | 69 kg                 |
| Density of media            | $\rho_1$ | 1.2 kg/m <sup>3</sup> |
| Tolerance class (DIN 24166) |          | 1                     |

**Speed limits  $N_{max}$  for ATEX execution**

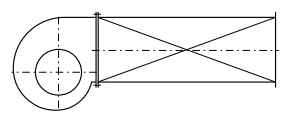
|           |             |       |
|-----------|-------------|-------|
| RZR 11/18 | <b>927</b>  | 1/min |
| RZR 13    | <b>1474</b> | 1/min |

**Performance Curves**



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**Measured in installation B according to ISO 5801:**



Relative sound power level for inlet side  $L_{Wrel7}$  at octave centre frequencies  $f_c$

| Speed            | Duty point           | 63  | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|------------------|----------------------|-----|-----|-----|-----|------|------|------|------|----|
| $\leq 945$ 1/min | $\leq 0.8 q_{Vopt}$  | 0   | 2   | 0   | -3  | -6   | -9   | -12  | -19  | dB |
|                  | $> 0.8-1.2 q_{Vopt}$ | -2  | 1   | -2  | -3  | -6   | -8   | -14  | -20  | dB |
|                  | $> 1.2-1.6 q_{Vopt}$ | -3  | 0   | -1  | -3  | -6   | -8   | -14  | -21  | dB |
|                  | $> 1.6-2.0 q_{Vopt}$ | -5  | -3  | -3  | -3  | -6   | -7   | -13  | -21  | dB |
|                  | $> 2.0 q_{Vopt}$     | -5  | -3  | -3  | -3  | -6   | -7   | -13  | -21  | dB |
| $> 945$ 1/min    | $\leq 0.8 q_{Vopt}$  | -2  | -1  | -3  | -1  | -6   | -10  | -15  | -21  | dB |
|                  | $> 0.8-1.2 q_{Vopt}$ | -7  | -4  | -5  | -1  | -6   | -9   | -14  | -21  | dB |
|                  | $> 1.2-1.6 q_{Vopt}$ | -10 | -7  | -8  | -1  | -5   | -8   | -13  | -21  | dB |
|                  | $> 1.6-2.0 q_{Vopt}$ | -10 | -8  | -8  | -2  | -6   | -8   | -11  | -18  | dB |
|                  | $> 2.0 q_{Vopt}$     | -10 | -8  | -8  | -2  | -6   | -8   | -11  | -18  | dB |

Relative sound power level for discharge side  $L_{Wrel4}$  at octave centre frequencies  $f_c$

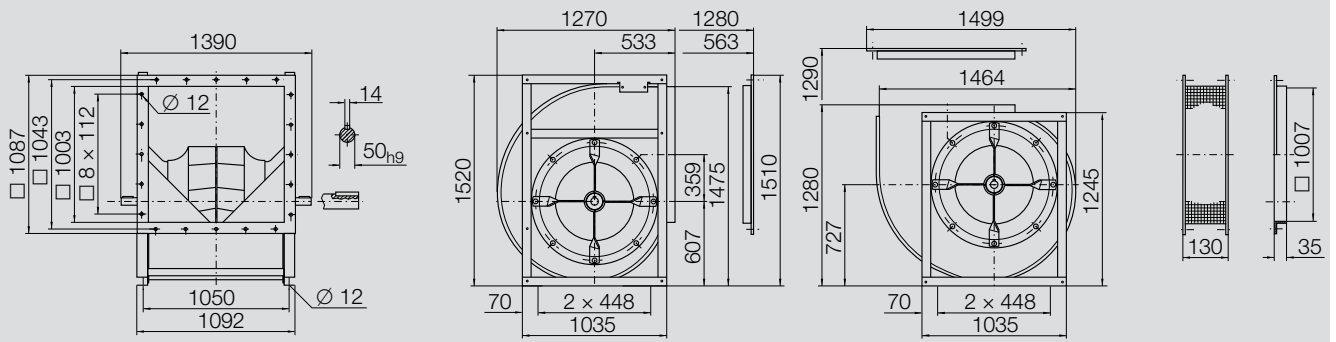
| Speed            | Duty point           | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|------------------|----------------------|----|-----|-----|-----|------|------|------|------|----|
| $\leq 945$ 1/min | $\leq 0.8 q_{Vopt}$  | 13 | 7   | 4   | -3  | -8   | -14  | -17  | -25  | dB |
|                  | $> 0.8-1.2 q_{Vopt}$ | 10 | 5   | 3   | -2  | -7   | -13  | -17  | -25  | dB |
|                  | $> 1.2-1.6 q_{Vopt}$ | 7  | 2   | 2   | -2  | -6   | -12  | -18  | -27  | dB |
|                  | $> 1.6-2.0 q_{Vopt}$ | 5  | 1   | 1   | -2  | -6   | -10  | -17  | -27  | dB |
|                  | $> 2.0 q_{Vopt}$     | 5  | 1   | 1   | -2  | -6   | -10  | -17  | -27  | dB |
| $> 945$ 1/min    | $\leq 0.8 q_{Vopt}$  | 11 | 4   | 2   | 0   | -7   | -12  | -17  | -24  | dB |
|                  | $> 0.8-1.2 q_{Vopt}$ | 7  | 1   | -2  | -3  | -6   | -10  | -15  | -23  | dB |
|                  | $> 1.2-1.6 q_{Vopt}$ | 3  | -2  | -4  | -3  | -5   | -9   | -14  | -23  | dB |
|                  | $> 1.6-2.0 q_{Vopt}$ | 2  | -3  | -5  | -3  | -5   | -9   | -12  | -21  | dB |
|                  | $> 2.0 q_{Vopt}$     | 2  | -3  | -5  | -3  | -5   | -9   | -12  | -21  | dB |



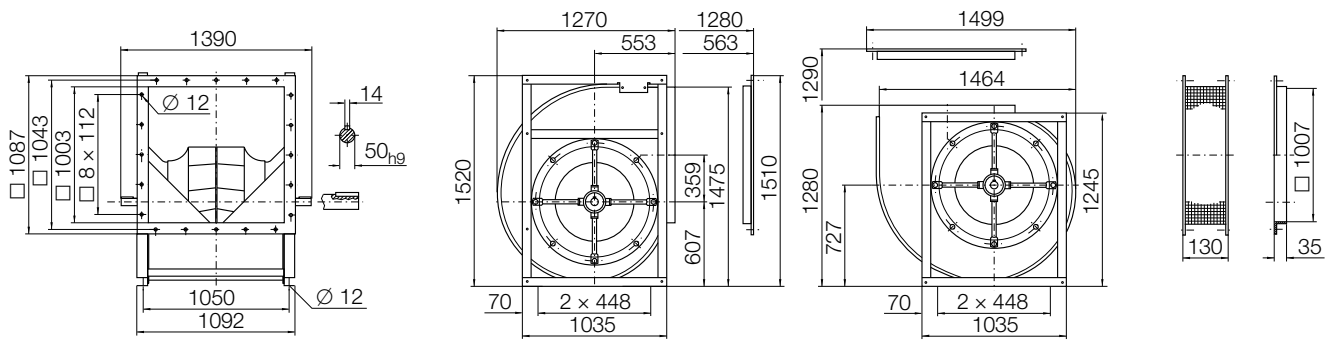
# RZR -0800

Dimensions in mm, subject to change.

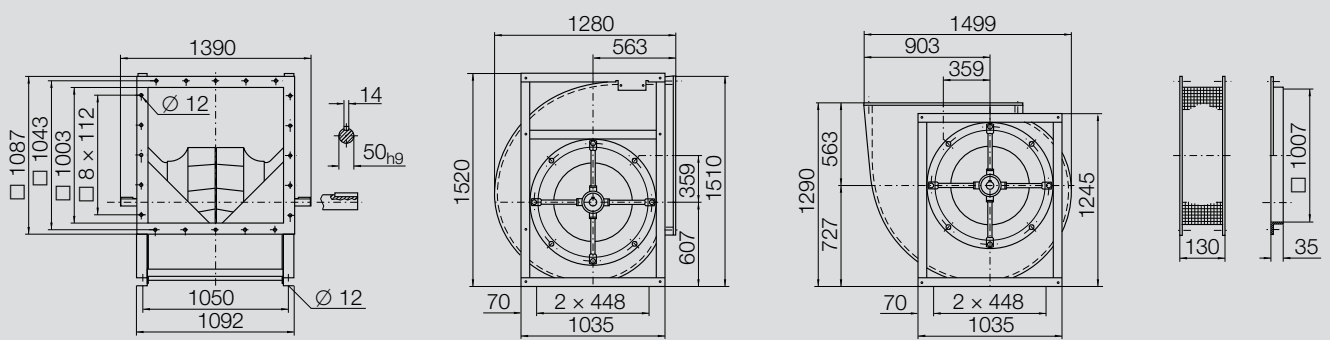
**RZR 11-0800** 250 kg



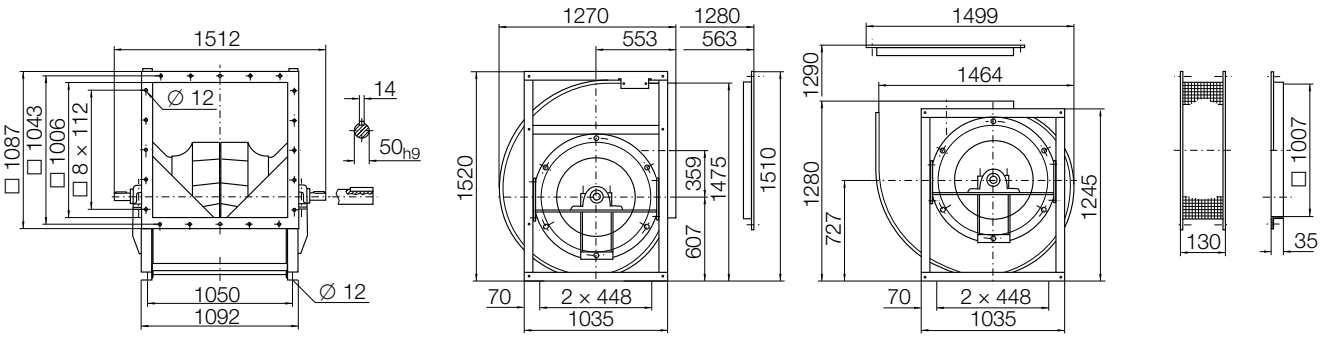
**RZR 15-0800** 250 kg



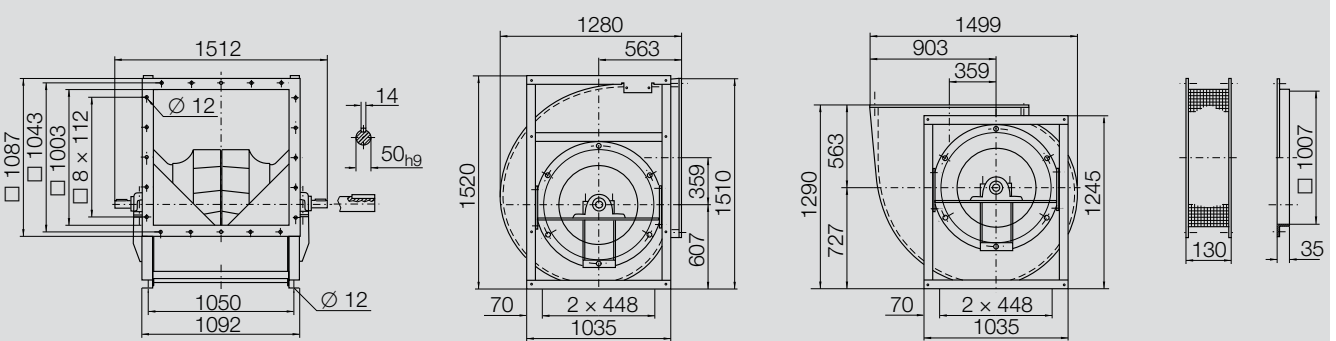
**RZR 19-0800** 280 kg



**RZR 18-0800** 289 kg



**RZR 13-0800** 319 kg



Performance certified is for installation type B - free inlet, ducted outlet.  
Power rating (kW) does not include transmission losses.  
Performance ratings do not include the effects of appurtenances (accessories).

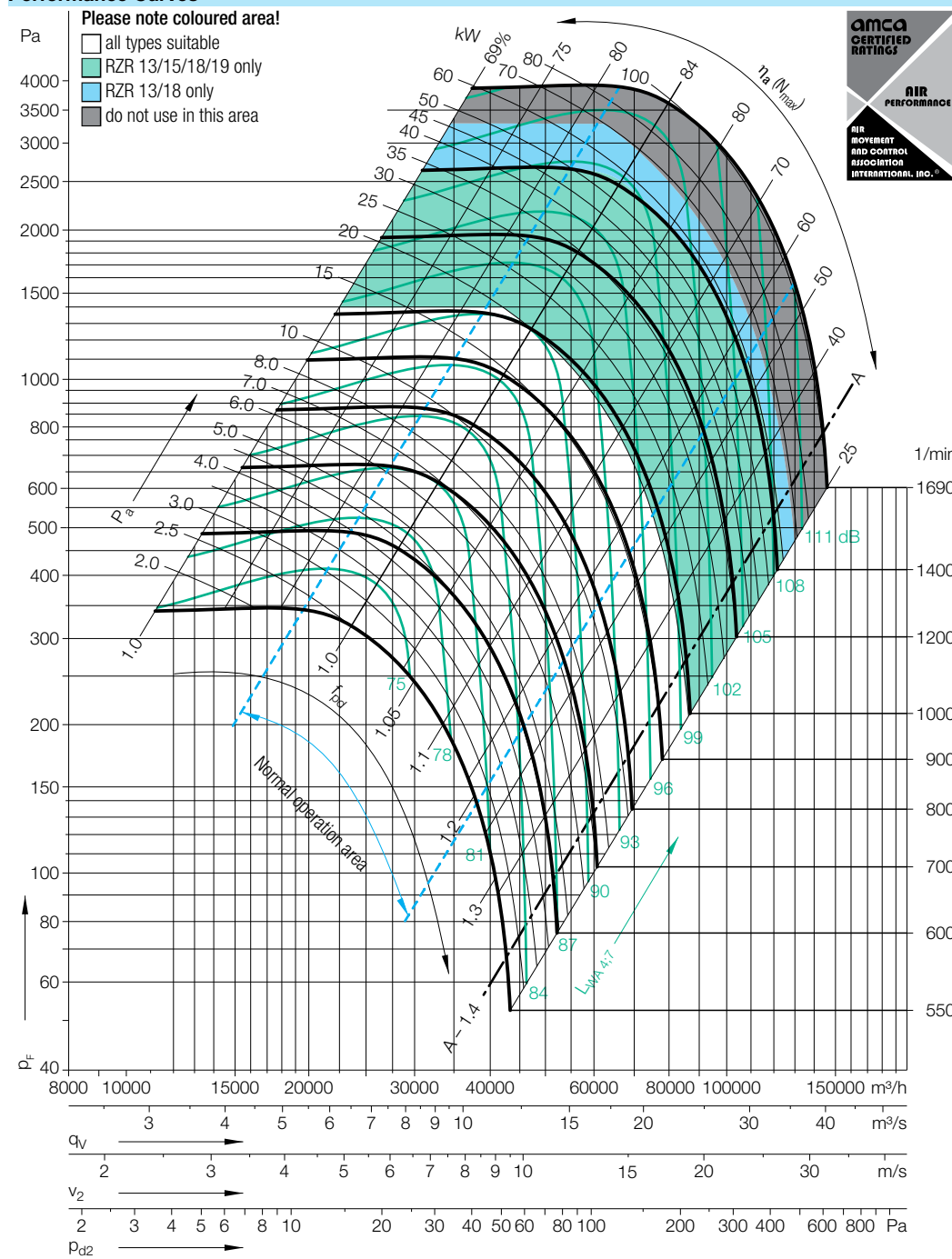
**Technical Data**

| Impeller Data     |                |                       |
|-------------------|----------------|-----------------------|
| Impeller diameter | D <sub>r</sub> | 905 mm                |
| Number of blades  | z              | 12                    |
| Moment of Inertia | J              | 15.5 kgm <sup>2</sup> |

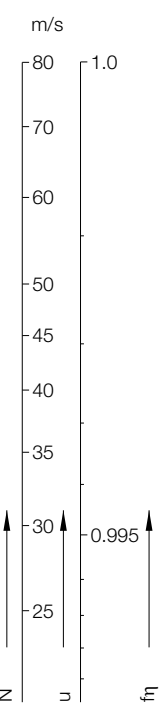
| Impeller Data               |                |                       |
|-----------------------------|----------------|-----------------------|
| Impeller weight             | m              | 109 kg                |
| Density of media            | ρ <sub>1</sub> | 1.2 kg/m <sup>3</sup> |
| Tolerance class (DIN 24166) |                | 1                     |

| Speed limits N <sub>max</sub> for ATEX execution |             |       |
|--|-------------|-------|
| RZR 11/18  | <b>767</b>  | 1/min |
| RZR 13   | <b>1339</b> | 1/min |

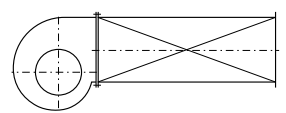
**Performance Curves**



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**Measured in installation B according to ISO 5801:**



Relative sound power level for inlet side L<sub>wrel7</sub> at octave centre frequencies f<sub>c</sub>

| Speed      | Duty point                 | 63  | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|------------|----------------------------|-----|-----|-----|-----|------|------|------|------|----|
| ≤844 1/min | ≤0.8 q <sub>Vopt</sub>     | 0   | 2   | 0   | -3  | -6   | -9   | -12  | -19  | dB |
|            | >0.8-1.2 q <sub>Vopt</sub> | -2  | 1   | -2  | -3  | -6   | -8   | -14  | -20  | dB |
|            | >1.2-1.6 q <sub>Vopt</sub> | -3  | 0   | -1  | -3  | -6   | -8   | -14  | -21  | dB |
|            | >1.6 q <sub>Vopt</sub>     | -5  | -3  | -3  | -3  | -6   | -7   | -13  | -21  | dB |
|            |                            |     |     |     |     |      |      |      |      |    |
| >844 1/min | ≤0.8 q <sub>Vopt</sub>     | -2  | -1  | -3  | -1  | -6   | -10  | -15  | -21  | dB |
|            | >0.8-1.2 q <sub>Vopt</sub> | -7  | -4  | -5  | -1  | -6   | -9   | -14  | -21  | dB |
|            | >1.2-1.6 q <sub>Vopt</sub> | -10 | -7  | -8  | -1  | -5   | -8   | -13  | -21  | dB |
|            | >1.6 q <sub>Vopt</sub>     | -10 | -8  | -8  | -2  | -6   | -8   | -11  | -18  | dB |
|            |                            |     |     |     |     |      |      |      |      |    |

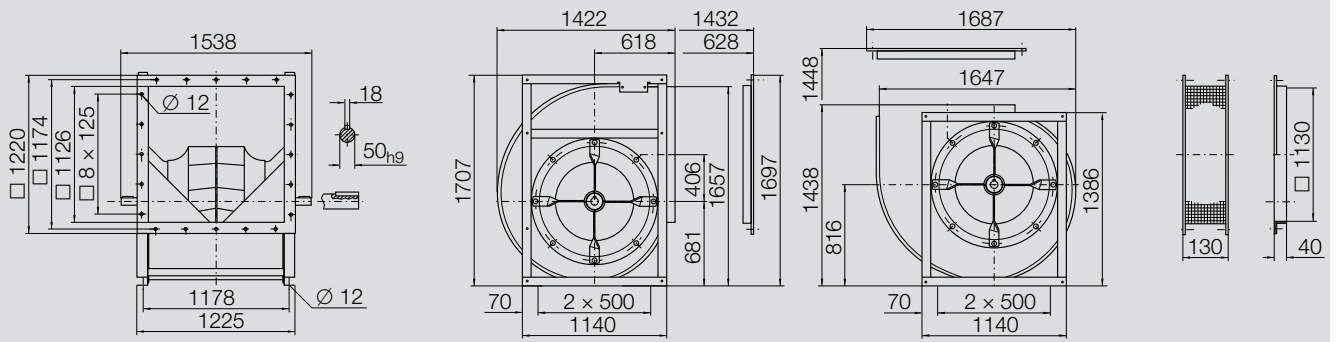
Relative sound power level for discharge side L<sub>wrel4</sub> at octave centre frequencies f<sub>c</sub>

| Speed      | Duty point                 | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|------------|----------------------------|----|-----|-----|-----|------|------|------|------|----|
| ≤844 1/min | ≤0.8 q <sub>Vopt</sub>     | 13 | 7   | 4   | -3  | -8   | -14  | -17  | -25  | dB |
|            | >0.8-1.2 q <sub>Vopt</sub> | 10 | 5   | 3   | -2  | -7   | -13  | -17  | -25  | dB |
|            | >1.2-1.6 q <sub>Vopt</sub> | 7  | 2   | 2   | -2  | -6   | -12  | -18  | -27  | dB |
|            | >1.6 q <sub>Vopt</sub>     | 5  | 1   | 1   | -2  | -6   | -10  | -17  | -27  | dB |
|            |                            |    |     |     |     |      |      |      |      |    |
| >844 1/min | ≤0.8 q <sub>Vopt</sub>     | 11 | 4   | 2   | 0   | -7   | -12  | -17  | -24  | dB |
|            | >0.8-1.2 q <sub>Vopt</sub> | 7  | 1   | -2  | -3  | -6   | -10  | -15  | -23  | dB |
|            | >1.2-1.6 q <sub>Vopt</sub> | 3  | -2  | -4  | -3  | -5   | -9   | -14  | -23  | dB |
|            | >1.6 q <sub>Vopt</sub>     | 2  | -3  | -5  | -3  | -5   | -9   | -12  | -21  | dB |
|            |                            |    |     |     |     |      |      |      |      |    |

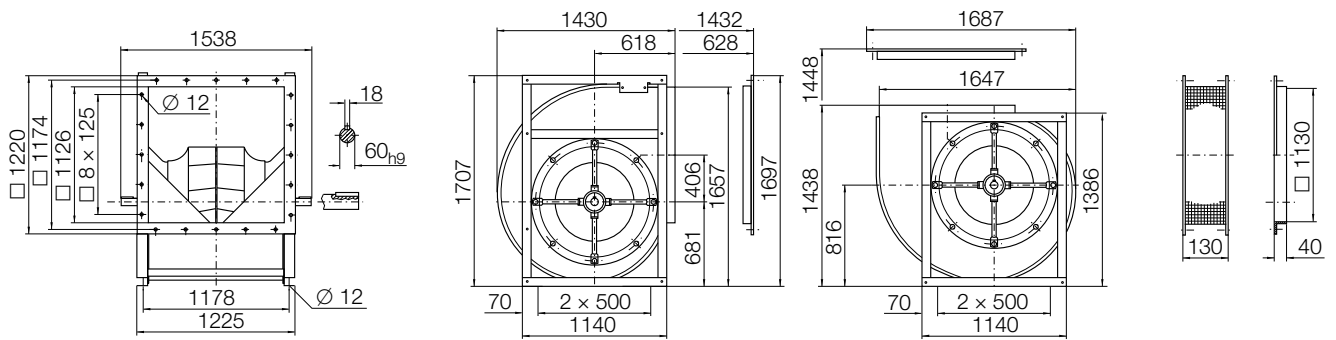
# RZR -0900

Dimensions in mm, subject to change.

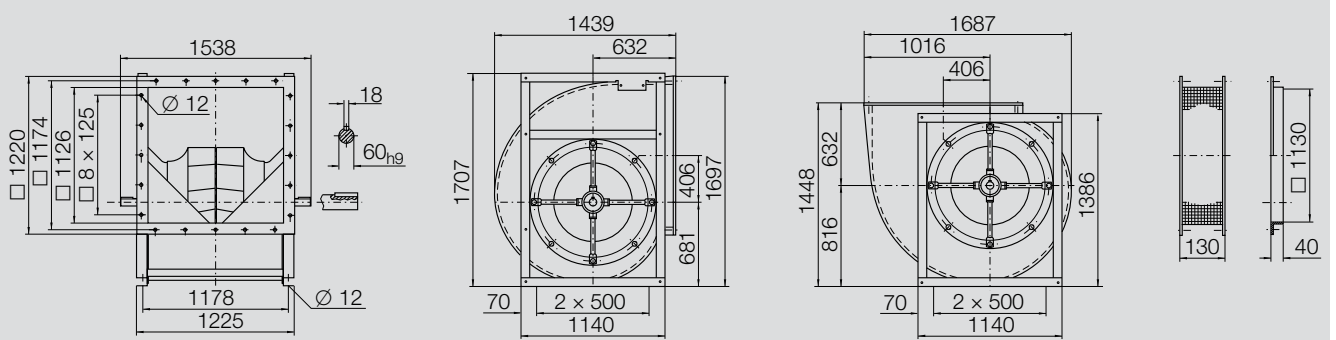
**RZR 11-0900** 358 kg



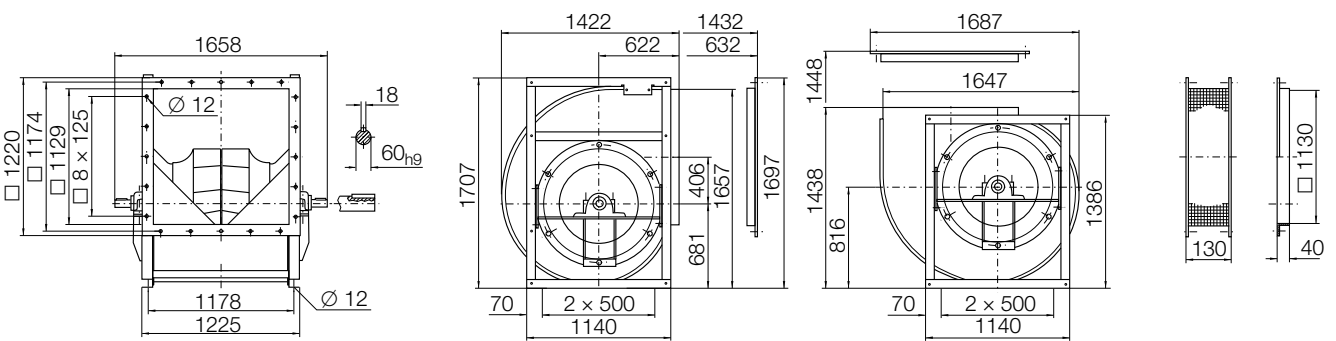
**RZR 15-0900** 358 kg



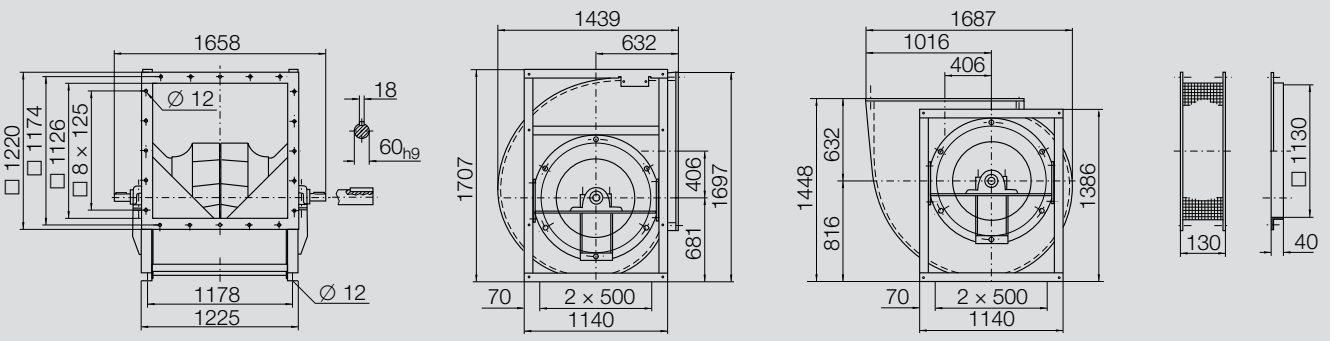
**RZR 19-0900** 396 kg



**RZR 18-0900** 409 kg



**RZR 13-0900** 447 kg



Performance certified is for installation type B - free inlet, ducted outlet.  
Power rating (kW) does not include transmission losses.  
Performance ratings do not include the effects of appurtenances (accessories).

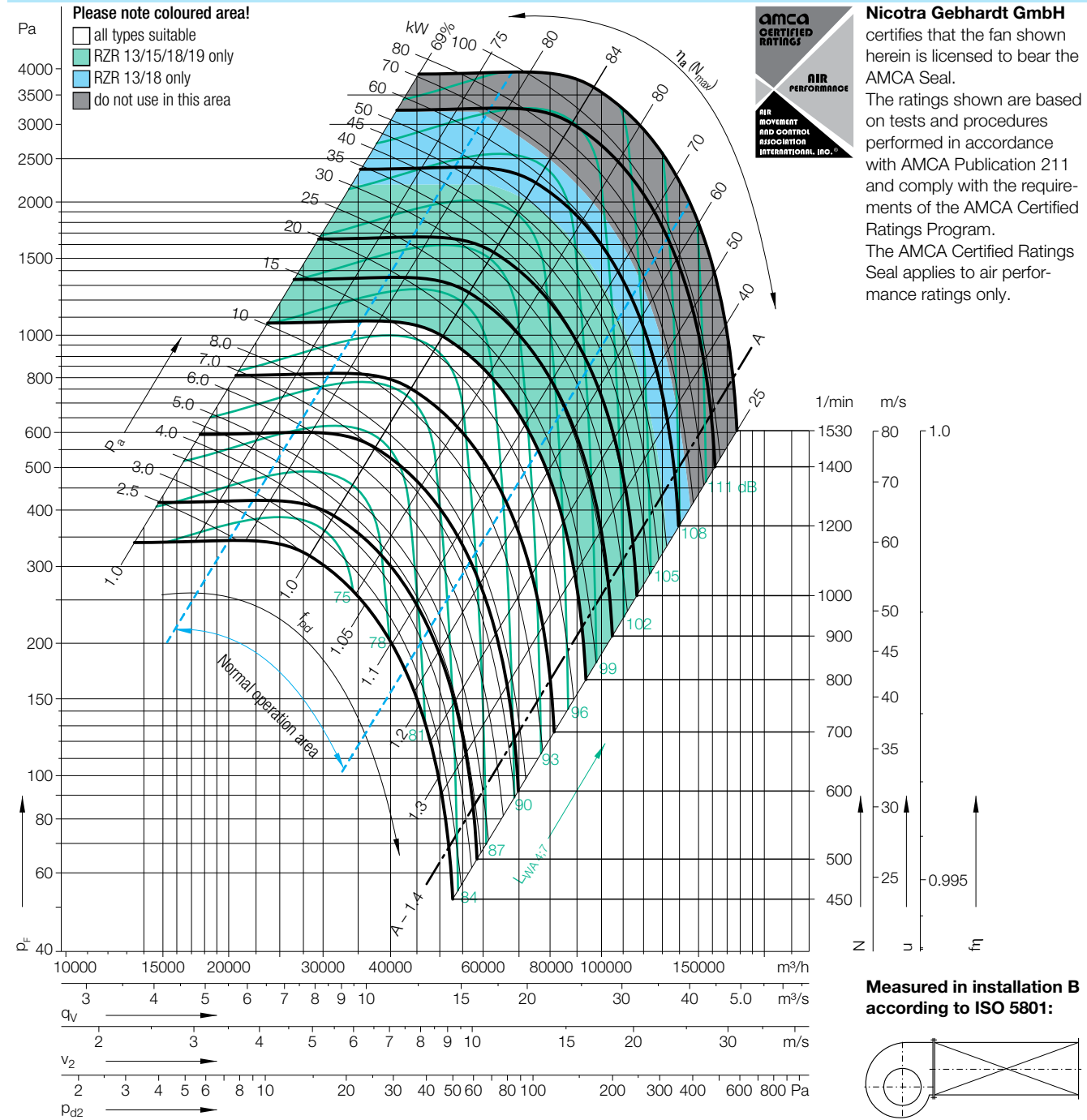
**Technical Data**

| Impeller Data     |                         |
|-------------------|-------------------------|
| Impeller diameter | $D_r$ 1000 mm           |
| Number of blades  | $z$ 12                  |
| Moment of Inertia | $J$ 22 kgm <sup>2</sup> |

| Impeller Data               |                                |
|-----------------------------|--------------------------------|
| Impeller weight             | $m$ 133 kg                     |
| Density of media            | $\rho_1$ 1.2 kg/m <sup>3</sup> |
| Tolerance class (DIN 24166) | 1                              |

| Speed limits $N_{max}$ for ATEX execution |            |
|---|------------|
| RZR 11/18                                 | 650 1/min  |
| RZR 13                                    | 1217 1/min |

**Performance Curves**



**Nicotra Gebhardt GmbH** certifies that the fan shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to air performance ratings only.

| Speed      | Duty point          |
|------------|---------------------|
| ≤764 1/min | ≤0.8 $q_{Vopt}$     |
|            | >0.8-1.2 $q_{Vopt}$ |
|            | >1.2-1.6 $q_{Vopt}$ |
|            | >1.6 $q_{Vopt}$     |
| Speed      | Duty point          |
| >764 1/min | ≤0.8 $q_{Vopt}$     |
|            | >0.8-1.2 $q_{Vopt}$ |
|            | >1.2-1.6 $q_{Vopt}$ |
|            | >1.6 $q_{Vopt}$     |

Relative sound power level for inlet side  $L_{Wrel7}$  at octave centre frequencies  $f_c$

| 63  | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|-----|-----|-----|-----|------|------|------|------|----|
| 0   | 2   | 0   | -3  | -6   | -9   | -12  | -19  | dB |
| -2  | 1   | -2  | -3  | -6   | -8   | -14  | -20  | dB |
| -3  | 0   | -1  | -3  | -6   | -8   | -14  | -21  | dB |
| -5  | -3  | -3  | -3  | -6   | -7   | -13  | -21  | dB |
| 63  | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
| -2  | -1  | -3  | -1  | -6   | -10  | -15  | -21  | dB |
| -7  | -4  | -5  | -1  | -6   | -9   | -14  | -21  | dB |
| -10 | -7  | -8  | -1  | -5   | -8   | -13  | -21  | dB |
| -10 | -8  | -8  | -2  | -6   | -8   | -11  | -18  | dB |

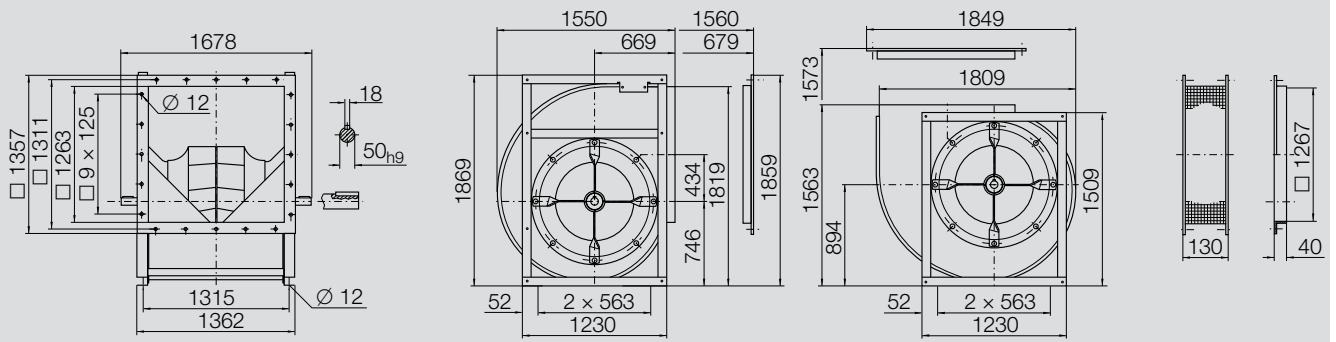
Relative sound power level for discharge side  $L_{Wrel4}$  at octave centre frequencies  $f_c$

| 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|----|-----|-----|-----|------|------|------|------|----|
| 13 | 7   | 4   | -3  | -8   | -14  | -17  | -25  | dB |
| 10 | 5   | 3   | -2  | -7   | -13  | -17  | -25  | dB |
| 7  | 2   | 2   | -2  | -6   | -12  | -18  | -27  | dB |
| 5  | 1   | 1   | -2  | -6   | -10  | -17  | -27  | dB |
| 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
| 11 | 4   | 2   | 0   | -7   | -12  | -17  | -24  | dB |
| 7  | 1   | -2  | -3  | -6   | -10  | -15  | -23  | dB |
| 3  | -2  | -4  | -3  | -5   | -9   | -14  | -23  | dB |
| 2  | -3  | -5  | -3  | -5   | -9   | -12  | -21  | dB |

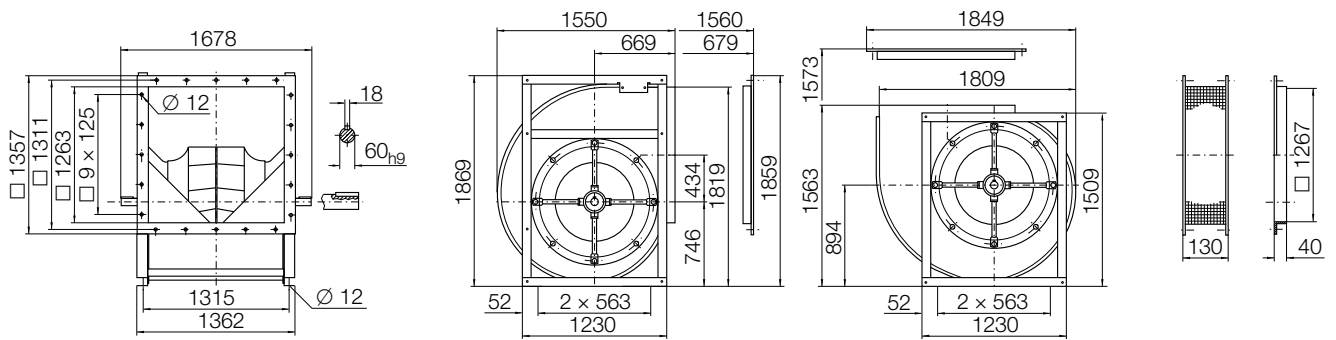
# RZR \_-1000

Dimensions in mm, subject to change.

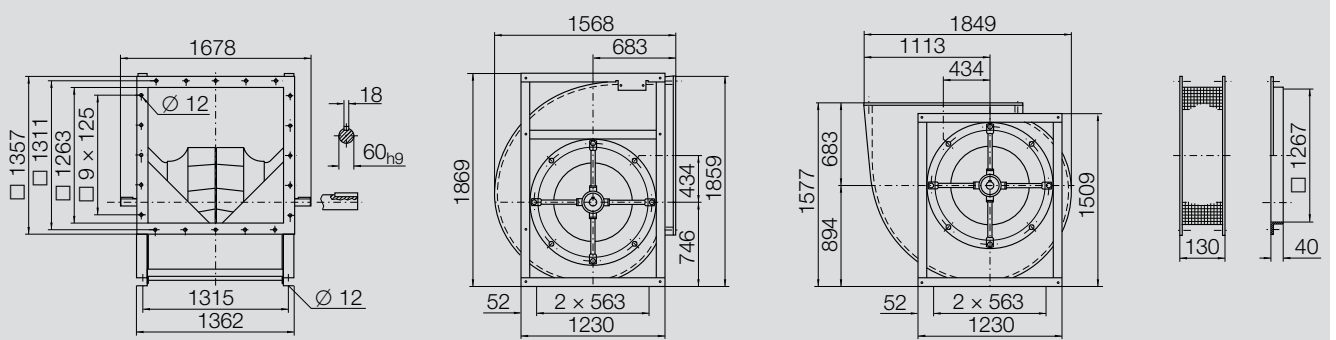
**RZR 11-1000** 416 kg



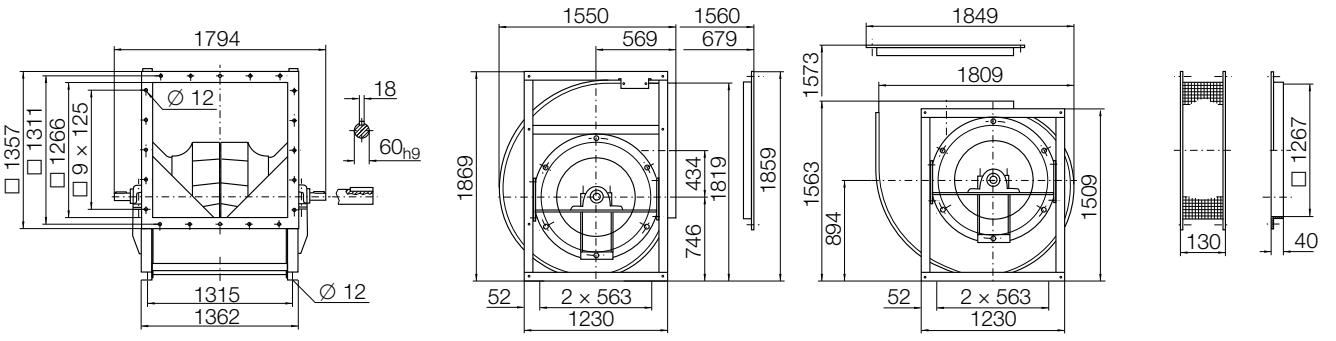
**RZR 15-1000** 416 kg



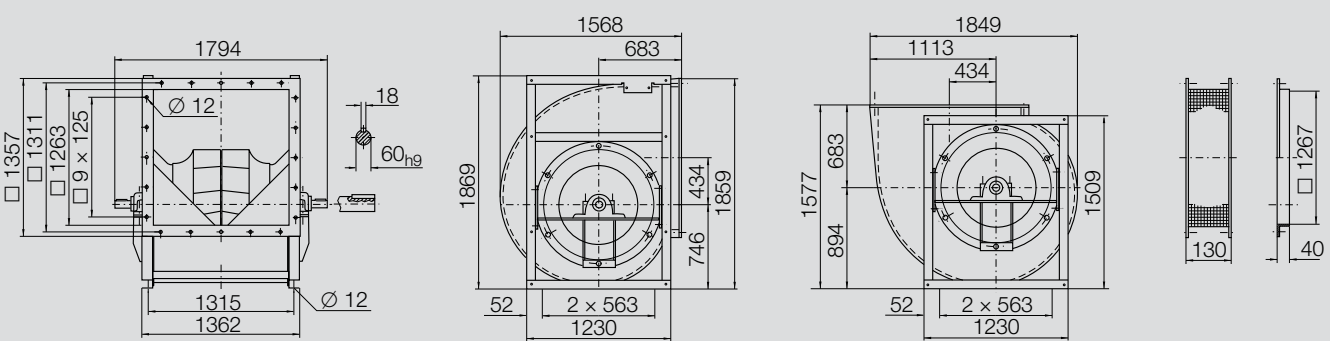
**RZR 19-1000** 462 kg



**RZR 18-1000** 471 kg



**RZR 13-1000** 517 kg



# RZR \_-1120

## Technical Data

### Impeller Data

|                   |       |                     |
|-------------------|-------|---------------------|
| Impeller diameter | $D_r$ | 1120 mm             |
| Number of blades  | $z$   | 12                  |
| Moment of Inertia | $J$   | 32 kgm <sup>2</sup> |

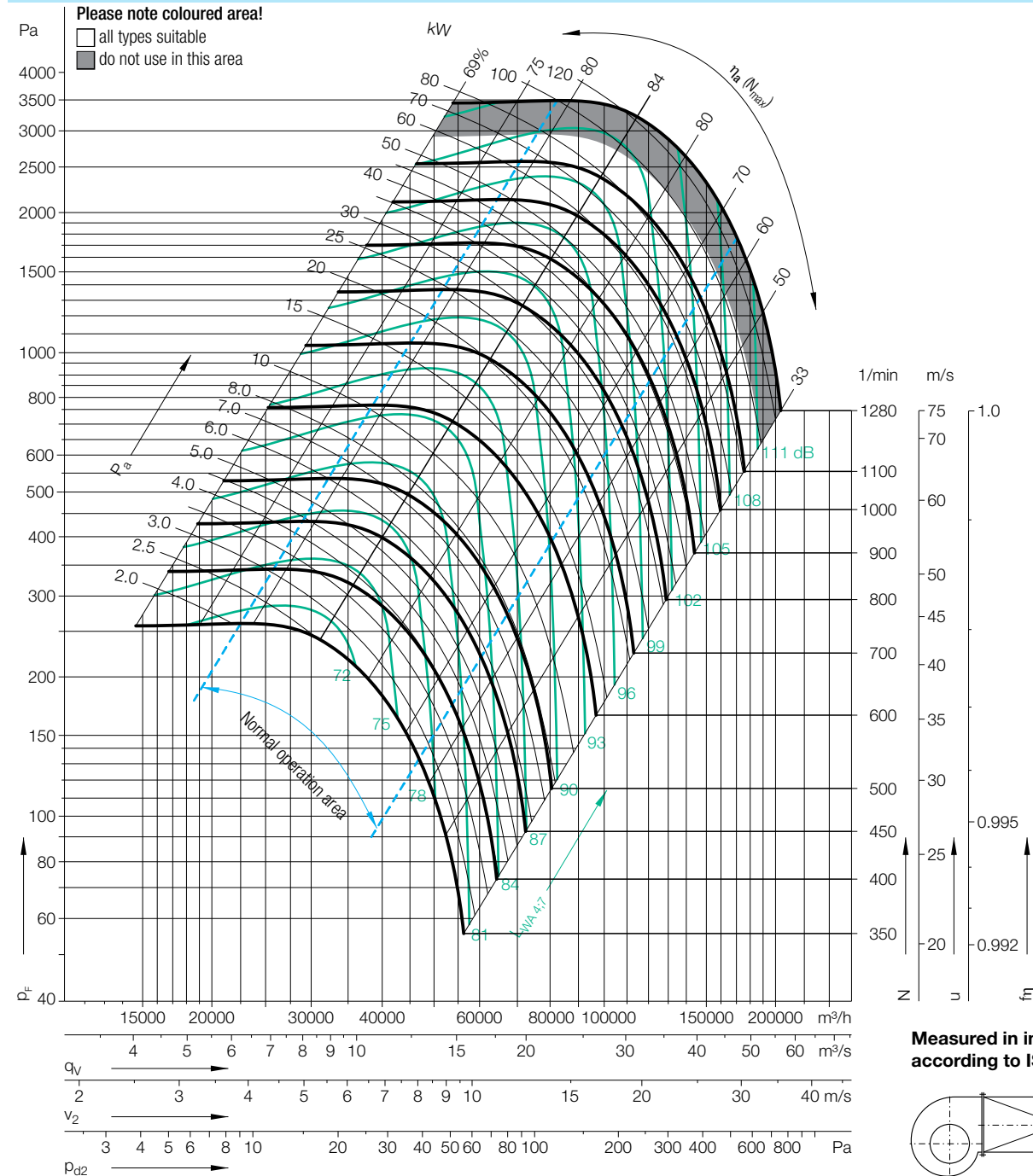
### Impeller Data

|                             |          |                       |
|-----------------------------|----------|-----------------------|
| Impeller weight             | $m$      | 200 kg                |
| Density of media            | $\rho_1$ | 1.2 kg/m <sup>3</sup> |
| Tolerance class (DIN 24166) |          | 1                     |

### Speed limits $N_{max}$ for ATEX execution

|        |             |       |
|--------|-------------|-------|
| RZR 13 | <b>1026</b> | 1/min |
|--------|-------------|-------|

## Performance Curves



Relative sound power level for inlet side  $L_{Wrel7}$  at octave centre frequencies  $f_c$

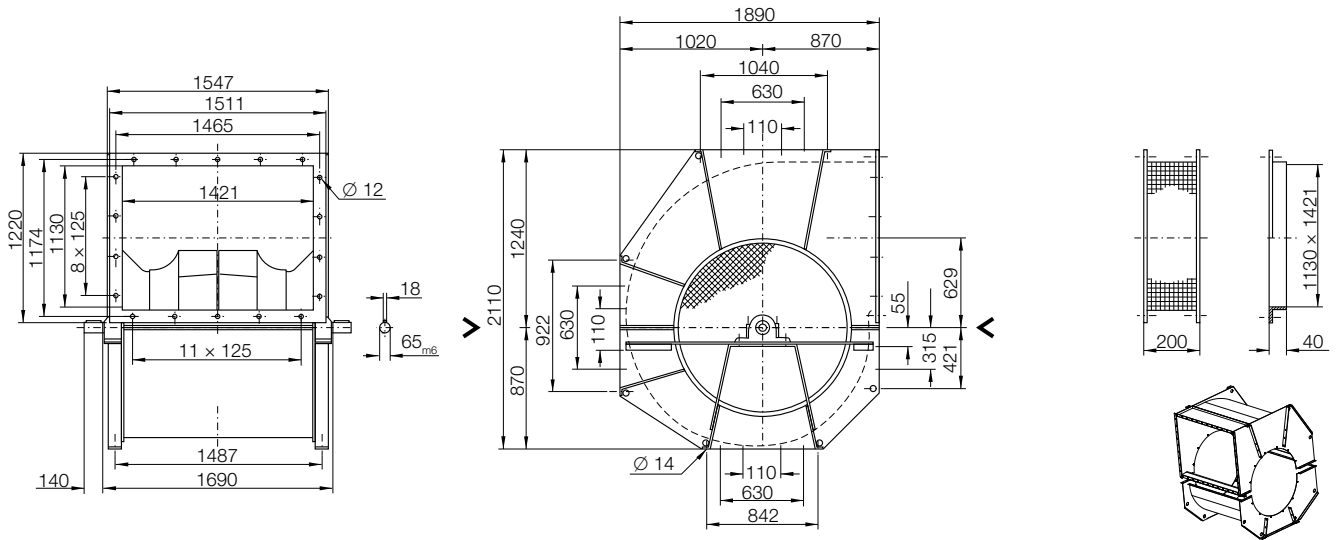
| Speed      | Duty point          | 63  | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|------------|---------------------|-----|-----|-----|-----|------|------|------|------|----|
| ≤682 1/min | ≤0.8 $Q_{Vopt}$     | 0   | 3   | 1   | -2  | -6   | -9   | -13  | -20  | dB |
|            | >0.8-1.2 $Q_{Vopt}$ | -1  | 2   | 1   | -2  | -6   | -9   | -14  | -21  | dB |
|            | >1.2-1.6 $Q_{Vopt}$ | -2  | 1   | 1   | -3  | -5   | -8   | -15  | -21  | dB |
|            | >1.6 $Q_{Vopt}$     | -5  | -3  | -2  | -3  | -5   | -7   | -14  | -21  | dB |
|            | >1.6 $Q_{Vopt}$     | -5  | -3  | -2  | -3  | -5   | -7   | -14  | -21  | dB |
| >682 1/min | ≤0.8 $Q_{Vopt}$     | -1  | -1  | -3  | -2  | -7   | -11  | -16  | -21  | dB |
|            | >0.8-1.2 $Q_{Vopt}$ | -6  | -4  | -6  | -2  | -7   | -10  | -15  | -21  | dB |
|            | >1.2-1.6 $Q_{Vopt}$ | -10 | -7  | -8  | -3  | -6   | -9   | -14  | -21  | dB |
|            | >1.6 $Q_{Vopt}$     | -10 | -7  | -8  | -3  | -6   | -8   | -11  | -20  | dB |
|            | >1.6 $Q_{Vopt}$     | -10 | -7  | -8  | -3  | -6   | -8   | -11  | -20  | dB |

Relative sound power level for discharge side  $L_{Wrel4}$  at octave centre frequencies  $f_c$

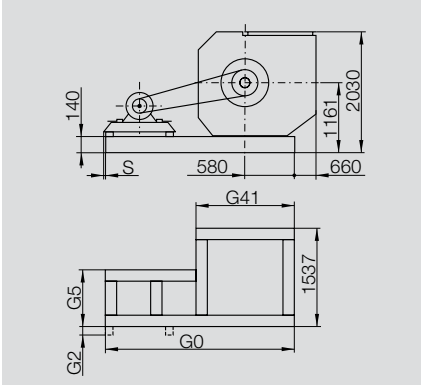
| Speed      | Duty point          | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|------------|---------------------|----|-----|-----|-----|------|------|------|------|----|
| ≤682 1/min | ≤0.8 $Q_{Vopt}$     | 12 | 7   | 4   | -3  | -8   | -14  | -18  | -26  | dB |
|            | >0.8-1.2 $Q_{Vopt}$ | 10 | 5   | 3   | -3  | -8   | -14  | -19  | -28  | dB |
|            | >1.2-1.6 $Q_{Vopt}$ | 7  | 2   | 3   | -3  | -6   | -13  | -20  | -28  | dB |
|            | >1.6 $Q_{Vopt}$     | 4  | 1   | 2   | -3  | -6   | -12  | -19  | -28  | dB |
|            | >1.6 $Q_{Vopt}$     | 4  | 1   | 2   | -3  | -6   | -12  | -19  | -28  | dB |
| >682 1/min | ≤0.8 $Q_{Vopt}$     | 10 | 4   | 1   | -1  | -7   | -13  | -18  | -25  | dB |
|            | >0.8-1.2 $Q_{Vopt}$ | 6  | 2   | -2  | -3  | -6   | -12  | -15  | -25  | dB |
|            | >1.2-1.6 $Q_{Vopt}$ | 2  | -3  | -3  | -3  | -6   | -11  | -15  | -25  | dB |
|            | >1.6 $Q_{Vopt}$     | 1  | -3  | -5  | -3  | -6   | -11  | -13  | -22  | dB |
|            | >1.6 $Q_{Vopt}$     | 1  | -3  | -5  | -3  | -6   | -11  | -13  | -22  | dB |

# RZR -1120

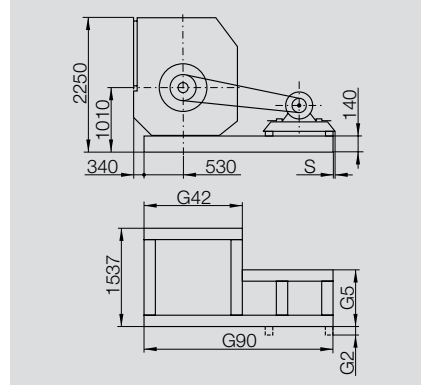
Dimensions in mm, subject to change.  
**RZR 13-1120** 710 kg



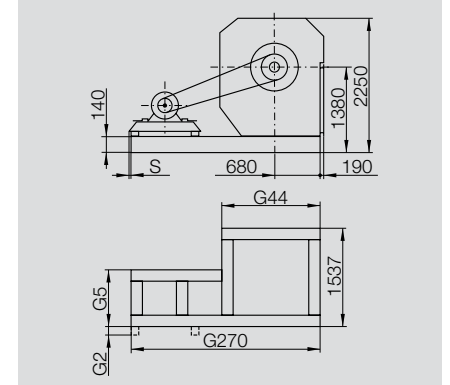
**LG 0**



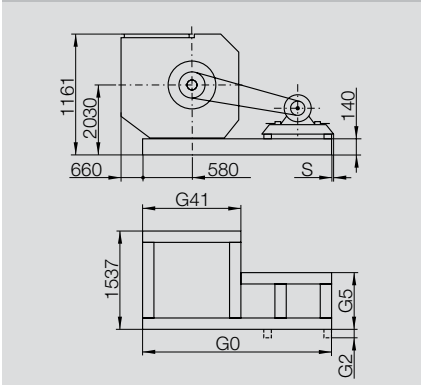
**LG 90**



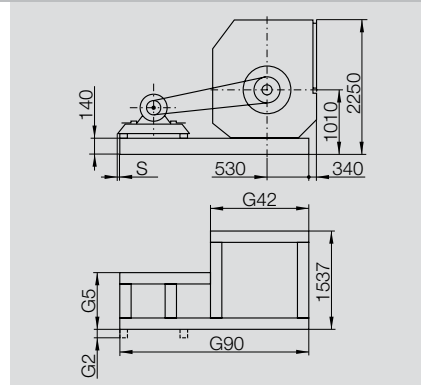
**LG 270**



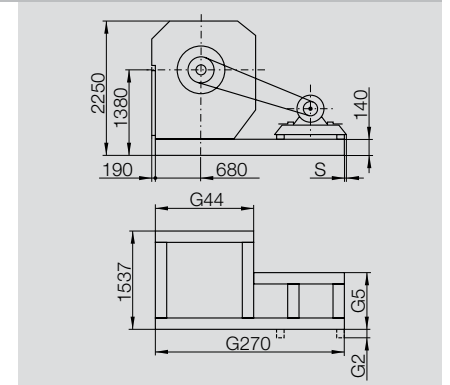
**RD 0**



**RD 90**



**RD 270**



|            | G0   | G90  | G270 | G41  | G42  | G44  | G2   | G5  | S  |
|------------|------|------|------|------|------|------|------|-----|----|
| <b>112</b> | 1870 | 2040 | 2040 | 1310 | 1480 | 1480 | 52.5 | 410 | -  |
| <b>132</b> | 1870 | 2040 | 2040 | 1310 | 1480 | 1480 | 52.5 | 410 | -  |
| <b>160</b> | 2110 | 2210 | 2360 | 1480 | 1580 | 1730 | -    | 410 | 3  |
| <b>180</b> | 2110 | 2210 | 2360 | 1480 | 1580 | 1730 | -    | 410 | 3  |
| <b>200</b> | 2410 | 2480 | 2530 | 1610 | 1680 | 1730 | -    | 510 | 7  |
| <b>225</b> | 2410 | 2480 | 2530 | 1610 | 1680 | 1730 | -    | 510 | 7  |
| <b>250</b> | 2610 | 2680 | 2730 | 1610 | 1680 | 1730 | -    | 660 | 11 |
| <b>280</b> | 2610 | 2680 | 2730 | 1610 | 1680 | 1730 | -    | 660 | 11 |
| <b>315</b> | 2630 | 2680 | 2880 | 1380 | 1430 | 1630 | -    | 760 | 15 |
| <b>355</b> | 2630 | 2680 | 2880 | 1380 | 1430 | 1630 | -    | 760 | 15 |

**Technical Data**

**Impeller Data**

|                   |       |                       |
|-------------------|-------|-----------------------|
| Impeller diameter | $D_r$ | 1250 mm               |
| Number of blades  | $z$   | 12                    |
| Moment of Inertia | $J$   | 62.5 kgm <sup>2</sup> |

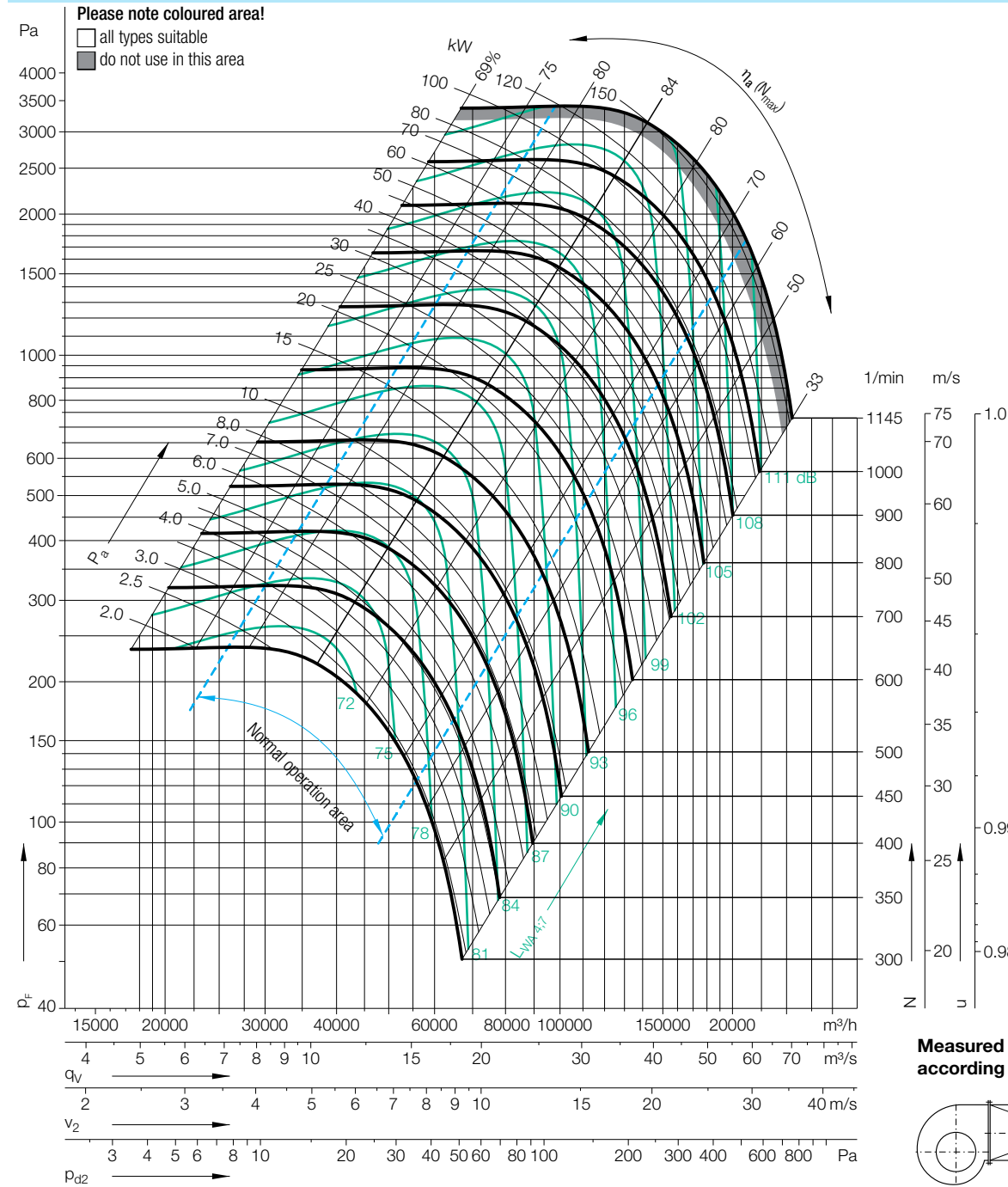
**Impeller Data**

|                             |          |                       |
|-----------------------------|----------|-----------------------|
| Impeller weight             | $m$      | 263 kg                |
| Density of media            | $\rho_1$ | 1.2 kg/m <sup>3</sup> |
| Tolerance class (DIN 24166) |          | 1                     |

**Speed limits  $N_{max}$  for ATEX execution**

|        |            |       |
|--------|------------|-------|
| RZR 13 | <b>957</b> | 1/min |
|--------|------------|-------|

**Performance Curves**



Relative sound power level for inlet side  $L_{Wrel7}$  at octave centre frequencies  $f_c$

| Speed      | Duty point          | 63  | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|------------|---------------------|-----|-----|-----|-----|------|------|------|------|----|
| ≤611 1/min | ≤0.8 $q_{Vopt}$     | 0   | 3   | 1   | -2  | -6   | -9   | -13  | -20  | dB |
|            | >0.8-1.2 $q_{Vopt}$ | -1  | 2   | 1   | -2  | -6   | -9   | -14  | -21  | dB |
|            | >1.2-1.6 $q_{Vopt}$ | -2  | 1   | 1   | -3  | -5   | -8   | -15  | -21  | dB |
|            | >1.6-2.0 $q_{Vopt}$ | -5  | -3  | -2  | -3  | -5   | -7   | -14  | -21  | dB |
|            | >2.0 $q_{Vopt}$     | -5  | -3  | -2  | -3  | -5   | -7   | -14  | -21  | dB |
| >611 1/min | ≤0.8 $q_{Vopt}$     | -1  | -1  | -3  | -2  | -7   | -11  | -16  | -21  | dB |
|            | >0.8-1.2 $q_{Vopt}$ | -6  | -4  | -6  | -2  | -7   | -10  | -15  | -21  | dB |
|            | >1.2-1.6 $q_{Vopt}$ | -10 | -7  | -8  | -3  | -6   | -9   | -14  | -21  | dB |
|            | >1.6-2.0 $q_{Vopt}$ | -10 | -7  | -8  | -3  | -6   | -9   | -14  | -21  | dB |
|            | >2.0 $q_{Vopt}$     | -10 | -7  | -8  | -3  | -6   | -9   | -14  | -21  | dB |

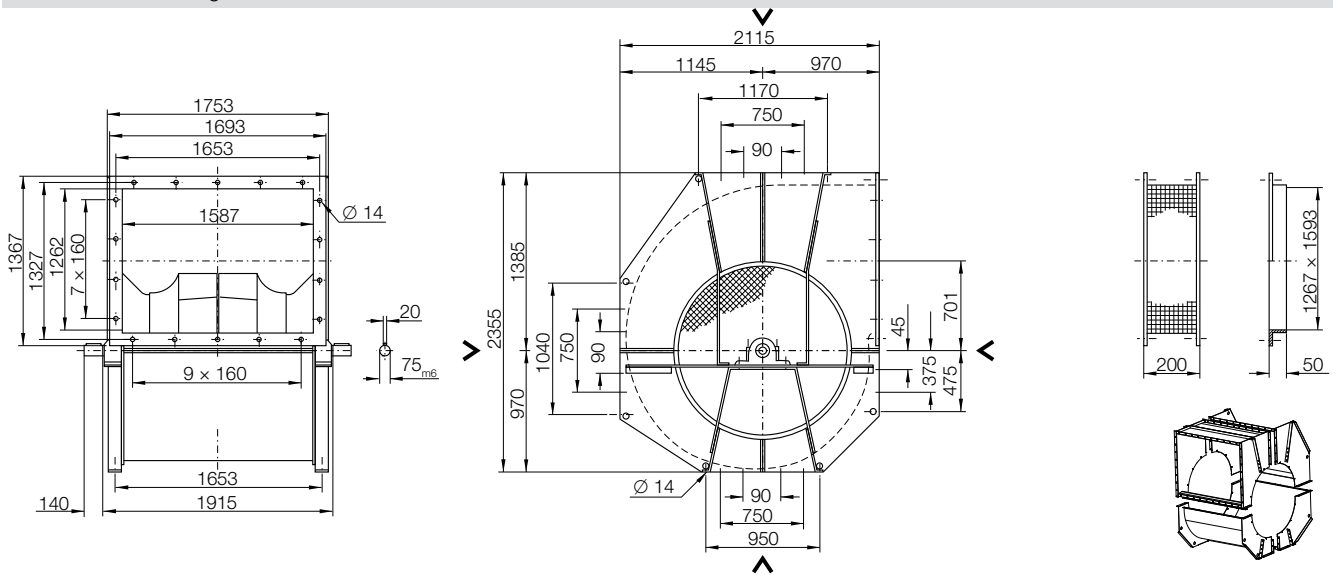
Relative sound power level for discharge side  $L_{Wrel4}$  at octave centre frequencies  $f_c$

| Speed      | Duty point          | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|------------|---------------------|----|-----|-----|-----|------|------|------|------|----|
| ≤611 1/min | ≤0.8 $q_{Vopt}$     | 12 | 7   | 4   | -3  | -8   | -14  | -18  | -26  | dB |
|            | >0.8-1.2 $q_{Vopt}$ | 10 | 5   | 3   | -3  | -8   | -14  | -19  | -28  | dB |
|            | >1.2-1.6 $q_{Vopt}$ | 7  | 2   | 3   | -3  | -6   | -13  | -20  | -28  | dB |
|            | >1.6-2.0 $q_{Vopt}$ | 4  | 1   | 2   | -3  | -6   | -12  | -19  | -28  | dB |
|            | >2.0 $q_{Vopt}$     | 4  | 1   | 2   | -3  | -6   | -12  | -19  | -28  | dB |
| >611 1/min | ≤0.8 $q_{Vopt}$     | 10 | 4   | 1   | -1  | -7   | -13  | -18  | -25  | dB |
|            | >0.8-1.2 $q_{Vopt}$ | 6  | 2   | -2  | -3  | -6   | -12  | -15  | -25  | dB |
|            | >1.2-1.6 $q_{Vopt}$ | 2  | -3  | -3  | -3  | -6   | -11  | -15  | -25  | dB |
|            | >1.6-2.0 $q_{Vopt}$ | 1  | -3  | -5  | -3  | -6   | -11  | -13  | -22  | dB |
|            | >2.0 $q_{Vopt}$     | 1  | -3  | -5  | -3  | -6   | -11  | -13  | -22  | dB |

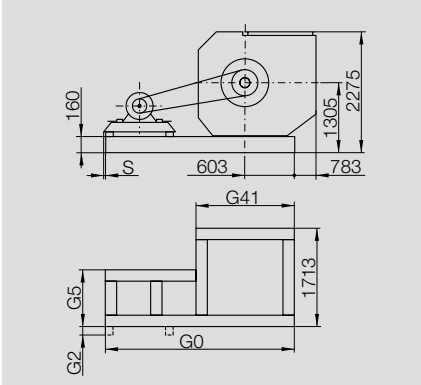


# RZR -1250

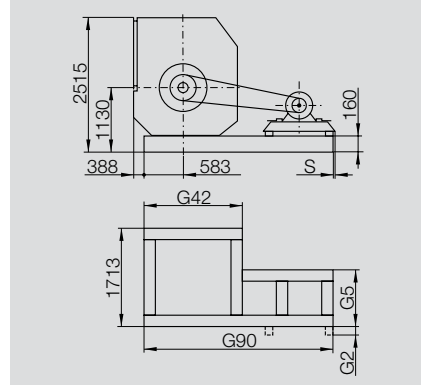
Dimensions in mm, subject to change.  
**RZR 13-1250** 1100 kg



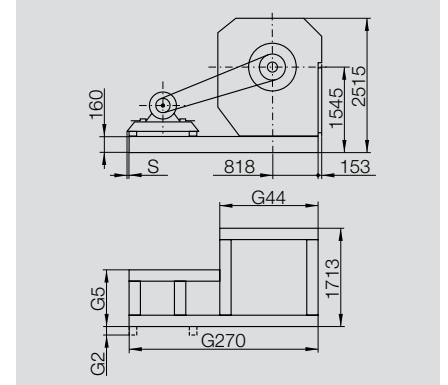
**LG 0**



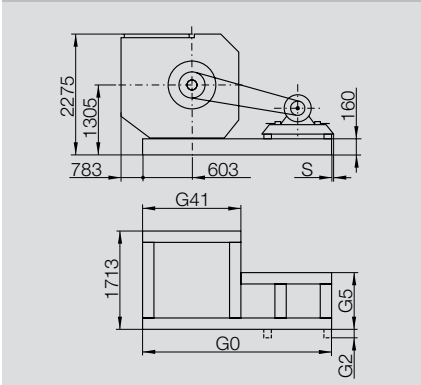
**LG 90**



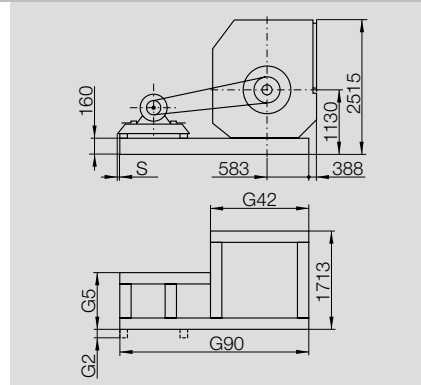
**LG 270**



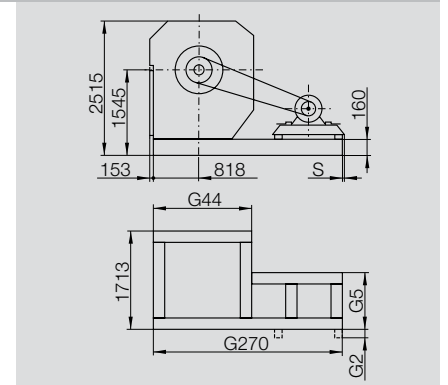
**RD 0**



**RD 90**



**RD 270**



|            | G0   | G90  | G270 | G41  | G42  | G44  | G2 | G5   | S  |
|------------|------|------|------|------|------|------|----|------|----|
| <b>112</b> | 1965 | 2220 | 2255 | 1405 | 1660 | 1695 | 85 | 450  | -  |
| <b>132</b> | 1965 | 2220 | 2255 | 1405 | 1660 | 1695 | 85 | 450  | -  |
| <b>160</b> | 2235 | 2390 | 2525 | 1605 | 1760 | 1895 | -  | 415  | -  |
| <b>180</b> | 2235 | 2390 | 2525 | 1605 | 1760 | 1895 | -  | 415  | -  |
| <b>200</b> | 2505 | 2660 | 2795 | 1705 | 1860 | 1995 | -  | 515  | 2  |
| <b>225</b> | 2505 | 2660 | 2795 | 1705 | 1860 | 1995 | -  | 515  | 2  |
| <b>250</b> | 2735 | 2860 | 2995 | 1735 | 1860 | 1995 | -  | 665  | 6  |
| <b>280</b> | 2735 | 2860 | 2995 | 1735 | 1860 | 1995 | -  | 665  | 6  |
| <b>315</b> | 2985 | 3160 | 3295 | 1735 | 1910 | 2045 | -  | 1015 | 10 |
| <b>355</b> | 2985 | 3160 | 3295 | 1735 | 1910 | 2045 | -  | 1015 | 10 |

# RZR -1400

## Technical Data

### Impeller Data

|                   |       |                      |
|-------------------|-------|----------------------|
| Impeller diameter | $D_r$ | 1400 mm              |
| Number of blades  | $z$   | 12                   |
| Moment of Inertia | $J$   | 120 kgm <sup>2</sup> |

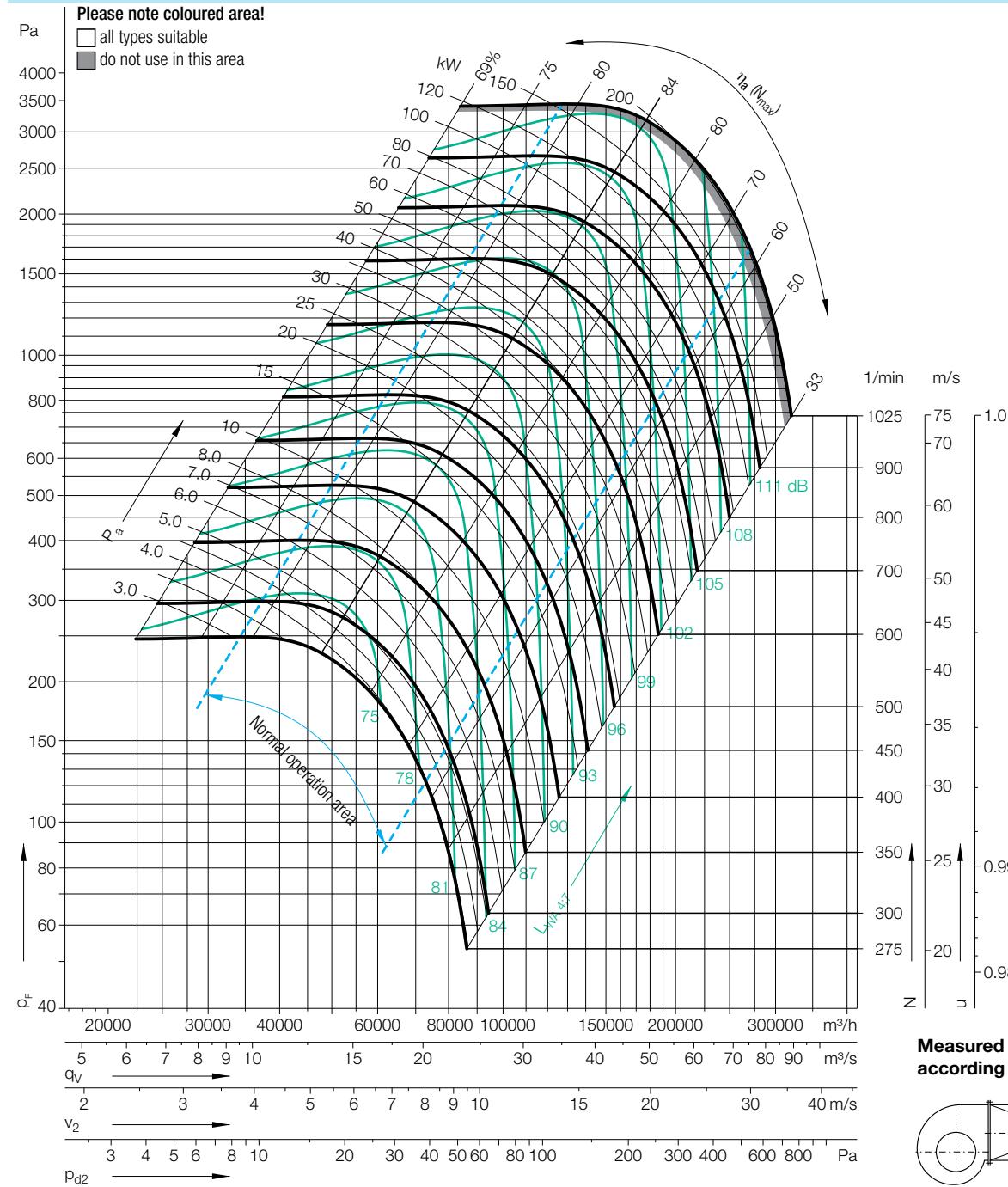
### Impeller Data

|                             |          |                       |
|-----------------------------|----------|-----------------------|
| Impeller weight             | $m$      | 335 kg                |
| Density of media            | $\rho_1$ | 1.2 kg/m <sup>3</sup> |
| Tolerance class (DIN 24166) |          | 1                     |

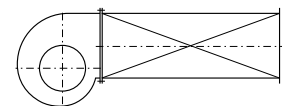
### Speed limits $N_{max}$ for ATEX execution

|        |           |
|--------|-----------|
| RZR 13 | 870 1/min |
|--------|-----------|

## Performance Curves



Measured in installation B according to ISO 5801:



Relative sound power level for inlet side  $L_{Wrel7}$  at octave centre frequencies  $f_c$

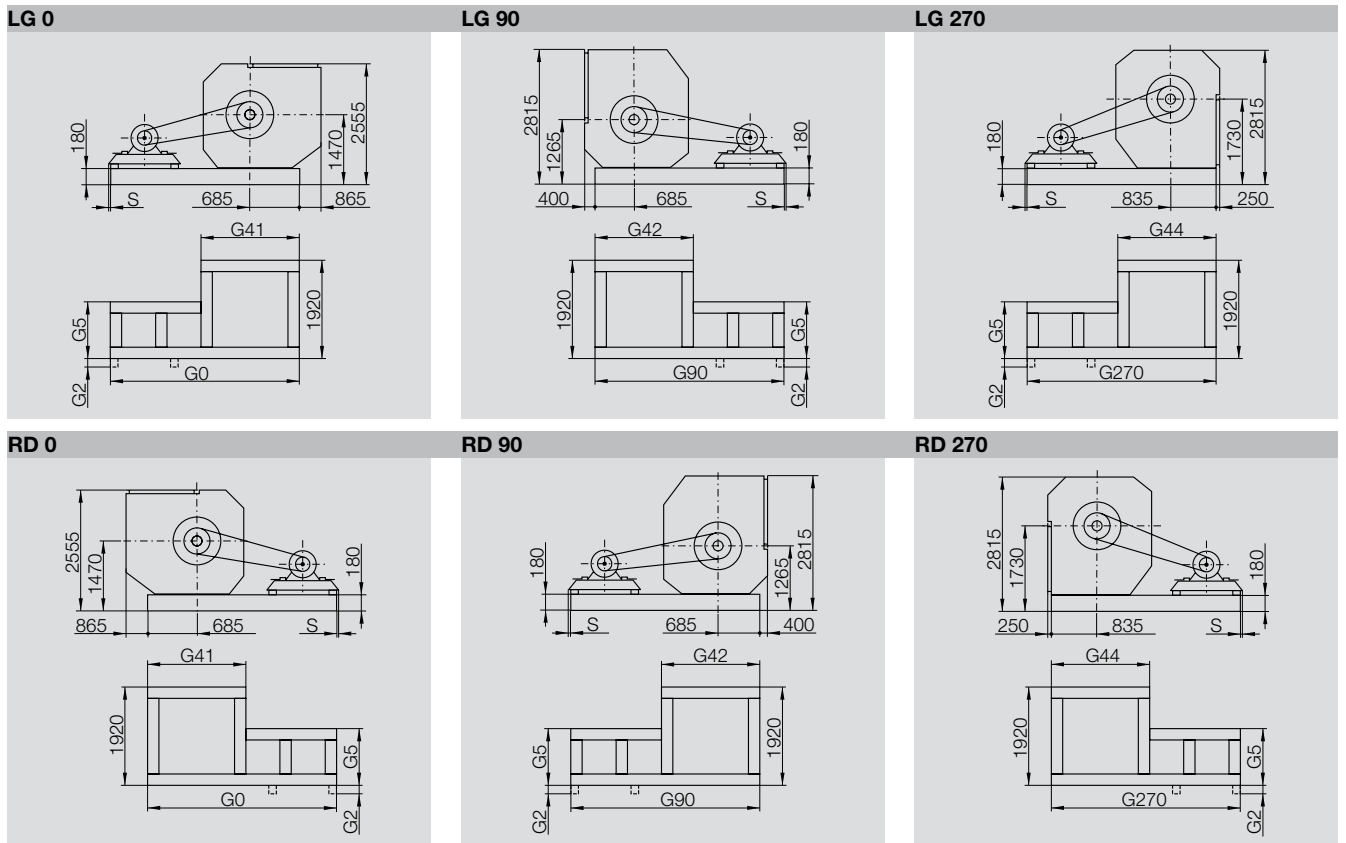
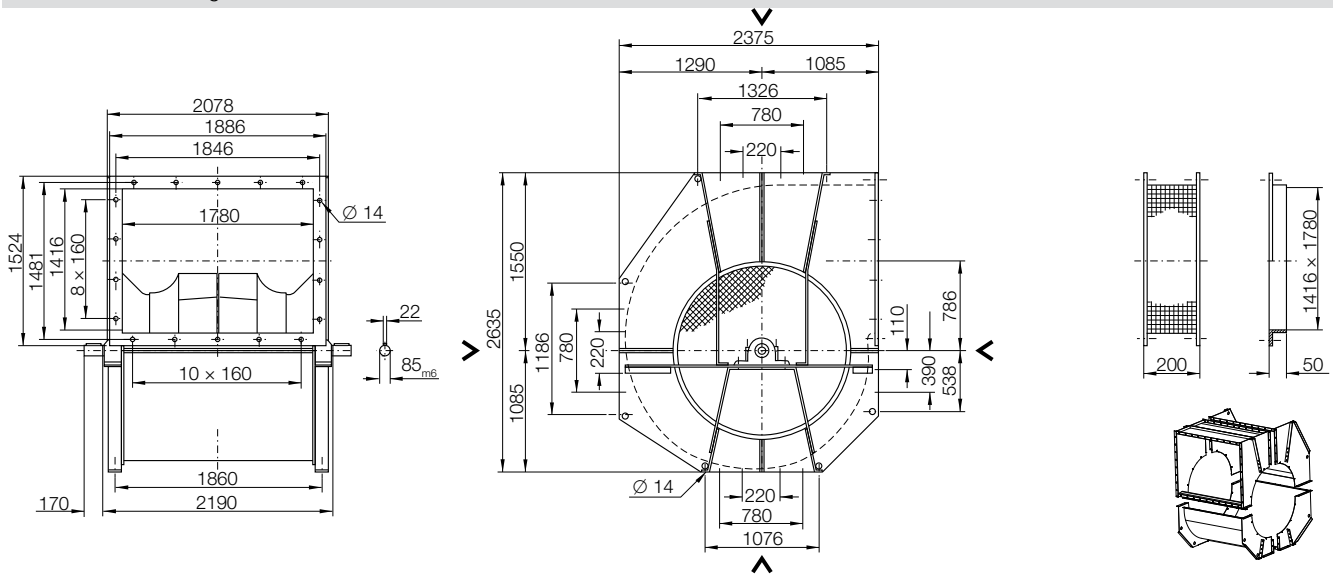
| Speed      | Duty point          | 63  | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|------------|---------------------|-----|-----|-----|-----|------|------|------|------|----|
| ≤546 1/min | ≤0.8 $q_{Vopt}$     | 0   | 3   | 1   | -2  | -6   | -9   | -13  | -20  | dB |
|            | >0.8-1.2 $q_{Vopt}$ | -1  | 2   | 1   | -2  | -6   | -9   | -14  | -21  | dB |
|            | >1.2-1.6 $q_{Vopt}$ | -2  | 1   | 1   | -3  | -5   | -8   | -15  | -21  | dB |
|            | >1.6-2.0 $q_{Vopt}$ | -5  | -3  | -2  | -3  | -5   | -7   | -14  | -21  | dB |
|            | >2.0 $q_{Vopt}$     | -5  | -3  | -2  | -3  | -5   | -7   | -14  | -21  | dB |
| >546 1/min | ≤0.8 $q_{Vopt}$     | -1  | -1  | -3  | -2  | -7   | -11  | -16  | -21  | dB |
|            | >0.8-1.2 $q_{Vopt}$ | -6  | -4  | -6  | -2  | -7   | -10  | -15  | -21  | dB |
|            | >1.2-1.6 $q_{Vopt}$ | -10 | -7  | -8  | -3  | -6   | -9   | -14  | -21  | dB |
|            | >1.6-2.0 $q_{Vopt}$ | -10 | -7  | -8  | -3  | -6   | -9   | -14  | -21  | dB |
|            | >2.0 $q_{Vopt}$     | -10 | -7  | -8  | -3  | -6   | -9   | -14  | -21  | dB |

Relative sound power level for discharge side  $L_{Wrel4}$  at octave centre frequencies  $f_c$

| Speed      | Duty point          | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|------------|---------------------|----|-----|-----|-----|------|------|------|------|----|
| ≤546 1/min | ≤0.8 $q_{Vopt}$     | 12 | 7   | 4   | -3  | -8   | -14  | -18  | -26  | dB |
|            | >0.8-1.2 $q_{Vopt}$ | 10 | 5   | 3   | -3  | -8   | -14  | -19  | -28  | dB |
|            | >1.2-1.6 $q_{Vopt}$ | 7  | 2   | 3   | -3  | -6   | -13  | -20  | -28  | dB |
|            | >1.6-2.0 $q_{Vopt}$ | 4  | 1   | 2   | -3  | -6   | -12  | -19  | -28  | dB |
|            | >2.0 $q_{Vopt}$     | 4  | 1   | 2   | -3  | -6   | -12  | -19  | -28  | dB |
| >546 1/min | ≤0.8 $q_{Vopt}$     | 10 | 4   | 1   | -1  | -7   | -13  | -18  | -25  | dB |
|            | >0.8-1.2 $q_{Vopt}$ | 6  | 2   | -2  | -3  | -6   | -12  | -15  | -25  | dB |
|            | >1.2-1.6 $q_{Vopt}$ | 2  | -3  | -3  | -3  | -6   | -11  | -15  | -25  | dB |
|            | >1.6-2.0 $q_{Vopt}$ | 1  | -3  | -5  | -3  | -6   | -11  | -13  | -22  | dB |
|            | >2.0 $q_{Vopt}$     | 1  | -3  | -5  | -3  | -6   | -11  | -13  | -22  | dB |

# RZR -1400

**Dimensions** in mm, subject to change.  
**RZR 13-1400** 1390 kg



|            | G0   | G90  | G270 | G41  | G42  | G44  | G2 | G5   | S  |
|------------|------|------|------|------|------|------|----|------|----|
| <b>160</b> | 2225 | 2550 | 2580 | 1505 | 1830 | 1860 | 87 | 420  | -  |
| <b>180</b> | 2225 | 2550 | 2580 | 1505 | 1830 | 1860 | 87 | 420  | -  |
| <b>200</b> | 2495 | 2800 | 2950 | 1605 | 1910 | 2060 | 62 | 470  | -  |
| <b>225</b> | 2495 | 2800 | 2950 | 1605 | 1910 | 2060 | 62 | 470  | -  |
| <b>250</b> | 2775 | 2960 | 3160 | 1775 | 1960 | 2160 | -  | 670  | 6  |
| <b>280</b> | 2775 | 2960 | 3160 | 1775 | 1960 | 2160 | -  | 670  | 6  |
| <b>315</b> | 3055 | 3230 | 3410 | 1805 | 1980 | 2160 | -  | 1020 | 10 |
| <b>355</b> | 3055 | 3230 | 3410 | 1805 | 1980 | 2160 | -  | 1020 | 10 |

**Technical Data**

**Impeller Data**

|                   |       |                      |
|-------------------|-------|----------------------|
| Impeller diameter | $D_r$ | 1600 mm              |
| Number of blades  | $z$   | 12                   |
| Moment of Inertia | $J$   | 186 kgm <sup>2</sup> |

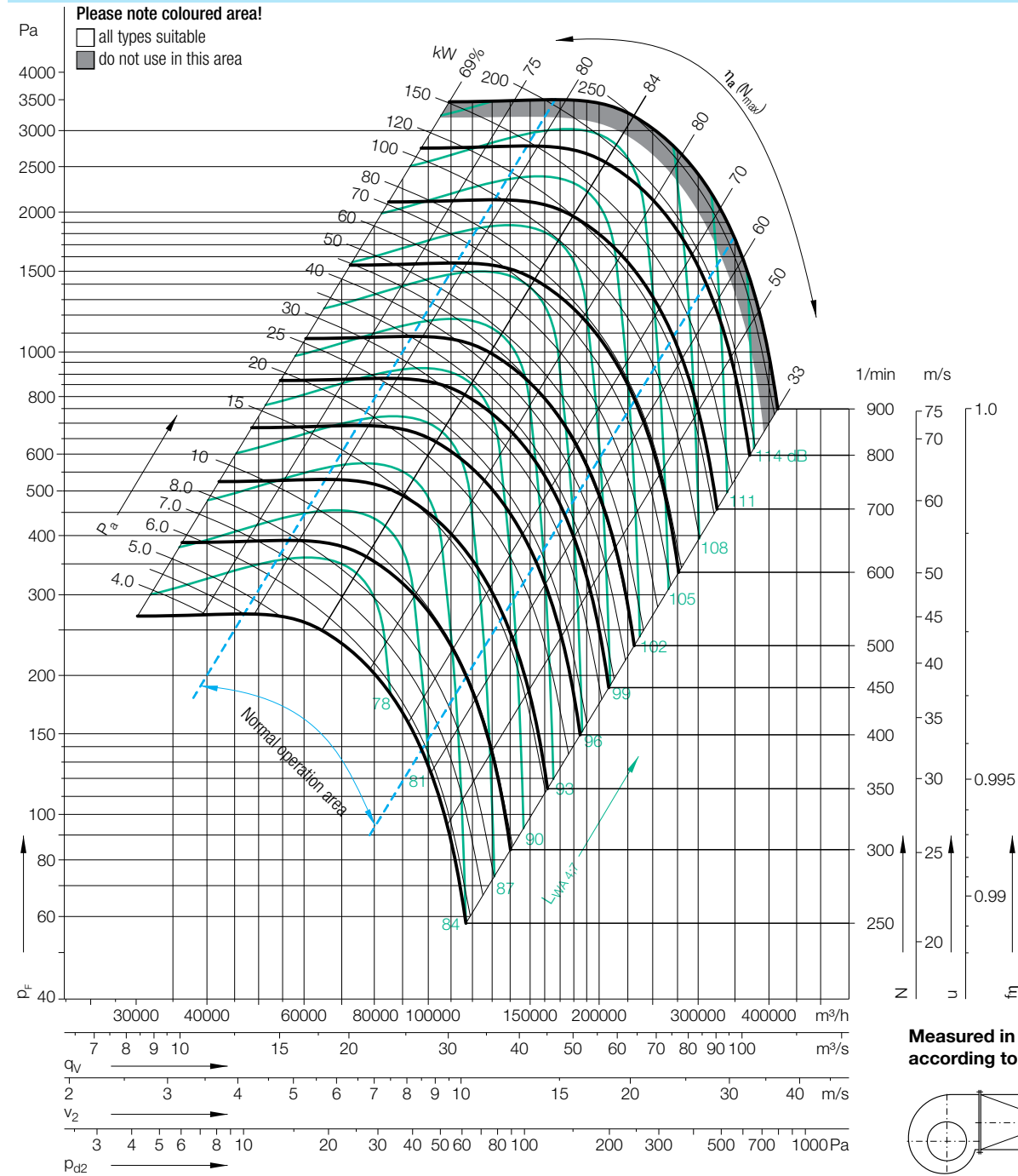
**Impeller Data**

|                             |          |                       |
|-----------------------------|----------|-----------------------|
| Impeller weight             | $m$      | 486 kg                |
| Density of media            | $\rho_1$ | 1.2 kg/m <sup>3</sup> |
| Tolerance class (DIN 24166) |          | 1                     |

**Speed limits  $N_{max}$  for ATEX execution**

|        |            |       |
|--------|------------|-------|
| RZR 13 | <b>748</b> | 1/min |
|--------|------------|-------|

**Performance Curves**



Relative sound power level for inlet side  $L_{Wrel7}$  at octave centre frequencies  $f_c$

| 63  | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|-----|-----|-----|-----|------|------|------|------|----|
| 0   | 3   | 1   | -2  | -6   | -9   | -13  | -20  | dB |
| -1  | 2   | 1   | -2  | -6   | -9   | -14  | -21  | dB |
| -2  | 1   | 1   | -3  | -5   | -8   | -15  | -21  | dB |
| -5  | -3  | -2  | -3  | -5   | -7   | -14  | -21  | dB |
| 63  | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
| -1  | -1  | -3  | -2  | -7   | -11  | -16  | -21  | dB |
| -6  | -4  | -6  | -2  | -7   | -10  | -15  | -21  | dB |
| -10 | -7  | -8  | -3  | -6   | -9   | -14  | -21  | dB |
| -10 | -7  | -8  | -3  | -6   | -8   | -11  | -20  | dB |

Relative sound power level for discharge side  $L_{Wrel4}$  at octave centre frequencies  $f_c$

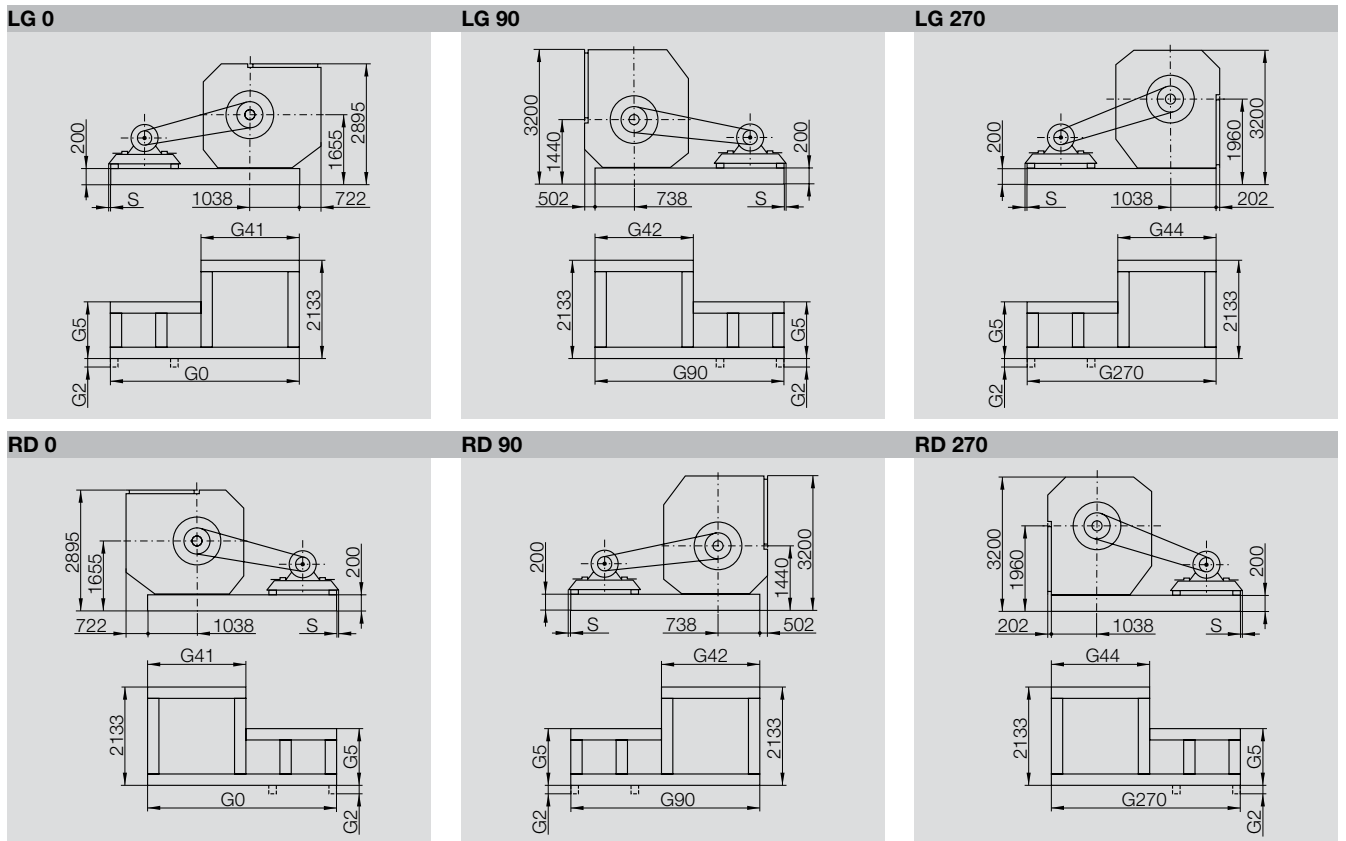
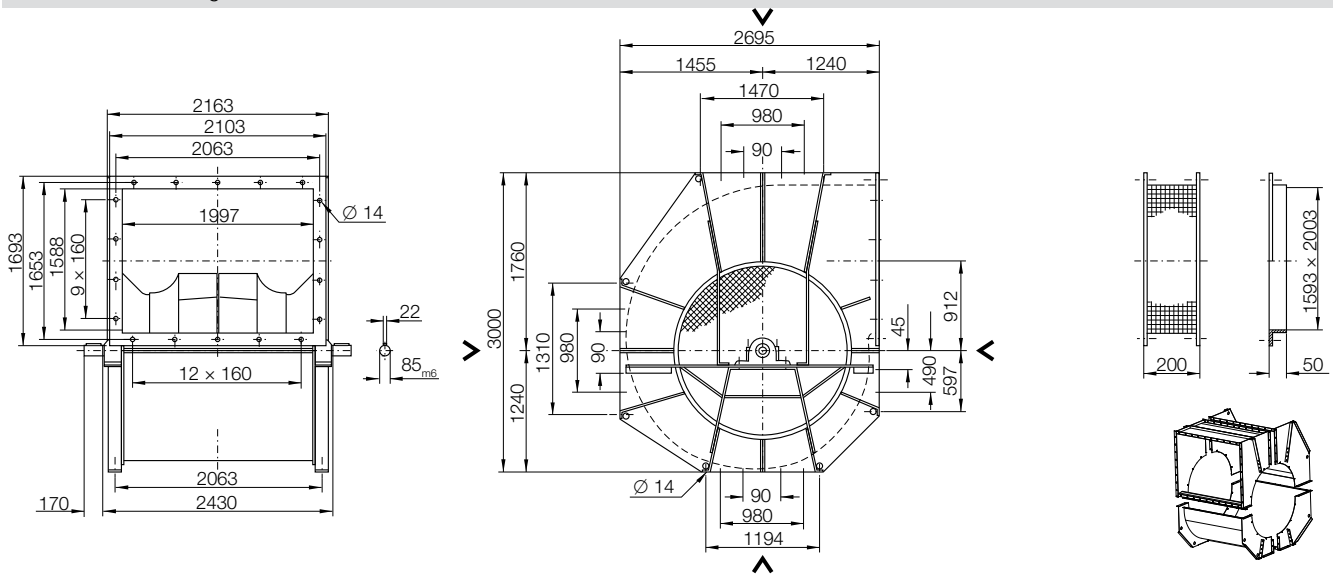
| 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|----|-----|-----|-----|------|------|------|------|----|
| 12 | 7   | 4   | -3  | -8   | -14  | -18  | -26  | dB |
| 10 | 5   | 3   | -3  | -8   | -14  | -19  | -28  | dB |
| 7  | 2   | 3   | -3  | -6   | -13  | -20  | -28  | dB |
| 4  | 1   | 2   | -3  | -6   | -12  | -19  | -28  | dB |
| 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
| 10 | 4   | 1   | -1  | -7   | -13  | -18  | -25  | dB |
| 6  | 2   | -2  | -3  | -6   | -12  | -15  | -25  | dB |
| 2  | -3  | -3  | -3  | -6   | -11  | -15  | -25  | dB |
| 1  | -3  | -5  | -3  | -6   | -11  | -13  | -22  | dB |

| Speed      | Duty point          |
|------------|---------------------|
| ≤478 1/min | ≤0.8 $q_{Vopt}$     |
|            | >0.8-1.2 $q_{Vopt}$ |
|            | >1.2-1.6 $q_{Vopt}$ |
|            | >1.6 $q_{Vopt}$     |
| Speed      | Duty point          |
| >478 1/min | ≤0.8 $q_{Vopt}$     |
|            | >0.8-1.2 $q_{Vopt}$ |
|            | >1.2-1.6 $q_{Vopt}$ |
|            | >1.6 $q_{Vopt}$     |

# RZR -1600

Dimensions in mm, subject to change.

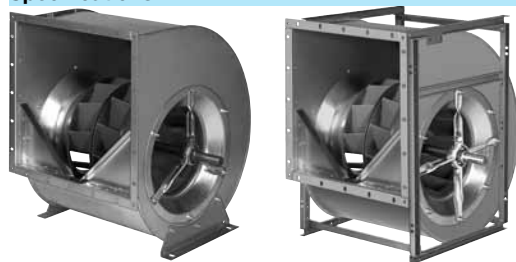
RZR 13-1600 1870 kg



|            | G0   | G90  | G270 | G41  | G42  | G44  | G2    | G5   | S  |
|------------|------|------|------|------|------|------|-------|------|----|
| <b>160</b> | 2736 | 2786 | 2901 | 2016 | 2066 | 2181 | 105.0 | 425  | -  |
| <b>180</b> | 2736 | 2786 | 2901 | 2016 | 2066 | 2181 | 105.0 | 425  | -  |
| <b>200</b> | 3066 | 3016 | 3231 | 2166 | 2116 | 2331 | 75.5  | 425  | -  |
| <b>225</b> | 3066 | 3016 | 3231 | 2166 | 2116 | 2331 | 75.5  | 425  | -  |
| <b>250</b> | 3316 | 3166 | 3481 | 2316 | 2166 | 2481 | -     | 675  | 1  |
| <b>280</b> | 3316 | 3166 | 3481 | 2316 | 2166 | 2481 | -     | 675  | 1  |
| <b>315</b> | 3804 | 3704 | 4019 | 2316 | 2216 | 2531 | -     | 1154 | 57 |
| <b>355</b> | 3804 | 3704 | 4019 | 2316 | 2216 | 2531 | -     | 1154 | 57 |

# RZR 11-0200/-1000

## Specifications



### High performance centrifugal fan RZR 11

double inlet belt drive.  
 Lap jointed scroll of galvanised sheet steel with discharge flange and bolt on multi-position feet (Size 0200/-0710), with heavy duty side frames (Size 0800/-1000).  
 High performance impeller with 12 hollow section true airfoil blades (Size 0315/-1000), with 11 backward curved laminar blades (Size 0200/-0280) inclined obliquely to the shaft axis, welded in position and epoxy coated.  
 Throat plate inclined obliquely in opposition to blade inclination.  
 Inlet cones matched to the impeller reduce entry losses to a minimum.  
 Impeller and shaft balanced as an assembly in according to DIN ISO 1940.  
 Noise tested maintenance free, radial insert ball bearings mounted in pressed steel housing/strut assemblies with rubber interliners.  
 As an option – relubricatable in operation within cast iron housings, supported from the fan casing by tubular struts (0200/-1000).  
 Performance data to DIN 24166 Class 1 / BS 848 Class "A" (Size 0315/-1000) or Class 2 / BS 848 Class "B" (Size 0200/-0280).

## Fan data

|                                       |                  |                   |
|---------------------------------------|------------------|-------------------|
| <b>Fan type</b>                       | .....            |                   |
| <b>Volume flow</b>                    | $Q_v$ .....      | m <sup>3</sup> /h |
| <b>Total pressure increase</b>        | $p_F$ .....      | Pa                |
| <b>Static pressure</b>                | $p_{sF}$ .....   | Pa                |
| <b>Air density at fan inlet</b>       | $\rho_1$ .....   | kg/m <sup>3</sup> |
| <b>Air medium temperature</b>         | $t$ .....        | °C                |
| <b>Shaft power</b>                    | $P_a$ .....      | kW                |
| <b>Efficiency</b>                     | $(\eta_a)$ ..... |                   |
| <b>Speed</b>                          | $N$ .....        | 1/min             |
| <b>Sound power level (A weighted)</b> | $L_{WA}$ .....   | dB                |
| <b>Weight</b>                         | $m$ .....        | kg                |

## Fittings / Accessories

- Drain plug R1/2" (B.S.P. 1/2")
- Access door
- Special coating Class S40, K90 or P100
- Centrifugal fan in Ex-Execution in Acc. to ATEX
- Impeller blades continuously welded
- Shaft made of stainless steel (1.4305)
- Nuts and bolts of stainless steel (1.4305)
- Volumeter
- Copper inlet cone
- Relubrication in Operation IWN01 or IWN11 (sizes 0200/-0710)
  
- Inlet Guards
- Discharge Guard
- Shaft guard
- Discharge Flange
- Discharge Flex (with flexible sleeve)
- Base frame with integrated strain-sledge (sizes 0200/-0500)
- Base frame with motor rails (sizes 0400/-1000)
- Pick-a-Back (for attaching motor fan)
- Belt drive, V-belt or flat Belt
- Belt guard
- Belt guard split horizontally
- Motor
- Anti-vibration mounts

# RZR 12-0200/-0710

## Specifications



### High performance centrifugal fan RZR 12

double inlet belt drive.  
 Lap jointed scroll of galvanised sheet steel with discharge flange and rectangular, angle side frames.  
 High performance impeller with 12 hollow section true airfoil blades (Size 0315/-0710, with 11 backward curved laminar blades (Size 0200/-0280) inclined obliquely to the shaft axis, welded in position and epoxy coated.  
 Throat plate inclined obliquely in opposition to blade inclination.  
 Inlet cones matched to the impeller reduce entry losses to a minimum.  
 Impeller and shaft balanced as an assembly in according to DIN ISO 1940.  
 Noise tested maintenance free, radial insert ball bearings mounted in pressed steel housing/strut assemblies with rubber interliners. As an option – relubricatable in operation within cast iron housings, supported from the fan casing by tubular struts.  
 Performance data to DIN 24166 Class 1 / BS 848 Class "A" (Size 0315/-0710) or Class 2 / BS 848 Class "B" (Size 0200/-0280).

## Fan data

|                                       |                  |                   |
|---------------------------------------|------------------|-------------------|
| <b>Fan type</b>                       | .....            |                   |
| <b>Volume flow</b>                    | $Q_V$ .....      | m <sup>3</sup> /h |
| <b>Total pressure increase</b>        | $p_F$ .....      | Pa                |
| <b>Static pressure</b>                | $p_{SF}$ .....   | Pa                |
| <b>Air density at fan inlet</b>       | $\rho_1$ .....   | kg/m <sup>3</sup> |
| <b>Air medium temperature</b>         | $t$ .....        | °C                |
| <b>Shaft power</b>                    | $P_a$ .....      | kW                |
| <b>Efficiency</b>                     | $(\eta_a)$ ..... |                   |
| <b>Speed</b>                          | $N$ .....        | 1/min             |
| <b>Sound power level (A weighted)</b> | $L_{WA}$ .....   | dB                |
| <b>Weight</b>                         | $m$ .....        | kg                |

## Fittings / Accessories

- Drain plug R1/2" (B.S.P. 1/2")
- Access door
- Special coating Class S40, K90 or P100
- Centrifugal fan in Ex-Execution in Acc. to ATEX
- Impeller blades continuously welded
- Shaft made of stainless steel (1.4305)
- Nuts and bolts of stainless steel (1.4305)
- Volumeter
- Copper inlet cone
- Relubrication in operation IWN01 or IWN11
  
- Inlet Guards
- Discharge Guard
- Shaft guard
- Discharge Flange
- Discharge Flex (with flexible sleeve)
- Base frame with motor rails
- Pick-a-Back (for attaching motor fan)
- Belt drive, V-belt or flat Belt
- Belt guard
- Belt guard split horizontally
- Motor
- Anti-vibration mounts

# RZR 15-0400/-1000

## Specifications



### High performance centrifugal fan RZR 15

double inlet belt drive.

Lap jointed scroll of galvanised sheet steel with discharge flange and heavy duty reinforced side frames.

High performance impeller with 12 hollow section true airfoil blades inclined obliquely to the shaft axis, welded in position and epoxy coated.

Throat plate inclined obliquely in opposition to blade inclination.

Inlet cones matched to the impeller reduce entry losses to a minimum.

Impeller and shaft balanced as an assembly in according to DIN ISO 1940.

Self aligning double row ball bearings secured by adapter sleeve, mounted within a cast iron housing packed with long life, high performance grease. Can be relubricated when not in service.

Performance data to DIN 24166 Class 1 / BS 848 Class "A".

## Fan data

|                                       |                  |                   |
|---------------------------------------|------------------|-------------------|
| <b>Fan type</b>                       | .....            |                   |
| <b>Volume flow</b>                    | $Q_v$ .....      | m <sup>3</sup> /h |
| <b>Total pressure increase</b>        | $p_F$ .....      | Pa                |
| <b>Static pressure</b>                | $p_{sF}$ .....   | Pa                |
| <b>Air density at fan inlet</b>       | $\rho_1$ .....   | kg/m <sup>3</sup> |
| <b>Air medium temperature</b>         | $t$ .....        | °C                |
| <b>Shaft power</b>                    | $P_a$ .....      | kW                |
| <b>Efficiency</b>                     | $(\eta_a)$ ..... |                   |
| <b>Speed</b>                          | $N$ .....        | 1/min             |
| <b>Sound power level (A weighted)</b> | $L_{WA}$ .....   | dB                |
| <b>Weight</b>                         | $m$ .....        | kg                |

## Fittings / Accessories

- Drain plug R1/2" (B.S.P. 1/2")
- Access door
- Special coating Class S40, K90 or P100
- Impeller blades continuously welded
- Shaft made of stainless steel (1.4305)
- Nuts and bolts of stainless steel (1.4305)
- Tapped hole for measurement of shock impulse
- Volumeter
- Copper inlet cone
- Relubrication in operation IWN01 or IWN11
  
- Inlet Guards
- Discharge Guard
- Shaft guard
- Discharge Flange
- Discharge Flex (with flexible sleeve)
- Base frame with motor rails
- Pick-a-Back (for attaching motor fan)
- Belt drive, V-belt or flat Belt
- Belt guard
- Belt guard split horizontally
- Motor
- Anti-vibration mounts



# RZR 18-0400/-1000

## Specifications



### High performance centrifugal fan RZR 18

double inlet belt drive.  
 Lap jointed scroll of galvanised sheet steel with discharge flange and heavy duty reinforced side frames.  
 High performance impeller with 12 hollow section true airfoil blades inclined obliquely to the shaft axis, welded in position and epoxy coated.  
 Throat plate inclined obliquely in opposition to blade inclination.  
 Inlet cones matched to the impeller reduce entry losses to a minimum.  
 Impeller and shaft balanced as an assembly in according to DIN ISO 1940.  
 Self aligning double row ball bearings within standard plummer blocks, mounted on robust pedestal, packed with long life, high performance grease. Can be relubricated when not in service.  
 Performance data to DIN 24166 Class 1 / BS 848 Class "A".

## Fan data

|                                       |                  |                   |
|---------------------------------------|------------------|-------------------|
| <b>Fan type</b>                       | .....            |                   |
| <b>Volume flow</b>                    | $Q_V$ .....      | m <sup>3</sup> /h |
| <b>Total pressure increase</b>        | $p_F$ .....      | Pa                |
| <b>Static pressure</b>                | $p_{SF}$ .....   | Pa                |
| <b>Air density at fan inlet</b>       | $\rho_1$ .....   | kg/m <sup>3</sup> |
| <b>Air medium temperature</b>         | $t$ .....        | °C                |
| <b>Shaft power</b>                    | $P_a$ .....      | kW                |
| <b>Efficiency</b>                     | $(\eta_a)$ ..... |                   |
| <b>Speed</b>                          | $N$ .....        | 1/min             |
| <b>Sound power level (A weighted)</b> | $L_{WA}$ .....   | dB                |
| <b>Weight</b>                         | $m$ .....        | kg                |

## Fittings / Accessories

- Drain plug R1/2" (B.S.P. 1/2")
- Access door
- Special coating Class S40, K90 or P100
- Centrifugal fan in Ex-Execution in Acc. to ATEX
- Impeller blades continuously welded
- Shaft made of stainless steel (1.4305)
- Nuts and bolts of stainless steel (1.4305)
- Tapped hole for measurement of shock impulse
- Volumeter
- Copper inlet cone
- Relubrication in operation IWN01 or IWN11
  
- Inlet Guards
- Discharge Guard
- Shaft guard
- Discharge Flange
- Discharge Flex (with flexible sleeve)
- Base frame with motor rails
- Pick-a-Back (for attaching motor fan)
- Belt drive, V-belt or flat Belt
- Belt guard
- Belt guard split horizontally
- Motor
- Anti-vibration mounts

# RZR 19-0200/-0355

## Specifications



### High performance centrifugal fan RZR 19-0200/-0355

double inlet belt drive.  
 Scroll casing stitch welded with discharge flange and bolt on multi-position feet.  
 High performance impeller with 12 hollow section true airfoil blades (Size 0315/-0355), with 11 backward curved laminar blades (Size 0200/-0280) inclined obliquely to the shaft axis, welded in position and epoxy coated.  
 Throat plate inclined obliquely in opposition to blade inclination.  
 Inlet cones matched to the impeller reduce entry losses to a minimum.  
 Impeller and shaft balanced as an assembly in according to DIN ISO 1940.  
 Noise tested, maintenance free, radial insert ball bearings with spherical outer ring mounted within castiron housings, supported from the fan casing by tubular struts.  
 Performance data to DIN 24166 Class 1 / BS 848 Class "A" (Size 0315/-0355) or Class 2 / BS 848 Class "B" (Size 0200/-0280).

## Fan data

|                                       |                  |                   |
|---------------------------------------|------------------|-------------------|
| <b>Fan type</b>                       | .....            |                   |
| <b>Volume flow</b>                    | $Q_v$ .....      | m <sup>3</sup> /h |
| <b>Total pressure increase</b>        | $p_F$ .....      | Pa                |
| <b>Static pressure</b>                | $p_{sF}$ .....   | Pa                |
| <b>Air density at fan inlet</b>       | $\rho_1$ .....   | kg/m <sup>3</sup> |
| <b>Air medium temperature</b>         | $t$ .....        | °C                |
| <b>Shaft power</b>                    | $P_a$ .....      | kW                |
| <b>Efficiency</b>                     | $(\eta_a)$ ..... |                   |
| <b>Speed</b>                          | $N$ .....        | 1/min             |
| <b>Sound power level (A weighted)</b> | $L_{WA}$ .....   | dB                |
| <b>Weight</b>                         | $m$ .....        | kg                |

## Fittings / Accessories

- Drain plug R1/2" (B.S.P. 1/2")
- Access door
- Special coating Class K90 or P100
- Centrifugal fan in Ex-Execution in Acc. to ATEX
- Impeller blades continuously welded
- Casing continuously welded inside
- Casing continuously welded inside and outside
- Shaft made of stainless steel (1.4305)
- Nuts and bolts of stainless steel (1.4305)
- Volumeter
- Copper inlet cone
- Relubrication in operation IWN01 or IWN11
  
- Inlet Guards
- Discharge Guard
- Shaft guard
- Discharge Flange
- Discharge Flex (with flexible sleeve)
- Base frame with integrated motor strain-sledge
- Pick-a-Back (for attaching motor fan)
- Belt drive, V-belt or flat Belt
- Belt guard
- Belt guard split horizontally
- Motor
- Anti-vibration mounts

# RZR 19-0400/-1000

## Specifications



### High performance centrifugal fan RZR 19-0400/-1000

double inlet belt drive.  
 Scroll casing stitch welded with discharge flange, and heavy duty reinforced side frames, epoxy coated.  
 High performance impeller with 12 hollow section true airfoil blades inclined obliquely to the shaft axis, welded in position and epoxy coated.  
 Throat plate inclined obliquely in opposition to bladeinclination.  
 Inlet cones matched to the impeller reduce entrylosses to a minimum.  
 Impeller and shaft balanced as an assembly in according to DIN ISO 1940.  
 Self aligning double row ball bearings secured by adapter sleeve, mounted within a cast iron housing packed with long life, high performance grease. Can be relubricated when not in service.  
 Performance data to DIN 24166 Class 1 / BS 848 Class "A".

## Fan data

|                                       |                  |                   |
|---------------------------------------|------------------|-------------------|
| <b>Fan type</b>                       | .....            |                   |
| <b>Volume flow</b>                    | $Q_V$ .....      | m <sup>3</sup> /h |
| <b>Total pressure increase</b>        | $p_F$ .....      | Pa                |
| <b>Static pressure</b>                | $p_{SF}$ .....   | Pa                |
| <b>Air density at fan inlet</b>       | $\rho_1$ .....   | kg/m <sup>3</sup> |
| <b>Air medium temperature</b>         | $t$ .....        | °C                |
| <b>Shaft power</b>                    | $P_a$ .....      | kW                |
| <b>Efficiency</b>                     | $(\eta_a)$ ..... |                   |
| <b>Speed</b>                          | $N$ .....        | 1/min             |
| <b>Sound power level (A weighted)</b> | $L_{WA}$ .....   | dB                |
| <b>Weight</b>                         | $m$ .....        | kg                |

## Fittings / Accessories

- Drain plug R1/2" (B. S. P. 1/2")
- Access door
- Special coating Class K90 or P100
- Impeller blades continuously welded
- Casing continuously welded inside
- Casing continuously welded inside and outside
- Casing in 2 horizontal sections (Size 0560 upwards)
- Shaft made of stainless steel (1.4305)
- Nuts and bolts of stainless steel (1.4305)
- Tapped hole for measurement of shock impulse
- Volumeter
- Copper inlet cone
- Relubrication in operation IWN01 or IWN11
  
- Inlet Guards
- Discharge Guard
- Shaft guard
- Discharge Flange
- Discharge Flex (with flexible sleeve)
- Base frame with motor rails
- Pick-a-Back (for attaching motor fan)
- Belt drive, V-belt or flat Belt
- Belt guard
- Belt guard split horizontally
- Motor
- Anti-vibration mounts

# RZR 13-0400/-1000

## Specifications



### High performance centrifugal fan RZR 13-0400/-1000

double inlet belt drive.  
 Scroll casing stitch welded with discharge flange and heavy duty reinforced side frames, epoxy coated.  
 High performance impeller with 12 hollow section true airfoil blades inclined obliquely to the shaft axis, welded in position and epoxy coated.  
 Throat plate inclined obliquely in opposition to blade inclination.  
 Inlet cones matched to the impeller reduce entry losses to a minimum.  
 Impeller and shaft balanced as an assembly in according to DIN ISO 1940.  
 Self aligning double row ball bearings within standard plummer blocks, mounted on robust pedestal, packed with long life, high performance grease. Can be relubricated when not in service.  
 Performance data to DIN 24166 Class 1 / BS 848 Class "A".

## Fan data

|                                       |                  |                   |
|---------------------------------------|------------------|-------------------|
| <b>Fan type</b>                       | .....            |                   |
| <b>Volume flow</b>                    | $Q_v$ .....      | m <sup>3</sup> /h |
| <b>Total pressure increase</b>        | $p_F$ .....      | Pa                |
| <b>Static pressure</b>                | $p_{sF}$ .....   | Pa                |
| <b>Air density at fan inlet</b>       | $\rho_1$ .....   | kg/m <sup>3</sup> |
| <b>Air medium temperature</b>         | $t$ .....        | °C                |
| <b>Shaft power</b>                    | $P_a$ .....      | kW                |
| <b>Efficiency</b>                     | $(\eta_a)$ ..... |                   |
| <b>Speed</b>                          | $N$ .....        | 1/min             |
| <b>Sound power level (A weighted)</b> | $L_{WA}$ .....   | dB                |
| <b>Weight</b>                         | $m$ .....        | kg                |

## Fittings / Accessories

- Drain plug R1/2" (B.S.P. 1/2")
- Access door
- Special coating Class K90 or P100
- Centrifugal fan in Ex-Execution in Acc. to ATEX
- Impeller blades continuously welded
- Casing continuously welded inside
- Casing continuously welded inside and outside
- Casing in 2 horizontal sections (sizes 0500/-1000)
- Shaft made of stainless steel (1.4305)
- Nuts and bolts of stainless steel (1.4305)
- Tapped hole for measurement of shock impulse
- Volumeter
- Copper inlet cone
- Relubrication in operation IWN01 or IWN11
  
- Inlet Guards
- Discharge Guard
- Shaft guard
- Discharge Flange
- Discharge Flex (with flexible sleeve)
- Base frame with motor rails
- Pick-a-Back (for attaching motor fan)
- Belt drive, V-belt or flat Belt
- Belt guard
- Belt guard split horizontally
- Motor
- Anti-vibration mounts

# RZR 13-1120/-1600

## Specifications



### High performance centrifugal fan RZR 1120/-1600

double inlet belt drive.  
 Heavy duty casing of sheet steel with stiffening members, step welded and painted, with discharge flange.  
 Casing is split on one axis (Size 1120), split on two axis (Sizes 1250, 1400, 1600).  
 High performance impeller with 12 hollow section true airfoil blades inclined obliquely to the shaft axis, welded in position and epoxy coated.  
 Inlet cones matched to the impeller reduce entry losses to a minimum.  
 Impeller and shaft balanced as an assembly in accordance to DIN ISO 1940.  
 Self aligning double row roller bearings within standard plummer blocks, mounted on robust pedestal, packed with long life, high performance grease. Can be relubricated when not in service.  
 Inlet guard fitted as a standard in accordance with DIN EN 294.  
 Performance data to DIN 24166 Class 1 / BS 848 Class "A".

## Fan data

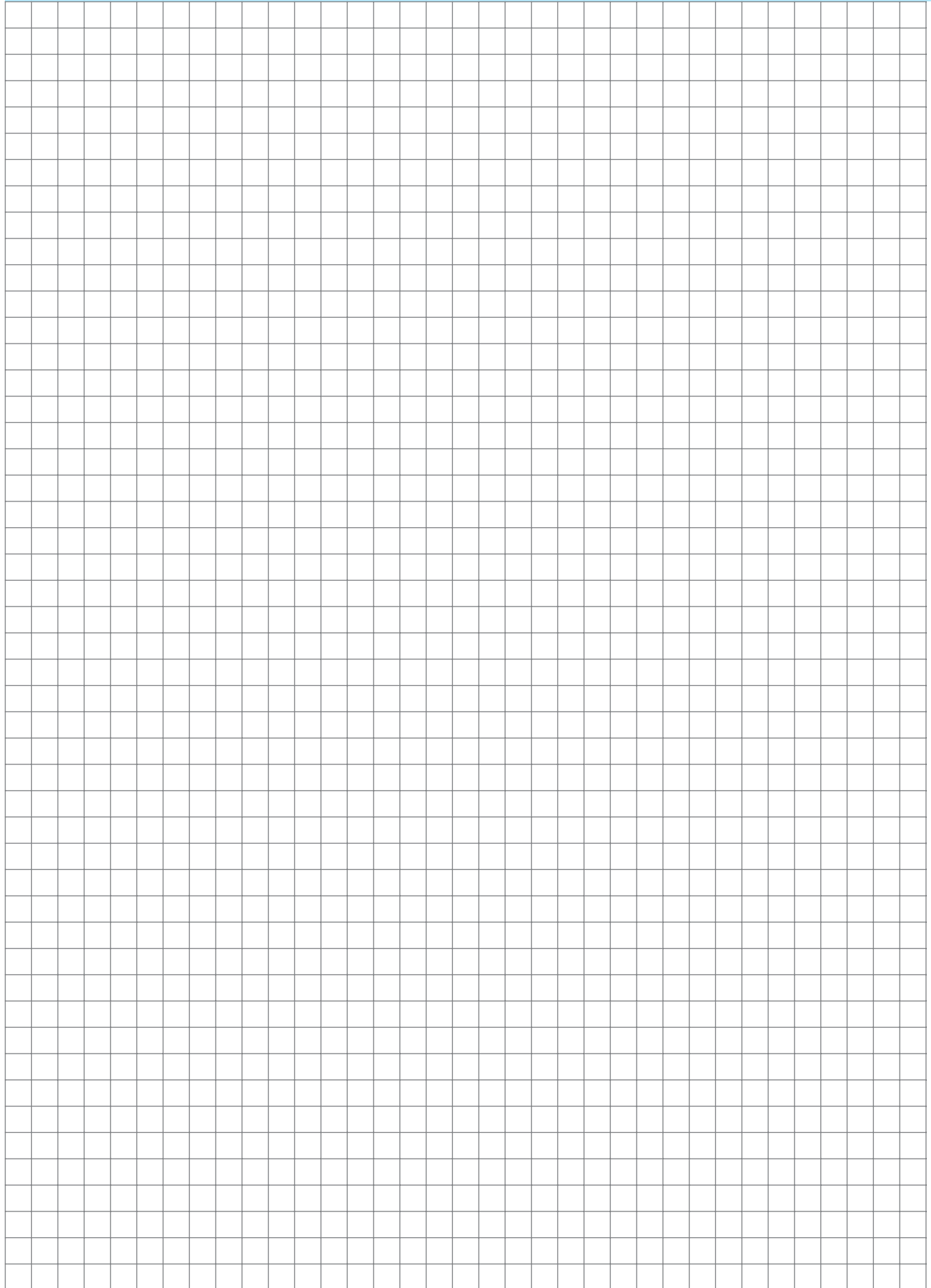
|                                       |                  |                   |
|---------------------------------------|------------------|-------------------|
| <b>Fan type</b>                       | .....            |                   |
| <b>Volume flow</b>                    | $Q_V$ .....      | m <sup>3</sup> /h |
| <b>Total pressure increase</b>        | $p_F$ .....      | Pa                |
| <b>Static pressure</b>                | $p_{SF}$ .....   | Pa                |
| <b>Air density at fan inlet</b>       | $\rho_1$ .....   | kg/m <sup>3</sup> |
| <b>Air medium temperature</b>         | $t$ .....        | °C                |
| <b>Shaft power</b>                    | $P_a$ .....      | kW                |
| <b>Efficiency</b>                     | $(\eta_a)$ ..... |                   |
| <b>Speed</b>                          | $N$ .....        | 1/min             |
| <b>Sound power level (A weighted)</b> | $L_{WA}$ .....   | dB                |
| <b>Weight</b>                         | $m$ .....        | kg                |

## Fittings / Accessories

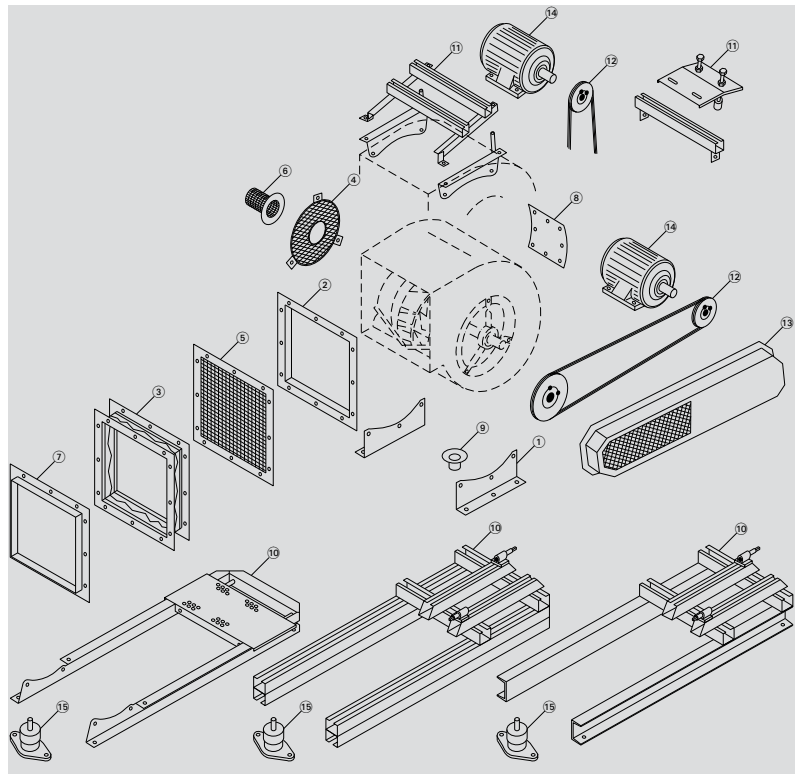
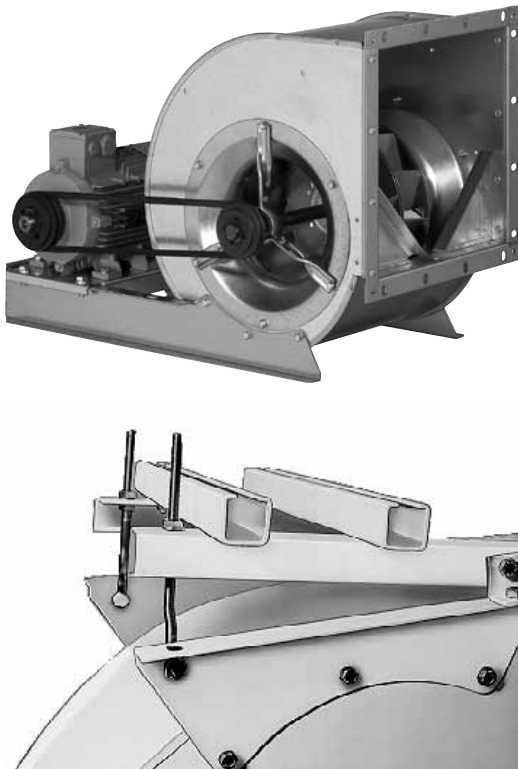
- Drain plug R1"
- Access door
- Special coating Class K90 or P100
- Centrifugal fan in Ex-Execution in Acc. to ATEX
- Impeller blades continuously welded
- Casing continuously welded inside
- Casing continuously welded inside and outside
- Shaft made of stainless steel (1.4305)
- Nuts and bolts of stainless steel (1.4305)
- Tapped hole for measurement of shock impulse
- Volumeter
- Copper inlet cone
- Relubrication in operation IWN01 or IWN11
  
- Discharge Guard
- Shaft guard
- Discharge Flange
- Discharge Flex (with flexible sleeve)
- Base frame with motor rails
- Belt drive, V-belt or flat Belt
- Belt guard
- Belt guard split horizontally
- Motor
- Anti-vibration mounts

# Notes

Notes



# Fittings / Accessories



- [1] Mounting feet
- [2] Discharge flange
- [3] Discharge flex
- [4] Inlet guard
- [5] Discharge guard
- [6] Shaft guard
- [7] Mounting flange
- [8] Inspection door
- [9] Drain plug
- ▶ extended corrosion protection
- ▶ ATEX-Execution (RZR)
- ▶ Impellerblades continuously welded (RZR)
- ▶ Casing continuously welden- inside (RZR)
- ▶ Casing continuously welden- inside/outside (RZR)
- ▶ Split casing (RZR 13/19)
- ▶ Shaft from stainless steel
- ▶ Nuts and bolts from stainless steel
- ▶ Thread for impuls sensor fitting
- ▶ Volumeter (RDH / RZR)
- ▶ Copper inlet cone
- ▶ Aluminium inlet cone (ADH / AT / RDH)
- ▶ hot dip galvanised side frame (ADH / RDH)
- ▶ relubricatable bearings (relubrication during operation, RZR)

## Fan set (ADH / AT / RDH on request)

- [10] Base frame
- [11] Pick-a-Back
- [12] Belt drive
- [13] Drive guard
- ▶ Belt guard split horizontally
- ▶ Access door on belt guard
- ▶ Opening on belt guard for speed measuring device
- [14] Drive motor
- [15] Anti-vibration mounts

### Gebhardt fan systems – the "completely carefree" package for installation fans with belt drive

Fan systems with components tailored for each other, precisely assembled and adjusted, individually tested, delivered quickly and on time, allow for problem-free processing and ensure long and reliable operation.

Size has its price so we build as small as possible






- ▶ Optimised base frame lengths, tailored to the casing position and motor size and small system construction heights save valuable space in the air conditioning unit
- ▶ Various casing and drive positions allow for individual adjustment to the most diverse applications
- ▶ Optimised flat belt drives allow for efficient operation with a high level of convenience

Where required, we deliver our fan systems with safety equipment complying with DIN EN ISO 13857 for safe operation!

#### e.g. Belt guard

- ▶ also as segmented design
- ▶ also with inspection hole
- ▶ also with rotation speed measurement opening.

### Fan set diversity

| Version                | Description  | Figure  |
|------------------------|--|---|
| Pick-A-Back            | for sizes 0200/-0355   |   |
| Pick-A-Back            | for sizes 0400/-1000   |  |
| Compact base frame     | Integrated compact base frame for sizes up to 0500.                                    |  |
| Base Frame, CC-profile | Base frames made from CC-profiles with length optimization.                            |  |
| Base Frame, U-profile  | Heavy duty base frame made from U-profiles, welded and painted, from size 0800 upward. |  |



# Fittings / Accessories

## Drain Plug



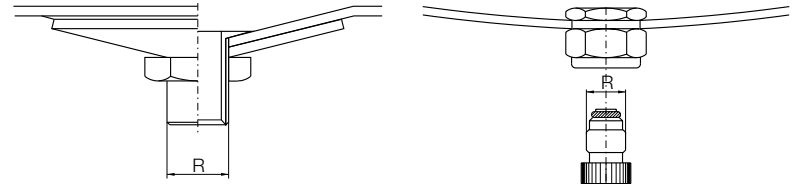
If the fan is installed outside, or if conveying a medium containing humidity, condensation of water may accumulate inside the fan scroll. For extraction of this water a condense water drain has to be installed at the lowest point of the scroll.

The drain will be provided with a thread for connecting it to a piping. At order please indicate the required casing position.

### Connecting thread / hole

- ▶ ADH / RDH = female thread R 1/8"
- ▶ AT = drain hole
- ▶ RZR 0200/-1000 = male thread R 1/2"
- ▶ RZR 1120/-1600 = male thread R 1"

### Dimensions



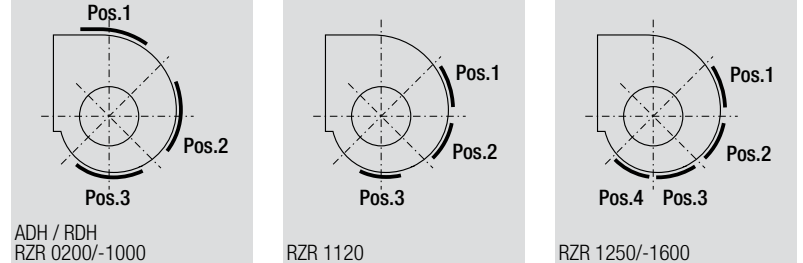
## Inspection Door



For the purposes of maintenance and cleaning there is an opening, which can be securely closed by means of an access door, in the fan casing. As it can only be opened with a tool, the access door complies with safety and accident prevention regulations. Additional securing with locking bars can be supplied on request.

The site and orientation of the inspection opening depends on the casing position. The position should be specified when ordering according to the following diagram: e.g. Access door, Pos. 2.

### Inspection Door Positions



### Dimensions in mm, subject to change.

| ADH ..-    |           | RDH ..-    |           | RZR ..-    |           |
|------------|-----------|------------|-----------|------------|-----------|
| 0160/-0180 | 100 × 230 | 0180       | 100 × 230 | -          | -         |
| 0200/-0280 | 240 × 240 | 0200/-0280 | 240 × 240 | 0200       | 160 × 160 |
| 0315/-0560 | 360 × 360 | 0315/-0560 | 360 × 360 | 0225/-0315 | 210 × 210 |
| 0630/-1000 | 500 × 500 | 0630/-1000 | 500 × 500 | 0355/-1000 | 310 × 310 |
| -          | 500 × 500 | 1120/-1400 | 500 × 500 | 1120/-1600 | 500 × 500 |

# Fittings / Accessories

## Corrosion Protection Systems



Nicotra Gebhardt fans are treated with high quality corrosion protection as standard. Under extreme operating conditions, however, additional corrosion protection is advisable.

### ADH / AT / RDH

Extended corrosion protection for series ADH, AT and RDH only available on request.

### RZR

Depending on the use to which the fan is to be put and the degree of exposure to corrosion, we offer various anti-corrosion protection measures.

### Corrosion protection - Class S40

Degreasing, ironphosphating

► **Powder coating** Layer thickness  $\geq 40 \mu\text{m}$ , Colour RAL 7039

► **Wet lacquering** Layer thickness  $\geq 40 \mu\text{m}$  (primer + lacquer finish), Colour RAL 7039

### Corrosion protection - Class K90

Degreasing, ironphosphating

► **Powder coating** Layer thickness  $\geq 90 \mu\text{m}$ , Colour RAL 7039

► **Wet lacquering** Layer thickness  $\geq 90 \mu\text{m}$  (primer + lacquer finish), Colour RAL 7039

### Corrosion protection - Class P100

Degreasing, ironphosphating

► **Thermoplastic powder coating** Layer thickness  $\geq 100 \mu\text{m}$ , Colour RAL 7001

## Continuously welded blades



Impeller blades can be continuously welded in order to increase the corrosion resistance when conveying a humid or slightly aggressive medium. The continuous welding has no influence on the material resistance or on the max. tip speed.

## Continuously welded scroll



The casing can be continuously welded in order to increase the corrosion resistance when conveying a humid or slightly aggressive medium. By continuous welding the casing is provided with additional impermeability.

► **GEH 01** - Casing inside continuously welded

► **GEH 02** - Casing inside and outside continuously welded

# Fittings / Accessories

## Split Casing

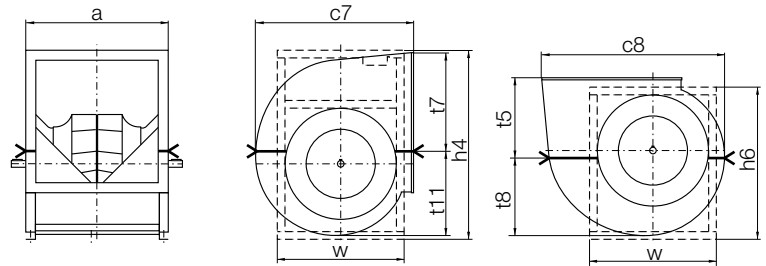


There may be a lot of reasons to choose a split casing, the advantages of split casings are:

- ▶ smaller openings for fan chambers
- ▶ easier refitting of fan
- ▶ easier transport to site
- ▶ easier access to impeller for cleaning and maintenance

The joint face on the casing position runs horizontally above or under the fan axis (see drawing). The reinforced side frames are not divisible. The fan is supplied fully assembled.

**Dimensions** in mm, subject to change.



| RZR | RZR      | a    | c7   | c8   | h4   | h6   | t5  | t7  | t8  | t11 | w    |
|-----|----------|------|------|------|------|------|-----|-----|-----|-----|------|
| 13- | 19- 0500 | 709  | 822  | 950  | 957  | 783  | 410 | 473 | 409 | 477 | 652  |
| 13- | 19- 0560 | 785  | 914  | 1061 | 1083 | 884  | 458 | 531 | 456 | 530 | 743  |
| 13- | 19- 0630 | 872  | 1021 | 1188 | 1204 | 984  | 511 | 594 | 510 | 594 | 820  |
| 13- | 19- 0710 | 967  | 1143 | 1331 | 1350 | 1100 | 572 | 666 | 571 | 665 | 905  |
| 13- | 19- 0800 | 1086 | 1280 | 1498 | 1520 | 1245 | 640 | 749 | 640 | 749 | 1035 |
| 13- | 19- 0900 | 1219 | 1439 | 1686 | 1707 | 1386 | 719 | 843 | 720 | 843 | 1140 |
| 13- | 19- 1000 | 1356 | 1568 | 1847 | 1869 | 1509 | 784 | 923 | 784 | 924 | 1230 |

## Stainless Steel Shaft



For applications where there is an increased risk of corrosion, an optional shaft made of stainless steel can be supplied.

▶ **ADH / AT / RDH**

Stainless steel 1.4301 / AISI 304 / XCrNi18-10

▶ **RZR**

Stainless steel 1.4305

## Stainless Steel Nuts and Bolts



For applications where there is an increased risk of corrosion, the connecting elements of the fan can be ordered made of stainless steel.

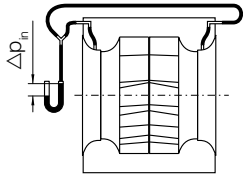
## Impuls Sensor Thread



A tapped hole M6 or M8 can be provided in the pedestal bearing cast housing for admission of sensors to measure the shock impulses. (The measuring connecting piece is not included in the scope of delivery).

# Fittings / Accessories

## Volumeter



$$q_v = K \times \sqrt{\frac{2}{\rho} \times \Delta p_{Dü}}$$



Measuring connector in inlet cone  
 Hose pipe to connecting piece in the side wall  
 Connecting piece (external diameter of 6mm) for the pressure measurement

With the flow measuring device it is possible to easily measure/monitor the flow rate after the fan is installed. A pressure tapping at a predetermined position on the inlet cone is provided whereby the differential pressure in relation to the static pressure is measured in front of the inlet cone in a static atmosphere.  
 Permissible media temperature: +80 °C (RZR), +70 °C (RDH).

In order to calculate the flow rate, a calibrating factor "K" is required. This factor is determined by comparative measurement on a standard test rig.

### Standard-calibration faktor K

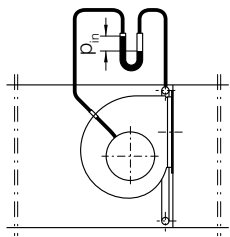
Where fans are built into a plenum, the pressure difference between the static pressure in the inlet side plenum and the pressure on the inlet cone is to be measured.

It must be ensured that the static pressure to be measured in front of the inlet cone is not tampered by dynamic pressure fractions.

It is often recommended to arrange a ring of points on the wall facing the outlet side as illustrated in the sketch.

When using the K-factors specified below, a minimum clearance of 0.5xD between the inlet cone of the fan and the side wall of the plenum must be maintained. Indentations that obstruct the flow to the cone can lead to faults when measuring the flow rate.

In the event that the differential pressure is fed via a pressure sensor, the signal can also be used for regulating purposes.



- ▶ volume flow  $q_v$  [m<sup>3</sup>/h]
- ▶ calibration factor K [m<sup>2</sup>/s/h]
- ▶ density of media  $\rho$  [kg/m<sup>3</sup>]
- ▶ pressure difference at cone  $\Delta p_{Dü}$  [Pa]

### Calibration factors

| Type        | Standard calibration factor K<br>m <sup>2</sup> /s/h |
|-------------|--|
| IMV 13-0200 | 100  |
| IMV 13-0225 | 115  |
| IMV 13-0250 | 140  |
| IMV 13-0280 | 165  |
| IMV 13-0315 | 190  |
| IMV 13-0355 | 235  |
| IMV 13-0400 | 290  |
| IMV 13-0450 | 360  |
| IMV 13-0500 | 460  |
| IMV 13-0560 | 560  |
| IMV 13-0630 | 730  |
| IMV 13-0710 | 960  |
| IMV 13-0800 | 1180   |
| IMV 13-0900 | 1450   |
| IMV 13-1000 | 1850   |
| IMV 13-1120 | 2400   |
| IMV 13-1250 | 3000   |
| IMV 13-1400 | 3800   |
| IMV 13-1600 | 4700   |

## Inlet Cones



Inlet cone of copper or aluminium prevent the production of sparks during operation. These can be employed when spark protection is required, but ATEX is not mandatory.

## Hot Dip Galvanised Side Frame



### Fan Ranges ADH/RDH E4, E6, E7 or K, K1, K2

For applications where an increased corrosion protection is required the reinforcing side frames of the casing can be executed in hot dip galvanisation as an option.

# Fittings / Accessories

## Relubrications



ADH / AT / RDH



RZR

### Series RZR

The lubrication unit IWN allows the fan bearings to be greased even when in operation.

The lubrication tubes screwed into the bearing housing are lead out and fastened at the side wall of the fan.

If desired, the lubrication tubes can be lead to the drive side of the fan.

- ▶ **IWN 01** - uses standard grease
- ▶ **IWN 11** - uses moisture resistant grease

For more details see "Technical Description" - "Bearings"!

### Series ADH / RDH

The bearing housings of the fan ranges ADH / RDH E4, E6, E7 or K, K1, K2 and AR, TIC are equipped with directly fitted grease nipples.

## Mounting feet



Feet made from galvanized steel, either mounted or loose, enable the fan to be installed with a 0, 90 and 270 orientation.

## Protection guards



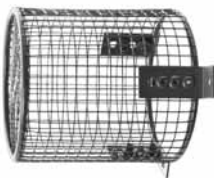
The fans are designed for installation in equipment and as standard are not equipped with protective guards.

**They should not be put into operation before all protective devices are fitted and connected!**

Protective measures must be carried out as set out in DIN EN ISO 12100 "Safety of machinery - Basic concepts, general principles for design".

If the application of the fan allows free access to the inlet and discharge apertures, safety devices must be put in place on the fan in accordance with DIN EN ISO 13857! Suitable safety guards are available as an optional extra.

## Shaft Guards



Contact guard for the free end of the shaft for double inlet centrifugal fans. Models in accordance with DIN EN ISO 13857, made of painted steel mesh.

## Flanges



Made from galvanized or painted steel, to connect ducts and system components to the fan outlet side.

## Flexible Connections



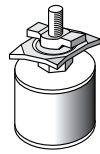
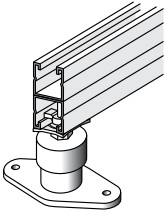
Connecting piece with elastic intermediate section for the vibration or impact-noise decoupled connection of the fan to the system or unit. Made out of two connecting flanges with elastic intermediate section.

### Temperature range / Application

- ▶ Standard up to +80 °C
- ▶ ATEX max. +60 °C

# Fittings / Accessories

## Anti Vibration Mounts

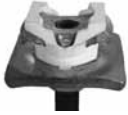


AV mounts are designed to prevent noise and vibrations being transmitted through the base of the fan.

AV mounts should be mounted beneath the fan base frame so the weight and spring deflections are evenly distributed. They should not be mounted symmetrically because a counter force is induced into the system by the pressure created by the working fan.

It is difficult for the manufacturer to establish the position of the AV mounts to suit all types of application.

Vibration and noise insulation can also be improved by ensuring that the fan is connected to its external environment by a flexible coupling.



Fastening for CC-profile



Fastening for U-profile

**Rubber pads** and **buffers** for both vibration and noise insulation at fan speeds above 1400 rpm or 850 rpm.

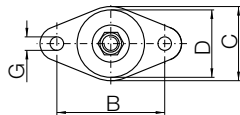
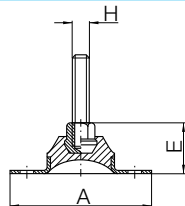
**Rubber buffers** for noise insulation only at fan speeds under 800 rpm or 1700 rpm.

**Spring diffusers** with noise insulation layer and height adjustment, for both vibration and noise insulation at fan speeds above 400 rpm.

**Available AV mounts for different fans, see proSELECTA II.**

**The AVM-mounts are supplied with the suitable mounting material for the base frame.**

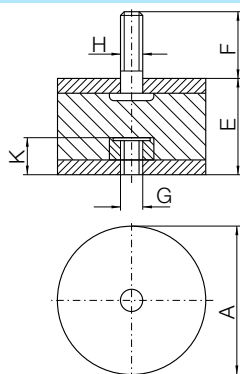
## Anti Vibration Rubber Pads



| ZBD       | ZBD       | A  | B  | C  | D  | E  | G | H   |
|-----------|-----------|----|----|----|----|----|---|-----|
| 21-6035A* | 21-6035C* | 60 | 45 | 35 | 30 | 20 | 5 | M6  |
| 21-6065A* | 21-6065C* | 60 | 45 | 35 | 30 | 20 | 6 | M6  |
| 21-5935A* | 21-5935C* | 90 | 70 | 50 | 45 | 32 | 9 | M10 |
| 21-5950A* | 21-5950C* | 90 | 70 | 50 | 45 | 32 | 9 | M10 |

\* A = for U-profile, C = for CC-profile

## Anti Vibration Rubber Buffers

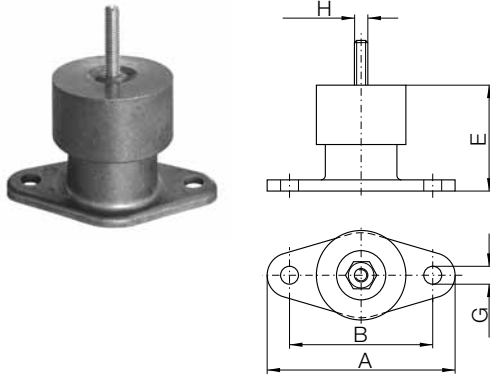


| ZBD       | ZBD       | A   | E  | F    | G    | H    | K    |
|-----------|-----------|-----|----|------|------|------|------|
| 01-0405A* | 01-0405C* | 20  | 25 | 16   | M 6  | M 6  | 6.5  |
| 03-0503A* | 03-0503C* | 25  | 15 | 11   | M 6  | M 6  | 6.5  |
| 01-0504A* | 01-0504C* | 25  | 20 | 11   | M 6  | M 6  | 6.5  |
| 03-0806A* | 03-0806C* | 40  | 30 | 21   | M 8  | M 8  | 9.5  |
| 03-1007A  | 03-1007C* | 50  | 34 | 26.5 | M 10 | M 10 | 10.5 |
| 03-1510A* | 03-1510C* | 75  | 50 | 39   | M 12 | M 12 | 12.5 |
| 02-2008A* | 02-2008C* | 100 | 40 | 44   | M 16 | M 16 | 16.5 |

\* A = for U-profile, C = for CC-profile

# Fittings / Accessories

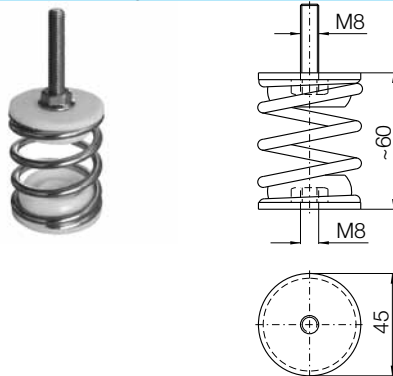
## Anti Vibration Spring Diffusers



| ZBD       | ZBD       | A   | B   | C  | D  | ~ E    | ~ F | G  | H   |
|-----------|-----------|-----|-----|----|----|--------|-----|----|-----|
| 60-0101A* | 60-0101C* | 130 | 100 | 70 | 72 | 70-50  | 35  | 13 | M10 |
| 60-0103A* | 60-0103C* | 130 | 100 | 70 | 72 | 70-50  | 35  | 13 | M10 |
| 60-0105A* | 60-0105C* | 130 | 100 | 70 | 72 | 70-50  | 35  | 13 | M10 |
| 60-0108A* | 60-0108C* | 130 | 100 | 70 | 72 | 70-50  | 35  | 13 | M10 |
| 60-0112A* | 60-0112C* | 150 | 120 | 82 | 92 | 90-75  | 35  | 13 | M12 |
| 60-0120A* | 60-0120C* | 150 | 120 | 82 | 92 | 90-75  | 35  | 13 | M12 |
| 60-0130A* | 60-0130C* | 150 | 120 | 82 | 92 | 90-75  | 35  | 13 | M12 |
| 60-0150A* | 60-0150C* | 150 | 120 | 82 | 92 | 110-85 | 35  | 13 | M12 |

\* A = for U-profile, C = for CC-profile

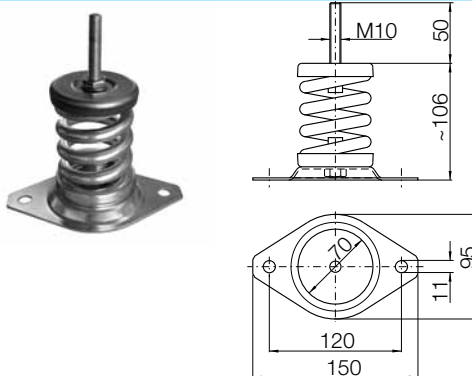
## Anti Vibration Spring Diffusers



| ZBD       | ZBD       |
|-----------|-----------|
| SP-7701A* | SP-7701C* |
| SP-7702A* | SP-7702C* |
| SP-7703A* | SP-7703C* |
| SP-7704A* | SP-7704C* |
| SP-7705A* | SP-7705C* |
| SP-7706A* | SP-7706C* |
| SP-7707A* | SP-7707C* |

\* A = for U-profile, C = for CC-profile

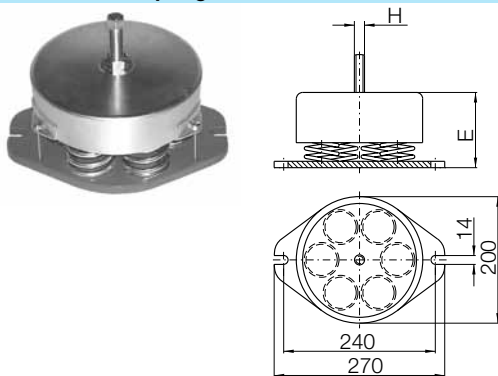
## Anti Vibration Spring Diffusers



| ZBD       | ZBD       |
|-----------|-----------|
| SP-7501A* | SP-7501C* |
| SP-7502A* | SP-7502C* |
| SP-7503A* | SP-7503C* |
| SP-7504A* | SP-7504C* |
| SP-7505A* | SP-7505C* |
| SP-7506A* | SP-7506C* |
| SP-7507A* | SP-7507C* |
| SP-7508A* | SP-7508C* |

\* A = for U-profile, C = for CC-profile

## Anti Vibration Spring Diffusers



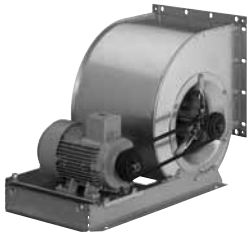
| ZBD       | ZBD       | E      | H    | kg  |
|-----------|-----------|--------|------|-----|
| 80-W603A* | 80-W603C* | 68-101 | M 16 | 8.3 |
| 80-W605A* | 80-W605C* | 76-101 | M 16 | 8.6 |
| 80-W608A* | 80-W608C* | 86-105 | M 16 | 9.0 |
| 80-W612A* | 80-W612C* | 84-104 | M 16 | 9.3 |
| 80-W616A* | 80-W616C* | 92-105 | M 24 | 9.7 |

\* A = for U-profile, C = for CC-profile

# Fan Sets

## Base Frame with Belt Tensioning Device

G2Z-component size 0200/-0500 (only RZR 11/19)



This compact base frame with integrated motor tensioning slider provides optimum compactness and easiest handling.

- ▶ The base frame made of galvanized sheet steel is screwed directly onto the fan (without any casing feet) – the result being the low overall height of the system.
- ▶ The overall length depending on the casing position and size of the motor is a further factor influencing the optimum compactness.
- ▶ The integrated tensioning slider considerably simplifies re-adjustment of the belt drive during maintenance and service work.

G1Z-component size 0400/-0710



The base frames up to motor size 180 are manufactured from galvanized CC-profiles. The anti-vibration mounts in the CC-profile provide infinitely variable adjustment. From motor size 200 the base frames are of U-profile, welded and painted. Fitted motor tensioning tracks that allow the motor to be shifted longitudinally, allow for the simple adjustment of the belt tension.

G1Z-component size 0800/-1600



Base frame of stable U-profiles, welded and painted, with holes for attaching the anti-vibration mounts. Fitted motor tensioning tracks that allow the motor to be shifted longitudinally, allow for the simple adjustment of the belt tension.

### Equipment

- ▶ FKS hot-dip galvanized for U-profile base frame

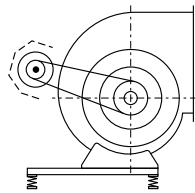
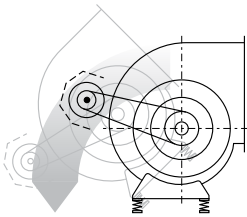
## Pick-A-Back



This allows the motor to be fixed directly onto the fan casing, where space around the fan is limited. One side of the pick-a-back is fixed to the casing so that it swivels, while the other is supported on a spindle. Thus the pick-a-back becomes adjustable to leave room for tensioning the drive belt. The various motor arrangements and casing positions are shown in the drawings.

The accompanying tables also show the maximum permissible motor sizes.

When using a pick-a-back arrangement and fitting anti vibration mounts (AVM) an additional base frame for fitting the AVM may be required depending on the position of the centre of gravity of the whole fan set.

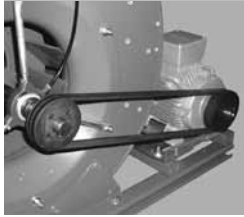




# Fan Sets

## Belt Drive

### Wedge Belts



High performance narrow V-belts in accordance with DIN 7753 are temperature stable up to +80 °C, resistant to mineral oils and electrostatically conductive.

The belt pulleys are made of high quality cast iron and, depending on the peripheral velocity and number of grooves, are statically (G 16) or dynamically (G 6.3) balanced. They are fastened to the shaft of the motor or fan by means of a clamping bush.

### Flat Belts



The flat belt drives employed are made using the most modern technology and materials. They are the centrepiece of highly developed, powerful belt drives.

This modern flat belt drive has distinct advantages over traditionally employed V-belt drives and exceeds it in efficiency, quiet running and economy.

#### Overview of the advantages:

- ▶ higher efficiency
- ▶ longer service life
- ▶ quieter running
- ▶ easy to install
- ▶ low maintenance
- ▶ no wear on the belt - so it is possible to dispense with the 2nd filter stage in the air conditioning unit (in accordance with VDI 6022)

## Belt Guard



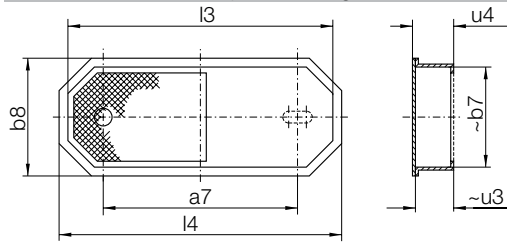
Totally enclosed belt guards are made from galvanised sheet steel in accordance with DIN EN ISO 13857.

The front section can be removed for maintenance. If there is no standard belt guard available for the selected belt drive (see table), a suitable belt guard will be made as a welded construction and then coated.

#### Features

- ▶ belt guard split horizontally
- ▶ access door on belt guard
- ▶ opening on belt guard for speed measuring device

### Dimensions in mm, subject to change.



| RBS        | a7 <sub>max</sub> | DW <sub>max</sub> | b8  | b7  | s5  | u4  | u3  | l4   | l3   |
|------------|-------------------|-------------------|-----|-----|-----|-----|-----|------|------|
| 01-....-01 | 250               | 90                | 194 | 159 | 97  | 72  | 69  | 444  | 404  |
| 01-....-02 | 300               | 90                | 194 | 159 | 97  | 72  | 69  | 494  | 454  |
| 01-....-03 | 350               | 160               | 264 | 229 | 132 | 72  | 69  | 614  | 574  |
| 01-....-04 | 400               | 160               | 264 | 229 | 132 | 72  | 69  | 664  | 624  |
| 01-....-05 | 450               | 160               | 264 | 229 | 132 | 72  | 69  | 714  | 674  |
| 01-....-06 | 500               | 160               | 264 | 229 | 132 | 72  | 69  | 764  | 724  |
| 01-....-07 | 600               | 160               | 264 | 229 | 132 | 72  | 69  | 864  | 824  |
| 01-....-08 | 700               | 125               | 264 | 229 | 132 | 72  | 69  | 964  | 924  |
| 01-....-09 | 800               | 125               | 264 | 229 | 132 | 72  | 69  | 1064 | 1024 |
| 01-....-10 | 900               | 125               | 264 | 229 | 132 | 72  | 69  | 1164 | 1124 |
| 01-....-11 | 450               | 250               | 344 | 304 | 172 | 122 | 119 | 794  | 754  |
| 01-....-12 | 500               | 250               | 344 | 304 | 172 | 122 | 119 | 844  | 804  |
| 01-....-13 | 600               | 250               | 344 | 304 | 172 | 122 | 119 | 944  | 904  |
| 01-....-14 | 700               | 315               | 484 | 444 | 242 | 122 | 119 | 1184 | 1144 |
| 01-....-15 | 800               | 315               | 484 | 444 | 242 | 122 | 119 | 1284 | 1244 |
| 01-....-16 | 900               | 315               | 484 | 444 | 242 | 122 | 119 | 1384 | 1344 |
| 01-....-17 | 1000              | 315               | 484 | 444 | 242 | 122 | 119 | 1484 | 1444 |
| 01-....-18 | 1100              | 315               | 484 | 444 | 242 | 122 | 119 | 1584 | 1544 |
| 01-....-19 | 1200              | 315               | 484 | 444 | 242 | 122 | 119 | 1684 | 1644 |

.... Placeholder for fan-size

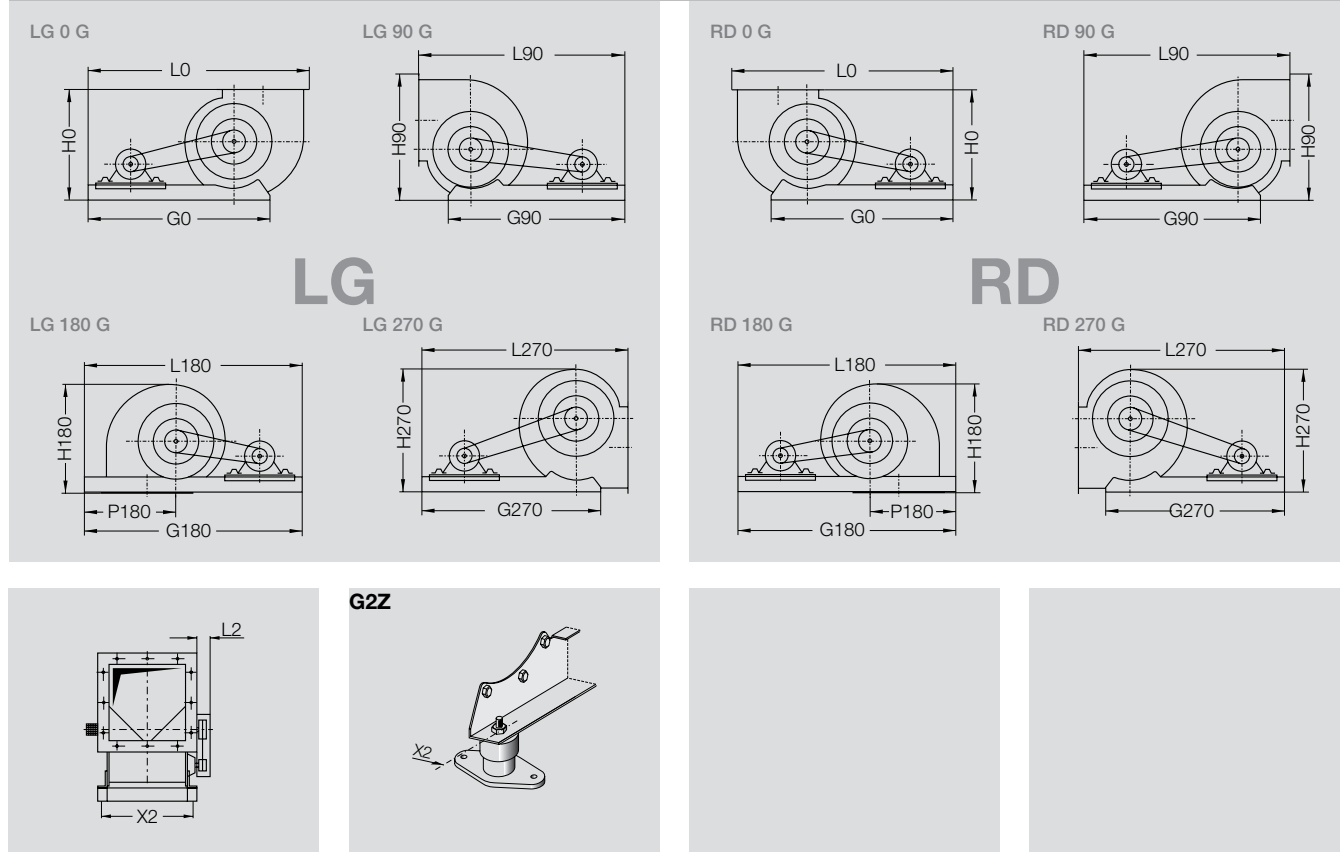
DW<sub>max</sub> Diameter of the biggest pulley

a7<sub>max</sub> Maximum axle centre distance

# RZR 11-0200/-0500

## Fan set arrangement with base frame

Dimensions in mm, subject to change.



| RZR RZR      | ② G0 | ② G90 | ② G180 | ② G270 | H0  | H90 | H180 | H270 |
|--------------|------|-------|--------|--------|-----|-----|------|------|
| 11- 19- 0200 | 625  | 650   | 880    | 650    | 358 | 408 | 356  | 386  |
| 11- 19- 0225 | 680  | 710   | 925    | 710    | 404 | 467 | 401  | 431  |
| 11- 19- 0250 | 705  | 730   | 974    | 730    | 440 | 510 | 438  | 477  |
| 11- 19- 0280 | 725  | 755   | 1031   | 755    | 489 | 569 | 485  | 531  |
| 11- 19- 0315 | 750  | 785   | 1094   | 785    | 542 | 623 | 537  | 597  |
| 11- 19- 0355 | 845  | 885   | 1207   | 885    | 603 | 689 | 601  | 670  |
| 11- 0400     | 990  | 970   | 1350   | 970    | 671 | 773 | 667  | 749  |
| 11- 0450     | 1030 | 1010  | 1440   | 910    | 755 | 868 | 750  | 840  |
| 11- 0500     | 1070 | 1050  | 1530   | 1050   | 827 | 956 | 821  | 929  |

| RZR RZR      | ② L0 | ② L90 | ② L180 | ② L270 | L2  | P180 | X2  | Motor max. | Base frame ~ kg |
|--------------|------|-------|--------|--------|-----|------|-----|------------|-----------------|
| 11- 19- 0200 | 745  | 740   | 880    | 740    | 100 | 396  | 286 | 132        | 6               |
| 11- 19- 0225 | 793  | 792   | 925    | 792    | 100 | 423  | 322 | 132        | 7               |
| 11- 19- 0250 | 843  | 829   | 974    | 829    | 100 | 450  | 356 | 132        | 7.5             |
| 11- 19- 0280 | 893  | 876   | 1031   | 876    | 100 | 482  | 395 | 132        | 8               |
| 11- 19- 0315 | 952  | 931   | 1094   | 931    | 100 | 520  | 438 | 132        | 9               |
| 11- 19- 0355 | 1087 | 1090  | 1207   | 1060   | 100 | 552  | 487 | 160        | 10              |
| 11- 0400     | 1219 | 1120  | 1350   | 1120   | 120 | 587  | 546 | 180        | 11              |
| 11- 0450     | 1315 | 1203  | 1440   | 1203   | 120 | 646  | 612 | 180        | 12              |
| 11- 0500     | 1400 | 1279  | 1530   | 1279   | 120 | 700  | 680 | 180        | 14              |

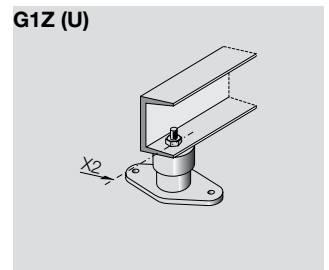
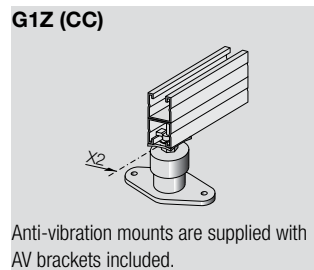
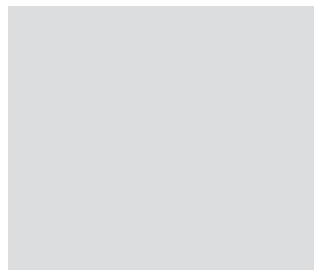
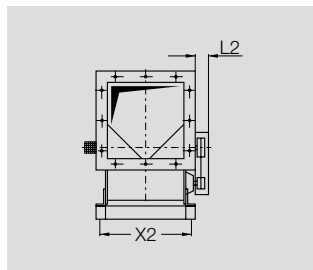
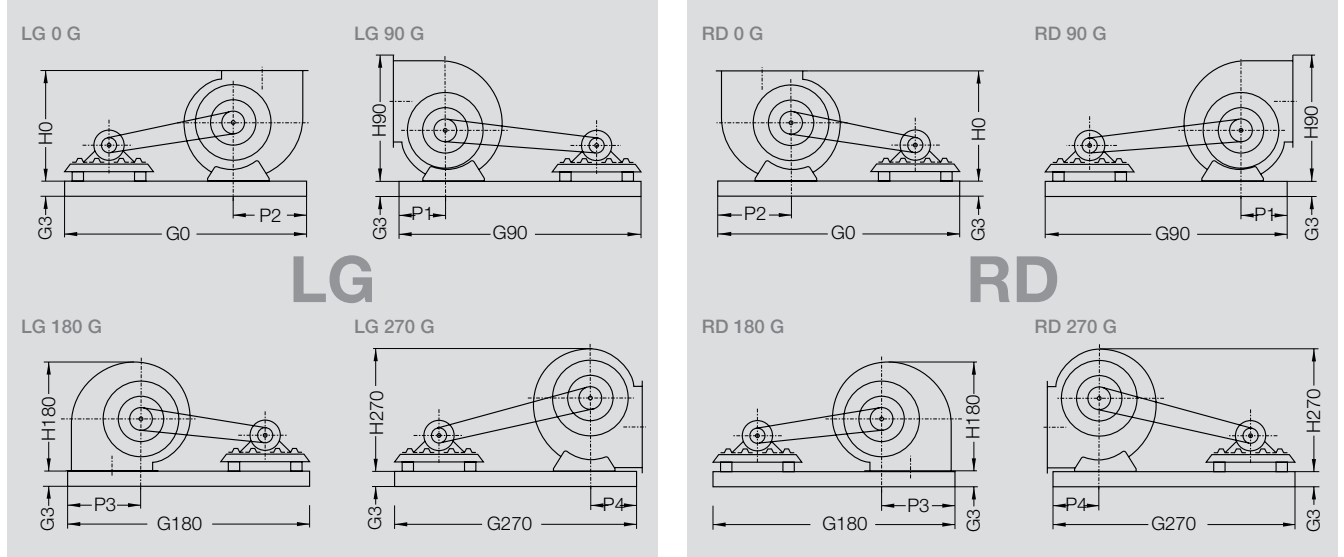
② The base frame length has been determined with the always largest admitted motor size. With smaller motors the frame length will be reduced.

For accurate dimensions use proSELECTA II or on request.

# RZR 11-0400/-0710

## Fan set arrangement with base frame

Dimensions in mm, subject to change.



Anti-vibration mounts are supplied with AV brackets included.

| RZR |        | ②    | ②    | ②    | ②    | G3 for motor size |       |         |         |         |         |
|-----|--------|------|------|------|------|-------------------|-------|---------|---------|---------|---------|
|     |        | G0   | G90  | G180 | G270 | 63-71             | 80-90 | 100-132 | 160-180 | 200-225 | 250-280 |
| 11- | 0400   | 1240 | 1300 | 1650 | 1240 | 82-CC             | 82-CC | 82-CC   | 82-CC   | 80-U ③  | -       |
| 11- | 0450   | 1300 | 1350 | 1740 | 1298 | 82-CC             | 82-CC | 82-CC   | 82-CC   | 80-U ③  | -       |
| 11- | 0500   | 1434 | 1405 | 1772 | 1405 | 82-CC             | 82-CC | 82-CC   | 82-CC   | 80-U ③  | -       |
| 11- | 0560   | 1558 | 1508 | 1908 | 1508 | 82-CC             | 82-CC | 82-CC   | 82-CC   | 80-U ③  | -       |
| 11- | 0630   | 1600 | 1574 | 2006 | 1574 | -                 | 82-CC | 82-CC   | 82-CC   | 80-U ③  | -       |
| 11- | 0710   | 1708 | 1680 | 2145 | 1680 | -                 | 82-CC | 82-CC   | 82-CC   | -       | -       |
| 11- | 0710-U | 1700 | 1700 | 2115 | 1700 | -                 | -     | -       | -       | 100-U   | 120-U ③ |

| RZR |        | H0   | H90  | H180 | H270 | L2  | P1  | P2  | P3   | P4  | X2  | Motor max. | Base frame ~ kg |      |       |
|-----|--------|------|------|------|------|-----|-----|-----|------|-----|-----|------------|-----------------|------|-------|
|     |        |      |      |      |      |     |     |     |      |     |     |            | CC              | 80-U | 100-U |
| 11- | 0400   | 671  | 773  | 667  | 749  | 120 | 275 | 355 | 669  | 275 | 550 | 225        | 31              | ③    | ③     |
| 11- | 0450   | 755  | 868  | 750  | 840  | 120 | 320 | 408 | 718  | 320 | 614 | 225        | 32              | ③    | ③     |
| 11- | 0500   | 827  | 956  | 821  | 929  | 120 | 348 | 452 | 766  | 348 | 682 | 225        | 33              | 60   | -     |
| 11- | 0560   | 921  | 1071 | 914  | 1041 | 150 | 384 | 502 | 851  | 384 | 759 | 225        | 34              | 63   | -     |
| 11- | 0630   | 1028 | 1195 | 1021 | 1168 | 150 | 432 | 566 | 915  | 432 | 846 | 225        | 35              | 68   | -     |
| 11- | 0710   | 1152 | 1341 | 1143 | 1316 | 180 | 479 | 625 | 1014 | 479 | 943 | 180        | 37              | -    | -     |
| 11- | 0710-U | 1152 | 1341 | 1143 | 1316 | 180 | -   | -   | -    | -   | 943 | 250        | -               | 94   | 145   |

② The base frame length has been determined with the always largest admitted motor size. With smaller motors the frame length will be reduced.

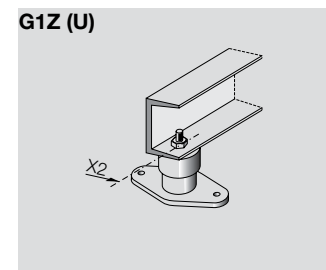
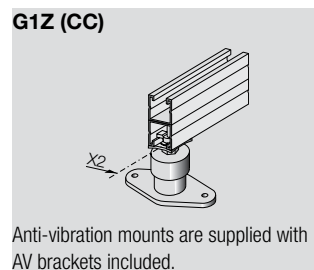
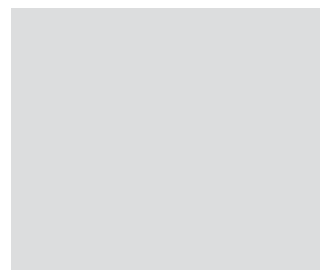
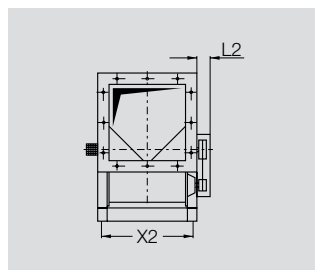
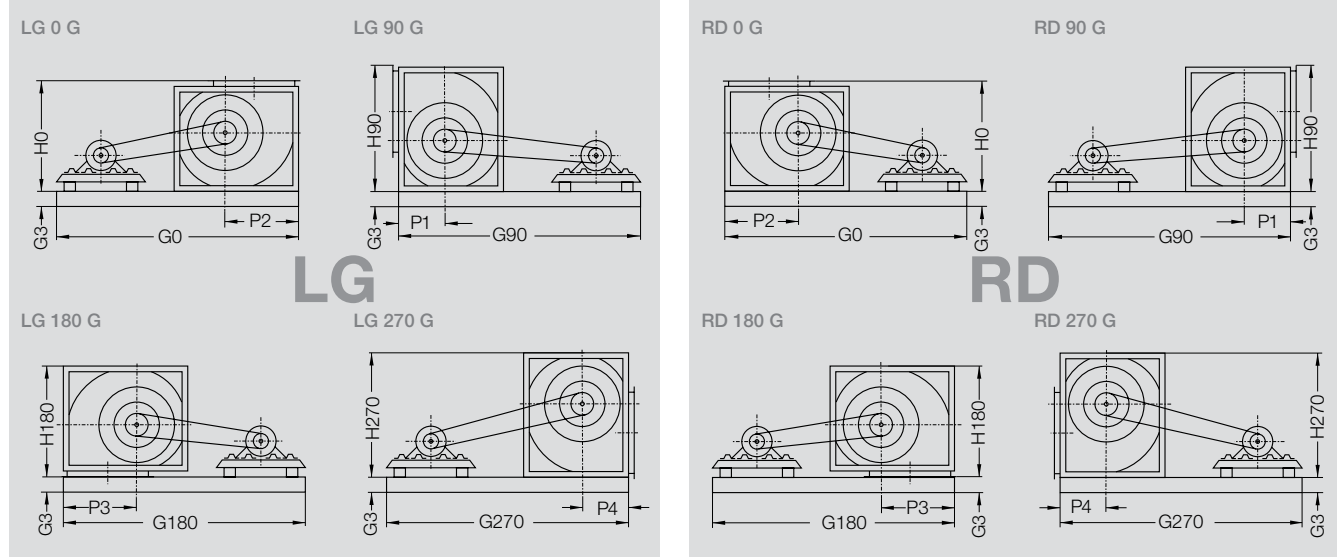
For accurate dimensions use proSELECTA II or on request.

③ Dimensions on request

# RZR 12-0200/-0710

## Fan set arrangement with base frame

Dimensions in mm, subject to change.



| RZR       |  | ②<br>G0 | ②<br>G90 | ②<br>G180 | ②<br>G270 |
|-----------|--|---------|----------|-----------|-----------|
| 12-0200   |  | ④       | ④        | ④         | ④         |
| 12-0225   |  | ④       | ④        | ④         | ④         |
| 12-0250   |  | ④       | ④        | ④         | ④         |
| 12-0280   |  | ④       | ④        | ④         | ④         |
| 12-0315   |  | ④       | ④        | ④         | ④         |
| 12-0355   |  | ④       | ④        | ④         | ④         |
| 12-0400   |  | 1430    | 1312     | 1655      | 1312      |
| 12-0450   |  | 1522    | 1388     | 1740      | 1388      |
| 12-0500   |  | 1610    | 1460     | 1830      | 1460      |
| 12-0560   |  | 1736    | 1561     | 1958      | 1561      |
| 12-0630   |  | 1865    | 1670     | 2078      | 1670      |
| 12-0710   |  | 2008    | 1784     | 2235      | 1784      |
| 12-0710-U |  | 2035    | 1840     | 2235      | 1840      |

| G3 for motor size |       |       |         |         |         |         |
|-------------------|-------|-------|---------|---------|---------|---------|
|                   | 63-71 | 80-90 | 100-132 | 160-180 | 200-225 | 250-280 |
|                   | -     | -     | -       | -       | -       | -       |
|                   | -     | -     | -       | -       | -       | -       |
|                   | -     | -     | -       | -       | -       | -       |
|                   | -     | -     | -       | -       | -       | -       |
|                   | -     | -     | -       | -       | -       | -       |
|                   | -     | -     | -       | -       | -       | -       |
|                   | 82-CC | 82-CC | 82-CC   | 82-CC   | 80-U ③  | -       |
|                   | 82-CC | 82-CC | 82-CC   | 82-CC   | 80-U ③  | -       |
|                   | 82-CC | 82-CC | 82-CC   | 82-CC   | 80-U ③  | -       |
|                   | 82-CC | 82-CC | 82-CC   | 82-CC   | 80-U ③  | -       |
|                   | -     | 82-CC | 82-CC   | 82-CC   | 80-U ③  | -       |
|                   | -     | 82-CC | 82-CC   | 82-CC   | -       | -       |
|                   | -     | -     | -       | -       | 100-U   | 120-U ③ |

| RZR       |  | H0   | H90  | H180 | H270 | L2  | X2  | Motor Base frame ~ kg |    |      |       |  |
|-----------|--|------|------|------|------|-----|-----|-----------------------|----|------|-------|--|
|           |  |      |      |      |      |     |     | max.                  | CC | 80-U | 100-U |  |
| 12-0200   |  | ④    | ④    | ④    | ④    | ④   | ④   | ④                     | ④  | ④    |       |  |
| 12-0225   |  | ④    | ④    | ④    | ④    | ④   | ④   | ④                     | ④  | ④    |       |  |
| 12-0250   |  | ④    | ④    | ④    | ④    | ④   | ④   | ④                     | ④  | ④    |       |  |
| 12-0280   |  | ④    | ④    | ④    | ④    | ④   | ④   | ④                     | ④  | ④    |       |  |
| 12-0315   |  | ④    | ④    | ④    | ④    | ④   | ④   | ④                     | ④  | ④    |       |  |
| 12-0355   |  | ④    | ④    | ④    | ④    | ④   | ④   | ④                     | ④  | ④    |       |  |
| 12-0400   |  | 669  | 769  | 669  | 750  | 120 | 550 | 225                   | 31 | ③    | ③     |  |
| 12-0450   |  | 753  | 865  | 753  | 841  | 120 | 614 | 225                   | 32 | ③    | ③     |  |
| 12-0500   |  | 825  | 955  | 825  | 931  | 120 | 682 | 225                   | 33 | 60   | -     |  |
| 12-0560   |  | 920  | 1067 | 920  | 1046 | 150 | 759 | 225                   | 34 | 63   | -     |  |
| 12-0630   |  | 1027 | 1195 | 1027 | 1173 | 150 | 846 | 225                   | 35 | 68   | -     |  |
| 12-0710   |  | 1152 | 1341 | 1152 | 1324 | 180 | 943 | 180                   | 37 | -    | -     |  |
| 12-0710-U |  | 1152 | 1341 | 1152 | 1324 | 180 | -   | 250                   | -  | 94   | 155   |  |

② The base frame length has been determined with the always largest admitted motor size. With smaller motors the frame length will be reduced.  
For accurate dimensions use proSELECTA II or on request.

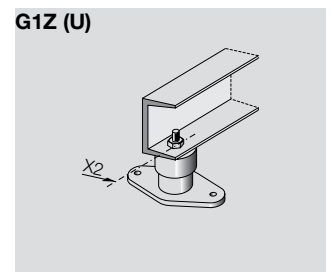
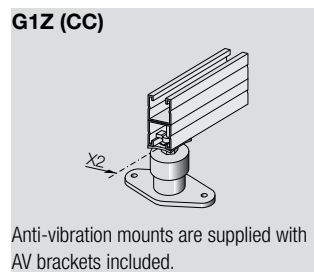
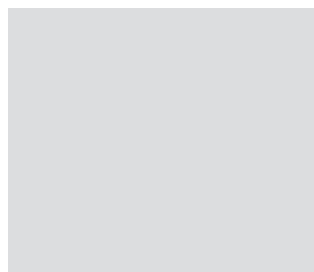
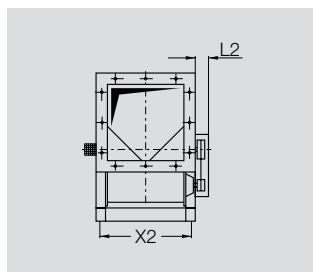
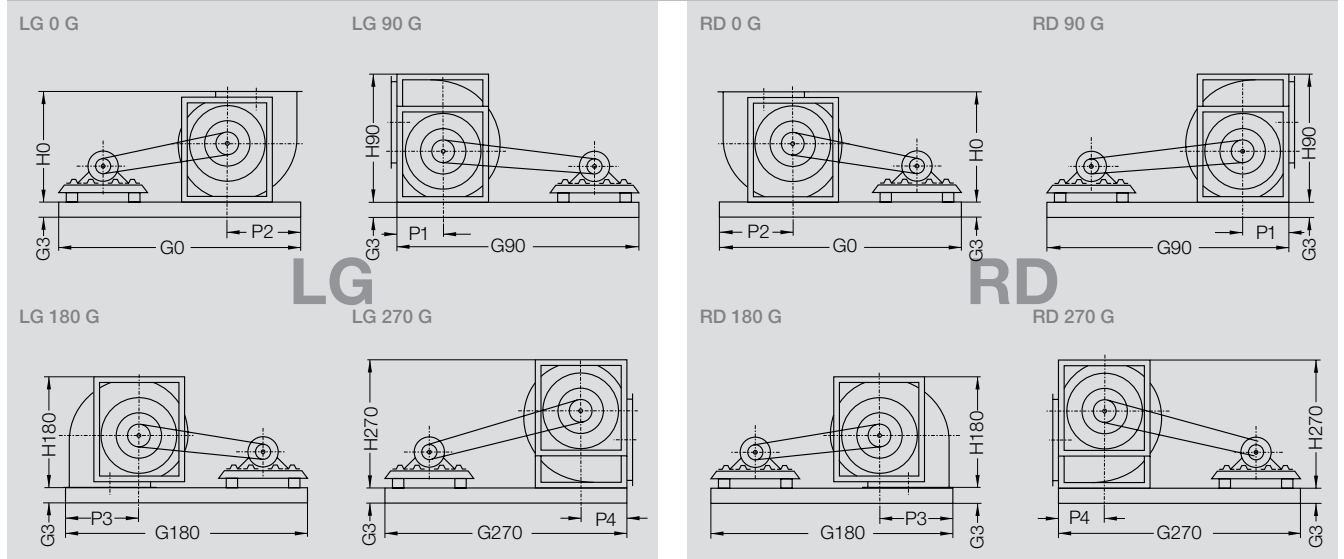
③ Dimensions on request  
④ The RZR 12-0200 to 0355 can only be supplied as standard basic models.

# RZR 13-0400/-1000

# RZR 18-0400/-1000

## Fan set arrangement with base frame

Dimensions in mm, subject to change.



| RZR RZR      | G0    |      |       |      | G90   |      |       |      | G180  |       |       |          | G270      |   |       |   | G3 for motor size |   |       |   |       |   |       |   |       |
|--------------|-------|------|-------|------|-------|------|-------|------|-------|-------|-------|----------|-----------|---|-------|---|-------------------|---|-------|---|-------|---|-------|---|-------|
|              | CC(2) | U    | CC(2) | U    | CC(2) | U    | CC(2) | U    | CC(2) | U     | CC(2) | U        | CC(2)     | U | CC(2) | U | CC(2)             | U | CC(2) | U | CC(2) | U | CC(2) | U | CC(2) |
| 13- 18- 0400 | 1240  | -    | 1300  | -    | 1650  | -    | 1240  | -    | 82-CC | 82-CC | 82-CC | 82-CC    | 80-U (3)  | - |       |   |                   |   |       |   |       |   |       |   |       |
| 13- 18- 0450 | 1300  | -    | 1350  | -    | 1740  | -    | 1298  | -    | 82-CC | 82-CC | 82-CC | 82-CC    | 80-U (3)  | - |       |   |                   |   |       |   |       |   |       |   |       |
| 13- 18- 0500 | 1411  | -    | 1411  | -    | 1772  | -    | 1411  | -    | 82-CC | 82-CC | 82-CC | 82-CC    | 80-U (3)  | - |       |   |                   |   |       |   |       |   |       |   |       |
| 13- 18- 0560 | 1468  | -    | 1468  | -    | 1908  | -    | 1468  | -    | 82-CC | 82-CC | 82-CC | 82-CC    | 80-U (3)  | - |       |   |                   |   |       |   |       |   |       |   |       |
| 13- 18- 0630 | 1564  | -    | 1564  | -    | 2006  | -    | 1564  | -    | 82-CC | 82-CC | 82-CC | 80-U (3) | -         |   |       |   |                   |   |       |   |       |   |       |   |       |
| 13- 18- 0710 | 1660  | 1700 | 1660  | 1700 | 2145  | 2115 | 1660  | 1700 | 82-CC | 82-CC | 82-CC | 100-U    | 120-U (3) |   |       |   |                   |   |       |   |       |   |       |   |       |
| 13- 18- 0800 | -     | 2300 | -     | 2300 | -     | 2885 | -     | 2300 | 80-U  | 80-U  | 80-U  | 100-U    | 120-U     |   |       |   |                   |   |       |   |       |   |       |   |       |
| 13- 18- 0900 | -     | 2410 | -     | 2410 | -     | 3052 | -     | 2410 | 80-U  | 80-U  | 80-U  | 100-U    | 120-U     |   |       |   |                   |   |       |   |       |   |       |   |       |
| 13- 18- 1000 | -     | 2505 | -     | 2505 | -     | 3180 | -     | 2505 | 80-U  | 80-U  | 80-U  | 100-U    | 120-U     |   |       |   |                   |   |       |   |       |   |       |   |       |

| RZR RZR      | H0   | H90  | H180 | H270 | L2  | P1  | P2  | P3   | P4  | X2   | Motor max. | Base frame ~ kg |       |       |     |
|--------------|------|------|------|------|-----|-----|-----|------|-----|------|------------|-----------------|-------|-------|-----|
|              | CC   | U    | CC   | U    | CC  | U   | CC  | U    | CC  | U    | 80-U       | 100-U           | 120-U | 120-U |     |
| 13- 18- 0400 | 671  | 775  | 671  | 775  | 170 | 290 | 290 | 669  | 290 | 550  | 225        | 31              | (3)   | (3)   | (3) |
| 13- 18- 0450 | 755  | 868  | 755  | 868  | 170 | 316 | 316 | 718  | 316 | 614  | 225        | 32              | (3)   | (3)   | (3) |
| 13- 18- 0500 | 827  | 957  | 827  | 957  | 170 | 345 | 345 | 766  | 345 | 682  | 225        | 33              | 60    | -     | -   |
| 13- 18- 0560 | 921  | 1083 | 921  | 1083 | 210 | 382 | 382 | 851  | 382 | 759  | 225        | 34              | 63    | -     | -   |
| 13- 18- 0630 | 1028 | 1204 | 1028 | 1204 | 210 | 410 | 410 | 915  | 410 | 846  | 225        | 35              | 68    | -     | -   |
| 13- 18- 0710 | 1152 | 1350 | 1152 | 1350 | 240 | 464 | 464 | 1014 | 464 | 943  | 250        | 37              | 94    | 155   | -   |
| 13- 18- 0800 | 1290 | 1520 | 1290 | 1520 | 250 | 518 | 518 | 1155 | 518 | 1048 | 250        | -               | 67    | 98    | 155 |
| 13- 18- 0900 | 1448 | 1707 | 1448 | 1707 | 260 | 570 | 570 | 1276 | 570 | 1179 | 280        | -               | 72    | 105   | 165 |
| 13- 18- 1000 | 1577 | 1869 | 1577 | 1869 | 260 | 620 | 620 | 1317 | 620 | 1316 | 280        | -               | 77    | 111   | 165 |

(2) The base frame length has been determined with the always largest admitted motor size. With smaller motors the frame length will be reduced.

(3) Dimensions on request

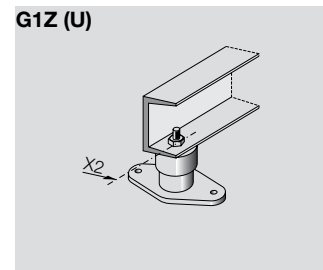
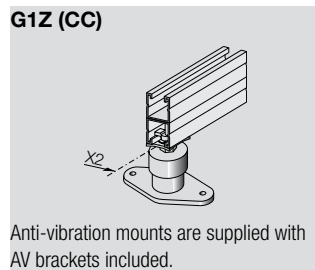
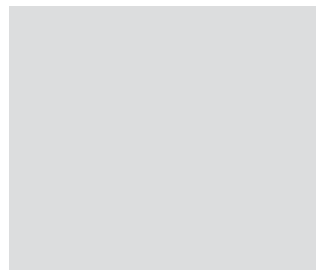
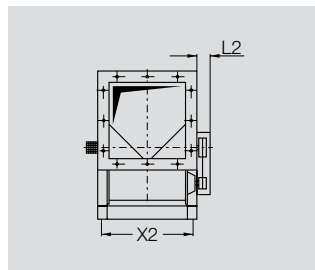
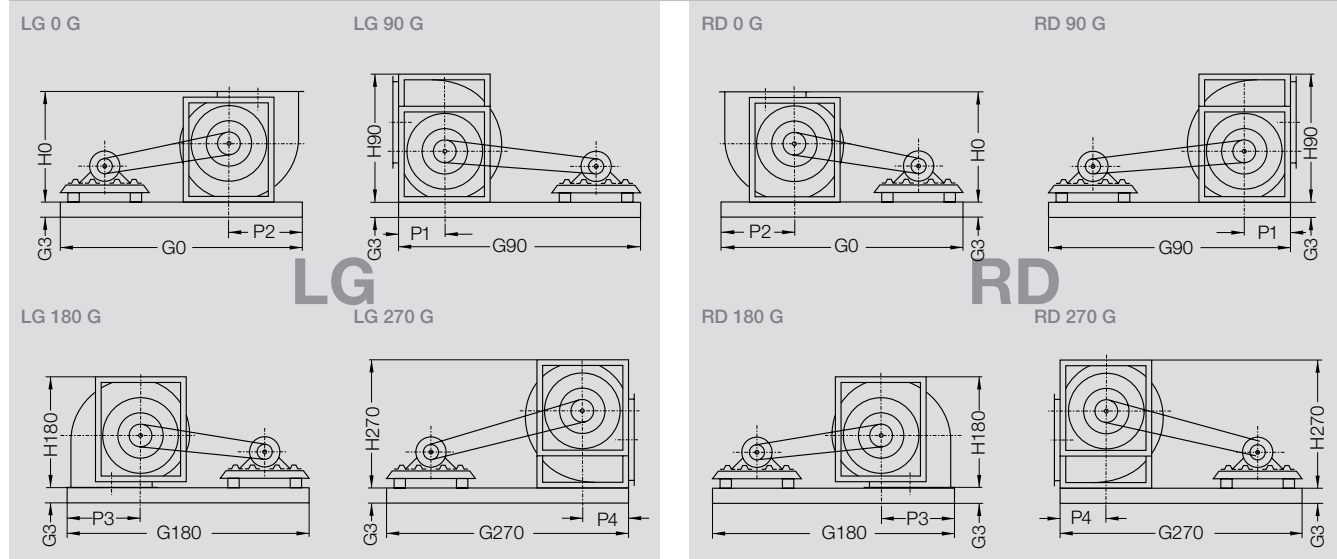
For accurate dimensions use proSELECTA II or on request.

# RZR 11-0800/-1000 RZR 15-0400/-1000

# RZR 19-0400/-1000

## Fan set arrangement with base frame

Dimensions in mm, subject to change.



Anti-vibration mounts are supplied with AV brackets included.

| RZR | RZR | RZR  | G0    |      | G90   |      | G180  |      | G270  |      | G3 for motor size |       |         |         |           |         |
|-----|-----|------|-------|------|-------|------|-------|------|-------|------|-------------------|-------|---------|---------|-----------|---------|
|     |     |      | CC(2) | U    | CC(2) | U    | CC(2) | U    | CC(2) | U    | 63-71             | 80-90 | 100-132 | 160-180 | 200-225   | 250-280 |
| 15- | 19- | 0400 | 1240  | -    | 1300  | -    | 1650  | -    | 1240  | -    | 82-CC             | 82-CC | 82-CC   | 82-CC   | 80-U (3)  | -       |
| 15- | 19- | 0450 | 1300  | -    | 1350  | -    | 1740  | -    | 1298  | -    | 82-CC             | 82-CC | 82-CC   | 82-CC   | 80-U (3)  | -       |
| 15- | 19- | 0500 | 1411  | -    | 1411  | -    | 1772  | -    | 1411  | -    | 82-CC             | 82-CC | 82-CC   | 82-CC   | 80-U (3)  | -       |
| 15- | 19- | 0560 | 1468  | -    | 1468  | -    | 1908  | -    | 1468  | -    | 82-CC             | 82-CC | 82-CC   | 82-CC   | 80-U (3)  | -       |
| 15- | 19- | 0630 | 1564  | -    | 1564  | -    | 2006  | -    | 1564  | -    | 82-CC             | 82-CC | 82-CC   | 82-CC   | 80-U (3)  | -       |
| 15- | 19- | 0710 | 1660  | 1700 | 1660  | 1700 | 2145  | 2115 | 1660  | 1700 | 82-CC             | 82-CC | 82-CC   | 100-U   | 120-U (3) | -       |
| 11- | 15- | 19-  | 0800  | -    | 2300  | -    | 2300  | -    | 2885  | -    | 80-U              | 80-U  | 80-U    | 100-U   | 120-U     | -       |
| 11- | 15- | 19-  | 0900  | -    | 2410  | -    | 2410  | -    | 3052  | -    | 80-U              | 80-U  | 80-U    | 100-U   | 120-U     | -       |
| 11- | 15- | 19-  | 1000  | -    | 2505  | -    | 2505  | -    | 3180  | -    | 80-U              | 80-U  | 80-U    | 100-U   | 120-U     | -       |

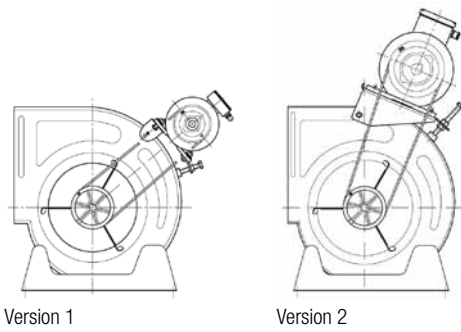
| RZR | RZR | RZR  | H0   | H90  | H180 | H270  | L2    | P1  | P2  | P3   | P4   | X2  | Motor Base frame ~ kg |     |     |     |     |     |
|-----|-----|------|------|------|------|-------|-------|-----|-----|------|------|-----|-----------------------|-----|-----|-----|-----|-----|
|     |     |      | max. | CC   | 80-U | 100-U | 120-U |     |     |      |      |     |                       |     |     |     |     |     |
| 15- | 19- | 0400 | 671  | 775  | 671  | 775   | 170   | 290 | 290 | 669  | 290  | 550 | 225                   | 31  | (3) | (3) | (3) |     |
| 15- | 19- | 0450 | 755  | 868  | 755  | 868   | 170   | 316 | 316 | 718  | 316  | 614 | 225                   | 32  | (3) | (3) | (3) |     |
| 15- | 19- | 0500 | 827  | 957  | 827  | 957   | 170   | 345 | 345 | 766  | 345  | 682 | 225                   | 33  | 60  | -   | -   |     |
| 15- | 19- | 0560 | 921  | 1083 | 921  | 1083  | 210   | 382 | 382 | 851  | 382  | 759 | 225                   | 34  | 63  | -   | -   |     |
| 15- | 19- | 0630 | 1028 | 1204 | 1028 | 1204  | 210   | 410 | 410 | 915  | 410  | 846 | 225                   | 35  | 68  | -   | -   |     |
| 15- | 19- | 0710 | 1152 | 1350 | 1152 | 1350  | 240   | 464 | 464 | 1014 | 464  | 943 | 250                   | 37  | 94  | 155 | -   |     |
| 11- | 15- | 19-  | 0800 | 1290 | 1520 | 1290  | 1520  | 250 | 518 | 518  | 1155 | 518 | 1048                  | 250 | -   | 67  | 98  | 155 |
| 11- | 15- | 19-  | 0900 | 1444 | 1707 | 1444  | 1707  | 260 | 570 | 570  | 1276 | 570 | 1179                  | 280 | -   | 72  | 105 | 165 |
| 11- | 15- | 19-  | 1000 | 1573 | 1869 | 1573  | 1869  | 260 | 620 | 620  | 1317 | 620 | 1316                  | 280 | -   | 77  | 111 | 165 |

(2) The base frame length has been determined with the always largest admitted motor size. With smaller motors the frame length will be reduced.  
 For accurate dimensions use proSELECTA II or on request.

(3) Dimensions on request

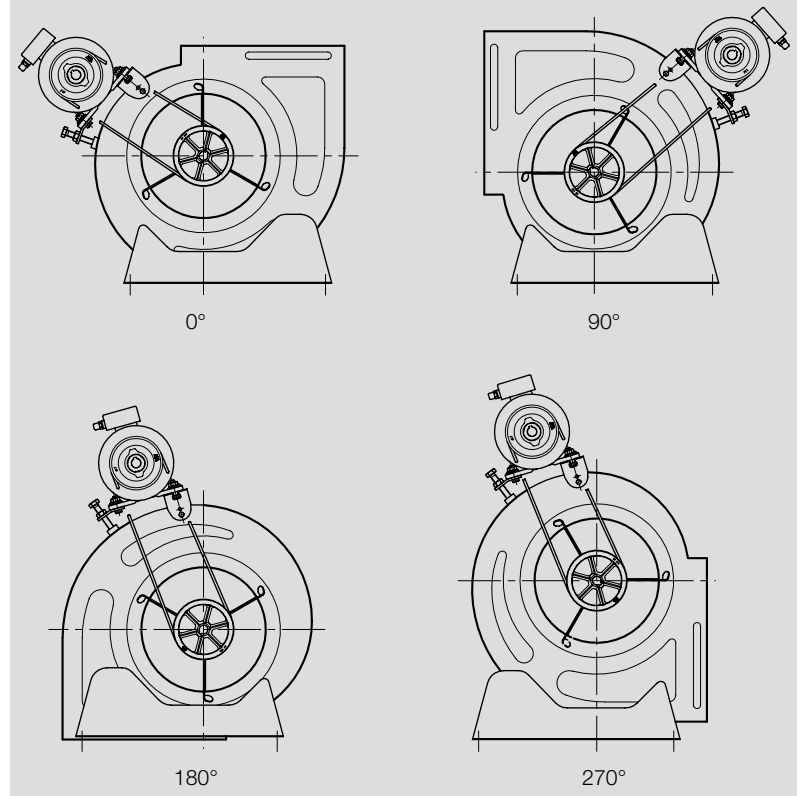
# AT 7/7-18/18

## Fan set arrangement with Pick-A-Back



Using these specially designed motor brackets, the motor can be fixed, Pick-A-Back, directly on the scroll of the S-version fans.  
 When the motor must be held on the fan side-frames, the customer will need providing an appropriate slide or bracket, to connect it to the fixing holes on the standard frames.

### Motor positions



### Permissible Motor Power

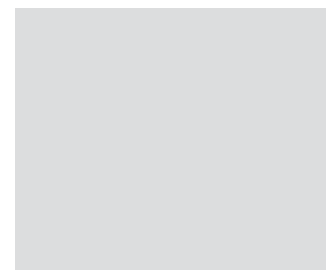
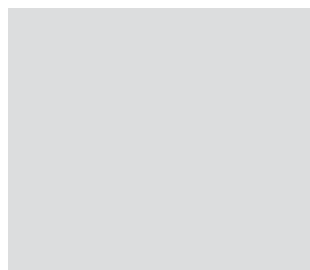
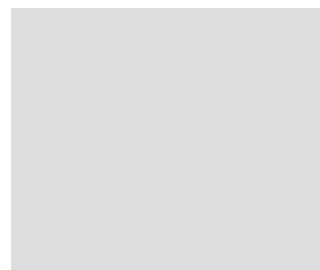
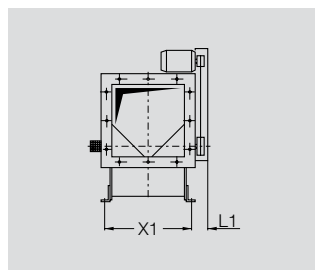
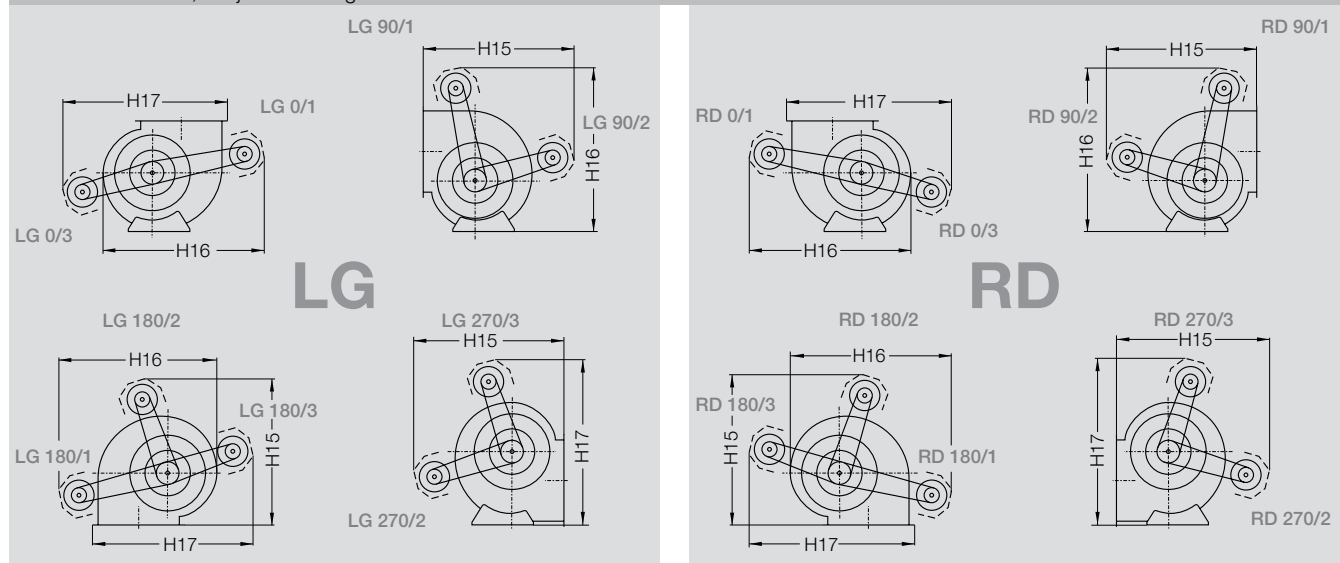
| Size<br>AT | Version 1    |                                 | Version 2    |                                 |
|------------|--------------|---------------------------------|--------------|---------------------------------|
|            | Article-code | Max. permissible motor power kW | Article-code | Max. permissible motor power kW |
| 7/7        | 687303       | 0.75                            | 687940       | –                               |
| 9/7        | 687303       | 0.75                            | 687940       | 1.1                             |
| 9/9        | 687308       | 0.75                            | 687941       | 1.1                             |
| 10/8       | 687312       | 0.75                            | 687942       | 1.5                             |
| 10/10      | 687314       | 0.75                            | 687943       | 1.5                             |
| 12/9       | 687318       | 0.75                            | 687944       | 2.2                             |
| 12/12      | 687320       | 0.75                            | 687945       | 2.2                             |
| 15/11      | 687335       | 0.75                            | 687546       | 3.0                             |
| 15/15      | 687338       | 0.75                            | 687947       | 3.0                             |
| 18/13      | 687346       | 0.75                            | 687948       | 3.0                             |
| 18/18      | 687348       | 0.75                            | 687949       | 3.0                             |

# RZR 11-0200/-0710

# RZR 19-0200/-0355

## Fan set arrangement with Pick-A-Back

Dimensions in mm, subject to change.



| RZR | RZR |      | ①<br>~ H15 | ①<br>~ H16 | ①<br>~ H17 | L1  | X1  | Motor<br>max. | Weight<br>~ kg |
|-----|-----|------|------------|------------|------------|-----|-----|---------------|----------------|
| 11- | 19- | 0200 | 650        | 720        | 680        | 100 | 286 | 90            | 1              |
| 11- | 19- | 0225 | 700        | 760        | 720        | 100 | 322 | 100           | 2              |
| 11- | 19- | 0250 | 750        | 850        | 810        | 100 | 356 | 100           | 2              |
| 11- | 19- | 0280 | 860        | 930        | 890        | 100 | 395 | 112           | 3              |
| 11- | 19- | 0315 | 880        | 970        | 960        | 100 | 438 | 112           | 3              |
| 11- | 19- | 0355 | 960        | 1080       | 1070       | 100 | 487 | 112           | 3              |
| 11- |     | 0400 | 1280       | 1290       | 1280       | 120 | 546 | 132           | 8              |
| 11- |     | 0450 | 1330       | 1430       | 1380       | 120 | 612 | 132           | 8              |
| 11- |     | 0500 | 1360       | 1470       | 1560       | 120 | 680 | 132           | 8              |
| 11- |     | 0560 | 1510       | 1630       | 1740       | 150 | 756 | 132           | 11             |
| 11- |     | 0630 | 1660       | 1800       | 1820       | 150 | 843 | 160           | 12             |
| 11- |     | 0710 | 1810       | 1960       | 2010       | 180 | 940 | 160           | 17             |

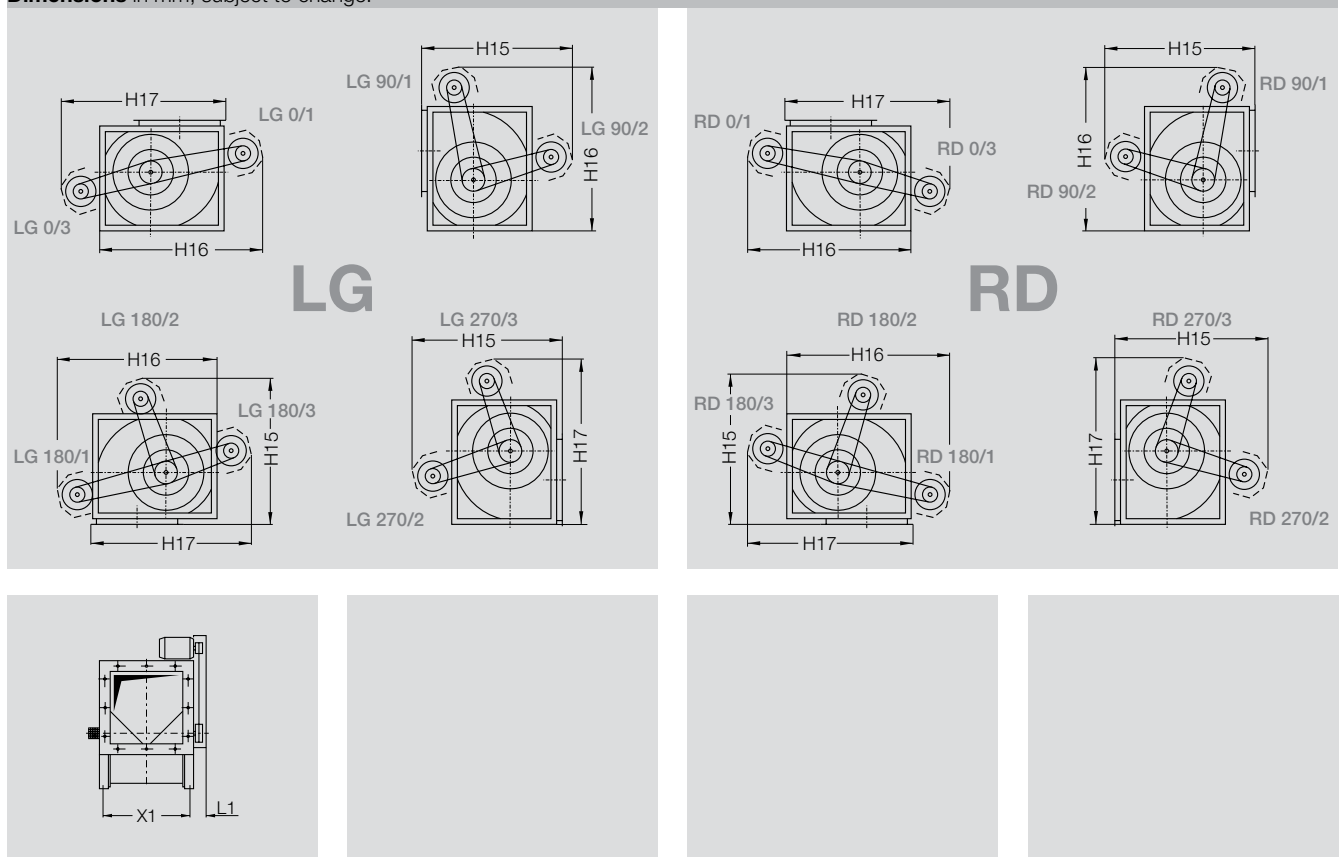
① This dimensions have been calculated with the largest appropriate applicable motor in mind.



# RZR 12-0200/-0710

## Fan set arrangement with Pick-A-Back

Dimensions in mm, subject to change.



| RZR |             | ①     | ①     | ①     | ~ L1 | X1  | Motor      | Weight |
|-----|-------------|-------|-------|-------|------|-----|------------|--------|
|     |             | ~ H15 | ~ H16 | ~ H17 |      |     | max.       | ~ kg   |
| 12- | <b>0200</b> | 670   | 670   | 690   | 100  | 286 | <b>90</b>  | 1      |
| 12- | <b>0225</b> | 710   | 730   | 780   | 100  | 322 | <b>100</b> | 1      |
| 12- | <b>0250</b> | 850   | 840   | 860   | 100  | 356 | <b>100</b> | 2      |
| 12- | <b>0280</b> | 880   | 920   | 930   | 100  | 395 | <b>112</b> | 2      |
| 12- | <b>0315</b> | 950   | 950   | 1030  | 100  | 438 | <b>112</b> | 3      |
| 12- | <b>0355</b> | 1080  | 1090  | 1130  | 100  | 487 | <b>112</b> | 3      |
| 12- | <b>0400</b> | 1190  | 1290  | 1280  | 120  | 546 | <b>132</b> | 7      |
| 12- | <b>0450</b> | 1330  | 1430  | 1390  | 120  | 612 | <b>132</b> | 7      |
| 12- | <b>0500</b> | 1360  | 1470  | 1560  | 120  | 680 | <b>132</b> | 8      |
| 12- | <b>0560</b> | 1500  | 1620  | 1630  | 150  | 756 | <b>132</b> | 11     |
| 12- | <b>0630</b> | 1650  | 1790  | 1810  | 150  | 843 | <b>160</b> | 12     |
| 12- | <b>0710</b> | 1800  | 1950  | 2000  | 180  | 940 | <b>160</b> | 17     |

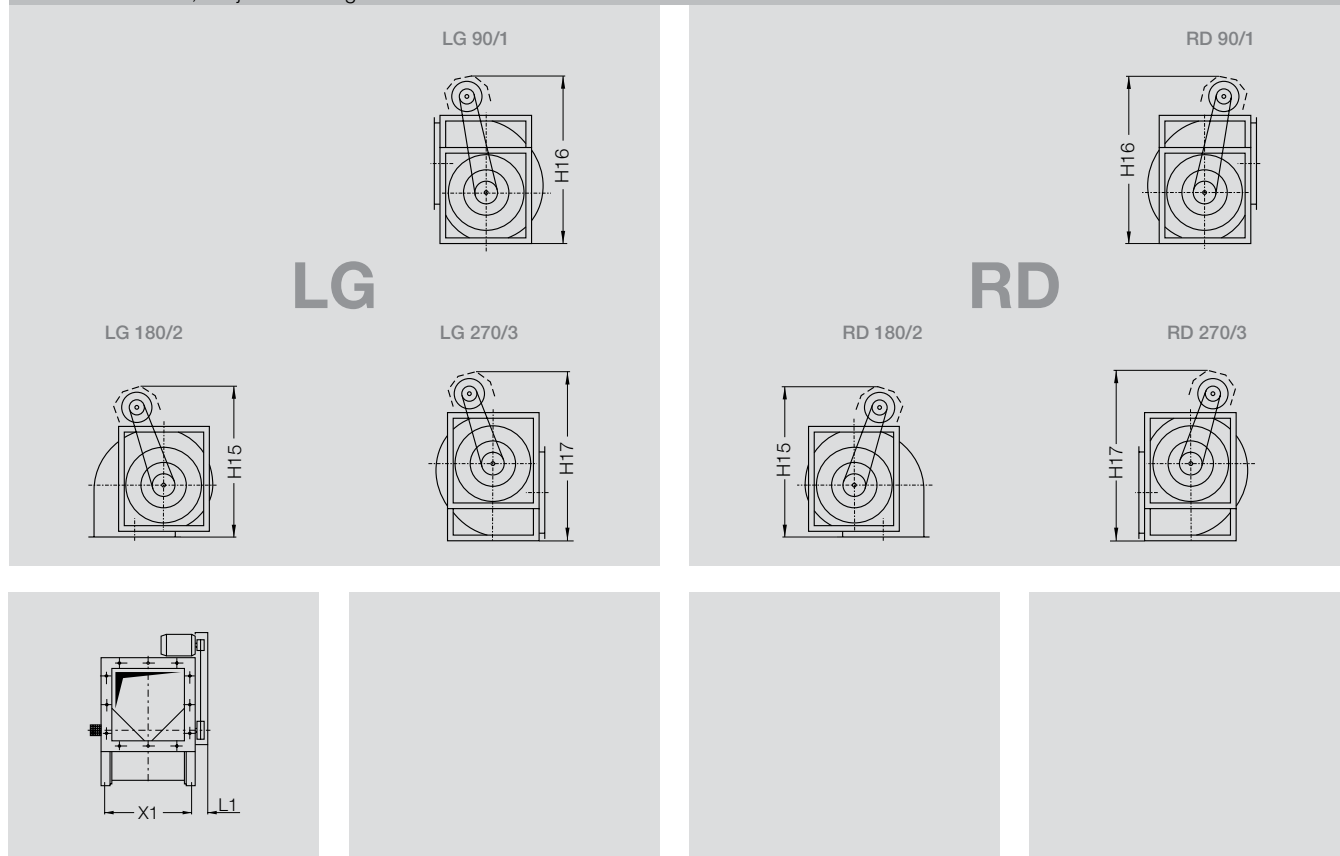
① This dimensions have been calculated with the largest appropriate applicable motor in mind.

# RZR 13-0400/-1000

# RZR 18-0400/-1000

## Fan set arrangement with Pick-A-Back

Dimensions in mm, subject to change.



| RZR | RZR |      | ①<br>~ H15 | ①<br>~ H16 | ①<br>~ H17 | ~ L1 | X1   | Motor<br>max. | Weight<br>~ kg |
|-----|-----|------|------------|------------|------------|------|------|---------------|----------------|
| 13- | 18- | 0400 | 1280       | 1300       | 1300       | 170  | 548  | 132           | 10             |
| 13- | 18- | 0450 | 1320       | 1430       | 1380       | 170  | 612  | 132           | 11             |
| 13- | 18- | 0500 | 1350       | 1560       | 1550       | 170  | 683  | 132           | 12             |
| 13- | 18- | 0560 | 1530       | 1700       | 1730       | 210  | 759  | 160           | 15             |
| 13- | 18- | 0630 | 1640       | 1870       | 1820       | 210  | 845  | 160           | 16             |
| 13- | 18- | 0710 | 1800       | 1970       | 2010       | 240  | 942  | 160           | 23             |
| 13- | 18- | 0800 | 1970       | 2150       | 2150       | 250  | 1053 | 160           | 30             |
| 13- | 18- | 0900 | 2150       | 2400       | 2350       | 260  | 1179 | 160           | 33             |
| 13- | 18- | 1000 | 2230       | 2630       | 2550       | 260  | 1317 | 160           | 36             |

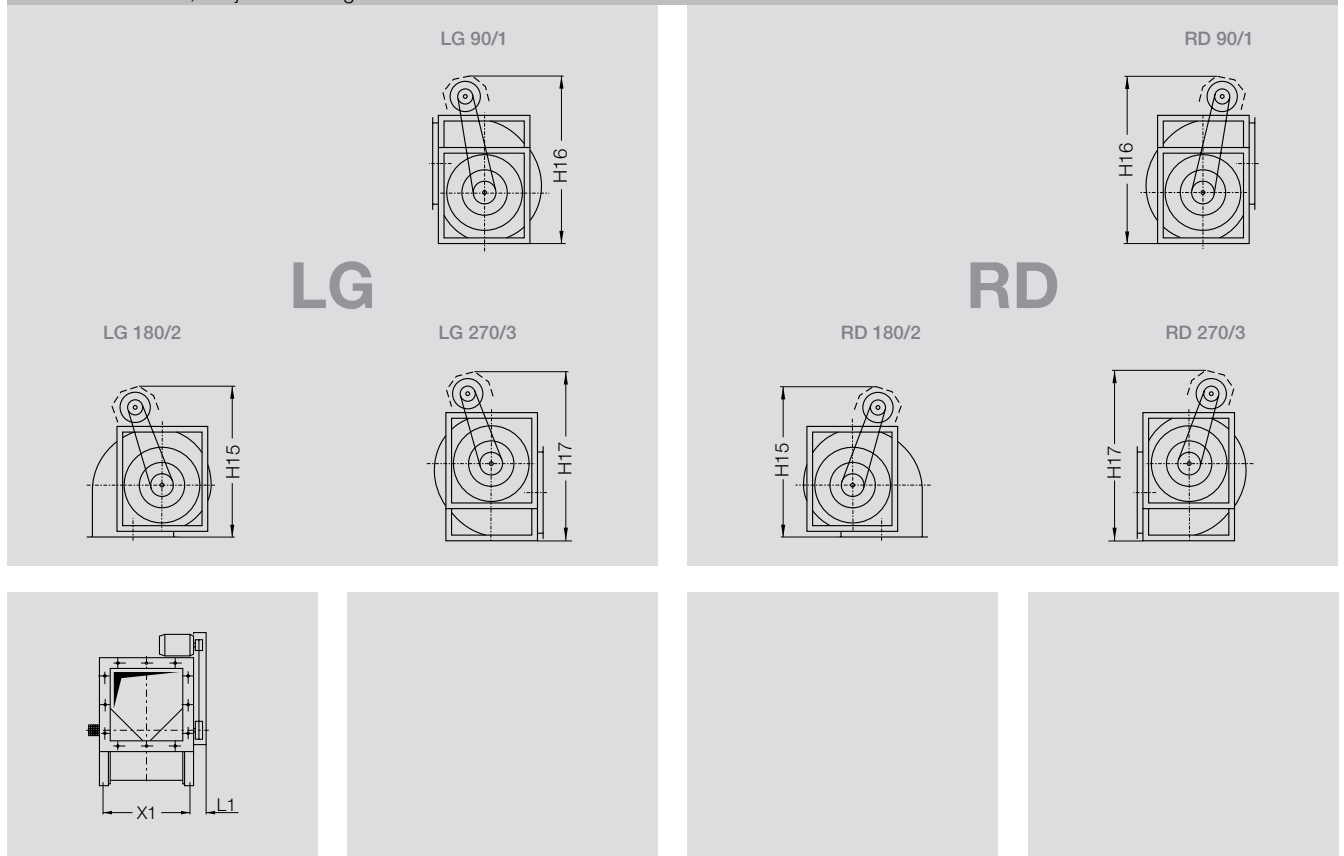
① This dimensions have been calculated with the largest appropriate applicable motor in mind.

**RZR 11-0800/-1000**  
**RZR 15-0400/-1000**

**RZR 19-0400/-1000**

**Fan set arrangement with Pick-A-Back**

Dimensions in mm, subject to change.



| RZR | RZR | RZR  | ①<br>~ H15 | ①<br>~ H16 | ①<br>~ H17 | ~ L1 | X1   | Motor<br>max. | Weight<br>~ kg |
|-----|-----|------|------------|------------|------------|------|------|---------------|----------------|
| 15- | 19- | 0400 | 1280       | 1300       | 1300       | 170  | 548  | 132           | 10             |
| 15- | 19- | 0450 | 1320       | 1430       | 1380       | 170  | 612  | 132           | 11             |
| 15- | 19- | 0500 | 1350       | 1560       | 1550       | 170  | 683  | 132           | 12             |
| 15- | 19- | 0560 | 1530       | 1700       | 1730       | 210  | 759  | 160           | 15             |
| 15- | 19- | 0630 | 1640       | 1870       | 1820       | 210  | 845  | 160           | 16             |
| 15- | 19- | 0710 | 1800       | 1970       | 2010       | 240  | 942  | 160           | 23             |
| 11- | 15- | 19-  | 0800       | 1970       | 2150       | 250  | 1053 | 160           | 30             |
| 11- | 15- | 19-  | 0900       | 2150       | 2400       | 260  | 1179 | 160           | 33             |
| 11- | 15- | 19-  | 1000       | 2230       | 2630       | 260  | 1317 | 160           | 36             |

① This dimensions have been calculated with the largest appropriate applicable motor in mind.

# Fan Sets

## Min. Pulley-Diameter, Bearings Life Expectency

As a principle, the fans are only equipped with noise tested precision bearings designed for a nominal bearing life time (L10h acc. to DIN ISO 281-1) of 40,000 operating hours.

In order to not exceed the admitted bearing loads there are minimum pulley diameters defined to be respected when sizing the belt drive.

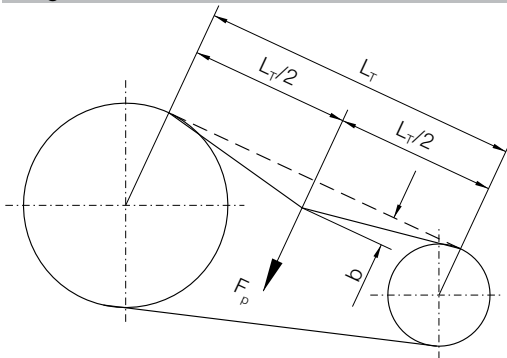
**The minimum pulley diameters indicated are to be applied for belt drives selected according to the state of the art and tensioned according to the prescriptions.**

**For flat belt drives the minimum pulley diameters are to be increased of 40 % to the indicated figure!**

A correct design of a belt drive may be achieved with our selection software where all relevant parameters will be kept automatically.

For correct design of a belt drive made by external means, dimensioning and the application of the tensioning forces have to be made in full respect of all specification data indicated.

### Wedge Belts



$L_T$  = Shaft Centres

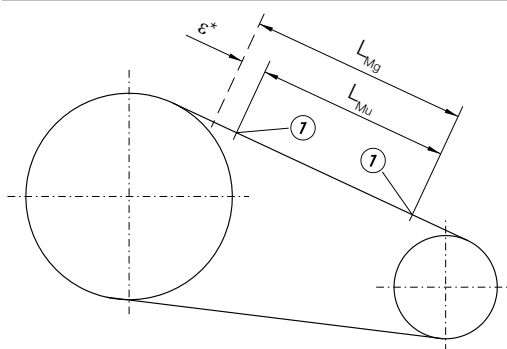
$b$  = Deflection of belt in mm under test force  $F_p$

$F_p$  = Test force N as prescribed by Nicotra Gebhardt-Documt

#### Belt Tensioning

The correct tension is achieved when the test force  $F_p$  results in a deflection of 16 mm / metre of span.

### Flat Belts



$L_{Mu}$  = Measuring Marks ① before Tensioning

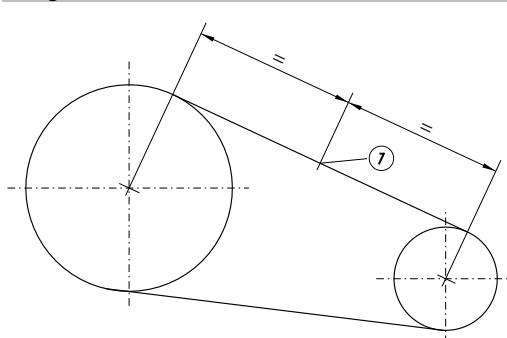
$L_{Mg}$  = Measuring Marks ① After Tensioning

$\epsilon^*$  = Stretching Values as specified by Nicotra Gebhardt-Documt

#### Belt Tensioning

The correct belt tension is achieved when the measuring marks  $L_{Mu}$  have increased by the stretching value  $\epsilon^*$ . This should be carried out in two stages to prevent over-stressing of the bearing.

### Wedge- and Flat Belts



A further simple method for setting or checking the correct belt tension is via the static frequency of the drive belt.

Here the flat or V-belt is set to oscillate freely through striking it whilst stationary.

These vibrations are measured using an electronic measuring unit (e.g. a belt tension gauge). The vibration frequency in Hz must then be set to the specified value (documentation / nameplate).

① = Measuring point

**Detailed instruction on tensioning are included within the operating and maintenance manuals.**

# Fan Sets

| Min. recommended Pulley Diameter for ADH |              |                           |     |     |     |     |     |     |      |     |     |     |     |     |
|--|--------------|---------------------------|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|
| Fan size                                 | Fan model    | Nominal motor power in kW |     |     |     |     |     |     |      |     |     |     |     |     |
|  |              | 2.2                       | 3   | 4   | 5.5 | 7.5 | 11  | 15  | 18.5 | 22  | 30  | 37  | 45  | 55  |
| 160                                      | E0 / E2      | 63                        | 71  |     |     |     |     |     |      |     |     |     |     |     |
|  | G2E0 / E2    | 63                        | 71  |     |     |     |     |     |      |     |     |     |     |     |
| 180                                      | E0 / E2      | 63                        | 80  |     |     |     |     |     |      |     |     |     |     |     |
|  | G2E0 / E2    | 63                        | 80  |     |     |     |     |     |      |     |     |     |     |     |
| 200                                      | E0 / E2 / E4 | 71                        | 95  | 125 |     |     |     |     |      |     |     |     |     |     |
|  | G2E0 / E2    | 71                        | 95  | 140 |     |     |     |     |      |     |     |     |     |     |
| 225                                      | E0 / E2 / E4 | 80                        | 112 | 140 |     |     |     |     |      |     |     |     |     |     |
|  | G2E0 / E2    | 80                        | 100 | 160 |     |     |     |     |      |     |     |     |     |     |
| 250                                      | E0 / E2      | 80                        | 112 | 150 |     |     |     |     |      |     |     |     |     |     |
|  | E4           |                           | 90  | 112 | 140 | 180 |     |     |      |     |     |     |     |     |
|  | G2E0 / E2    | 80                        | 100 | 132 |     |     |     |     |      |     |     |     |     |     |
|  | G2E4         |                           | 95  | 125 | 160 | 224 |     |     |      |     |     |     |     |     |
| 280                                      | G2E7         |                           |     |     |     | 100 | 118 | 160 |      |     |     |     |     |     |
|  | E0 / E2      |                           | 100 | 140 | 180 |     |     |     |      |     |     |     |     |     |
|  | E4           |                           |     | 90  | 112 | 140 | 212 |     |      |     |     |     |     |     |
|  | G2E0 / E2    |                           | 112 | 140 | 180 |     |     |     |      |     |     |     |     |     |
| 315                                      | G2E4         |                           |     | 100 | 118 | 140 | 180 | 224 |      |     |     |     |     |     |
|  | G2E7         |                           |     |     |     | 112 | 112 | 140 | 180  | 224 |     |     |     |     |
|  | E0 / E2      |                           | 100 | 125 | 180 |     |     |     |      |     |     |     |     |     |
|  | E4           |                           |     | 90  | 125 | 160 | 250 |     |      |     |     |     |     |     |
| 355                                      | E6           |                           |     |     |     |     | 160 | 224 | 250  |     |     |     |     |     |
|  | G2E0 / E2    |                           | 112 | 140 | 200 |     |     |     |      |     |     |     |     |     |
|  | G2E4         |                           |     | 112 | 140 | 180 | 250 |     |      |     |     |     |     |     |
|  | G2E7         |                           |     |     |     |     |     | 160 | 190  | 212 | 300 |     |     |     |
| 400                                      | E0 / E2      |                           |     | 100 | 132 | 180 |     |     |      |     |     |     |     |     |
|  | E4           |                           |     |     | 112 | 150 | 224 | 280 |      |     |     |     |     |     |
|  | E6           |                           |     |     |     |     | 125 | 180 | 224  | 236 |     |     |     |     |
|  | G2E0 / E2    |                           | 112 | 140 | 200 |     |     |     |      |     |     |     |     |     |
| 450                                      | G2E4         |                           |     | 112 | 150 | 224 | 280 |     |      |     |     |     |     |     |
|  | G2E7         |                           |     |     |     |     |     | 160 | 180  | 212 | 300 |     |     |     |
|  | E0 / E2      |                           |     | 100 | 132 | 180 |     |     |      |     |     |     |     |     |
|  | E4           |                           |     |     | 112 | 150 | 224 | 280 |      |     |     |     |     |     |
| 500                                      | E6           |                           |     |     |     |     | 140 | 180 | 212  | 250 |     |     |     |     |
|  | E7           |                           |     |     |     |     |     |     | 150  | 190 | 224 | 315 |     |     |
|  | G2E0 / E2    |                           |     | 118 | 140 | 200 |     |     |      |     |     |     |     |     |
|  | G2E4         |                           |     |     | 112 | 160 | 224 |     |      |     |     |     |     |     |
| 560                                      | G2E7         |                           |     |     |     |     |     |     | 180  | 212 | 250 | 300 |     |     |
|  | E0 / E2      |                           |     |     | 132 | 180 | 224 |     |      |     |     |     |     |     |
|  | E4           |                           |     |     |     | 150 | 200 | 236 |      |     |     |     |     |     |
|  | E6           |                           |     |     |     |     |     | 160 | 190  | 250 |     |     |     |     |
| 630                                      | E7           |                           |     |     |     |     |     |     | 160  | 180 | 212 | 236 |     |     |
|  | G2E2         |                           |     |     | 132 | 180 | 212 |     |      |     |     |     |     |     |
|  | G2E4         |                           |     |     |     | 132 | 180 | 224 |      |     |     |     |     |     |
|  | G2E7         |                           |     |     |     |     |     |     | 160  | 224 | 250 | 280 |     |     |
| 710                                      | L / R        |                           |     |     |     | 132 | 160 | 215 |      |     |     |     |     |     |
|  | K            |                           |     |     |     |     | 132 | 200 | 224  |     |     |     |     |     |
|  | K1           |                           |     |     |     |     |     |     | 160  | 180 | 250 |     |     |     |
|  | K2           |                           |     |     |     |     |     |     |      | 160 | 180 | 200 | 224 |     |
| 800                                      | G2R          |                           |     |     | 132 | 180 | 200 |     |      |     |     |     |     |     |
|  | G2K          |                           |     |     |     | 132 | 180 | 224 |      |     |     |     |     |     |
|  | G2K2         |                           |     |     |     |     |     |     |      | 180 | 224 | 280 | 355 |     |
|  | L / R        |                           |     |     |     | 132 | 150 | 180 | 250  |     |     |     |     |     |
| 900                                      | K            |                           |     |     |     |     | 132 | 180 | 224  | 250 |     |     |     |     |
|  | K1           |                           |     |     |     |     |     |     |      | 180 | 212 | 236 |     |     |
|  | K2           |                           |     |     |     |     |     |     |      |     | 180 | 200 | 224 | 280 |
|  | G2K          |                           |     |     |     |     |     |     |      | 160 | 190 | 212 |     |     |
| 1000                                     | G2K2         |                           |     |     |     |     |     |     |      |     | 180 | 200 | 224 | 280 |
|  | K            |                           |     |     |     |     |     |     |      |     | 180 | 212 | 280 |     |
|  | K1           |                           |     |     |     |     |     |     |      |     |     | 180 | 200 | 224 |
|  | K2           |                           |     |     |     |     |     |     |      |     |     |     | 180 | 190 |

# Fan Sets

**Min. recommended Pulley Diameter for AT**

| Fan size | Fan model | Nominal motor power in kW |     |     |     |     |     |     |     |     |      |     |     |     |     |     |
|----------|-----------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|
|          |           | 1.1                       | 1.5 | 2.2 | 3   | 4   | 5.5 | 7.5 | 11  | 15  | 18.5 | 22  | 30  | 37  | 45  | 55  |
| 7/7      | S / SC    | 63                        | 63  | 80  | 112 |     |     |     |     |     |      |     |     |     |     |     |
|          | G2L / SC2 | 63                        | 63  | 90  | 118 |     |     |     |     |     |      |     |     |     |     |     |
| 9/7      | S / SC    | 63                        | 63  | 85  | 112 |     |     |     |     |     |      |     |     |     |     |     |
|          | AR        | -                         | -   | -   | 80  | 100 | 140 | 200 |     |     |      |     |     |     |     |     |
|          | G2L / SC2 | 63                        | 63  | 90  | 125 |     |     |     |     |     |      |     |     |     |     |     |
| 9/9      | G2C       | -                         | -   | -   | 71  | 80  | 100 | 150 |     |     |      |     |     |     |     |     |
|          | S / SC    | -                         | 63  | 90  | 125 |     |     |     |     |     |      |     |     |     |     |     |
|          | AR        | -                         | -   | -   | 85  | 112 | 150 | 224 |     |     |      |     |     |     |     |     |
| 10/8     | G2L / SC2 | 63                        | 71  | 95  | 132 |     |     |     |     |     |      |     |     |     |     |     |
|          | G2C       | -                         | -   | -   | -   | 80  | 112 | 150 |     |     |      |     |     |     |     |     |
|          | S / SC    | 63                        | 71  | 85  | 112 |     |     |     |     |     |      |     |     |     |     |     |
| 10/10    | AR        | -                         | -   | -   | 80  | 100 | 150 | 200 |     |     |      |     |     |     |     |     |
|          | G2L / SC2 | 63                        | 71  | 95  | 132 |     |     |     |     |     |      |     |     |     |     |     |
|          | G2C       | -                         | -   | -   | -   | 80  | 100 | 150 |     |     |      |     |     |     |     |     |
| 12/9     | S / SC    | -                         | -   | 71  | 90  | 118 | 180 |     |     |     |      |     |     |     |     |     |
|          | AR        | -                         | -   | -   | -   | 85  | 118 | 160 | 236 |     |      |     |     |     |     |     |
|          | G2L / SC2 | -                         | -   | 85  | 95  | 118 | 180 |     |     |     |      |     |     |     |     |     |
|          | G2C       | -                         | -   | -   | -   | 80  | 90  | 118 | 224 |     |      |     |     |     |     |     |
| 12/12    | G3C       | -                         | -   | -   | -   | 100 | 112 | 118 | 180 |     |      |     |     |     |     |     |
|          | S / SC    | -                         | -   | 90  | 112 | 140 | 200 |     |     |     |      |     |     |     |     |     |
|          | AR        | -                         | -   | -   | -   | 100 | 140 | 190 | 280 |     |      |     |     |     |     |     |
|          | G2L / SC2 | -                         | -   | 80  | 112 | 140 | 200 |     |     |     |      |     |     |     |     |     |
| 15/11    | G2C       | -                         | -   | -   | -   | 85  | 112 | 140 | 200 |     |      |     |     |     |     |     |
|          | G3C       | -                         | -   | -   | -   | 90  | 112 | 140 | 200 |     |      |     |     |     |     |     |
|          | S / SC    | -                         | -   | 85  | 112 | 132 | 180 |     |     |     |      |     |     |     |     |     |
|          | AR        | -                         | -   | -   | -   | 90  | 118 | 160 | 236 |     |      |     |     |     |     |     |
| 15/15    | G2L / SC2 | -                         | -   | 80  | 100 | 140 | 200 |     |     |     |      |     |     |     |     |     |
|          | G2C       | -                         | -   | -   | -   | 85  | 100 | 132 | 200 |     |      |     |     |     |     |     |
|          | G3C       | -                         | -   | -   | -   | 100 | 118 | 160 | 224 |     |      |     |     |     |     |     |
|          | S / SC    | -                         | -   | 80  | 100 | 132 | 180 |     |     |     |      |     |     |     |     |     |
| 18/13    | AR        | -                         | -   | -   | -   | 95  | 132 | 180 | 250 |     |      |     |     |     |     |     |
|          | G2L / SC2 | -                         | -   | 95  | 125 | 150 | 200 |     |     |     |      |     |     |     |     |     |
|          | G2C       | -                         | -   | -   | -   | 95  | 112 | 160 | 224 |     |      |     |     |     |     |     |
|          | G3C       | -                         | -   | -   | -   | 100 | 112 | 160 | 224 |     |      |     |     |     |     |     |
| 18/18    | S / SC    | -                         | -   | 100 | 132 | 180 | 250 |     |     |     |      |     |     |     |     |     |
|          | AR        | -                         | -   | -   | -   | 100 | 132 | 190 | 280 |     |      |     |     |     |     |     |
|          | G2L / SC2 | -                         | -   | 90  | 118 | 140 | 200 |     |     |     |      |     |     |     |     |     |
|          | G2C       | -                         | -   | -   | -   | 95  | 112 | 160 | 224 |     |      |     |     |     |     |     |
| 20/15    | G3C       | -                         | -   | -   | -   | 100 | 112 | 140 | 200 |     |      |     |     |     |     |     |
|          | G3C-C2    | -                         | -   | -   | -   | -   | -   | -   | -   | 280 |      |     |     |     |     |     |
|          | TIC       | -                         | -   | -   | -   | -   | 100 | 132 | 200 | 280 |      |     |     |     |     |     |
|          | G2C       | -                         | -   | -   | -   | -   | -   | 112 | 160 | 250 | 280  |     |     |     |     |     |
| 20/20    | G2C-C2    | -                         | -   | -   | -   | -   | -   | -   | -   | -   | 150  | 180 | 200 | 224 |     |     |
|          | G3C       | -                         | -   | -   | -   | -   | 112 | 140 | 200 | 250 |      |     |     |     |     |     |
|          | G3C-C2    | -                         | -   | -   | -   | -   | -   | -   | -   | -   | 150  | 180 | 200 | 224 |     |     |
|          | TIC       | -                         | -   | -   | -   | -   | 100 | 132 | 200 | 280 |      |     |     |     |     |     |
| 22/15    | G2C       | -                         | -   | -   | -   | -   | -   | 112 | 160 | 224 | 280  |     |     |     |     |     |
|          | G2C-C2    | -                         | -   | -   | -   | -   | -   | -   | -   | -   | 150  | 180 | 200 | 224 |     |     |
|          | G3C       | -                         | -   | -   | -   | -   | 112 | 140 | 200 | 250 |      |     |     |     |     |     |
|          | G3C-C2    | -                         | -   | -   | -   | -   | -   | -   | -   | -   | 150  | 180 | 200 | 224 |     |     |
| 22/22    | TIC       | -                         | -   | -   | -   | -   | 100 | 132 | 200 | 280 |      |     |     |     |     |     |
|          | G2C       | -                         | -   | -   | -   | -   | -   | 112 | 150 | 224 | 280  |     |     |     |     |     |
|          | G2C-C2    | -                         | -   | -   | -   | -   | -   | -   | -   | -   | 150  | 180 | 200 | 224 |     |     |
|          | G3C       | -                         | -   | -   | -   | -   | 112 | 140 | 200 | 250 |      |     |     |     |     |     |
| 25/20    | G3C-C2    | -                         | -   | -   | -   | -   | -   | -   | -   | -   | 150  | 180 | 190 | 224 |     |     |
|          | TIC       | -                         | -   | -   | -   | -   | 90  | 118 | 160 | 224 |      |     |     |     |     |     |
|          | G2C       | -                         | -   | -   | -   | -   | -   | 112 | 140 | 200 |      |     |     |     |     |     |
|          | G2C-C2    | -                         | -   | -   | -   | -   | -   | -   | -   | -   | 250  | 150 | 180 | 190 | 224 |     |
| 25/25    | G3C       | -                         | -   | -   | -   | -   | 112 | 132 | 200 |     |      |     |     |     |     |     |
|          | G3C-C2    | -                         | -   | -   | -   | -   | -   | -   | -   | -   | 224  | 150 | 180 | 190 | 224 | 224 |
|          | TIC       | -                         | -   | -   | -   | -   | 112 | 150 | 224 | 250 |      |     |     |     |     |     |
|          | G2C       | -                         | -   | -   | -   | -   | -   | 112 | 140 | 200 | 250  |     |     |     |     |     |
| 28/20    | G2C-C2    | -                         | -   | -   | -   | -   | -   | -   | -   | -   | 150  | 180 | 190 | 224 | 224 |     |
|          | G3C       | -                         | -   | -   | -   | -   | 112 | 132 | 180 | 224 |      |     |     |     |     |     |
|          | G3C-C2    | -                         | -   | -   | -   | -   | -   | -   | -   | -   | 150  | 180 | 190 | 224 | 224 |     |
|          | TIC       | -                         | -   | -   | -   | -   | 100 | 140 | 200 | 250 |      |     |     |     |     |     |
| 28/28    | G2C       | -                         | -   | -   | -   | -   | -   | 112 | 132 | 180 | 224  |     |     |     |     |     |
|          | G2C-C2    | -                         | -   | -   | -   | -   | -   | -   | -   | -   | 150  | 180 | 190 | 224 | 224 |     |
|          | G3C       | -                         | -   | -   | -   | -   | 112 | 125 | 160 | 200 |      |     |     |     |     |     |
|          | G3C-C2    | -                         | -   | -   | -   | -   | -   | -   | -   | -   | 150  | 180 | 190 | 224 | 224 |     |
| 30/20    | TIC       | -                         | -   | -   | -   | -   | 100 | 140 | 200 | 250 |      |     |     |     |     |     |
|          | G2C       | -                         | -   | -   | -   | -   | -   | 100 | 132 | 180 | 224  |     |     |     |     |     |
|          | G2C-C2    | -                         | -   | -   | -   | -   | -   | -   | -   | -   | 150  | 180 | 190 | 212 | 224 |     |
|          | G3C       | -                         | -   | -   | -   | -   | 100 | 125 | 180 | 224 |      |     |     |     |     |     |
| 30/28    | G3C-C2    | -                         | -   | -   | -   | -   | -   | -   | -   | -   | 150  | 180 | 190 | 224 | 224 |     |
|          | TIC       | -                         | -   | -   | -   | -   | 100 | 140 | 200 | 250 |      |     |     |     |     |     |
|          | G2C       | -                         | -   | -   | -   | -   | -   | 100 | 125 | 180 | 224  |     |     |     |     |     |
|          | G2C-C2    | -                         | -   | -   | -   | -   | -   | -   | -   | -   | 150  | 180 | 190 | 212 | 224 |     |
| 30/28    | G3C       | -                         | -   | -   | -   | -   | 100 | 125 | 160 | 200 |      |     |     |     |     |     |
|          | G3C-C2    | -                         | -   | -   | -   | -   | -   | -   | -   | -   | 150  | 180 | 190 | 224 | 224 |     |
|          | TIC       | -                         | -   | -   | -   | -   | 100 | 140 | 200 | 250 |      |     |     |     |     |     |

# Fan Sets

| Min. recommended Pulley Diameter for RDH |              |                           |    |     |     |     |     |     |      |     |     |     |     |     |     |     |
|--|--------------|---------------------------|----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|
| Fan size                                 | Fan model    | Nominal motor power in kW |    |     |     |     |     |     |      |     |     |     |     |     |     |     |
|  |              | 2.2                       | 3  | 4   | 5.5 | 7.5 | 11  | 15  | 18.5 | 22  | 30  | 37  | 45  | 55  | 75  |     |
| 0180                                     | E0 / E2      | 63                        | 63 |     |     |     |     |     |      |     |     |     |     |     |     |     |
| 0200                                     | E0 / E2 / E4 | 63                        | 63 |     |     |     |     |     |      |     |     |     |     |     |     |     |
| 0225                                     | E0 / E2 / E4 | 63                        | 63 | 71  |     |     |     |     |      |     |     |     |     |     |     |     |
| 0250                                     | E0 / E2      |                           | 71 | 80  |     |     |     |     |      |     |     |     |     |     |     |     |
|  | E4           |                           | 71 | 71  | 90  |     |     |     |      |     |     |     |     |     |     |     |
|  | G2E4         |                           | 80 | 80  | 90  |     |     |     |      |     |     |     |     |     |     |     |
|  | G2E7         |                           |    |     | 85  | 112 |     |     |      |     |     |     |     |     |     |     |
| 0280                                     | E0 / E2      |                           |    | 80  | 100 |     |     |     |      |     |     |     |     |     |     |     |
|  | E4           |                           |    |     | 90  | 100 |     |     |      |     |     |     |     |     |     |     |
|  | G2E0 / E2    |                           |    |     |     |     |     |     |      |     |     |     |     |     |     |     |
|  | G2E4         |                           |    | 90  | 100 |     |     |     |      |     |     |     |     |     |     |     |
| 0315                                     | G2E7         |                           |    |     |     | 90  | 125 |     |      |     |     |     |     |     |     |     |
|  | E0 / E2      |                           |    | 90  | 118 |     |     |     |      |     |     |     |     |     |     |     |
|  | E4           |                           |    |     | 90  | 112 |     |     |      |     |     |     |     |     |     |     |
|  | E6           |                           |    |     |     | 90  | 100 |     |      |     |     |     |     |     |     |     |
| 0355                                     | G2E0 / E2    |                           |    |     |     |     |     |     |      |     |     |     |     |     |     |     |
|  | G2E4         |                           |    | 80  | 90  |     |     |     |      |     |     |     |     |     |     |     |
|  | G2E7         |                           |    |     |     | 90  | 112 |     |      |     |     |     |     |     |     |     |
|  | E0 / E2      |                           |    | 85  | 100 | 112 |     |     |      |     |     |     |     |     |     |     |
| 0400                                     | E4           |                           |    |     | 90  | 112 | 125 |     |      |     |     |     |     |     |     |     |
|  | E6           |                           |    |     |     | 100 | 112 | 118 |      |     |     |     |     |     |     |     |
|  | G2E0 / E2    |                           |    |     |     |     |     |     |      |     |     |     |     |     |     |     |
|  | G2E4         |                           |    | 90  | 125 |     |     |     |      |     |     |     |     |     |     |     |
| 0450                                     | G2E7         |                           |    |     |     | 90  | 112 |     |      |     |     |     |     |     |     |     |
|  | E0 / E2      |                           |    |     | 112 | 140 | 180 |     |      |     |     |     |     |     |     |     |
|  | E4           |                           |    |     |     | 100 | 132 | 180 |      |     |     |     |     |     |     |     |
|  | E6           |                           |    |     |     |     |     | 118 | 140  | 150 |     |     |     |     |     |     |
| 0500                                     | G2E4         |                           |    | 100 | 112 | 112 |     |     |      |     |     |     |     |     |     |     |
|  | G2E7         |                           |    |     |     |     | 112 | 125 | 160  |     |     |     |     |     |     |     |
|  | E0 / E2      |                           |    |     | 125 | 132 | 160 | 200 |      |     |     |     |     |     |     |     |
|  | E4           |                           |    |     |     | 132 | 150 | 200 |      |     |     |     |     |     |     |     |
| 0560                                     | E6           |                           |    |     |     |     |     | 140 | 140  | 150 | 200 |     |     |     |     |     |
|  | E7           |                           |    |     |     |     |     |     | 118  | 125 | 150 | 200 |     |     |     |     |
|  | G2E4         |                           |    |     | 100 | 118 | 150 |     |      |     |     |     |     |     |     |     |
|  | G2E7         |                           |    |     |     |     |     |     |      | 140 | 150 | 180 |     |     |     |     |
|  | E0 / E2      |                           |    |     |     | 140 | 180 | 224 |      |     |     |     |     |     |     |     |
|  | E4           |                           |    |     |     |     | 150 | 200 | 224  |     |     |     |     |     |     |     |
| 0630                                     | E6           |                           |    |     |     |     |     |     | 150  | 160 | 212 |     |     |     |     |     |
|  | E7           |                           |    |     |     |     |     |     |      | 140 | 160 | 160 |     |     |     |     |
|  | G2E2         |                           |    |     |     |     |     |     |      |     |     |     |     |     |     |     |
|  | G2E4         |                           |    |     |     | 112 | 140 |     |      |     |     |     |     |     |     |     |
|  | G2E7         |                           |    |     |     |     |     |     |      | 180 | 200 | 280 |     |     |     |     |
|  | R            |                           |    |     |     |     | 140 | 180 | 250  |     |     |     |     |     |     |     |
| 0710                                     | K            |                           |    |     |     |     |     | 150 | 200  | 250 |     |     |     |     |     |     |
|  | K1           |                           |    |     |     |     |     |     |      | 180 | 180 | 236 |     |     |     |     |
|  | K2           |                           |    |     |     |     |     |     |      |     | 150 | 180 | 190 | 224 |     |     |
|  | G2K          |                           |    |     |     |     |     | 140 | 190  |     |     |     |     |     |     |     |
|  | G2K2         |                           |    |     |     |     |     |     |      | 180 | 200 | 280 | 355 |     |     |     |
|  | R            |                           |    |     |     |     |     | 180 | 224  |     |     |     |     |     |     |     |
| 0800                                     | K            |                           |    |     |     |     |     |     | 224  | 250 | 315 |     |     |     |     |     |
|  | K1           |                           |    |     |     |     |     |     |      |     | 180 | 224 | 250 |     |     |     |
|  | K2           |                           |    |     |     |     |     |     |      |     |     | 200 | 212 | 224 |     |     |
|  | G2K          |                           |    |     |     |     |     |     |      | 180 | 200 | 280 |     |     |     |     |
|  | G2K2         |                           |    |     |     |     |     |     |      |     |     |     |     | 224 | 224 | 280 |
|  | K            |                           |    |     |     |     |     |     |      | 200 | 250 | 280 |     |     |     |     |
| 0900                                     | K1           |                           |    |     |     |     |     |     |      |     | 180 | 212 | 250 |     |     |     |
|  | K2           |                           |    |     |     |     |     |     |      |     |     | 212 | 224 | 224 |     |     |
|  | G2K          |                           |    |     |     |     |     |     |      | 180 | 190 | 250 |     |     |     |     |
|  | G2K2         |                           |    |     |     |     |     |     |      |     |     |     |     | 224 | 250 | 280 |
| 1000                                     | K            |                           |    |     |     |     |     |     |      | 160 | 180 | 250 |     |     |     |     |
|  | K1           |                           |    |     |     |     |     |     |      |     |     | 212 | 250 | 280 |     |     |
|  | K2           |                           |    |     |     |     |     |     |      |     |     |     | 224 | 224 | 280 |     |
|  | G2K          |                           |    |     |     |     |     |     |      | 224 | 250 | 315 |     |     |     |     |
| 1000                                     | G2K2         |                           |    |     |     |     |     |     |      |     |     |     |     | 224 | 224 | 280 |
|  | K            |                           |    |     |     |     |     |     |      | 180 | 236 | 315 |     |     |     |     |
|  | K2           |                           |    |     |     |     |     |     |      |     |     |     | 224 | 224 | 300 |     |
| 1000                                     | G2K          |                           |    |     |     |     |     |     |      | 190 | 224 | 280 |     |     |     |     |
|  | G2K2         |                           |    |     |     |     |     |     |      |     |     |     |     | 224 | 224 | 280 |

# Fan Sets

| Min. recommended Pulley Diameter for RZR |                   | Nominal motor power in kW |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|--|-------------------|---------------------------|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Fan size                                 | Fan model         | 3                         | 4   | 5.5 | 7.5 | 11  | 15  | 18.5 | 22  | 30  | 37  | 45  | 55  | 75  | 90  | 110 | 132 | 160 | 200 | 250 |
| 0200                                     | 11 / 12 / 19      | 71                        | 71  | 71  | 90  |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
| 0225                                     | 11 / 12 / 19      | 71                        | 71  | 80  | 100 |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
| 0250                                     | 11 / 12 / 19      | 71                        | 71  | 90  | 112 |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
| 0280                                     | 11 / 12           | 71                        | 71  | 90  | 118 |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|  | 19                | 71                        | 71  | 71  | 85  | 112 |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
| 0315                                     | 11 / 12           | 71                        | 85  | 106 | 132 |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|  | 19                | 71                        | 71  | 75  | 95  | 125 |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
| 0355                                     | 11 / 12           | 75                        | 95  | 118 | 150 |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|  | 19                | 71                        | 71  | 85  | 106 | 140 |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
| 0400                                     | 11 / 12           | 71                        | 80  | 100 | 125 |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|  | 13 / 15 / 18 / 19 | 71                        | 71  | 71  | 71  | 85  | 106 | 125  | 140 | 180 |     |     |     |     |     |     |     |     |     |     |
| 0450                                     | 11 / 12           | 71                        | 90  | 112 | 140 |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|  | 13 / 15 / 18 / 19 | 71                        | 71  | 71  | 71  | 95  | 118 | 140  | 160 | 200 |     |     |     |     |     |     |     |     |     |     |
| 0500                                     | 11 / 12           | 80                        | 100 | 125 | 160 |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|  | 13 / 15 / 18 / 19 | 71                        | 71  | 71  | 80  | 106 | 132 | 160  | 180 | 224 |     |     |     |     |     |     |     |     |     |     |
| 0560                                     | 11 / 12           | 71                        | 71  | 85  | 112 | 150 | 190 |      |     |     |     |     |     |     |     |     |     |     |     |     |
|  | 13 / 15 / 18 / 19 | 71                        | 71  | 71  | 71  | 90  | 112 | 132  | 150 | 190 | 224 |     |     |     |     |     |     |     |     |     |
| 0630                                     | 11 / 12           | 71                        | 80  | 100 | 132 | 180 | 224 |      |     |     |     |     |     |     |     |     |     |     |     |     |
|  | 13 / 15 / 18 / 19 | 71                        | 71  | 71  | 75  | 100 | 125 | 150  | 170 | 224 | 250 |     |     |     |     |     |     |     |     |     |
| 0710                                     | 11 / 12           | 71                        | 85  | 112 | 140 | 190 | 236 | 280  |     |     |     |     |     |     |     |     |     |     |     |     |
|  | 13 / 15 / 18 / 19 | 71                        | 71  | 71  | 71  | 85  | 106 | 118  | 140 | 180 | 212 | 250 | 280 |     |     |     |     |     |     |     |
| 0800                                     | 11                | 80                        | 100 | 125 | 160 | 224 | 280 | 315  | 355 |     |     |     |     |     |     |     |     |     |     |     |
|  | 13 / 15 / 18 / 19 | 71                        | 71  | 71  | 71  | 95  | 118 | 140  | 160 | 212 | 236 | 280 | 315 |     |     |     |     |     |     |     |
| 0900                                     | 11                | 95                        | 118 | 150 | 200 | 280 | 355 | 400  | 450 |     |     |     |     |     |     |     |     |     |     |     |
|  | 13 / 15 / 18 / 19 | 71                        | 71  | 71  | 71  | 85  | 106 | 125  | 140 | 180 | 212 | 250 | 300 | 375 |     |     |     |     |     |     |
| 1000                                     | 11                | 112                       | 140 | 180 | 224 | 315 | 400 | 450  | 500 |     |     |     |     |     |     |     |     |     |     |     |
|  | 13 / 15 / 18 / 19 | 71                        | 71  | 71  | 71  | 95  | 118 | 140  | 160 | 212 | 236 | 280 | 315 | 425 |     |     |     |     |     |     |
| 1120                                     | 13                | -                         | -   | -   | -   | 315 | 315 | 315  | 315 | 315 | 315 | 315 | 315 | 355 | 355 | 400 | 450 |     |     |     |
| 1250                                     | 13                | -                         | -   | -   | -   | 315 | 315 | 315  | 315 | 315 | 315 | 315 | 315 | 355 | 355 | 400 | 400 | 450 |     |     |
| 1400                                     | 13                | -                         | -   | -   | -   | 315 | 315 | 315  | 315 | 315 | 315 | 315 | 315 | 355 | 355 | 400 | 400 | 450 | 450 |     |
| 1600                                     | 13                | -                         | -   | -   | -   | 315 | 315 | 315  | 315 | 315 | 315 | 315 | 315 | 355 | 355 | 400 | 400 | 450 | 500 | 560 |

For flat-belt-drives the listed recommended pulley diameter must be enlarged up to approx. 40 %.



# Description

## General

The high-performance centrifugal fans are the result of extensive and systematic development work. These technically first-rate products are distinguished by their high efficiency, the large pressure differences attainable and low noise levels. The sizes are geometrically scaled in accordance with the standard range R 20 and the nominal size stated is the external diameter of the impeller.

## Media



The fans are suitable for handling air and other non aggressive gases from -20 °C up to +80 °C, resp. +100 °C. The ambient temperature at the drive motor must not exceed +40 °C.

## Protective installations



The fans are designed for installation in equipment and as standard are not equipped with protective guards.

**They should not be put into operation before all protective devices are fitted and connected!**

Protective measures must be carried out as set out in DIN EN ISO 12100 "Safety of machinery - Basic concepts, general principles for design".

If the application of the fan allows free access to the inlet and discharge apertures, safety devices must be put in place on the fan in accordance with DIN EN ISO 13857! Suitable safety guards are available as an optional extra.

## Shafts

### Shafts ADH / AT / RDH



The fan shafts are manufactured of ground, precisely rounded carbon steel C40. They are principally prepared without being stepped at both ends.

The shafts of the RDH K1 and K2 ranges, size 1000 are machined on both ends for fitting a pulley.

ADH / AT from size 12/9 / RDH

The shafts are equipped with a keyway (open shape) at both ends and a key (type 2). AT 7/7 up to 10/10

The standard construction is the version with flats on shaft ends (type 1), it is also available the version with keyways (type 2).

For corrosion protection the shafts are galvanised up to fan size 0560 and 30/28. From size 0630 and larger the shaft are covered, between bearing and hub, with a paint in order to ensure corrosion protection.

The shaft ends are covered with a wax product easy to remove.

### Shafts RZR



The shafts are manufactured of precisely rounded carbon steel C35, pared and polished.

Up to size 1000 they are not stepped at the shaft end.

For sizes 1120 up to 1600 the shafts are machined on both ends for fitting a pulley.

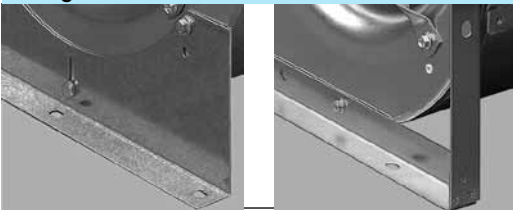
The shafts are equipped with a keyway at both ends and a key executed according to DIN 6885-1.

▶ Groove shape N2 (open) Sizes 0200 up to 1000

▶ Groove shape N1 Sizes 1120 up to 1600

The shafts are covered with a easily removable wax product for corrosion protection.

### Housig feet / Side frames ADH / AT / RDH



For easier installation of the fan the mounting feet and reinforcing frames are provided with eye holes.

# Description

## Bearings ADH / AT / RDH



**ADH E0 / ADH L  
ADH E2 / ADH R  
AT S / AT SC  
AT G2L / AT SC2  
RDH E0  
RDH E2 / RDH R**

Maintenance free, self aligning radial insert ball bearings, mounted in pressed steel housing/strut assemblies with rubber interliners.



**ADH E4 / ADH K  
AT AR / AT TIC / AT  
G2C  
RDH E4 / RDH K**

Monobloc pedestal cast iron pillow block bearings with relubrication nipple, mounted on a robust frame. Integrated, maintenance free self aligning radial ball bearings, fixed by eccentric clamp.



**ADH E6 / ADH K1 /  
ADH E7-0500  
RDH E6 / RDH K1 /  
RDH E7-0500**

Pillow block cast iron bearings with relubrication nipple, mounted on a robust frame. Integrated self aligning radial ball bearings, fixed by conical sleeve and locknut.



**ADH E7-0560;  
ADH K2-0630/-0800  
AT G2C-C2  
RDH E7-0560;  
RDH K2-0630/-0800**

Split-type plummer block bearings with relubrication nipple, mounted on a robust frame, integrated self aligning double row ball-bearings fixed by conical sleeve, lubricated with long life high performance grease.




**ADH K2-0900-1000  
RDH K2-0900-1000  
RDH X1  
RDH X2**

Single piece plummer block housing, with grease nipple, mounted on robust pedestal, equipped with self aligning double row roller bearing, fixed to impeller shaft by a concentric shaft clamp, lubricated with long life high performance grease.

### Twin Fans

The twin fans up to size 0630 are equipped with one single shaft and 3 bearings. From size 0710 the two separate fans are connected by an elastic coupling. For the models G2K2 the bearings from size 0710 and larger are – due to different loads – of a different execution inside compared to outside.

# Description

| Bearings RZR   |  |   |
|--|--|---|
|   | <p><b>RZR 11-0200/-1000;<br/>RZR 12-0200/-0710</b><br/>(without lubricators)</p> <p><b>RZR 11-0200/-0710;<br/>RZR 12-0200/-0710</b><br/>(with relubricators)</p> | <p>Radial insert ball bearings with spherical outer Ring mounted in pressed steel housing/strut assemblies with rubber interliners.</p> <p>Radial insert ball bearings with spherical outer Ring mounted within cast iron housing, supported from the fan casing by tubular struts. Relubrication is effected via extended tubes and nipples.</p> |
|   | <p><b>RZR 19-0200/-0355</b><br/>(without lubricators)</p> <p><b>RZR 19-0200/-0355</b><br/>(with relubricators)</p>   | <p>Radial insert ball bearings with spherical outer Ring mounted within cast iron housing, supported from the fan casing by tubular struts.</p> <p>Relubrication is effected via extended tubes and nipples.</p>  |
|   | <p><b>RZR 15-0400/-1000;<br/>RZR 19-0400/-1000</b><br/>(without lubricators)</p> <p><b>RZR 15-0400/-1000;<br/>RZR 19-0400/-1000</b><br/>(with relubricators)</p> | <p>Self aligning double row ball bearings secured by adapter sleeve, mounted within a cast iron housing.</p> <p>Relubrication is effected via extended tubes and nipples.</p>   |
|  | <p><b>RZR 13-0400/-1600;<br/>RZR 18-0400/-1000</b><br/>(without lubricators)</p> <p><b>RZR 13-0400/-1600;<br/>RZR 18-0400/-1000</b><br/>(with relubricators)</p> | <p>Self aligning double row ball bearings within standard plummer blocks, mounted on robust pedestal.</p> <p>Relubrication is effected via extended tubes and nipples.</p>  |

### Lubricators for relubrication during operation

The Bearings are charged with long life high performance grease. Relubrication is effected via extended tubes and nipples. See operating and maintenance instructions.

- ▶ **IWN 01** - Standard grease, Gadsu S2 V100 3
- ▶ **IWN 11** - Klüber-Staburags NBU12/300KP

# Description

## Motors



Standard motors of wellknown brands, type of protection IP55, thermal class F, are used. During commissioning and maintenance the detailed instructions provided by the motor manufacturer (type plate/motor operating instructions) must be followed, this also applies to the motor protection devices required onsite. The motors are equipped with PTC resistors/temperature sensors as standard. Motors with integrated frequency inverters may be supplied on request.

### EX-ATEX motors

Fan sets of centrifugal fans according to Ex-ATEX execution are equipped with motors of the correspondent category.  
For frequency inverter operation the motors will be of pressure resistant execution.

### Speed regulation

A suitable speed variation system is required for the optimum adjustment of the desired operating point.

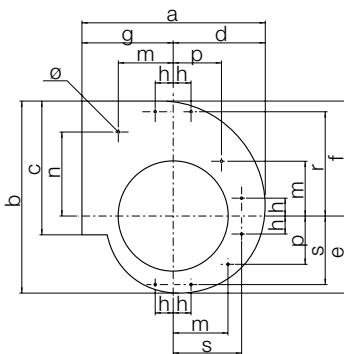
Our frequency converters are perfectly tuned for the operation of RZR centrifugal fans. The use of the newest power semi-conductors guarantees high efficiency and minimum motor noise thanks to the especially fine pulse pattern.  
See also the technical description "Performance".

### Electric connection

Centrifugal fan systems are delivered ready for installation. The motor terminal box can be easily accessed.

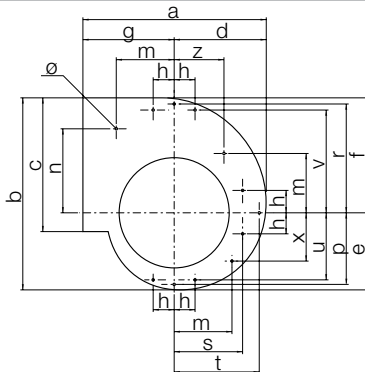
Electric installation must be carried out according to the applicable provisions in compliance with local regulations. A terminal board circuit diagram showing correct connection is enclosed with every motor.

## Attachment points on the side plates ADH/RDH ADH/RDH 0160/-0180



|             | a   | b   | c   | d   | e   | f   | g   | h  | m  | n   | p  | r   | s   | ø |
|-------------|-----|-----|-----|-----|-----|-----|-----|----|----|-----|----|-----|-----|---|
| <b>0160</b> | 281 | 291 | 205 | 141 | 119 | 172 | 140 | 30 | 92 | 121 | 67 | 155 | 101 | 4 |
| <b>0180</b> | 310 | 326 | 229 | 157 | 131 | 195 | 153 | 30 | 92 | 141 | 81 | 175 | 115 | 4 |

## ADH/RDH 0200/-0250

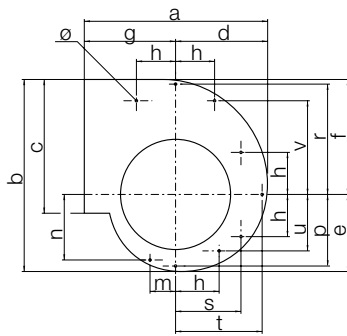


|             | a   | b     | c   | d   | e     | f   | g   | h  | m   | n   |
|-------------|-----|-------|-----|-----|-------|-----|-----|----|-----|-----|
| <b>0200</b> | 341 | 362   | 256 | 177 | 147   | 215 | 164 | 40 | 110 | 155 |
| <b>0225</b> | 379 | 407   | 288 | 199 | 165   | 242 | 180 | 40 | 110 | 184 |
| <b>0250</b> | 416 | 452.5 | 322 | 221 | 183.5 | 269 | 195 | 40 | 110 | 209 |

|             | p   | r   | s   | t   | u   | v   | z   | x   | ø |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|---|
| <b>0200</b> | 134 | 202 | 129 | 163 | 126 | 190 | 94  | 91  | 4 |
| <b>0225</b> | 152 | 229 | 149 | 185 | 142 | 219 | 114 | 107 | 4 |
| <b>0250</b> | 171 | 256 | 172 | 208 | 155 | 244 | 137 | 120 | 4 |

# Description

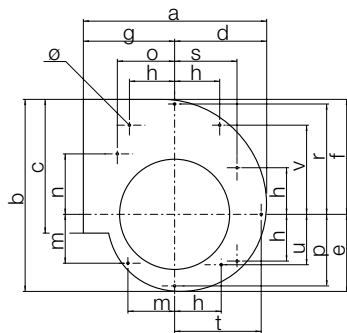
## Attachment points on the side plates ADH/RDH ADH/RDH 0280/-0315



|             | a   | b   | c   | d   | e   | f   | g   | h   | m  | n   | p   | r   | s   | t   | u   | v   | ø   |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| <b>0280</b> | 464 | 508 | 361 | 249 | 206 | 302 | 215 | 113 | 71 | 170 | 191 | 287 | 169 | 233 | 150 | 245 | 6.2 |
| <b>0315</b> | 515 | 571 | 404 | 279 | 232 | 339 | 236 | 113 | 71 | 195 | 215 | 323 | 197 | 263 | 175 | 284 | 6.2 |

Scroll dimensions are referred to the external surface of the back plate

## ADH/RDH 0355/-0450

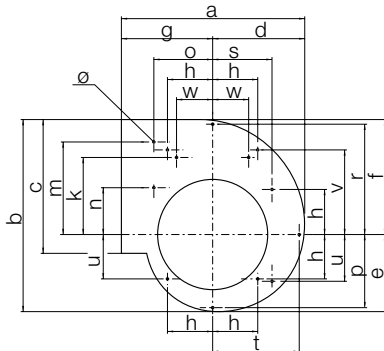


|             | a   | b     | c   | d   | e     | f   | g   | h   | m   |
|-------------|-----|-------|-----|-----|-------|-----|-----|-----|-----|
| <b>0355</b> | 576 | 643   | 453 | 315 | 261   | 382 | 261 | 156 | 158 |
| <b>0400</b> | 644 | 733   | 507 | 354 | 302   | 431 | 290 | 156 | 186 |
| <b>0450</b> | 721 | 817.5 | 569 | 399 | 332.5 | 485 | 322 | 213 | 168 |

|             | n     | o     | p   | r   | s   | t   | u   | v   | ø   |
|-------------|-------|-------|-----|-----|-----|-----|-----|-----|-----|
| <b>0355</b> | 197.5 | 197.5 | 241 | 364 | 204 | 295 | 158 | 295 | 6.2 |
| <b>0400</b> | 220   | 230   | 275 | 411 | 243 | 336 | 186 | 346 | 6.2 |
| <b>0450</b> | 245   | 256   | 311 | 466 | 271 | 379 | 168 | 350 | M10 |

Scroll dimensions are referred to the external surface of the back plate

## ADH/RDH 0500

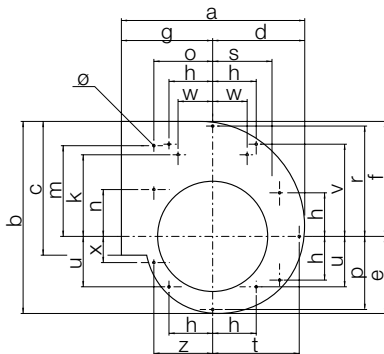


|             | a   | b   | c   | d   | e   | f   | g   | h   | m   | n   |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <b>0500</b> | 794 | 906 | 638 | 442 | 368 | 538 | 352 | 231 | 439 | 220 |

|             | o   | p   | r   | s   | t   | u   | v   | k   | w   | ø   |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <b>0500</b> | 281 | 349 | 519 | 280 | 423 | 207 | 400 | 354 | 181 | M10 |

Scroll dimensions are referred to the external surface of the back plate

## ADH/RDH 0560/-0710



|             | a    | b    | c   | d   | e   | f   | g   | h   | m     | n     | o   |
|-------------|------|------|-----|-----|-----|-----|-----|-----|-------|-------|-----|
| <b>0560</b> | 886  | 1016 | 715 | 496 | 413 | 603 | 390 | 235 | 490   | 245   | 310 |
| <b>0630</b> | 993  | 1142 | 801 | 559 | 463 | 679 | 434 | 235 | 553.5 | 260   | 353 |
| <b>0710</b> | 1119 | 1295 | 898 | 634 | 530 | 765 | 485 | 265 | 626.5 | 267.5 | 393 |

|             | p   | r   | s   | t   | u   | v   | z   | x   | k   | w   | ø   |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <b>0560</b> | 389 | 581 | 362 | 472 | 276 | 494 | 310 | 140 | 394 | 180 | M10 |
| <b>0630</b> | 441 | 656 | 431 | 521 | 328 | 567 | 356 | 160 | –   | –   | M10 |
| <b>0710</b> | 496 | 737 | 476 | 605 | 371 | 637 | 397 | 200 | –   | –   | M10 |

Scroll dimensions are referred to the external surface of the back plate

## Screw to be used to attach mounting feet

| Size              | Type of screw        | Thread          |
|-------------------|----------------------|-----------------|
| <b>0160/-0250</b> | Self-threading screw | AB 6.3 ISO 1478 |
| <b>0280/-0400</b> | Self-threading screw | AB 8 ISO 1478   |
| <b>0450/-0710</b> | Metric screw         | M10 ISO 724     |

# Description

## Operating limits ADH

| ADH       | Permissible nominal motor power kW | Permissible fan speed 1/min | Permissible bearing load N | Permissible media temperature °C | Fan weight kg | ADH       | Permissible nominal motor power kW | Permissible fan speed 1/min | Permissible bearing load N | Permissible media temperature °C | Fan weight kg |
|-----------|------------------------------------|-----------------------------|----------------------------|----------------------------------|---------------|-----------|------------------------------------|-----------------------------|----------------------------|----------------------------------|---------------|
| E0-0160   | 3                                  | 4200                        | 420                        | -20 / +80                        | 5             | E0-0500   | 11                                 | 1200                        | 1180                       | -20 / +80                        | 57            |
| E2-0160   | 3                                  | 4200                        | 420                        | -20 / +80                        | 6.6           | E2-0500   | 11                                 | 1200                        | 1180                       | -20 / +80                        | 65            |
| G2E0-0160 | 3                                  | 3400                        | 420                        | -20 / +80                        | 10.5          | E4-0500   | 15                                 | 1300                        | 1320                       | -20 / +100                       | 85            |
| G2E2-0160 | 4                                  | 3400                        | 420                        | -20 / +80                        | 14.5          | E6-0500   | 30                                 | 1400                        | 1800                       | -20 / +100                       | 86            |
| E0-0180   | 3                                  | 4000                        | 420                        | -20 / +80                        | 6             | E7-0500   | 37                                 | 1400                        | 2200                       | -20 / +100                       | 105           |
| E2-0180   | 3                                  | 4000                        | 420                        | -20 / +80                        | 7.8           | G2E0-0500 | 11                                 | 900                         | 1180                       | -20 / +80                        | 120           |
| G2E0-0180 | 3                                  | 3200                        | 420                        | -20 / +80                        | 12.6          | G2E2-0500 | 11                                 | 900                         | 1180                       | -20 / +80                        | 140           |
| G2E2-0180 | 4                                  | 3200                        | 420                        | -20 / +80                        | 17            | G2E4-0500 | 15                                 | 1000                        | 1320                       | -20 / +100                       | 176           |
| E0-0200   | 4                                  | 3800                        | 420                        | -20 / +80                        | 7.1           | G2E7-0500 | 45                                 | 1400                        | 4000                       | -20 / +100                       | 221           |
| E2-0200   | 4                                  | 3800                        | 420                        | -20 / +80                        | 9.1           | E0-0560   | 15                                 | 1100                        | 1450                       | -20 / +80                        | 72            |
| E4-0200   | 4                                  | 3800                        | 420                        | -20 / +100                       | 12.6          | E2-0560   | 15                                 | 1100                        | 1450                       | -20 / +80                        | 86            |
| G2E0-0200 | 4                                  | 2900                        | 420                        | -20 / +80                        | 15            | E4-0560   | 18.5                               | 1200                        | 1760                       | -20 / +100                       | 134           |
| G2E2-0200 | 4                                  | 2900                        | 420                        | -20 / +80                        | 20            | E6-0560   | 30                                 | 1300                        | 2550                       | -20 / +100                       | 142           |
| E0-0225   | 4                                  | 3400                        | 420                        | -20 / +80                        | 8.5           | E7-0560   | 45                                 | 1300                        | 3700                       | -20 / +100                       | 150           |
| E2-0225   | 4                                  | 3400                        | 420                        | -20 / +80                        | 10.7          | G2E2-0560 | 15                                 | 800                         | 1450                       | -20 / +80                        | 185           |
| E4-0225   | 4                                  | 3400                        | 420                        | -20 / +100                       | 14.5          | G2E4-0560 | 18.5                               | 900                         | 1760                       | -20 / +100                       | 268           |
| G2E0-0225 | 4                                  | 2600                        | 420                        | -20 / +80                        | 18            | G2E7-0560 | 45                                 | 1200                        | 4000                       | -20 / +100                       | 319           |
| G2E2-0225 | 4                                  | 2600                        | 420                        | -20 / +80                        | 24            | L-0630    | 15                                 | 900                         | 1450                       | -20 / +80                        | 91            |
| E0-0250   | 4                                  | 2800                        | 420                        | -20 / +80                        | 10.5          | R-0630    | 15                                 | 900                         | 1450                       | -20 / +80                        | 106           |
| E2-0250   | 4                                  | 2800                        | 420                        | -20 / +80                        | 13            | K-0630    | 18.5                               | 1000                        | 1760                       | -20 / +100                       | 170           |
| E4-0250   | 7.5                                | 3000                        | 450                        | -20 / +100                       | 18            | K1-0630   | 30                                 | 1100                        | 2550                       | -20 / +100                       | 175           |
| G2E0-0250 | 4                                  | 2200                        | 420                        | -20 / +80                        | 22            | G2K-0630  | 45                                 | 1100                        | 3700                       | -20 / +100                       | 180           |
| G2E2-0250 | 4                                  | 2200                        | 420                        | -20 / +80                        | 29            | G2R-0630  | 15                                 | 700                         | 1450                       | -20 / +80                        | 230           |
| G2E4-0250 | 7.5                                | 2300                        | 450                        | -20 / +100                       | 38            | G2K-0630  | 18.5                               | 750                         | 1760                       | -20 / +100                       | 342           |
| G2E7-0250 | 15                                 | 2800                        | 1250                       | -20 / +100                       | 44            | G2K2-0630 | 55                                 | 1000                        | 4000                       | -20 / +100                       | 393           |
| E0-0280   | 5.5                                | 2500                        | 530                        | -20 / +80                        | 14.2          | L-0710    | 18.5                               | 750                         | 1800                       | -20 / +80                        | 118           |
| E2-0280   | 5.5                                | 2500                        | 530                        | -20 / +80                        | 18            | R-0710    | 18.5                               | 750                         | 1800                       | -20 / +80                        | 135           |
| E4-0280   | 11                                 | 2700                        | 660                        | -20 / +100                       | 24            | K-0710    | 22                                 | 850                         | 1900                       | -20 / +100                       | 201           |
| G2E0-0280 | 5.5                                | 2000                        | 530                        | -20 / +80                        | 30            | K1-0710   | 37                                 | 900                         | 3550                       | -20 / +100                       | 208           |
| G2E2-0280 | 5.5                                | 2000                        | 530                        | -20 / +80                        | 39            | K2-0710   | 55                                 | 900                         | 5800                       | -20 / +100                       | 225           |
| G2E4-0280 | 11                                 | 2200                        | 660                        | -20 / +100                       | 50            | G2K-0710  | 30                                 | 700                         | 3000                       | -20 / +100                       | 532           |
| G2E7-0280 | 22                                 | 2400                        | 1700                       | -20 / +100                       | 59            | G2K2-0710 | 75                                 | 800                         | 7000                       | -20 / +100                       | 537           |
| E0-0315   | 5.5                                | 2100                        | 530                        | -20 / +80                        | 18            | K-0800    | 22                                 | 750                         | 1900                       | -20 / +100                       | 249           |
| E2-0315   | 5.5                                | 2100                        | 530                        | -20 / +80                        | 22            | K1-0800   | 37                                 | 800                         | 3550                       | -20 / +100                       | 261           |
| E4-0315   | 11                                 | 2400                        | 660                        | -20 / +100                       | 29            | K2-0800   | 55                                 | 800                         | 5800                       | -20 / +100                       | 278           |
| E6-0315   | 18.5                               | 2400                        | 1050                       | -20 / +100                       | 30            | G2K-0800  | 30                                 | 600                         | 3000                       | -20 / +100                       | 665           |
| G2E0-0315 | 5.5                                | 1600                        | 530                        | -20 / +80                        | 38            | G2K2-0800 | 75                                 | 700                         | 7000                       | -20 / +100                       | 670           |
| G2E2-0315 | 5.5                                | 1600                        | 530                        | -20 / +80                        | 48            | K-0900    | 30                                 | 650                         | 3000                       | -20 / +100                       | 306           |
| G2E4-0315 | 11                                 | 1900                        | 660                        | -20 / +100                       | 60            | K1-0900   | 45                                 | 700                         | 3900                       | -20 / +100                       | 316           |
| G2E7-0315 | 30                                 | 2100                        | 2000                       | -20 / +100                       | 73            | K2-0900   | 75                                 | 700                         | 7000                       | -20 / +100                       | 320           |
| E0-0355   | 7.5                                | 1800                        | 840                        | -20 / +80                        | 23            | G2K-0900  | 37                                 | 500                         | 3000                       | -20 / +100                       | 801           |
| E2-0355   | 7.5                                | 1800                        | 840                        | -20 / +80                        | 29            | G2K2-0900 | 75                                 | 600                         | 7000                       | -20 / +100                       | 806           |
| E4-0355   | 15                                 | 2000                        | 940                        | -20 / +100                       | 41            | K-1000    | 37                                 | 600                         | 3000                       | -20 / +100                       | 333           |
| E6-0355   | 22                                 | 2000                        | 1450                       | -20 / +100                       | 42            | K1-1000   | 45                                 | 600                         | 3900                       | -20 / +100                       | 356           |
| G2E0-0355 | 7.5                                | 1500                        | 840                        | -20 / +80                        | 49            | G2K-1000  | 75                                 | 650                         | 7000                       | -20 / +100                       | 360           |
| G2E2-0355 | 7.5                                | 1500                        | 840                        | -20 / +80                        | 63            | G2K2-1000 | 37                                 | 450                         | 3000                       | -20 / +100                       | 894           |
| G2E4-0355 | 15                                 | 1700                        | 940                        | -20 / +100                       | 84            | G2K2-1000 | 75                                 | 500                         | 7000                       | -20 / +100                       | 899           |
| G2E7-0355 | 30                                 | 1900                        | 2000                       | -20 / +100                       | 98            |           |                                    |                             |                            |                                  |               |
| E0-0400   | 7.5                                | 1600                        | 840                        | -20 / +80                        | 31            |           |                                    |                             |                            |                                  |               |
| E2-0400   | 7.5                                | 1600                        | 840                        | -20 / +80                        | 38            |           |                                    |                             |                            |                                  |               |
| E4-0400   | 15                                 | 1800                        | 940                        | -20 / +100                       | 52            |           |                                    |                             |                            |                                  |               |
| E6-0400   | 22                                 | 1800                        | 1450                       | -20 / +100                       | 53            |           |                                    |                             |                            |                                  |               |
| G2E0-0400 | 7.5                                | 1200                        | 840                        | -20 / +80                        | 66            |           |                                    |                             |                            |                                  |               |
| G2E2-0400 | 7.5                                | 1200                        | 840                        | -20 / +80                        | 82            |           |                                    |                             |                            |                                  |               |
| G2E4-0400 | 15                                 | 1400                        | 940                        | -20 / +100                       | 108           |           |                                    |                             |                            |                                  |               |
| G2E7-0400 | 37                                 | 1800                        | 2950                       | -20 / +100                       | 133           |           |                                    |                             |                            |                                  |               |
| E0-0450   | 11                                 | 1400                        | 1180                       | -20 / +80                        | 42            |           |                                    |                             |                            |                                  |               |
| E2-0450   | 11                                 | 1400                        | 1180                       | -20 / +80                        | 50            |           |                                    |                             |                            |                                  |               |
| E4-0450   | 15                                 | 1500                        | 1320                       | -20 / +100                       | 66            |           |                                    |                             |                            |                                  |               |
| E6-0450   | 30                                 | 1500                        | 1800                       | -20 / +100                       | 67            |           |                                    |                             |                            |                                  |               |
| G2E0-0450 | 11                                 | 1000                        | 1180                       | -20 / +80                        | 90            |           |                                    |                             |                            |                                  |               |
| G2E2-0450 | 11                                 | 1000                        | 1180                       | -20 / +80                        | 107           |           |                                    |                             |                            |                                  |               |
| G2E4-0450 | 15                                 | 1200                        | 1320                       | -20 / +100                       | 135           |           |                                    |                             |                            |                                  |               |
| G2E7-0450 | 37                                 | 1400                        | 2950                       | -20 / +100                       | 159           |           |                                    |                             |                            |                                  |               |

# Description

**Operating limits AT**

| AT        | Permissible<br>nominal<br>motor<br>power<br>kW | Permissible<br>fan speed<br>1/min | Permissible<br>bearing<br>load<br>N | Permissible<br>media<br>temperature<br>°C | Fan<br>weight<br>kg | AT          | Permissible<br>nominal<br>motor<br>power<br>kW | Permissible<br>fan speed<br>1/min | Permissible<br>bearing<br>load<br>N | Permissible<br>media<br>temperature<br>°C | Fan<br>weight<br>kg |
|-----------|--|-----------------------------------|-------------------------------------|---|---------------------|-------------|--|-----------------------------------|-------------------------------------|---|---------------------|
| S-7/7     | 3  | 2600                              | 350                                 | -20 / +85                                 | 5                   | S-18/13     | 7.5  | 1200                              | 620                                 | -20 / +85                                 | 27                  |
| SC-7/7    | 3  | 2600                              | 350                                 | -20 / +85                                 | 6                   | SC-18/13    | 7.5  | 1200                              | 620                                 | -20 / +85                                 | 33                  |
| G2L-7/7   | 3  | 2400                              | 350                                 | -20 / +85                                 | 11.7                | AR-18/13    | 15   | 1200                              | 1200                                | -20 / +100                                | 33                  |
| SC2-7/7   | 3  | 2600                              | 350                                 | -20 / +85                                 | 13.7                | G2L-18/13   | 7.5  | 1100                              | 620                                 | -20 / +85                                 | 57.8                |
| S-9/7     | 3  | 2500                              | 350                                 | -20 / +85                                 | 6.6                 | SC2-18/13   | 7.5  | 1200                              | 620                                 | -20 / +85                                 | 69.8                |
| SC-9/7    | 3  | 2500                              | 350                                 | -20 / +85                                 | 8.3                 | G2C-18/13   | 15   | 1200                              | 1600                                | -20 / +100                                | 91                  |
| AR-9/7    | 7.5  | 2500                              | 620                                 | -20 / +100                                | 8.3                 | G3C-18/13   | 15   | 1000                              | 1600                                | -20 / +100                                | 118                 |
| G2L-9/7   | 3  | 2400                              | 350                                 | -20 / +85                                 | 14.9                | S-18/18     | 7.5  | 1100                              | 620                                 | -20 / +85                                 | 32.5                |
| SC2-9/7   | 3  | 2500                              | 350                                 | -20 / +85                                 | 18                  | SC-18/18    | 7.5  | 1100                              | 620                                 | -20 / +85                                 | 38.2                |
| G2C-9/7   | 7.5  | 2500                              | 1000                                | -20 / +100                                | 23.5                | AR-18/18    | 15   | 1100                              | 1200                                | -20 / +100                                | 38.2                |
| S-9/9     | 3  | 2100                              | 350                                 | -20 / +85                                 | 7.9                 | G2L-18/18   | 7.5  | 800                               | 620                                 | -20 / +85                                 | 70.5                |
| SC-9/9    | 3  | 2100                              | 350                                 | -20 / +85                                 | 9.5                 | SC2-18/18   | 7.5  | 800                               | 620                                 | -20 / +85                                 | 81.9                |
| AR-9/9    | 7.5  | 2100                              | 620                                 | -20 / +100                                | 9.5                 | G2C-18/18   | 15   | 1000                              | 1600                                | -20 / +100                                | 106                 |
| G2L-9/9   | 3  | 2000                              | 350                                 | -20 / +85                                 | 18.1                | G3C-18/18   | 15   | 700                               | 1600                                | -20 / +100                                | 137                 |
| SC2-9/9   | 3  | 2100                              | 350                                 | -20 / +85                                 | 21.8                | TIC-20/15   | 15   | 1300                              | 1200                                | -20 / +100                                | 71                  |
| G2C-9/9   | 7.5  | 2100                              | 1000                                | -20 / +100                                | 27                  | G2C-20/15   | 18.5   | 1300                              | 1600                                | -20 / +100                                | 137                 |
| S-10/8    | 3  | 2500                              | 350                                 | -20 / +85                                 | 8.3                 | G2CC2-20/15 | 45   | 1300                              | 6500                                | -20 / +100                                | 144                 |
| SC-10/8   | 3  | 2500                              | 350                                 | -20 / +85                                 | 9.8                 | G3C-20/15   | 18.5   | 900                               | 1600                                | -20 / +100                                | 315                 |
| AR-10/8   | 7.5  | 2500                              | 620                                 | -20 / +100                                | 9.8                 | G3CC2-20/15 | 45   | 1100                              | 6500                                | -20 / +100                                | 319                 |
| G2L-10/8  | 3  | 2100                              | 350                                 | -20 / +85                                 | 18.5                | TIC-20/20   | 15   | 1300                              | 1200                                | -20 / +100                                | 78                  |
| SC2-10/8  | 3  | 2500                              | 350                                 | -20 / +85                                 | 21.8                | G2C-20/20   | 18.5   | 900                               | 1600                                | -20 / +100                                | 150                 |
| G2C-10/8  | 7.5  | 2500                              | 1000                                | -20 / +100                                | 27                  | G2CC2-20/20 | 45   | 1200                              | 6500                                | -20 / +100                                | 158                 |
| S-10/10   | 4  | 2000                              | 350                                 | -20 / +85                                 | 9.3                 | G3C-20/20   | 18.5   | 700                               | 1600                                | -20 / +100                                | 355                 |
| SC-10/10  | 4  | 2000                              | 350                                 | -20 / +85                                 | 11                  | G3CC2-20/20 | 45   | 800                               | 6500                                | -20 / +100                                | 359                 |
| AR-10/10  | 7.5  | 2000                              | 620                                 | -20 / +100                                | 11                  | TIC-22/15   | 15   | 1300                              | 1200                                | -20 / +100                                | 73                  |
| G2L-10/10 | 3  | 1800                              | 350                                 | -20 / +85                                 | 21.1                | G2C-22/15   | 18.5   | 1300                              | 1600                                | -20 / +100                                | 141                 |
| SC2-10/10 | 3  | 2000                              | 350                                 | -20 / +85                                 | 23.5                | G2CC2-22/15 | 45   | 1300                              | 6500                                | -20 / +100                                | 148                 |
| G2C-10/10 | 7.5  | 1700                              | 1000                                | -20 / +100                                | 31                  | G3C-22/15   | 18.5   | 800                               | 1600                                | -20 / +100                                | 340                 |
| S-12/9    | 5.5  | 2000                              | 620                                 | -20 / +85                                 | 12.7                | G3CC2-22/15 | 45   | 1000                              | 6500                                | -20 / +100                                | 347                 |
| SC-12/9   | 5.5  | 2000                              | 620                                 | -20 / +85                                 | 16                  | TIC-22/22   | 15   | 1200                              | 1200                                | -20 / +100                                | 82.5                |
| AR-12/9   | 11   | 2000                              | 1000                                | -20 / +100                                | 16                  | G2C-22/22   | 18.5   | 900                               | 1600                                | -20 / +100                                | 165                 |
| G2L-12/9  | 5.5  | 1800                              | 620                                 | -20 / +85                                 | 28.2                | G2CC2-22/22 | 45   | 1000                              | 6500                                | -20 / +100                                | 173                 |
| SC2-12/9  | 5.5  | 2000                              | 620                                 | -20 / +85                                 | 34.8                | G3C-22/22   | 18.5   | 600                               | 1600                                | -20 / +100                                | 425                 |
| G2C-12/9  | 11   | 2000                              | 1200                                | -20 / +100                                | 45.5                | G3CC2-22/22 | 45   | 800                               | 6500                                | -20 / +100                                | 438                 |
| G3C-12/9  | 11   | 2000                              | 1200                                | -20 / +100                                | 70                  | TIC-25/20   | 15   | 1000                              | 1600                                | -20 / +100                                | 93                  |
| S-12/12   | 5.5  | 1500                              | 620                                 | -20 / +85                                 | 15.2                | G2C-25/20   | 18.5   | 700                               | 1600                                | -20 / +100                                | 195                 |
| SC-12/12  | 5.5  | 1500                              | 620                                 | -20 / +85                                 | 18.4                | G2CC2-25/20 | 45   | 800                               | 6500                                | -20 / +100                                | 202                 |
| AR-12/12  | 11   | 1500                              | 1000                                | -20 / +100                                | 18.4                | G3C-25/20   | 18.5   | 600                               | 1600                                | -20 / +100                                | 432                 |
| G2L-12/12 | 5.5  | 1400                              | 620                                 | -20 / +85                                 | 33.8                | G3CC2-25/20 | 45   | 700                               | 6500                                | -20 / +100                                | 436                 |
| SC2-12/12 | 5.5  | 1500                              | 620                                 | -20 / +85                                 | 40.2                | TIC-25/25   | 15   | 900                               | 1600                                | -20 / +100                                | 105                 |
| G2C-12/12 | 11   | 1400                              | 1200                                | -20 / +100                                | 51                  | G2C-25/25   | 18.5   | 700                               | 1600                                | -20 / +100                                | 202                 |
| G3C-12/12 | 11   | 1400                              | 1200                                | -20 / +100                                | 81                  | G2CC2-25/25 | 55   | 800                               | 6500                                | -20 / +100                                | 210                 |
| S-15/11   | 5.5  | 2000                              | 620                                 | -20 / +85                                 | 17.7                | G3C-25/25   | 18.5   | 500                               | 1600                                | -20 / +100                                | 480                 |
| SC-15/11  | 5.5  | 2000                              | 620                                 | -20 / +85                                 | 20.9                | G3CC2-25/25 | 55   | 600                               | 6500                                | -20 / +100                                | 484                 |
| AR-15/11  | 11   | 2000                              | 1000                                | -20 / +100                                | 20.9                | TIC-28/20   | 18.5   | 800                               | 1600                                | -20 / +100                                | 120                 |
| G2L-15/11 | 5.5  | 1400                              | 620                                 | -20 / +85                                 | 39.7                | G2C-28/20   | 18.5   | 600                               | 1600                                | -20 / +100                                | 210                 |
| SC2-15/11 | 5.5  | 2000                              | 620                                 | -20 / +85                                 | 46.1                | G2CC2-28/20 | 55   | 800                               | 7000                                | -20 / +100                                | 218                 |
| G2C-15/11 | 11   | 1500                              | 1200                                | -20 / +100                                | 57.4                | G3C-28/20   | 18.5   | 600                               | 1600                                | -20 / +100                                | 474                 |
| G3C-15/11 | 15   | 1500                              | 1600                                | -20 / +100                                | 90                  | G3CC2-28/20 | 55   | 650                               | 7000                                | -20 / +100                                | 478                 |
| S-15/15   | 5.5  | 1200                              | 620                                 | -20 / +85                                 | 20.6                | TIC-28/28   | 18.5   | 800                               | 1600                                | -20 / +100                                | 127                 |
| SC-15/15  | 5.5  | 1200                              | 620                                 | -20 / +85                                 | 24.5                | G2C-28/28   | 18.5   | 600                               | 1600                                | -20 / +100                                | 235                 |
| AR-15/15  | 11   | 1200                              | 1000                                | -20 / +100                                | 24.5                | G2CC2-28/28 | 55   | 700                               | 7000                                | -20 / +100                                | 244                 |
| G2L-15/15 | 5.5  | 1100                              | 620                                 | -20 / +85                                 | 45.3                | G3C-28/28   | 18.5   | 400                               | 1600                                | -20 / +100                                | 539                 |
| SC2-15/15 | 5.5  | 1200                              | 620                                 | -20 / +85                                 | 53.1                | G3CC2-28/28 | 55   | 550                               | 7000                                | -20 / +100                                | 543                 |
| G2C-15/15 | 11   | 950                               | 1200                                | -20 / +100                                | 68                  | TIC-30/20   | 18.5   | 800                               | 1600                                | -20 / +100                                | 131                 |
| G3C-15/15 | 15   | 1000                              | 1600                                | -20 / +100                                | 108                 | G2C-30/20   | 18.5   | 600                               | 1600                                | -20 / +100                                | 245                 |
|           |  |                                   |                                     |   |                     | G2CC2-30/20 | 55   | 700                               | 7000                                | -20 / +100                                | 253                 |
|           |  |                                   |                                     |   |                     | G3C-30/20   | 18.5   | 550                               | 1600                                | -20 / +100                                | 505                 |
|           |  |                                   |                                     |   |                     | G3CC2-30/20 | 55   | 600                               | 7000                                | -20 / +100                                | 509                 |
|           |  |                                   |                                     |   |                     | TIC-30/28   | 18.5   | 800                               | 1600                                | -20 / +100                                | 138                 |
|           |  |                                   |                                     |   |                     | G2C-30/28   | 18.5   | 600                               | 1600                                | -20 / +100                                | 302                 |
|           |  |                                   |                                     |   |                     | G2CC2-30/28 | 55   | 700                               | 7000                                | -20 / +100                                | 310                 |
|           |  |                                   |                                     |   |                     | G3C-30/28   | 18.5   | 400                               | 1600                                | -20 / +100                                | 577                 |
|           |  |                                   |                                     |   |                     | G3CC2-30/28 | 55   | 500                               | 7000                                | -20 / +100                                | 581                 |

# Description

## Operating limits RDH

| RDH       | Permissible<br>nominal<br>motor<br>power<br>kW | Permissible<br>fan speed<br>1/min | Permissible<br>bearing<br>load<br>N | Permissible<br>media<br>temperature<br>°C | Fan<br>weight<br>kg | RDH       | Permissible<br>nominal<br>motor<br>power<br>kW | Permissible<br>fan speed<br>1/min | Permissible<br>bearing<br>load<br>N | Permissible<br>media<br>temperature<br>°C | Fan<br>weight<br>kg |
|-----------|--|-----------------------------------|-------------------------------------|---|---------------------|-----------|--|-----------------------------------|-------------------------------------|---|---------------------|
| E0-0180   | 2.2  | 6800                              | 420                                 | -20 / +80                                 | 5.3                 | R-0710    | 15   | 1300                              | 1800                                | -20 / +80                                 | 165                 |
| E2-0180   | 2.2  | 6800                              | 420                                 | -20 / +80                                 | 7.1                 | K-0710    | 22   | 1500                              | 1900                                | -20 / +100                                | 220                 |
| E0-0200   | 3  | 6000                              | 420                                 | -20 / +80                                 | 6.6                 | K1-0710   | 37   | 1700                              | 3550                                | -20 / +100                                | 240                 |
| E2-0200   | 3  | 6000                              | 420                                 | -20 / +80                                 | 8.5                 | K2-0710   | 55   | 2000                              | 5800                                | -20 / +100                                | 250                 |
| E4-0200   | 3  | 6800                              | 420                                 | -20 / +100                                | 11.8                | G2K-0710  | 30   | 1400                              | 3000                                | -20 / +100                                | 580                 |
| E0-0225   | 4  | 5800                              | 420                                 | -20 / +80                                 | 7.8                 | G2K2-0710 | 75   | 1700                              | 7000                                | -20 / +100                                | 586                 |
| E2-0225   | 4  | 5800                              | 420                                 | -20 / +80                                 | 9.9                 | K-0800    | 22   | 1200                              | 1900                                | -20 / +100                                | 270                 |
| E4-0225   | 4  | 6000                              | 420                                 | -20 / +100                                | 13.6                | K1-0800   | 37   | 1400                              | 3550                                | -20 / +100                                | 297                 |
| E0-0250   | 4  | 4600                              | 420                                 | -20 / +80                                 | 13.3                | K2-0800   | 55   | 1650                              | 5800                                | -20 / +100                                | 305                 |
| E2-0250   | 4  | 4600                              | 420                                 | -20 / +80                                 | 15.7                | G2K-0800  | 30   | 1150                              | 3000                                | -20 / +100                                | 747                 |
| E4-0250   | 5.5  | 5400                              | 450                                 | -20 / +100                                | 21                  | G2K2-0800 | 75   | 1400                              | 7000                                | -20 / +100                                | 753                 |
| G2E4-0250 | 5.5  | 2900                              | 450                                 | -20 / +100                                | 46                  | K-0900    | 30   | 1100                              | 3000                                | -20 / +100                                | 343                 |
| G2E7-0250 | 7.5  | 3500                              | 660                                 | -20 / +100                                | 49                  | K1-0900   | 45   | 1250                              | 3900                                | -20 / +100                                | 355                 |
| E0-0280   | 5.5  | 4000                              | 530                                 | -20 / +80                                 | 17.8                | K2-0900   | 75   | 1500                              | 7000                                | -20 / +100                                | 375                 |
| E2-0280   | 5.5  | 4000                              | 530                                 | -20 / +80                                 | 21                  | G2K-0900  | 37   | 1000                              | 3000                                | -20 / +100                                | 883                 |
| E4-0280   | 7.5  | 4700                              | 660                                 | -20 / +100                                | 28                  | G2K2-0900 | 75   | 1100                              | 7000                                | -20 / +100                                | 889                 |
| G2E4-0280 | 5.5  | 3000                              | 660                                 | -20 / +100                                | 61                  | K-1000    | 37   | 1000                              | 3000                                | -20 / +100                                | 415                 |
| G2E7-0280 | 11   | 3400                              | 940                                 | -20 / +100                                | 65                  | K1-1000   | 45   | 1000                              | 3900                                | -20 / +100                                | 430                 |
| E0-0315   | 5.5  | 3500                              | 530                                 | -20 / +80                                 | 21                  | K2-1000   | 75   | 1300                              | 7000                                | -20 / +100                                | 450                 |
| E2-0315   | 5.5  | 3500                              | 530                                 | -20 / +80                                 | 25                  | G2K-1000  | 37   | 800                               | 3000                                | -20 / +100                                | 1048                |
| E4-0315   | 7.5  | 4100                              | 660                                 | -20 / +100                                | 32                  | G2K2-1000 | 75   | 800                               | 7000                                | -20 / +100                                | 1054                |
| E6-0315   | 11   | 4500                              | 1050                                | -20 / +100                                | 34                  | X1-1120   | 55   | 900                               | 8000                                | -20 / +100                                | 610                 |
| G2E4-0315 | 5.5  | 2200                              | 660                                 | -20 / +100                                | 70                  | X2-1120   | 110  | 1170                              | 8000                                | -20 / +100                                | 890                 |
| G2E7-0315 | 11   | 3300                              | 1320                                | -20 / +100                                | 79                  | X1-1250   | 75   | 800                               | 8000                                | -20 / +100                                | 950                 |
| E0-0355   | 7.5  | 3300                              | 840                                 | -20 / +80                                 | 29                  | X2-1250   | 132  | 1050                              | 10000                               | -20 / +100                                | 1140                |
| E2-0355   | 7.5  | 3300                              | 840                                 | -20 / +80                                 | 34                  | X1-1400   | 90   | 720                               | 9000                                | -20 / +100                                | 1370                |
| E4-0355   | 11   | 3800                              | 940                                 | -20 / +100                                | 46                  | X2-1400   | 160  | 930                               | 12500                               | -20 / +100                                | 1390                |
| E6-0355   | 15   | 4000                              | 1450                                | -20 / +100                                | 47                  |           |  |                                   |                                     |   |                     |
| G2E4-0355 | 7.5  | 2000                              | 940                                 | -20 / +100                                | 104                 |           |  |                                   |                                     |   |                     |
| G2E7-0355 | 11   | 2600                              | 1320                                | -20 / +100                                | 109                 |           |  |                                   |                                     |   |                     |
| E0-0400   | 7.5  | 2700                              | 840                                 | -20 / +80                                 | 36                  |           |  |                                   |                                     |   |                     |
| E2-0400   | 7.5  | 2700                              | 840                                 | -20 / +80                                 | 42                  |           |  |                                   |                                     |   |                     |
| E4-0400   | 15   | 3100                              | 940                                 | -20 / +100                                | 57                  |           |  |                                   |                                     |   |                     |
| E6-0400   | 22   | 3500                              | 1450                                | -20 / +100                                | 58                  |           |  |                                   |                                     |   |                     |
| G2E4-0400 | 7.5  | 1600                              | 940                                 | -20 / +100                                | 126                 |           |  |                                   |                                     |   |                     |
| G2E7-0400 | 18.5   | 2800                              | 1760                                | -20 / +100                                | 144                 |           |  |                                   |                                     |   |                     |
| E0-0450   | 11   | 2500                              | 1180                                | -20 / +80                                 | 50                  |           |  |                                   |                                     |   |                     |
| E2-0450   | 11   | 2500                              | 1180                                | -20 / +80                                 | 57                  |           |  |                                   |                                     |   |                     |
| E4-0450   | 15   | 2800                              | 1320                                | -20 / +100                                | 73                  |           |  |                                   |                                     |   |                     |
| E6-0450   | 30   | 3200                              | 1800                                | -20 / +100                                | 75                  |           |  |                                   |                                     |   |                     |
| G2E4-0450 | 11   | 1400                              | 1320                                | -20 / +100                                | 160                 |           |  |                                   |                                     |   |                     |
| G2E7-0450 | 18.5   | 2200                              | 1760                                | -20 / +100                                | 176                 |           |  |                                   |                                     |   |                     |
| E0-0500   | 11   | 2100                              | 1180                                | -20 / +80                                 | 62                  |           |  |                                   |                                     |   |                     |
| E2-0500   | 11   | 2100                              | 1180                                | -20 / +80                                 | 70                  |           |  |                                   |                                     |   |                     |
| E4-0500   | 15   | 2350                              | 1320                                | -20 / +100                                | 90                  |           |  |                                   |                                     |   |                     |
| E6-0500   | 30   | 2650                              | 1800                                | -20 / +100                                | 92                  |           |  |                                   |                                     |   |                     |
| E7-0500   | 37   | 2800                              | 2200                                | -20 / +100                                | 110                 |           |  |                                   |                                     |   |                     |
| G2E4-0500 | 11   | 1200                              | 1320                                | -20 / +100                                | 197                 |           |  |                                   |                                     |   |                     |
| G2E7-0500 | 30   | 2200                              | 3000                                | -20 / +100                                | 235                 |           |  |                                   |                                     |   |                     |
| E0-0560   | 15   | 1950                              | 1450                                | -20 / +80                                 | 79                  |           |  |                                   |                                     |   |                     |
| E2-0560   | 15   | 1950                              | 1450                                | -20 / +80                                 | 92                  |           |  |                                   |                                     |   |                     |
| E4-0560   | 18.5   | 2100                              | 1760                                | -20 / +100                                | 141                 |           |  |                                   |                                     |   |                     |
| E6-0560   | 30   | 2400                              | 2550                                | -20 / +100                                | 148                 |           |  |                                   |                                     |   |                     |
| E7-0560   | 37   | 2600                              | 3700                                | -20 / +100                                | 153                 |           |  |                                   |                                     |   |                     |
| G2E4-0560 | 11   | 1100                              | 1760                                | -20 / +100                                | 301                 |           |  |                                   |                                     |   |                     |
| G2E7-0560 | 30   | 1900                              | 3000                                | -20 / +100                                | 336                 |           |  |                                   |                                     |   |                     |
| R-0630    | 15   | 1600                              | 1450                                | -20 / +80                                 | 119                 |           |  |                                   |                                     |   |                     |
| K-0630    | 18.5   | 1700                              | 1760                                | -20 / +100                                | 173                 |           |  |                                   |                                     |   |                     |
| K1-0630   | 30   | 2000                              | 2550                                | -20 / +100                                | 180                 |           |  |                                   |                                     |   |                     |
| K2-0630   | 45   | 2300                              | 3700                                | -20 / +100                                | 185                 |           |  |                                   |                                     |   |                     |
| G2K-0630  | 15   | 1000                              | 1760                                | -20 / +100                                | 370                 |           |  |                                   |                                     |   |                     |
| G2K2-0630 | 37   | 1400                              | 3000                                | -20 / +100                                | 408                 |           |  |                                   |                                     |   |                     |



# Description

## Operating limits RZR

|         | Permissible nominal motor power | Permissible fan speed | Permissible bearing load | Permissible media temperature | Fan weight |         | Permissible nominal motor power | Permissible fan speed | Permissible bearing load | Permissible media temperature | Fan weight |
|---------|---------------------------------|-----------------------|--------------------------|-------------------------------|------------|---------|---------------------------------|-----------------------|--------------------------|-------------------------------|------------|
| RZR     | kW                              | 1/min                 | N                        | °C                            | kg         | RZR     | kW                              | 1/min                 | N                        | °C                            | kg         |
| 11-0200 | 7.5                             | 7490                  | 480                      | -20 / +80                     | 11         | 18-0900 | 75                              | 1540                  | 6000                     | -20 / +80                     | 409        |
| 12-0200 | 7.5                             | 7490                  | 480                      | -20 / +80                     | 12         | 13-0900 | 75                              | 1540                  | 6000                     | -20 / +80                     | 447        |
| 19-0200 | 7.5                             | 7490                  | 480                      | -20 / +80                     | 13         | 11-1000 | 22                              | 800                   | 2200                     | -20 / +80                     | 416        |
| 11-0225 | 7.5                             | 6640                  | 500                      | -20 / +80                     | 13         | 15-1000 | 75                              | 1140                  | 6200                     | -20 / +80                     | 416        |
| 12-0225 | 7.5                             | 6640                  | 500                      | -20 / +80                     | 15         | 19-1000 | 75                              | 1140                  | 6200                     | -20 / +80                     | 462        |
| 19-0225 | 7.5                             | 6640                  | 500                      | -20 / +80                     | 16         | 18-1000 | 75                              | 1400                  | 6200                     | -20 / +80                     | 471        |
| 11-0250 | 7.5                             | 5250                  | 540                      | -20 / +80                     | 15         | 13-1000 | 75                              | 1400                  | 6200                     | -20 / +80                     | 517        |
| 12-0250 | 7.5                             | 5250                  | 540                      | -20 / +80                     | 17         | 13-1120 | 132                             | 1220                  | 10000                    | -20 / +80                     | 710        |
| 19-0250 | 7.5                             | 5970                  | 540                      | -20 / +80                     | 17         | 13-1250 | 160                             | 1100                  | 15000                    | -20 / +80                     | 1100       |
| 11-0280 | 7.5                             | 5235                  | 630                      | -20 / +80                     | 20         | 13-1400 | 200                             | 1000                  | 20000                    | -20 / +80                     | 1390       |
| 12-0280 | 7.5                             | 5235                  | 630                      | -20 / +80                     | 23         | 13-1600 | 250                             | 860                   | 20000                    | -20 / +80                     | 1870       |
| 19-0280 | 11                              | 5300                  | 850                      | -20 / +80                     | 23         |         |                                 |                       |                          |                               |            |
| 11-0315 | 7.5                             | 4418                  | 660                      | -20 / +80                     | 24         |         |                                 |                       |                          |                               |            |
| 12-0315 | 7.5                             | 4418                  | 660                      | -20 / +80                     | 27         |         |                                 |                       |                          |                               |            |
| 19-0315 | 11                              | 4730                  | 910                      | -20 / +80                     | 28         |         |                                 |                       |                          |                               |            |
| 11-0355 | 7.5                             | 3200                  | 720                      | -20 / +80                     | 33         |         |                                 |                       |                          |                               |            |
| 12-0355 | 7.5                             | 3200                  | 720                      | -20 / +80                     | 36         |         |                                 |                       |                          |                               |            |
| 19-0355 | 11                              | 4187                  | 950                      | -20 / +80                     | 39         |         |                                 |                       |                          |                               |            |
| 11-0400 | 7.5                             | 3027                  | 1020                     | -20 / +80                     | 43         |         |                                 |                       |                          |                               |            |
| 12-0400 | 7.5                             | 3027                  | 1020                     | -20 / +80                     | 49         |         |                                 |                       |                          |                               |            |
| 15-0400 | 30                              | 3600                  | 1970                     | -20 / +80                     | 61         |         |                                 |                       |                          |                               |            |
| 19-0400 | 30                              | 3600                  | 1970                     | -20 / +80                     | 66         |         |                                 |                       |                          |                               |            |
| 18-0400 | 30                              | 3600                  | 1970                     | -20 / +80                     | 70         |         |                                 |                       |                          |                               |            |
| 13-0400 | 30                              | 3600                  | 1970                     | -20 / +80                     | 75         |         |                                 |                       |                          |                               |            |
| 11-0450 | 7.5                             | 2504                  | 1080                     | -20 / +80                     | 54         |         |                                 |                       |                          |                               |            |
| 12-0450 | 7.5                             | 2504                  | 1080                     | -20 / +80                     | 60         |         |                                 |                       |                          |                               |            |
| 15-0450 | 30                              | 3360                  | 2000                     | -20 / +80                     | 73         |         |                                 |                       |                          |                               |            |
| 19-0450 | 30                              | 3360                  | 2000                     | -20 / +80                     | 82         |         |                                 |                       |                          |                               |            |
| 18-0450 | 30                              | 3360                  | 2000                     | -20 / +80                     | 83         |         |                                 |                       |                          |                               |            |
| 13-0450 | 30                              | 3360                  | 2000                     | -20 / +80                     | 92         |         |                                 |                       |                          |                               |            |
| 11-0500 | 7.5                             | 2050                  | 1140                     | -20 / +80                     | 65         |         |                                 |                       |                          |                               |            |
| 12-0500 | 7.5                             | 2050                  | 1140                     | -20 / +80                     | 72         |         |                                 |                       |                          |                               |            |
| 15-0500 | 30                              | 2920                  | 2040                     | -20 / +80                     | 94         |         |                                 |                       |                          |                               |            |
| 19-0500 | 30                              | 2920                  | 2040                     | -20 / +80                     | 105        |         |                                 |                       |                          |                               |            |
| 18-0500 | 30                              | 2920                  | 2040                     | -20 / +80                     | 105        |         |                                 |                       |                          |                               |            |
| 13-0500 | 30                              | 2920                  | 2040                     | -20 / +80                     | 116        |         |                                 |                       |                          |                               |            |
| 11-0560 | 15                              | 2205                  | 1830                     | -20 / +80                     | 103        |         |                                 |                       |                          |                               |            |
| 12-0560 | 15                              | 2205                  | 1830                     | -20 / +80                     | 109        |         |                                 |                       |                          |                               |            |
| 15-0560 | 37                              | 2400                  | 2950                     | -20 / +80                     | 125        |         |                                 |                       |                          |                               |            |
| 19-0560 | 37                              | 2400                  | 2950                     | -20 / +80                     | 136        |         |                                 |                       |                          |                               |            |
| 18-0560 | 37                              | 2490                  | 2950                     | -20 / +80                     | 140        |         |                                 |                       |                          |                               |            |
| 13-0560 | 37                              | 2490                  | 2950                     | -20 / +80                     | 151        |         |                                 |                       |                          |                               |            |
| 11-0630 | 15                              | 1838                  | 1960                     | -20 / +80                     | 124        |         |                                 |                       |                          |                               |            |
| 12-0630 | 15                              | 1838                  | 1960                     | -20 / +80                     | 132        |         |                                 |                       |                          |                               |            |
| 15-0630 | 37                              | 1880                  | 3000                     | -20 / +80                     | 149        |         |                                 |                       |                          |                               |            |
| 19-0630 | 37                              | 1880                  | 3000                     | -20 / +80                     | 162        |         |                                 |                       |                          |                               |            |
| 18-0630 | 37                              | 2380                  | 3000                     | -20 / +80                     | 167        |         |                                 |                       |                          |                               |            |
| 13-0630 | 37                              | 2380                  | 3000                     | -20 / +80                     | 180        |         |                                 |                       |                          |                               |            |
| 11-0710 | 18.5                            | 1627                  | 2080                     | -20 / +80                     | 177        |         |                                 |                       |                          |                               |            |
| 12-0710 | 18.5                            | 1627                  | 2080                     | -20 / +80                     | 194        |         |                                 |                       |                          |                               |            |
| 15-0710 | 55                              | 2000                  | 4400                     | -20 / +80                     | 201        |         |                                 |                       |                          |                               |            |
| 19-0710 | 55                              | 2000                  | 4400                     | -20 / +80                     | 225        |         |                                 |                       |                          |                               |            |
| 18-0710 | 55                              | 2120                  | 4400                     | -20 / +80                     | 230        |         |                                 |                       |                          |                               |            |
| 13-0710 | 55                              | 2120                  | 4400                     | -20 / +80                     | 254        |         |                                 |                       |                          |                               |            |
| 11-0800 | 22                              | 1300                  | 2150                     | -20 / +80                     | 250        |         |                                 |                       |                          |                               |            |
| 15-0800 | 55                              | 1470                  | 4500                     | -20 / +80                     | 250        |         |                                 |                       |                          |                               |            |
| 19-0800 | 55                              | 1470                  | 4500                     | -20 / +80                     | 280        |         |                                 |                       |                          |                               |            |
| 18-0800 | 55                              | 1700                  | 4500                     | -20 / +80                     | 289        |         |                                 |                       |                          |                               |            |
| 13-0800 | 55                              | 1700                  | 4500                     | -20 / +80                     | 319        |         |                                 |                       |                          |                               |            |
| 11-0900 | 22                              | 1000                  | 2180                     | -20 / +80                     | 358        |         |                                 |                       |                          |                               |            |
| 15-0900 | 75                              | 1430                  | 6000                     | -20 / +80                     | 358        |         |                                 |                       |                          |                               |            |
| 19-0900 | 75                              | 1430                  | 6000                     | -20 / +80                     | 396        |         |                                 |                       |                          |                               |            |

# Description

## Performance



The curves show the total pressure rise  $p_F$  as a function of the volume flow rate  $q_V$  plotted in a double logarithmical diagram. The throttle curves (system resistance parabolas) are then represented by straight lines.

The curves are established with a reference density of  $\rho_1 = 1.2 \text{ kg/m}^3$  at the fan intake.

The pressure and impeller input power are directly proportional to density  $\rho_1$ .

Outlet velocity  $v_2$  and the dynamic pressure  $p_{d2}$  refer to the flanged cross section area at the fan discharge.

$$p_{sF} = p_F - p_{d2}$$

The increase in static pressure  $p_{sF}$  when a duct is fitted to the discharge (Installation B) can be calculated from the equation:

$$p_{sF} = p_F - f_{pd} \times p_{d2}$$

Where no duct is fitted (Installation A) there is no static pressure regain. The increase in pressure  $p_{sF}$  can be calculated from formula:

**The limits of application indicated in the fan curves (by blue dotted lines) outline the recommended functional range of the fans, where a stable operation with high efficiency can be expected.**

The efficiency marked on the straight system lines is only applicable at the maximum fan speed  $N_{max}$ ; it decreases with lower fan speed.

|          | ADH        |            | RDH        |            | RZR        |
|----------|------------|------------|------------|------------|------------|
|          | 0160/-0560 | 0630/-1000 | 0180/-1000 | 1120/-1400 | 1120/-1600 |
| $f_{pd}$ | 1.9        | 1.66       | 1.74       | 1.15       | 1.00       |

RZR 0200/-1000 see fan curves

|          | AT    |       |       |       |       |       |       |       |       |       |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|          | 7/7   | 9/7   | 9/9   | 10/8  | 10/10 | 12/9  | 12/12 | 15/11 | 15/15 | 18/13 |
| $f_{pd}$ | 1.96  | 2.16  | 1.95  | 2.08  | 2.24  | 1.83  | 1.94  | 2.10  | 2.17  | 1.98  |
|          | 18/18 | 20/15 | 20/20 | 22/15 | 22/22 | 25/20 | 25/25 | 28/20 | 30/20 | 30/28 |
| $f_{pd}$ | 1.86  | 2.48  | 2.26  | 2.46  | 2.42  | 2.48  | 2.49  | 2.37  | 2.44  | 2.41  |

$$\eta_a = \eta_r \times \frac{P_r}{P_r + P_b}$$

### Efficiency ADH / AT / RDH

The performance curves  $P_r$  of the fan curve diagram correspond to the absorbed power of the fan impeller.

The vertical scales shown at the right side of the diagram indicate the bearing power loss  $P_b$  of the different fan executions and depending on the fan speed.

The resulting power absorbed on fan shaft is found by adding the absorbed power  $P_r$  of the fan impeller and the bearing power losses  $P_b$ . As a consequence the resulting fan efficiency is to be calculated according to the formula:

### Efficiency RZR

The actual efficiency value for a fan speed lower  $N_{max}$  is calculated by multiplying the efficiency at  $N_{max}$  by the factor  $f_{\eta}$  for the appropriate speed. ( $f_{\eta}$  to be found with the scale on the right side of the page).

$$P_N \geq P_a \times f_p$$

### Motor nominal power ADH / AT / RDH / RZR

To determine the motor rating  $P_N$ , the fan absorbed shaft power  $P_r$  must be increased by a safety factor to accommodate belt drive losses and possible fan speed differences.

The factor  $f_p$  is an estimated value. As an approximate value, the figures below are suggested.

| ADH / AT   |              | RDH / RZR  |              |
|--|--------------|--|--------------|
| $P_a < 0.75 \text{ kW}$                          | $f_p = 1.30$ | $P_a < 0.75 \text{ kW}$                          | $f_p = 1.25$ |
| $P_a \geq 0.75 \text{ kW} \dots < 10 \text{ kW}$ | $f_p = 1.20$ | $P_a \geq 0.75 \text{ kW} \dots < 10 \text{ kW}$ | $f_p = 1.15$ |
| $P_a \geq 10 \text{ kW}$                         | $f_p = 1.15$ | $P_a \geq 10 \text{ kW}$                         | $f_p = 1.12$ |

# Description

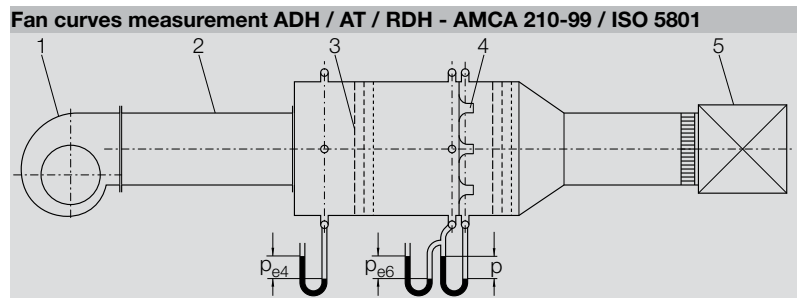
## Performance

$$t_A = \frac{8 \times J \times N^2}{P_N \times 10^6}$$

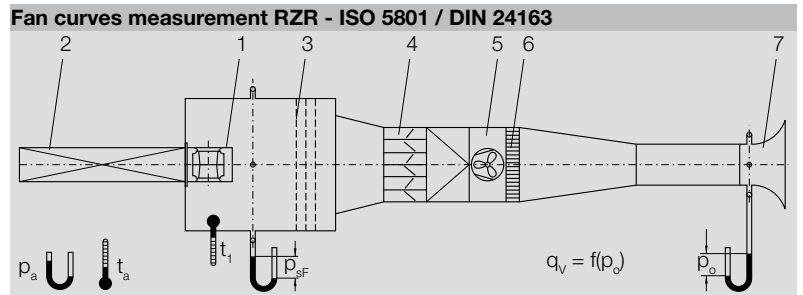
When selecting the motor, the run up time must be checked whether being within permitted limits.  
 The run up time can be worked out approximately according to the following formula: where:  
 $t_A$  = run time in seconds  
 $J$  = moment of inertia in  $\text{kgm}^2$   
 $N$  = fan speed in rpm  
 $P_N$  = nominal motor power in kW  
 (Impeller weight and moment of inertia can be found on the performance diagram for each fan size.)

If  $t_A$  exceeds the motor manufacturer's recommendation or the tripping period of the electrical gear, a larger motor must be used or the starting gear has to be selected for heavy starting.

- 1 = Test fan
- 2 = Discharge duct
- 3 = Screen
- 4 = Multiple nozzles
- 5 = Auxiliary fan and damper



- 1 = Test fan
- 2 = Discharge duct acting as a pressure regain unit
- 3 = Screen
- 4 = Variable damper
- 5 = Compensating fan
- 6 = Flow straightener
- 7 = Inlet cone



### Performance data of twin fan units

The performance data of twin fan units (Identification "G2") can be calculated, starting from that in the corresponding operating point of a single fan, with the following formulas:

- Fan Pressure:  $P_{F\ G2} = P_F \times 1$
- Volume flow rate:  $q_{V\ G2} = q_V \times 2$
- Fan shaft power:  $P_{a\ G2} = P_a \times 2,15$
- Rotational speed:  $N_{G2} = N \times 1,05$
- Sound:  $L_{WA\ G2} = L_{WA} + 3\ \text{dB}$

## AMCA



Nicotra Gebhardt S.p.A. (Italy) certifies that ADH E fans of the E0, E2, E4, E6 and E7 versions, from sizes 0160 to 0560, RDH E fans of the E0, E2, E4, E6 and E7 versions, from sizes 0180 to 0560, ADH and RDH fans of the L, R, K, K1 and K2 versions, from sizes 0630 to 1000, AT fans of the S, SC, C and TIC versions, from sizes 7/7 to 30/28, shown herein are licensed to bear the AMCA Seal.  
 Nicotra Gebhardt GmbH (Germany) certifies that RZR fans of the 11, 12, 15 versions, from sizes 0355 to 1000, shown herein are licensed to bear the AMCA Seal.  
 The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.  
 Air performance with Installation Type "A" ("with free outlet"), and that of the twin fan versions G2L, G2R, G2K, G2K2, G2E0, G2E2, G2E4, G2E7, SC2, G2C and G2C-C2, and that of the triple fan versions G3C and G3C-C2 in any installation type is not AMCA licensed.

# Description

## Sound



Noise measurements are undertaken in accordance with DIN 45635-38 "Noise Measurement of Machines: Fans".

### Induct Method for the Discharge

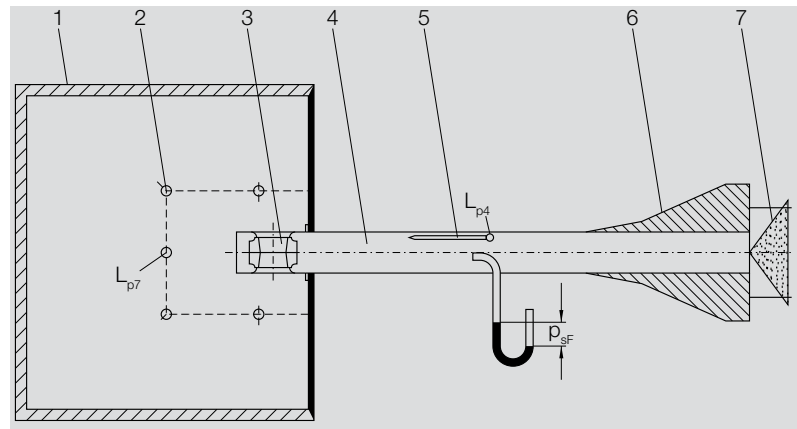
The induct method is specified with DIN EN ISO 5136. It determines the sound power emitted at discharge of a test fan.

The test duct, as a main feature, is equipped with an anechoic termination fitted to avoid end reflection going back into the duct.

### Envelope Method – Free Inlet

The Envelope Method is described with DIN 45635-1 and -38, which specifies a hypothetical box shaped measurement surface with several prescribed measurement points.

- 1 = Air permeable sound screen
- 2 = Microphone positions for envelope method
- 3 = Test fan
- 4 = Measuring duct
- 5 = Microphone with sampling tube
- 6 = Anechoic termination
- 7 = Step less adjustable throttle



The sound data of the fan curves are given as "A" weighted sound power levels.

### A-sound power level RZR

The "A" weighted sound power level are identical for fan intake ( $L_{WA7}$ ) as well as for fan discharge ( $L_{WA4}$ ).

### A-sound power level ADH / AT / RDH

The "A" weighted sound power level (see curves) are apply for fan intake ( $L_{WA7}$ ). The fan discharge sound power level  $L_{WA4}$  is obtained by calculating: The correction value  $\Delta L_{Wrel4}(A)$  is found with the table (left below) at the corresponding fan curve page (ADH / RDH) by introducing fan speed and flow rate.

$$L_{WA4} = L_{WA7} + \Delta L_{Wrel4}(A)$$

### ADH / AT / RDH:

$$L_{Wfc7} = L_{WA7} + L_{Wrel7}$$

$$L_{Wfc4} = L_{WA7} + L_{Wrel4}$$

### RZR:

$$L_{Wfc7} = L_{WA4;7} + L_{Wrel7}$$

$$L_{Wfc4} = L_{WA4;7} + L_{Wrel4}$$

An approximation of the "A" weighted sound pressure levels  $L_{pA7}/L_{pA6}$  at a distance of 1 m may be obtained by subtracting 7 dB from the relative "A" weighted sound power levels.

It should be noted that site acoustics, duct design, reverberation, natural frequencies etc. can all influence noise to a greater or lesser extent.

For more accurate calculations to determine noise protection measures, the sound power level in each octave band is of more value:

The noise correction data  $L_{Wrel4}$  and  $L_{Wrel7}$ , in function of the fan speed and flow rate, are to be found with the corresponding table on the fan curve page.

In some cases the noise level - calculated by this way - may in some cases be higher than expected at the blade passing frequency.

$f_s$  = Blade passing frequency in Hz

$N$  = Fan speed in 1/min

$z$  = No of blades (see curve pages)

$$f_{BP} = \frac{N \times z}{60}$$

# Description

## Sound

$$L_{Wfc6} = L_{Wfc4} + L_{Wer}$$

For a free discharge situation i.e. without duct connected the sound level will be lower because of an end reflection.

This is specially true for low frequencies. For this case a correction may be applied to  $L_{Wfc4}$  of the first 3 octave bands as follows:

| ADH / AT / RDH / RZR | $f_c$     | 63  | 125 | 250 | Hz |
|----------------------|-----------|-----|-----|-----|----|
| 0160/-0280           | $L_{Wer}$ | -14 | -9  | -4  | dB |
| 0315/-0800           | $L_{Wer}$ | -9  | -4  | -2  | dB |
| 0900/-1600           | $L_{Wer}$ | -4  | -1  | 0   | dB |

## Explosion protection according to ATEX



Fans for use in explosive atmospheres must comply with EC Directive 94/9/EG (ATEX 95). Equipment in Group II (all applications except mining) is categorised in accordance with the required degree of safety for designated use in equipment categories 1, 2 and 3. Depending on suitability, a distinction is in addition made between G (gas, vapours) and D (dust).

Harmonised European standards and national guidelines must be observed.

Equipment in class 2 and 3 is not subject to compulsory specifications nor to type testing. The manufacturer declares conformity with the EC directive.

### For the standard designs of our fans, the following ignition sources are essentially to be considered:

- ▶ Hot surfaces, e.g. due to heat of friction or seizure of a bearing or due to blockage of an impeller
- ▶ Rubbing-, grinding- or beating sparks, e.g. as a result of contact of the impeller with stationary components
- ▶ Sparks resulting from discharge of electrostatically loaded, non-conducting components, e.g. of plasticpanels, surfaces with strong layer thickness.

### Preconditions for operating:

- ▶ **In the proximity of the motor, the temperature limits -20 °C and +40 °C must not be exceeded.**
- ▶ **The temperature limits of -20 °C und +60 °C for the flow medium must not be exceeded. If the temperature of the flow medium should exceed +60 °C on the pressure side, then the fan must be switched off!**
- ▶ **The fans may only be employed with a horizontal shaft.**
- ▶ **The fans are to be protected against the falling-in or sucking-in of foreign objects. Protection guards must be ordered separately as an accessories.**
- ▶ **On the machine plate the max. permitted fan speed is indicated.**
- ▶ **Fans for operation in ex-hazardous areas are marked as such on the machine plate and they are accompanied by an EU conformity declaration and with operation and maintenance instructions.**

The operation and maintenance instructions have strictly to be observed.

The conformity is always related to the fan system supplied.

If the fan is completed with motor and belt drive by the customer the conformity of this fan set has to be declared at new.

**Fans of the series ADH / AT / RDH in ATEX-Execution on request.**

# Description

## Operating limits RZR ATEX

| RZR        | Permissible fan speed | Permissible shaft power | Permissible nominal motor power |
|------------|-----------------------|-------------------------|---------------------------------|
|            | 1/min                 | kW                      | kW                              |
| 11-0200-2G | 6513                  | 4.7                     | 5.5                             |
| 12-0200-2G | 6513                  | 4.7                     | 5.5                             |
| 19-0200-2G | 6513                  | 4.7                     | 5.5                             |
| 11-0225-2G | 5774                  | 4.7                     | 5.5                             |
| 12-0225-2G | 5774                  | 4.7                     | 5.5                             |
| 19-0225-2G | 5774                  | 4.7                     | 5.5                             |
| 11-0250-2G | 4620                  | 4.7                     | 5.5                             |
| 12-0250-2G | 4620                  | 4.7                     | 5.5                             |
| 19-0250-2G | 5076                  | 4.7                     | 5.5                             |
| 11-0280-2G | 4582                  | 6.5                     | 7.5                             |
| 12-0280-2G | 4582                  | 6.5                     | 7.5                             |
| 19-0280-2G | 4582                  | 9.7                     | 11                              |
| 11-0315-2G | 3793                  | 6.5                     | 7.5                             |
| 12-0315-2G | 3793                  | 6.5                     | 7.5                             |
| 19-0315-2G | 4113                  | 9.7                     | 11                              |
| 11-0355-2G | 3110                  | 6.5                     | 7.5                             |
| 12-0355-2G | 3110                  | 6.5                     | 7.5                             |
| 19-0355-2G | 3555                  | 9.7                     | 11                              |
| 11-0400-2G | 2552                  | 6.5                     | 7.5                             |
| 12-0400-2G | 2552                  | 6.5                     | 7.5                             |
| 13-0400-2G | 3145                  | 16.4                    | 18.5                            |
| 18-0400-2G | 2913                  | 9.7                     | 11                              |
| 11-0450-2G | 2111                  | 6.5                     | 7.5                             |
| 12-0450-2G | 2111                  | 6.5                     | 7.5                             |
| 13-0450-2G | 2922                  | 21.3                    | 24                              |
| 18-0450-2G | 2410                  | 9.7                     | 11                              |
| 11-0500-2G | 1752                  | 6.5                     | 7.5                             |
| 12-0500-2G | 1752                  | 6.5                     | 7.5                             |
| 13-0500-2G | 2534                  | 21.3                    | 24                              |
| 18-0500-2G | 2000                  | 9.7                     | 11                              |
| 11-0560-2G | 1660                  | 9.7                     | 11                              |
| 12-0560-2G | 1660                  | 9.7                     | 11                              |
| 13-0560-2G | 2163                  | 26.6                    | 30                              |
| 18-0560-2G | 1660                  | 9.7                     | 11                              |
| 11-0630-2G | 1367                  | 9.7                     | 11                              |
| 12-0630-2G | 1367                  | 9.7                     | 11                              |
| 13-0630-2G | 2055                  | 32.8                    | 37                              |
| 18-0630-2G | 1367                  | 9.7                     | 11                              |
| 11-0710-2G | 1128                  | 9.7                     | 11                              |
| 12-0710-2G | 1128                  | 9.7                     | 11                              |
| 13-0710-2G | 1825                  | 40.9                    | 45                              |
| 18-0710-2G | 1128                  | 9.7                     | 11                              |
| 11-0800-2G | 927                   | 9.7                     | 11                              |
| 18-0800-2G | 927                   | 9.7                     | 11                              |
| 13-0800-2G | 1474                  | 40.9                    | 45                              |
| 11-0900-2G | 767                   | 9.7                     | 11                              |
| 18-0900-2G | 767                   | 9.7                     | 11                              |
| 13-0900-2G | 1339                  | 68                      | 75                              |
| 11-0100-2G | 650                   | 9.7                     | 11                              |
| 18-1000-2G | 650                   | 9.7                     | 11                              |
| 13-1000-2G | 1217                  | 68                      | 75                              |
| 13-1120-2G | 1026                  | 83.6                    | 92                              |
| 13-1250-2G | 957                   | 122                     | 135                             |
| 13-1400-2G | 870                   | 145                     | 160                             |
| 13-1600-2G | 748                   | 181                     | 200                             |

# Description

| Symbol / Unit / Definition                        |                     |   | Symbol / Unit / Definition                        |                   |  |
|---|---------------------|---|---|-------------------|--|
| The following symbols are used in this catalogue: |                     |   | The following symbols are used in this catalogue: |                   |  |
| A-A   | -                   | Operational range (free discharge)                  | $P_N$   | kW                | Motor power (nominal)                                  |
| $A_2$   | mm <sup>2</sup>     | Fan outlet area                                     | $p_{sF}$  | Pa                | Fan static pressure (free discharge)                   |
| b   | mm                  | Deflection of belt under test force                 | $\Delta p$  | Pa                | Differential pressure                                  |
| $D_r$   | mm                  | Impeller diameter                                   | $\Delta p_0$                                      | Pa                | Pressure difference at the inlet measuring device      |
| $f_{BP}$  | Hz                  | Blade passing frequency                             | $\Delta p_{Dü}$                                   | Pa                | Pressure difference at the inlet cone                  |
| $f_c$   | Hz                  | Octave centre frequency                             | $q_v$   | m <sup>3</sup> /h | Volume flow rate                                       |
| $f_p$   | -                   | Motor size correction factor                        | $q_{Vopt}$  | m <sup>3</sup> /h | Volume flow at optimum efficiency                      |
| $F_p$   | N                   | Test force  | $R_W$   | J/kg×K            | Specific gas constant                                  |
| $f_{pd}$  | -                   | Dynamic pressure correction factor (free discharge) | t   | °C                | Temperature of flow medium                             |
| $f_\eta$  | -                   | Correction at actual efficiency                     | $t_a$   | °C                | Temperature of discharge air in test chamber           |
| J   | kgm <sup>2</sup>    | Moment of inertia                                   | $t_A$   | s                 | Acceleration time                                      |
| K   | m <sup>2</sup> /s/h | Calibration factor for volumeter                    | $t_1$   | °C                | Air temperature  |
| $L_T$   | mm                  | Centre distance                                     | $\Theta$  | K                 | Thermodynamic temperature at fan inlet                 |
| $L_{Mg}$  | mm                  | Measuring marks before tensioning (flat belts)      | u   | m/s               | Tip speed  |
| $L_{Mu}$  | mm                  | Measuring marks after tensioning (flat belts)       | $v_2$   | m/s               | Outlet velocity  |
| $L_{pA4}$   | dB                  | A weighted sound pressure level (discharge)         | $v_{m2}$  | m/s               | Average fluid velocity at discharge                    |
| $L_{pA7}$   | dB                  | A weighted sound pressure level (inlet)             | X   | mm                | Pulley position on shaft extension relative to bearing |
| $L_{WA}$  | dB                  | A weighted sound power level                        | z   | -                 | No. of blades  |
| $L_{WA4}$   | dB                  | In duct sound power level (discharge)               | $\varepsilon^*$                                   | mm                | Stretching value of flat belt                          |
| $L_{WA7}$   | dB                  | Casing and free inlet sound power level             | $\eta_a$  | %                 | Total efficiency at max speed                          |
| $L_{Wfc4}$  | dB                  | Discharge sound power in the octave bands           | $\eta_r$  | %                 | Impeller efficiency                                    |
| $L_{Wfc7}$  | dB                  | Inlet sound power in the octave band                | $\eta_s$  | %                 | Fan total efficiency at max speed                      |
| $L_{Wrel4}$                                       | dB                  | Relative sound power (discharge)                    | $\rho$  | kg/m <sup>2</sup> | Air density  |
| $L_{Wrel7}$                                       | dB                  | Relative sound Power (inlet)                        | $\rho_1$  | kg/m <sup>2</sup> | Air density at fan inlet                               |
| $L_{10h}$   | h                   | Nominal bearing life                                |   |                   |  |
| m   | kg                  | Mass  |   |                   |  |
| N   | 1/min               | Fan speed   |   |                   |  |
| $N_{max}$   | 1/min               | Maximum fan speed                                   |   |                   |  |
| $p_a$   | Pa                  | Atmospheric pressure                                |   |                   |  |
| $P_a$   | kW                  | Absorbed fan power                                  |   |                   |  |
| $P_b$   | kW                  | Bearing power losses                                |   |                   |  |
| $p_{d2}$  | Pa                  | fan dynamic pressure at discharge                   |   |                   |  |
| $p_F$   | Pa                  | Total fan pressure                                  |   |                   |  |

# Notes

## Quality management system

### DIN EN ISO 9001

Nicotra Gebhardt quality is the result of a continuous company policy intended to guarantee that our product properties and features are clearly superior to comparable products.

This already established company maxim led in April 1985 to the auditing and certification of the existing quality management system. In the following years it was updated to match the changing international and European standards. Modern production processes, monitored by our quality management system, guarantee a high repeat accuracy in production.

This ongoing high standard of quality permits the establishing of the performance data in classes of accuracy in accordance with DIN 24166.

The narrow tolerances ensure a high level of data reliability for our products.

## Machine Safety

The fans contained in this catalogue are not machines in the sense of the EC Machine Directive. They are delivered with a manufacturer "Declaration of incorporation".

The assessment of the dangers associated with the fan and necessary safety measures are based on the VDMA Unit sheet 24167: Fans; Safety requirements.

The operating instructions give which safety measures are still necessary on assembly to ensure that the fans comply with the Machine Directive 2006/42/EC.

## Catalogue data

We reserve the right to change any measurements and technical data in this catalogue in accordance with further development of our products. All information valid at the time of printing.



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