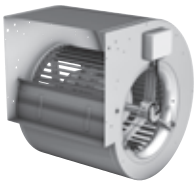
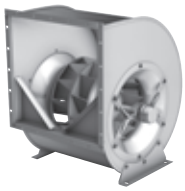
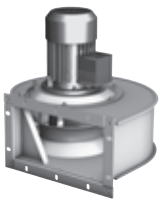
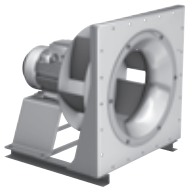
Centrifugal Fans
direct driven

Issue 1

NICOTRA|Gebhardt

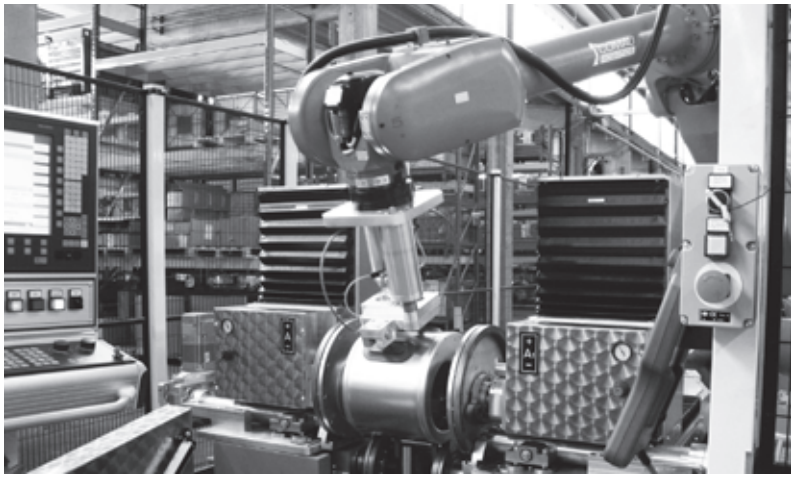


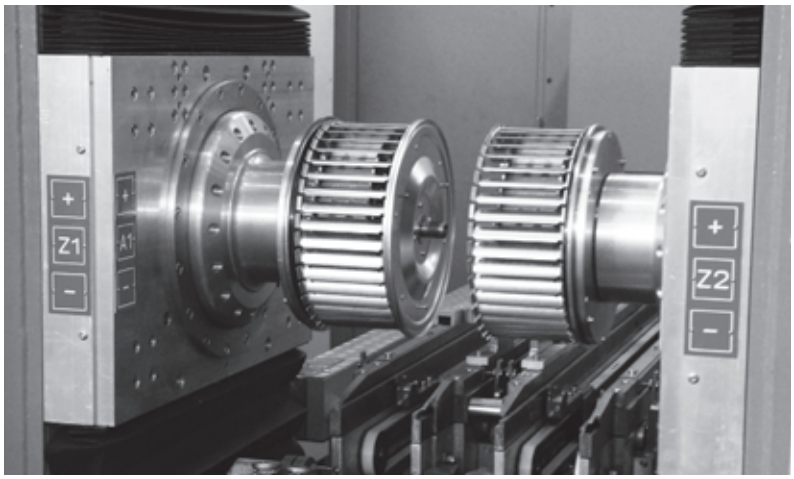


fan|tastic solutions

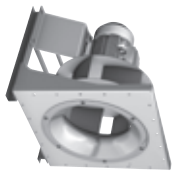
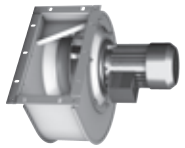
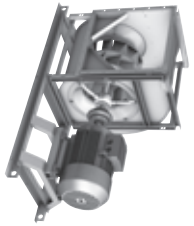
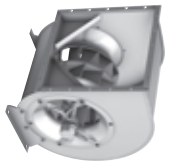
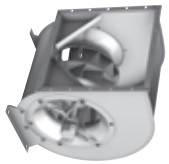
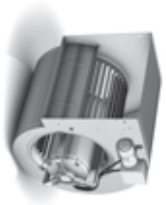
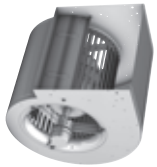
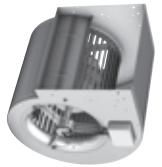
Nicotra Gebhardt technologies like ...



Automated manufacture of compact scroll and impeller with forward curved blades

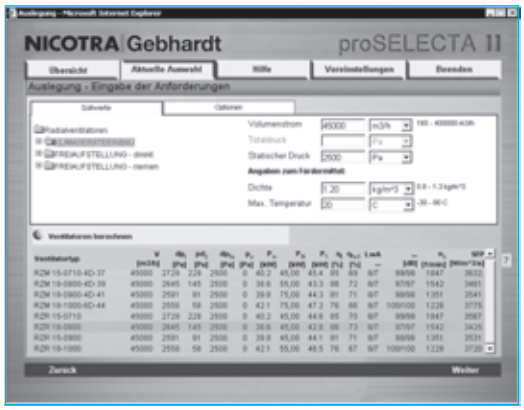


Own AC and Brushless-DC motor production
for optimal tuniung of motor and fan!

		RLE	RLM	TEM/REM	RZM	RZP	RZA	DD	DDMB	DDM
										
Flow rate	6.000 m³/h	•	•	•	•	•	•	•	•	•
	10.000 m³/h	13.000 m³/h	•	•	•	•	•	•		
	18.000 m³/h		•	•	•		•	•		
	35.000 m³/h		•	REM up to 22.000 m³/h	•		•			
	100.000 m³/h		•		•					
	200.000 m³/h	•			•					
Media temperature	40 °C	•	•	•	•	•	•	•	•	•
	60 °C			•	•					
	80 °C				•					
	ATEX		•	•	•					
Speed control	Voltage	•						•		•
	Brushless-DC	•				•			•	
	External Inverter		•	•	•		•			
Impeller	Forward curved blades galvanised sheet steel			• TEM				•	•	•
	Backward curved blades coated steel	•	•	• REM	•	•	•			
Casing material	Galvanised steel			•	• ≤ 1000	•	• ≤ 0280	•	•	•
	Coated steel			•	• ≥ 1120		• ≥ 0315			
Inlet type	Single inlet	–	–	•						
	Double inlet				•	•	•	•	•	•

proSELECTA II
Fan Selection Program

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

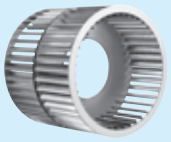
During the fan selection process, you can choose any of the standardised ATEX options.

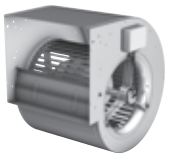
Free registration and many advantages

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.

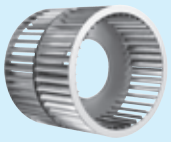
High performance centrifugal fans DDM
double width, double inlet, (DWDI),
with built-in, optimised external rotor motor,
made of galvanised sheet steel;
available in various models;
Impeller with forward curved blades of galvanised steel plate

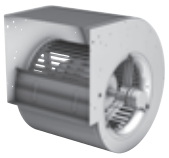




DDM

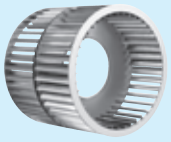
High performance centrifugal fans DDMB
double width, double inlet, (DWDI),
with built-in, brushless DC external rotor motor and external commutation unit,
made of galvanised sheet steel;
available in various models;
Impeller with forward curved blades of galvanised steel plate





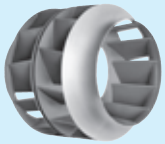
DDMB

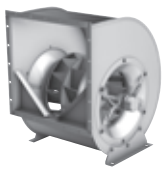
High performance centrifugal fans DD
double width, double inlet, (DWDI),
built-in, optimised internal rotor motor,
made of galvanised sheet steel;
available in various models;
Impeller with forward curved blades of galvanised steel plate



DD

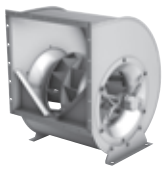
High performance centrifugal fans RZA *rotavent*
double inlet,
with built-in, low-slip external rotor motor,
made of galvanised sheet steel or welded and coated,
with multi position feet and connecting flange at discharge;
Impeller with true aerofoil blades, welded and painted – system ***rotavent***





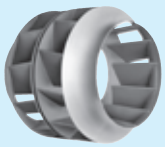
RZA

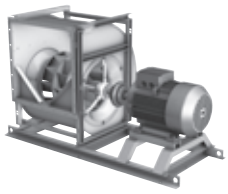
High performance centrifugal fans RZP *rotavent*
double inlet,
with built-in, brushless DC external rotor motor and external commutation unit,
made of galvanised sheet steel;
with multi position feet and connecting flange at discharge;
Impeller with true aerofoil blades, welded and painted – system ***rotavent***



RZP

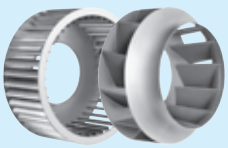
High performance centrifugal fans RZM *rotavent*
double inlet,
fan with directly coupled motor fitted on pedestal and base frame,
made of galvanised sheet steel with heavy duty reinforced side frame,
connecting flange at discharge,
Impeller with true aerofoil blades, welded and painted – system ***rotavent***





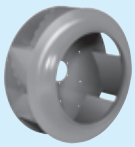
RZM

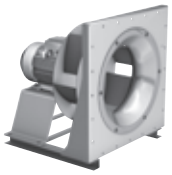
High performance centrifugal fans REM/TEM
single inlet, with flanged IEC standard motor out of air stream,
in unterschiedlichen Ausführungsvarianten,
Impeller with true aerofoil blades, welded and painted (REM)
or forward curved blades of galvanised steel plate (TEM),
with or without pedestal for horizontal or vertical mounting



TEM
REM

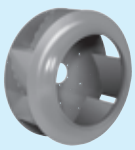
High performance plug fans RLM
optimised for use without scroll.
Motor impeller with inlet cone,
motor base and basic frame manufactured as a module and adjusted





RLM

High performance plug fans RLE
optimised for use without scroll.
Vier unterschiedliche Laufradbaureihen,
built-in, AC or brushless DC external rotor motor,
Inlet cone as an option



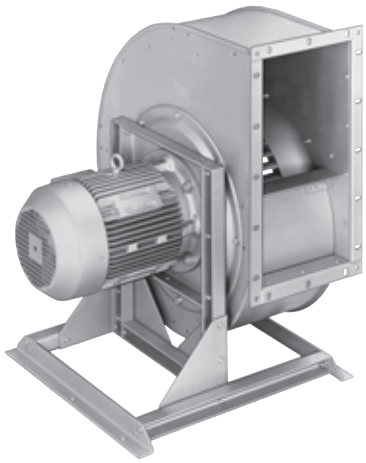
RLE

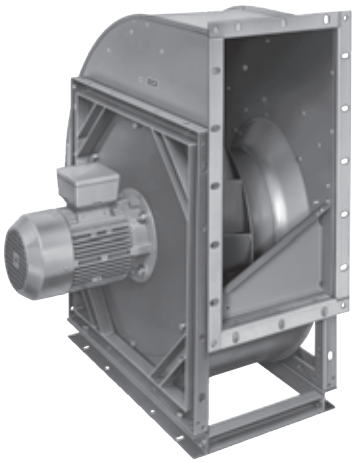
Fittings / Accessories
- complete system accessories
- fittings and options

Fittings
Accessories

Technical Description
- Descriptions
- Operating limits
- Notes

Technical
Description





Powerful centrifugal fans for universal use:
The product ranges TEM and REM

The fan ranges TEM and REM offered by Nicotra Gebhardt do present a large fan programme of single inlet centrifugal fans which are universally usable for many ventilation purposes either in HVAC or in machinery design industry and heavy duty installation business.
The fans are available with forward curved impellers (TEM) or with impellers (REM) equipped with backward curved blades.
The fans are equipped with IEC flanged (B5) standard motors, protection IP55, class F, and they are suitable for frequency inverter controlled operation.

Benefits:
- compact design because of direct drive
- cost effective by maintenance-free operation
- speed controlled by frequency inverter
- universally usable due to different options, such as
- without brackets as a directly fitted unit for operation with vertical shaft arrangement
- with brackets for operation with horizontal shaft
- ATEX execution for explosion hazardous areas and applications
- Fan range TEM rated - Ex II 3G c IIB T3
- Fan range REM rated - Ex II 2G c IIB T3

Nicotra Gebhardt TEM and REM
The universal technology for various applications!

TEM ranges

- Sizes from 0160 up to 0355
- Volume flow up to 9000m³/h
- also available in 60Hz execution
- also available in ATEX execution 3G
- motor with PTC in flange execution
- Impeller with forward curved blades

For applications in HVAC-facilities, big kitchen or for clean room technologie.

REM ranges

- Sizes from 0200 up to 0630
- Volume flow up to 20,000m³/h
- also in available 60Hz execution
- also available in ATEX execution 2G
- motor with PTC in flange execution
- Impeller with backward curved blades

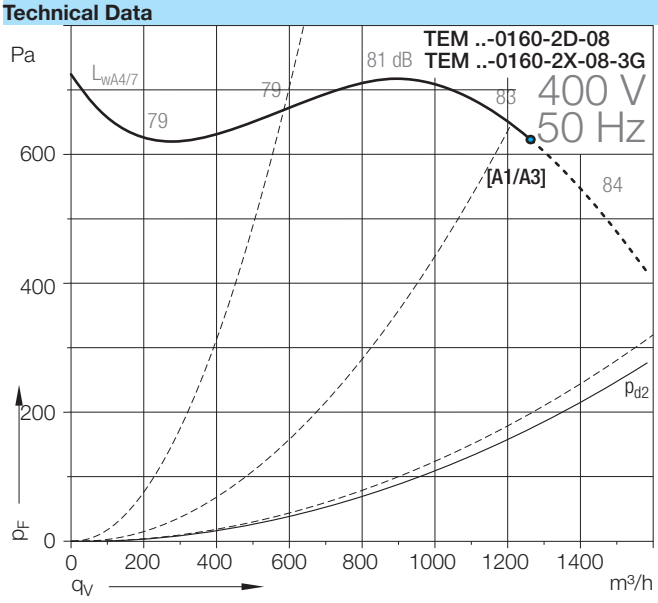
For applications in the filter technologie, drying- and suction plants.

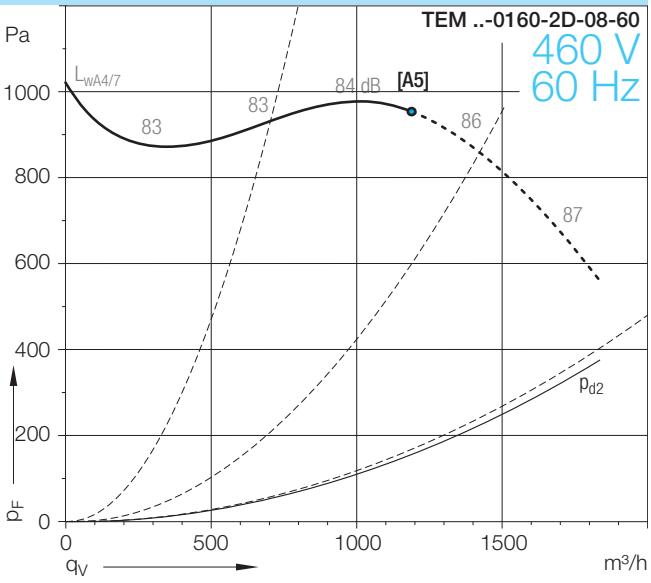
The ranges TEM and REM
For every application, the suitable fan:

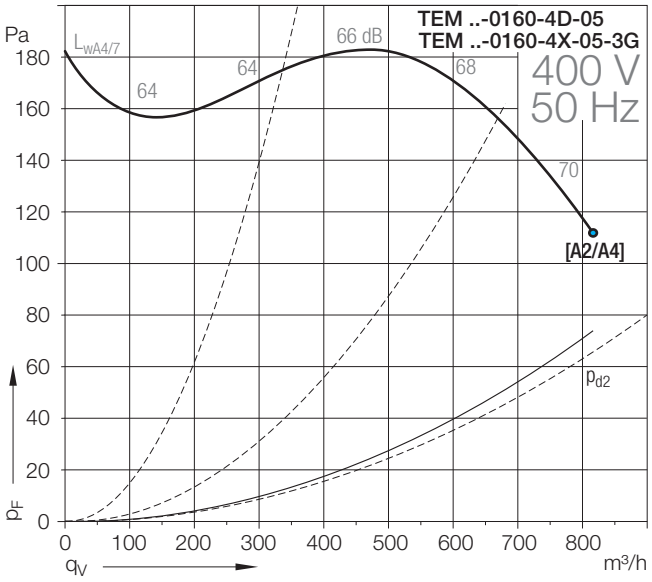
Version	Description	Figure
TEM 01-0160/-0355	Lap jointed scroll of galvanised sheet steel with discharge flange and built-in impeller with forward curved blades, without pedestal, for vertical or horizontal mounting.	
TEM 08-0160/-0355	Lap jointed scroll of galvanised sheet steel with discharge flange and built-in impeller with forward curved blades, with pedestal, for horizontal mounting.	
REM 11-0200/-0630	Lap jointed scroll of galvanised sheet steel with discharge flange and built-in impeller with backward curved aerofoil blades, without pedestal, for vertical or horizontal mounting.	
REM 18-0200/-0630	Lap jointed scroll of galvanised sheet steel with discharge flange and built-in impeller with backward curved aerofoil blades, with pedestal, for horizontal mounting.	
REM 13-0200/-0630	Scroll casing stitch welded with discharge flange, epoxy coated, built-in impeller with backward curved aerofoil blades, without pedestal, for vertical or horizontal mounting.	
REM 19-0200/-0630	Scroll casing stitch welded with discharge flange, epoxy coated, built-in impeller with backward curved aerofoil blades, with pedestal, for horizontal mounting.	
REM 41-0200/-0450	Lap jointed scroll of galvanised sheet steel with discharge flange and built-in impeller with backward curved blades, without pedestal, for vertical or horizontal mounting.	
REM 48-0200/-0450	Lap jointed scroll of galvanised sheet steel with discharge flange and built-in impeller with backward curved blades, with pedestal, for horizontal mounting.	

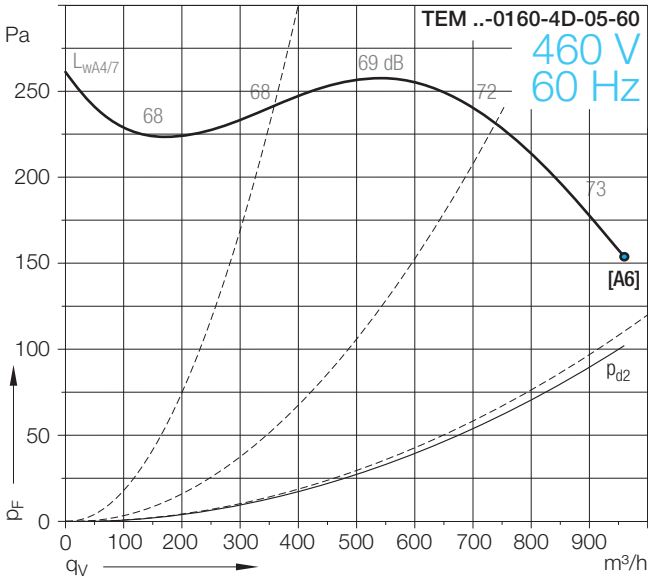
TEM ..-0160

Technical Data









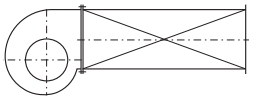
Attention!

Density of media **1.2 kg/m³**

- Operation limit, see Technical Data

--- do not use in this area!

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



TEM ..-0160

Technical Data

TEM ..-	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight TEM 01/08
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0160-2D-08	[A1]	0.55	2	71	230/400	50	Δ/Y	2.35/1.36	2800	60	1270	10/13
0160-4D-05	[A2]	0.18	4	63	230/400	50	Δ/Y	0.97/0.56	1350	60	890	8/11

Technical Data

TEM ..-Ex II 3G c IIB T3	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight TEM 01/08
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0160-2X-08-3G	[A3]	0.55	2	71	230/400	50	Δ/Y	2.40/1.40	2785	60	1270	10/13
0160-4X-05-3G	[A4]	0.18	4	63	230/400	50	Δ/Y	1.07/0.62	1330	60	890	8/11

Technical Data

TEM ..-60 Hz	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight TEM 01/08
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0160-2D-08-60	[A5]	0.63	2	71	460	60	Y	1.32	3400	60	1180	10/13
0160-4D-05-60	[A6]	0.21	4	63	460	60	Y	0.55	1650	60	1050	8/11

Warning!

The given nominal motor current may not be exceeded. If the current consumption is exceeded, the volume is to be throttled correspondingly.

For fans of the ATEX execution, the guarantee for operation in explosion endangered areas or for the conveyance of explosive atmosphere expires when the motor nominal current is exceeded!For information on fans of the ATEX execution see Technical

Description of this chapter.

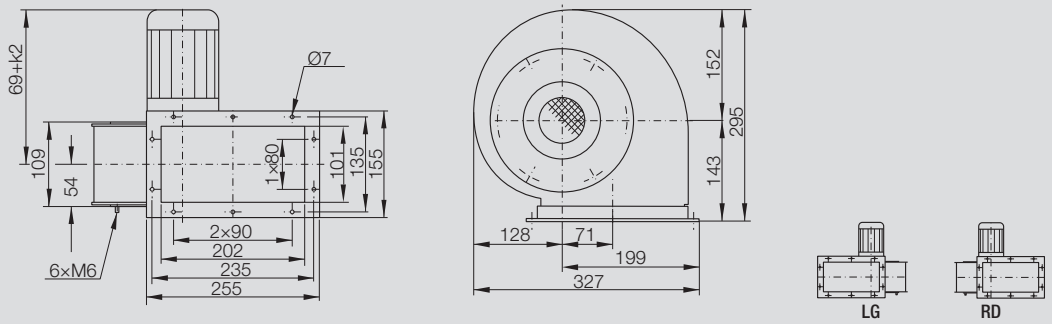
Motor protection can take place through motor protection units with bi-metallic releases (EUM 33) or via a thermistor (NTC) temperature sensor in connection with a thermistor (NTC)-release device (EUM 03). See chapter "Accessories".

The direction of rotation is determined looking from the drive side. - Anti-clockwise rotation, symbol **LG**. - Clockwise rotation, symbol **RD**.

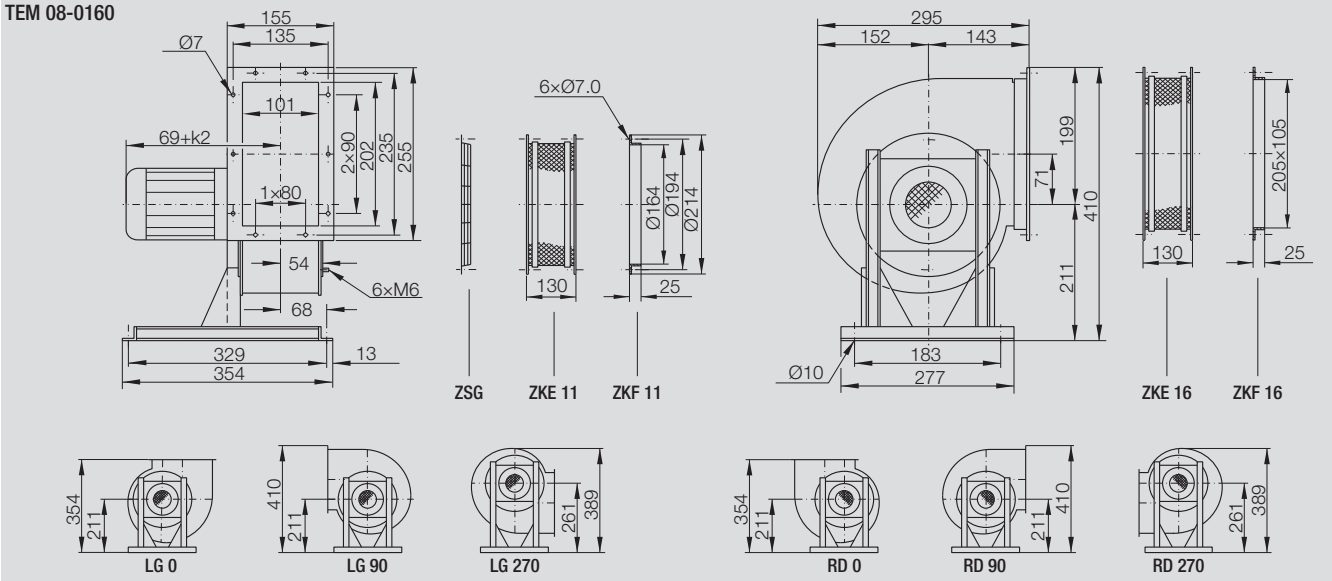
Dimensions in mm, subject to change.

TEM 01-0160

Motor	k2
63	180
71	210
80	234
90 S	282
90 L	282
100 L	316
112 M	334
132 S	374
132 M	374

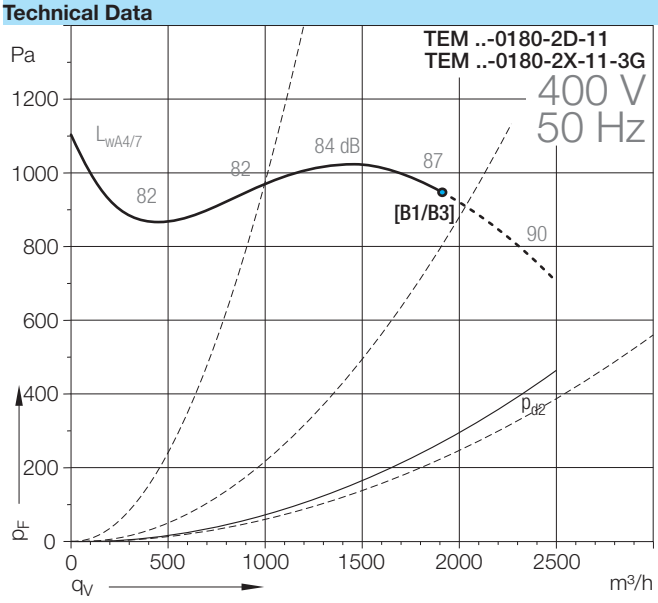


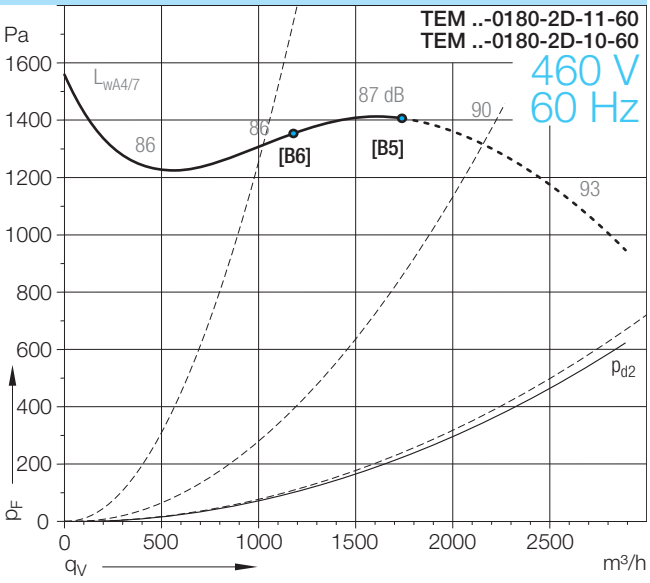
TEM 08-0160

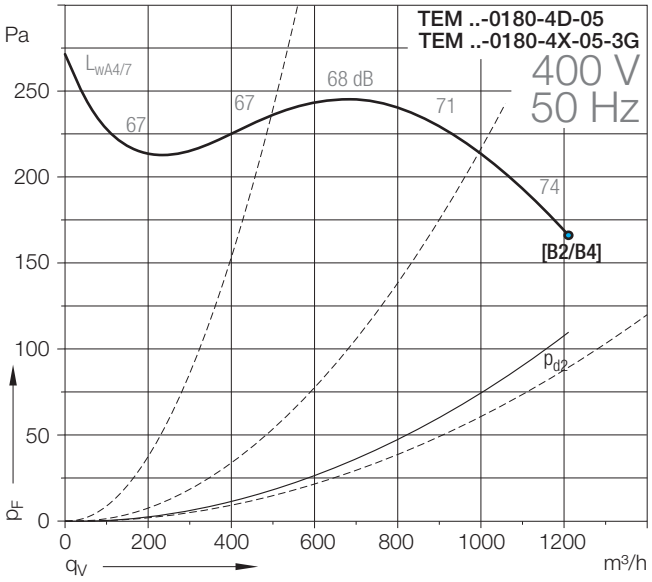


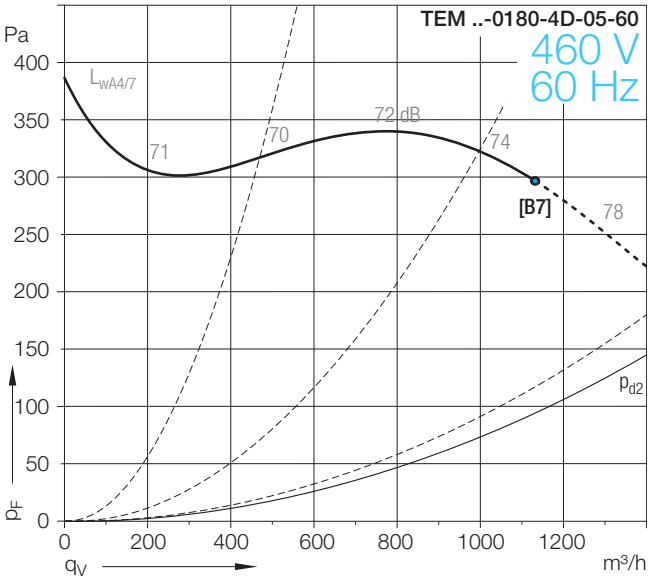
TEM ..-0180

Technical Data







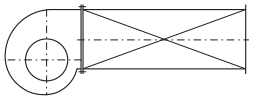


Attention!

Density of media **1.2 kg/m³**

- Operation limit, see Technical Data
- - - do not use in this area!

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



TEM ..-0180

Technical Data

TEM ..-	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight TEM 01/08
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0180-2D-11	[B1]	1.10	2	80	230/400	50	Δ/Y	4.25/2.45	2845	60	1950	13/17
0180-4D-05	[B2]	0.18	4	63	230/400	50	Δ/Y	0.97/0.56	1350	60	1250	8/12

Technical Data

TEM ..-Ex II 3G c IIB T3	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight TEM 01/08
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0180-2X-11-3G	[B3]	1.10	2	80	230/400	50	Δ/Y	4.30/2.50	2855	60	1950	13/17
0180-4X-05-3G	[B4]	0.18	4	63	230/400	50	Δ/Y	1.07/0.62	1330		1250	8/12

Technical Data

TEM ..-60 Hz	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight TEM 01/08
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0180-2D-11-60	[B5]	1.30	2	80	460	60	Y	2.41	3435	60	1760	13/17
0180-2D-10-60	[B6]	0.86	2	80	460	60	Y	1.73	3426	60	1180	11/15
0180-4D-05-60	[B7]	0.21	4	63	460	60	Y	0.55	1650	60	1140	8/12

Warning!

The given nominal motor current may not be exceeded. If the current consumption is exceeded, the volume is to be throttled correspondingly.

For fans of the ATEX execution, the guarantee for operation in explosion endangered areas or for the conveyance of explosive atmosphere expires when the motor nominal current is exceeded!For information on fans of the ATEX execution see Technical Description of this chapter.

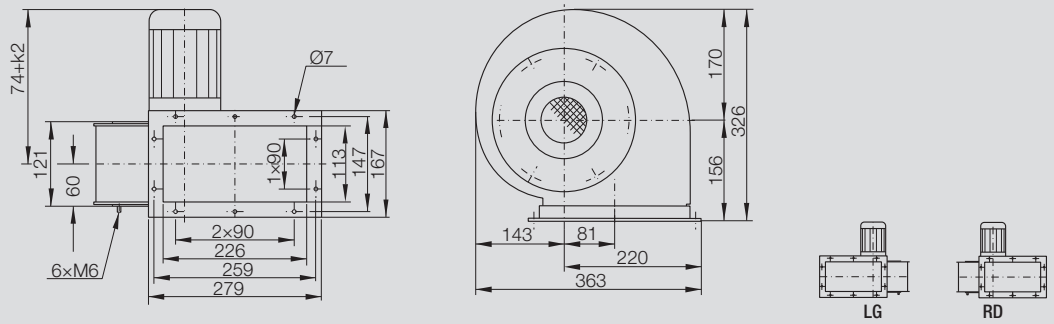
Motor protection can take place through motor protection units with bi-metallic releases (EUM 33) or via a thermistor (NTC) temperature sensor in connection with a thermistor (NTC)-release device (EUM 03). See chapter "Accessories".

The direction of rotation is determined looking from the drive side. - Anti-clockwise rotation, symbol **LG**. - Clockwise rotation, symbol **RD**.

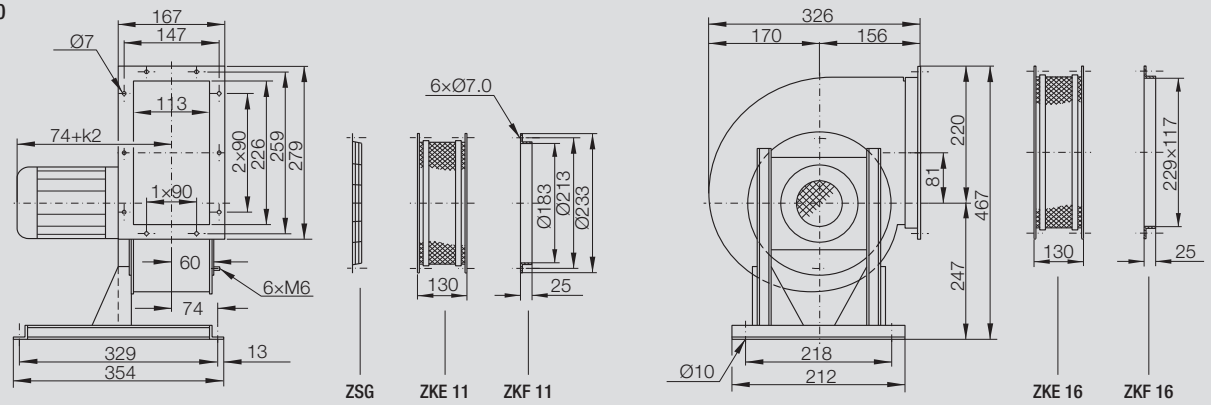
Dimensions in mm, subject to change.

TEM 01-0180

Motor	k2
63	180
71	210
80	234
90 S	282
90 L	282
100 L	316
112 M	334
132 S	374
132 M	374

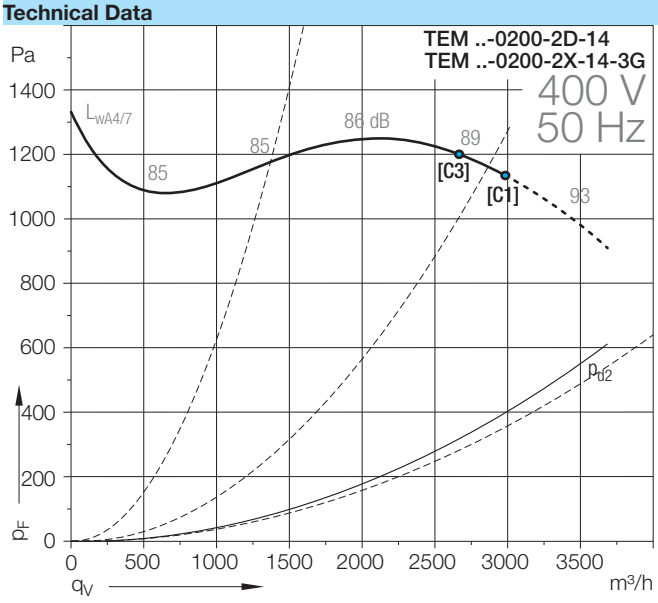


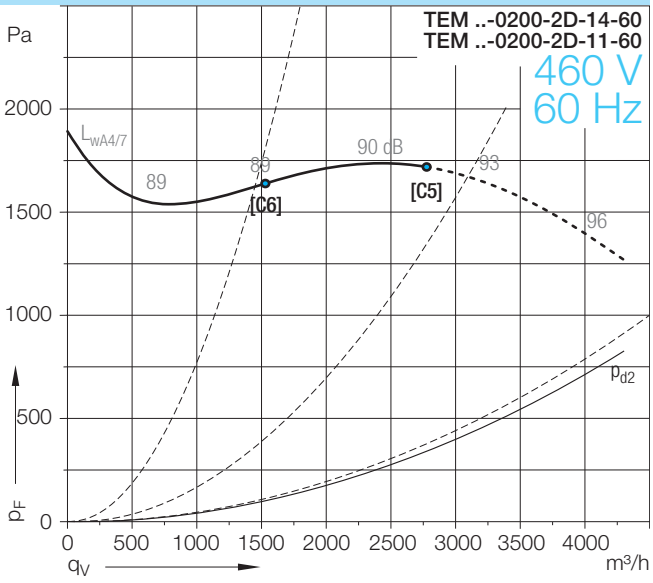
TEM 08-0180

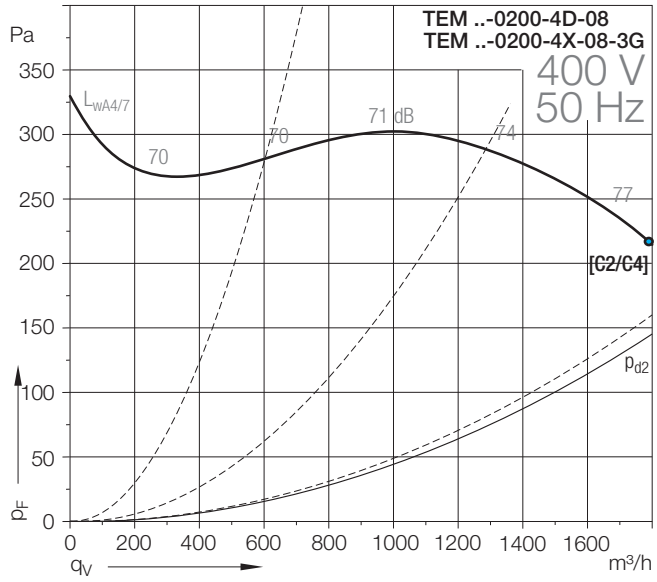


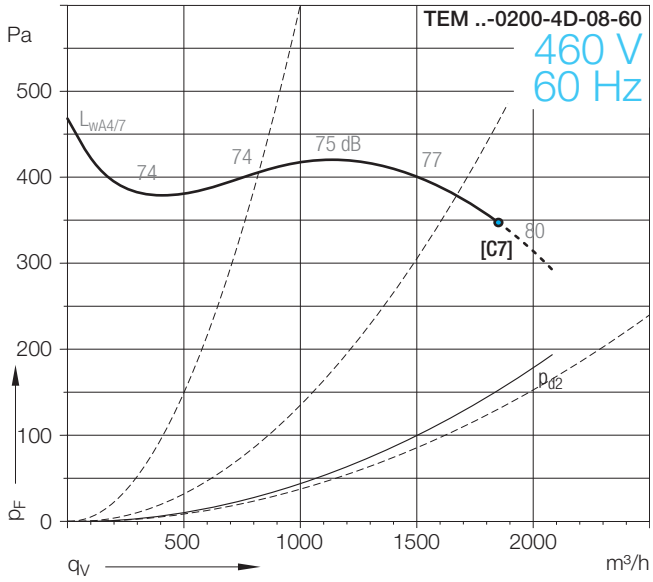
TEM ..-0200

Technical Data







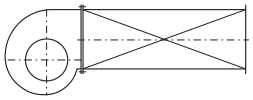


Attention!

Density of media **1.2 kg/m³**

- Operation limit, see Technical Data
- - - do not use in this area!

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



TEM ..-0200

Technical Data

TEM ..-	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight TEM 01/08
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0200-2D-14	[C1]	2.20	2	90L	230/400	50	Δ/Y	8.10/4.70	2880	60	2800	20/24
0200-4D-08	[C2]	0.37	4	71	230/400	50	Δ/Y	1.78/1.03	1370	60	1970	10/14

Technical Data

TEM ..-Ex II 3G c IIB T3	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight TEM 01/08
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0200-2X-14-3G	[C3]	1.85	2	90L	230/400	50	Δ/Y	6.85/3.95	2865	60	2730	20/24
0200-4X-08-3G	[C4]	0.37	4	71	230/400	50	Δ/Y	1.91/1.10	1355	60	1970	10/14

Technical Data

TEM ..-60 Hz	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight TEM 01/08
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0200-2D-14-60	[C5]	2.55	2	90L	460	60	Y	4.60	3480		2820	20/24
0200-2D-11-60	[C6]	1.30	2	80L	460	60	Y	2.41	3435	60	1510	14/18
0200-4D-08-60	[C7]	0.43	4	71	460	60	Y	1.02	1670		1870	10/14

Warning!

The given nominal motor current may not be exceeded. If the current consumption is exceeded, the volume is to be throttled correspondingly.

For fans of the ATEX execution, the guarantee for operation in explosion endangered areas or for the conveyance of explosive atmosphere expires when the motor nominal current is exceeded!For information on fans of the ATEX execution see Technical Description of this chapter.

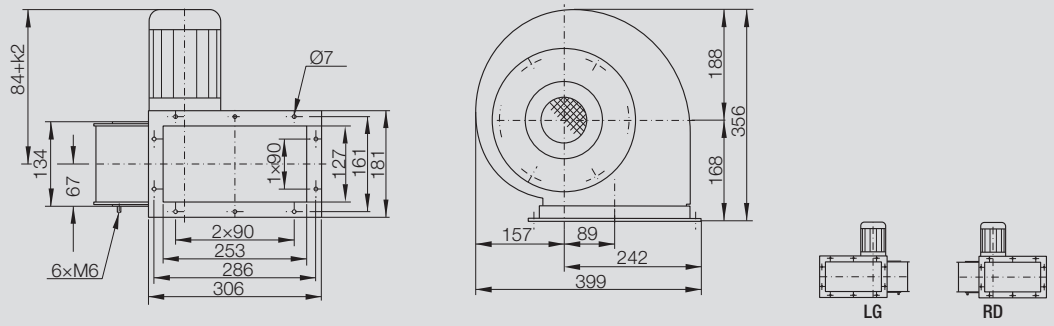
Motor protection can take place through motor protection units with bi-metallic releases (EUM 33) or via a thermistor (NTC) temperature sensor in connection with a thermistor (NTC)-release device (EUM 03). See chapter "Accessories".

The direction of rotation is determined looking from the drive side. - Anti-clockwise rotation, symbol **LG**. - Clockwise rotation, symbol **RD**.

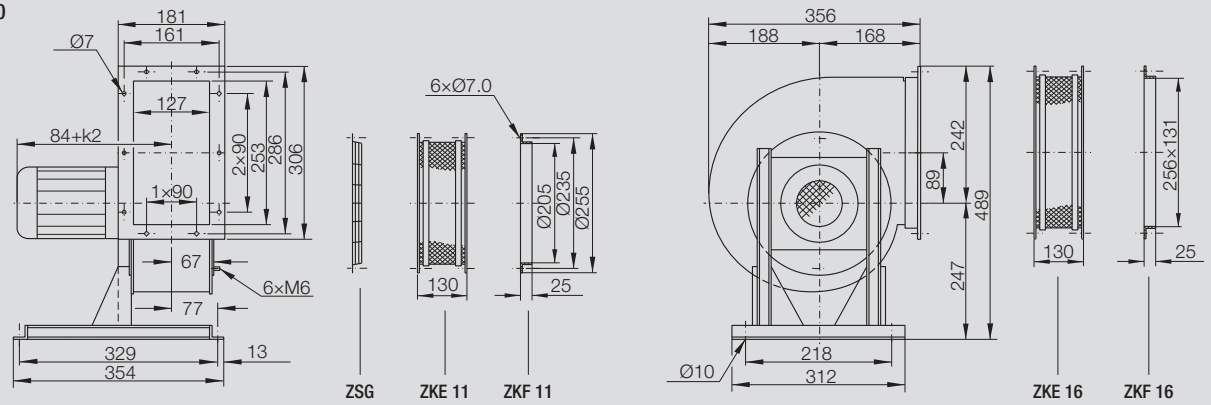
Dimensions in mm, subject to change.

TEM 01-0200

Motor	k2
63	180
71	210
80	234
90 S	282
90 L	282
100 L	316
112 M	334
132 S	374
132 M	374

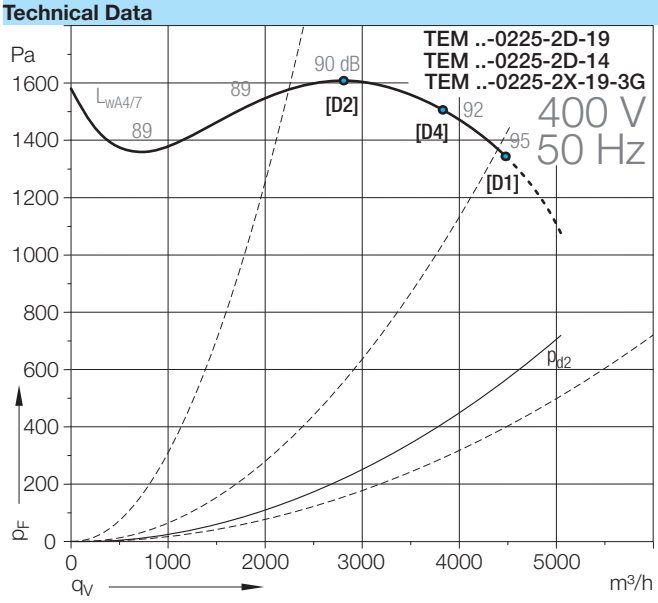


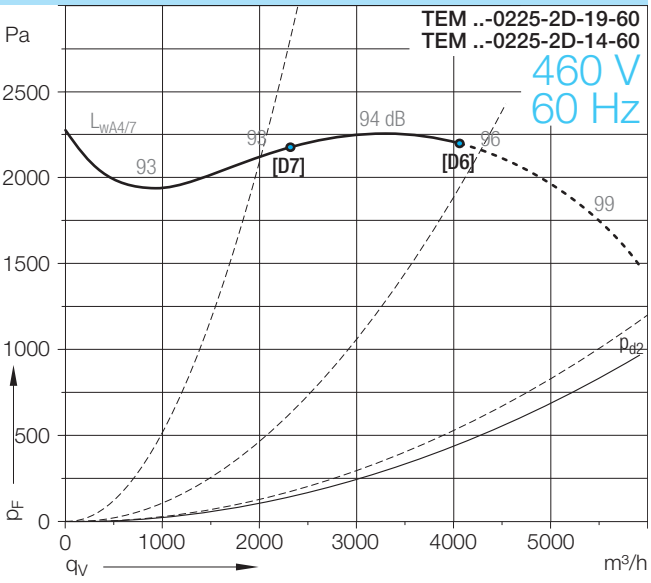
TEM 08-0200

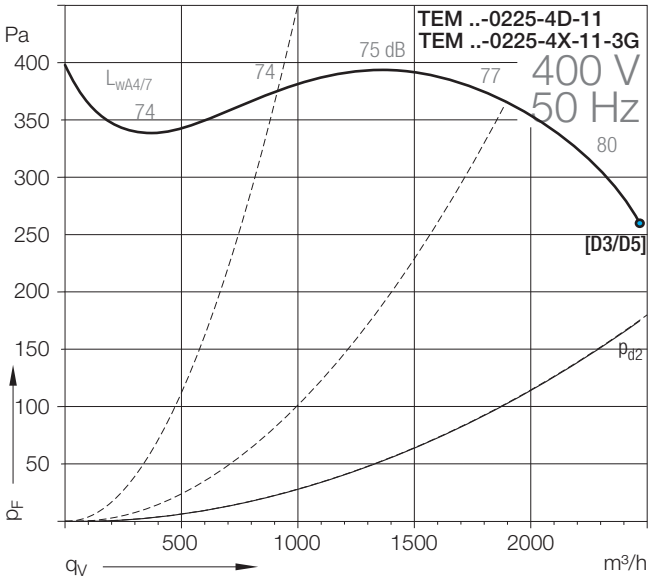


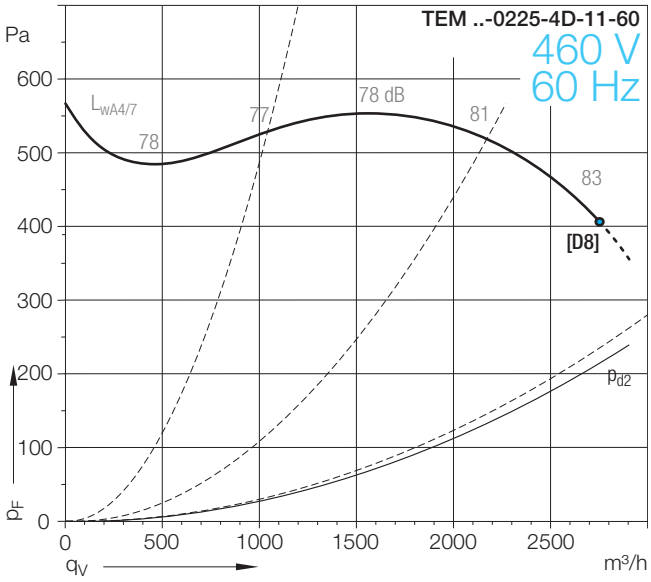
TEM ..-0225

Technical Data







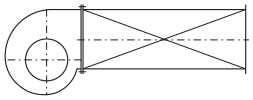


Attention!

Density of media **1.2 kg/m³**

- Operation limit, see Technical Data
- - - do not use in this area!

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



TEM ..-0225

Technical Data

TEM ..-	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight TEM 01/08
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0225-2D-19	[D1]	4.00	2	112M	400/690	50	Δ/Y	8.10/4.70	2905	60	4500	43/48
0225-2D-14	[D2]	2.20	2	90L	230/400	50	Δ/Y	8.10/4.70	2880	60	2800	21/30
0225-4D-11	[D3]	0.75	4	80	230/400	50	Δ/Y	3.25/1.88	1395	60	2640	14/19

Technical Data

TEM ..-Ex II 3G c IIB T3	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight TEM 01/08
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0225-2X-19-3G	[D4]	3.30	2		230/400	50	Δ/Y	11.60/6.70	2875	60	3870	43/48
0225-4X-11-3G	[D5]	0.75	4		230/400	50	Δ/Y	3.55/2.05	1395	60	2640	14/19

Technical Data

TEM ..-60 Hz	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight TEM 01/08
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0225-2D-19-60	[D6]	4.60	2	112M	460	60	Δ	7.60	3500	60	4020	43/48
0225-2D-14-60	[D7]	2.55	2	90L	460	60	Y	4.55	3480	60	2330	30/35
0225-4D-11-60	[D8]	0.86	4	80	460	60	Y	1.80	1695	60	2780	14/19

Warning!

The given nominal motor current may not be exceeded. If the current consumption is exceeded, the volume is to be throttled correspondingly.

For fans of the ATEX execution, the guarantee for operation in explosion endangered areas or for the conveyance of explosive atmosphere expires when the motor nominal current is exceeded!For information on fans of the ATEX execution see Technical Description of this chapter.

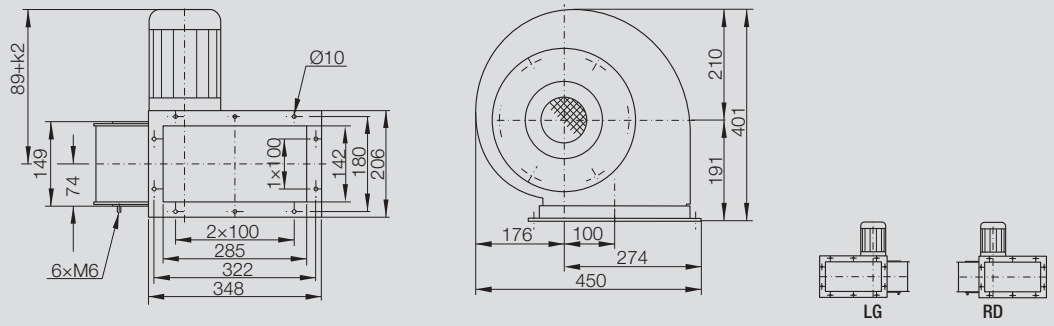
Motor protection can take place through motor protection units with bi-metallic releases (EUM 33) or via a thermistor (NTC) temperature sensor in connection with a thermistor (NTC)-release device (EUM 03). See chapter "Accessories".

The direction of rotation is determined looking from the drive side. - Anti-clockwise rotation, symbol **LG**. - Clockwise rotation, symbol **RD**.

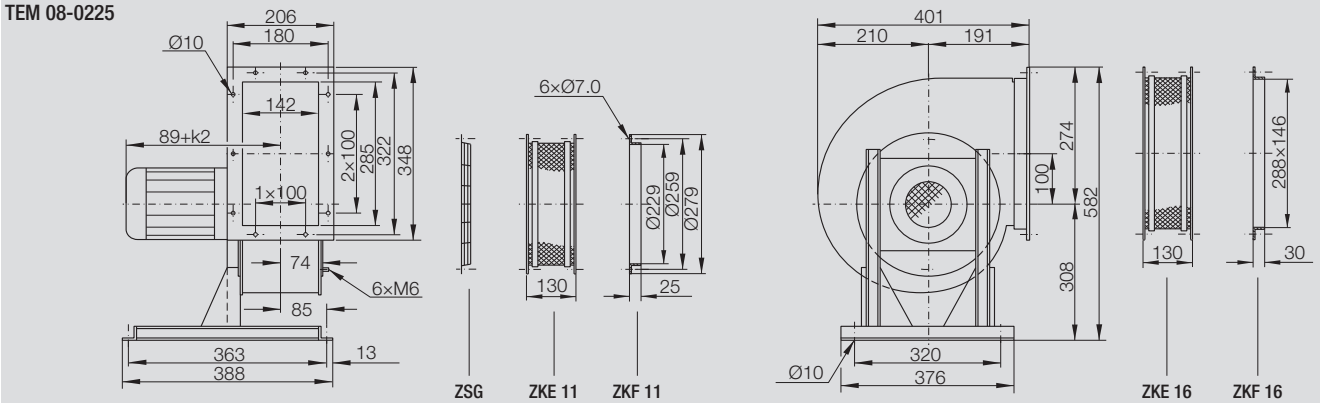
Dimensions in mm, subject to change.

TEM 01-0225

Motor	k2
63	180
71	210
80	234
90 S	282
90 L	282
100 L	316
112 M	334
132 S	374
132 M	374

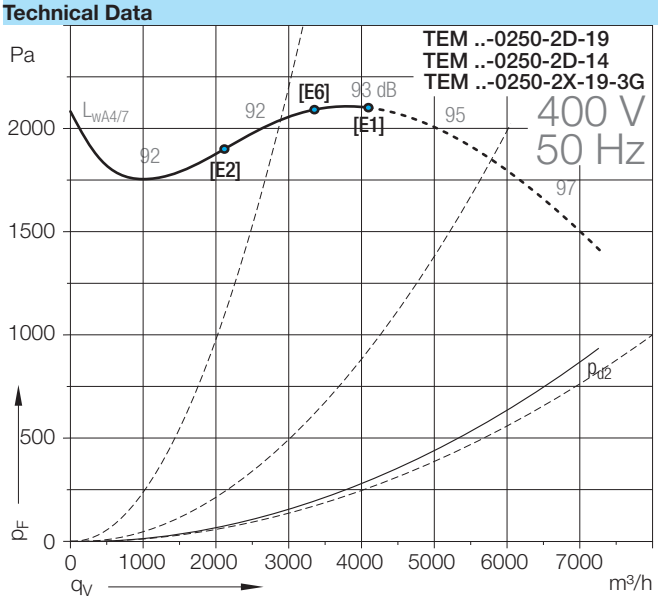


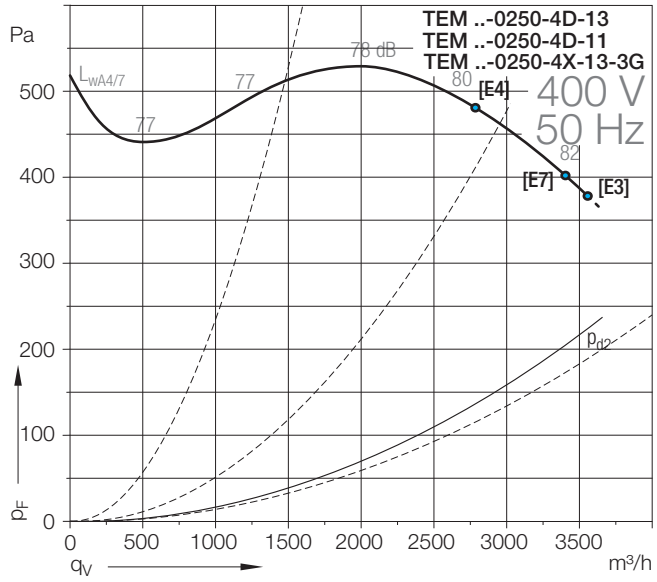
TEM 08-0225

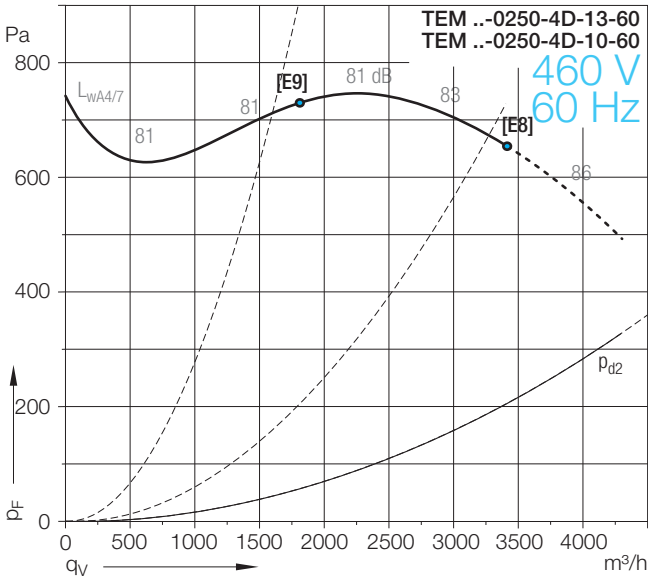


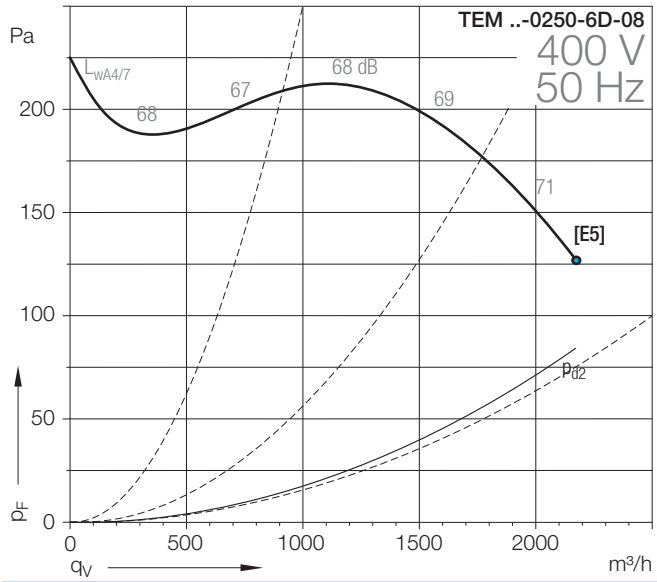
TEM ..-0250

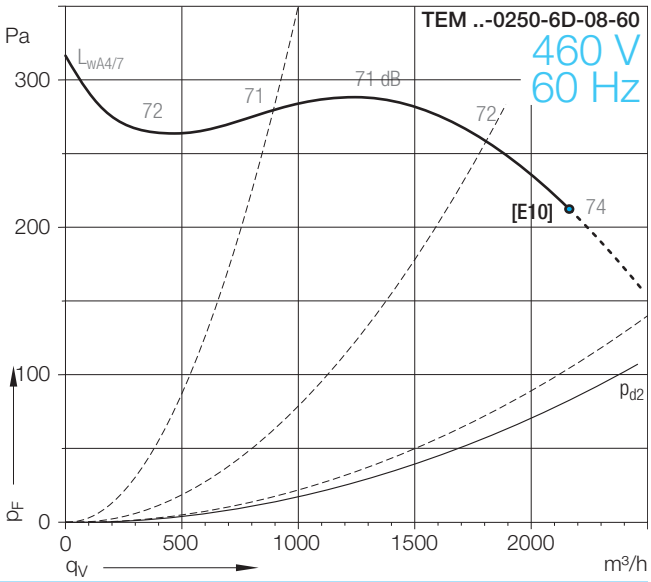
Technical Data









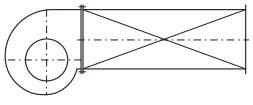


Attention!

Density of media **1.2 kg/m³**

- Operation limit, see Technical Data
- --- do not use in this area!

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



TEM ..-0250

Technical Data

TEM ..-	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight TEM 01/08
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0250-2D-19	[E1]	4.00	2	112M	400/690	50	Δ/Y	8.10/4.70	2905	60	4100	44/50
0250-2D-14	[E2]	2.20	2	90L	230/400	50	Δ/Y	8.10/4.70	2880	60	2180	31/37
0250-4D-13	[E3]	1.10	4	90S	230/400	50	Δ/Y	4.50/2.60	1415	60	3600	17/23
0250-4D-11	[E4]	0.75	4	80	230/400	50	Δ/Y	3.25/1.88	1395	60	2790	15/21
0250-6D-08	[E5]	0.25	6	71	230/400	50	Δ/Y	1.35/0.78	830	60	2190	12/18

Technical Data

TEM ..-Ex II 3G c IIB T3	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight TEM 01/08
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0250-2X-19-3G	[E6]	3.30	2	112M	230/400	50	Δ/Y	11.60/6.70	2875	60	3340	44/50
0250-4X-13-3G	[E7]	1.00	4	90S	230/400	50	Δ/Y	4.30/2.50	1420	60	3390	17/23

Technical Data

TEM ..-60 Hz	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight TEM 01/08
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0250-4D-13-60	[E8]	1.30	4	90S	460	60	Y	2.65	1710	60	3430	17/23
0250-4D-10-60	[E9]	0.63	4	80	460	60	Y	1.45	1674	60	1800	13/19
0250-6D-08-60	[E10]	0.29	6	71	460	60	Y	0.76	1060	60	2180	12/18

Warning!

The given nominal motor current may not be exceeded. If the current consumption is exceeded, the volume is to be throttled correspondingly.

For fans of the ATEX execution, the guarantee for operation in explosion endangered areas or for the conveyance of explosive atmosphere expires when the motor nominal current is exceeded!For information on fans of the ATEX execution see Technical

Description of this chapter.

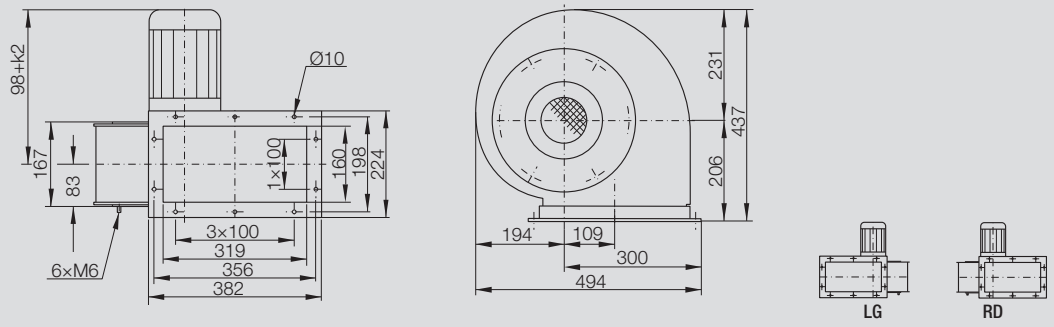
Motor protection can take place through motor protection units with bi-metallic releases (EUM 33) or via a thermistor (NTC) temperature sensor in connection with a thermistor (NTC)-release device (EUM 03). See chapter "Accessories".

The direction of rotation is determined looking from the drive side. - Anti-clockwise rotation, symbol **LG**. - Clockwise rotation, symbol **RD**.

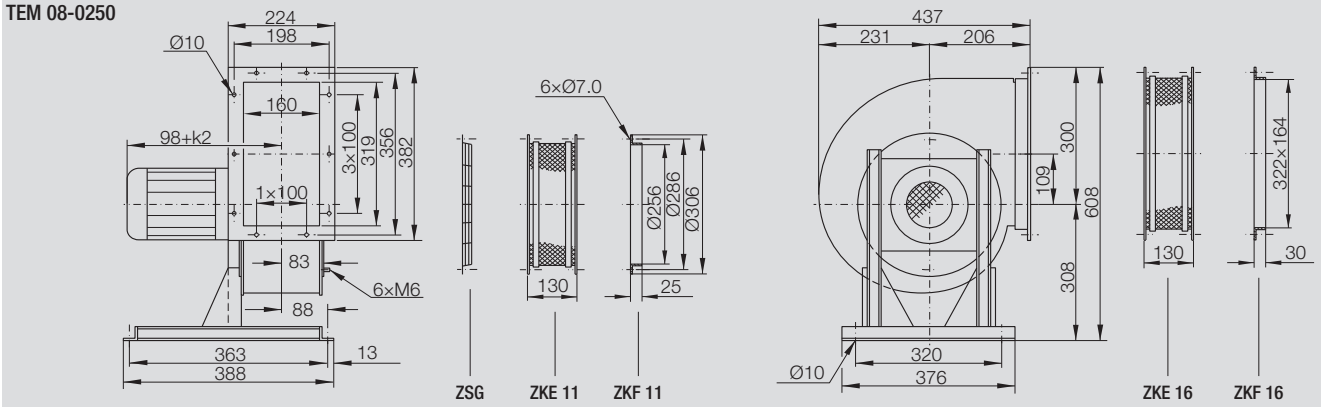
Dimensions in mm, subject to change.

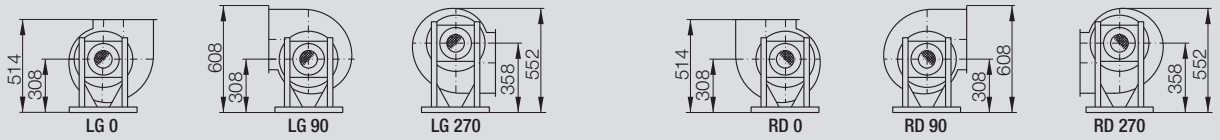
TEM 01-0250

Motor	k2
63	180
71	210
80	234
90 S	282
90 L	282
100 L	316
112 M	334
132 S	374
132 M	374



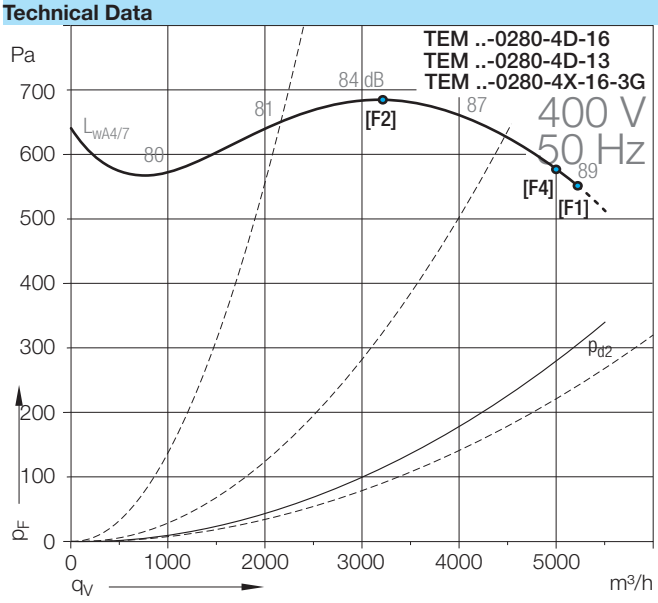
TEM 08-0250

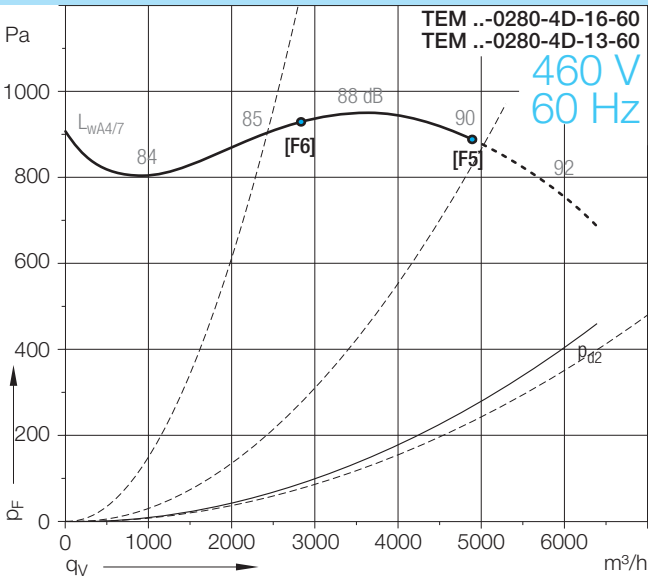


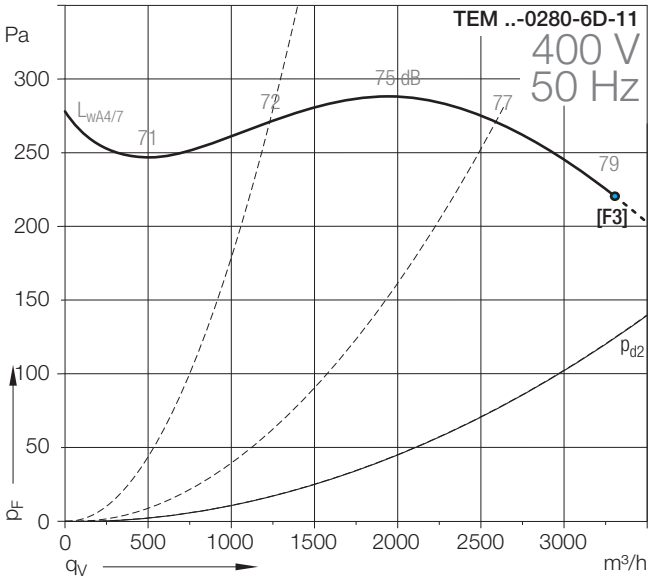


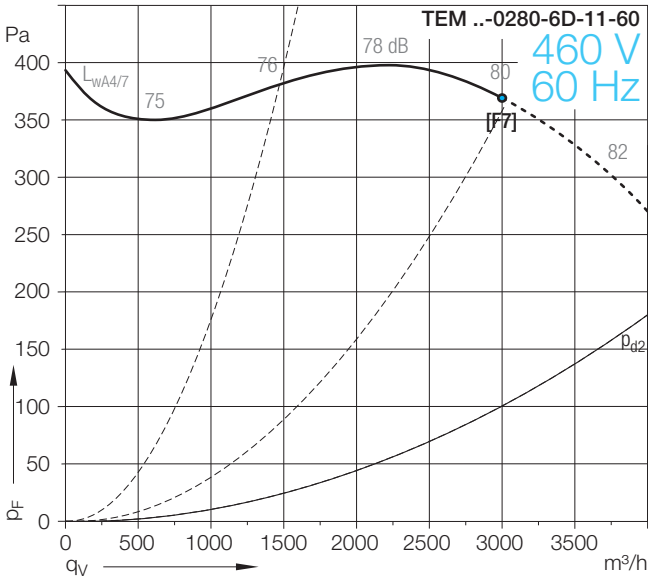
TEM ..-0280

Technical Data









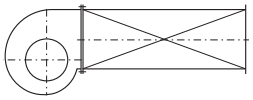
Attention!

Density of media **1.2 kg/m³**

- Operation limit, see Technical Data

--- do not use in this area!

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



TEM ..-0280

Technical Data

TEM ..-	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight TEM 01/08
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0280-4D-16	[F1]	2.20	4	100L	230/400	50	Δ/Y	8.20/4.75	1420	60	5250	28/36
0280-4D-13	[F2]	1.10	4	90S	230/400	50	Δ/Y	4.50/2.60	1415	60	3200	18/26
0280-6D-11	[F3]	0.55	6	80	230/400	50	Δ/Y	2.80/1.60	910	60	3300	16/24

Technical Data

TEM ..-Ex II 3G c IIB T3	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight TEM 01/08
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0280-4X-16-3G	[F4]	2.00	4	100L	230/400	50	Δ/Y	7.80/4.50	1420	60	5000	35/44

Technical Data

TEM ..-60 Hz	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight TEM 01/08
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0280-4D-16-60	[F5]	2.55	4	100L	460	60	Δ	4.70	1720	60	4920	28/36
0280-4D-13-60	[F6]	1.30	4	90S	460	60	Δ	2.65	1710	60	2760	18/26
0280-6D-11-60	[F7]	0.63	6	80	460	60	Δ	1.55	1110	60	3030	16/24

Warning!

The given nominal motor current may not be exceeded. If the current consumption is exceeded, the volume is to be throttled correspondingly.

For fans of the ATEX execution, the guarantee for operation in explosion endangered areas or for the conveyance of explosive atmosphere expires when the motor nominal current is exceeded!For information on fans of the ATEX execution see Technical Description of this chapter.

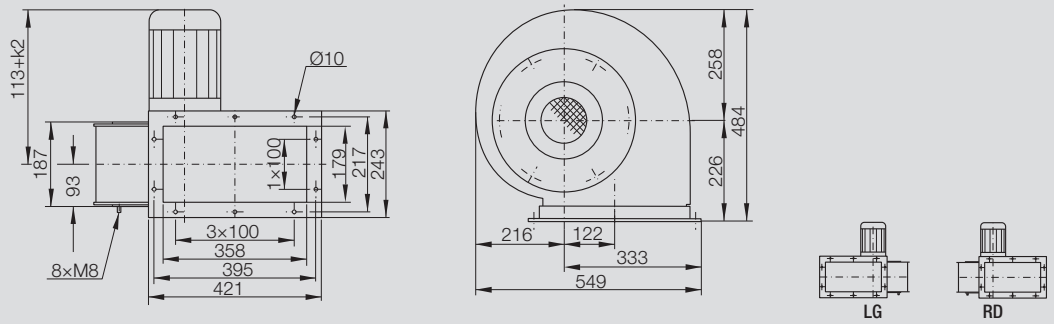
Motor protection can take place through motor protection units with bi-metallic releases (EUM 33) or via a thermistor (NTC) temperature sensor in connection with a thermistor (NTC)-release device (EUM 03). See chapter "Accessories".

The direction of rotation is determined looking from the drive side. - Anti-clockwise rotation, symbol **LG**. - Clockwise rotation, symbol **RD**.

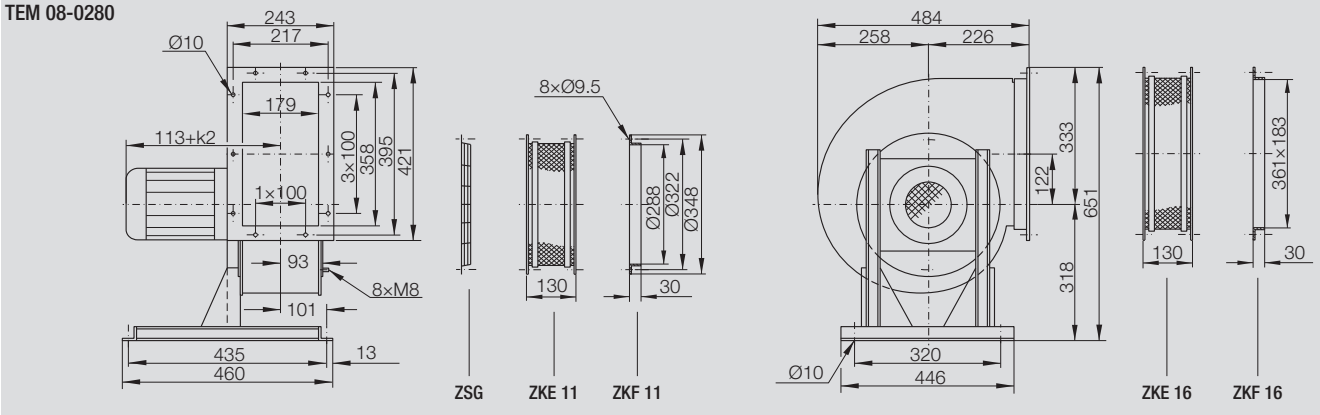
Dimensions in mm, subject to change.

TEM 01-0280

Motor	k2
63	180
71	210
80	234
90 S	282
90 L	282
100 L	316
112 M	334
132 S	374
132 M	374

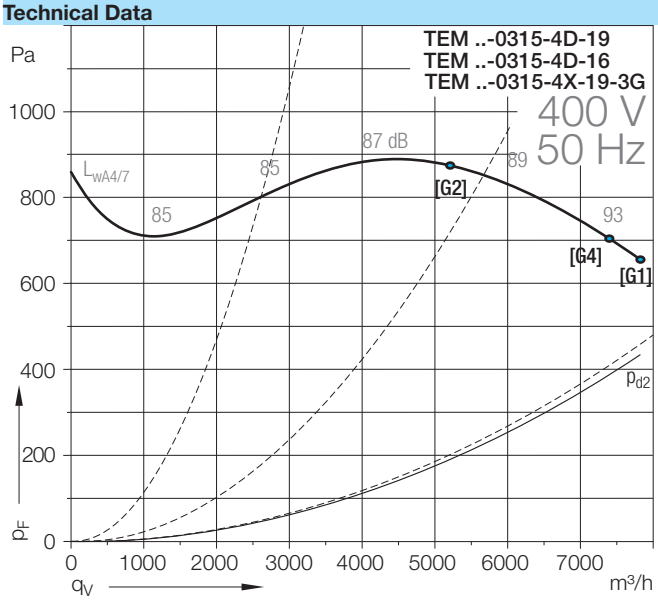


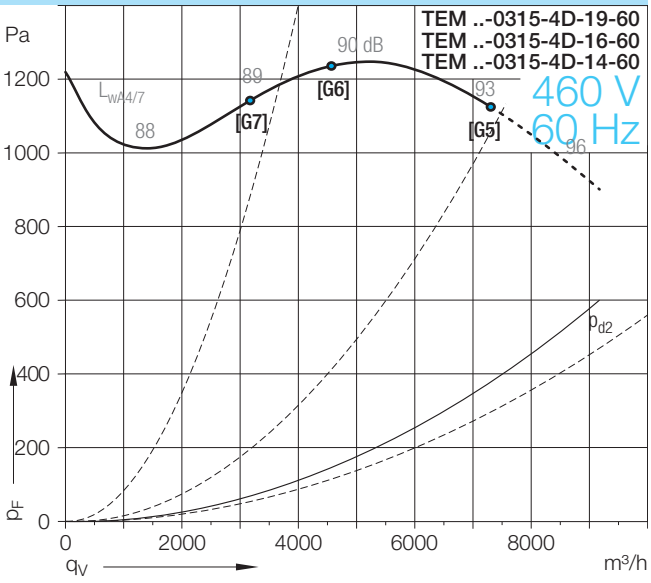
TEM 08-0280

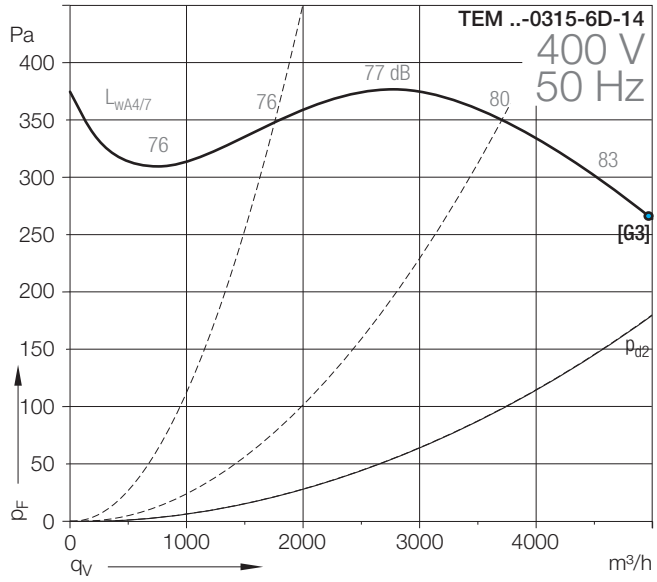


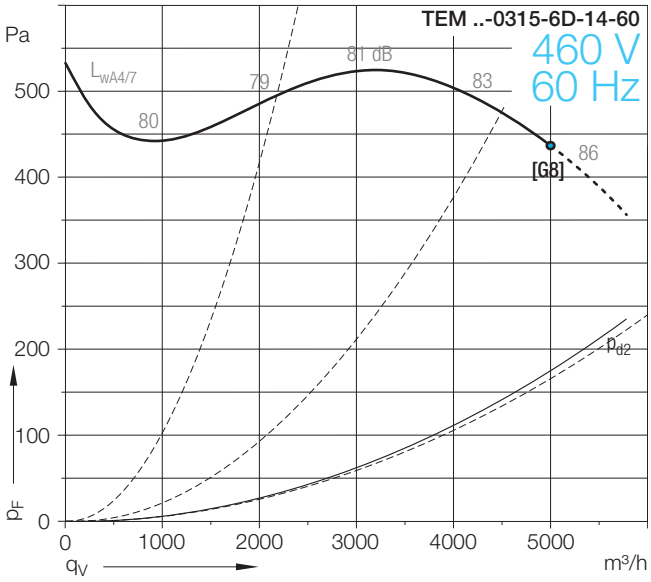
TEM ..-0315

Technical Data









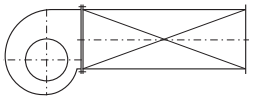
Attention!

Density of media **1.2 kg/m³**

- Operation limit, see Technical Data

--- do not use in this area!

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



TEM ..-0315

Technical Data

TEM ..-	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight TEM 01/08
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0315-4D-19	[G1]	4.00	4	112M	400/690	50	Δ/Y	8.20/4.70	1440	60	8000	49/56
0315-4D-16	[G2]	2.20	4	100L	230/400	50	Δ/Y	8.20/4.75	1420	60	5200	29/40
0315-6D-14	[G3]	1.10	6	90L	230/400	50	Δ/Y	4.90/2.85	915	60	5300	23/34

Technical Data

TEM ..-Ex II 3G c IIB T3	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight TEM 01/08
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0315-4X-19-3G	[G4]	3.60	4	112M	230/400	50	Δ/Y	13.00/7.50	1435	60	7400	49/60

Technical Data

TEM ..-60 Hz	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight TEM 01/08
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0315-4D-19-60	[G5]	4.60	4	112M	460	60	Δ	8.00	1740	60	7400	49/56
0315-4D-16-60	[G6]	2.55	4	100L	460	60	Δ	4.70	1720	60	4550	40/47
0315-4D-14-60	[G7]	1.75	4	90L	460	60	Δ	3.40	1704	60	3130	33/40
0315-6D-14-60	[G8]	1.30	6	90L	460	60	Δ	2.90	1115	60	5000	23/34

Warning!

The given nominal motor current may not be exceeded. If the current consumption is exceeded, the volume is to be throttled correspondingly.

For fans of the ATEX execution, the guarantee for operation in explosion endangered areas or for the conveyance of explosive atmosphere expires when the motor nominal current is exceeded!For information on fans of the ATEX execution see Technical Description of this chapter.

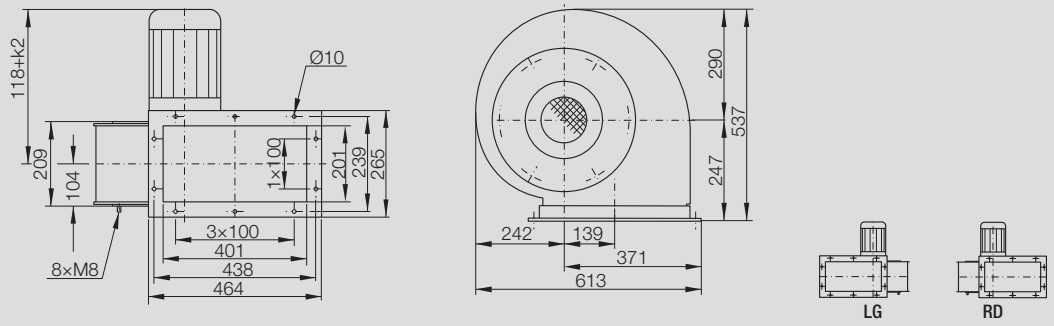
Motor protection can take place through motor protection units with bi-metallic releases (EUM 33) or via a thermistor (NTC) temperature sensor in connection with a thermistor (NTC)-release device (EUM 03). See chapter "Accessories".

The direction of rotation is determined looking from the drive side. - Anti-clockwise rotation, symbol **LG**. - Clockwise rotation, symbol **RD**.

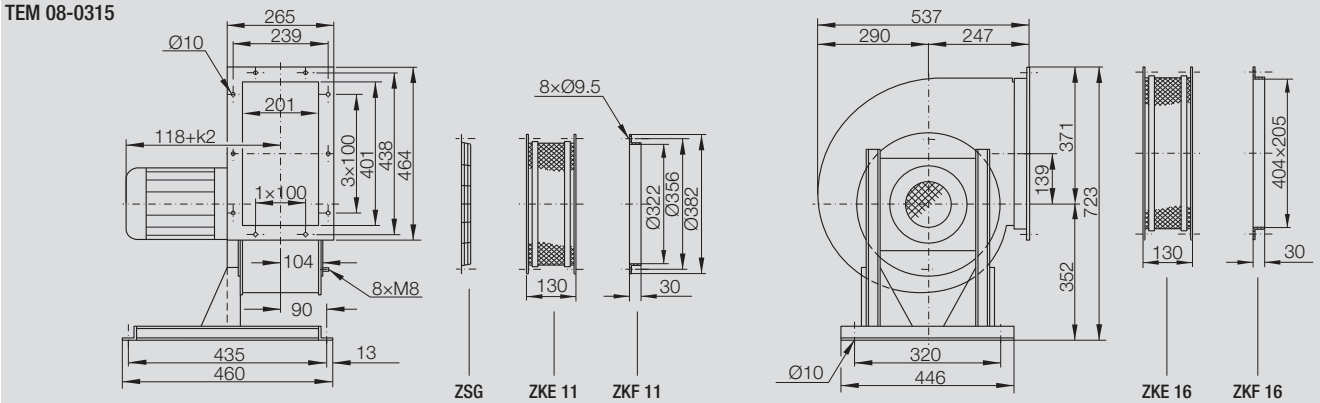
Dimensions in mm, subject to change.

TEM 01-0315

Motor	k2
63	180
71	210
80	234
90 S	282
90 L	282
100 L	316
112 M	334
132 S	374
132 M	374

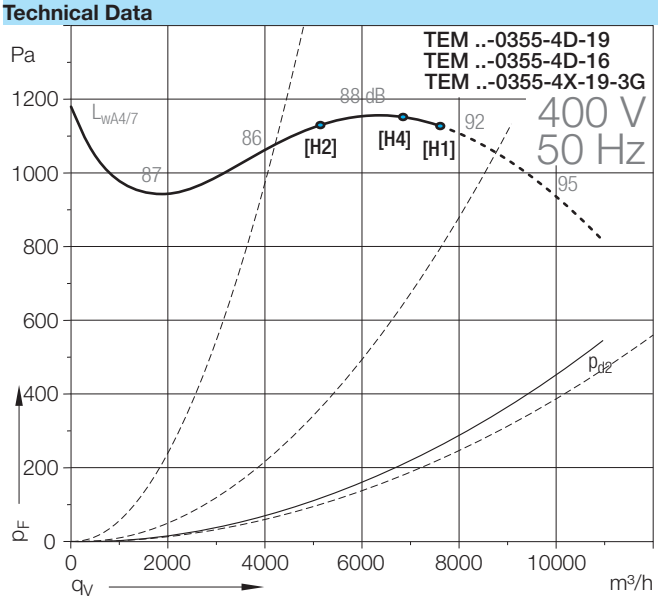


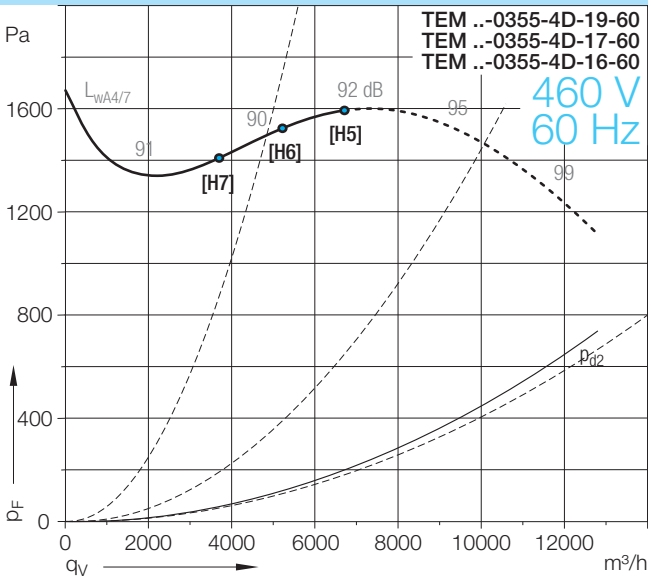
TEM 08-0315

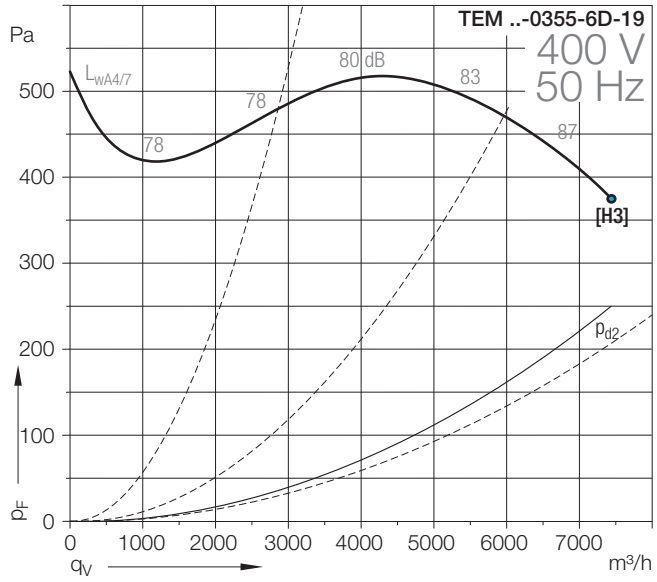


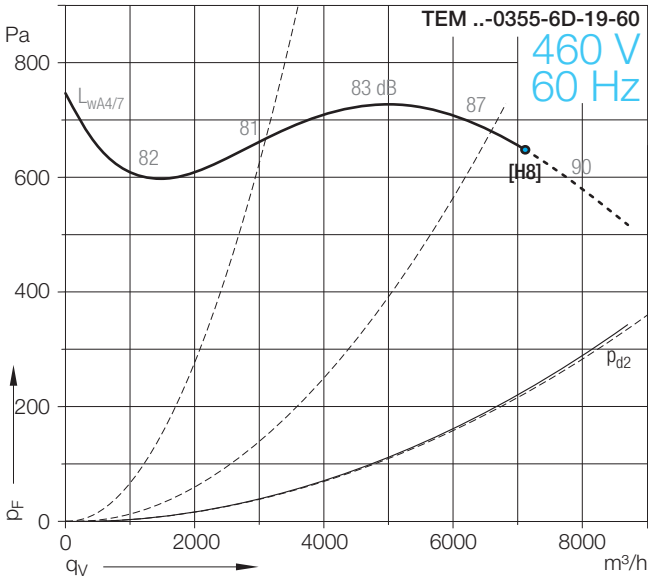
TEM ..-0355

Technical Data









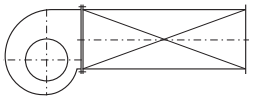
Attention!

Density of media **1.2 kg/m³**

- Operation limit, see Technical Data

--- do not use in this area!

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



TEM ..-0355

Technical Data

TEM ..-	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight TEM 01/08
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0355-4D-19	[H1]	4.00	4	112M	400/690	50	Δ/Y	8.20/4.75	1435	60	7600	46/55
0355-4D-16	[H2]	2.20	4	100L	230/400	50	Δ/Y	8.20/4.75	1425	60	4600	38/47
0355-6D-19	[H3]	2.20	6	112M	230/400	50	Δ/Y	9.20/5.30	930	60	7800	42/55

Technical Data

TEM ..-Ex II 3G c IIB T3	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight TEM 01/08
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0355-4X-19-3G	[H4]	3.60	4	112M	230/400	50	Δ/Y	13.00/7.50	1435	60	6900	50/63

Technical Data

TEM ..-60 Hz	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight TEM 01/08
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0355-4D-19-60	[H5]	4.60	4	112M	460	60	Δ	8.00	1720	60	6680	46/55
0355-4D-17-60	[H6]	3.45	4	100L	460	60	Y	5.90	1710	60	5150	42/51
0355-4D-16-60	[H7]	2.55	4	100L	460	60	Y	4.70	1710	60	3780	38/47
0355-6D-19-60	[H8]	2.55	6	112M	460	60	Y	5.20	1120	60	7170	42/55

Warning!

The given nominal motor current may not be exceeded. If the current consumption is exceeded, the volume is to be throttled correspondingly.

For fans of the ATEX execution, the guarantee for operation in explosion endangered areas or for the conveyance of explosive atmosphere expires when the motor nominal current is exceeded!For information on fans of the ATEX execution see Technical Description of this chapter.

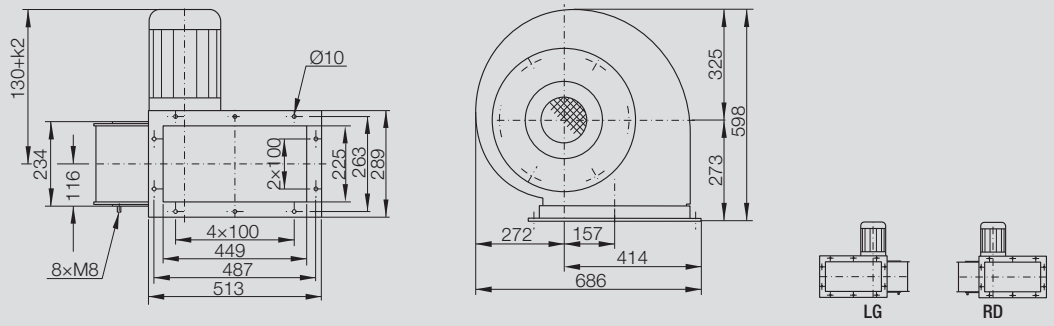
Motor protection can take place through motor protection units with bi-metallic releases (EUM 33) or via a thermistor (NTC) temperature sensor in connection with a thermistor (NTC)-release device (EUM 03). See chapter "Accessories".

The direction of rotation is determined looking from the drive side. - Anti-clockwise rotation, symbol **LG**. - Clockwise rotation, symbol **RD**.

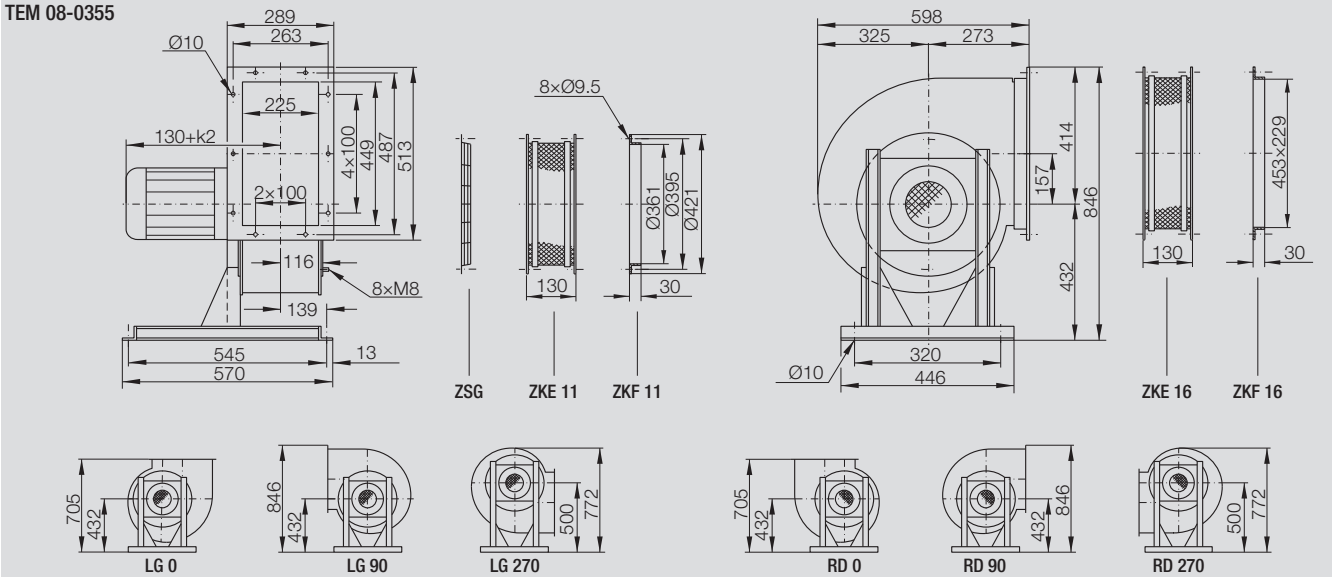
Dimensions in mm, subject to change.

TEM 01-0355

Motor	k2
63	180
71	210
80	234
90 S	282
90 L	282
100 L	316
112 M	334
132 S	374
132 M	374

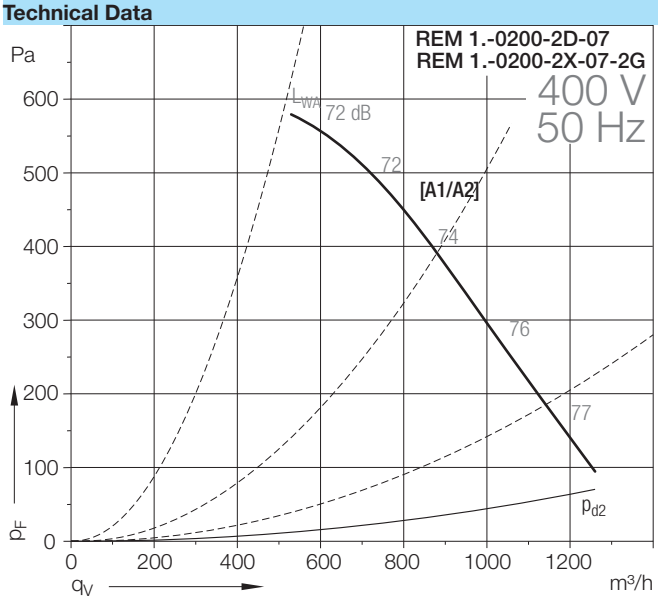


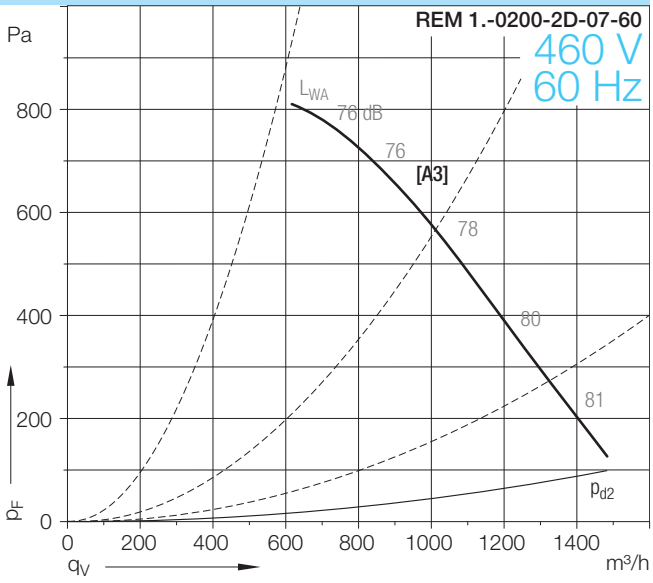
TEM 08-0355



REM 10-0200

Technical Data

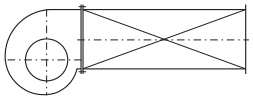




Technical Data

Density of media **1.2 kg/m³**

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



REM 10-0200

Technical Data

REM ..-	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight REM 11/13/18/19
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0200-2D-07	[A1]	0.37	2	71	230/400	50	Δ/Y	1.73/1.00	2740	60	1290	10/12/14/16

Technical Data

REM ..-Ex II 2G c IIB T3	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight REM 11/13/18/19
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0200-2X-07-2G	[A2]	0.37	2	71	230/400	50	Δ/Y	1.61/0.93	2825	60	1290	10/12/14/16

Technical Data

REM ..-60 Hz	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight REM 11/13/18/19
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0200-2D-07-60	[A3]	0.43	2	71	460	60	Y	1.00	3288	60	1520	10/12/14/16

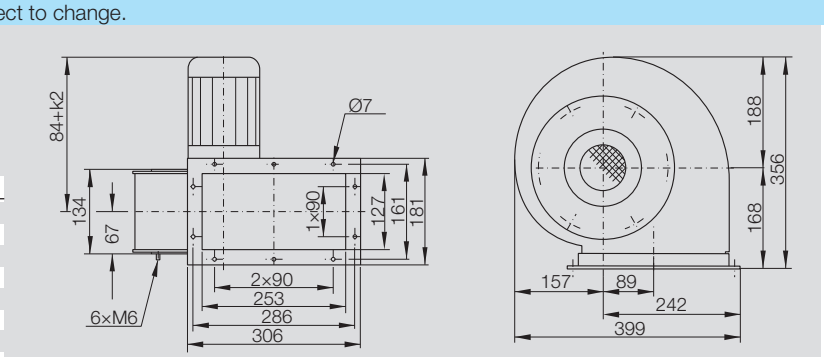
Motor protection can take place through motor protection units with bi-metallic releases (EUM 33) or via a thermistor (NTC) temperature sensor in connection with a thermistor (NTC)-release device (EUM 03). See chapter "Accessories".

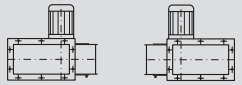
The direction of rotation is determined looking from the drive side. - Anti-clockwise rotation, symbol **LG**. - Clockwise rotation, symbol **RD**.

Dimensions in mm, subject to change.

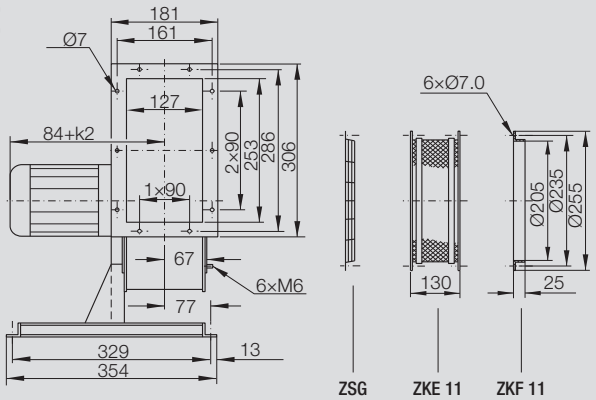
REM 11-0200
REM 13-0200

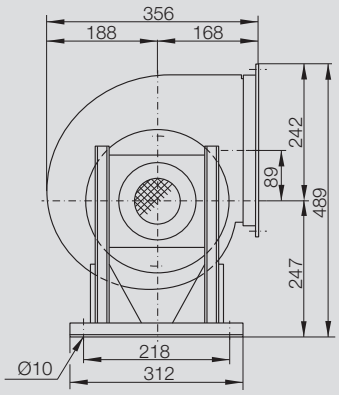
Motor	k2
71	210
80	234
90 S	282
90 L	282
100 L	316
112 M	334
132 S	374
132 M	374

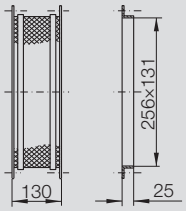




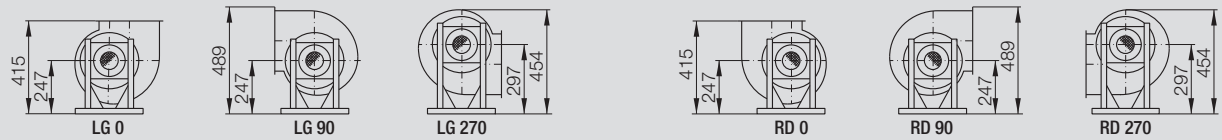
REM 18-0200
REM 19-0200







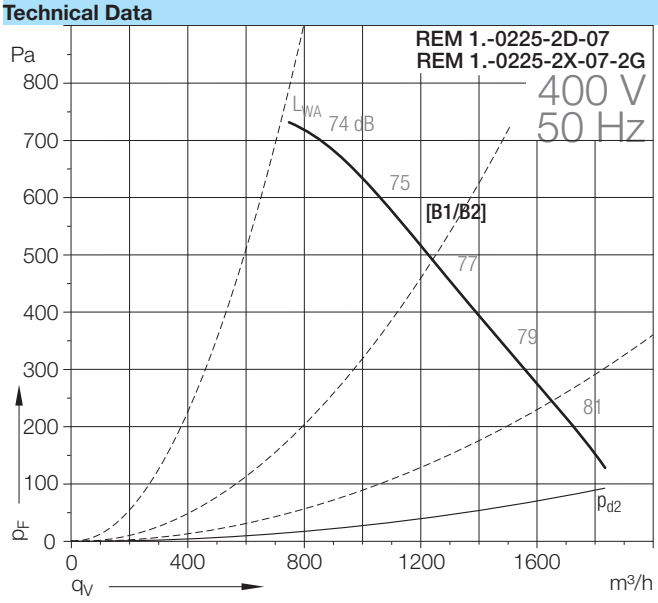
ZSG ZKE 11 ZKF 11 ZKE 16 ZKF 16

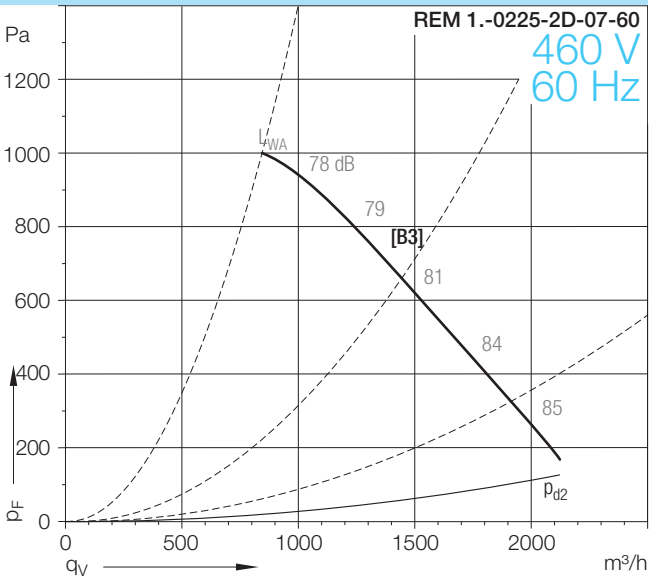


LG 0 LG 90 LG 270 RD 0 RD 90 RD 270

REM 10-0225

Technical Data

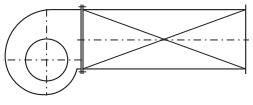




Technical Data

Density of media **1.2 kg/m³**

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



REM 10-0225

Technical Data

REM ..-	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight REM 11/13/18/19
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0225-2D-07	[B1]	0.37	2	71	230/400	50	Δ/Y	1.73/1.00	2740	60	1880	11/13/16/18

Technical Data

REM ..-Ex II 2G c IIB T3	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight REM 11/13/18/19
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0225-2X-07-2G	[B2]	0.37	2	71	230/400	50	Δ/Y	1.61/0.93	2825	60	1880	11/13/16/18

Technical Data

REM ..-60 Hz	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight REM 11/13/18/19
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0225-2D-07-60	[B3]	0.43	2	71	460	60	Y	1.00	3288	60	2170	11/13/16/18

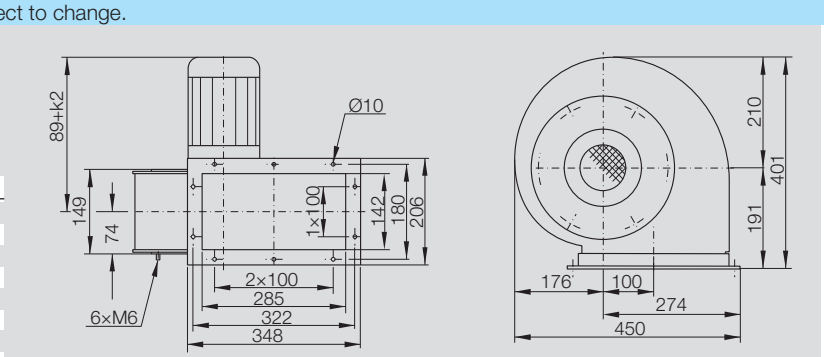
Motor protection can take place through motor protection units with bi-metallic releases (EUM 33) or via a thermistor (NTC) temperature sensor in connection with a thermistor (NTC)-release device (EUM 03). See chapter "Accessories".

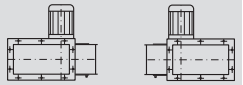
The direction of rotation is determined looking from the drive side. - Anti-clockwise rotation, symbol **LG**. - Clockwise rotation, symbol **RD**.

Dimensions in mm, subject to change.

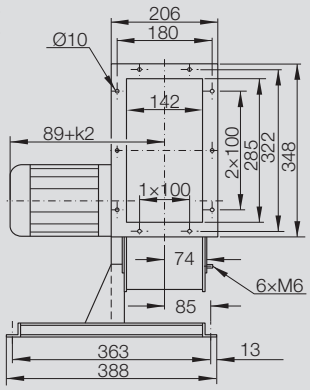
REM 11-0225
REM 13-0225

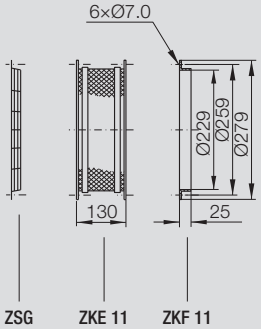
Motor	k2
71	210
80	234
90 S	282
90 L	282
100 L	316
112 M	334
132 S	374
132 M	374



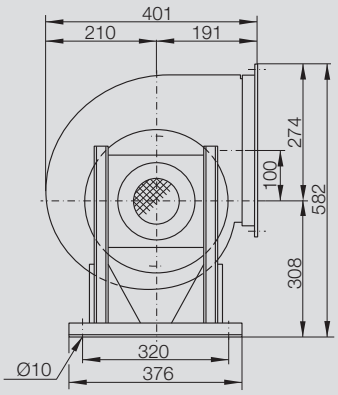


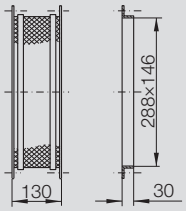
REM 18-0225
REM 19-0225





ZSG ZKE 11 ZKF 11



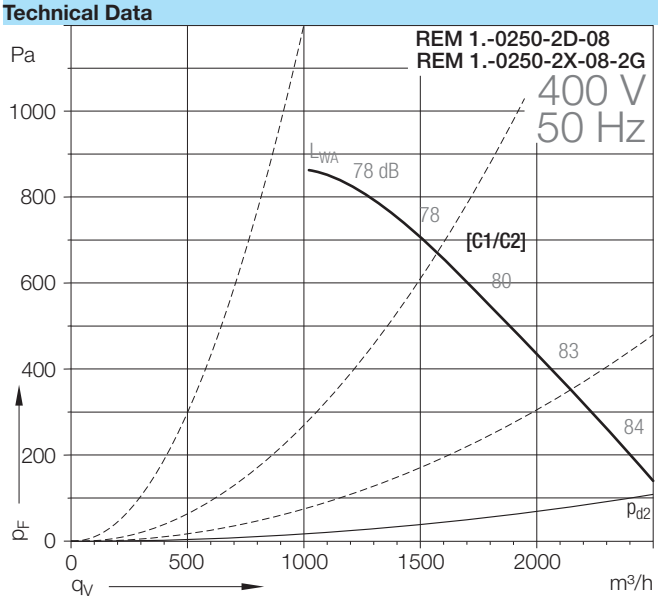


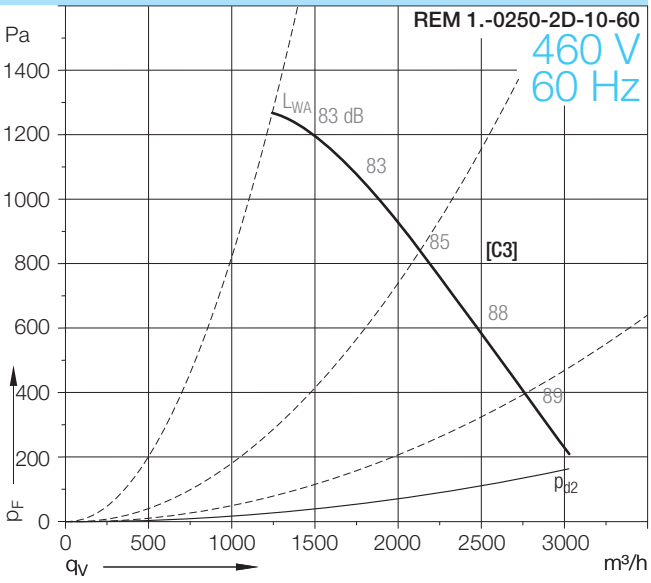
ZKE 16 ZKF 16

LG 0 LG 90 LG 270 RD 0 RD 90 RD 270

REM 10-0250

Technical Data

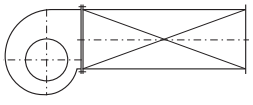




Technical Data

Density of media **1.2 kg/m³**

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



REM 10-0250

Technical Data

REM ..-	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight REM 11/13/18/19
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0250-2D-08	[C1]	0.55	2	71	230/400	50	Δ/Y	2.35/1.36	2800	60	2550	15/17/21/23

Technical Data

REM ..-Ex II 2G c IIB T3	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight REM 11/13/18/19
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0250-2X-08-2G	[C2]	0.55	2	71	230/400	50	Δ/Y	2.42/1.40	2785	60	2550	15/17/21/23

Technical Data

REM ..-60 Hz	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight REM 11/13/18/19
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0250-2D-10-60	[C3]	0.86	2	80	460	60	Y	1.73	3426	60	3080	17/20/24/26

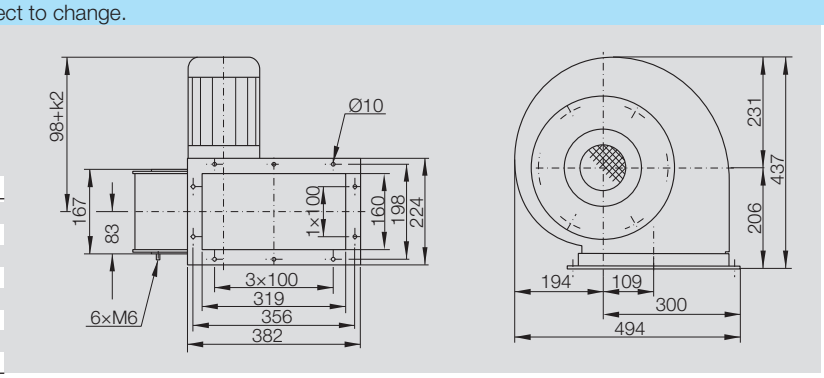
Motor protection can take place through motor protection units with bi-metallic releases (EUM 33) or via a thermistor (NTC) temperature sensor in connection with a thermistor (NTC)-release device (EUM 03). See chapter "Accessories".

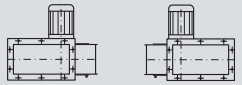
The direction of rotation is determined looking from the drive side. - Anti-clockwise rotation, symbol **LG**. - Clockwise rotation, symbol **RD**.

Dimensions in mm, subject to change.

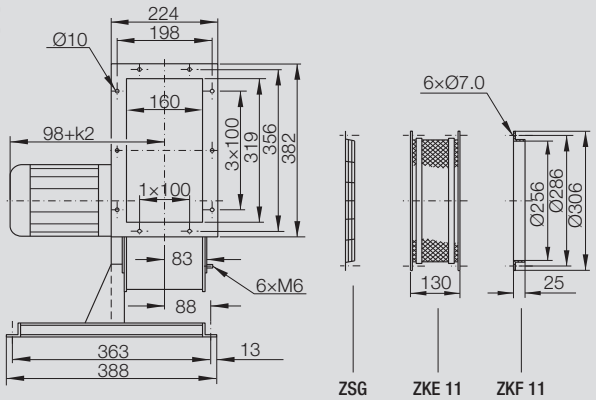
REM 11-0250
REM 13-0250

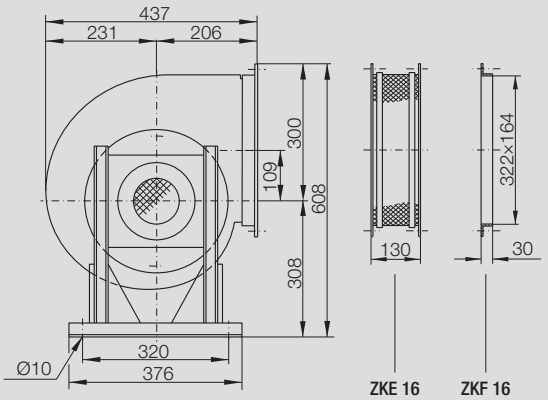
Motor	k2
71	210
80	234
90 S	282
90 L	282
100 L	316
112 M	334
132 S	374
132 M	374

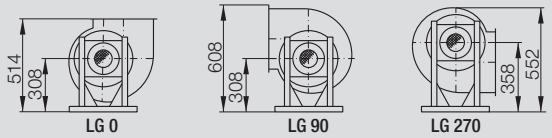


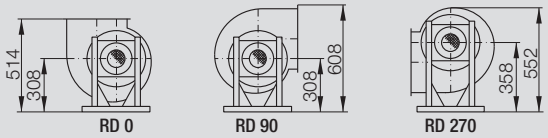


REM 18-0250
REM 19-0250



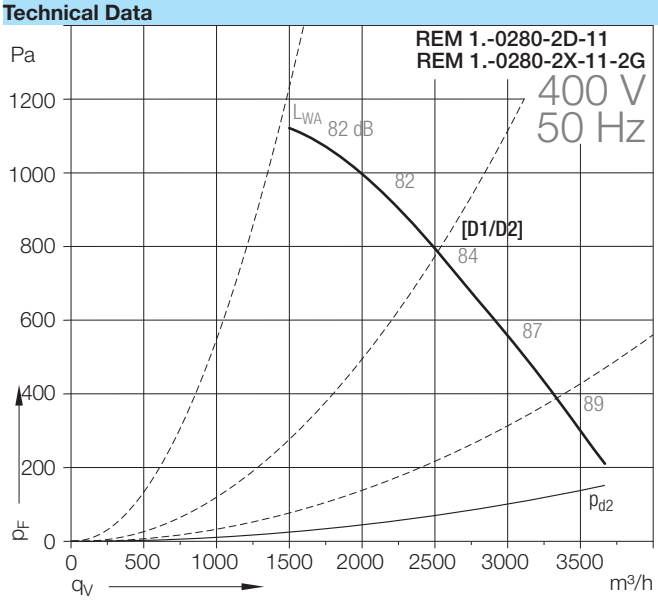


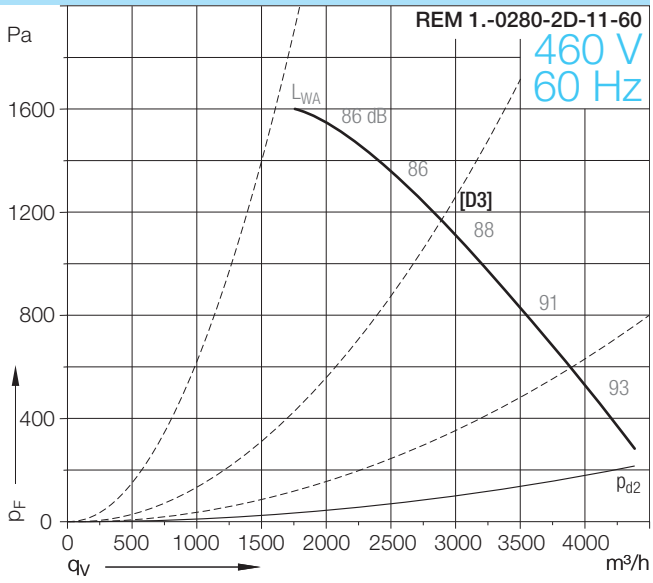




REM 10-0280

Technical Data

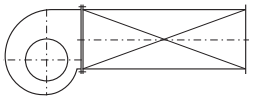




Technical Data

Density of media **1.2 kg/m³**

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



REM 10-0280

Technical Data

REM ..-	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight REM 11/13/18/19
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0280-2D-11	[D1]	1.10	2	80	230/400	50	Δ/Y	4.25/2.45	2845	60	3760	18/21/26/29

Technical Data

REM ..-Ex II 2G c IIB T3	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight REM 11/13/18/19
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0280-2X-11-2G	[D2]	1.10	2	80	230/400	50	Δ/Y	4.33/2.50	2855	60	3760	18/21/26/29

Technical Data

REM ..-60 Hz	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight REM 11/13/18/19
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0280-2D-11-60	[D3]	1.30	2	80	460	60	Y	2.41	3435	60	4470	18/21/26/29

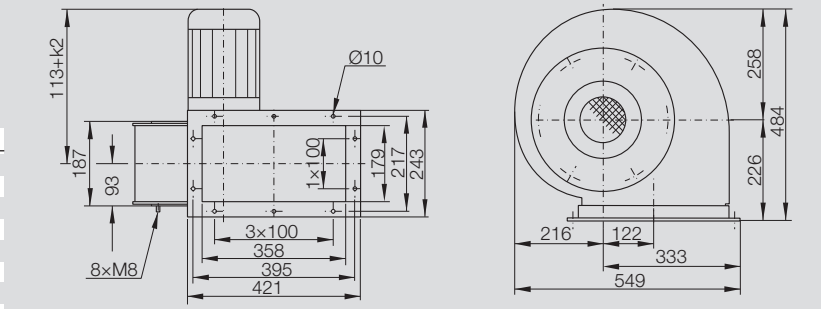
Motor protection can take place through motor protection units with bi-metallic releases (EUM 33) or via a thermistor (NTC) temperature sensor in connection with a thermistor (NTC)-release device (EUM 03). See chapter "Accessories".

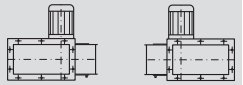
The direction of rotation is determined looking from the drive side. - Anti-clockwise rotation, symbol **LG**. - Clockwise rotation, symbol **RD**.

Dimensions in mm, subject to change.

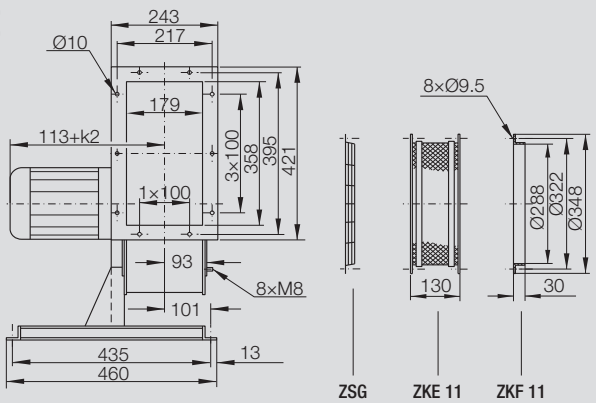
REM 11-0280
REM 13-0280

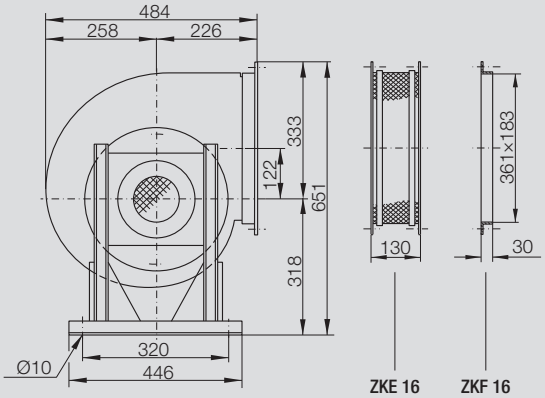
Motor	k2
71	210
80	234
90 S	282
90 L	282
100 L	316
112 M	334
132 S	374
132 M	374





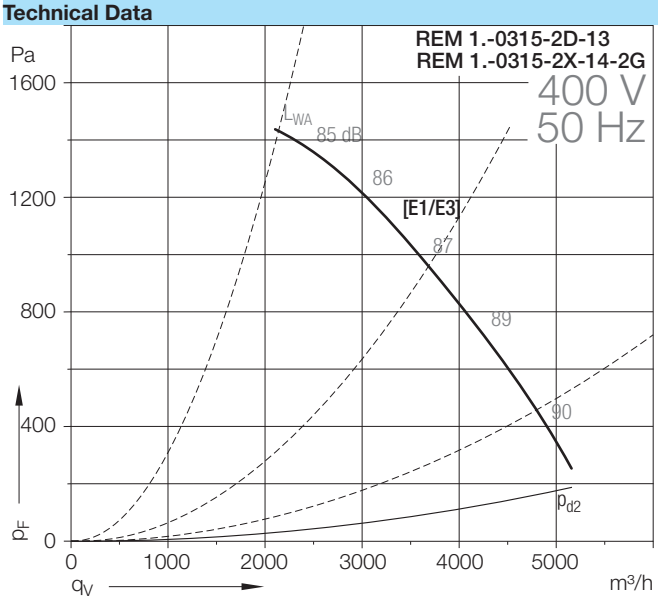
REM 18-0280
REM 19-0280

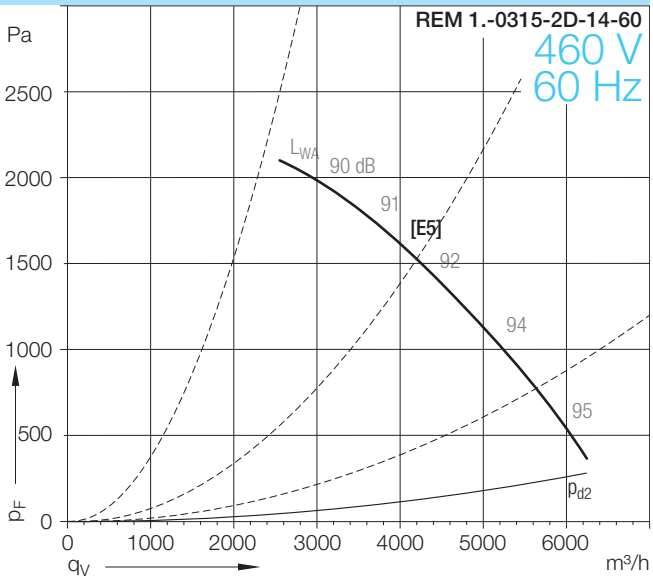


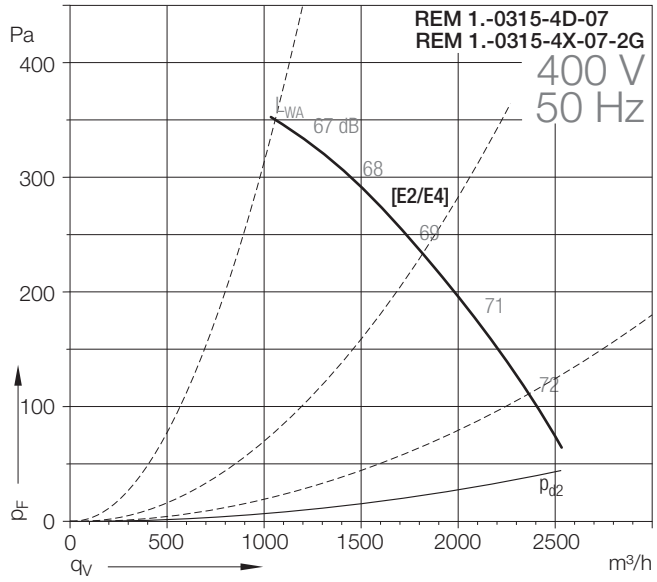


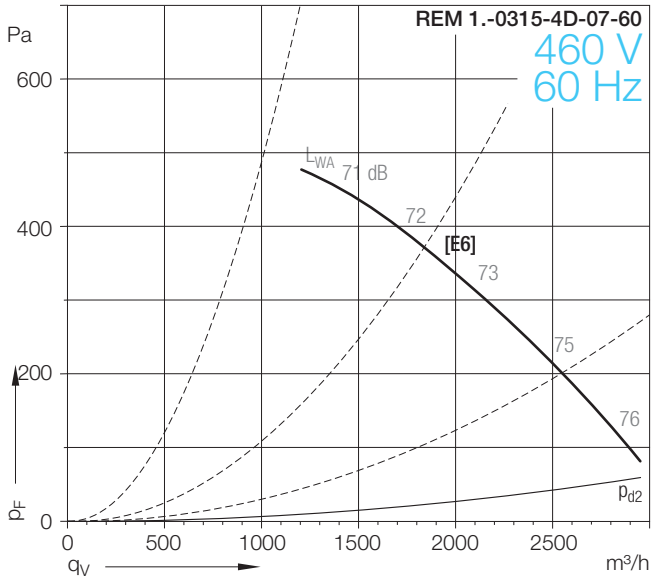
REM 10-0315

Technical Data





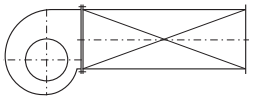




Technical Data

Density of media **1.2 kg/m³**

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



REM 10-0315

Technical Data

REM ..-	Curves	Nominal motor power kW	Poles –	Motor size	Motor voltage V	Nominal frequency Hz	Connection	Nominal motor current A	Nominal motor speed 1/min	Media Temperature max. °C	Max. volume flow m³/h	Fan weight REM 11/13/18/19 kg
0315-2D-13	[E1]	1.50	2	90 S	230/400	50	Δ/Y	5.70/3.30	2860	60	5250	25/28/33/36
0315-4D-07	[E2]	0.25	4	71	230/400	50	Δ/Y	1.32/0.76	1350	60	2600	19/22/26/29

Technical Data

REM ..-Ex II 2G c IIB T3	Curves	Nominal motor power kW	Poles –	Motor size	Motor voltage V	Nominal frequency Hz	Connection	Nominal motor current A	Nominal motor speed 1/min	Media Temperature max. °C	Max. volume flow m³/h	Fan weight REM 11/13/18/19 kg
0315-2X-14-2G	[E3]	1.85	2	90 L	230/400	50	Δ/Y	6.85/3.95	2860	60	5250	28/31/36/39
0315-4X-07-2G	[E4]	0.25	4	71	230/400	50	Δ/Y	1.39/0.80	1310	60	2600	19/22/26/29

Technical Data

REM ..-60 Hz	Curves	Nominal motor power kW	Poles –	Motor size	Motor voltage V	Nominal frequency Hz	Connection	Nominal motor current A	Nominal motor speed 1/min	Media Temperature max. °C	Max. volume flow m³/h	Fan weight REM 11/13/18/19 kg
0315-2D-14-60	[E5]	2.55	2	90 L	460	60	Y	4.60	3480	60	6360	28/31/36/39
0315-4D-07-60	[E6]	0.29	4	71	460	60	Y	0.76	1620	60	3000	19/22/14/29

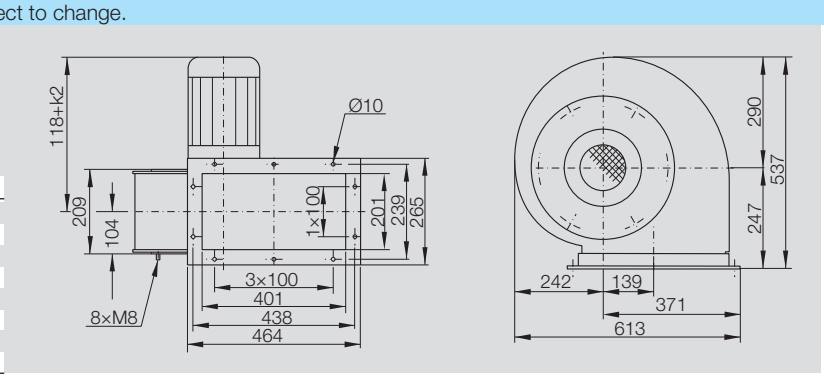
Motor protection can take place through motor protection units with bi-metallic releases (EUM 33) or via a thermistor (NTC) temperature sensor in connection with a thermistor (NTC)-release device (EUM 03). See chapter "Accessories".

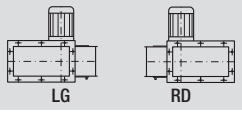
The direction of rotation is determined looking from the drive side. - Anti-clockwise rotation, symbol **LG**. - Clockwise rotation, symbol **RD**.

Dimensions in mm, subject to change.

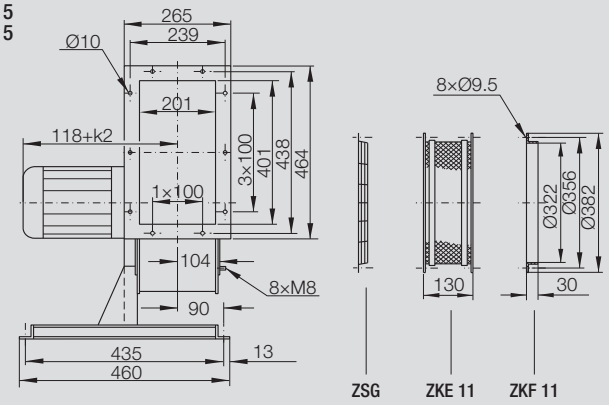
REM 11-0315
REM 13-0315

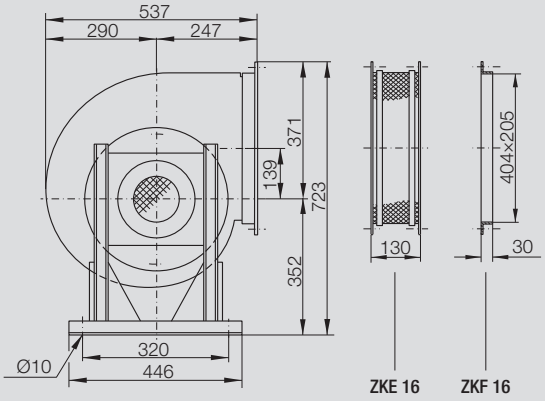
Motor	k2
71	210
80	234
90 S	282
90 L	282
100 L	316
112 M	334
132 S	374
132 M	374

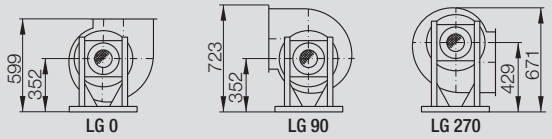


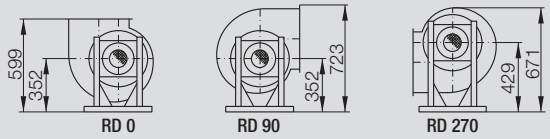


REM 18-0315
REM 19-0315



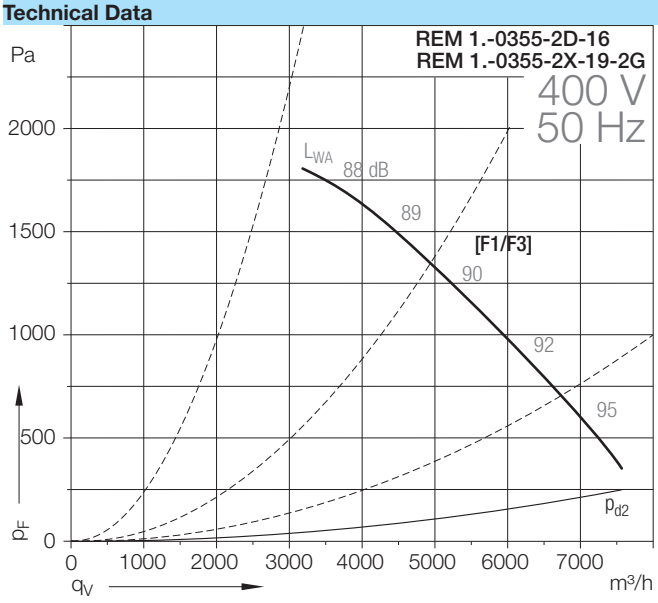


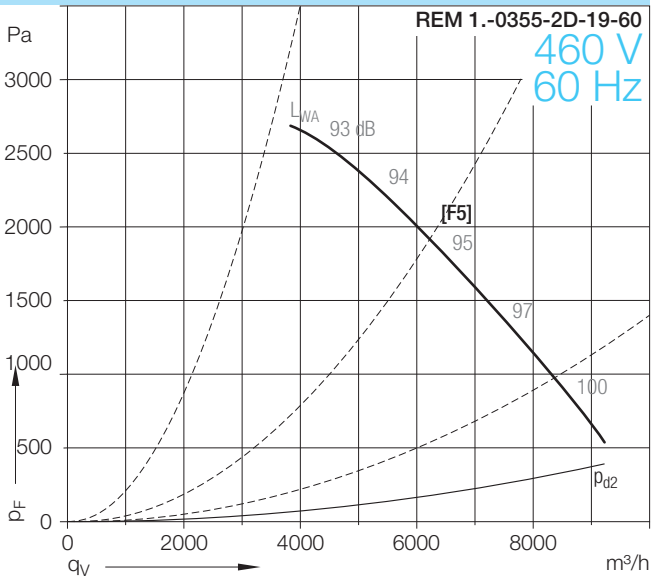


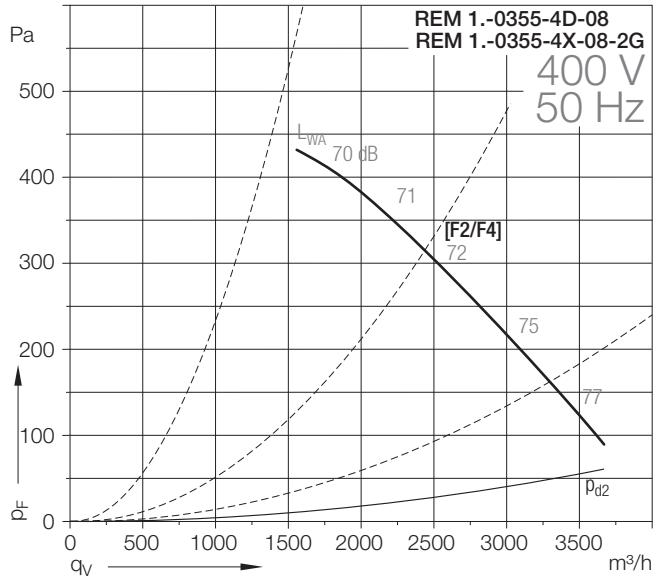


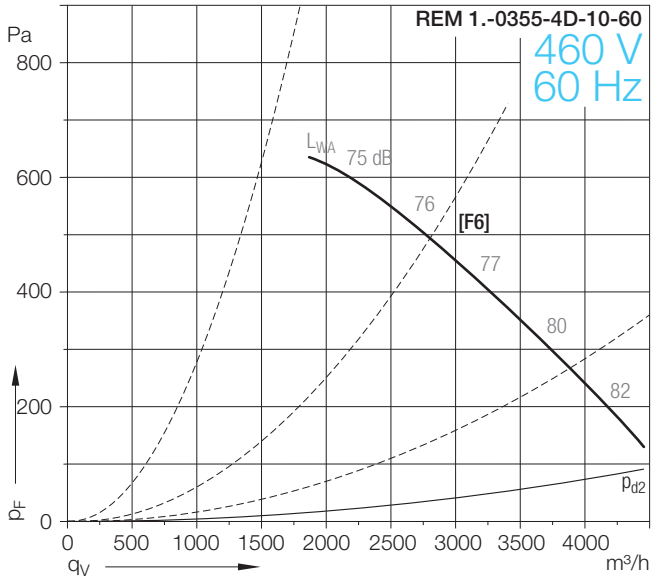
REM 10-0355

Technical Data





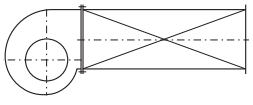




Technical Data

Density of media **1.2 kg/m³**

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



REM 10-0355

Technical Data

REM ..-	Curves	Nominal motor power kW	Poles –	Motor size	Motor voltage V	Nominal frequency Hz	Connection	Nominal motor current A	Nominal motor speed 1/min	Media Temperature max. °C	Max. volume flow m³/h	Fan weight REM 11/13/18/19 kg
0355-2D-16	[F1]	3.00	2	100 L	230/400	50	Δ/Y	10.60/6.10	2835	60	7770	34/39/43/48
0355-4D-08	[F2]	0.37	4	71	230/400	50	Δ/Y	1.78/1.03	1370	60	3780	23/28/32/37

Technical Data

REM ..-Ex II 2G c IIB T3	Curves	Nominal motor power kW	Poles –	Motor size	Motor voltage V	Nominal frequency Hz	Connection	Nominal motor current A	Nominal motor speed 1/min	Media Temperature max. °C	Max. volume flow m³/h	Fan weight REM 11/13/18/19 kg
0355-2X-19-2G	[F3]	3.30	2	112 M	230/400	50	Δ/Y	11.60/6.70	2875	60	7770	53/58/62/67
0355-4X-08-2G	[F4]	0.37	4	71	230/400	50	Δ/Y	1.91/1.10	1355	60	3780	23/28/32/37

Technical Data

REM ..-60 Hz	Curves	Nominal motor power kW	Poles –	Motor size	Motor voltage V	Nominal frequency Hz	Connection	Nominal motor current A	Nominal motor speed 1/min	Media Temperature max. °C	Max. volume flow m³/h	Fan weight REM 11/13/18/19 kg
0355-2D-19-60	[F5]	4.60	2	112 M	460	60	Δ	7.60	3520	60	9450	39/44/48/53
0355-4D-10-60	[F6]	0.63	4	80	460	60	Y	1.45	1674	60	4590	26/31/16/40

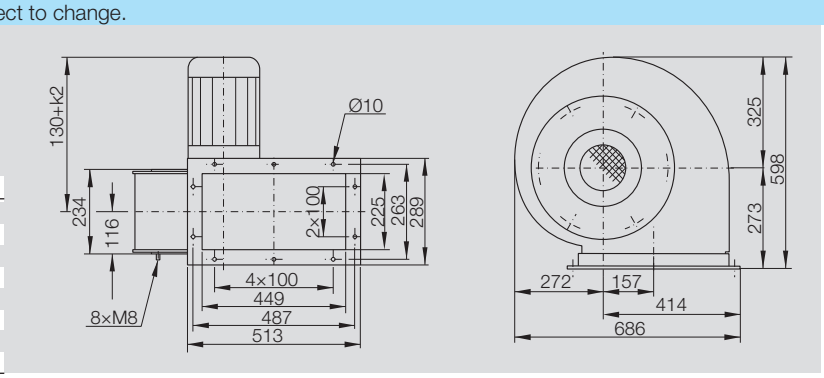
Motor protection can take place through motor protection units with bi-metallic releases (EUM 33) or via a thermistor (NTC) temperature sensor in connection with a thermistor (NTC)-release device (EUM 03). See chapter "Accessories".

The direction of rotation is determined looking from the drive side. - Anti-clockwise rotation, symbol **LG**. - Clockwise rotation, symbol **RD**.

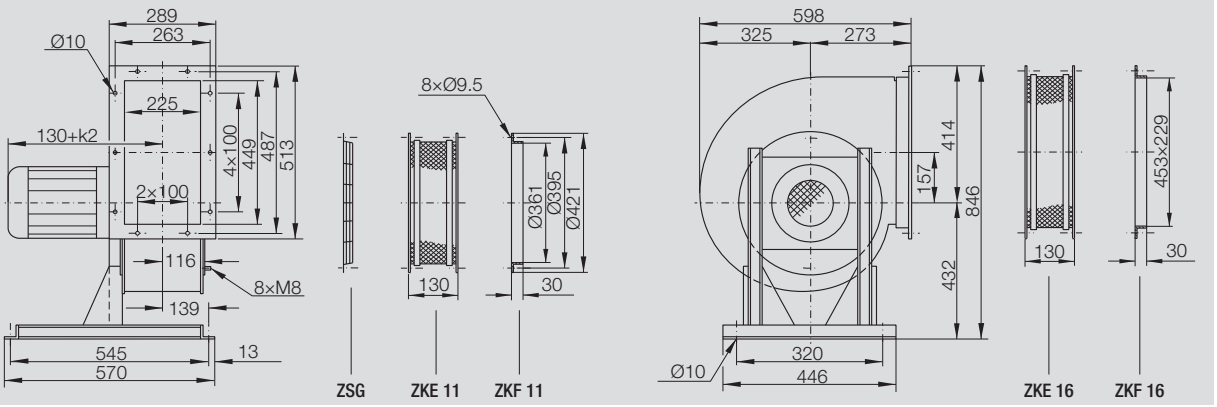
Dimensions in mm, subject to change.

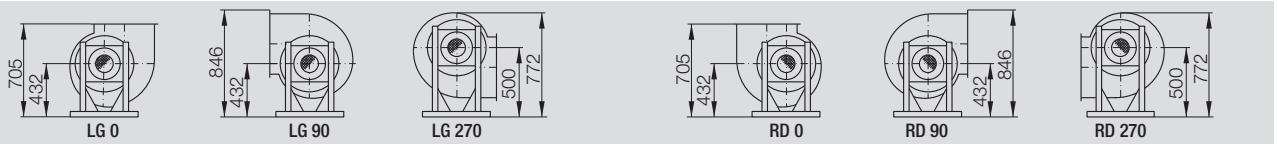
REM 11-0355
REM 13-0355

Motor	k2
71	210
80	234
90 S	282
90 L	282
100 L	316
112 M	334
132 S	374
132 M	374



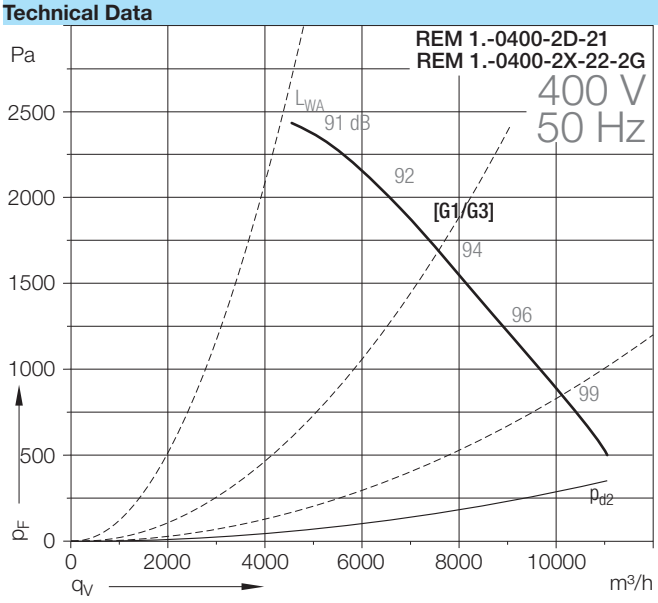
REM 18-0355
REM 19-0355

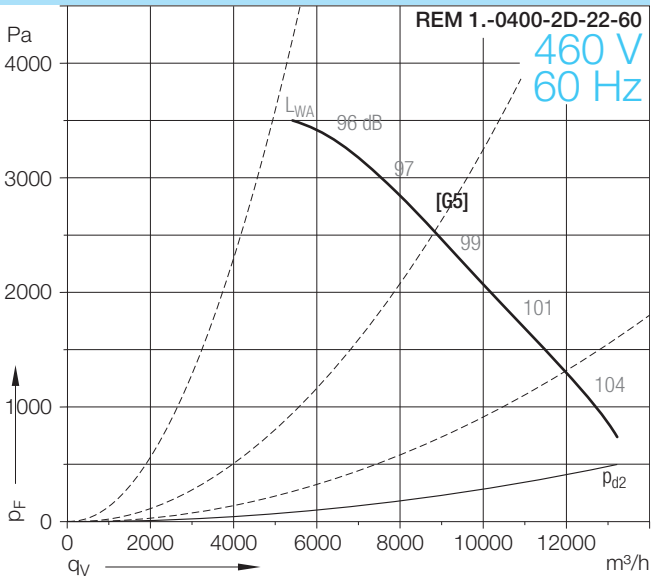


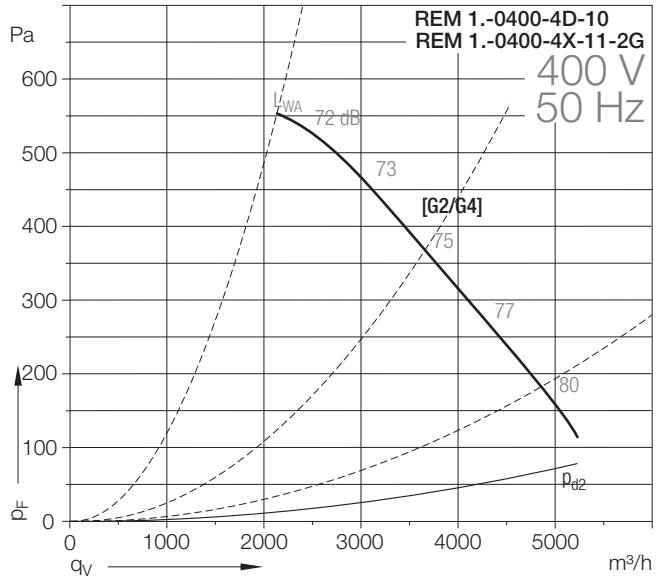


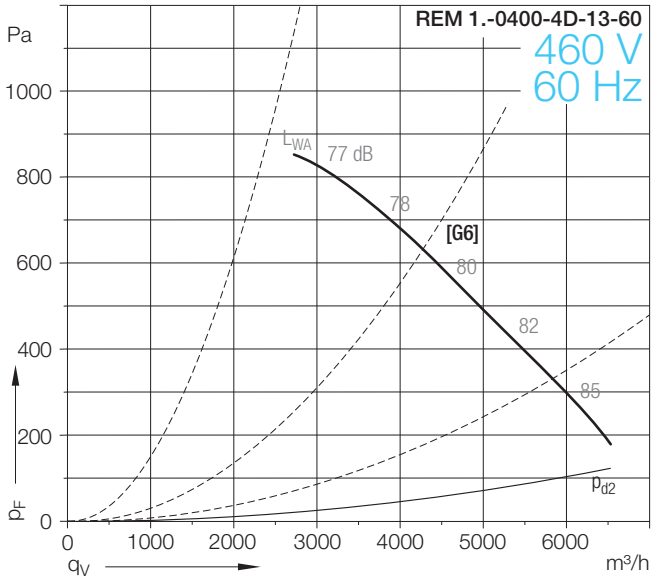
REM 10-0400

Technical Data





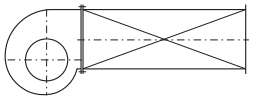




Technical Data

Density of media **1.2 kg/m³**

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



REM 10-0400

Technical Data

REM ..-	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight REM 11/13/18/19
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0400-2D-21	[G1]	5.50	2	132 S	400/690	50	Δ/Y	10.60/6.14	2905	60	11320	–/77/–/–
0400-4D-10	[G2]	0.55	4	80	230/400	50	Δ/Y	2.50/1.45	1395	60	5370	29/32/60/63

Technical Data

REM ..-Ex II 2G c IIB T3	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight REM 11/13/18/19
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0400-2X-22-2G	[G3]	5.50	2	132 S	400/690	50	Δ/Y	10.70/6.20	2920	60	11320	–/84/–/–
0400-4X-11-2G	[G4]	0.75	4	80	230/400	50	Δ/Y	3.55/2.05	1375	60	5370	29/32/60/64

Technical Data

REM ..-60 Hz	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight REM 11/13/18/19
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0400-2D-22-60	[G5]	8.60	2	132 S	460	60	Δ	14.00	3510	60	13600	–/78/–/–
0400-4D-13-60	[G6]	1.30	4	90 S	460	60	Y	2.65	1710	60	6700	33/36/64/67

For "REM ..-0400-2D-21", "..-2X-22-2G" and "..-2D-22-60" only model "13-" available!

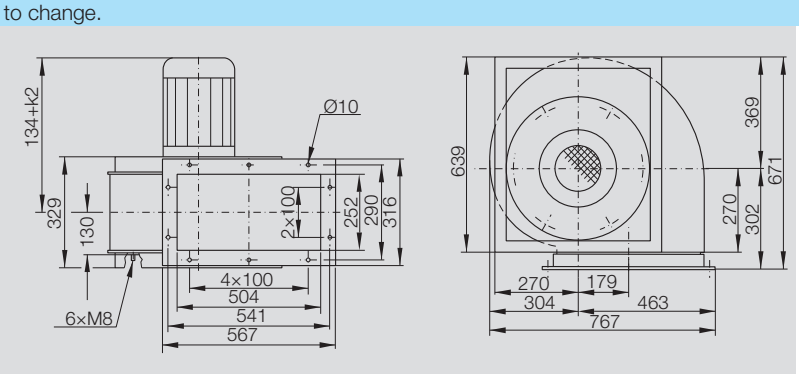
Motor protection can take place through motor protection units with bi-metallic releases (EUM 33) or via a thermistor (NTC) temperature sensor in connection with a thermistor (NTC)-release device (EUM 03). See chapter "Accessories".

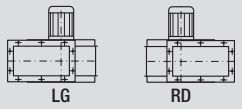
The direction of rotation is determined looking from the drive side. - Anti-clockwise rotation, symbol **LG**. - Clockwise rotation, symbol **RD**.

Dimensions in mm, subject to change.

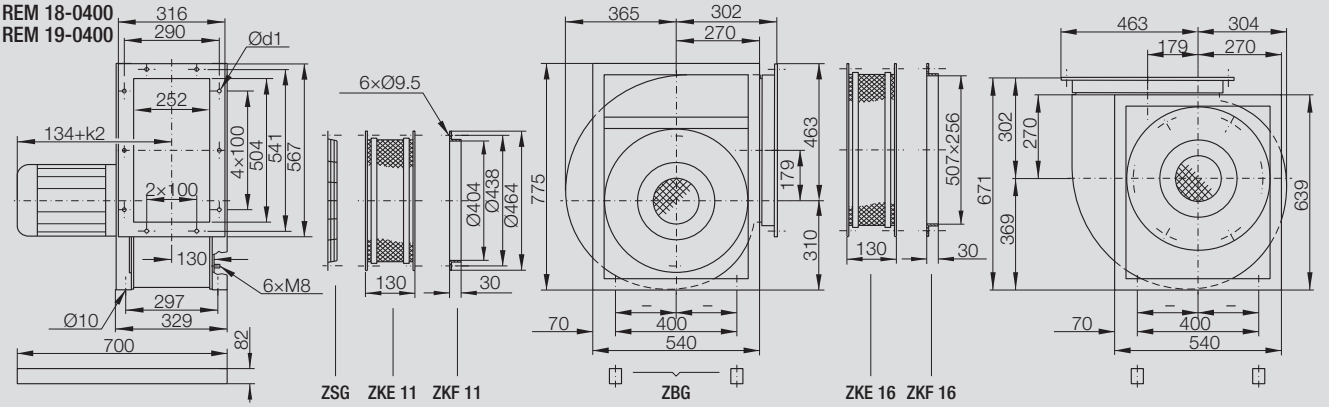
REM 11-0400
REM 13-0400

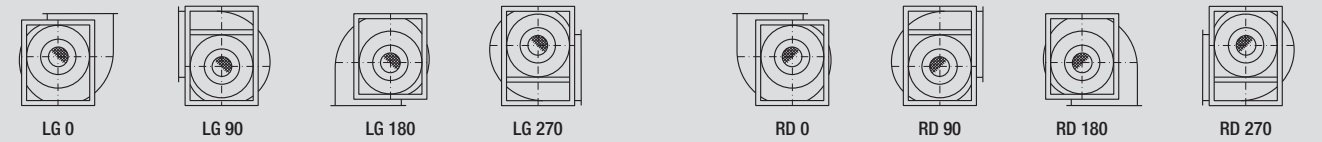
Motor	k2
71	210
80	234
90 S	282
90 L	282
100 L	316
112 M	334
132 S	374
132 M	374





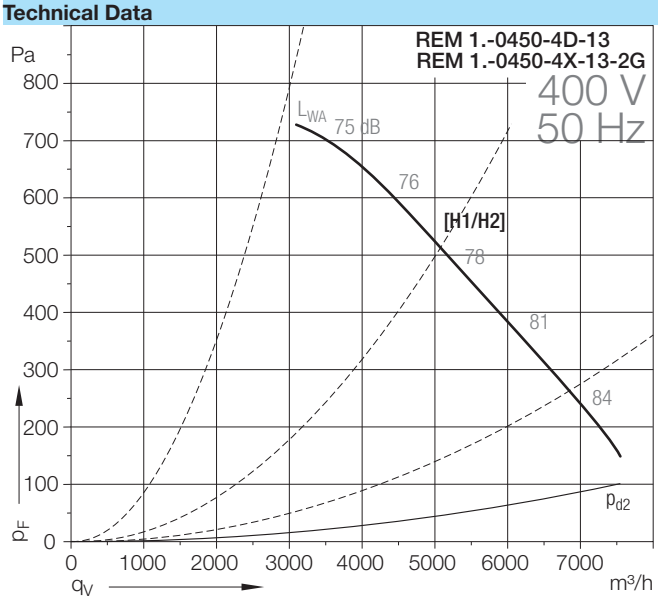
REM 18-0400
REM 19-0400

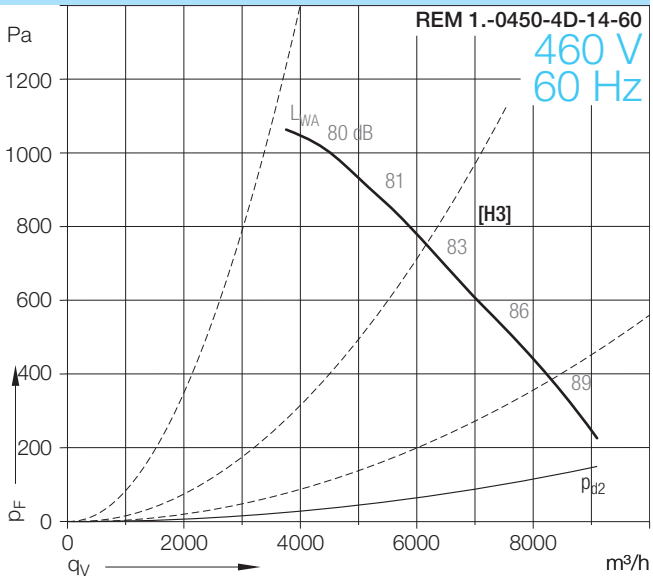




REM 10-0450

Technical Data

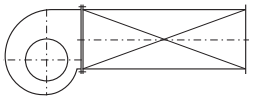




Technical Data

Density of media **1.2 kg/m³**

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



REM 10-0450

Technical Data

REM ..-	Curves	Nominal motor power kW	Poles –	Motor size	Motor voltage V	Nominal frequency Hz	Connection	Nominal motor current A	Nominal motor speed 1/min	Media Temperature max. °C	Max. volume flow m³/h	Fan weight REM 11/13/18/19 kg
0450-4D-13	[H1]	1.10	4	90 S	230/400	50	Δ/Y	4.50/2.60	1415	60	7720	37/43/63/68

Technical Data

REM ..-Ex II 2G c IIB T3	Curves	Nominal motor power kW	Poles –	Motor size	Motor voltage V	Nominal frequency Hz	Connection	Nominal motor current A	Nominal motor speed 1/min	Media Temperature max. °C	Max. volume flow m³/h	Fan weight REM 11/13/18/19 kg
0450-4X-13-2G	[H2]	1.00	4	90 S	230/400	50	Δ/Y	4.33/2.50	1420	60	7720	42/47/76/81

Technical Data

REM ..-60 Hz	Curves	Nominal motor power kW	Poles –	Motor size	Motor voltage V	Nominal frequency Hz	Connection	Nominal motor current A	Nominal motor speed 1/min	Media Temperature max. °C	Max. volume flow m³/h	Fan weight REM 11/13/18/19 kg
0450-4D-14-60	[H3]	1.75	4	90 L	460	60	Y	3.40	1720	60	9360	40/46/26/71

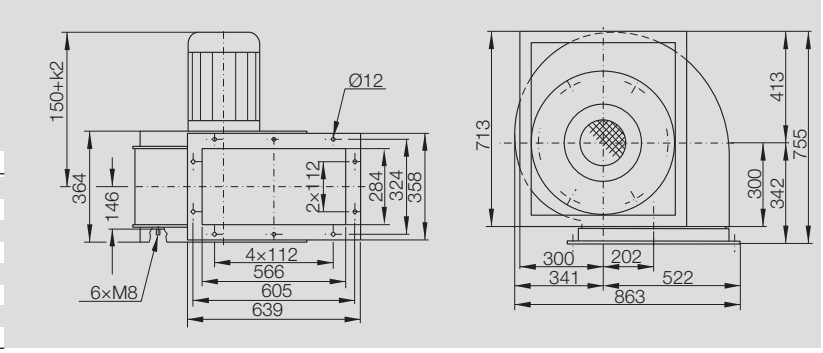
Motor protection can take place through motor protection units with bi-metallic releases (EUM 33) or via a thermistor (NTC) temperature sensor in connection with a thermistor (NTC)-release device (EUM 03). See chapter "Accessories".

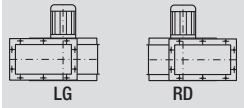
The direction of rotation is determined looking from the drive side. - Anti-clockwise rotation, symbol **LG**. - Clockwise rotation, symbol **RD**.

Dimensions in mm, subject to change.

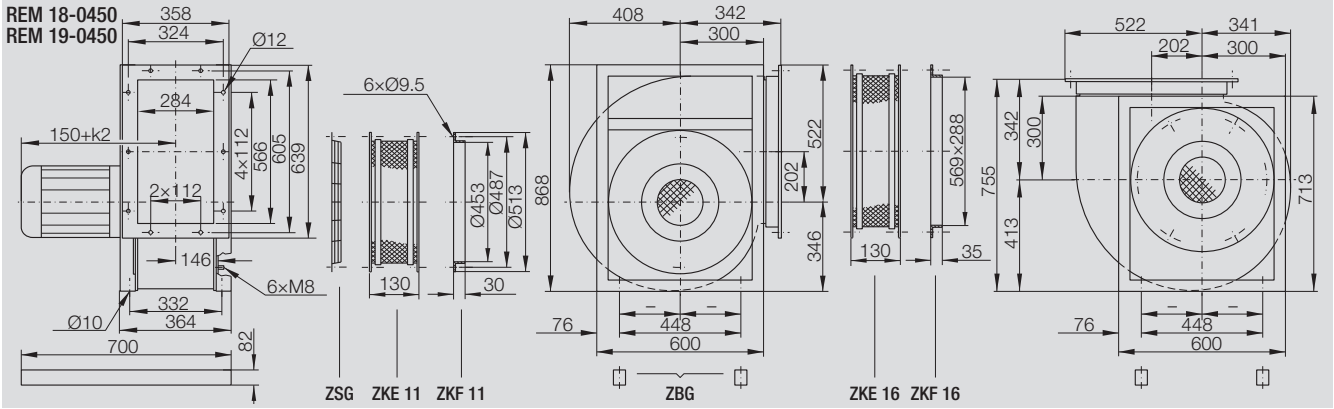
REM 11-0450
REM 13-0450

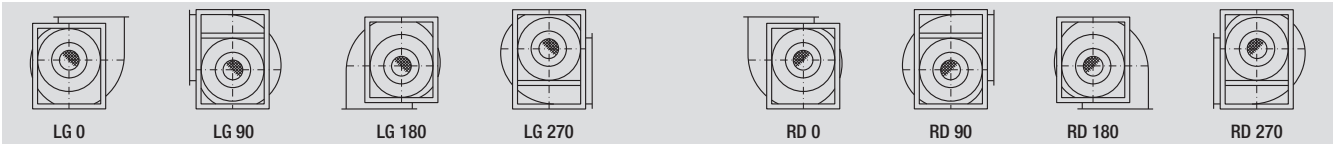
Motor	k2
71	210
80	234
90 S	282
90 L	282
100 L	316
112 M	334
132 S	374
132 M	374





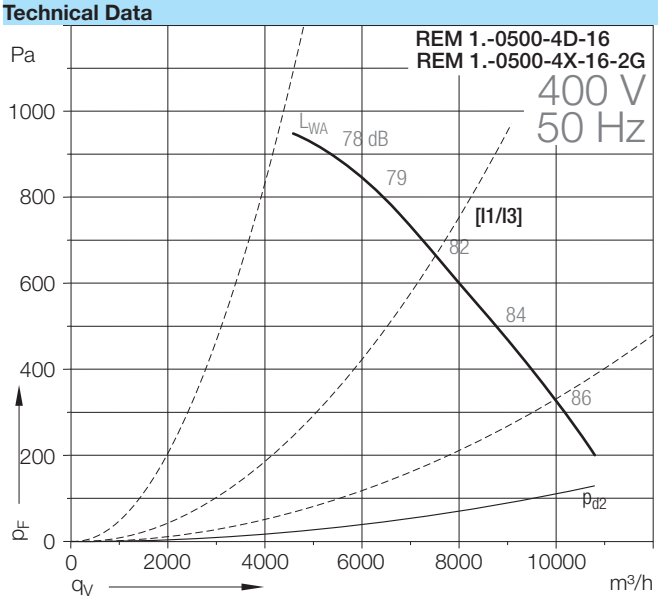
REM 18-0450
REM 19-0450

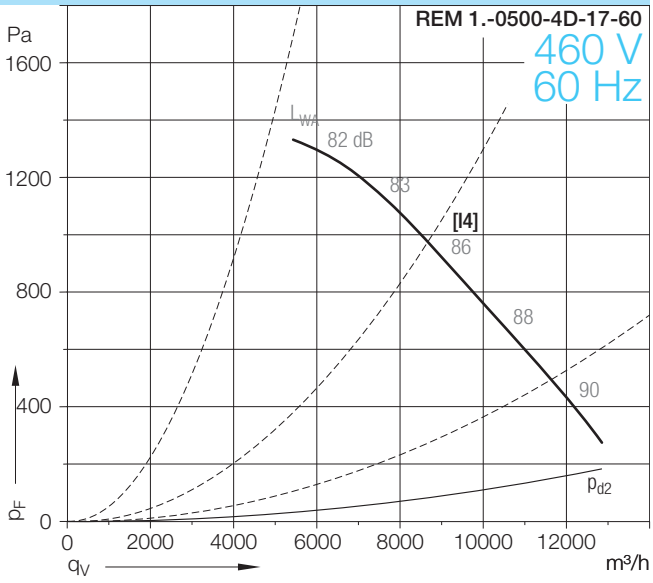


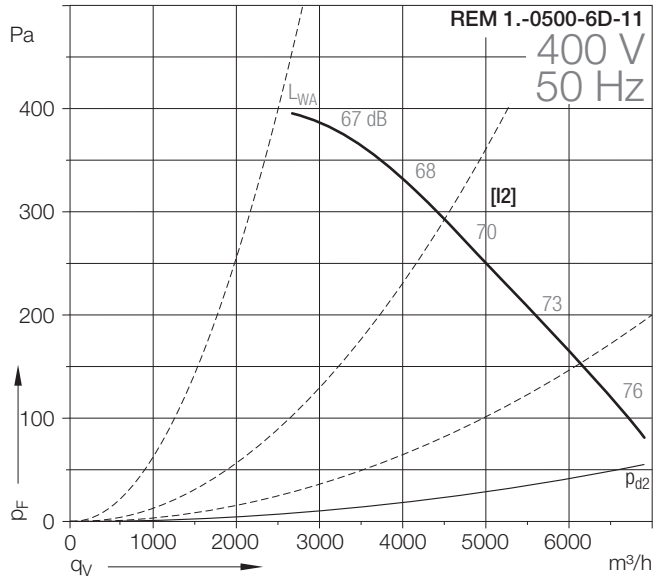


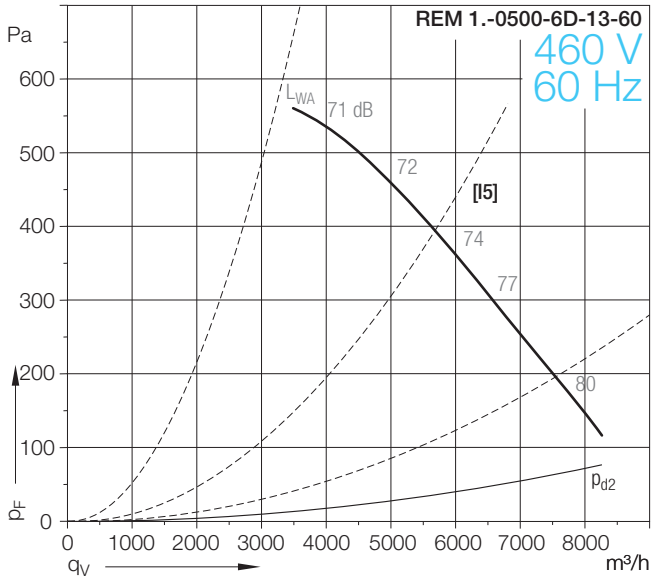
REM 10-0500

Technical Data





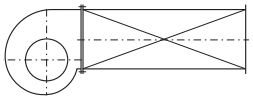




Technical Data

Density of media **1.2 kg/m³**

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



REM 10-0500

Technical Data

REM ..-	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight REM 11/13/18/19
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0500-4D-16	[I1]	2.20	4	100 L	230/400	50	Δ/Y	8.20/4.75	1425	60	11160	56/62/94/100
0500-6D-11	[I2]	0.55	6	80	230/400	50	Δ/Y	2.80/1.60	910	60	7120	46/52/84/90

Technical Data

REM ..-Ex II 2G c IIB T3	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight REM 11/13/18/19
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0500-4X-16-2G	[I3]	2.00	4	100 L	230/400	50	Δ/Y	7.80/4.50	1420	60	11160	68/74/106/112

Technical Data

REM ..-60 Hz	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight REM 11/13/18/19
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0500-4D-17-60	[I4]	3.45	4	100 L	460	60	Y	5.90	1710	60	13240	60/66/98/104
0500-6D-13-60	[I5]	0.86	6	90 S	460	60	Y	2.05	1098	60	8530	49/55/87/93

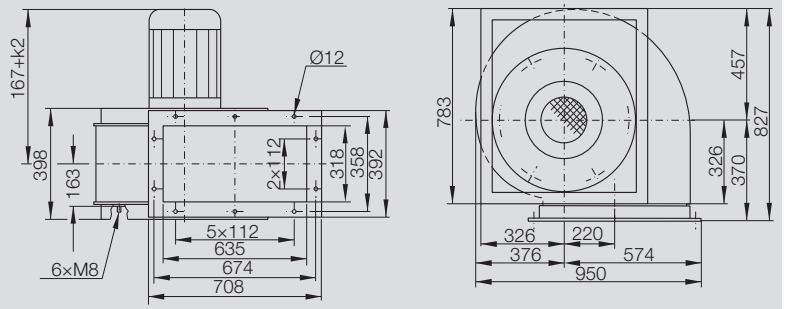
Motor protection can take place through motor protection units with bi-metallic releases (EUM 33) or via a thermistor (NTC) temperature sensor in connection with a thermistor (NTC)-release device (EUM 03). See chapter "Accessories".

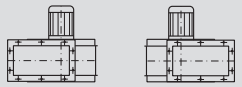
The direction of rotation is determined looking from the drive side. - Anti-clockwise rotation, symbol **LG**. - Clockwise rotation, symbol **RD**.

Dimensions in mm, subject to change.

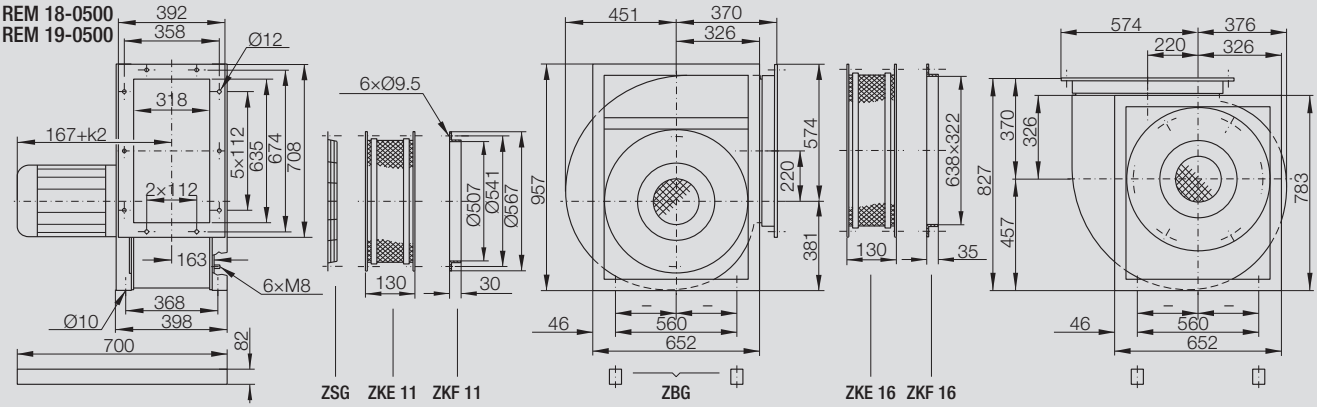
REM 11-0500
REM 13-0500

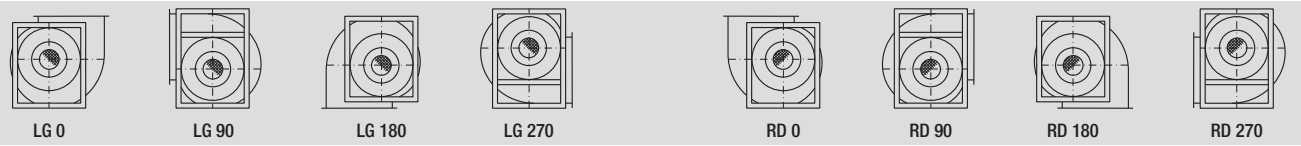
Motor	k2
71	210
80	234
90 S	282
90 L	282
100 L	316
112 M	334
132 S	374
132 M	374





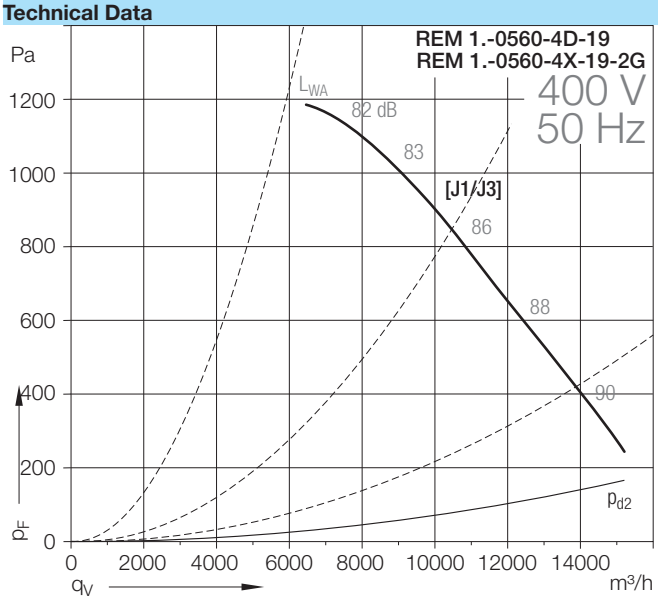
REM 18-0500
REM 19-0500

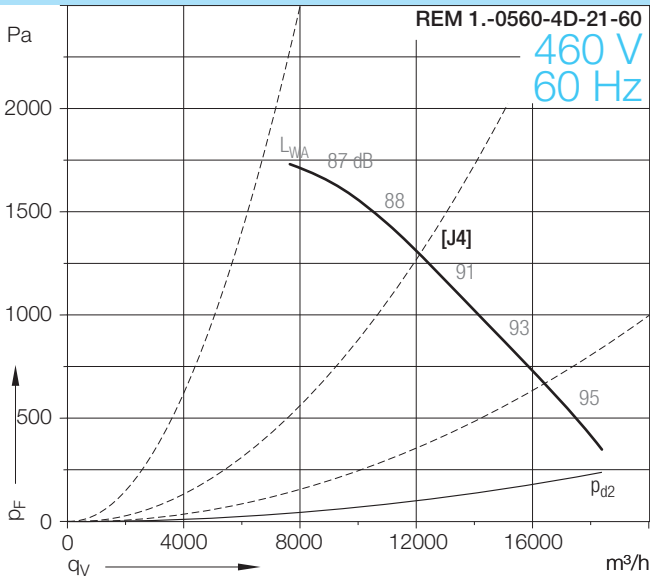


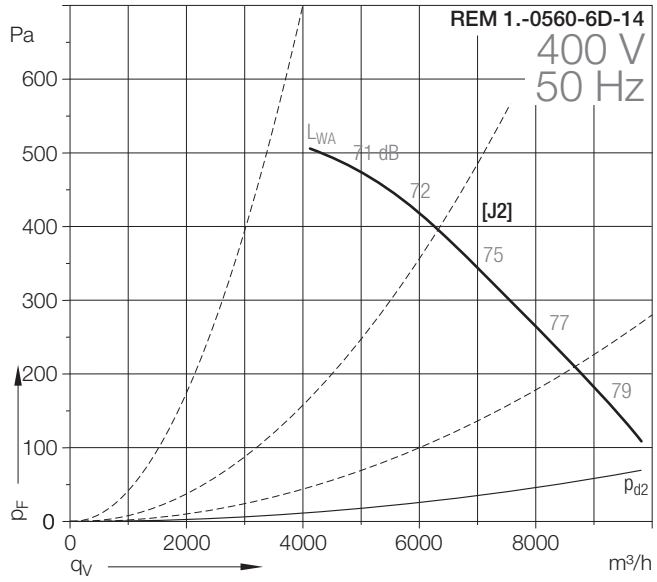


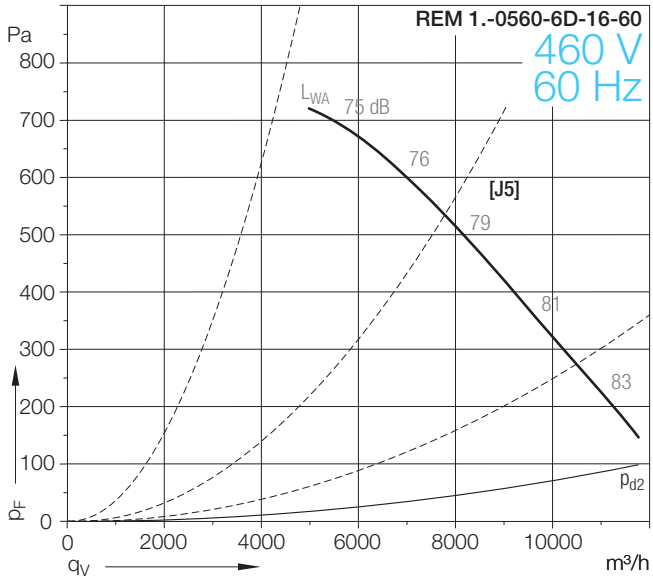
REM 10-0560

Technical Data





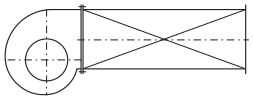




Technical Data

Density of media **1.2 kg/m³**

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



REM 10-0560

Technical Data

REM ..-	Curves	Nominal motor power kW	Poles –	Motor size	Motor voltage V	Nominal frequency Hz	Connection	Nominal motor current A	Nominal motor speed 1/min	Media Temperature max. °C	Max. volume flow m³/h	Fan weight REM 11/13/18/19 kg
0560-4D-19	[J1]	4.00	4	112 M	400/690	50	Δ/Y	8.20/4.70	1435	60	15640	87/94/133/140
0560-6D-14	[J2]	1.10	6	90 L	230/400	50	Δ/Y	4.90/2.85	915	60	10160	65/72/111/118

Technical Data

REM ..-Ex II 2G c IIB T3	Curves	Nominal motor power kW	Poles –	Motor size	Motor voltage V	Nominal frequency Hz	Connection	Nominal motor current A	Nominal motor speed 1/min	Media Temperature max. °C	Max. volume flow m³/h	Fan weight REM 11/13/18/19 kg
0560-4X-19-2G	[J3]	3.60	4	112 M	230/400	50	Δ/Y	13.00/7.50	1435	60	15640	91/98/137/144

Technical Data

REM ..-60 Hz	Curves	Nominal motor power kW	Poles –	Motor size	Motor voltage V	Nominal frequency Hz	Connection	Nominal motor current A	Nominal motor speed 1/min	Media Temperature max. °C	Max. volume flow m³/h	Fan weight REM 11/13/18/19 kg
0560-4D-21-60	[J4]	6.30	4	132 S	460	60	Δ	10.80	1740	60	18850	98/105/144/151
0560-6D-16-60		1.75	6	100 L	460	60	Y	3.65	1130	60	12120	68/75/114/121

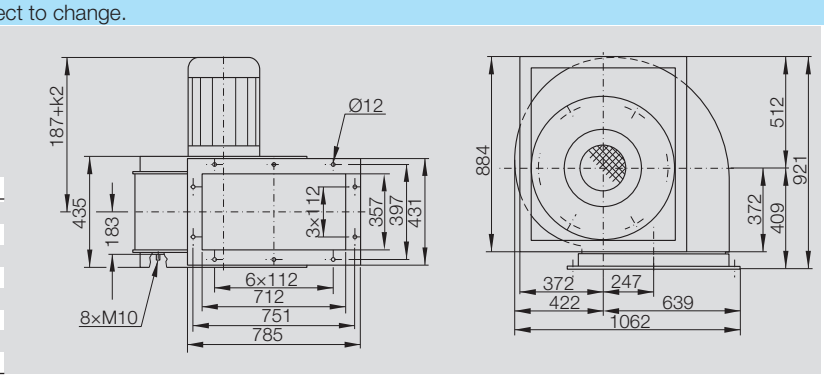
Motor protection can take place through motor protection units with bi-metallic releases (EUM 33) or via a thermistor (NTC) temperature sensor in connection with a thermistor (NTC)-release device (EUM 03). See chapter "Accessories".

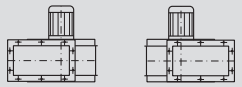
The direction of rotation is determined looking from the drive side. - Anti-clockwise rotation, symbol **LG**. - Clockwise rotation, symbol **RD**.

Dimensions in mm, subject to change.

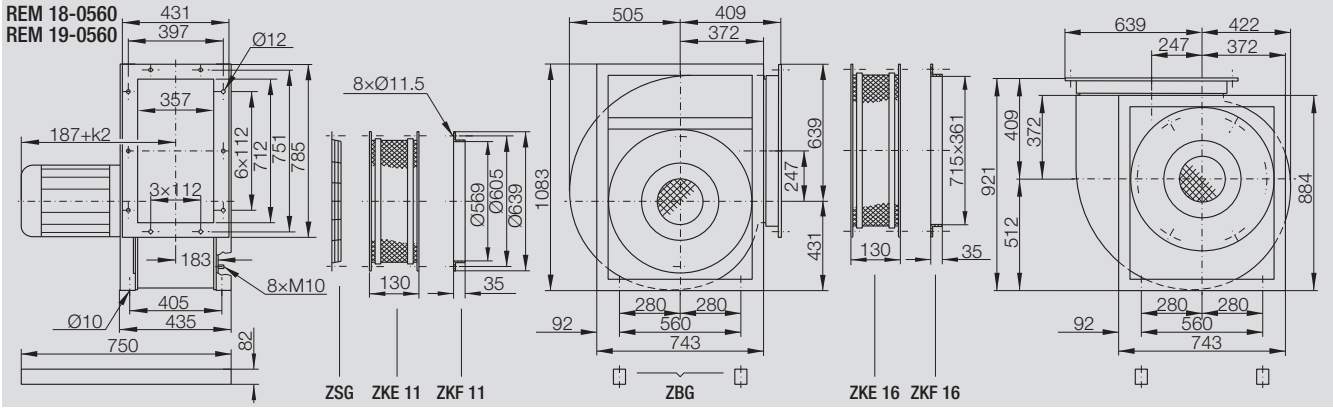
REM 11-0560
REM 13-0560

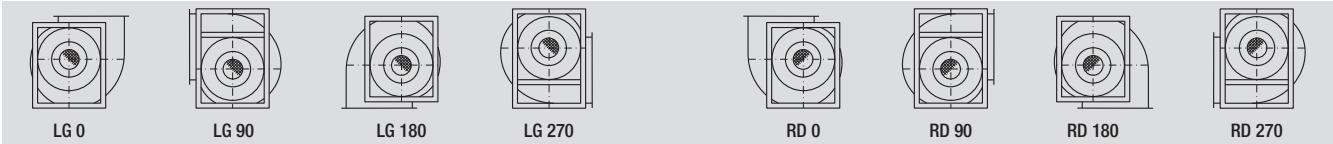
Motor	k2
71	210
80	234
90 S	282
90 L	282
100 L	316
112 M	334
132 S	374
132 M	374





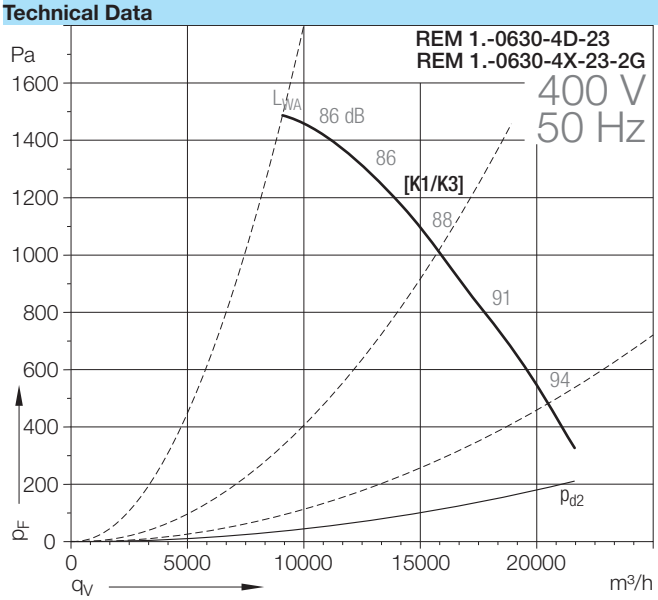
REM 18-0560
REM 19-0560

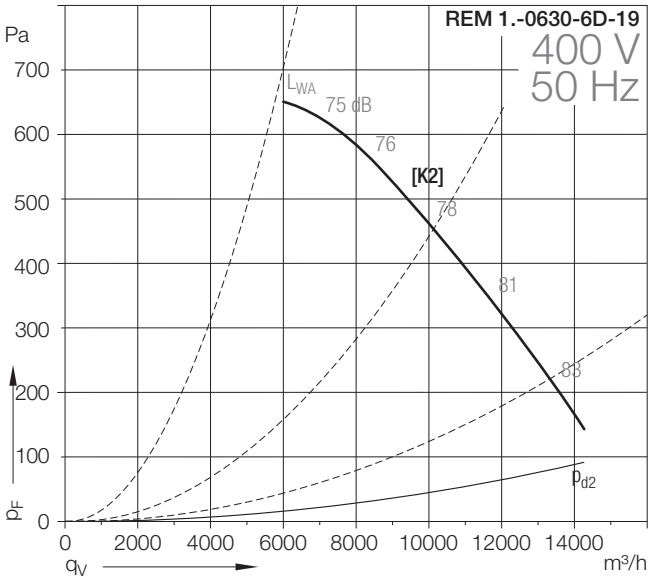


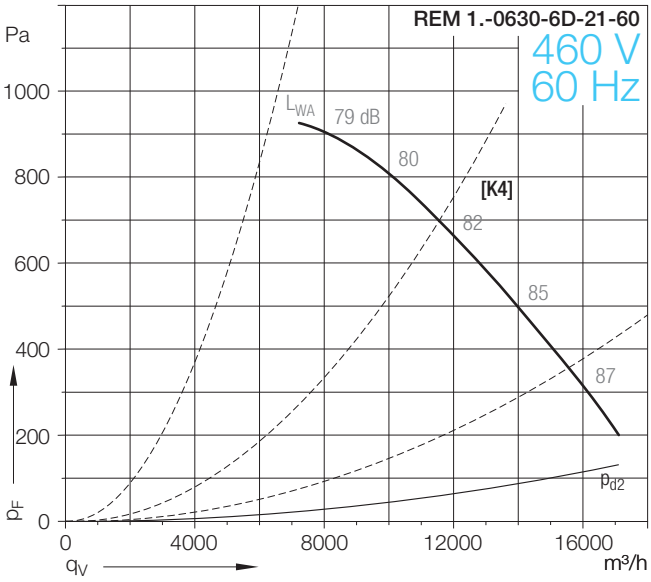


REM 10-0630

Technical Data



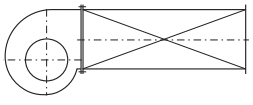




Technical Data

Density of media **1.2 kg/m³**

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



REM 10-0630

Technical Data

REM ..-	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight REM 11/13/18/19
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0630-4D-23	[K1]	7.50	4	132 M	400/690	50	Δ/Y	15.40/8.90	1450	60	22370	–/130/–/–
0630-6D-19		2.20	6	112 M	230/400	50	Δ/Y	9.20/5.30	930	60	14760	95/103/151/159

Technical Data

REM ..-Ex II 2G c IIB T3	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight REM 11/13/18/19
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0630-4X-23-2G	[K3]	6.80	4	132 M	400/690	50	Δ/Y	14.00/8.10	1460	60	22370	–/135/–/–

Technical Data

REM ..-60 Hz	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Max. volume flow	Fan weight REM 11/13/18/19
		kW	–		V	Hz		A	1/min	°C	m³/h	kg
0630-6D-21-60	[K4]	3.45	6	132 S	460	60	Y	6.90	1145	60	17620	104/112/166/168

For "REM ..-0630-4D-23" and "..-4X-23-2G" only model "13-" available!

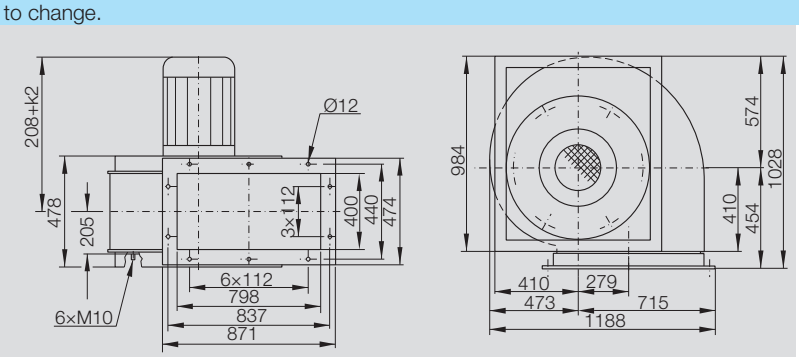
Motor protection can take place through motor protection units with bi-metallic releases (EUM 33) or via a thermistor (NTC) temperature sensor in connection with a thermistor (NTC)-release device (EUM 03). See chapter "Accessories".

The direction of rotation is determined looking from the drive side. - Anti-clockwise rotation, symbol **LG**. - Clockwise rotation, symbol **RD**.

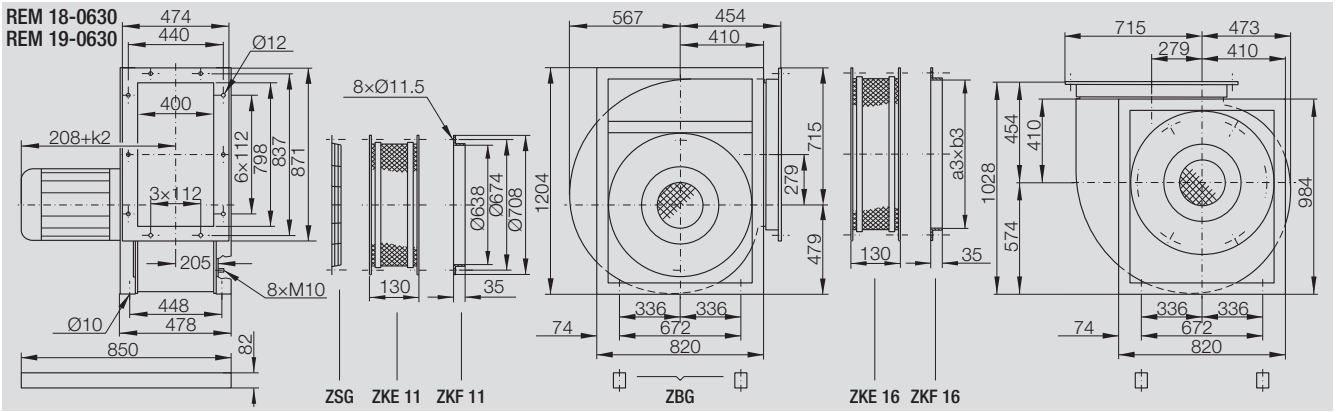
Dimensions in mm, subject to change.

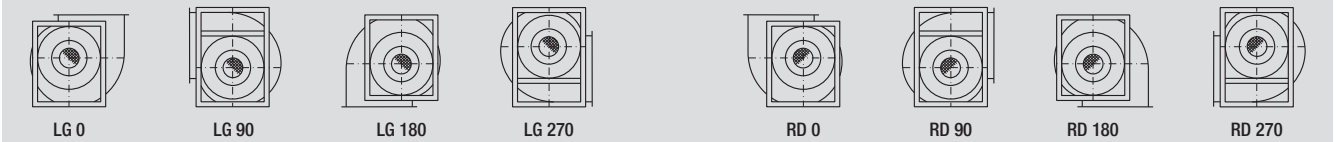
REM 11-0630
REM 13-0630

Motor	k2
71	210
80	234
90 S	282
90 L	282
100 L	316
112 M	334
132 S	374
132 M	374



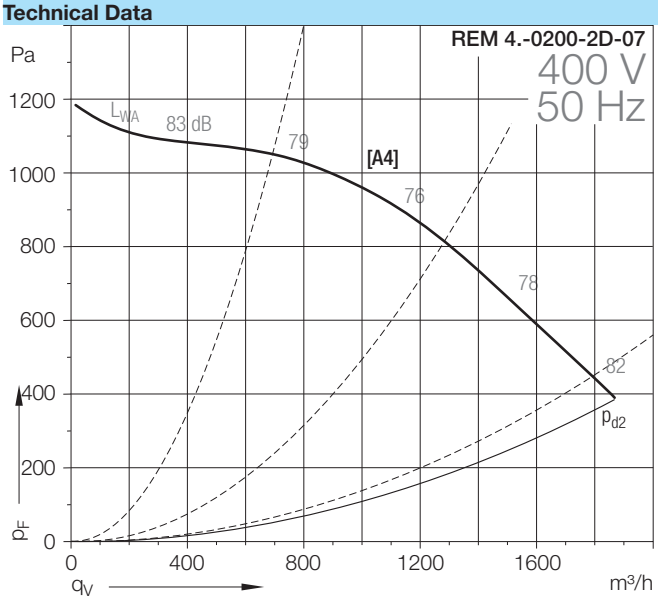
REM 18-0630
REM 19-0630

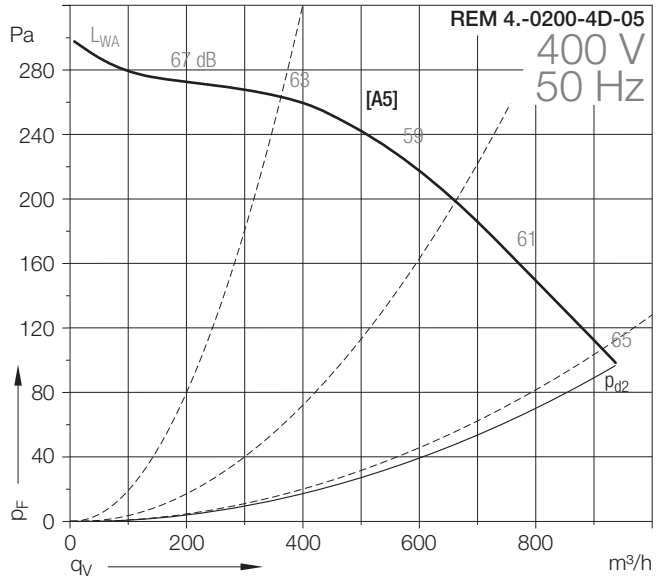




REM 40-0200

Technical Data

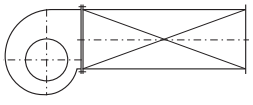




Technical Data

Density of media **1.2 kg/m³**

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



REM 40-0200

Technical Data

REM	Curves	Nominal motor power kW	Poles –	Motor size	Motor voltage V	Nominal frequency Hz	Connection	Nominal motor current A	Nominal motor speed 1/min	Media Temperature max. °C	Fan weight kg
41-0200-2D-07	[A4]	0.37	2	71M	230/400	50	Δ/Y	1.73/1.00	2740	60	17
41-0200-4D-05	[A5]	0.18	4	63M	230/400	50	Δ/Y	1.00/0.58	1350	60	16

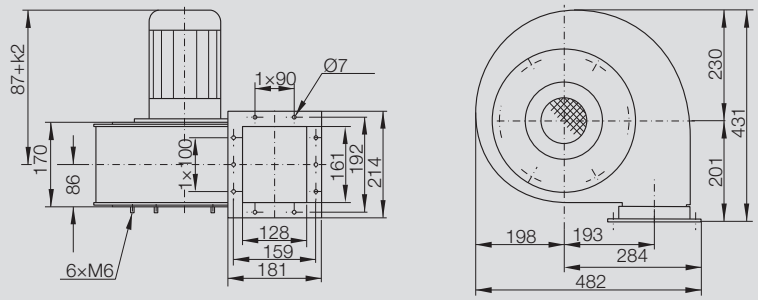
Technical Data

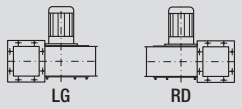
REM	Curves	Nominal motor power kW	Poles –	Motor size	Motor voltage V	Nominal frequency Hz	Connection	Nominal motor current A	Nominal motor speed 1/min	Media Temperature max. °C	Fan weight kg
48-0200-2D-07	[A4]	0.37	2	71M	230/400	50	Δ/Y	1.73/1.00	2740	60	23
48-0200-4D-05	[A5]	0.18	4	63M	230/400	50	Δ/Y	1.00/0.58	1350	60	22

Dimensions in mm, subject to change.

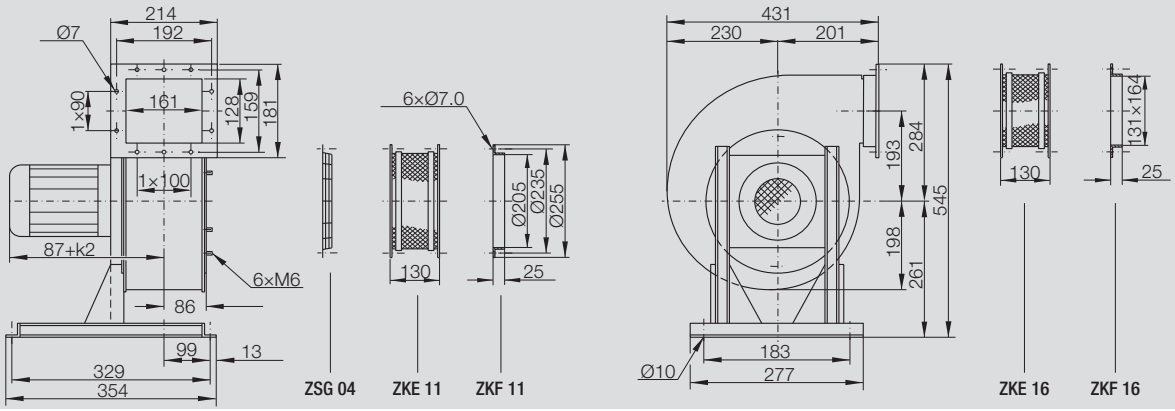
REM 41-0200

Motor	k2
63 M	180
71 M	210
80 M	234
90 S	281
90 L	281
100 L	336
112 M	329



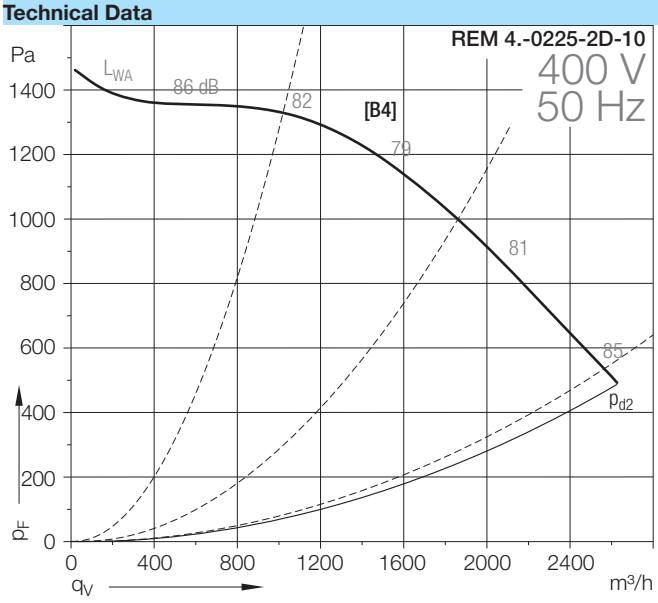


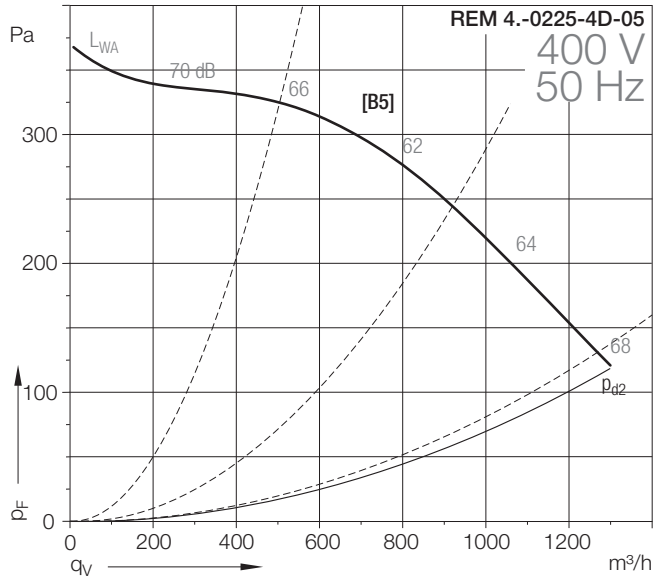
REM 48-0200



REM 40-0225

Technical Data

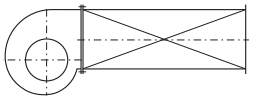




Technical Data

Density of media **1.2 kg/m³**

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



REM 40-0225

Technical Data

REM	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Fan weight
		kW	–		V	Hz		A	1/min	°C	kg
41-0225-2D-10	[B4]	0.75	2	80M	230/400	50	Δ/Y	3.05/1.75	2855	60	22
41-0225-4D-05	[B5]	0.18	4	63M	230/400	50	Δ/Y	1.00/0.58	1350	60	18

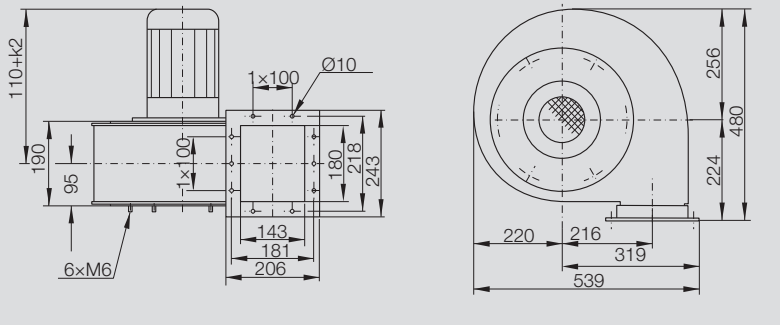
Technical Data

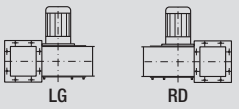
REM	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Fan weight
		kW	–		V	Hz		A	1/min	°C	kg
48-0225-2D-10	[B4]	0.75	2	80M	230/400	50	Δ/Y	3.05/1.75	2855	60	33
48-0225-4D-05	[B5]	0.18	4	63M	230/400	50	Δ/Y	1.00/0.58	1350	60	29

Dimensions in mm, subject to change.

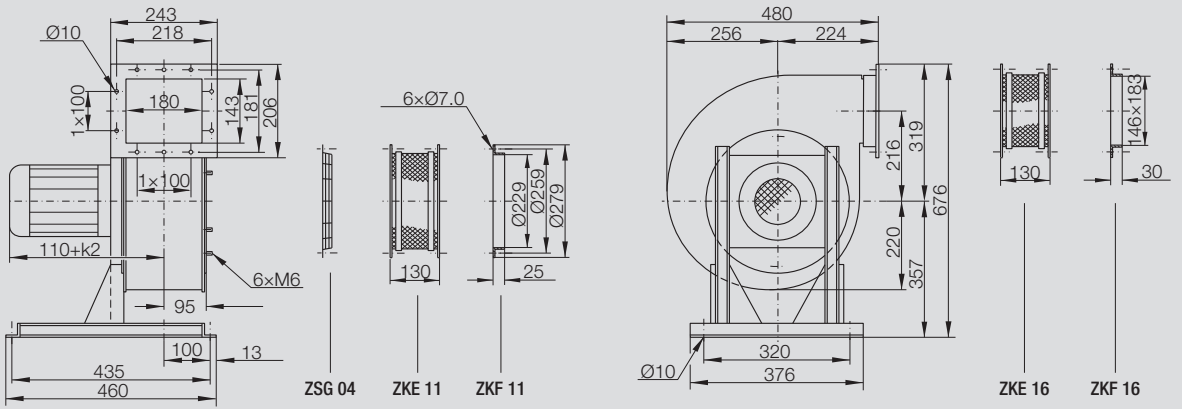
REM 41-0225

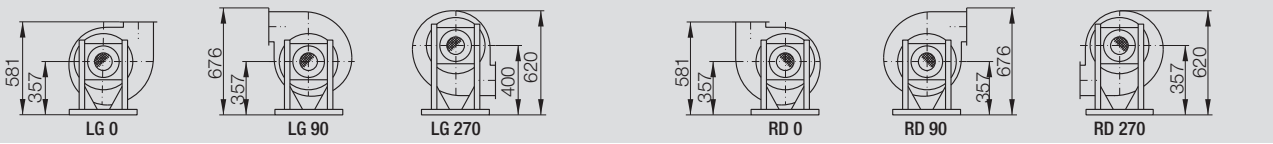
Motor	k2
63 M	180
71 M	210
80 M	234
90 S	281
90 L	281
100 L	336
112 M	329





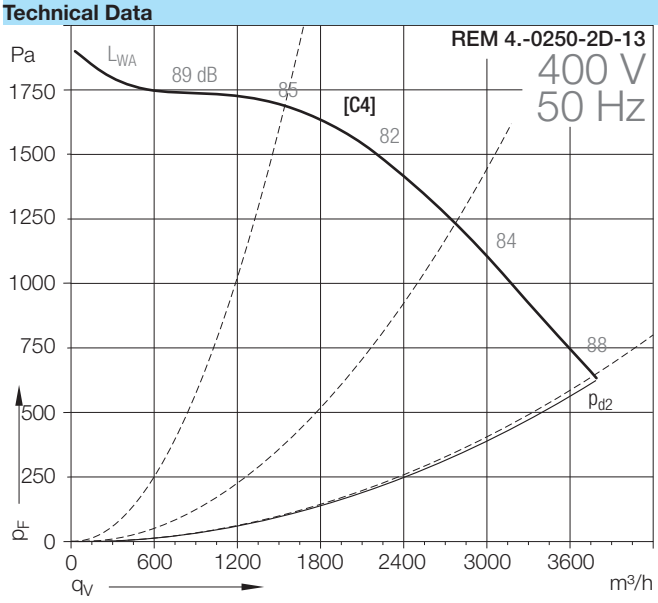
REM 48-0225

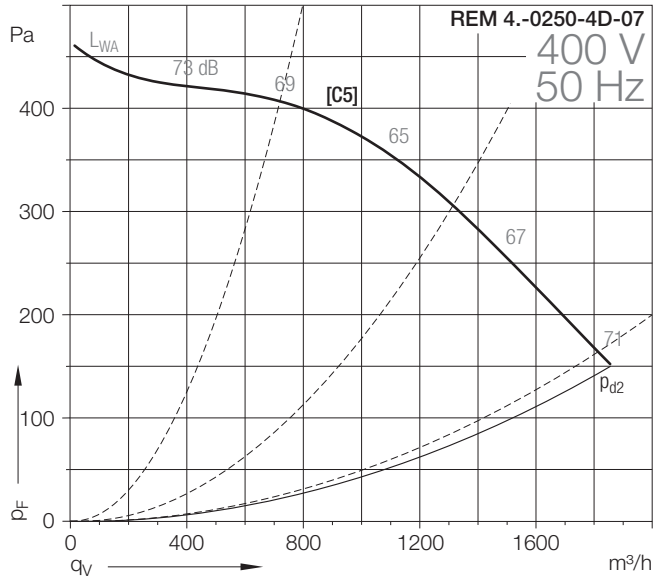




REM 40-0250

Technical Data

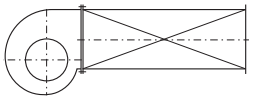




Technical Data

Density of media **1.2 kg/m³**

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



REM 40-0250

Technical Data

REM	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Fan weight
		kW	–		V	Hz		A	1/min	°C	kg
41-0250-2D-13	[C4]	1.50	2		230/400	50	Δ/Y	5.70/3.30	2860	60	34
41-0250-4D-07	[C5]	0.25	4		230/400	50	Δ/Y	1.33/0.77	1350	60	27

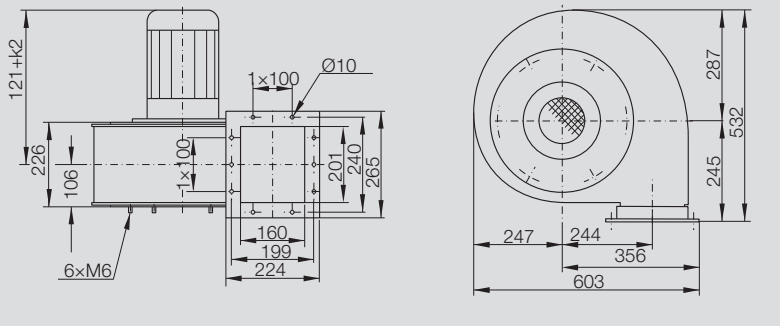
Technical Data

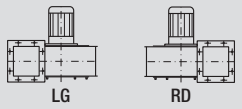
REM	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Fan weight
		kW	–		V	Hz		A	1/min	°C	kg
48-0250-2D-13	[C4]	1.50	2		230/400	50	Δ/Y	5.70/3.30	2860	60	48
48-0250-4D-07	[C5]	0.25	4		230/400	50	Δ/Y	1.33/0.77	1350	60	41

Dimensions in mm, subject to change.

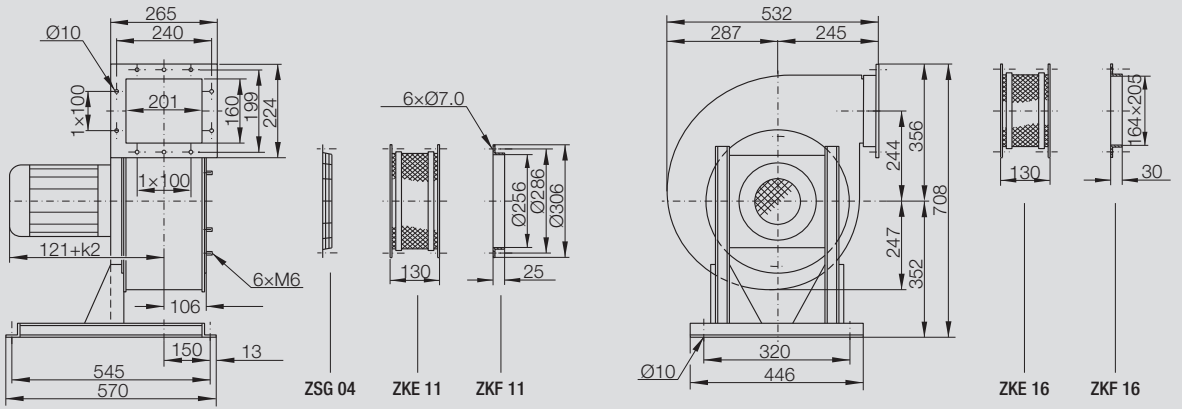
REM 41-0250

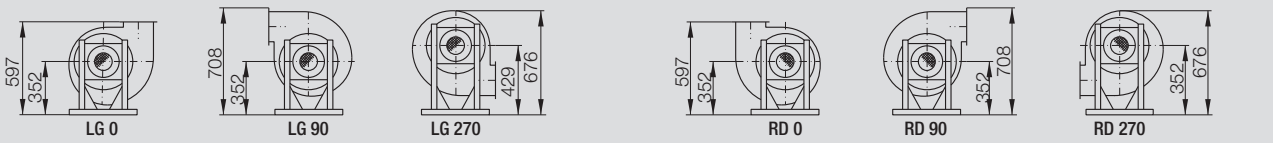
Motor	k2
63 M	180
71 M	210
80 M	234
90 S	281
90 L	281
100 L	336
112 M	329





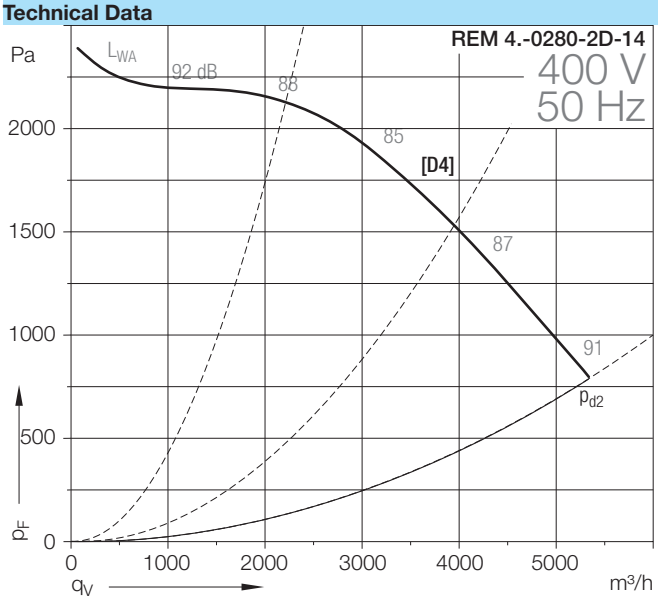
REM 48-0250

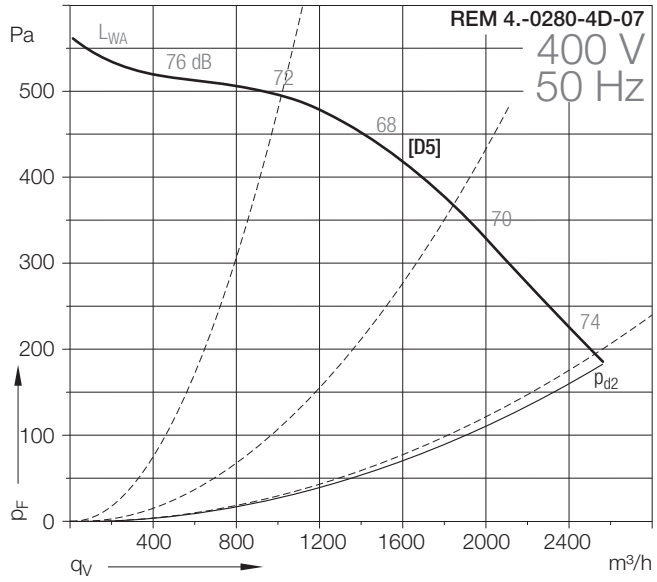




REM 40-0280

Technical Data

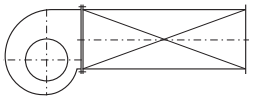




Technical Data

Density of media **1.2 kg/m³**

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



REM 40-0280

Technical Data

REM	Curves	Nominal motor power kW	Poles –	Motor size	Motor voltage V	Nominal frequency Hz	Connection	Nominal motor current A	Nominal motor speed 1/min	Media Temperature max. °C	Fan weight kg
41-0280-2D-14	[D4]	2.20	2	90L	230/400	50	Δ/Y	8.10/4.70	2880	60	44
41-0280-4D-07	[D5]	0.25	4	71M	230/400	50	Δ/Y	1.33/0.77	1350	60	33

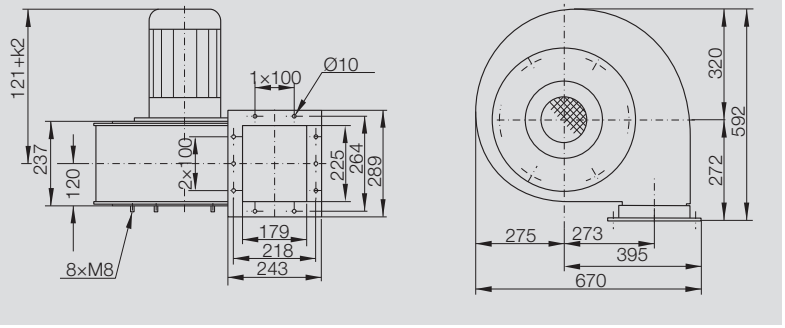
Technical Data

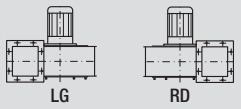
REM	Curves	Nominal motor power kW	Poles –	Motor size	Motor voltage V	Nominal frequency Hz	Connection	Nominal motor current A	Nominal motor speed 1/min	Media Temperature max. °C	Fan weight kg
48-0280-2D-14	[D4]	2.20	2	90L	230/400	50	Δ/Y	8.10/4.70	2880	60	58
48-0280-4D-07	[D5]	0.25	4	71M	230/400	50	Δ/Y	1.33/0.77	1350	60	47

Dimensions in mm, subject to change.

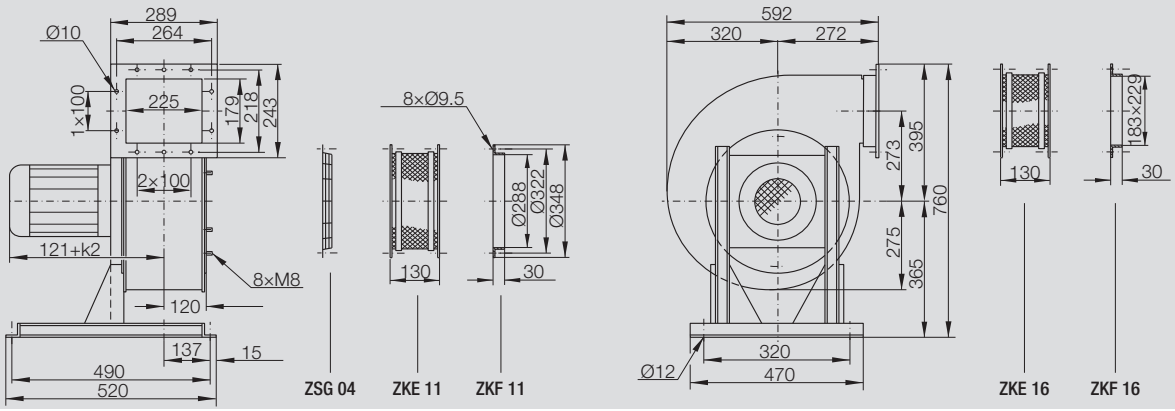
REM 41-0280

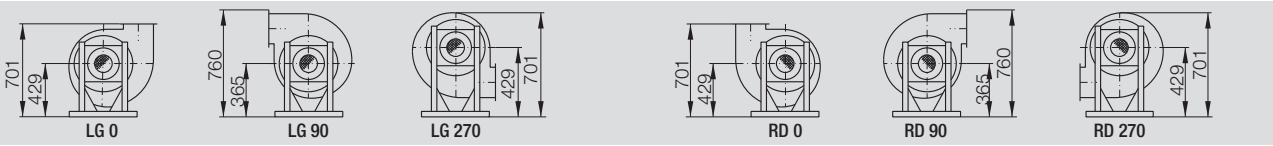
Motor	k2
63 M	180
71 M	210
80 M	234
90 S	281
90 L	281
100 L	336
112 M	329





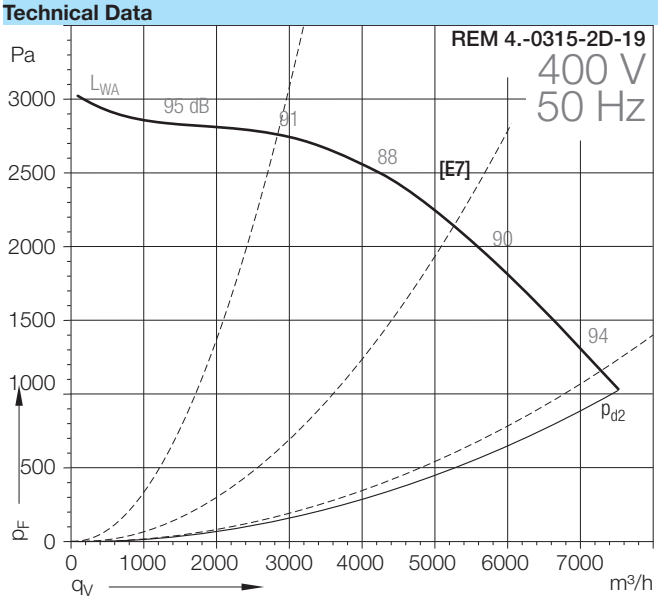
REM 48-0280

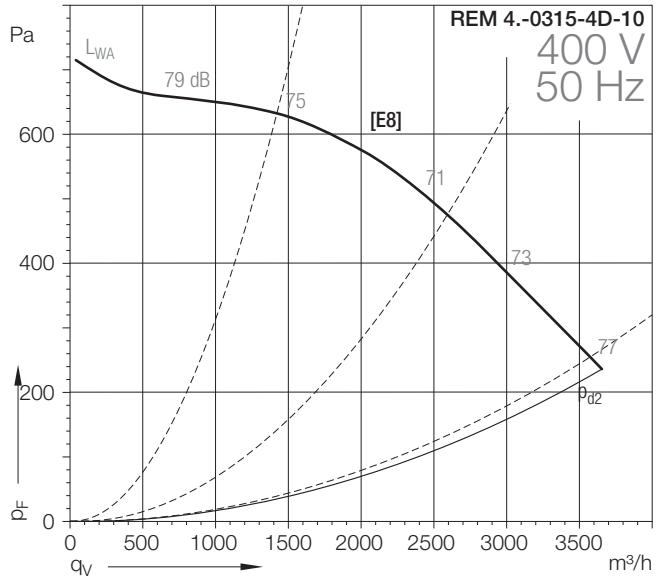




REM 40-0315

Technical Data

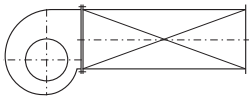




Technical Data

Density of media **1.2 kg/m³**

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



REM 40-0315

Technical Data

REM	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Fan weight
		kW	–		V	Hz		A	1/min	°C	kg
41-0315-2D-19	[E7]	4.00	2	112M	400	50	Δ	8.10	2930	60	72
41-0315-4D-10	[E8]	0.55	4	80M	230/400	50	Δ/Y	2.53/1.46	1395	60	42

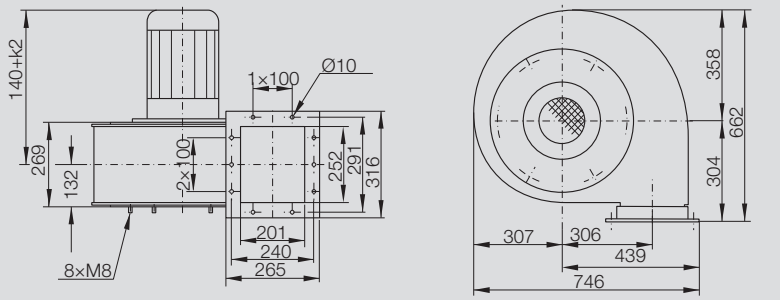
Technical Data

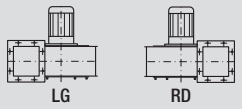
REM	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Fan weight
		kW	–		V	Hz		A	1/min	°C	kg
48-0315-2D-19	[E7]	4.00	2	112M	400	50	Δ	8.10	2930	60	90
48-0315-4D-10	[E8]	0.55	4	80M	230/400	50	Δ/Y	2.53/1.46	1395	60	60

Dimensions in mm, subject to change.

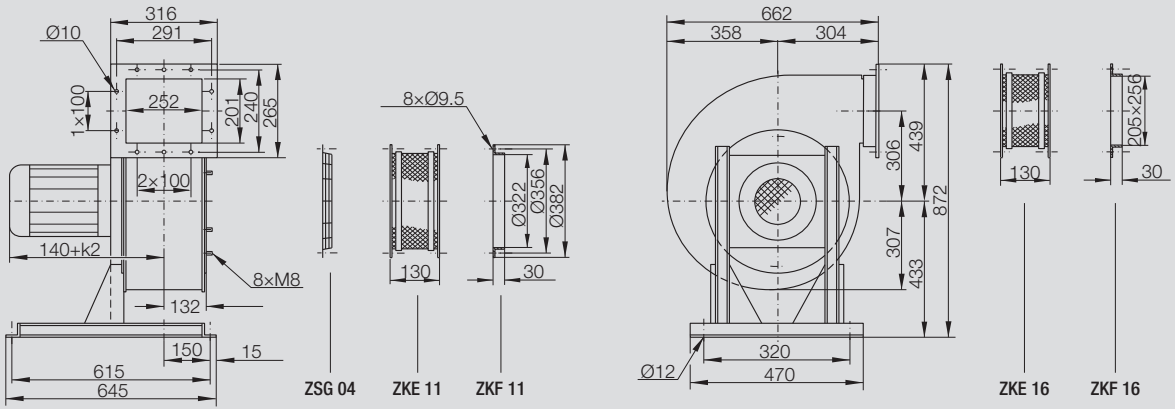
REM 41-0315

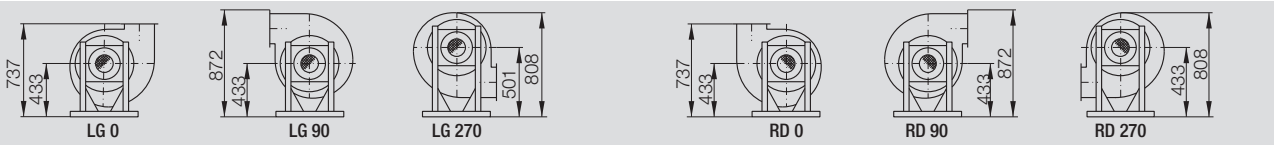
Motor	k2
63 M	180
71 M	210
80 M	234
90 S	281
90 L	281
100 L	336
112 M	329





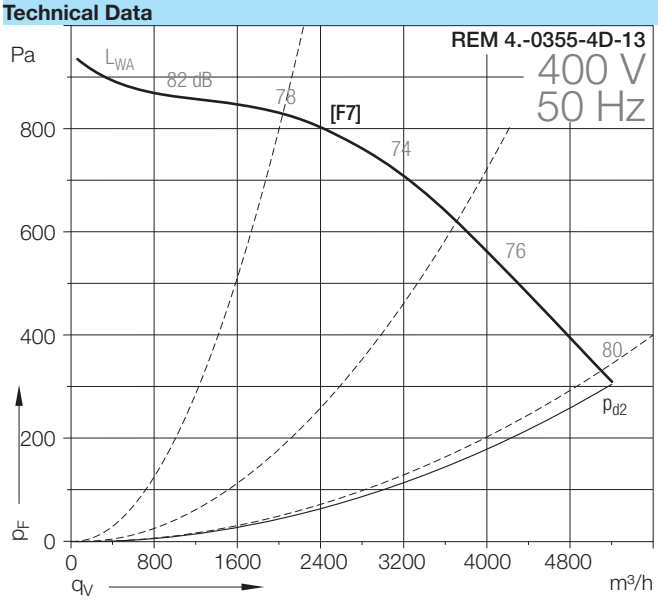
REM 48-0315





REM 40-0355

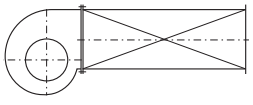
Technical Data



Technical Data

Density of media **1.2 kg/m³**

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



REM 40-0355

Technical Data

REM	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Fan weight
		kW	–		V	Hz		A	1/min	°C	kg
41-0355-4D-13	[F7]	1.10	4	90S	230/400	50	Δ/Y	4.50/2.60	1415	60	54

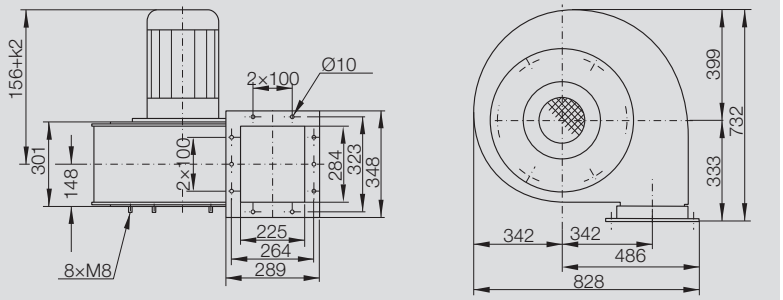
Technical Data

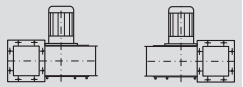
REM	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Fan weight
		kW	–		V	Hz		A	1/min	°C	kg
48-0355-4D-13	[F7]	1.10	4	90S	230/400	50	Δ/Y	4.50/2.60	1415	60	72

Dimensions in mm, subject to change.

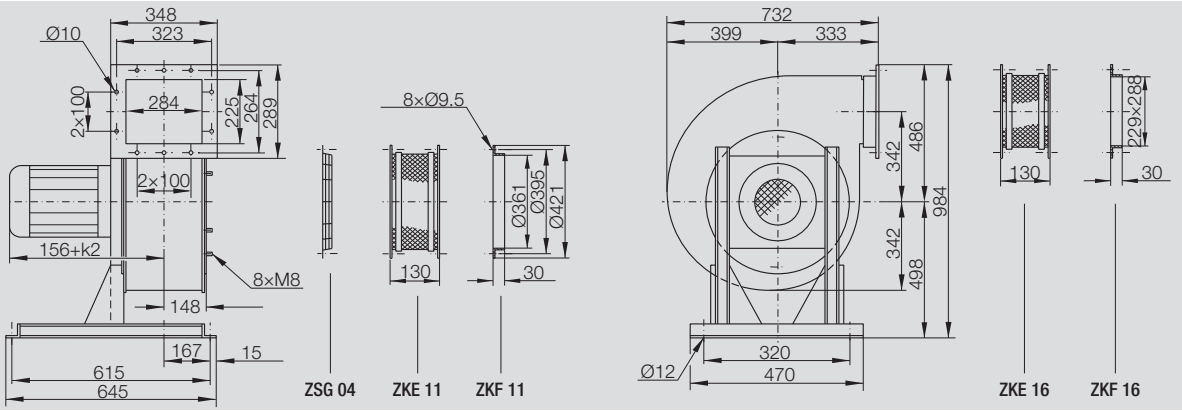
REM 41-0355

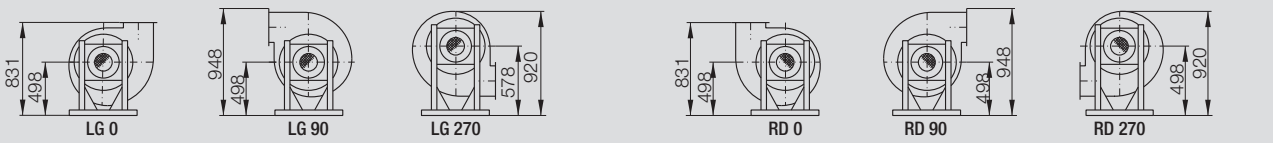
Motor	k2
63 M	180
71 M	210
80 M	234
90 S	281
90 L	281
100 L	336
112 M	329





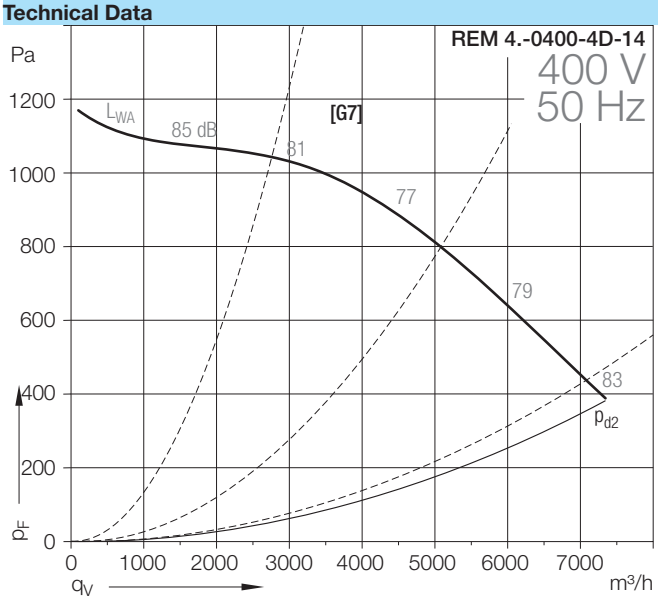
REM 48-0355





REM 40-0400

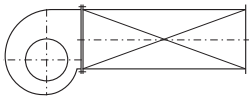
Technical Data



Technical Data

Density of media **1.2 kg/m³**

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



REM 40-0400

Technical Data

REM	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Fan weight
		kW	–		V	Hz		A	1/min	°C	kg
41-0400-4D-14	[G7]	1.50	4	90L	230/400	50	Δ/Y	6.00/3.45	1420	60	69

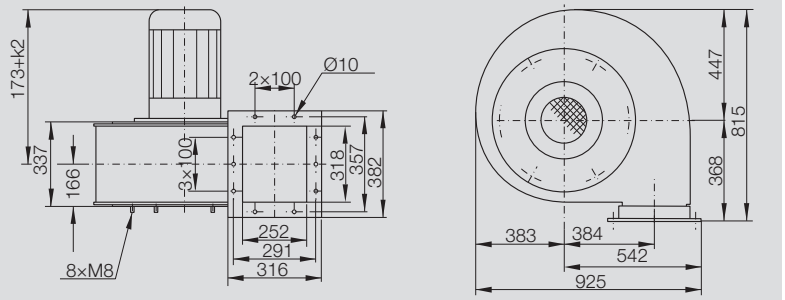
Technical Data

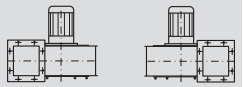
REM	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Fan weight
		kW	–		V	Hz		A	1/min	°C	kg
48-0400-4D-14	[G7]	1.50	4	90L	230/400	50	Δ/Y	6.00/3.45	1420	60	87

Dimensions in mm, subject to change.

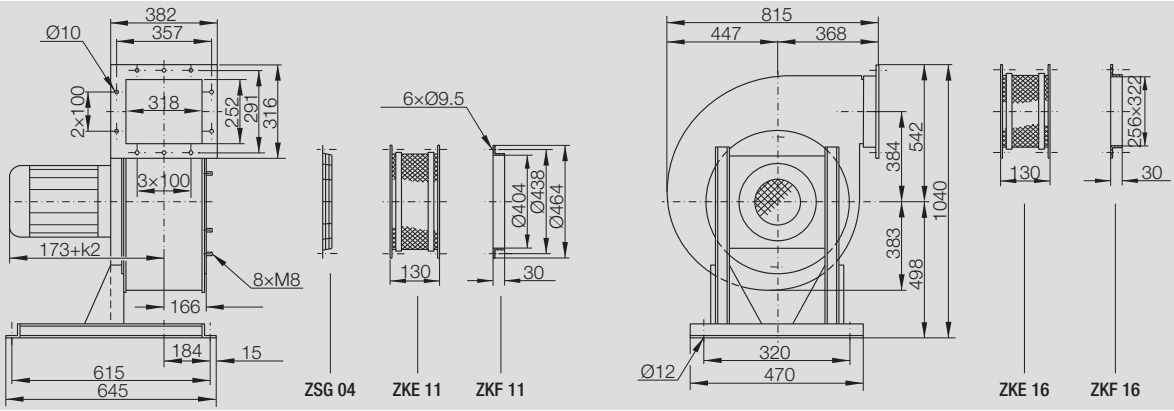
REM 41-0400

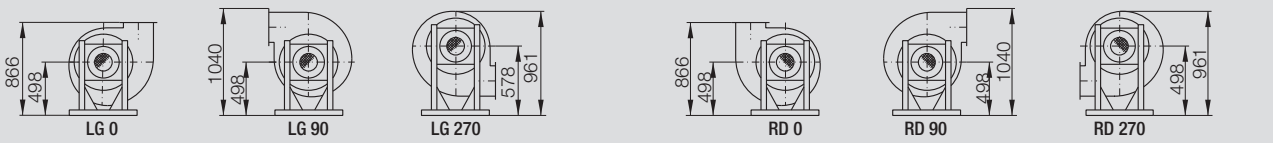
Motor	k2
63 M	180
71 M	210
80 M	234
90 S	281
90 L	281
100 L	336
112 M	329





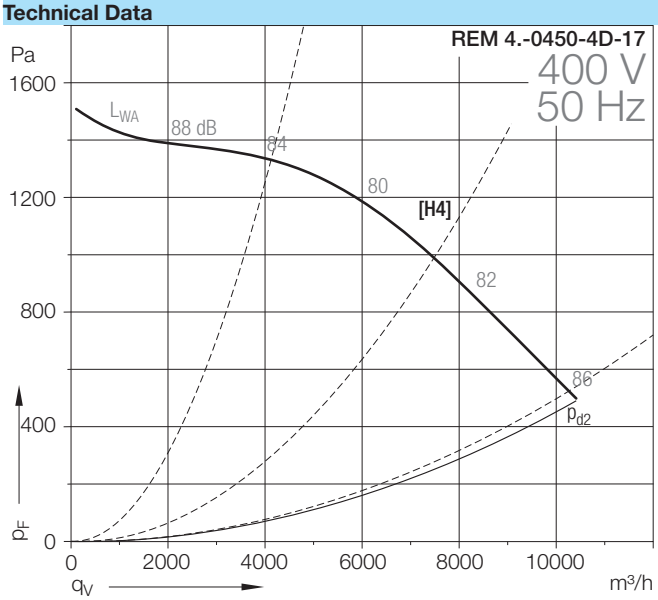
REM 48-0400





REM 40-0450

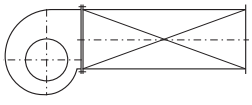
Technical Data



Technical Data

Density of media **1.2 kg/m³**

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



REM 40-0450

Technical Data

REM	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Fan weight
		kW	–		V	Hz		A	1/min	°C	kg
41-0450-4D-17	[H4]	3.00	4	100L	230/400	50	Δ/Y	10.90/6.30	1425	60	88

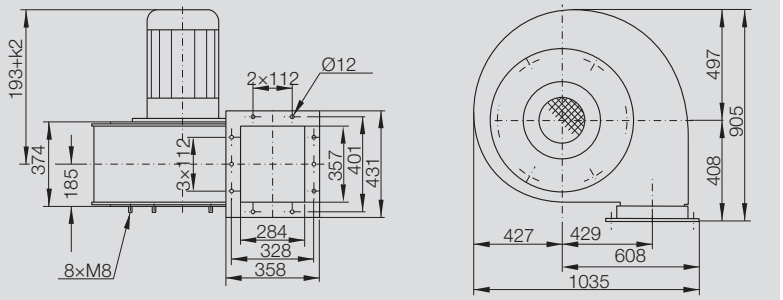
Technical Data

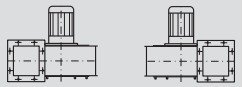
REM	Curves	Nominal motor power	Poles	Motor size	Motor voltage	Nominal frequency	Connection	Nominal motor current	Nominal motor speed	Media Temperature max.	Fan weight
		kW	–		V	Hz		A	1/min	°C	kg
48-0450-4D-17	[H4]	3.00	4	100L	230/400	50	Δ/Y	10.90/6.30	1425	60	110

Dimensions in mm, subject to change.

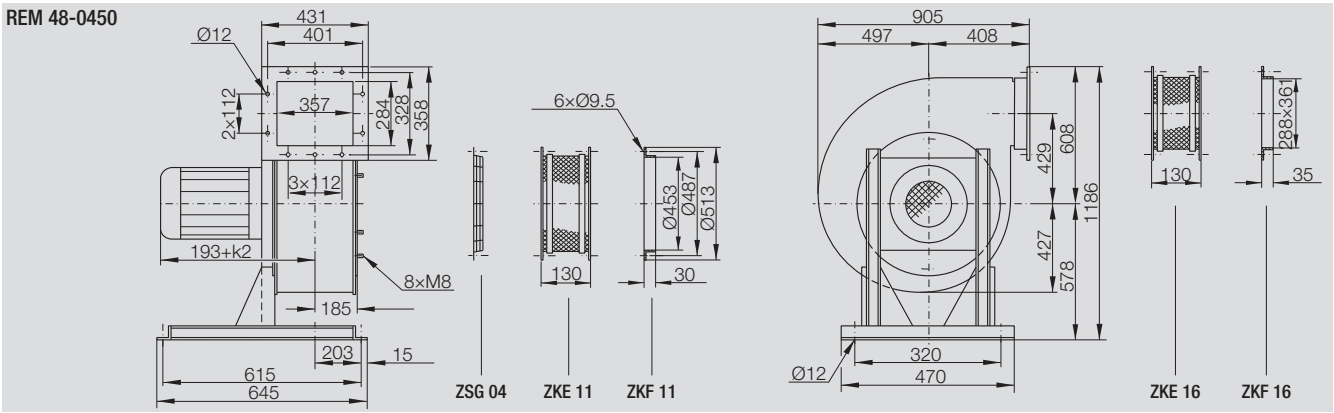
REM 41-0450

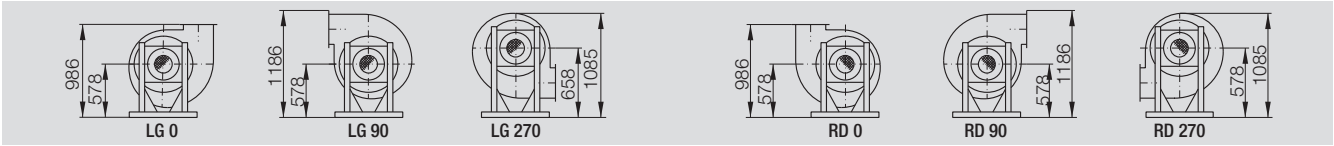
Motor	k2
63 M	180
71 M	210
80 M	234
90 S	281
90 L	281
100 L	336
112 M	329





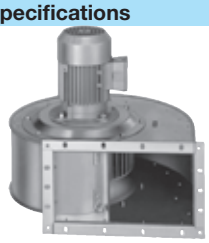
REM 48-0450





TEM 01-/08-0160/-0355

Specifications



High performance centrifugal fan TEM
single inlet, direct driven.
Lap-jointed scroll housing made from galvanised steel sheet,
without pedestal for vertical or horizontal mounting - Range TEM01 ***or*** with pedestal for horizontal mounting - Range TEM08.
Suitable for conveying medium temperatures from -20°C to +60°C.
At discharge with integrated flange acc. to DIN 24159-3, at intake with possibility to connect with flange acc. to DIN 24155-2.
Galvanised impeller with forward curved blades. B5 motor mounted outside the airstream.
Impeller balanced in according to DIN ISO 1940, completely maintenance free.
Motor equipped with PTC Thermistors as a standard (except motors in explosion proof execution according to ATEX 94/9/EC).
Three phase 400V, 50Hz, single speed.

Fan data

Fan type		.....	
Volume flow	q_V	.....	m³/h
Total pressure increase	p_F	.....	Pa
Air density at fan inlet	ρ_1	.....	kg/m³
Air temperature	t	.....	°C
Nominal motor power	P_N	.....	kW
Speed	N	.....	1/min
Voltage	U	.....	V
Frequency	f	.....	Hz
Sound power level (A weighted)	L_{WA}	.....	dB
Weight	m	.....	kg

Fittings / Accessories

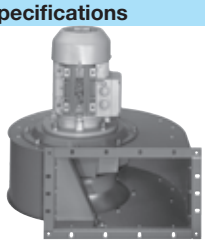
- Drain plug R1/2"
- Inspection door
- Corrosion protection S40

- Inlet flange
- Inlet flex (with flexible sleeve)
- Discharge flange
- Discharge flex (with flexible sleeve)
- Inlet protection guard
- Discharge protection guard
- Anti-vibration mounts (TEM08)

- Isolator
- Motor protection unit

REM 11-/13-/18-/19-0200/-0630

Specifications



High performance centrifugal fans REM *rotavent*
single inlet, direct driven.
Lap-jointed scroll housing made from galvanised steel sheet - Range REM11/REM18 ***or*** welded and coated - Range REM13/REM19.
Without pedestal for vertical or horizontal mounting - Range REM11/REM13 ***or*** with pedestal for horizontal mounting - Range REM18/REM19.
Suitable for conveying medium temperatures from -20°C to +60°C.
At discharge with integrated flange acc. to DIN 24159-3, at intake with possibility to connect with flange acc. to DIN 24155-2.
Radial impeller with backward curved aerofoil blades, welded and coated.
B5 motor mounted outside the airstream. Impeller balanced in according to DIN ISO 1940, completely maintenance free. Motor equipped with PTC Thermistors as a standard (except motors in explosion proof execution according to ATEX 94/9/EC).
Three phase 400V, 50Hz, single speed.

Fan data

Fan type		.....	
Volume flow	q_V	.....	m³/h
Total pressure increase	p_F	.....	Pa
Air density at fan inlet	ρ_1	.....	kg/m³
Air temperature	t	.....	°C
Nominal motor power	P_N	.....	kW
Speed	N	.....	1/min
Voltage	U	.....	V
Frequency	f	.....	Hz
Sound power level (A weighted)	L_{WA}	.....	dB
Weight	m	.....	kg

Fittings / Accessories

- Drain plug R1/2"
- Inspection door
- Corrosion protection S40
- Impeller-blades continuously welded
- Scroll inside continuously welded (REM13/REM19)
- Scroll inside and outside continuously welded (REM13/REM19)
- Nuts and bolts from stainless steel

- Inlet flange
- Inlet flex (with flexible sleeve)
- Discharge flange
- Discharge flex (with flexible sleeve)
- Inlet protection guard
- Discharge protection guard
- Anti-vibration mounts (REM18/19)

- Isolator
- Motor protection unit

REM 41-/48-0200/-0450

Specifications

High performance centrifugal fans REM 40
single inlet with direct drive. Lap-jointed scroll housing made from galvanised steel sheet,
without pedestal for vertical or horizontal mounting - Range REM41 ***or*** with pedestal for horizontal mounting - Range REM48.
Suitable for conveying medium temperatures from -20°C to +60°C.
At discharge with integrated flange acc. to DIN 24159-3, at intake with possibility to connect with flange acc. to DIN 24155-2.
Radial impeller with backward curved blades, welded and coated. B5 motor mounted outside the airstream. Impeller statically and dynamically balanced according to DIN ISO 1940, completely maintenance free.
Motor equipped with PTC Thermistors as a standard.
Three phase 400V, 50Hz, single speed.

Fan data

Fan type		.....	
Volume flow	q_V	.....	m^3/h
Total pressure increase	p_F	.....	Pa
Air density at fan inlet	ρ_1	.....	kg/m^3
Air temperature	t	.....	°C
Nominal motor power	P_N	.....	kW
Speed	N	.....	1/min
Voltage	U	.....	V
Frequency	f	.....	Hz
Sound power level (A weighted)	L_{WA}	.....	dB
Weight	m	.....	kg

Fittings / Accessories

- Drain plug R1/2"
- Inspection door

- Inlet flange
- Inlet flex (with flexible sleeve)
- Discharge flange
- Discharge flex (with flexible sleeve)
- Inlet protection guard
- Anti-vibration mounts (REM48)

- Isolator
- Motor protection unit

Accessories

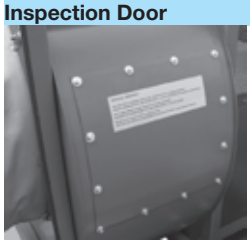
Accessories

All options and accessories must be specified separately.
Please take the technical data and dimensions from the corresponding page of the catalogue.

Drain Plug

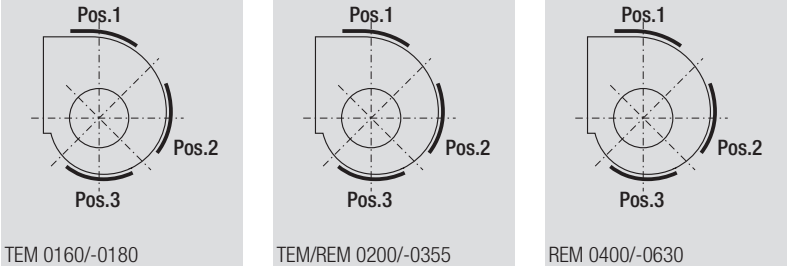
If the fan is installed outside, or if conveying a medium containing humidty, condensation of water may accumulate inside the fan scroll.
For extraction of this water a condense water drain has to be installed at the lowest point of the scroll. The drain will be provided with a thread R1/2" for connecting it to a piping.
At order please indicate the required casing position.

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.

TEM ..-		TEM ..- / REM ..-		REM ..-	
0160/-0180	60 × 210	**0200/-0225**	60 × 210	**0315/-0560**	210 × 210
		0250/-0355	110 × 210	**0630**	310 × 310

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.

Corrosion protection - Class S40

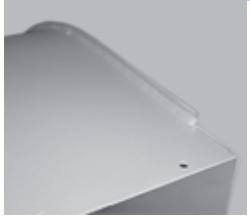
Degreasing, ironphosphating

- **Powder coating** - Layer thickness ≥40µm, Colour RAL 7039
- **Wet lacquering** - Layer thickness ≥40µm (primer + lacquer finish), Colour RAL 7039

Continuously welded impeller blades REM 10

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 REM 10



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

Accessories

Stainless steel nuts and bolts REM 10

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

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.

Flanges and Flexible Connections

Flanges and flexible connection pieces are available forthe inlet and discharge sides.

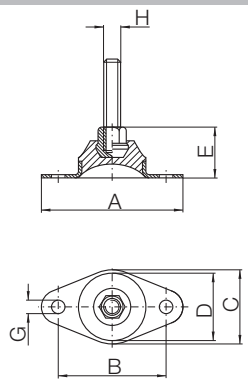
Accessories

Anti Vibration Mounts

Anti Vibration Mounts (AVM) are designed to prevent noise and vibrations being transmitted through the base of the fan. AVMs should be mounted beneath the fan base frame so the weight and spring deflections are evenly distributed.
They should not be mounted symmetrically around the centre of gravity of the system when idle, 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.

- **Rubber buffers** - for both vibration and noise insulation at fan speeds above 1400rpm or 850rpm
- **Rubber buffers** - for noise insulation only at fan speeds under 800rpm or 1700rpm

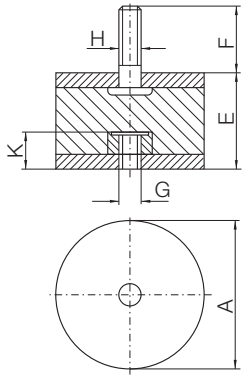
Anti Vibration Rubber Pads



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

Accessories

Anti Vibration Mounts - Assignment

TEM 08-	ZBD
0160-2D-08	**01-0506** (4×)
0160-4D-05	**03-0503** (4×)
0180-2D-11	**01-0506** (4×)
0180-4D-05	**03-0503** (4×)
0200-2D-14	**01-0606** (4×)
0200-4D-08	**03-0503** (4×)
0225-2D-19	**01-0606** (2×)
	01-0806 (2×)
0225-2D-14	**01-0606** (4×)
0225-4D-11	**01-0506** (4×)
0250-2D-19	**01-0606** (2×)
	01-0806 (2×)
0250-2D-14	**01-0506** (4×)
0250-4D-13	**01-0506** (4×)
0250-4D-11	**01-0506** (4×)
0250-6D-08	**03-0806** (4×)
0280-4D-16	**01-0506** (2×)
	01-0606 (2×)
0280-4D-13	**01-0506** (4×)
0280-6D-11	**01-0806** (4×)
0315-4D-19	**01-0606** (2×)
	01-0806 (2×)
0315-4D-16	**01-0606** (4×)
0315-6D-14	**03-0806** (4×)
0355-4D-19	**01-0606** (4×)
0355-4D-16	**01-0606** (4×)
0355-6D-19	**03-0806** (4×)

TEM 08-	ZBD
0160-2D-08-60	**01-0506** (4×)
0160-4D-05-60	**03-0503** (4×)
0180-2D-11-60	**01-0506** (4×)
0180-2D-10-60	**01-0506** (4×)
0180-4D-05-60	**03-0503** (4×)
0200-2D-14-60	**01-0606** (4×)
0200-2D-11-60	**01-0506** (4×)
0200-4D-08-60	**03-0503** (4×)
0225-2D-19-60	**01-0606** (2×)
	01-0806 (2×)
0225-2D-14-60	**01-0606** (4×)
0225-4D-11-60	**01-0506** (4×)
0250-4D-13-60	**01-0506** (4×)
0250-4D-10-60	**01-0506** (4×)
0250-6D-08-60	**03-0806** (4×)
0280-4D-16-60	**01-0506** (2×)
	01-0606 (2×)
0280-4D-13-60	**01-0506** (4×)
0280-6D-11-60	**03-0806** (4×)
0315-4D-19-60	**01-0606** (2×)
	01-0806 (2×)
0315-4D-16-60	**01-0606** (4×)
0315-4D-14-60	**01-0506** (4×)
0315-6D-14-60	**03-0806** (4×)
0355-4D-19-60	**01-0606** (4×)
0355-4D-17-60	**01-0606** (4×)
0355-4D-16-60	**01-0606** (4×)
0355-6D-19-60	**03-0806** (4×)

TEM 08-	ZBD
0160-2X-08-3G	**01-0506** (4×)
0160-4X-05-3G	**03-0503** (4×)
0180-2X-11-3G	**01-0506** (4×)
0180-4X-05-3G	**03-0503** (4×)
0200-2X-14-3G	**01-0606** (4×)
0200-4X-08-3G	**03-0503** (4×)
0225-2X-19-3G	**01-0606** (2×)
	01-0806 (2×)
0225-4X-11-3G	**01-0506** (4×)
0250-2X-19-3G	**01-0606** (2×)
	01-0806 (2×)
0250-4X-13-3G	**01-0506** (4×)
0280-4X-16-3G	**01-0506** (2×)
	01-0606 (2×)
0315-4X-19-3G	**01-0606** (2×)
	01-0806 (2×)
0355-4X-19-3G	**01-0606** (4×)

Anti Vibration Mounts - Assignment

REM 18-/19-	ZBD (4×)
0200-2D-07	**01-0506**
0225-2D-07	**01-0506**
0250-2D-08	**01-0506**
0280-2D-11	**01-0506**
0315-2D-13	**01-0506**
0315-4D-07	**01-0506**
0355-2D-16	**01-0806**
0355-4D-08	**01-0506**

REM 18-/19-	ZBD (4×)
0200-2D-07-60	**01-0506**
0225-2D-07-60	**01-0506**
0250-2D-10-60	**01-0506**
0280-2D-11-60	**01-0506**
0315-2D-14-60	**01-0506**
0315-4D-07-60	**01-0506**
0355-2D-19-60	**01-0606**
0355-4D-10-60	**01-0606**

REM 18-/19-	ZBD (4×)
0200-2X-07-2G	**01-0506**
0225-2X-07-2G	**01-0506**
0250-2X-08-2G	**01-0506**
0280-2X-11-2G	**01-0506**
0315-2X-14-2G	**01-0506**
0315-4X-07-2G	**01-0506**
0355-2X-19-2G	**01-0606**
0355-4X-08-2G	**01-0506**

Anti Vibration Mounts - Assignment

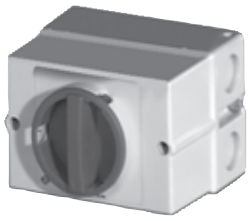
REM 18-/19-	ZBD (2×)
0400-4D-10	**01-0606-C**
	01-0806-C
0450-4D-13	**01-0606-C**
	01-0806-C
0500-4D-16	**01-0806-C**
	01-0806-C
0500-6D-11	**01-0606-C**
	01-0806-C
0560-4D-19	**01-1010-C**
	01-1010-C
0560-6D-14	**01-1010-C**
	01-1010-C
0630-6D-19	**01-1010-C**
	01-1010-C

REM 18-/19-	ZBD (2×)
0400-4D-13-60	**01-0606-C**
	01-0806-C
0450-4D-14-60	**01-0606-C**
	01-0806-C
0500-4D-17-60	**01-0806-C**
	01-0806-C
0500-6D-13-60	**01-0606-C**
	01-0806-C
0560-4D-21-60	**01-1010-C**
	01-1010-C
0560-6D-16-60	**01-1010-C**
	01-1010-C
0630-6D-21-60	**01-1010-C**
	01-1010-C

REM 18-/19-	ZBD (2×)
0400-4X-11-2G	**01-0606-C**
	01-0806-C
0450-4X-13-2G	**01-0606-C**
	01-0806-C
0500-4X-16-2G	**01-0806-C**
	01-0806-C
0560-4X-19-2G	**01-1010-C**
	01-1010-C

Accessories

Switches



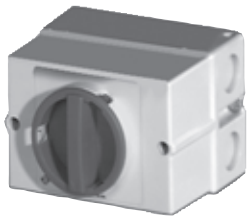
Isolator ESH 21 (≥ 5.5kW)

TEM 01-/08-	ESH 21-
0160-2D-08	0030-32
0160-4D-05	0030-32
0180-2D-11	0030-32
0180-4D-05	0030-32
0200-2D-14	0030-32
0200-4D-08	0030-32
0225-2D-19	0075-62
0225-2D-14	0030-32
0225-4D-11	0030-32
0250-2D-19	0075-62
0250-2D-14	0030-32
0250-4D-13	0030-32
0250-4D-11	0030-32
0250-6D-08	0030-32
0280-4D-16	0030-32
0280-4D-13	0030-32
0280-6D-11	0030-32
0315-4D-19	0075-62
0315-4D-16	0030-32
0315-6D-14	0030-32
0355-4D-19	0075-62
0355-4D-16	0030-32
0355-6D-19	0030-32

TEM 01-/08-	ESH 21-
0160-2D-08-60	–
0160-4D-05-60	–
0180-2D-11-60	–
0180-2D-10-60	–
0180-4D-05-60	–
0200-2D-14-60	–
0200-2D-11-60	–
0200-4D-08-60	–
0225-2D-19-60	0075-62
0225-2D-14-60	–
0225-4D-11-60	–
0250-4D-13-60	–
0250-4D-10-60	–
0250-6D-08-60	–
0280-4D-16-60	–
0280-4D-13-60	–
0280-6D-11-60	–
0315-4D-19-60	0075-62
0315-4D-16-60	–
0315-4D-14-60	–
0315-6D-14-60	–
0355-4D-19-60	0075-62
0355-4D-17-60	0075-62
0355-4D-16-60	–
0355-6D-19-60	–

TEM 01-/08-	ESH 21-
0160-2X-08-3G	–
0160-4X-05-3G	–
0180-2X-11-3G	–
0180-4X-05-3G	–
0200-2X-14-3G	–
0200-4X-08-3G	–
0225-2X-19-3G	–
0225-4X-11-3G	–
0250-2X-19-3G	–
0250-4X-13-3G	–
0280-4X-16-3G	–
0315-4X-19-3G	–
0355-4X-19-3G	–

Switches



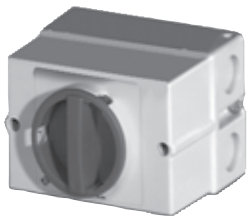
Isolator ESH 21 (≥ 5.5kW)

REM 11-/13-/18-/19-	ESH 21-
0200-2D-07	0030-32
0225-2D-07	0030-32
0250-2D-08	0030-32
0280-2D-11	0030-32
0315-2D-13	0030-32
0315-4D-07	0030-32
0355-2D-16	0030-32
0355-4D-08	0030-32
0400-2D-21	0075-62
0400-4D-10	0030-32
0450-4D-13	0030-32
0500-4D-16	0030-32
0500-6D-11	0030-32
0560-4D-19	0075-62
0560-6D-14	0030-32
0630-4D-23	0075-62
0630-6D-19	0030-32

REM 11-/13-/18-/19-	ESH 21-
0200-2D-07-60	–
0225-2D-07-60	–
0250-2D-10-60	–
0280-2D-11-60	–
0315-2D-14-60	–
0315-4D-07-60	–
0355-2D-19-60	0075-62
0355-4D-10-60	–
0400-2D-22-60	0075-62
0400-4D-13-60	–
0450-4D-14-60	–
0500-4D-17-60	0075-62
0500-6D-13-60	–
0560-4D-21-60	0075-62
0560-6D-16-60	–
0630-6D-21-60	0075-62

REM 11-/13-/18-/19-	ESH 21-
0200-2X-07-2G	–
0225-2X-07-2G	–
0250-2X-08-2G	–
0280-2X-11-2G	–
0315-2X-14-2G	–
0315-4X-07-2G	–
0355-2X-19-2G	–
0355-4X-08-2G	–
0400-2X-22-2G	–
0400-4X-11-2G	–
0450-4X-13-2G	–
0500-4X-16-2G	–
0560-4X-19-2G	–
0630-4X-23-2G	–

Switches



Isolator ESH 21 (≥ 5.5kW)

REM 41-/48-	ESH 21-
0200-2D-07	0030-32
0200-4D-05	0030-32
0225-2D-10	0030-32
0225-4D-05	0030-32
0250-2D-13	0030-32
0250-4D-07	0030-32
0280-2D-14	0030-32
0280-4D-07	0030-32
0315-2D-19	0075-62
0315-4D-10	0030-32
0355-4D-12	0030-32
0400-4D-14	0030-32
0450-4D-17	0055-32

Description

Safety

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.

Performance data

The performance curves of the fans are determined at the plenum test rig according to ISO 5801, measured in installation "B".
In the diagrams of all series, the total pressure increase p_F and the dynamic pressure in relation to the flange crosssection at the discharge p_{d2} are represented in dependency on the volume.
For closer determination of duty same unit performance curves (parabolas) are contained in the diagrams.
The static pressure increase p_{sF} with a connected discharge flange can be determined according to the following relation.

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

All data are valid for the source density ρ_1 = 1,2kg/m³.

Sound

The noise measuring and evaluation is conducted according to DIN 45635-38 ”Noise measurement in machines: fans”.
In the diagrams the A-weighted sound power level of the fan is given on the performance curves as the emission size.
The “A” weighted sound power level are identical for fan intake (L_{WA7}) as well as for fan discharge (L_{WA4}).

The A-weighted sound pressure level $L_{pA7/6}$ at a distance of 1 m at fan Inlet or discharge can be approximately determined by the following formula:

$$\mathbf{L_{pA6/7} \sim L_{WA4/7} - 7dB}$$

The sound power levels in the individual octavos can be taken from the electronic catalogue ”proSELECTA II”.

Media

The series of centrifugal fans, with single inlet are designed for the use in air handling and ventilation installations.
The fans are suitable for conveying air and other non aggressive gases. The temperatures admitted for the fluid are from -20°C to +60°C.

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.

Electric connection

The centrifugal fans are delivered ready for installation.
The motor terminal box can be accessed easily.
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.
Updated circuit diagrams are also available online at www.nicotra-gebhardt.com.
In case of operation with frequency inverters, always follow the respective operating instructions!

Description

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 ompo-nents, 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.

Accessories

Frequency converter

Design
Frequency inverter with variable output voltage and frequency, specially designed for the operation of centrifugal fans with induption motors. Due to the use of modern power semiconductors it is possible to achieve a speed of revolution with high efficiency. Switching frequencies up to 16kHz can be set with all types. If the highest switching frequencies are required (for example for reasons of noise reduction), the maximum output current is decreased, in which case the performance category should be specially checked.
The overall package includes the frequency inverter, filter for class B (for residential and commercial uses) as well as a control unit.

General Performance characteristics
Motor protection feature for motors with thermistor temperature sensors, adjustable accelaration and deaccelaration ramps, minimum and maximum rotation speeds, fixed rotation speeds, trapping switch during operation, programmable inputs and PI-controller (MM420 and MM430 only), RS485 serial interface as well as a detailed operating instructions. Caution about combination with isolators (ESH)! Special EMC-action can be necessary, furthermore do not switch during operation, overvoltages can destroy the switch and the motor-winding.

Performance range G110 1AC 230V (for single-phase AC supply)
0.25kW to 2.2kW rated motor power, 200V to 240V 10% single-phase AC, 47Hz up to 63Hz, three-phase current output 3×230V AC, protection class IP20.
Permitted ambient temperature during operation: -10°C up to +40°C.

Performance range MM420 3AC 400V (for three-phase AC supply)
0.55kW to 11kW rated motor power, 380V to 480V 10% three-phase AC, 47Hz up to 63Hz, three-phase current output 3×400V AC, protection class IP20. Permitted ambient temperature during operation: -10°C up to +50°C. The interference suppression filter required to comply with the EMC basic interference suppression standard EN 50081-1 (residential and commercial uses) is integrated into the package as substructure option. Power choke to comply with EN 61000-3-2 as additional component.
Observe performance reduction when using high clock frequencies!

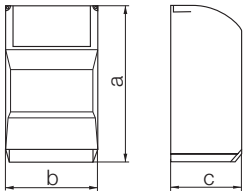
Performance range MM430 3AC 400V
(for three-phase AC supply)
15kW to 250kW rated motor power, 380V to 480V 10% three-phase AC, 47Hz up to 63Hz, three-phase current output 3×400V AC, protection class IP20.
Permitted ambient temperature during operation: -10°C up to +50°C. The interference suppression filter required to comply with the EMC basic interference suppression standard EN 50081-1 (industrial applications) is partially integrated. In order to attain EMC requirements Class B a frequency inverter without filter should be selected. The appropriate EMC-B filter is then required as an additional component.
Observe performance reduction when using high clock frequencies!

The indicated ratings of the units are made for a quick selection. The exact dedication of an inverter in this catalogue is made by taking into account of the max. admitted current at a pulse frequency of 4kHz. It is important to know that at higher pulse frequencies the supplied current of the inverter will be decreasing, with the possible consequences of having to select a larger inverter unit. Also longer feed lines or additional radio frequency filters may lead to the choice of a larger inverter size.
The selected frequency inverters (G110 und MM420) **are units contains the frequency inverter** (as shown in the following tables) **with the matching interference suspression filter** (Class B) **and a control panel. A further component is the line choke which is available as an accessorie.** For more information the available frequency inverters are shown in the following tables.

Accessories

Frequency converter

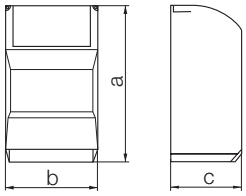
Technical Data | Dimensions



For three-phase AC motors on the single-phase supply.

6SL3211-	Nominal power kW	Nominal current A	a mm	b mm	c mm	Weight kg
0AB12-5BA0	0.25	1.7	150	90	116	0.8
0AB13-7BA0	0.37	2.3	150	90	116	0.8
0AB15-5BA0	0.55	3.2	150	90	131	0.9
0AB17-5BA0	0.75	3.9	150	90	131	0.9
0AB21-1AA0	1.1	6	160	140	142	1.5
0AB21-5AA0	1.5	7.8	160	140	142	1.5
0AB22-2AA0	2.2	11	181	184	152	2.1

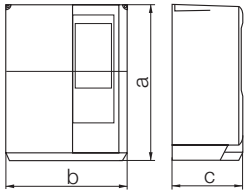
Technical Data | Dimensions



For three-phase AC motors on the three-phase supply

6SE6420-	Nominal power kW	Nominal current A	a mm	b mm	c mm	Weight kg
2UD15-5AA1	0.55	1.6	173	73	149	1
2UD17-5AA1	0.75	2.1	173	73	149	1
2UD21-1AA1	1.1	3	173	73	149	1
2UD21-5AA1	1.5	4	173	73	149	1
2AD22-2BA1	2.2	5.9	202	149	172	3.3
2AD23-0BA1	3	7.7	202	149	172	3.3
2AD24-0BA1	4	10.2	202	149	172	3.3
2AD25-5CA1	5.5	13.2	245	185	195	5
2AD27-5CA1	7.5	18.4	245	185	195	5
2AD31-1CA0	11	26	245	185	195	5

Technical Data | Dimensions



For three-phase AC motors on the three-phase supply

6SE6430-	Nominal power kW	Nominal current A	a mm	b mm	c mm	Weight kg
2AD31-5CA0	15	32	245	185	195	5.7
2AD31-8DA0	18.5	38	520	275	245	17
2AD32-2DA0	22	45	520	275	245	17
2AD33-0DA0	30	62	520	275	245	17
2AD33-7EA0	37	75	650	275	245	22
2AD34-5EA0	45	90	650	275	245	22
2AD35-5FA0	55	110	1150	350	320	75
2AD37-5FA0	75	145	1150	350	320	75
2AD37-8FA0	90	178	1150	350	320	75
2UD41-1FA0	110	180.4	1450	326	356	116
2UD41-3FA0	132	220	1450	326	356	116
2UD41-6GA0	160	265.8	1533	326	545	116
2UD42-0GA0	200	325.6	1533	326	545	116
2UD42-5GA0	250	419.8	1533	326	545	116

Motor protection unit

Motor protection unit EUM 33

Motor protection unit for three-phase current motors (standard motors) without thermal contacts.

Design

Plastic casing in protection class IP55, permissible ambient temperature +40°C, 40Hz up to 60Hz, frontal operation, for wall mounting. Motor protection unit for single-speed, non-variable speed three-phase current motors without thermal contacts.

Function

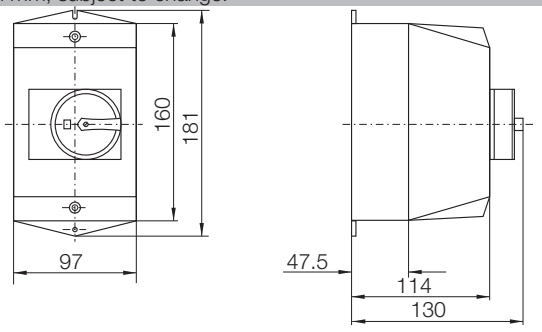
The motor protection units must be adjusted on site to the trigger current. If the preset trigger current is exceeded, the device disconnects the motor from the mains supply via a thermal overload release. Pressing the “on key” causes the unit to turn on again.

All motor protection units EUM33 are also suitable for the protection of EExe-motors (PTB-Prüfung Gesch-Nr. 3.35/386.3060). They must however be mounted outside of explosion endangered areas, since they are not themselves designed with explosion protection.

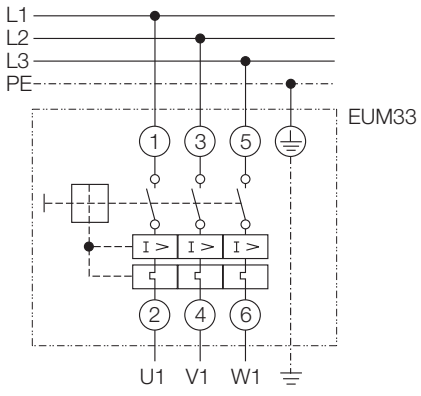
Technical Data

EUM 33-	Continuous current A	Setting range A	Max. nominal power kW
0004-8D	0.4	+0.2/+0.4	0.09
0006-8D	0.6	+0.4/+0.6	0.12
0010-8D	1	+0.6/+1	0.25
0016-8D	1.6	+1/+1.6	0.55
0024-8D	2.4	+1.6/+2.4	0.8
0040-8D	4	+2.4/+4	1.5
0060-8D	6	+4/+6	2.5
0100-8D	10	+6/+10	4
0160-8D	16	+10/+16	7.5
0200-8D	20	+16/+20	9
0250-8D	25	+20/+25	12.5
0500-8D	50	+25/+50	25
0580-8D	58	+50/+58	30

Dimensions in mm, subject to change.



Wiring Diagram



Accessories

Universal control device

Universal control device for installation in control cabinets Digital control module for controlling pressure, air velocity or volume flow (PI controller). For example, a transformer for fans is controlled via the 0...10V output. The device is designed for installation in control cabinets.

Type

Multi functional LC-display for actual and nominal values (m/s, hPa = mbar, 100m³/h). Menuassisted adjustment via three function keys.
Actual value input 0...10V e. g. for:

- air speed sensors Type EIL in measuring ranges from 0...1m/s and 0...10m/s e. g. for Air velocity control in clean room technology
- Pressure sensors Type EIP in measurement ranges 50Pa up to 4000Pa e. g. for Pressure control in canal systems of air conditioning systems (VVS) and Flow control in centrifugal fans with pressure tappings in the inlet cone

The control module calculates the required flow (m³/h) from the differential measured pressure between the surrounding level and inlet cone.

- Output 0...10V e. g. for controlling a transformer
- Failure message is output via display (internal/external) and relay programmable
- External set value specification via potentiometer or 0...10V signal
- Specification of two set values (day/night), can be switched over externally or via keyboard
- Protection against unauthorised setting by keyboard code

Application area

- Pressure regulation for centralised ventilation systems and variable volume flow systems for building air conditioning (VVS) e.g. in combination with a frequency inverter or a commutation unit or a transformer and a pressure sensor
- Volume flow regulation for centrifugal fans (with measuring stub in the inlet cone) e.g. in combination with a frequency inverter or a commutation unit or a transformer or a mini-interface inverter and a pressure sensor and the volume flow volumeter
- Air speed regulation for clean room systems, e.g. in combination with a transformer and an air speed sensor

Electrical connection and installation

Connection to 230V, 50/60Hz. The control module can be installed in a control cabinet door. Admissible relative humidity: 85%, noncondensing. Power supply for the sensors included:
+24V, 20%, I_{max} = 70mA.
Setting options

- Set values in the measurement range of the sensor (m/s, hPa = mbar), or in the volume flow range of the fan (×100m³/h)
- Switch over of set value (day/night)
- Min./max. setting range
- Translation of performance curve (P component)
- Constant of integration can be selected (I component)
- Reversal of the effect of the control behaviour
- Rotation of the performance curve
- Switchover or programming of internal/external set value
- Sensor selection via keypad
- Programming for ”Filter fault”
- Keypad code
- K factor entry (The K10-factor can be found in the current lists of our fan line)

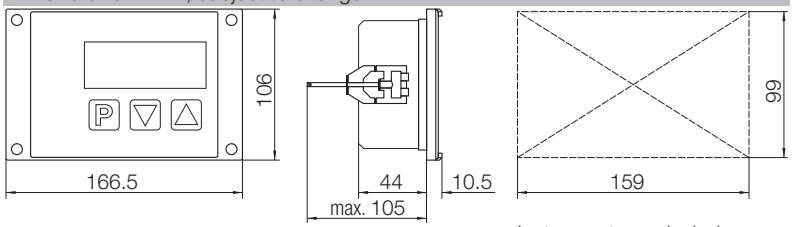
Technical Data

ERA 02-	Input voltage V	Output voltage V	Max. output current mA	Motor protection class	Operating consumption VA	Operating temperatur °C
4000-5E	0/10	0/10	10	IP20	10	+0/+40

Accessories

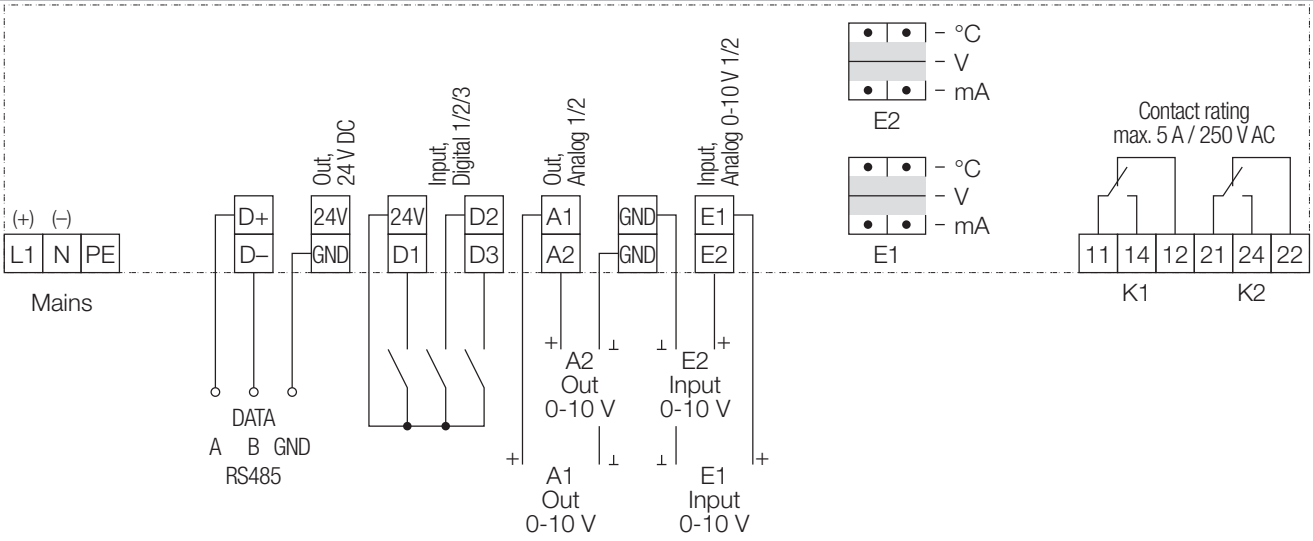
Universal control device

Dimensions in mm, subject to change.



Instrument panel window

Wiring Diagram



Differential pressure sensor

Differential pressure sensor with membrane for measuring the pressure, negative pressure or differential pressure of nonaggressive gases.

Type

The differential pressure to be measured acts transformed into an output signal of 0...10V by electronics (in SMD technology).

Application ranges

Volume flow regulators in centrifugal fans (with volume flow measuring device IMV) in connection with a frequency inverter type G110, MM420, MM430, or a universal regulator appliance type ERA 02-4000-5E in connection with a frequency regulator.

Electrical connection and installation

The differential pressure sensor delivers a starting signal (0...10V) by pressure increase at the "Plus" connection opposite pressure on the "Minus" connection.

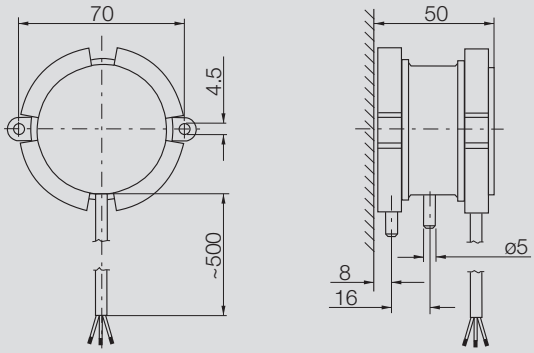
Voltage supply

- 15...30V DC or 24V AC, 15%
- Pressure connections must point downward, tube connection ø5mm

Measuring accuracy

- Null drift: 0.75%
- Sum of linearity and hysteresis: 1%
- Temperature drift zero point: 0.3%/10K
- Temperature drift length of measurement: 0.2%/10K

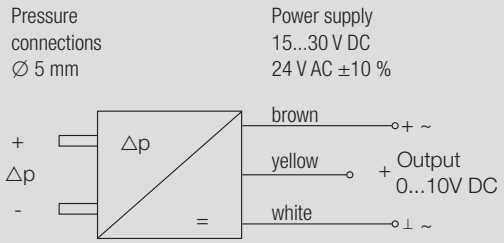
Dimensions in mm, subject to change.



Technical Data

EIP 01-	Pressure range Pa	Motor protection class	Max. current consumption mA	Overload protection Pa	Output signal proportional V	Operating temperatur °C
0200-12	+0/+200	IP65	12	20000	+0/+10	+0/+50
0500-12	+0/+500	IP65	12	20000	+0/+10	+0/+50
1000-12	+0/+1000	IP65	12	20000	+0/+10	+0/+50
2000-12	+0/+2000	IP65	12	20000	+0/+10	+0/+50
4000-12	+0/+4000	IP65	12	20000	+0/+10	+0/+50

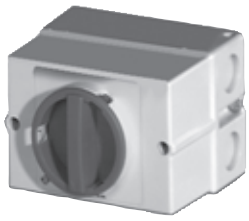
Wiring Diagram



Accessories

Isolator ESH 21

Isolator ESH 21 (≤ 3kW)



Isolator ESH 21 (≥ 5.5kW)

Design

Beautifully shaped, shock-resistant plastic casing. Protection class IP44/IP65, for sur-face mounting, switching symbols 0 and I. The isolator is fitted with connection terminals that are very accessible and has a con-nection diagram glued in the casing.

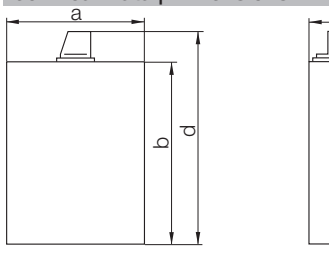
The **ESH21 up to 3kW** is designed to IP44. It is equipped with an integrated lo-cking mechanism.
The **ESH21 up to 5.5kW** is designed to IP65. It is equipped with a coupling cover and an integrated locking mechanism. A padlock can in some cases be fitted to the rotary switch.

Function

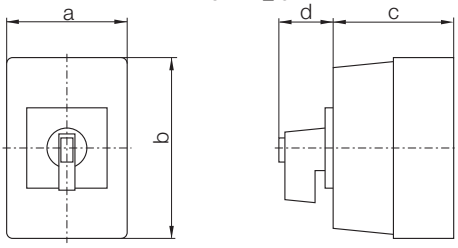
The isolator disconnects the fan safely from the mains in the event of cleaning, maintenance or repair work on site and thus avoids accidents due to uncontrolled activation of the unit by third parties. It is no main switch or emergency switch.
All of the classified isolators are fitted with potential-free contacts (1 closer and 1 opener).
The isolators for motors with a built-in thermal contact have on principle three supplementary auxiliary contacts, so that the pre-switched control device does not drop out during cleaning or servicing work due to motor.
Caution about combination with frequency inverter!
Special EMC-action can be necessary, furthermore do not switch during operation, overvoltages can destroy the switch and the motor-winding.

The isolators are grouped according to motor rated power. All important characteristic data are evident from the model designation.
E.g.: **ESH 21-0030-65** = 3kW switch - 6 main contacts - 5 auxiliary contacts

Technical Data | Dimensions



ESH 21 ≤ 3 kW



ESH 21 ≥ 5.5 kW

ESH 21-	Permissible motor power kW	a mm	b mm	c mm	d
0030-22	3	73	108	45	
0030-25	3	73	108	45	
0030-32	3	73	108	45	
0030-35	3	73	108	45	
0030-62	3	73	108	45	
0030-65	3	73	108	45	
0055-32	5.5	85	120	80	110
0055-65	5.5	125	125	126	157
0075-32	7.5	85	120	80	110
0075-35	7.5	85	120	80	110
0075-62	7.5	100	190	91	133
0075-95	7.5	125	125	126	157
0110-32	11	85	160	80	110
0110-62	11	100	190	91	133
0150-32	15	100	190	91	120
0150-62	15	145	250	100	145
0220-32	22	100	190	91	120
0220-62	22	145	250	100	145
0300-32	30	145	250	100	140
0300-62	30	200	300	172	200
0370-32	37	145	250	100	140
0370-62	37	200	300	172	200
0450-32	45	200	300	172	200
0450-62	45	300	300	172	210
0550-32	55	200	300	172	200
0550-62	55	300	300	172	210
0900-32	90	280	400	180	210
0900-62	90	280	280	260	327

Accessories

Isolator ESH 22

Design
Shock-resistant metal casing, black switch with symbols 0 and I. Protection class IP65 or IP54, for surface mounting (see determination in the tabular).
The isolator is fitted with connection terminals that are very accessible and has a connection diagram glued in the casing.
All isolators are equipped with a coupling cover and an integrated locking mechanism. In some cases a padlock can be fitted to the rotary switch.

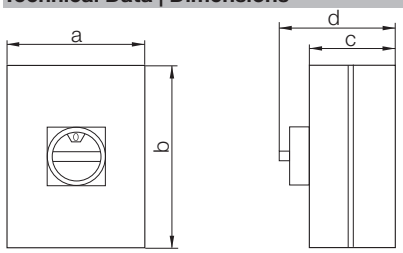
Function
The isolator disconnects the fan safely from the mains in the event of cleaning, maintenance or repair work on site and thus avoids accidents due to uncontrolled activation of the unit by third parties. It is no main switch or emergency switch.
All of the classified isolators are fitted with potential-free contacts (1 closer and 1 opener).
The isolators for motors with a built-in thermal contact have on principle three supplementary auxiliary contacts,so that the preswitched control device does not drop out during cleaning or servicing work due to motor.

Use
The isolator ESH22 with metal casing is necessary, if screened components must be used. (e.g. frequency inverters or control engineering devices are used featuring electronic components).

Attention!
Do not switch during operation, overvoltages can destroy the switch and the motor winding!

The isolators are grouped according to motor rated power. All important characteristic data are evident from the model designation.
E.g.: **ESH 22-0075-65** = 7.5kW switch, 6 main contacts, 5 auxiliary contacts.

Technical Data | Dimensions



ESH 22-	Permissible motor power kW	a mm	b mm	c mm	d mm	Cable lead-through (top)	Cable lead-through (bottom)
0075-32	7.5	122	120	120	120	2×PG21	2×PG21
0110-32	11	122	120	120	120	2×PG21	2×PG21
0150-32	15	180	180	130	130	2×PG21	2×PG21
0220-32	22	180	180	130	130	2×PG21	2×PG21
0300-32	30	230	280	150	150	2×PG29/1×PG16	2×PG29
0370-32	37	230	280	150	150	2×PG36/1×PG16	2×PG36
0075-62	7.5	180	180	130	130	1×PG29/1×PG16	2×PG29
0110-62	11	180	180	130	130	1×PG36/1×PG16	2×PG36
0150-62	15	230	280	150	150	2×PG36/1×PG16	2×PG36
0220-62	22	230	280	150	150	2×PG36/1×PG16	2×PG36
0300-62	30	230	280	150	150	2×PG36/1×PG16	2×PG36
0370-62	37	230	280	150	150	2×PG36/1×PG16	2×PG36
0055-35	5.5	180	180	100	100	2×PG21	2×PG21
0075-65	7.5	116	95	80	80	2×PG16	2×PG16
0075-95	7.5	116	95	80	80	2×PG16	2×PG16

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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