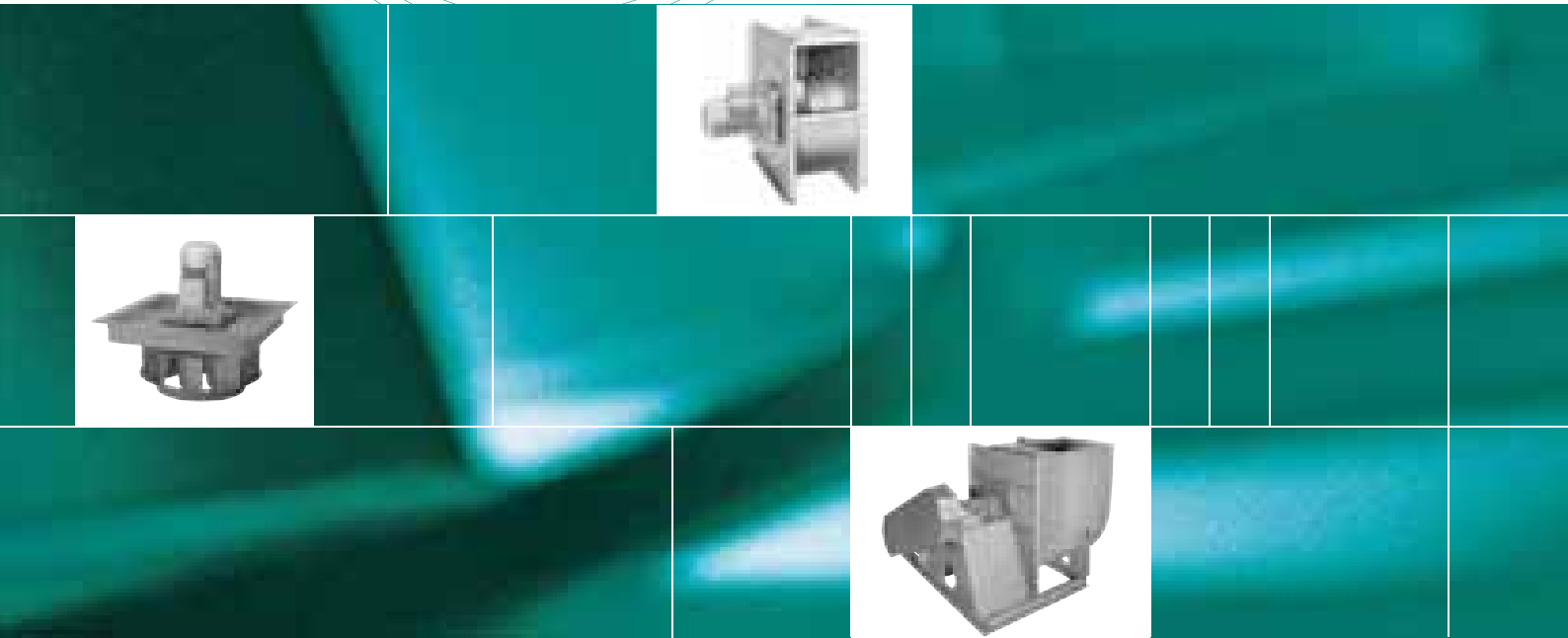


Industrial Process Fans
with or without housing
with direct drive or belt drive

Issue 1



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 organization, 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 transport. 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.

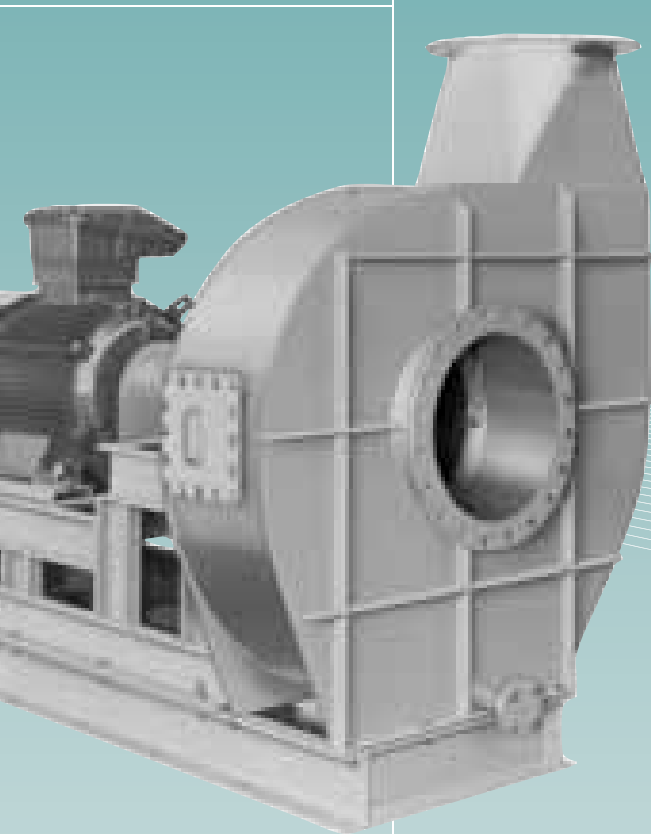
Our customers value the solution competence of our technicians. Our technicians support you in selecting the suitable fans and with engineering with the objective of ensuring optimal function, long service life, and low maintenance requirements at minimum costs. In this regard the level of consulting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

- The technical flow integration of the fan in the machine
- Minimization 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.

More in this regard on page 18 and 19 ...



Einfach und exakt auslegen mit proSELECTA II

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

Industrial Process Fans with housing and direct drive

P2M

- **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

P4M / P4K

- **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
P4K: For motor size 280 and 315 also with coupling between motor and impeller, type P4K
- **Materials**
Coated steel
Hot-dip galvanised
Stainless steel 1.4307
Stainless steel 1.4571 on request

Industrial Process Fans with housing and belt drive

P4R

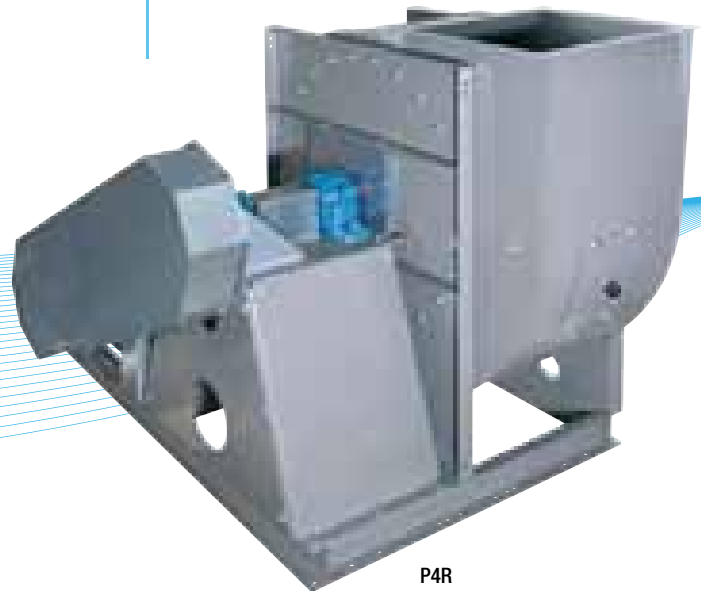
- **Spiral housing**
Robust welded construction
Housing positions in 45° increments
Different levels of tightness
Suction-side connection in accordance with DIN 24154-R4
Pressure-side connection in accordance with DIN 24158-R4
Compact subconstruction with bearing block, bearing, base frame and motor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



P2M



P4M



P4R

- **Displacement medium**
Versions for displacement medium temperatures from -20°C up to +300°C
- **ATEX**
Category 2 and 3; gas and dust
- **Extensive range of accessories**

- **Displacement medium**
Versions for displacement medium temperatures from -20°C up to +300°C
- **ATEX**
Category 2 and 3; gas and dust
- **Extensive range of accessories**

- **Displacement medium**
Versions for displacement medium temperatures from -20°C up to +300°C
- **ATEX**
Category 2 and 3; gas and dust
- **Extensive range of accessories**

- 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 24 163
- Accuracy class 2 in accordance with DIN 24 166
- 3D drawings for planning

Industrial Process Fans without housing and direct drive

Q2M



- **Built-in system**

Flat mounting plate
Mounting frame
thermolock50 Insulation
Inlet cone loose or attached

- **Centrifugal impeller**

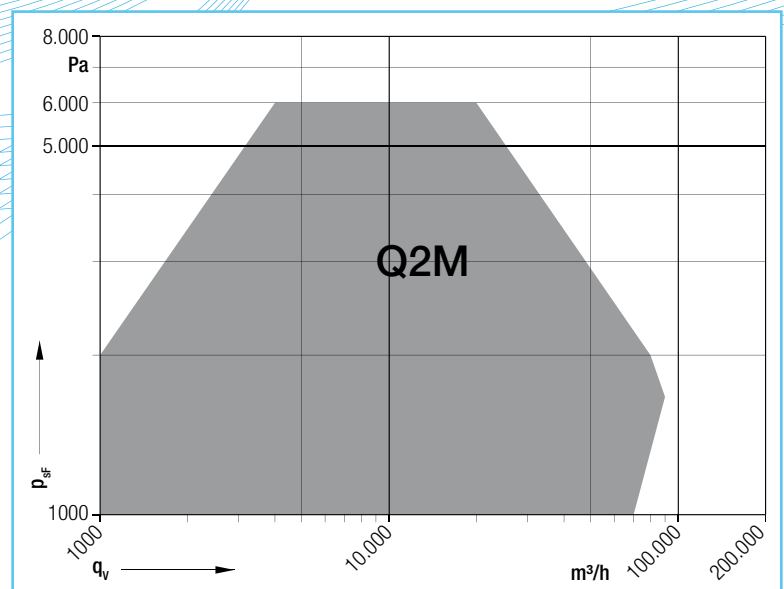
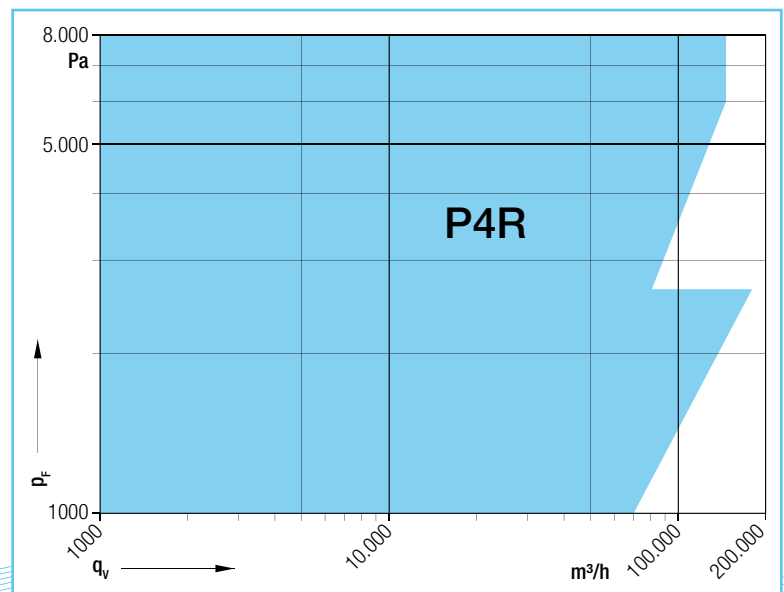
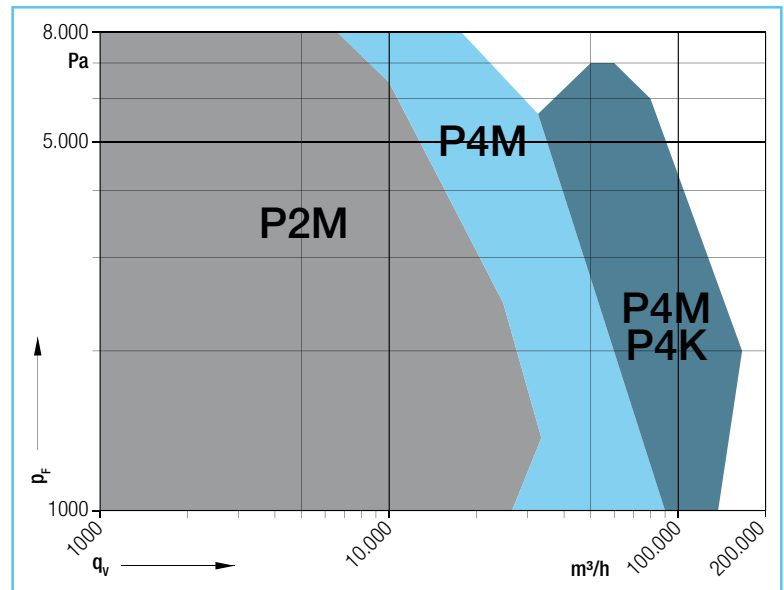
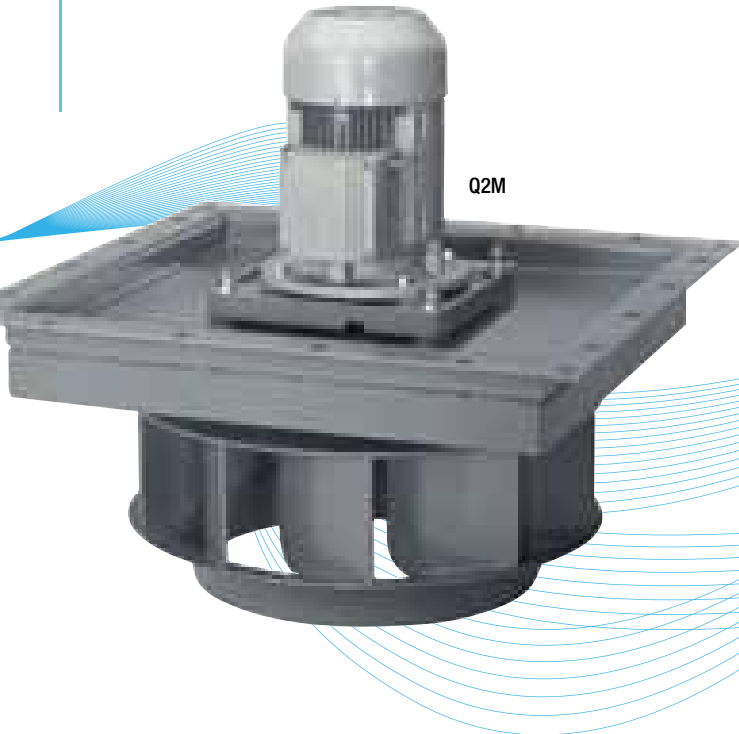
Diameter 280 to 1,400 mm
Backward-curved blades
Welded
Dust-repellent

- **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



- **Displacement medium**

Versions for displacement medium temperatures from -20°C up to +500°C
Highly efficient thermal insulation *thermolock50*

- **ATEX**


prepared for Category 2 and 3; gas and dust

- **Extensive range of accessories**

P2M / P4M / P4K

Industrial Process Fans
with housing and direct drive

Pre-Selection

 Einfach und exakt auslegen mit proSELECTA II

= P2M

= P4M

Pa		M8F2L		M8F2N	M7F2P	M7B2Q	M6B2R	M5B2T	N5M2W	N5M2W	N5F2X	N5F2X						
Pa		M8M2K	M8M2L	M8R2L	M7M2N	M6M2P	M6M2Q	M6F2R	M5B2T	M5M2R	N5M2W	N5M2W						
11200																		
10000																		
9000																		
8000																		
7100																		
6300																		
5600																		
5000																		
4500																		
4000																		
3550																		
3150																		
2800																		
2500																		
2240																		
2000																		
1800																		
1600																		
1400																		
1250																		
1120																		
1000																		
900																		
800																		
710																		
600																		
500																		
400																		
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																		

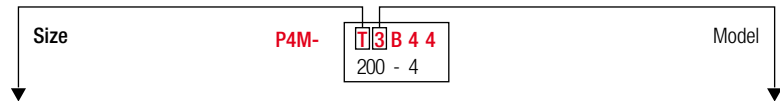
The specification is on page 4
See pages 8 and 9 for dimensions and accessories ...

P2M / P4M / P4K

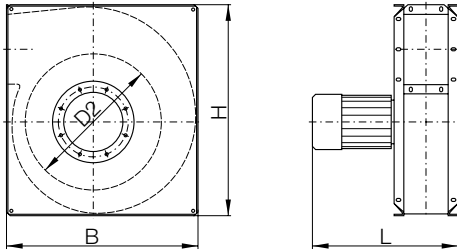
Industrial Process Fans
with housing and direct drive

Main Dimensions in mm, subject to change.

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

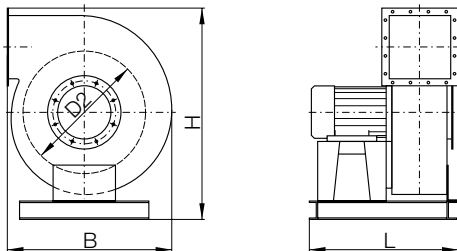


P2M



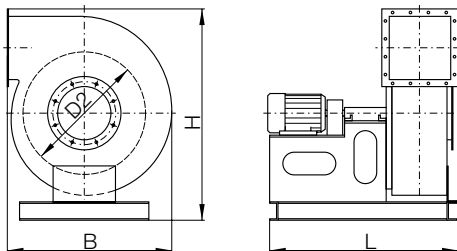
Size P2M-	Impeller Ø D2	B	H	L _{max} for model							
				1	2	3	5	6	7	8	
D	282	412	446	630	-	590	-	500	-	-	
F	355	511	557	790	-	730	-	620	-	-	
H	447	634	697	960	-	890	-	750	-	680	
J	501	710	777	1010	-	930	-	770	-	-	
K	562	790	871	1240	-	1150	1020	970	930	880	
L	631	884	973	1290	1240	1190	-	990	-	-	
M	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



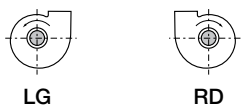
Size P4M-	Impeller Ø D2	B	H	L _{max} for model	
				1	3
Q	1000	1490	1940	1610	1450
R	1122	1670	2150	1720	1540
S	1258	1860	2410	2020	1820
T	1413	2080	2680	2140	1920
U	1585	2340	3000	2290	2020

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

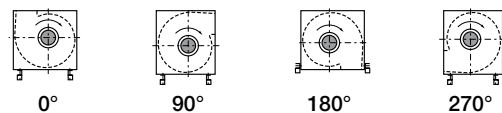
The direction of rotation is determined with viewing direction toward the drive side (motor):

LG = counterclockwise.

RD = clockwise.

LG and RD are available.

P2M

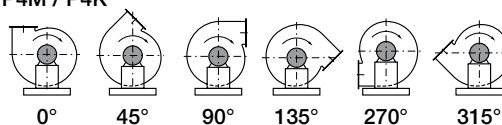


Housing positions

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:

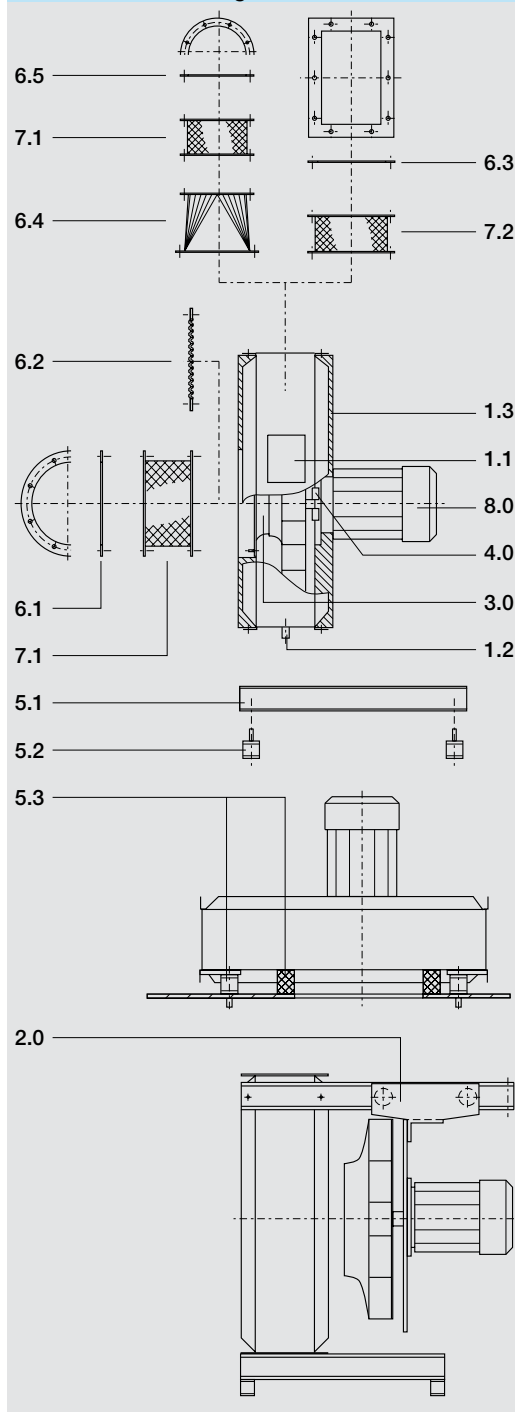
0°, 45°, 90°, 135°, 270° and 315° (see Fig.)

Housing positions 180° and 225° on request.

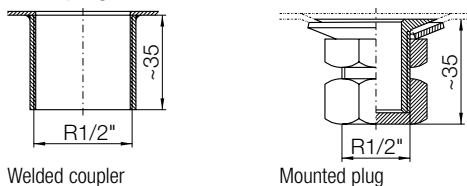
P2M / P4M / P4K

Industrial Process Fans
with housing and direct drive

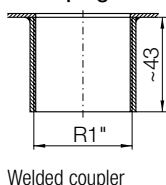
Accessories and Fittings



Drain plug for P2M



Drain plug for P4M/P4K



1.0 Housing fittings

1.1 Inspection opening

also available as a sealed opening.

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 medium 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 frame 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 / compensator.

7.0 Connecting element, flexible

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

7.2 Compensators 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 displacement medium 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	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	J3B-355	J3B-355	K3B-400	K3B-400	L3B-450	L3B-450	M3B-500	M3B-500	N3B-560
	20	21	22	22	23	24	25	27	31	34	39	42	49	53	61	66	77	
8000	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	J3B-355	J3B-355	K3B-400	K3B-400	L3B-450	L3B-450	M3B-500	M3B-500	N3B-560
7100	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	J3B-355	J3B-355	K3B-400	K3B-400	L3B-450	L3B-450	M3B-500	M3B-500	N3B-560
6300	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	J3B-355	J3B-355	K3B-400	K3B-400	L3B-450	L3B-450	M3B-500	M3B-500	N3B-560
5600	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	J3B-355	J3B-355	K3B-400	K3B-400	L3B-450	L3B-450	M3B-500	M3B-500	N3B-560
5000	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	J3B-355	J3B-355	K3B-400	K3B-400	L3B-450	L3B-450	M3B-500	M3B-500	N3B-560
4500	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	J3B-355	J3B-355	K3B-400	K3B-400	L3B-450	L3B-450	M3B-500	M3B-500	N3B-560
4000	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	J3B-355	J3B-355	K3B-400	K3B-400	L3B-450	L3B-450	M3B-500	M3B-500	N3B-560
3550	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	J3B-355	J3B-355	K3B-400	K3B-400	L3B-450	L3B-450	M3B-500	M3B-500	N3B-560
3150	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	J3B-355	J3B-355	K3B-400	K3B-400	L3B-450	L3B-450	M3B-500	M3B-500	N3B-560
2800	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	H3B-315	J3B-355	J3B-355	K3B-400	K3B-400	L3B-450	L3B-450	M3B-500	M3B-500	N3B-560
2500	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	J1B-450	J1B-450	J1B-450	J1B-450	K1B-500
2240	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	J1B-450	J1B-450	J1B-450	J1B-450	K1B-500
2000	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	J1B-450	J1B-450	J1B-450	J1B-450	K1B-500
1800	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	J1B-450	J1B-450	J1B-450	J1B-450	K1B-500
1600	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	J1B-450	J1B-450	J1B-450	J1B-450	K1B-500
1400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	J1B-450	J1B-450	J1B-450	J1B-450	K1B-500
1250	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	J1B-450	J1B-450	J1B-450	J1B-450	K1B-500
1120	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	J1B-450	J1B-450	J1B-450	J1B-450	K1B-500
1000	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	J1B-450	J1B-450	J1B-450	J1B-450	K1B-500
900	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	J1B-450	J1B-450	J1B-450	J1B-450	K1B-500
800	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	J1B-450	J1B-450	J1B-450	J1B-450	K1B-500
710	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	J1B-450	J1B-450	J1B-450	J1B-450	K1B-500
600	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	J1B-450	J1B-450	J1B-450	J1B-450	K1B-500
500	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	J1B-450	J1B-450	J1B-450	J1B-450	K1B-500
400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	H1B-400	J1B-450	J1B-450	J1B-450	J1B-450	K1B-500
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	

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	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



Einfach und exakt auslegen mit proSELECTA II

How to quickly get the desired result.
 For example:
 ~90.000 m³/h and ~1.000 Pa.
 In the Pre-Selection you will find:

U1B1400
40

app. shaft power in kW Nominal size Intake

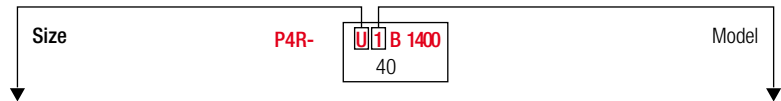
Type designation: **P4R-U1B-1400**
Dimensions see page 12

P4R

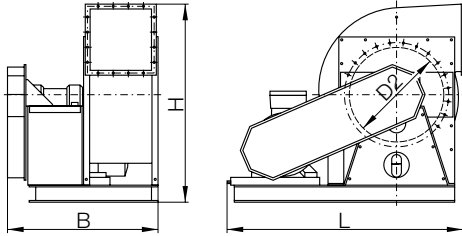
Industrial Process Fans with housing and belt drive

Main Dimensions in mm, subject to change.

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

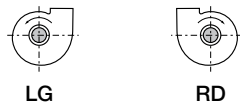


P4R



Size	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

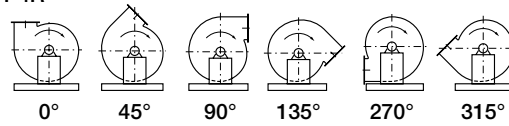
The direction of rotation is determined with viewing direction toward the drive side (motor):

LG = counterclockwise.

RD = clockwise.

LG and RD are available.

P4R



Housing positions

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

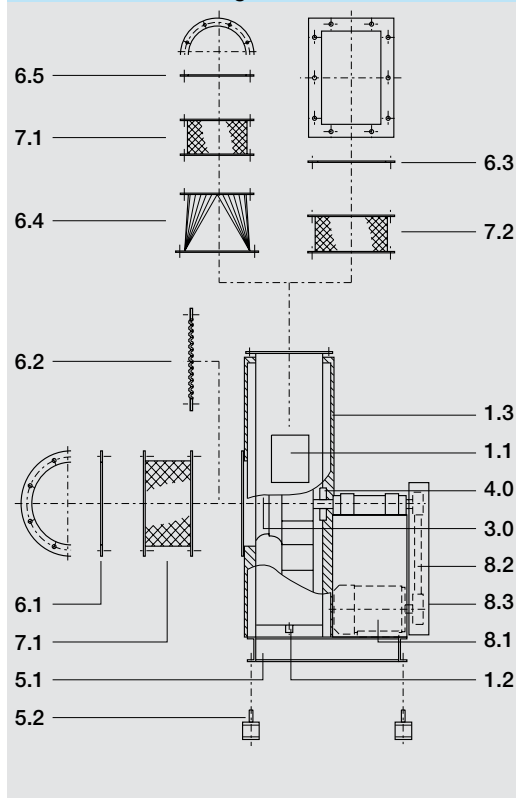
0°, 45°, 90°, 135°, 270° and 315° (see Fig.)

Housing settings 180° and 225° on request.

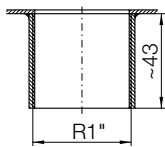
P4R

Industrial Process Fans with housing and belt drive

Accessories and Fittings



Drain plug for P4R



Welded coupler

1.0 Housing fittings

1.1 Inspection opening

also available as a sealed opening.

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 medium 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 frame 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 / compensator.

7.0 Connecting element, flexible

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

7.2 Compensators 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

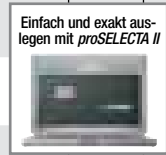
8.4 Thermal barrier

On the shaft passage for displacement medium temperatures over +100°C

Q2M

Industrial Process Fans without housing, with direct drive

Pre-Selection



Pa														M5F2T	M5F2T	M5F2T	M5F2T	M5F2T	M3B2W	M3B2W		
5600														30-2	30-2	30-2	30-2	30-2	45-2	45-2		
5000														L5B2Q	L5B2Q	L5B2Q	M5F2T	M5F2T	M5F2T	M5F2T		
														18,5-2	18,5-2	18,5-2	30-2	30-2	30-2	30-2		
4500														L5F2Q	L5F2Q	L5F2Q	L5B2Q	L5B2Q	L5B2Q	L3B2T		
														18,5-2	18,5-2	18,5-2	18,5-2	18,5-2	30-4	30-4		
4000														K5B2N	K5B2N	K5B2N	K5B2N	L5F2Q	L5F2Q	L5B2Q	L3F2T	
														11-2	11-2	11-2	11-2	18,5-2	18,5-2	18,5-2	30-2	
3550														K5F2N	K5F2N	K5F2N	K5F2N	K5B2N	K5B2N	K5B2N	L5B2Q	
														11-2	11-2	11-2	11-2	11-2	15-2	15-2	18,5-2	
3150														J5B2K	J5B2K	K5F2N	K5F2N	K5F2N	K5F2N	K5B2N	K5B2N	K3F2P
														5,5-2	5,5-2	11-2	11-2	11-2	11-2	11-2	15-2	15-2
2800														J5F2K	J5F2K	J5B2K	J5B2K	J5B2K	J5B2K	K5F2N	K5F2N	K5B2N
														5,5-2	5,5-2	5,5-2	5,5-2	5,5-2	11-2	11-2	11-2	15-2
2500														H5B2H	H5B2H	J5F2K	J5F2K	J5F2K	J5F2K	J5B2K	J5B2K	J3F2L
														3-2	3-2	5,5-2	5,5-2	5,5-2	5,5-2	5,5-2	7,5-2	7,5-2
2240														H5F2H	H5F2H	H5B2H	H5B2H	J5F2K	J5F2K	J5F2K	J5F2K	J3F2L
														3-2	3-2	3-2	3-2	5,5-2	5,5-2	5,5-2	5,5-2	7,5-2
2000														H5F2H	H5F2H	H5F2H	H5F2H	H5B2H	H5B2H	H3F2J	H3B2K	J5B2K
														3-2	3-2	3-2	3-2	3-2	3-2	4-2	5,5-2	5,5-2
1800	G5F2E	G5B2F	G5B2F	G5B2F	H5F2H	H5F2H	H5F2H	H5F2H	H5B2H	H5B2H	H3F2J	H3F2J	H3F2J	H3B2K	H3B2K	H2B2K	J3F2L	J3F2L				
	1,5-2	2,2-2	2,2-2	2,2-2	3-2	3-2	3-2	3-2	3-2	3-2	4-2	4-2	4-2	5,5-2	5,5-2	5,5-2	7,5-2	7,5-2				
1600	G5F2E	G5F2E	G5F2E	G5F2E	G5F2E	G5B2F	G3B2H	G3B2H	G3B2H	G3B2H	G3B2H	H5B2H	H3F2J	H3F2J	H3F2J	H3B2K	H2B2K	J3F2L				
	1,5-2	1,5-2	1,5-2	1,5-2	1,5-2	2,2-2	3-2	3-2	3-2	3-2	3-2	4-2	4-2	4-2	4-2	5,5-2	5,5-2	7,5-2				
1400	F5B2D	F5B2D	F5B2D	F5B2D	G5F2E	G5F2E	G3F2F	G3F2F	G3F2F	G3F2F	G2B2H	G3B2H	G2B2H	G2B2H	H3F2J	M3B4K	M3B4K	H2B2K				
	1,1-2	1,1-2	1,1-2	1,1-2	1,5-2	1,5-2	2,2-2	2,2-2	2,2-2	2,2-2	3-2	3-2	3-2	3-2	4-2	5,5-4	5,5-4	5,5-2				
1250	F5F2D	F5F2D	F5F2D	F5F2D	F5B2D	F3B2E	F3B2E	G3F2F	G3F2F	G3F2F	G3F2F	G3F2F	G3B2H	G2B2H	G2B2H	H3F2J	H3F2J	H3B2K				
	1,1-2	1,1-2	1,1-2	1,1-2	1,1-2	1,5-2	1,5-2	2,2-2	2,2-2	2,2-2	2,2-2	2,2-2	3-2	3-2	3-2	4-2	4-2	5,5-2				
1120	F5F2D	F5F2D	F5F2D	F5F2D	F5F2D	F3F2E	F3F2E	F3B2E	F3B2E	F2B2F	G3F2F	G3F2F	G3F2F	G3B2H	G2B2H	G2B2H	G1B2J	M3F4K				
	1,1-2	1,1-2	1,1-2	1,1-2	1,1-2	1,5-2	1,5-2	1,5-2	1,5-2	2,2-2	2,2-2	2,2-2	2,2-2	3-2	3-2	3-2	4-2	5,5-4				
1000	F3F2E	F3F2E	F3F2E	F3F2E	F3F2E	F3F2E	F3F2E	F3F2E	F3F2E	F3B2E	F1B2F	F2B2F	G3F2F	G3F2F	G3B2H	L3B4H	L3B4H	G1B2J				
	1,5-2	1,5-2	1,5-2	1,5-2	1,5-2	1,5-2	1,5-2	1,5-2	1,5-2	1,5-2	2,2-2	2,2-2	2,2-2	2,2-2	3-2	3-4	3-4	4-2				
900	E2B2D	E2B2D	E2B2D	E2B2D	E2B2D	E2B2D	F3F2E	F3F2E	F3F2E	F3F2E	F3B2E	F1B2F	F1B2F	L3F4H	L3F4H	L3F4H	G2B2H	L3B4H				
	1,1-2	1,1-2	1,1-2	1,1-2	1,1-2	1,1-2	1,5-2	1,5-2	1,5-2	1,5-2	1,5-2	2,2-2	2,2-2	3-4	3-4	3-4	3-2	3-4				
800	E2F2D	E2F2D	E2F2D	E2F2D	E2F2D	E2F2D	E2B2D	E2B2D	K3B4G	K3B4G	F3F2E	K3B4G	F2B2F	F1B2F	G3F2F	L3F4H	L3F4H	L3F4H				
	1,1-2	1,1-2	1,1-2	1,1-2	1,1-2	1,1-2	1,1-2	1,1-2	2,2-4	2,2-4	1,5-2	2,2-4	2,2-2	2,2-2	2,2-2	3-4	3-4	3-4				
710	D3B2B	D3B2B	D3B2B	D3B2B	E2F2D	E2F2D	E2F2D	E2F2D	E2B2D	F3B2E	F3B2E	F3B2E	K3B4G	K3B4G	F1B2F	K2B4G	L3F4H	L3F4H				
	0,55-2	0,55-2	0,55-2	0,55-2	1,1-2	1,1-2	1,1-2	1,1-2	1,1-2	1,5-2	1,5-2	1,5-2	2,2-4	2,2-4	2,2-2	2,2-4	3-4	3-4				
630	D3F2B	D3F2B	D3F2B	D3F2B	D3B2B	D1B2C	J3B4E	J3B4E	J3B4E	E2B2D	J3B4E	K3F4F	K3F4F	K3F4F	K3F4F	K3B4G	K2B4G	K2B4G				
	0,55-2	0,55-2	0,55-2	0,55-2	0,55-2	0,75-2	1,1-4	1,1-4	1,1-4	1,1-2	1,1-4	1,5-4	1,5-4	1,5-4	1,5-4	2,2-4	2,2-4	2,2-4				
500	D3F2B	D3F2B	D3F2B	D3F2B	D3B2B	D1B2C	D1B2C	D1B2C	E2B2D	E2B2D	E2B2D	J3B4E	J3B4E	J2B4E	J2B4E	F1B2F	K3B4G	K2B4G				
	0,55-2	0,55-2	0,55-2	0,55-2	0,55-2	0,75-2	0,75-2	0,75-2	1,1-2	1,1-2	1,1-2	1,1-4	1,1-4	1,1-4	1,1-4	2,2-2	2,2-4	2,2-4				
400	G3B4A	G3B4A	G3B4A	D3F2B	D3F2B	D3F2B	H3B4C	H3B4C	H3B4C	H3B4C	H2B4D	H2B4D	J3B4E	J3B4E	J1B4F	J2B4E	J1B4F	K3B4G				
	0,25-4	0,25-4	0,25-4	0,55-2	0,55-2	0,55-2	0,55-4	0,55-4	0,55-4	0,55-4	0,75-4	0,75-4	1,1-4	1,1-4	1,5-4	1,1-4	1,5-4	2,2-4				
320	G3B4A	G3B4A	G3B4A	G3B4A	G3B4A	G3B4A	G2B4B	G2B4B	D1B2C	D1B2C	H3B4C	E2B2D	H2B4D	H1B4D	J3B4E	L3B6E	J2B4E	J1B4F				
	0,25-4	0,25-4	0,25-4	0,25-4	0,25-4	0,25-4	0,37-4	0,37-4	0,75-2	0,75-2	0,55-4	1,1-2	0,75-4	0,75-4	1,1-4	0,75-6	1,1-4	1,5-4				
250	F3B4A	F3B4A	F3B4A	F3B4A	F2B4A	G3B4A	G3B4A	G1B4C	G2B4B	G2B4B	H3B4C	H3B4C	K3B6D	K2B6D	H1B4D	J3B4E	L3B6E	L2B6F				
	0,25-4	0,25-4	0,25-4	0,25-4	0,25-4	0,25-4	0,25-4	0,55-4	0,37-4	0,37-4	0,55-4	0,55-4	0,55-6	0,55-6	0,75-4	1,1-4	0,75-6	1,1-6				
200	E2B4A	E2B4A	E2B4A	E2B4A	F3B4A	F2B4A	F2B4A	G3B4A	G3B4A	G2B4B	G2B4B	G1B4C	H2B4D	H2B4D	K2B6D	H1B4D	L3B6E	L3B6E				
	0,25-4	0,25-4	0,25-4	0,25-4	0,25-4	0,25-4	0,25-4	0,25-4	0,25-4	0,37-4	0,37-4	0,55-4	0,75-4	0,75-4	0,55-6	0,75-4	0,75-6	0,75-6				
m³/h	500	630	800	1000	1250	1600	2000	2240	2500	2800	3150	3550	4000	4500	5000	5600	6300	7100				
m³/min	8	11	13	17	21	27	33	37	42	47	53	59	67	75	83	93	105	118				
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				
	Volume flow q_v																					

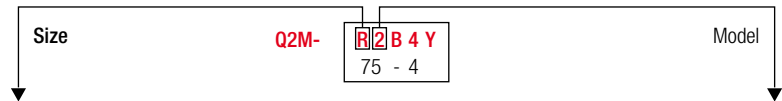
The specification is on page 5
See pages 16 and 17 for dimensions and accessories ...

Q2M

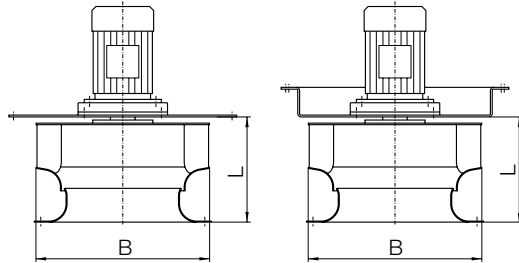
Industrial Process Fans without housing, with direct drive

Main Dimensions in mm, subject to change.

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

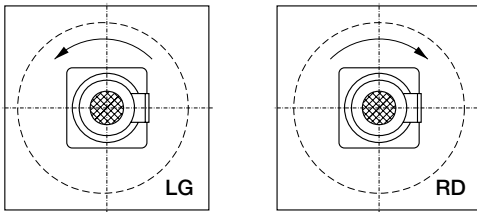


Q2M



Size: Q2M-	Impeller Ø B	L _{max} for model 1	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	–

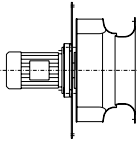
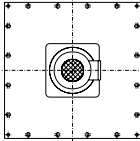
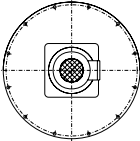
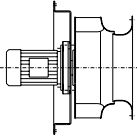
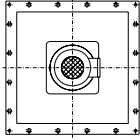
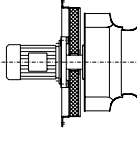
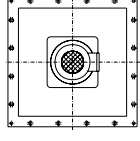
Rotation



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

- LG = counterclockwise.
- RD = clockwise.
- LG and RD are available.

Kit System

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

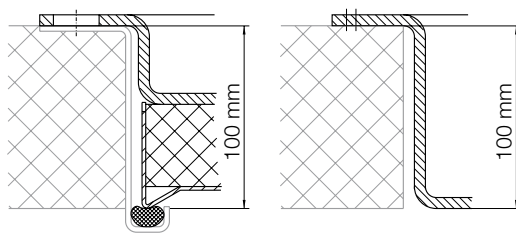
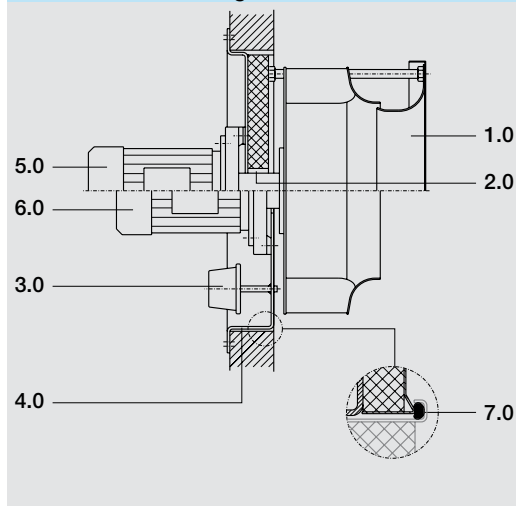
Thermal barrier for all versions for continuous temperatures over +100°C series

- ① „Custom install depth“ possible
- ② From +400°C impeller is always stainless steel 1.4307

Q2M

Industrial Process Fans without housing, with direct drive

Accessories and Fittings



1.0 Suction duct nozzle

Standard, loose

Attached suction duct nozzle

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 medium 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.

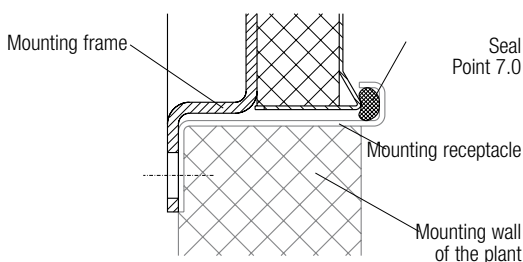
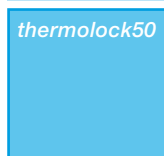
Thermal barrier

on the shaft passage, at displacement medium 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

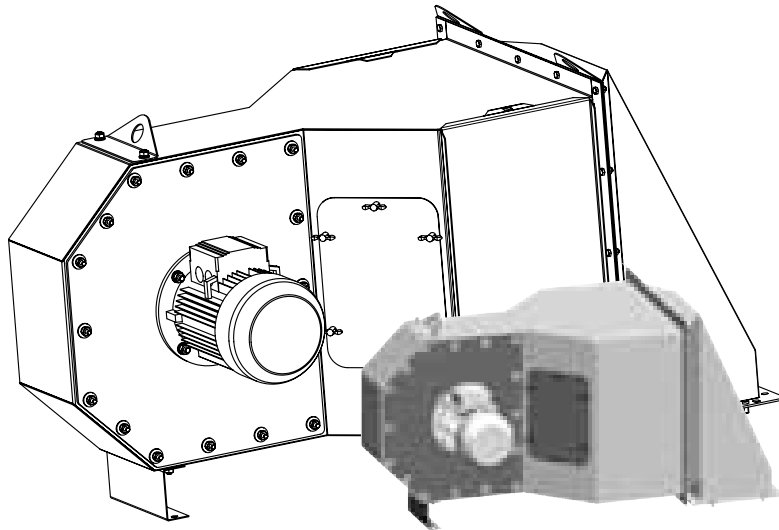
Example: Fan frame size K, +300°C continuous temperature of the displacement medium, +20°C ambient temperature; thermal losses only 1 kW/h, measured and confirmed.
Thus this insulation is better than conventional insulation of 100 mm and more rock wool.

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 displacement medium.

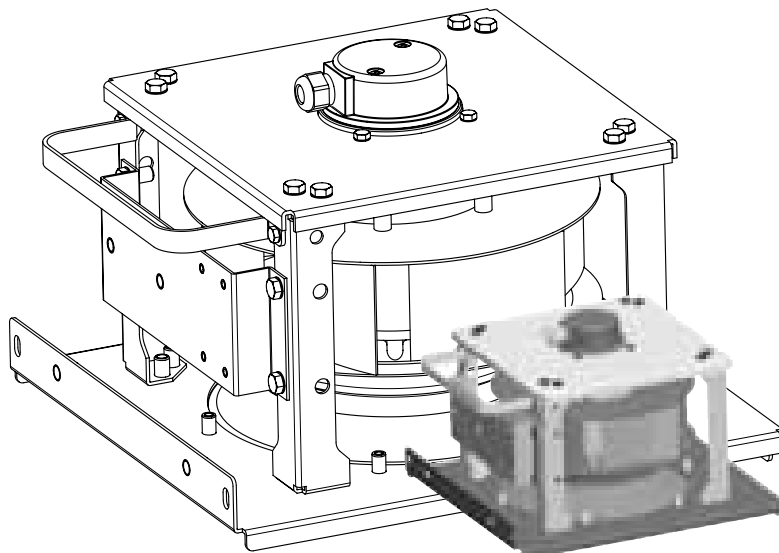
Customer-specific process air fans

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.



Optimal function, best price

- Do you want to standardise the ventilation and air technology in your machine or plant?
- Do you have a project for which you require higher quantities of a fan that optimally ensures that your goals relative to function and price are achieved?
- Are you looking for an experienced partner that will develop and supply this fan solution in close collaboration with you?



Customer-specific process air fans

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:

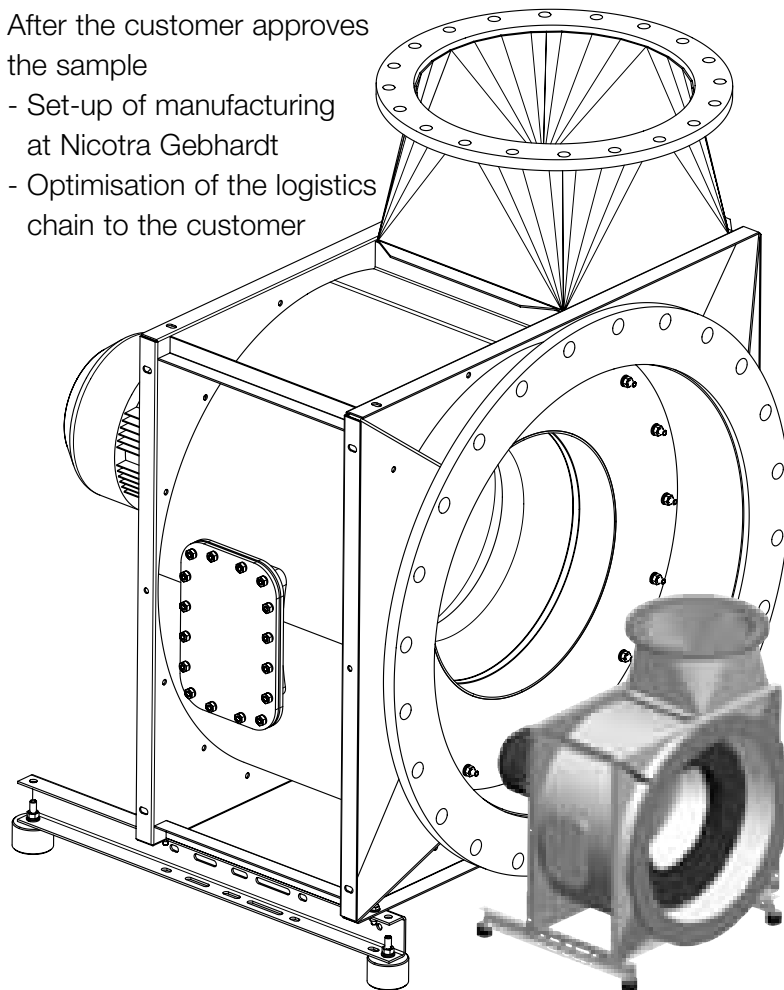
- Competent consulting
- Reviewing the specification for your fan:
 - Is the target price feasible?
 - Is the desired delivery date feasible?
 - Can the technical requirements be implemented?
 - Is a customer-specific solution economically practical?

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.

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

Our industrial competence

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



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

Our industrial competence



Our specialists support you in selecting the suitable fan and with the engineering for its proper technical flow integration in your system.

Together with you they will work out the optimal fan solution, quiet and powerful, for example

- for installation where space is at a premium
- for minimum weight
- for minimum maintenance requirements
- for maximum service life
- for minimum energy consumption
- for different supply systems
- for variable speed drives
- with appropriate corrosion protection
- for operation with vibration from outside



Fans for comfort applications, also for process air technology

The extensive Nicotra-Gebhardt product line

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.



If centrifugal fans are required for ventilation and air-conditioning technology, we are the first company you should speak with.

From housing fans with belt drive to built-in fans without housing with direct drive.

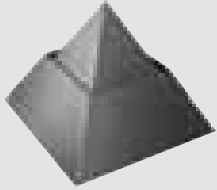
We offer the largest and most extensive product line for this area - and naturally also the matching system accessories.

Volume flows to 300,000 m³/h



Fans for comfort applications, also for process airtechnology

The extensive Nicotra-Gebhardt product line



The extensive roof fan product line from Nicotra Gebhardt has set worldwide standards.

Today we offer roof fan systems to meet your specific requirements.

Profit from the advantages of our product diversity:

- Perfect quality in all models
- Uniform accessories for all models
- Maximum variability for individual requirements

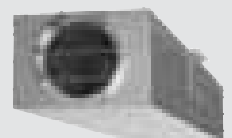
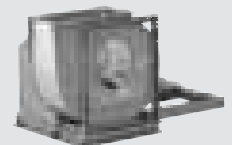
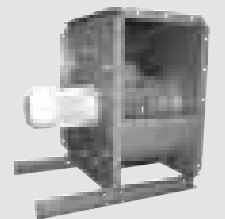
Volume flows to 57,000 m³/h

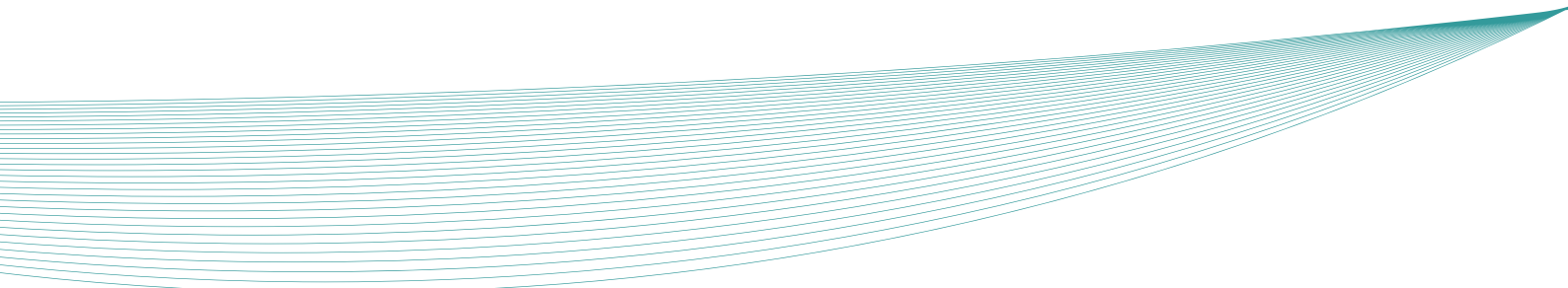


He who understands fire, masters the smoke extraction.

With our wall fans, roof fans, centrifugal fans, axial fans, and impulse fans, we master every form of smoke extraction, regardless of the application. Thus we ensure maximum safety from the underground garage to the roof and satisfy all legally required standards.

Volume flows to 150,000 m³/h





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