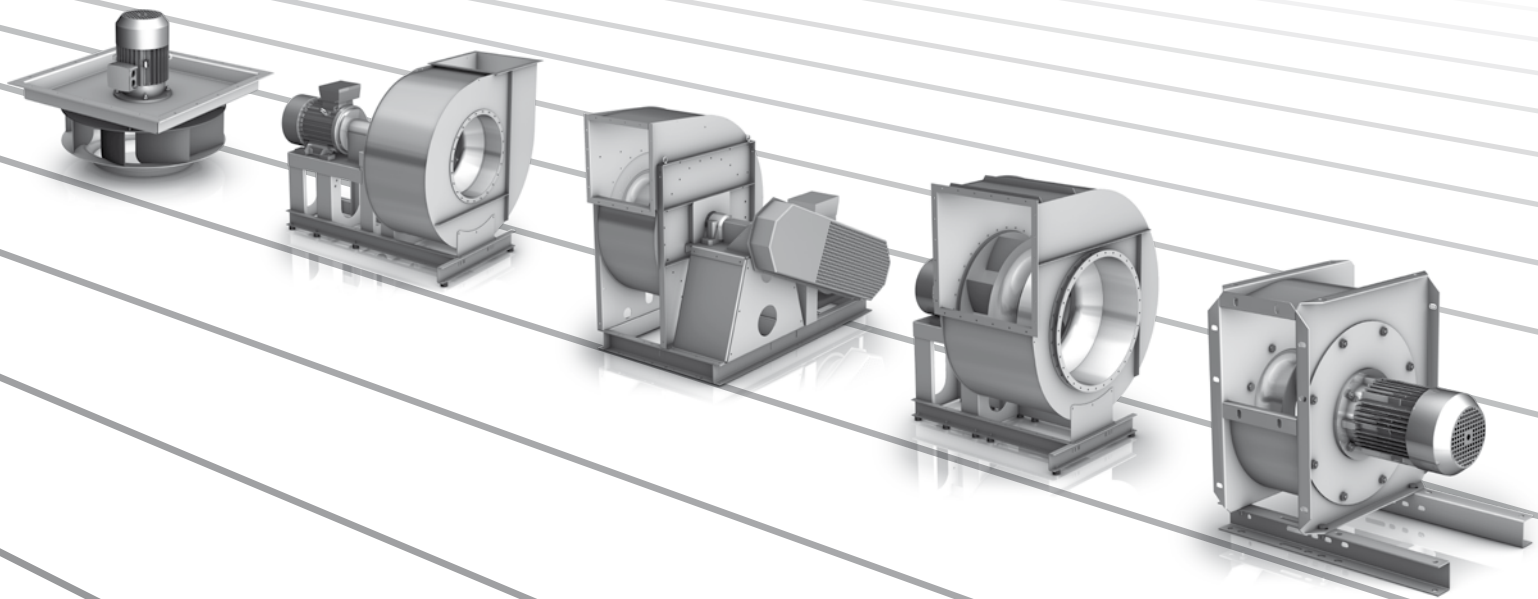


Industrial Process Fans

with or without housing
with direct drive or belt drive

Issue 1.1
June 2012



Nicotra Gebhardt – a strong partner

With more than 50 years of experience manufacturing fans, more than 1000 employees, and the most extensive product line on the market, we are among the most significant manufacturers of centrifugal fans.

Production facilities, subsidiaries, and representatives around the world are a prerequisite for close partnerships and guarantee proximity to customers.

Our own intensive research and development organisation, modern production, short response times, and fast and competent service have always been the important pillars of our success.

Use of process air fans

Process air fans are an important component of machines and plants. In these applications they assure functions that would not be possible without defined air movement. Of these specially developed, robust fans, there are several standard ranges and a number of customer-specific solutions.

Examples of ventilation technology processes

- ▶ Cooling *of generators...*
- ▶ Drying *agricultural products...*
- ▶ Ventilating *composting plants ...*
- ▶ Extracting *contaminated air from paint systems...*
- ▶ Circulating *hot air in industrial furnaces...*

Competent, fast, flexible

For more than 15 years we have been successfully active in the field of process air technology.

Specialists brought together in a separate business unit stand for competence, speed, and flexibility.

For example, as a partner for machine and plant engineering, with our fan solutions we are successful in the following industries:

- ▶ Printing and paper technology
- ▶ Dedusting engineering
- ▶ Rubber and plastic machines
- ▶ Industrial furnace construction
- ▶ Compressors
- ▶ Machine motors, steam boilers, and firing systems
- ▶ Locomotives and rail cars
- ▶ Machines for the food industry
- ▶ Surface technology
- ▶ Cleaning machines
- ▶ Special machine engineering
- ▶ Textile machines
- ▶ Drying technology
- ▶ Wind turbines

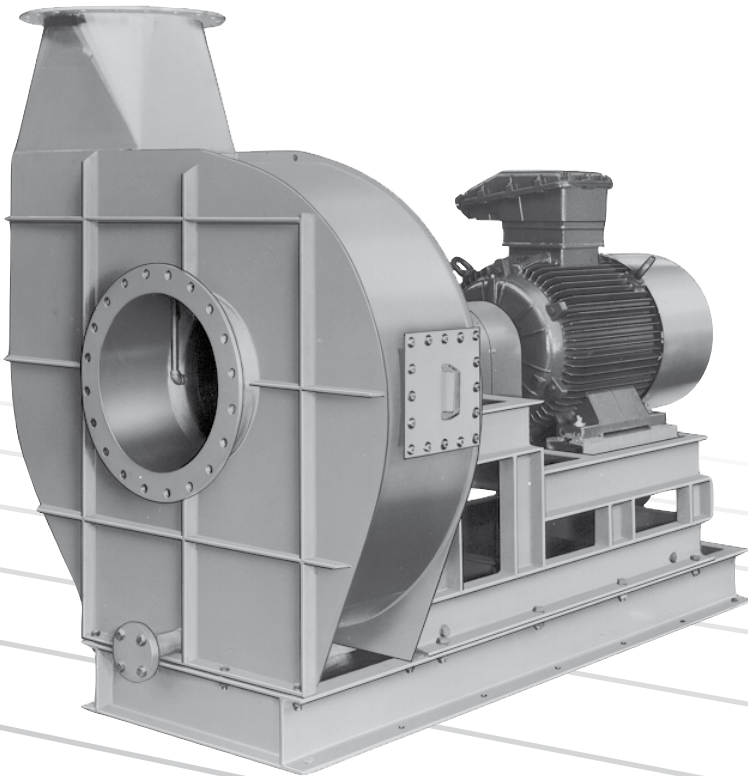


Solutions tailored to your requirements

Our products stand for the highest level of quality and reliability. The standard solutions can be easily configured with our electronic proSELECTA II selection program. You get complete documentation with data, dimensions, and prices. Moreover we can offer cost effective, modifications tailored to your needs.

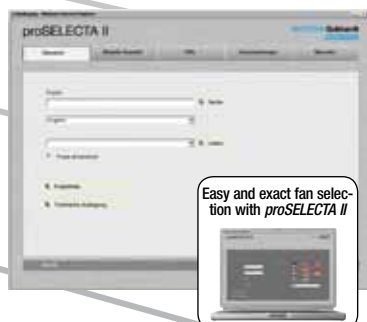
Our customers value the solution competence of our technicians. Our technicians support you in selecting the suitable fans and with engineering with the objective of ensuring optimal function, long service life, and low maintenance requirements at minimum costs. In this regard the level of consulting competence extends far beyond the usual level and also includes areas such as...

- ▶ The technical flow integration of the fan in the machine
- ▶ Minimisation of noise emission
- ▶ Minimum energy consumption
- ▶ Vibration considerations
- ▶ Solutions where installation space is at a premium



Customer-specific process air fans

In addition to the broad line of standardised centrifugal fans for ventilation and air-conditioning technology and process air technology, as well as the many variants that can be generated with our product line, Nicotra Gebhardt also has years of experience in the area of customer-specific fan solutions. If the requirement is appropriate even totally new developments are possible.



This brochure is designed to provide you with an overview of the process air fan product line, enable you to make pre-selections, and to supply an initial basis for planning. To precisely present all possibilities, technical details, and combinations would exceed the scope of this brochure.

With our proSELECTA II selection program, available at www.nicotra-gebhardt.com you can configure your fans on your own. Call us now to release access to this program. Naturally we can also configure fans for you.

We would be pleased to advise you: Phone +49 7942/101224

The program

- ▶ Robust industrial versions
- ▶ Long service life, easy to maintain
- ▶ High efficiency, quiet operation
- ▶ Custom solutions at series production prices
- ▶ Quality is certified and assured in accordance with ISO 9001
- ▶ Technical data measured as specified in DIN 24163
- ▶ Tolerance class 2 in accordance with DIN 24166
- ▶ 3D drawings for planning

P2M

Industrial Process Fans
with housing and direct drive



Spiral housing

Robust welded construction, Housing positions in 90° increments, Individual install position, Different levels of tightness, Suction-side connection DIN 24154-R4, Pressure-side connection DIN 24158-R4

Centrifugal impeller

Impeller diameter 280 to 900 mm, Backward-curved blades, Welded, Dust-repellent

Motor

Standard motor, B5 mounting, Maximum motor size 200

Materials

Coated steel, Hot-dip galvanised, Stainless steel 1.4307, Stainless steel 1.4571 on request

Medium

Media temperatures from -20 °C up to +300 °C

ATEX

Category 2 and 3; gas and dust

Extensive range of accessories

P4M / P4K

Industrial Process Fans
with housing and direct drive



Spiral housing

Robust welded construction, Housing positions in 45° increments, Different levels of tightness, Suction-side connection DIN 24154-R4, Pressure-side connection DIN 24158-R4

Centrifugal impeller

Impeller diameter 1000 to 1600 mm, Backward-curved blades, Welded Dust-repellent

Motor

Standard motor, B3 mounting, Maximum motor size 315 (type P4K: For motor size 280 and 315 also with coupling between motor and impeller)

Materials

Coated steel, Hot-dip galvanised, Stainless steel 1.4307, Stainless steel 1.4571 on request

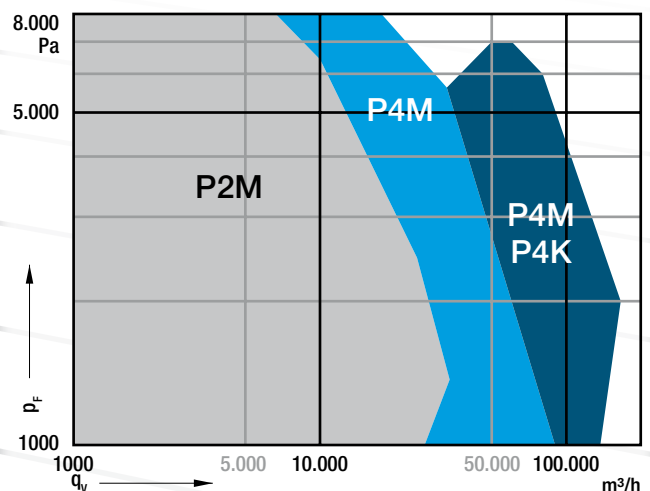
Medium

Media temperatures from -20 °C up to +300 °C

ATEX

Category 2 and 3; gas and dust

Extensive range of accessories



We would be pleased to advise you: Phone +49 7942/101224

Pre-selection, dimensions and accessories for P2M, P4M, and P4K, see page 6 to 9 ...

P4R

Industrial Process Fans
with housing and belt drive



Spiral housing

Robust welded construction, Housing positions in 45° increments, Different levels of tightness, Suction-side connection in accordance with DIN 24154-R4, Pressure-side connection in accordance with DIN 24158-R4, Compact subconstruction with bearing block, bearing, base frame and motor clamp fixture

Centrifugal impeller

Diameter 450 to 1600 mm, Backward-curved blades, Welded, Dust-repellent

Motor

Standard motor, B3 mounting, Maximum motor size 315

Materials

Coated steel, Hot-dip galvanised
Stainless steel 1.4307, Stainless steel 1.4571 on request

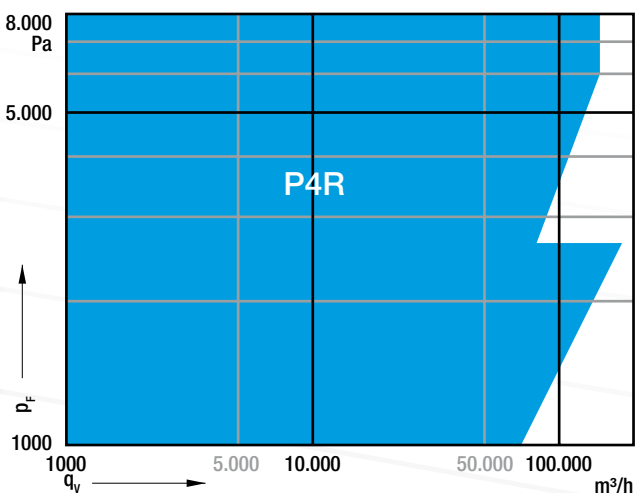
Medium

Media temperatures from -20 °C up to +300 °C

ATEX

Category 2 and 3; gas and dust

Extensive range of accessories



Pre-selection, dimensions and accessories, see page 10 to 13 ...

Q2M

Industrial Process Fans
without housing and direct drive



Built-in system

Flat mounting plate, Mounting frame, *thermlock50* Insulation, Inlet cone loose or attached

Centrifugal impeller

Diameter 280 to 1,400 mm, Backward-curved blades, Welded, Dust-repellent

Motor

Standard motor, B5 mounting to size 180, Standard motor, B3 mounting from size 200, Maximum motor size 315

Materials

Coated steel, Hot-dip galvanised,
Stainless steel 1.4307, Stainless steel 1.4571 on request

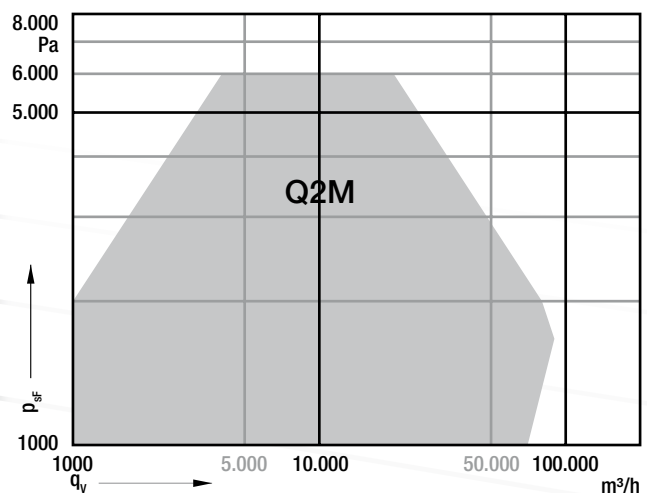
Medium

Media temperatures from -20 °C up to +500 °C,
Highly efficient thermal insulation *thermlock50*

ATEX

prepared for Category 2 and 3; gas and dust

Extensive range of accessories


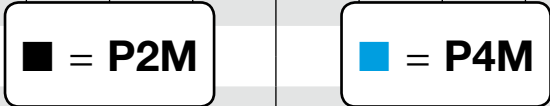


Pre-selection, dimensions and accessories, see page 14 to 17 ...

P2M / P4M / P4K

Industrial Process Fans with housing and direct drive

Pre-Selection

Pa	11200																		
	10000																		
	9000																		
8000			M8F2L 7,5-2	M8F2L 7,5-2	M8F2N 11-2	M8F2N 11-2	M7F2P 15-2	M7F2P 15-2	M7B2Q 18,5-2	M6B2R 22-2	M6B2R 22-2	M5B2T 30-2	N5M2W 45-2	N5M2W 45-2	N5M2W 45-2	N5F2X 55-2	N5F2X 55-2		
7100			M8M2K 5,5-2	M8M2L 7,5-2	M8M2L 7,5-2	M8M2L 7,51-2	M7M2N 11-2	M7M2P 15-2	M6F2Q 18,5-2	M6F2R 22-2	M6F2R 22-2	M6F2R 22-2	M5B2T 30-2	M5B2T 30-2	N5M2W 45-2	N5M2W 45-2	N5M2W 45-2		
6300			M8R2K 5,5-2	M8R2K 5,5-2	M8R2L 7,5-2	M8R2L 7,5-2	L6B2N 11-2	M6M2P 15-2	M6M2Q 18,5-2	M6M2Q 18,5-2	M6M2Q 18,5-2	M5F2R 22-2	M5F2R 22-2	M5F2R 22-2	M5B2T 30-2	N5M2W 45-2	N5M2W 45-2		
5600	K8B2F 2,2-2	K8B2H 3-2	K8B2H 3-2	K7B2J 4-2	K7B2K 5,5-2	L6F2N 11-2	L6F2N 11-2	M6R2P 15-2	M6R2P 15-2	M6R2P 15-2	M6R2Q 18,5-2	M6M2Q 18,5-2	L3F2R 22-2	M5M2R 22-2	M5B2T 30-2	M5B2T 30-2	N5M2W 45-2		
5000	K8F2F 2,2-2	K8F2F 2,2-2	K8F2H 3-2	K7F2J 4-2	K7F2K 5,5-2	K6B2L 7,5-2	K6B2L 7,5-2	L6M2N 11-2	M6R2P 15-2	M6R2P 15-2	M6R2Q 18,5-2	M6R2Q 18,5-2	M6R2Q 18,5-2	L3F2R 22-2	L3B2R 22-2	L3B2R 22-2	M5B2T 30-2		
4500	K8M2F 2,2-2	K8M2F 2,2-2	K7M2J 4-2	K6F2K 5,5-2	K6F2K 5,5-2	K6F2L 7,5-2	K6F2L 7,5-2	K6B2N 11-2	K3B2P 15-2	K3B2P 15-2	K3B2P 15-2	M6R2Q 18,5-2	M6R2Q 18,5-2	L3F2R 22-2	L3F2R 22-2	L3F2R 22-2	L3B2R 22-2		
4000	K8R2E 1,5-2	K8R2F 2,2-2	K8M2F 2,2-2	K7M2J 4-2	K7M2J 4-2	K6M2K 5,5-2	K5F2L 7,5-2	K5F2L 7,5-2	K5B2N 11-2	K5B2N 11-2	K5B2N 11-2	K3B2P 15-2	K3B2P 15-2	K3B2P 15-2	L3F2R 22-2	L3F2R 22-2	L3F2R 22-2		
3550	K8R2E 1,5-2	K8R2E 1,5-2	K8R2F 2,2-2	K8R2F 2,2-2	K8R2F 2,2-2	J6B2J 4-2	K6R2K 5,5-2	K5M2L 7,5-2	K5M2L 7,5-2	K5F2N 11-2	K5F2N 11-2	K5F2N 11-2	K5B2N 15-2	K3F2P 15-2	K3F2P 15-2	K3B2P 18,5-2	K1B2Q 18,5-2	L3F2R 22-2	
3150	H8B2D 1,1-2	H6B2F 2,2-2	H6B2F 2,2-2	K8R2F 2,2-2	J6F2J 4-2	J6F2J 4-2	K6R2K 5,5-2	K6R2L 7,5-2	K5M2L 7,5-2	K5M2L 7,5-2	K5F2N 11-2	K5F2N 11-2	K5B2N 11-2	K3F2P 15-2	K3F2P 15-2	K3B2P 15-2	K1B2Q 18,5-2		
2800	H8F2D 1,1-2	H8F2D 1,1-2	H6F2F 2,2-2	H6B2F 2,2-2	H6B2H 3-2	J6F2J 4-2	K6R2K 5,5-2	K6R2K 5,5-2	K6M2L 7,5-2	K3R2N 11-2	K5M2L 7,5-2	K3M2N 11-2	K3M2N 11-2	K5B2N 11-2	K3F2P 15-2	K3F2P 15-2	K3F2P 15-2	P3B4R 18,5-4	
2500	H8M2C 0,75-2	H6M2E 1,5-2	H6F2F 2,2-2	H6F2F 2,2-2	H6F2F 2,2-2	H6B2H 3-2	H3B2J 4-2	H3B2J 4-2	K3W2L 7,5-2	K3W2L 7,5-2	K3R2N 11-2	K3R2N 11-2	K3R2N 11-2	K3M2N 11-2	K3M2N 11-2	K3M2N 11-2	P3F4Q 15-4	P3F4Q 15-4	
2240	H8R2C 0,75-2	H6R2E 1,5-2	H6M2E 1,5-2	H6M2F 2,2-2	H6F2F 2,2-2	H6B2H 3-2	H3F2J 4-2	H3F2J 4-2	H3B2J 4-2	H1B2L 7,5-2	K3W2L 7,5-2	K3W2L 7,5-2	N3B4N 11-4	K3R2N 11-2	K3R2N 11-2	P3F4Q 15-4	P3F4Q 15-4		
2000	H8R2C 0,75-2	H8R2C 0,75-2	H6R2E 1,5-2	H6R2F 2,2-2	H6M2F 2,2-2	H3M2H 3-2	H3F2J 4-2	H3F2J 4-2	H3F2J 4-2	H3B2J 4-2	H1B2L 7,5-2	H1B2L 7,5-2	K3W2L 7,5-2	N3B4N 11-4	N3B4N 11-4	N3B4N 11-4	P3F4Q 15-4		
1800	F6B2C 0,75-2	F6B2C 0,75-2	H6R2E 1,5-2	H6R2F 2,2-2	H6R2F 2,2-2	H3R2H 3-2	H3M2H 3-2	M5B4J 4-4	H3F2J 4-2	H3F2J 4-2	H3B2J 4-2	H1B2L 7,5-2	H1B2L 7,5-2	N3F4N 11-4	N3F4N 11-4	K3M2N 11-2	N3B4N 11-4		
1600	F6F2C 0,75-2	F6F2C 0,75-2	F3B2E 1,5-2	F3B2E 1,5-2	H6R2F 2,2-2	H3R2H 3-2	H3R2H 3-2	H3M2H 3-2	M5B4J 4-4	M3B4K 5,5-4	M3B4K 5,5-4	H3B2J 4-2	M3B4K 5,5-4	H1B2L 7,5-2	N3F4N 11-4	N3F4N 11-4	N3F4N 11-4		
1400	F6M2C 0,75-2	F6M2C 0,75-2	F6B2D 1,1-2	F3F2D 1,1-2	F3B2E 1,5-2	F1B2F 2,2-2	H3W2F 2,2-2	H3R2H 3-2	H3M2H 3-2	M5B4J 4-4	M5B4J 4-4	M5B4J 4-4	M3F4K 5,5-4	M3B4K 5,5-4	M3B4K 5,5-4	N3M4M 7,5-4	M2B4M 7,5-4		
1250	F6R2B 0,55-2	F6R2B 0,55-2	F6F2D 1,1-2	F3F2D 1,1-2	F3F2D 1,1-2	F3B2E 1,5-2	F1B2F 2,2-2	H3W2F 2,2-2	H3R2H 3-2	H3M2H 3-2	M5B4J 4-4	M5B4J 4-4	M5B4J 4-4	M3F4K 5,5-4	H1B2L 7,5-2	M2B4M 7,5-4	M2B4M 7,5-4		
1120	F6W2B 0,55-2	F6R2B 0,55-2	F3M2D 1,1-2	F3M2D 1,1-2	F3F2D 1,1-2	F3F2D 1,1-2	F3B2E 1,5-2	H3W2F 2,2-2	H3W2F 2,2-2	H3R2H 3-2	M3M4J 4-4	M3M4J 4-4	L1B4J 4-4	M3B4K 5,5-4	M3B4K 5,5-4	M3B4K 5,5-4	N3M4M 7,5-4		
1000	D6B2A 0,37-2	F6W2B 0,55-2	F3R2C 0,75-2	F3R2C 0,75-2	F3M2D 1,1-2	F3F2D 1,1-2	K3B4F 1,5-4	F1B2F 2,2-2	H3W2F 2,2-2	H3W2F 2,2-2	M3M4J 4-4	M3M4J 4-4	M3M4J 4-4	L1B4J 4-4	L1B4J 4-4	M3F4K 5,5-4	M3B4K 5,5-4		
900	D6F2A 0,37-2	F3W2C 0,75-2	F3W2C 0,75-2	F3W2C 0,75-2	F3R2C 0,75-2	F3M2D 1,1-2	F3F2D 1,1-2	K3B4F 1,5-4	K1B4G 2,2-4	H3W2F 2,2-2	H3R2H 3-2	M3W4H 3-4	M3M4J 4-4	M3M4J 4-4	M3M4J 4-4	M3F4K 5,5-4	M3B4K 5,5-4		
800	D6M2A 0,37-2	D3B2A 0,37-2	F3W2C 0,75-2	F3W2C 0,75-2	F3W2C 0,75-2	F3R2C 0,75-2	F3F2D 1,1-2	K3F4F 1,5-4	K3B4F 1,5-4	K1B4G 2,2-4	K1B4G 2,2-4	M3W4H 3-4	M3W4H 3-4	L1B4J 4-4	L1B4J 4-4	L1B4J 4-4	M3F4K 5,5-4		
710	D6M2A 0,37-2	D3B2A 0,37-2	D3B2A 0,37-2	D1B2B 0,55-2	F3W2C 0,75-2	F3R2C 0,75-2	K3M4E 1,1-4	K3F4F 1,5-4	K3F4F 1,5-4	K3B4F 1,5-4	K1B4G 2,2-4	K1B4G 2,2-4	M3W4H 3-4	M3W4H 3-4	M3W4H 3-4	L1B4J 4-4	M3F4K 5,5-4		
600	H3B4C 0,55-4	H3B4C 0,55-4	H3B4C 0,55-4	H3B4C 0,55-4	D1B2B 0,55-2	F3W2C 0,75-2	F3M2D 1,1-2	K3M4E 1,1-4	J1B4F 1,5-4	K3F4F 1,5-4	K3B4F 1,5-4	K1B4G 2,2-4	K1B4G 2,2-4	M3W4H 3-4	M3W4H 3-4	M3M4J 4-4	L1B4J 4-4		
500	H3F4C 0,55-4	H3F4C 0,55-4	H3F4C 0,55-4	D3B2A 0,55-4	H3B4C 0,55-2	H3B4C 0,55-4	H1B4D 0,55-4	K3M4E 1,1-4	K3M4E 1,1-4	K3M4E 1,1-4	K3F4F 1,5-4	K3B4F 1,5-4	K1B4G 2,2-4	K1B4G 2,2-4	M3W4H 3-4	M3M4J 4-4	L1B4J 4-4		
400	H3M4B 0,37-4	H3M4B 0,37-4	H3M4B 0,37-4	H3M4B 0,37-4	H3B4C 0,55-4	H3B4C 0,55-4	H3B4C 0,55-4	H1B4D 0,75-4	K3M4E 1,1-4	K3M4E 1,1-4	K3M4E 1,1-4	K3B4F 1,5-4	K1B4G 2,2-4	K1B4G 2,2-4	K1B4G 2,2-4	M3W4H 3-4	L1B4J 4-4		
m³/h	400	800	1250	1600	2000	2500	3150	4000	5000	5600	6300	7100	8000	9000	10000	12500	14000		
m³/min	7	13	21	27	33	42	53	67	83	93	105	118	133	150	167	208	233		
m³/s	0,11	0,2	0,35	0,45	0,56	0,7	0,9	1	1,4	1,6	1,75	2	2,25	2,5	2,8	3,5	4		
	Volume flow q _v																		

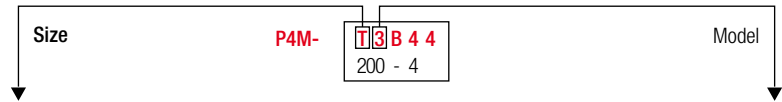
The specification is on page 4
See pages 8 and 9 for dimensions and accessories ...

P2M / P4M / P4K

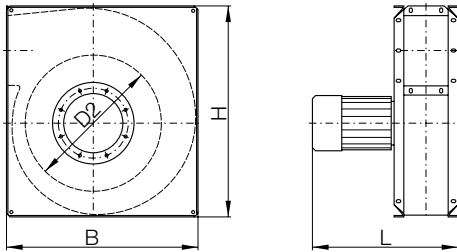
Industrial Process Fans with housing and direct drive

Main Dimensions in mm, subject to change.

The dimensions can be determined from the Pre-Selection, as follows:

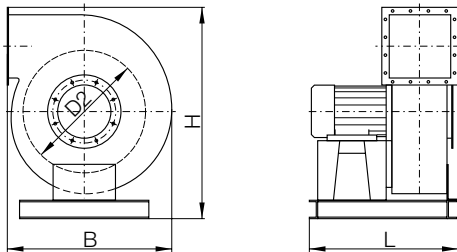


P2M



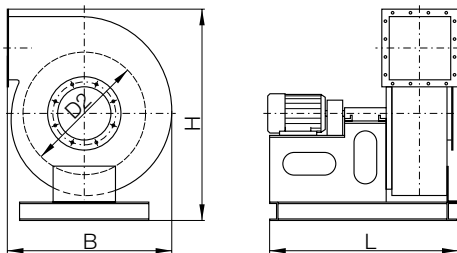
Size P2M-	Impeller Ø D2	B	H	L _{max} for model							
				1	2	3	5	6	7	8	
D	282	412	446	630	-	590	-	500	-	-	-
F	355	511	557	790	-	730	-	620	-	-	-
H	447	634	697	960	-	890	-	750	-	680	-
J	501	710	777	1010	-	930	-	770	-	-	-
K	562	790	871	1240	-	1150	1020	970	930	880	-
L	631	884	973	1290	1240	1190	-	990	-	-	-
M	708	986	1092	1360	1290	1240	1070	1010	970	900	-
N	794	1115	1221	1440	1370	1310	-	-	-	920	-
P	891	1245	1360	1510	-	1370	-	-	-	-	-

P4M



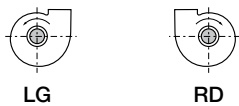
Size P4M-	Impeller Ø D2	B	H	L _{max} for model		
				1	3	
Q	1000	1490	1940	1610	1450	
R	1122	1670	2150	1720	1540	
S	1258	1860	2410	2020	1820	
T	1413	2080	2680	2140	1920	
U	1585	2340	3000	2290	2020	

P4K



Size P4K-	Impeller Ø D2	B	H	L _{max} for model	
				1	3
R	1122	1670	2150	2650	2470
S	1258	1860	2410	2910	2700
T	1413	2080	2680	3030	2800
U	1585	2340	3000	3180	2910

Housing Position and Rotation



Direction of rotation

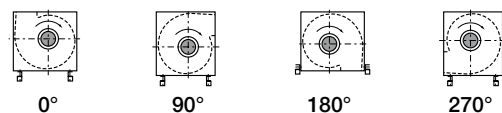
The direction of rotation is determined with viewing direction toward the drive side (motor):

LG = anticlockwise.

RD = clockwise.

LG and RD are available.

P2M

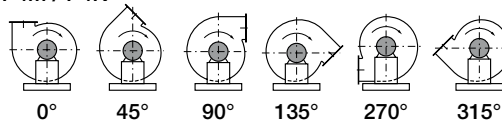


Housing positions

The housing positions of the P2M are possible in 90° increments for the following positions:

0°, 90°, 180° and 270° (see Fig.)

P4M / P4K



The housing positions of the P4M and P4K are possible in 45° increments for the following positions:

0°, 45°, 90°, 135°, 270° and 315° (see Fig.)

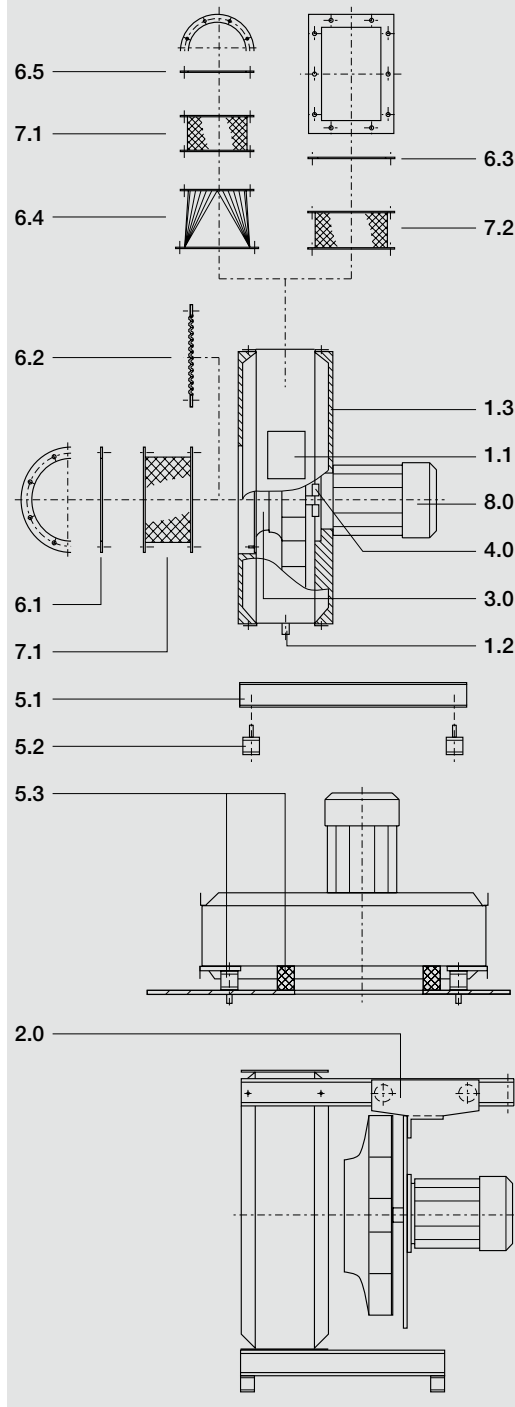
Housing positions 180° and 225° on request.

The specification is on page 4
See pages 6 and 7 for pre-selection ...

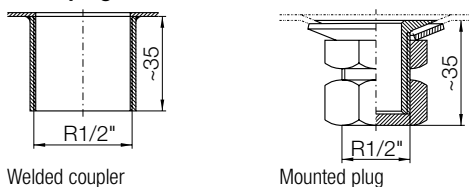
P2M / P4M / P4K

Industrial Process Fans with housing and direct drive

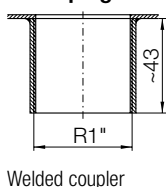
Accessories and Fittings



Drain plug for P2M



Drain plug for P4M/P4K



1.0 Housing fittings

1.1 Inspection door

also available as a sealed door.

1.2 Drain plug

P2M: Steel intake duct, R 1/2" external thread, seal plug.
 P2M: Welded stainless steel coupler 1.4307, R 1/2" internal thread.
 P4M/P4K: Welded coupler in steel or stainless steel 1.4307, R 1" internal thread.

1.3 Acoustic insulation, thermal insulation

2.0 Maintenance aid (only P2M)

Motor impeller unit can be pulled out on the motor side if there is a horizontal axis. For set-up with vibration dampers, mounting rails are required (see 5. Set-up systems).

3.0 Explosion protection

as specified in ATEX Category 2 or 3; gas or dust.

4.0 Sealing systems

Housing

- Housing welded watertight and sealed (standard for stainless steel material).
 An absolute seal cannot be achieved.

Shaft

- Stainless steel shaft seal to 300 °C (standard for stainless steel housing and fans for media temperatures >100 °C).
 - Shaft seal and aerodynamic seal (impeller back side blades).
 - Shaft seal and V-ring seal, to +200 °C.
 - Shaft seal and V-ring seal and water deflector, to +200 °C.

5.0 Set-up systems

5.1 Mounting rails Steel-coated, mounted, available for P2M.

Base frame is included in the standard scope of supply for P4M and P4K.

5.2 Vibration dampers

P2M: One set of rubber vibration dampers with two mounting rails (5.1).
 P4M/P4K: One set rubber vibration dampers.
 Spring vibration dampers available on request.

5.3 Mounting set for horizontal installation (only P2M)

For insulation of structure-borne noise, connection of fan intake and plant for minimum height and minimum costs. Suitable to +80 °C.

Includes: - 1 pc. vibration seal
 - 4 pc. rubber vibration dampers with foot plates

6.0 Connection element, rigid

6.1 Mating flange suction-side in accordance with DIN 24154-R4.

6.2 Protective intake grille chrome-plated.

6.3 Mating flange pressure-side in accordance with DIN 24158-R4.

6.4 Transition piece rectangular to round DIN 24154, R4 welded-on.

6.5 Mating flange for transition piece in accordance with DIN 24154-R4.

6.6 Screws / seals

1 set for connection of a connecting element / flexible connection.

7.0 Connecting element, flexible

7.1 Flexible connection round, suction-side or for the pressure-side transition piece.

7.2 Flexible connection rectangular, pressure side, also watertight.

7.3 Baffle round and rectangular, internal

Protects sleeve if there is negative pressure and protects against particles

8.0 Drives

Motor

PTC thermistor temperature sensor, other numbers of contacts, protection classes, heat classes, voltages, frequencies, EEx e.

Thermal barrier

on the shaft passage, at media temperatures in excess of +100 °C

We would be pleased to advise you: Phone +49 7942/101224

P4R

Industrial Process Fans with housing and belt drive

Pre-Selection

Pa	8000	H3B-315 20	H3B-315 21	H3B-315 22	H3B-315 22	H3B-315 23	H3B-315 24	H3B-315 25	H3B-315 27	J3B-355 31	J3B-355 34	K3B-400 39	K3B-400 42	L3B-450 49	L3B-450 53	M3B-500 61	M3B-500 66	N3B-560 77
	7100	H3B-315 17	H3B-315 18	H3B-315 18	H3B-315 19	H3B-315 20	H3B-315 21	H3B-315 22	H3B-315 24	J3B-355 27	J3B-355 30	K3B-400 33	K3B-400 36	L3B-450 43	L3B-450 46	M3B-500 53	M3B-500 57	N3B-560 66
	6300	H3B-315 14	H3B-315 15	H3B-315 16	H3B-315 16	H3B-315 17	H3B-315 18	H3B-315 19	H3B-315 21	J3B-355 24	J3B-355 26	K3B-400 29	K3B-400 32	L3B-450 37	L3B-450 41	M3B-500 46	M3B-500 51	N3B-560 58
	5600	H3B-315 12	H3B-315 13	H3B-315 13	H3B-315 14	H3B-315 14	H3B-315 15	H3B-315 17	H3B-315 19	J3B-355 21	J3B-355 23	K3B-400 25	K3B-400 28	L3B-450 33	L3B-450 36	M3B-500 40	M3B-500 45	N3B-560 51
	5000	H3B-315 10	H3B-315 11	H3B-315 11	H3B-315 12	H3B-315 12	H3B-315 13	H3B-315 15	H3B-315 17	J3B-355 18	J3B-355 21	K3B-400 23	K3B-400 26	L3B-450 29	L3B-450 33	M3B-500 36	M3B-500 37	N3B-560 45
	4500	H3B-315 9	H3B-315 9	H3B-315 10	H3B-315 10	H3B-315 11	H3B-315 12	H3B-315 13	H3B-315 15	J3B-355 17	J3B-355 18	K3B-400 20	K3B-400 23	L3B-450 26	L3B-450 29	M3B-500 32	M3B-500 36	N3B-560 40
	4000	H3B-315 8	H3B-315 8	H3B-315 9	H3B-315 9	H3B-315 10	H3B-315 11	H3B-315 12	H3B-315 13	J3B-355 15	J3B-355 16	K3B-400 19	K3B-400 20	L3B-450 23	L3B-450 26	M3B-500 29	M3B-500 32	N3B-560 36
	3550	H3B-315 7	H3B-315 7	H3B-315 7	H3B-315 8	H3B-315 8	H3B-315 11	H3B-315 12	H3B-315 13	J3B-355 15	J3B-355 16	K3B-400 18	K3B-400 21	L3B-450 21	L3B-450 24	M3B-500 26	M3B-500 30	N3B-560 32
	3150	H3B-315 6	H3B-315 6	H3B-315 6	H3B-315 7	J3B-355 8	J3B-355 8	K3B-400 10	K3B-400 10	L3B-450 12	L3B-450 13	M3B-500 15	M3B-500 16	N3B-560 19	N3B-560 21	P3B-630 24	P3B-630 26	Q3B-710 30
	2800	H3B-315 5	H3B-315 5	H3B-315 5	H3B-315 6	J3B-355 7	J3B-355 7	K3B-400 8	K3B-400 9	L3B-450 11	L3B-450 12	M3B-500 13	M3B-500 14	N3B-560 17	N3B-560 18	P3B-630 21	P3B-630 23	Q3B-710 26
	2500	H1B-400 6	H1B-400 6	H1B-400 6	H1B-400 6,5	H1B-400 7	H1B-400 7,5	H1B-400 8	H1B-400 9	H1B-400 10	J1B-450 11	J1B-450 12	J1B-450 14	J1B-450 16	K1B-500 18	K1B-500 20	L1B-560 22	L1B-560 25
	2240	H1B-400 5	H1B-400 5	H1B-400 5,5	H1B-400 6	H1B-400 6	H1B-400 6,5	H1B-400 7	H1B-400 8	H1B-400 9	J1B-450 10	J1B-450 11	J1B-450 12	J1B-450 14	K1B-500 16	K1B-500 18	L1B-560 20	L1B-560 22
	2000	H1B-400 4,5	H1B-400 4,5	H1B-400 5	H1B-400 5	H1B-400 5,5	H1B-400 6	H1B-400 6,5	H1B-400 7	H1B-400 8	J1B-450 9	J1B-450 10	J1B-450 11	J1B-450 13	K1B-500 14	K1B-500 16	L1B-560 18	L1B-560 20
	1800	H1B-400 4	H1B-400 4	H1B-400 4	H1B-400 4,5	H1B-400 5	H1B-400 5	H1B-400 5,5	H1B-400 6	H1B-400 7	J1B-450 8	J1B-450 9	J1B-450 10	K1B-500 11	K1B-500 13	L1B-560 14	L1B-560 16	M1B-630 18
	1600	H1B-400 3	H1B-400 3	H1B-400 3,5	H1B-400 4	H1B-400 4	H1B-400 4,5	H1B-400 5	H1B-400 6	H1B-400 6,5	J1B-450 7	J1B-450 8	J1B-450 9	K1B-500 10	K1B-500 11	L1B-560 13	L1B-560 14	M1B-630 16
	1400	H1B-400 3	H1B-400 3	H1B-400 3	H1B-400 3,5	H1B-400 4	H1B-400 4	H1B-400 4,5	H1B-400 5	H1B-400 5,5	J1B-450 6,5	J1B-450 7	J1B-450 8	K1B-500 9	K1B-500 10	L1B-560 11	L1B-560 12	M1B-630 14
	1250	H1B-400 2	H1B-400 2,5	H1B-400 3	H1B-400 3	H1B-400 3,5	H1B-400 3,5	H1B-400 4	H1B-400 4,5	H1B-400 5	J1B-450 6	J1B-450 6	J1B-450 7	K1B-500 8	K1B-500 9	L1B-560 10	L1B-560 11	M1B-630 12
	1120	H1B-400 2	H1B-400 2	H1B-400 2,5	H1B-400 2,5	H1B-400 3	H1B-400 3	H1B-400 3,5	H1B-400 4	H1B-400 4,5	J1B-450 5	J1B-450 5,5	J1B-450 6	K1B-500 7	K1B-500 8	L1B-560 9	L1B-560 10	M1B-630 11
	1000	H1B-400 2	H1B-400 2	H1B-400 2	H1B-400 2,5	H1B-400 2,5	H1B-400 3	H1B-400 3,5	H1B-400 3,5	H1B-400 4	J1B-450 4,5	J1B-450 5	J1B-450 5,5	K1B-500 6,5	K1B-500 7	L1B-560 8	L1B-560 9	M1B-630 10
	900	H1B-400 1,5	H1B-400 2	H1B-400 2	H1B-400 2	H1B-400 2,5	H1B-400 2,5	H1B-400 3	H1B-400 3	H1B-400 3,5	J1B-450 4	J1B-450 4,5	J1B-450 5	K1B-500 6	K1B-500 6,5	L1B-560 7	L1B-560 8	M1B-630 9
800	H1B-400 1,5	H1B-400 1,5	H1B-400 2	H1B-400 2	H1B-400 2	H1B-400 2,5	H1B-400 2,5	H1B-400 3	H1B-400 3	J1B-450 3,5	J1B-450 4	J1B-450 4,5	K1B-500 5	K1B-500 6	L1B-560 6,5	L1B-560 7	M1B-630 8	
710	H1B-400 1	H1B-400 1,5	H1B-400 1,5	H1B-400 2	H1B-400 2	H1B-400 2	H1B-400 2,5	H1B-400 2,5	H1B-400 3	J1B-450 3	J1B-450 3	J1B-450 3,5	K1B-500 4	K1B-500 4,5	L1B-560 5	L1B-560 5,5	M1B-630 6	
600	H1B-400 1	H1B-400 1	H1B-400 1,5	H1B-400 1,5	H1B-400 1,5	H1B-400 2	H1B-400 2	H1B-400 2	H1B-400 2,5	J1B-450 2,5	J1B-450 2,5	J1B-450 3	K1B-500 4	K1B-500 4	L1B-560 4,5	L1B-560 5	M1B-630 6	
500	H1B-400 1	H1B-400 1	H1B-400 1	H1B-400 1,5	H1B-400 1,5	H1B-400 1,5	H1B-400 2	H1B-400 2	H1B-400 2	J1B-450 2,5	J1B-450 2,5	J1B-450 3	K1B-500 4	K1B-500 4	L1B-560 4	L1B-560 4,5	M1B-630 5	
400	H1B-400 0,5	H1B-400 1	H1B-400 1	H1B-400 1	H1B-400 1	H1B-400 1,5	H1B-400 1,5	H1B-400 1,5	H1B-400 2	J1B-450 2	J1B-450 2	J1B-450 2	K1B-500 2,5	K1B-500 3	L1B-560 3	L1B-560 3	M1B-630 4	
m³/h	4000	4500	5000	5600	6300	7100	8000	9000	10000	11200	12500	14000	16000	18000	20000	22400	25000	
m³/min	67	75	83	93	105	118	133	150	167	187	208	233	267	300	333	373	417	
m³/s	1,11	1,25	1,40	1,56	1,75	2	2,22	2,5	2,8	3,11	3,5	3,9	4,44	5	5,56	6,22	7	

Volume flow q_v

The specification is on page 4
See pages 12 and 13 for dimensions and accessories ...

$\rho_1 = 1.20 \text{ kg/m}^3$

N3B-560	P3B-630	P3B-630	Q3B-710	Q3B-710	R3B-800	R3B-800	S3B-900	S3B-900	T3B-1000	T3B-1000	U3B-1120	U3B-1120				
82	97	104	121	130	152	163	191	206	242	261	284	315				
N3B-560	P3B-630	P3B-630	Q3B-710	Q3B-710	R3B-800	R3B-800	S3B-900	S3B-900	T3B-1000	T3B-1000	U3B-1120	U3B-1120				
72	84	91	105	114	131	143	166	181	210	228	259	282				
N3B-560	P3B-630	P3B-630	Q3B-710	Q3B-710	R3B-800	R3B-800	S3B-900	S3B-900	T3B-1000	T3B-1000	U3B-1120	U3B-1120				
63	73	80	91	100	114	125	144	159	182	200	226	248				
N3B-560	P3B-630	P3B-630	Q3B-710	Q3B-710	R3B-800	R3B-800	S3B-900	S3B-900	T3B-1000	T3B-1000	U3B-1120	U3B-1120				
56	64	71	80	89	100	111	127	140	160	178	199	219				
P3B-630	P3B-630	Q3B-710	Q3B-710	R3B-800	R3B-800	S3B-900	S3B-900	T3B-1000	T3B-1000	U3B-1120	U3B-1120					
50	56	63	71	81	89	102	112	129	142	162	176					
P3B-630	P3B-630	Q3B-710	Q3B-710	R3B-800	R3B-800	S3B-900	S3B-900	T3B-1000	T3B-1000	U3B-1120	U3B-1120					
46	51	57	64	72	80	90	100	114	127	144	157					
P3B-630	Q3B-710	Q3B-710	R3B-800	R3B-800	S3B-900	S3B-900	T3B-1000	T3B-1000	U3B-1120	U3B-1120						
40	46	50	58	64	72	80	92	101	115	127						
Q3B-710	Q3B-710	R3B-800	R3B-800	S3B-900	S3B-900	T3B-1000	T3B-1000	U3B-1120	U3B-1120							
37	40	47	51	59	64	74	80	92	100							
Q3B-710	R3B-800	R3B-800	S3B-900	S3B-900	T3B-1000	T3B-1000	U3B-1120	U3B-1120								
32	38	40	47	52	60	64	74	80								
Q3B-710	R3B-800	R3B-800	S3B-900	S3B-900	T3B-1000	T3B-1000	U3B-1120	U3B-1120								
28	33	36	42	45	52	56	65	70								
M1B-630	M1B-630	N1B-710	N1B-710	P1B-800	P1B-800	Q1B-900	Q1B-900	R1B-1000	R1B-1000	S1B-1120	S1B-1120	T1B-1250	T1B-1250	U1B-1400	U1B-1400	
27	32	34	40	44	50	55	62	69	80	87	99	108	123	136	159	
M1B-630	N1B-710	N1B-710	P1B-800	P1B-800	Q1B-900	Q1B-900	R1B-1000	R1B-1000	S1B-1120	S1B-1120	T1B-1250	T1B-1250	U1B-1400	U1B-1400		
25	27	31	35	40	45	49	55	62	69	79	86	97	108	122		
M1B-630	N1B-710	N1B-710	P1B-800	P1B-800	Q1B-900	Q1B-900	R1B-1000	R1B-1000	S1B-1120	S1B-1120	T1B-1250	T1B-1250	U1B-1400	U1B-1400		
22	24	28	31	36	39	44	49	56	62	72	77	88	96	111		
N1B-710	N1B-710	P1B-800	P1B-800	Q1B-900	Q1B-900	R1B-1000	R1B-1000	S1B-1120	S1B-1120	T1B-1250	T1B-1250	U1B-1400	U1B-1400			
20	22	25	28	32	35	39	45	50	56	62	70	78	87			
N1B-710	N1B-710	P1B-800	P1B-800	Q1B-900	Q1B-900	R1B-1000	R1B-1000	S1B-1120	S1B-1120	T1B-1250	T1B-1250	U1B-1400	U1B-1400			
17	20	22	25	28	32	35	40	44	51	56	63	69	78			
N1B-710	P1B-800	P1B-800	Q1B-900	Q1B-900	R1B-1000	R1B-1000	S1B-1120	S1B-1120	T1B-1250	T1B-1250	U1B-1400	U1B-1400				
15	17	19	22	25	27	31	34	39	43	50	53	61				
N1B-710	P1B-800	P1B-800	Q1B-900	Q1B-900	R1B-1000	R1B-1000	S1B-1120	S1B-1120	T1B-1250	T1B-1250	U1B-1400	U1B-1400				
14	15	18	20	23	24	28	30	35	39	44	48	54				
P1B-800	P1B-800	Q1B-900	Q1B-900	R1B-1000	R1B-1000	S1B-1120	S1B-1120	T1B-1250	T1B-1250	U1B-1400	U1B-1400					
12	14	15	17	20	22	25	27	31	35	39	43					
P1B-800	P1B-800	Q1B-900	Q1B-900	R1B-1000	R1B-1000	S1B-1120	S1B-1120	T1B-1250	T1B-1250	U1B-1400	U1B-1400					
11	12	14	16	18	20	22	25	28	32	35	40					
P1B-800	Q1B-900	Q1B-900	R1B-1000	R1B-1000	S1B-1120	S1B-1120	T1B-1250	T1B-1250	U1B-1400	U1B-1400						
10	11	12	14	16	18	20	22	25	28	31						
P1B-800	Q1B-900	Q1B-900	R1B-1000	R1B-1000	S1B-1120	S1B-1120	T1B-1250	T1B-1250	U1B-1400	U1B-1400						
9	10	11	12	14	16	18	19	22	24	28						
Q1B-900	Q1B-900	R1B-1000	R1B-1000	S1B-1120	S1B-1120	T1B-1250	T1B-1250	U1B-1400	U1B-1400							
8	9	10	11	13	14	15	17	19	22							
Q1B-900	R1B-1000	R1B-1000	S1B-1120	S1B-1120	T1B-1250	T1B-1250	U1B-1400	U1B-1400								
6,5	7	8	9	10	11	13	15	16	19							
Q1B-900	R1B-1000	R1B-1000	S1B-1120	S1B-1120	T1B-1250	T1B-1250	U1B-1400	U1B-1400								
6	6	7	8	9	10	11	12	15								
R1B-1000	R1B-1000	S1B-1120	S1B-1120	T1B-1250	T1B-1250	U1B-1400	U1B-1400									
4	5	5,5	6	7	8	9	10									
28000	31500	35500	40000	45000	50000	56000	63000	71000	80000	90000	100000	112000	125000	140000	160000	180000
467	525	592	667	750	833	933	1050	1183	1333	1500	1667	1867	2083	2333	2667	3000
7,8	8,75	10	11,2	12,5	14	15,5	17,5	20	22	25	28	31	35	39	45	50



Easy and exact fan selection with proSELECTA II

How to quickly get the desired result.
 For example:
 ~100.000 m³/h and ~1.000 Pa.
 In the Pre-Selection you will find:

U1B 1400
40

app. shaft power in kW Nominal size Intake

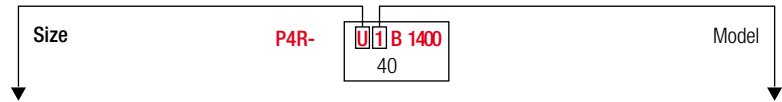
Type designation: **P4R-U1B-1400**
Dimensions see page 12

P4R

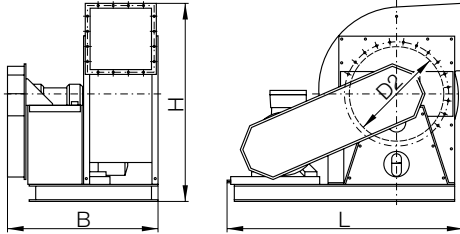
Industrial Process Fans with housing and belt drive

Main Dimensions in mm, subject to change.

The dimensions can be determined from the Pre-Selection, as follows:

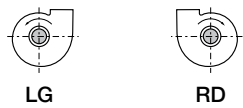


P4R



Size P4R-	Impeller Ø D2	L _{max}	H _{max}	B _{max} for model 1	3
H	447	1200	880	980	900
J	501	1270	950	1030	960
K	562	1460	1100	1090	1000
L	631	1560	1220	1200	1100
M	708	1650	1350	1290	1170
N	794	1780	1500	1400	1270
P	891	2050	1700	1520	1370
Q	1000	2150	1900	1620	1450
R	1122	2670	2150	1650	1430
S	1258	2800	2410	1820	1560
T	1413	2950	2680	1940	1700
U	1585	3060	3000	2190	1920

Housing Position and Rotation



Direction of rotation

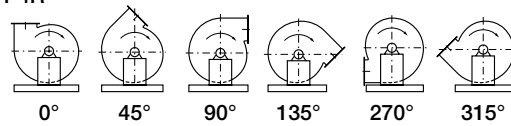
The direction of rotation is determined with viewing direction toward the drive side (motor):

LG = anticlockwise.

RD = clockwise.

LG and RD are available.

P4R



Housing positions

The housing positions of the P4R are possible in 45° for the following positions:

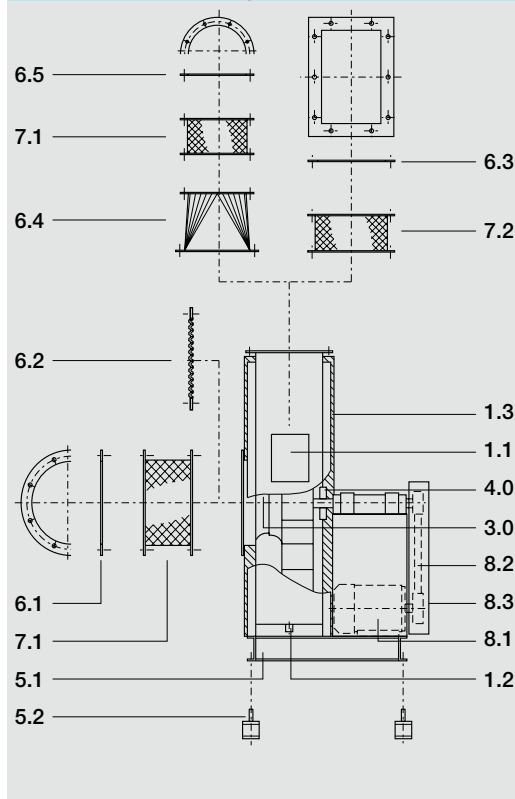
0°, 45°, 90°, 135°, 270° and 315° (see Fig.)

Housing settings 180° and 225° on request.

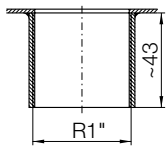
P4R

Industrial Process Fans with housing and belt drive

Accessories and Fittings



Drain plug for P4R



Welded coupler

1.0 Housing fittings

1.1 Inspection door

also available as a sealed door.

1.2 Drain plug

Welded coupler of steel or stainless steel 1.4307, R 1" internal thread.

1.3 Acoustic insulation, thermal insulation

3.0 Explosion protection

In accordance with ATEX Category 2 or 3; gas or dust.

4.0 Sealing systems

Housing

- Housing welded watertight and sealed (standard for stainless steel material).
An absolute seal cannot be achieved.

Shaft

- Stainless steel shaft seal to 300 °C (standard for stainless steel housing and fans for media temperatures >100 °C).
- Shaft seal and aerodynamic seal (impeller back side blades).
- Shaft seal and V-ring seal, to 200 °C.
- Shaft seal and V-ring seal and water deflector, to +200 °C.

5.0 Set-up systems

5.1 Base frame

Included in the standard scope of delivery.

5.2 Vibration dampers

One set of vibration dampers. Spring vibration dampers available on request.

6.0 Connection element, rigid

6.1 Mating flange suction-side in accordance with DIN 24154-R4.

6.2 Protective intake grille chrome-plated.

6.3 Mating flange pressure-side in accordance with DIN 24158-R4.

6.4 Transition piece rectangular to round DIN 24154, R4 welded-on.

6.5 Mating flange for transition piece in accordance with DIN 24154-R4.

6.6 Screws / seals

1 set for connection of a connecting element / flexible connection.

7.0 Connecting element, flexible

7.1 Flexible connection round, suction-side or for the pressure-side transition piece.

7.2 Flexible connection rectangular, pressure side, also watertight.

7.3 Baffle round and rectangular, internal

Protects sleeve if there is negative pressure and protects against particles

8.0 Drives

8.1 Motor

PTC thermistor temperature sensor, other numbers of contacts, protection classes, thermal classes, voltages, frequencies, EEx e.

8.2 Belt drive

8.3 Belt guard

8.4 Thermal barrier

On the shaft passage for media temperatures over +100 °C

Q2M

Industrial Process Fans without housing, with direct drive

Pre-Selection



5600															M5F2T	M5F2T	M5F2T	M5F2T	M5F2T	M3B2W	M3B2W
5000															30-2	30-2	30-2	30-2	30-2	45-2	45-2
4500															L5B2Q	L5B2Q	L5B2Q	L5B2Q	L5B2Q	L5B2Q	L5B2Q
4000															18,5-2	18,5-2	18,5-2	18,5-2	18,5-2	18,5-2	18,5-2
3550															L5F2Q	L5F2Q	L5F2Q	L5F2Q	L5F2Q	L5B2Q	L3B2T
3150															18,5-2	18,5-2	18,5-2	18,5-2	18,5-2	30-4	30-4
2800															K5B2N	K5B2N	K5B2N	K5B2N	K5B2N	K5B2N	L3B2T
2500															11-2	11-2	11-2	11-2	11-2	18,5-2	30-2
2240															K5F2N	K5F2N	K5F2N	K5F2N	K5F2N	K5B2N	L3B2T
2000															11-2	11-2	11-2	11-2	11-2	18,5-2	30-2
1800															K5B2N	K5B2N	K5B2N	K5B2N	K5B2N	K5B2N	L3B2T
1600															11-2	11-2	11-2	11-2	11-2	18,5-2	30-2
1400															K5F2N	K5F2N	K5F2N	K5F2N	K5F2N	K5B2N	L3B2T
1250															11-2	11-2	11-2	11-2	11-2	18,5-2	30-2
1120															K5B2N	K5B2N	K5B2N	K5B2N	K5B2N	K5B2N	L3B2T
1000															11-2	11-2	11-2	11-2	11-2	18,5-2	30-2
900															K5F2N	K5F2N	K5F2N	K5F2N	K5F2N	K5B2N	L3B2T
800															11-2	11-2	11-2	11-2	11-2	18,5-2	30-2
710															K5B2N	K5B2N	K5B2N	K5B2N	K5B2N	K5B2N	L3B2T
630															11-2	11-2	11-2	11-2	11-2	18,5-2	30-2
500															K5F2N	K5F2N	K5F2N	K5F2N	K5F2N	K5B2N	L3B2T
400															11-2	11-2	11-2	11-2	11-2	18,5-2	30-2
320															K5B2N	K5B2N	K5B2N	K5B2N	K5B2N	K5B2N	L3B2T
250															11-2	11-2	11-2	11-2	11-2	18,5-2	30-2
200															K5F2N	K5F2N	K5F2N	K5F2N	K5F2N	K5B2N	L3B2T
m³/h	500	630	800	1000	1250	1600	2000	2240	2500	2800	3150	3550	4000	4500	5000	5600	6300	7100	8000	9000	
m³/min	8	11	13	17	21	27	33	37	42	47	53	59	67	75	83	93	105	118	133	150	
m³/s	0,14	0,18	0,22	0,28	0,36	0,45	0,56	0,63	0,71	0,8	0,9	1	1,12	1,25	1,4	1,6	1,8	2	2,24	2,5	

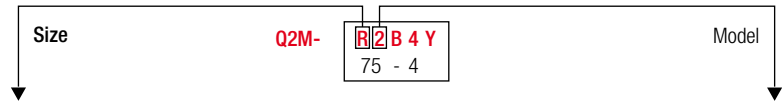
The specification is on page 5
See pages 16 and 17 for dimensions and accessories ...

Q2M

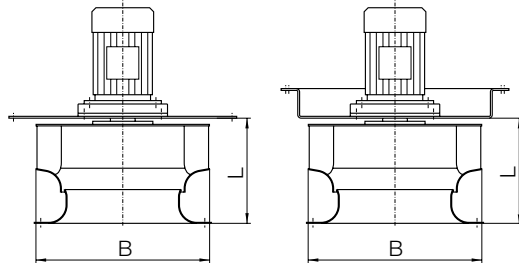
Industrial Process Fans without housing, with direct drive

Main Dimensions in mm, subject to change.

The dimensions can be determined from the Pre-Selection, as follows:

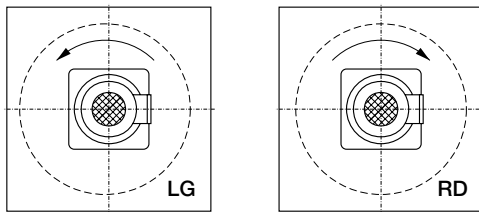


Q2M



Size: Q2M-	Impeller Ø B	L _{max} 1	for model			
			2	3	5	
D	282	180	–	140	–	
E	316	–	180	–	–	
F	355	210	200	180	130	
G	398	250	210	200	150	
H	447	270	250	210	160	
J	501	290	270	250	180	
K	562	310	290	270	190	
L	631	390	310	290	230	
M	708	430	390	310	240	
N	794	480	430	380	–	
P	891	540	480	430	–	
Q	1000	600	540	480	–	
R	1122	670	600	540	–	
S	1258	750	670	600	–	
T	1413	–	–	670	–	

Rotation



The direction of rotation is determined with viewing direction toward the drive side (motor):

LG = anticlockwise.

RD = clockwise.

LG and RD are available.

Kit System

	Mounting plate Mounting frame	Possible Versions for -20 °C to t _{max}	heat loss over the mounting plate app. (uninsulated ± 100%)
	Mounting plate level/round level/square Motor, B5 mounting (to motor size 180)	+300 °C	100 %
	Mounting frame Series 100 mm install depth ① Motor mounting B5 (to motor size 180) Motor mounting B3 (from motor size 200)	+300 °C	100 %
	Mounting frame Series 100 mm install depth ① thermolock50 insulation, Motor mounting B5 (to motor size 180) Motor mounting B3 (from motor size 200)	+500 °C ②	30 % through thermolock50

Thermal barrier for all versions for continuous temperatures over +100 °C series

① „Custom install depth“ possible

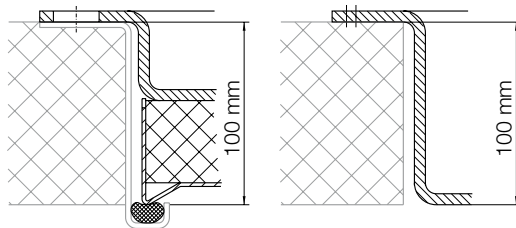
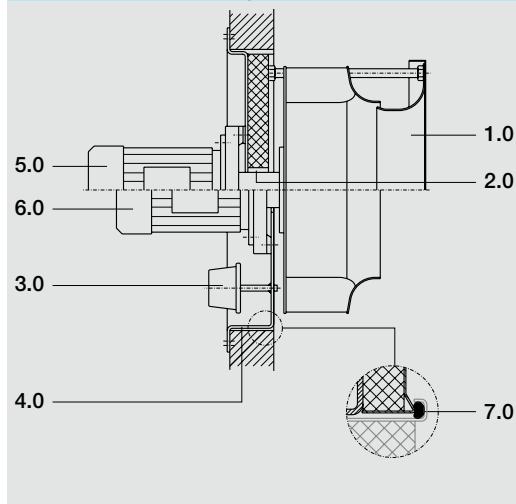
② From +400 °C impeller is always stainless steel 1.4307

The specification is on page 5
See pages 14 and 15 for pre-selection ...

Q2M

Industrial Process Fans without housing, with direct drive

Accessories and Fittings



1.0 Inlet cone

Standard, loose

Attached inlet cone

For easy installation and optimal functional safety.
Not available for round, level mounting plate.

2.0 Shaft seal

- Stainless steel shaft seal to +500 °C
(Standard if parts that contact the medium are stainless steel, For media temperatures greater than +100 °C and for *thermolock50*).
- Shaft seal and aerodynamic seal (impeller back side blades).
- Shaft seal and V-ring seal, to 200 °C.
- Shaft seal and V-ring seal and water deflector, to +200 °C.

3.0 Function monitoring

Through attached pressure cell with change-over contact.
Not available for round, level mounting plate.

4.0 Custom mounting frame depth

The standard install depth with mounting frame is 100 mm.

5.0 Explosion protection

Prepared for ATEX Category 3; gas or dust.

6.0 Drives

Motor

PTC thermistor temperature sensor, other numbers of contacts, protection classes, heat classes, voltages, frequencies, EEx e.

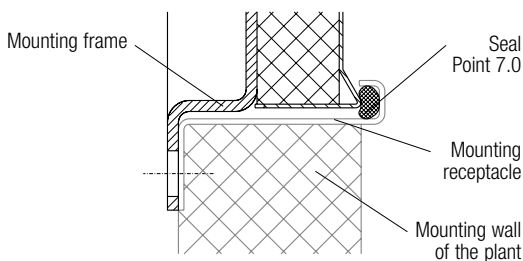
Thermal barrier

on the shaft passage, at media temperatures in excess of +100 °C

7.0 Ceramic fibre seal

For interior seal *thermolock50* strictly required.

thermolock50



The highly efficient thermal insulation from Nicotra Gebhardt: *thermolock50*

Up to this point the usual solution consists of a thick insulation, most frequently with rock wool. However fans insulated in this manner are complex in design, and thus expensive. Now we know that they also frequently retain a lot less heat than was formerly assumed.

Through an extensive series of tests we have learned the following: It is not thickness of the insulation material alone that determines how good the thermal insulation of a fan is, the number and type of thermal bridges is also an important factor.

With *thermolock50* we have systematically minimised the thermal bridges on the basis of this knowledge.

The result

Example: Fan frame size K, +300 °C continuous temperature of the medium, +20 °C ambient temperature; thermal losses only 1 kW/h, measured and confirmed.

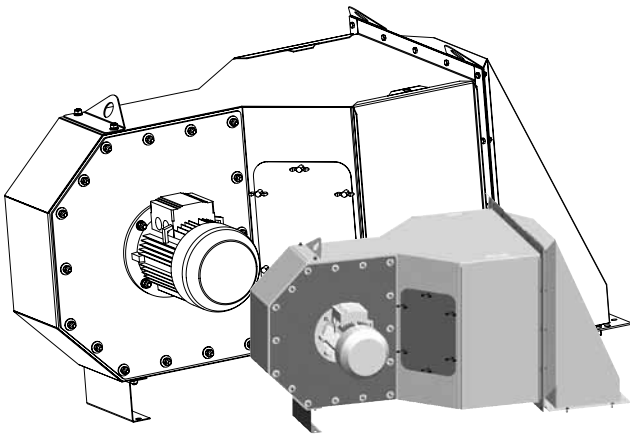
Thus this insulation is better than conventional insulation of 100 mm and more rock wool.

Additional advantages:

- ▶ Fewer thermal bridges due to ceramic fibre-seal (always use!).
- ▶ Hot gases do not migrate into the area between the mounting receptacle and the mounting frame. Consequence: Even less energy loss, even better contact protection.
- ▶ If the dew point is underranged sooting of the insulation material cannot occur, the insulating effect remains permanently intact.
- ▶ Particles of insulating material do not get into the medium.

Customer-specific process air fans

In addition to the broad line of standardised centrifugal fans for ventilation and air-conditioning technology and process air technology, and the many variants that can be generated with the product line, Nicotra Gebhardt also has years of experience in the area of customer-specific fan solutions. If the requirement is appropriate even totally new developments are possible.



What we offer you

Our specialists for customer-specific process air fans support your project: Competently, and they are fast and flexible.

Scope of service:

- ▶ Competent consulting
- ▶ Reviewing the specification for your fan:
 - Is the target price feasible?
 - Is the desired delivery date feasible?
 - Can the technical requirements be implemented?
 - Is a customer-specific solution economically practical?

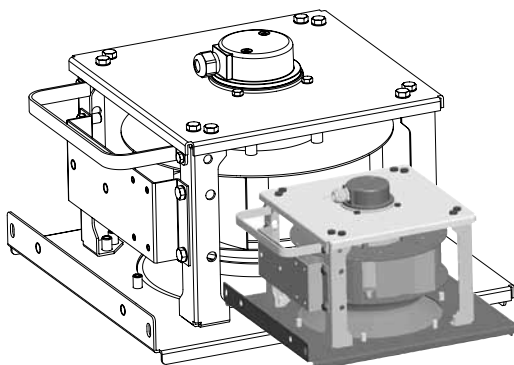
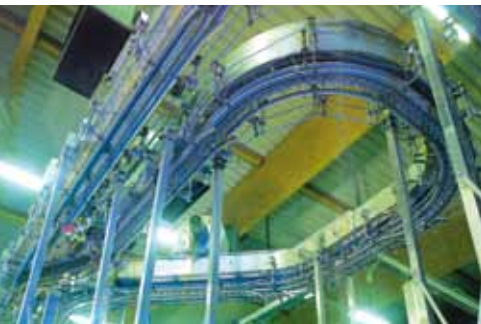
After the customer approves the project

- ▶ Complete development of the fan
- ▶ Building the sample and measuring it on standard test stands
- ▶ Supporting the customer with the practical test in the plant
- ▶ Optimisation of the fan based on the results of the practical test

After the customer approves the sample

- ▶ Set-up of manufacturing at Nicotra Gebhardt
- ▶ Optimisation of the logistics chain to the customer

Many successful projects for our customers in different industries speak for themselves.



Each industry imposes its own requirements on ventilation and air-conditioning technology. We have employees who are specialised in specific industries. For example ...

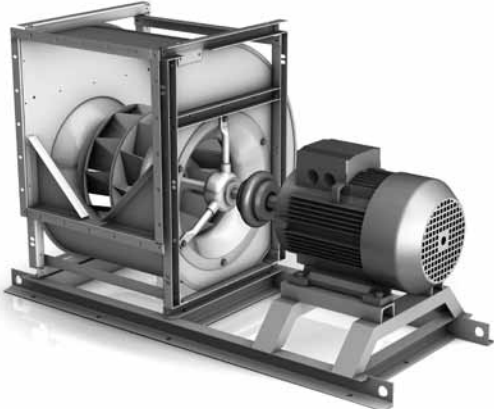
- ▶ Wind turbines
- ▶ Systems for environmental engineering
- ▶ Machines for the food products industry
- ▶ Rail vehicles
- ▶ Plastic machines

Our industrial competence

Fans for comfort applications, also for process airtechnology.

Also in the field of process air technology there are applications for which our ventilation and air-conditioning technology fans are ideally suitable.

Choose the fan that is right for your application from a large standardised product line - with the aid of our electronic selection program proSELECTA II - fast and easy.



We would be pleased to advise you: Phone +49 7942/101224

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