

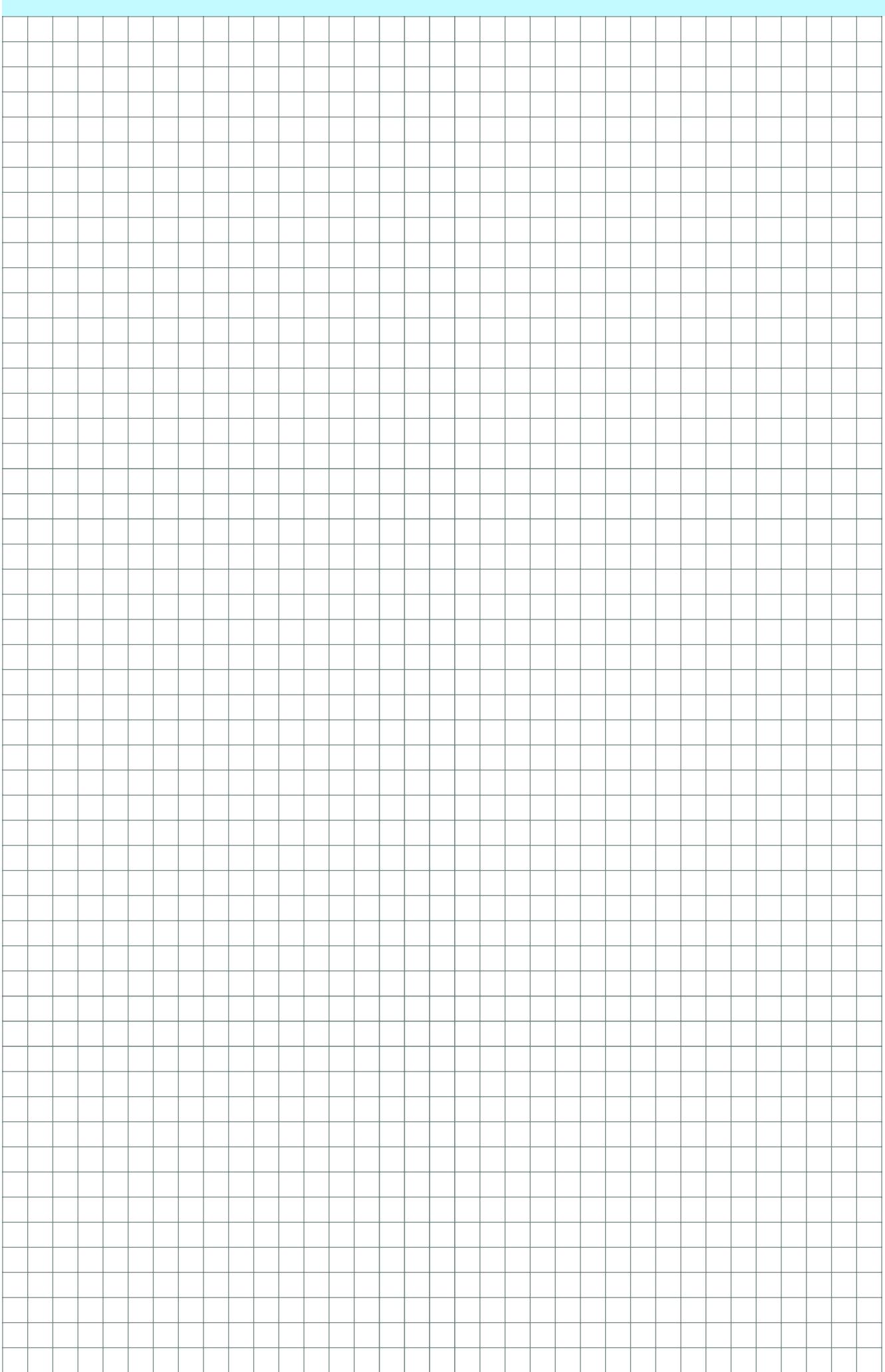
**PFP**

The compact lightweight

## CATALOGUE ADD-ON

**3-Phase Models  
with BL130 motors**





## The PFP range now includes 3-phase models

The PFP range is including five additional models, covering fan sizes from 280 mm up to 450 mm, driven by the new 3-phase external-rotor motors, with input power up to 2.6 kW.

The new 3-phase models share many characteristics with the single-phase models already available since long.

This attachment to the PFP catalogue describes the new features, which are specific of the three-phase models.

Please refer to the PFP catalogue for additional information on all the common features.

The 3-phase PFP range is going to receive a further considerable extension in 2018, with the release of higher-torque motors and of a further step in power, up to 4.0 kW, by the end of the year.

Please, keep in contact with your Nicotra Gebhardt sales representative, to receive timely updates on the latest additions to the PFP range.

## Smart EC 3-phase motor controllers

The new 3-phase motor controllers, or “drivers”, fitted to the PFP fans, have a nominal maximum input power of 2.6 kW in the PFP purpose-designed case with an IP55 protection grade.

They comply with the EMC requirements for class C2 of power-drive systems, according to EN 61800-3. As such, they are suitable for use in the “first environment”, under condition that they are incorporated into an apparatus, system or installation, which is neither a plug-in device nor a movable device. Such devices shall have to be installed and commissioned only by a professional.

According to the EN 61000-3-2 standard (“Limits for harmonic current emissions – equipment input current ≤16 A per phase –”), these devices are classified as “professional devices having total input power greater than 1 kW”. Direct connection to a low voltage supply (public networks) may be allowed insofar as this has been approved by the respective energy distribution authority.

The 3-phase PFP power drive systems comply with the emission requirements set by the EN 61000-6-4 standard for use in industrial environments and also with the immunity requirements for industrial environments, according to EN 61000-6-2.

All these driver units use sensorless technology, to simplify their architecture and increase their operational reliability.

The PFP drivers are factory-configured to be ready for use in their basic operating mode, i.e. with continuous speed control, having the fan speed proportional to an analogue input signal (0-10 Vdc or PWM).

The drivers incorporate advanced protection features, preventing the user from exceeding the safety limits of both the driver and the motor. If the combination of the air system configuration and the speed demand from the user bring the fan to exceed one or more of the limits, which are set for input power, motor torque, or operating temperature of the electronics, then the fan speed and power requirement is automatically reduced, to bring-back the fan within safe operating conditions.

The performance diagrams of the different PFP fan models, in this catalogue, show the fan performance under standard laboratory conditions and already account for this automatic restriction of the fan performance, according to speed, power and torque limits.

If the software protection features should not be enough, a temperature-sensitive switch is fitted inside all motors, to stop the drive-system, preventing any permanent damage from overloading and overheating.

Beyond those operational features, which are already available from the single-phase drivers, the new three phase drivers introduce two new and additional features:

## A. Frequency-range skip

The supporting frame of the PFP fans is highly resistant to structural vibration and resonance, thanks to the combination of a stiff structure with the lightweight design of the motors, built around high-intensity magnets.

Notwithstanding this, if an application, having an unusually flexible structure, should suffer from mechanical resonance, at a critical frequency falling within the useful fan speed range, the driver can be configured to avoid a selectable bracket within the fan speed range, to prevent the application from developing ample, noisy and potentially unsafe vibrations.

## B. Flying Start & Re-start

When the motors with single-phase drivers lose synchronism, i.e. the driver loses control of the rotor angular position, because of a temporary loss of power, or because the fan is started with a windmilling impeller, the single-phase drivers bring the rotor to a standstill condition, and then re-start the motor, in the correct direction and in a controlled way.

The new three-phase drivers are capable of a flying-start. This means that, when electrical power is restored, after a power-loss, with the impeller still running, or when the fan is started while the impeller is windmilling, the new three-phase drivers can sense the speed and position of the moving rotor, and can immediately regain control of the motor, without having to brake the fan to standstill.

By design, these drive systems are insensitive to the frequency of the power supply, so all the PFP three-phase fans are suitable for operation with any power network at 50 or 60 Hz frequency, in the 400V +/- 10% voltage range.

## Advanced operating modes.

The 3-phase smart drivers provide the same advanced functions available from the less powerful single-phase units. Please refer to the existing catalogue for single-phase models for further details.

These advanced modes are already available from the standard firmware, without firmware upgrades or additional hardware: they only require activation and configuration through one of the serial interfaces of the driver, using a software tool.

## Advanced SW interface.

A new and more advanced monitoring and configuration software tool, "Fan Configurator", has been specifically developed to provide a flexible user interface for monitoring and configuration of the fans, in combination with the new three-phase drivers, and also with the former single-phase units.

# NICOTRA|Gebhardt

Please note that the Nicotra Gebhardt “Fan Configuration Program”, used so far to support the single-phase drivers, is not suitable for use with the new three-phase drivers.

The former Nicotra Gebhardt “Fan Configuration Program”, Revision 2, can connect to the three-phase drivers and still provide some of the basic monitoring functions, but cannot read a number of the new parameters, and is definitely not suitable to configure the three-phase drivers.

Please, contact Nicotra Gebhardt if you have difficulties downloading the new control software package.

## Extended analogue interface

To support those customers who connect the PFP fan to an electromechanical control system, the new 3-phase smart drivers also provide the alarm signal using a normally-closed (NC) relay, suitable for 250 Vac / 30Vdc 5A , as well as through the normal low-power digital output.

The relay is closed during normal operation, open when an alarm is raised, or when the power supply is switched-off.

## Specifications

### PFP 2.6 kW 3-Phase range

Direct-driven plug/plenum fan, with integrated drive system and high-efficiency backward-curved impeller without scroll.

The IP54 drive system includes a high-efficiency external-rotor permanent-magnet motor and a smart electronic motor driver, providing speed-control and self-protection against overloading or overheating.

The external-rotor motor, using high-intensity rare-earth magnets for better efficiency and compactness, is directly integrated in the hub of the impeller and supported, behind the impeller, on the replaceable driver case, which acts as supporting flange.

The three-phase 2.6 kW driver, fitted into the fan supporting flange, provides advanced control functions as well as both analogue and digital external interfaces, and incorporates passive EMC filters, keeping the fan power factor constantly at optimum values, as well as reducing harmonic distortion and emissions.

The three-phase drive system complies with the EMC emission requirements of the class C2 (“First environment, with installation by professionals”), as defined in the EN 61800-3 standard for power-drive systems, and also with the more demanding immunity requirements for industrial environments, according to EN 61000-6-2.

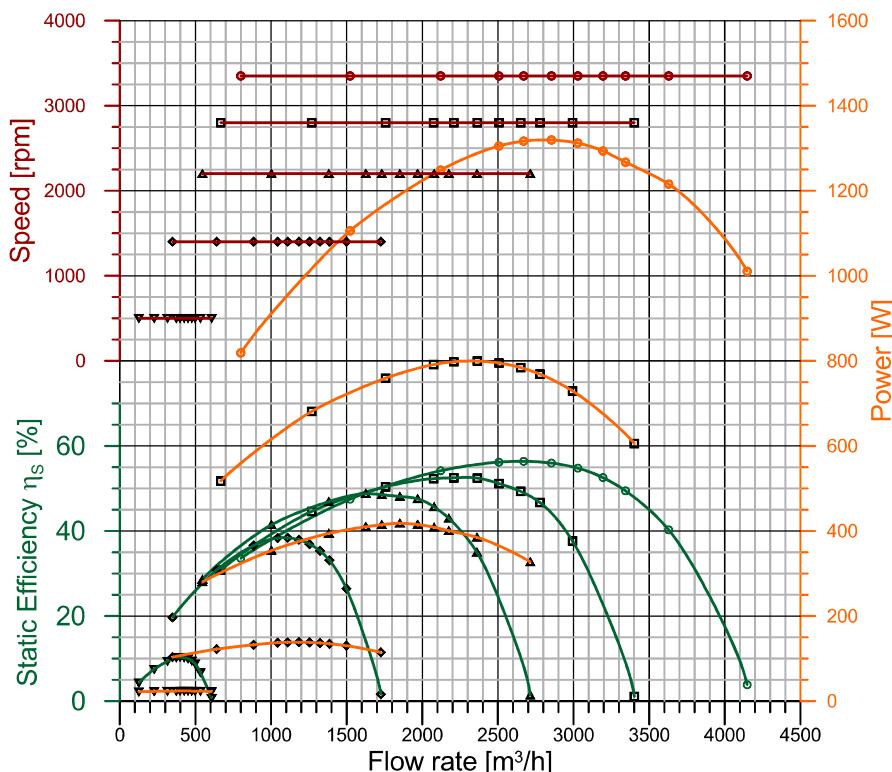
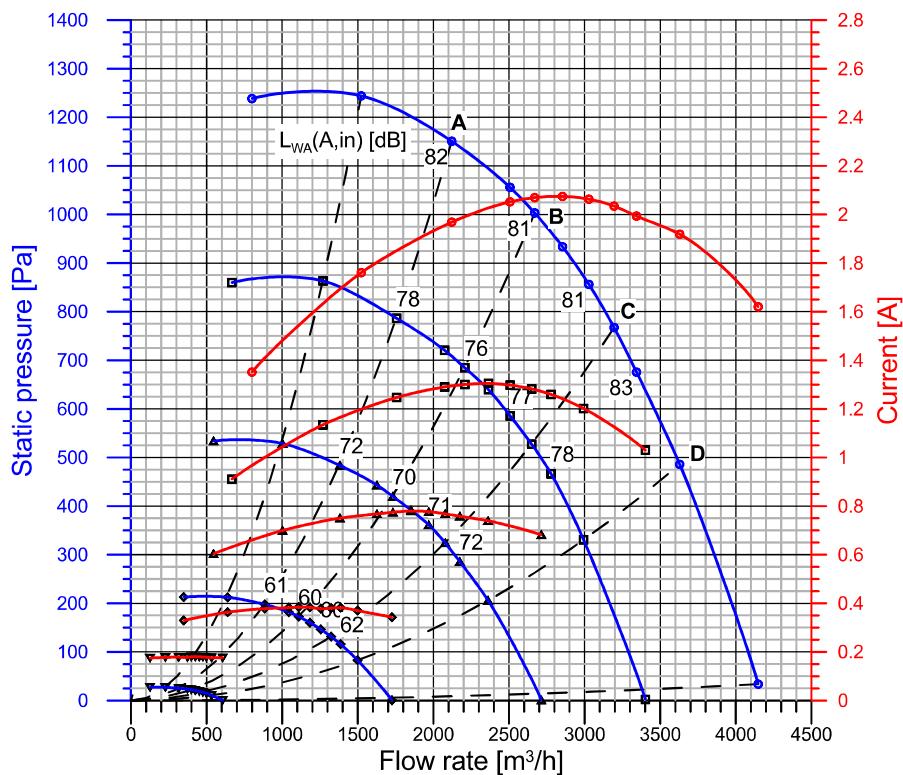
The driver case, of pressure-cast aluminium, incorporates a patented forced-cooling system, protecting both the driver and the driver-side bearing from overheating.

The high-efficiency lightweight backward-inclined impellers, directly bolted onto the motor, are made of welded aluminium plate, to guarantee the stiffness and strength required for high-speed operation, without generating unmanageable vibrations.

Code	Description	Size	Motor+Driver	Optimum energy efficiency point	
				Flow rate	Pressure
				[m <sup>3</sup> /h]	[Pa]
S80538	PFP A1-0280 M6F8	280	1416F8	2670	1003
S80529	PFP A3-0280 M6F8	280	1416F8	2670	1003
S80539	PFP A1-0315 M6F8	315	1416F8	3138	1021
S80530BQE	PFP A3-0315 M6F8	315	1416F8	3138	1021
S80540	PFP A1-0355 M6F6	355	1416F6	4301	1094
S80531BQE	PFP A3-0355 M6F6	355	1416F6	4301	1094
S80541	PFP A1-0400 M6F5	400	1416F5	5074	1153
S80532BQE	PFP A3-0400 M6F5	400	1416F5	5074	1153
S80542	PFP A1-0450 M6F7	450	1416F7	6173	865
S80533BQE	PFP A3-0450 M6F7	450	1416F7	6173	865

	Maximum values			IP fan grade	Tmin	Tmax	Page
	Adsorbed power	Pressure (q=0)	Flow rate (P=0)				
	[W]	[Pa]	[m <sup>3</sup> /h]		[°C]	[°C]	
1320	1244	4148	54	-20	+40		
1320	1244	4148	54	-20	+40		
1500	1188	5051	54	-20	+40		
1500	1188	5051	54	-20	+40		
2110	1288	6701	54	-20	+40		
2110	1288	6701	54	-20	+40		
2600	1421	8750	54	-20	+40		
2600	1421	8750	54	-20	+40		
2370	1086	1050	54	-20	+40		
2370	1086	1050	54	-20	+40		

Power:	1320 W (input, max)	Protection Cl.:	IP 54
Poles:	8	Insulation Cl.:	F
Voltage:	400 V	Thermal prot.:	YES-Integral
Supply:	3~	Temp. Min:	-20 °C
Frequency:	50-60 Hz	Temp. Max:	+40 °C (+50°C)
Capacitor:	n.a.	Current Max:	2.07 A



Performance data referring to:  
Standard air density  $\rho = 1.20 \text{ kg / m}^3$   
Installation type "A": free inlet, free outlet  
Sound Power Levels shown are  
Inlet-side L<sub>WA</sub>(A,in), A-weighted, in dBA

### Integral speed-control by On-board Integral Driver

qv m³/h	pfs Pa	Pe W	n rpm	I A	η <sub>s</sub> %
<b>Maximum performance curve (10 V)</b>					
A	2121	1151	1249	3350	1.97 54.2
B	2670	1003	1317	3350	2.07 56.4
C	3195	767	1293	3350	2.03 52.6
D	3629	486	1216	3350	1.92 40.3
<b>Performance at 2800 rpm</b>					
A	1757	786	759	2800	1.25 50.4
B	2208	685	798	2800	1.30 52.5
C	2650	527	784	2800	1.28 49.3
D	2993	331	729	2800	1.20 37.6
<b>Performance at 2200 rpm</b>					
A	1382	484	394	2200	0.75 46.9
B	1732	420	415	2200	0.77 48.6
C	2078	324	409	2200	0.77 45.7
D	2361	206	385	2200	0.74 35.0
<b>Performance at 1400 rpm</b>					
A	884	198	132	1400	0.38 36.6
B	1110	173	138	1400	0.38 38.4
C	1324	132	137	1400	0.38 35.3
D	1498	83	130	1400	0.37 26.4
<b>Performance at 500 rpm</b>					
A	315	25	23	500	0.18 9.4
B	398	22	24	500	0.18 10.3
C	476	17	24	500	0.18 9.5
D	533	11	23	500	0.18 6.7

### ErP Data acc. to Reg. 327/11/CE

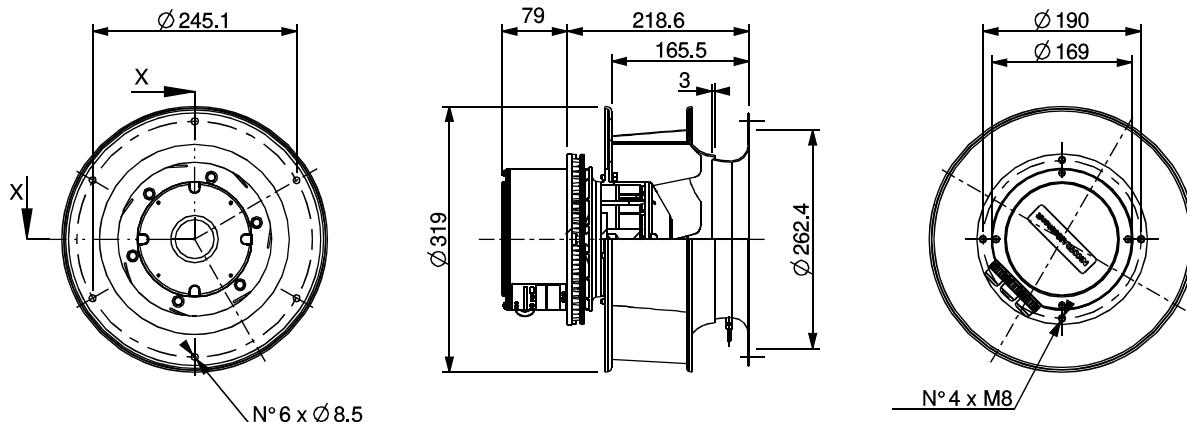
Performance referred to the best efficiency duty point

Compl. with Reg. 327/11/EC:	Tier II (2015)
Overall Efficiency ( $\eta \times C_c$ ) [%]:	60.9
Measurement category:	A
Efficiency category:	Static
Efficiency grade N [%]:	70.1
A variable speed drive is integrated with this fan	
Manufactured since:	2018
By:	Nicotra Gebhardt S.p.A. Via Modena 18 24040 Ciserano - Italy
Power input [kW]:	1.317
Volume flow rate qv [m³/s]:	0.742
Static Pressure [Pa]:	1003
Speed [rpm]:	3350
Specific ratio:	1.01
Information on:	<ul style="list-style-type: none"> <li>- Disassembly, recycling and disposal at end of life</li> <li>- Optimal installation, use and maintenance of fans are freely downloadable from <a href="http://www.nicotra-geebhardt.com">www.nicotra-geebhardt.com</a></li> </ul>
Testing is carried out with the optional components of the test airway required, according to ISO 5801:2007, for the installation type detailed here on top.	

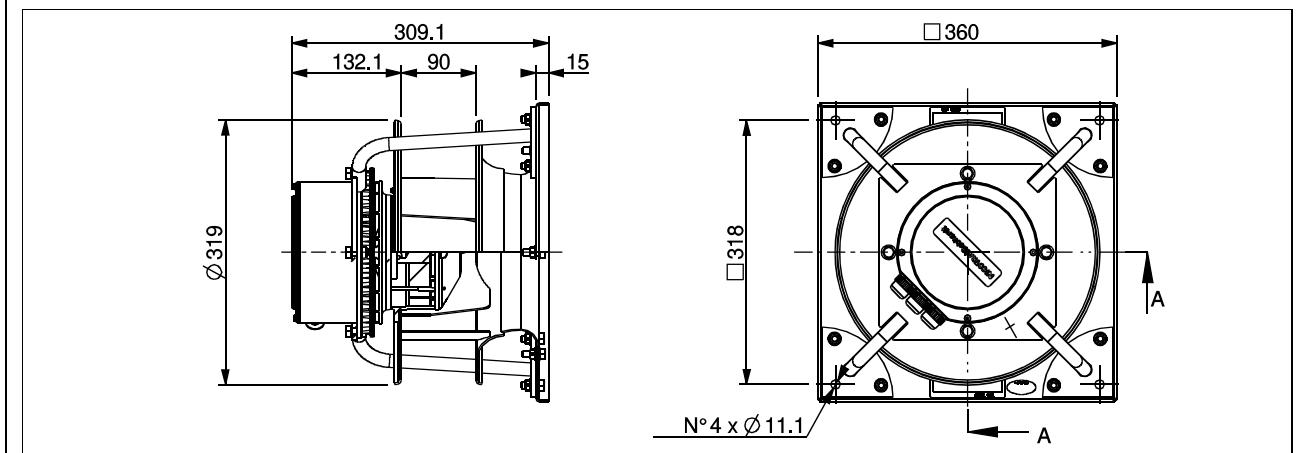
WIRING DIAGRAM SCHEMA DI COLLEGAMENTO		NOISE DATA DATI DI RUMORE											
		Working point		Sound power level for inlet side (Lw) in dB									
			m <sup>3</sup> /h	63	125	250	500	1k	2k	4k	8kHz	LwA	
		230 V / 50 Hz	A	2121	74.0	76.0	82.0	80.0	76.0	73.0	71.0	65.0	82.0
		Fan Maximum	B	2670	73.0	75.0	81.0	79.0	75.0	72.0	70.0	64.0	81.0
		Working	C	3195	74.0	76.0	82.0	80.0	76.0	73.0	71.0	65.0	82.0
		Limit	D	3629	75.0	78.0	85.0	83.0	80.0	75.0	73.0	67.0	85.0
		230 V / 50 Hz	A	1757	70.0	72.0	78.0	76.0	72.0	69.0	67.0	61.0	78.0
		2800 rpm	B	2208	68.0	70.0	76.0	74.0	70.0	67.0	65.0	59.0	76.0
			C	2650	69.0	71.0	77.0	75.0	71.0	68.0	66.0	60.0	77.0
			D	2993	70.0	73.0	80.0	78.0	75.0	70.0	68.0	62.0	80.0
		230 V / 50 Hz	A	1382	64.0	66.0	72.0	70.0	66.0	63.0	61.0	55.0	72.0
		2200 rpm	B	1732	62.0	64.0	70.0	68.0	64.0	61.0	59.0	53.0	70.0
			C	2078	64.0	66.0	72.0	70.0	66.0	63.0	61.0	55.0	72.0
			D	2361	64.0	67.0	74.0	72.0	69.0	64.0	62.0	56.0	74.0
		230 V / 50 Hz	A	884	56.0	61.0	60.0	57.0	56.0	54.0	48.0	42.0	61.0
		1400 rpm	B	1110	55.0	60.0	59.0	56.0	55.0	53.0	47.0	41.0	60.0
			C	1324	56.0	61.0	60.0	57.0	56.0	54.0	48.0	42.0	61.0
			D	1498	56.0	63.0	62.0	58.0	59.0	55.0	51.0	43.0	63.0
		230 V / 50 Hz	A	315	N.A.								
		500 rpm	B	398	N.A.								
			C	476	N.A.								
			D	533	N.A.								

#### DIMENSIONAL DRAWINGS DISEGNI DIMENSIONALI

**S80538 – PFP A1-0280 M6F8**

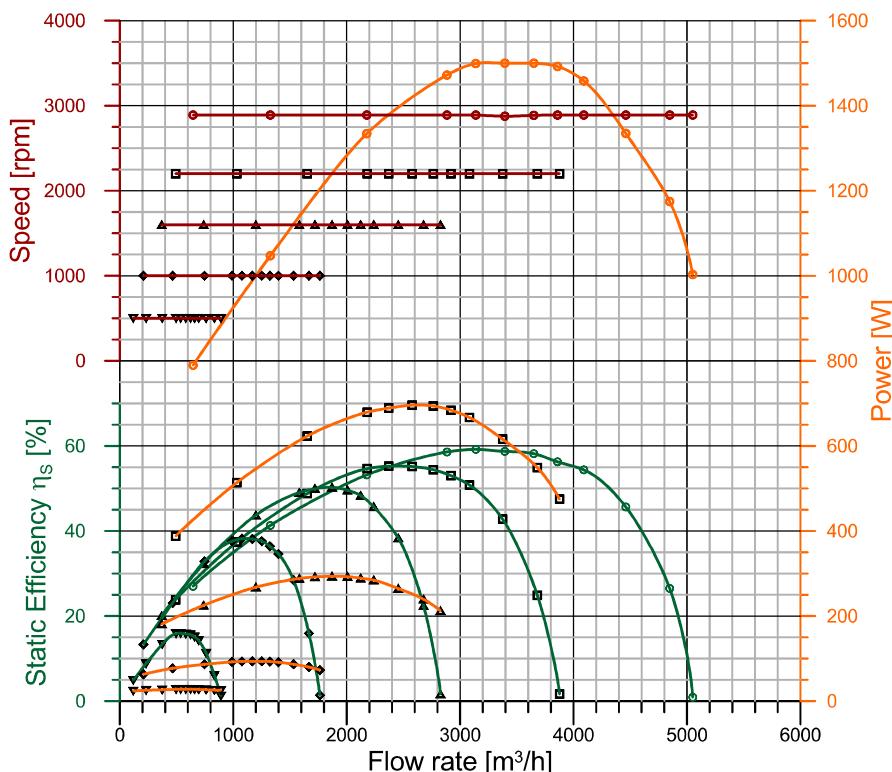
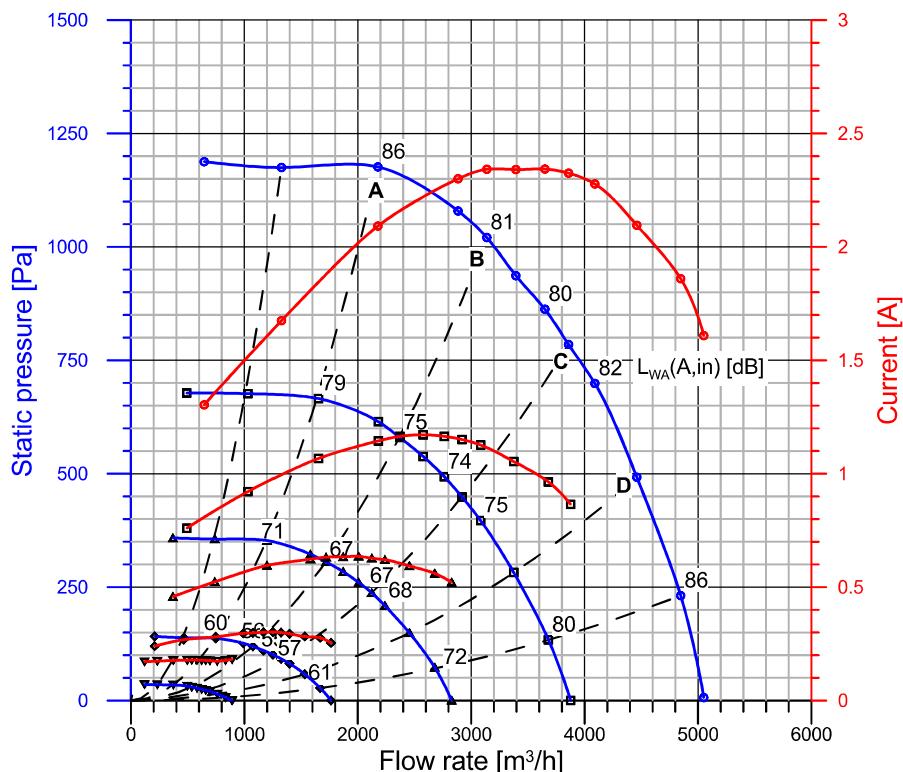


**S80529 – PFP A3-0280 M6F8**



Power: 1500 W (input, max) Protection Cl.: IP 54  
 Poles: 8 Insulation Cl.: F  
 Voltage: 400 V Thermal prot.: YES-Integral  
 Supply: 3~ Temp. Min: -20 °C  
 Frequency: 50-60 Hz Temp. Max: +40 °C (+50°C)  
 Capacitor: n.a. Current Max: 2.34 A

**Type: PFP A3-0315 1.5kW 3Ph**  
**Motor: 1416F8**



Performance data referring to:  
 Standard air density  $\rho = 1.20 \text{ kg / m}^3$   
 Installation type "A": free inlet, free outlet  
 Sound Power Levels shown are  
 Inlet-side  $L_{WA}(A,in)$ , A-weighted, in dBA

### Integral speed-control by On-board Integral Driver

	qv m³/h	pfs Pa	Pe W	n rpm	I A	$\eta_s$ %
<b>Maximum performance curve (10 V)</b>						
A	2177	1176	1334	2890	2.09	53.2
B	3138	1021	1499	2890	2.34	59.2
C	3859	785	1492	2890	2.33	56.3
D	4461	492	1335	2890	2.10	45.7
<b>Performance at 2200 rpm</b>						
A	1653	666	623	2200	1.07	48.8
B	2371	580	689	2200	1.16	55.2
C	2920	449	684	2200	1.15	53.0
D	3375	282	616	2200	1.05	42.8
<b>Performance at 1600 rpm</b>						
A	1199	353	268	1600	0.60	43.7
B	1720	306	292	1600	0.63	49.9
C	2123	237	289	1600	0.63	48.3
D	2455	149	265	1600	0.59	38.3
<b>Performance at 1000 rpm</b>						
A	747	137	86	1000	0.28	32.9
B	1076	119	93	1000	0.30	38.2
C	1323	92	93	1000	0.30	36.4
D	1532	58	87	1000	0.28	28.5
<b>Performance at 500 rpm</b>						
A	374	34	27	500	0.18	13.4
B	536	30	28	500	0.18	15.9
C	659	23	28	500	0.18	15.1
D	761	14	27	500	0.17	11.3

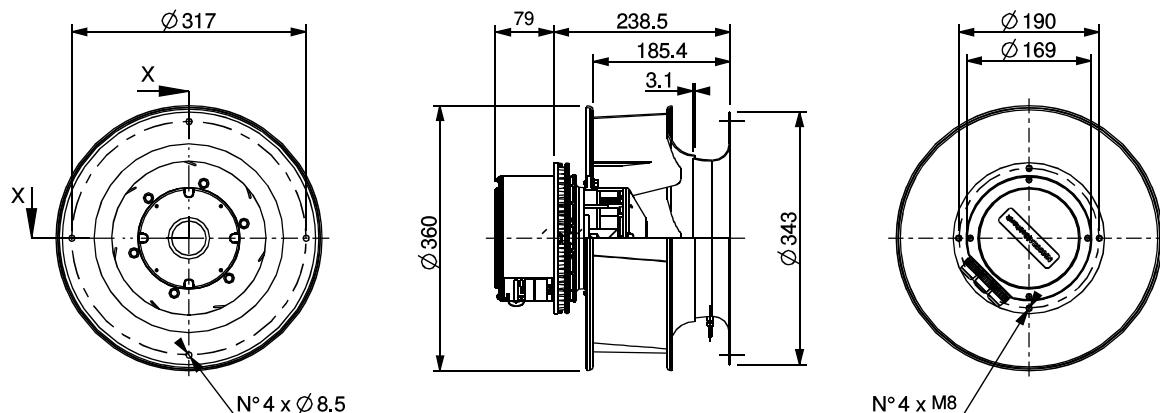
### ErP Data acc. to Reg. 327/11/CE

Performance referred to the best efficiency duty point

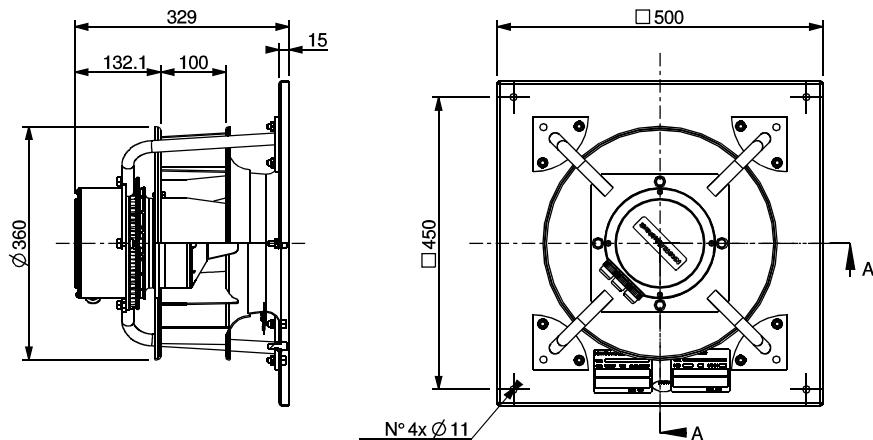
Compl. with Reg. 327/11/EC: Tier II (2015)  
 Overall Efficiency ( $\eta \times C_c$ ) [%]: 63.7  
 Measurement category: A  
 Efficiency category: Static  
 Efficiency grade N [%]: 72.4  
 A variable speed drive is integrated with this fan  
 Manufactured since: 2018  
 By: Nicotra Gebhardt S.p.A.  
 Via Modena 18  
 24040 Ciserano - Italy  
 Power input [kW]: 1.499  
 Volume flow rate qv [m³/s]: 0.872  
 Static Pressure [Pa]: 1021  
 Speed [rpm]: 2890  
 Specific ratio: 1.01  
 Information on:  
 - Disassembly, recycling and disposal at end of life  
 - Optimal installation, use and maintenance of fans  
 are freely downloadable from  
[www.nicotra-geebhardt.com](http://www.nicotra-geebhardt.com)  
 Testing is carried out with the optional components of the test airway required,  
 according to ISO 5801:2007, for the  
 installation type detailed here on top.

# **DIMENSIONAL DRAWINGS DISEGNI DIMENSIONALI**

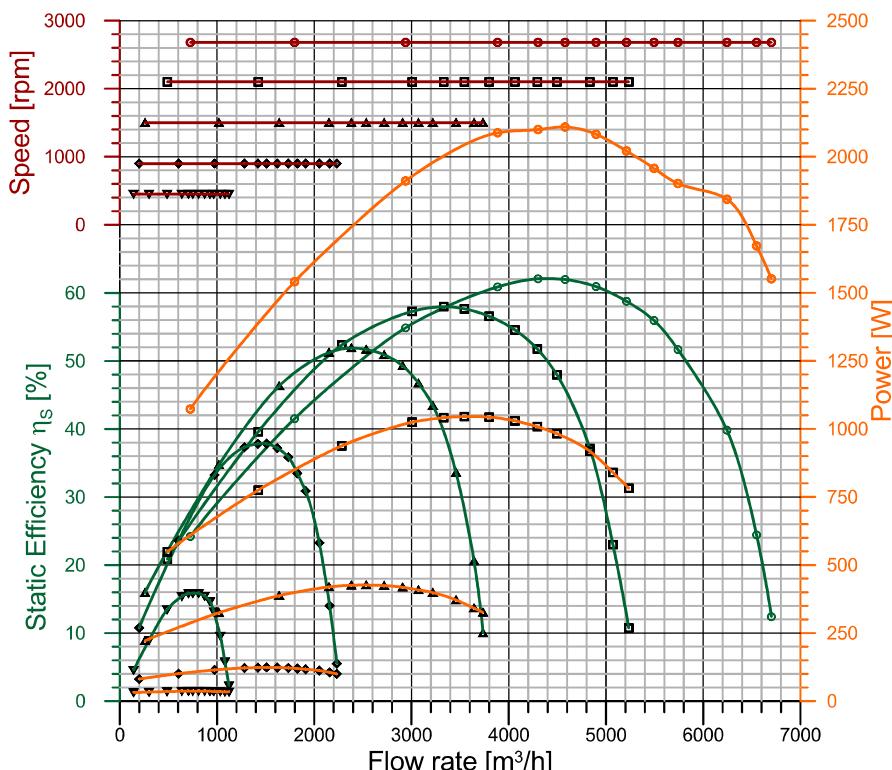
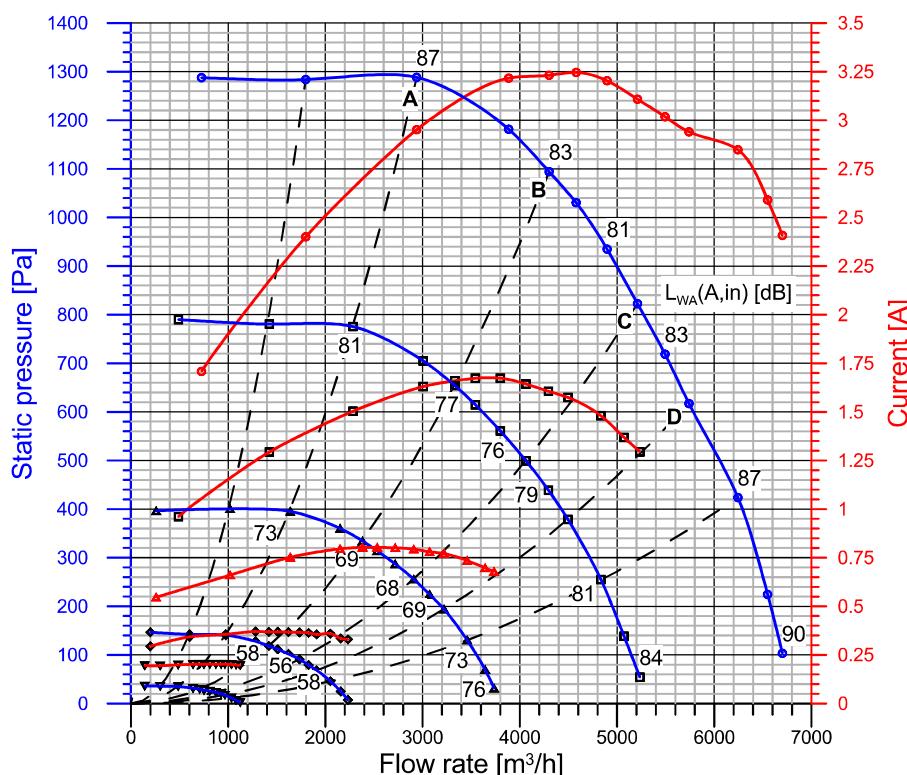
**S80539 – PFP A1-0315 M6F8**



**S80530BQE – PFP A3-0315 M6F8**



Power:	2110 W (input, max)	Protection Cl.:	IP 54
Poles:	8	Insulation Cl.:	F
Voltage:	400 V	Thermal prot.:	YES-Integral
Supply:	3~	Temp. Min:	-20 °C
Frequency:	50-60 Hz	Temp. Max:	+40 °C (+50°C)
Capacitor:	n.a.	Current Max:	3.24 A



Performance data referring to:  
Standard air density  $\rho = 1.20 \text{ kg / m}^3$   
Installation type "A": free inlet, free outlet  
Sound Power Levels shown are  
Inlet-side  $L_{WA}(A,in)$ , A-weighted, in dBA

### Integral speed-control by On-board Integral Driver

	qv m³/h	pfs Pa	Pe W	n rpm	I A	$\eta_s$ %
<b>Maximum performance curve (10 V)</b>						
A	2939	1288	1911	2680	2.95	54.9
B	4302	1094	2100	2680	3.23	62.1
C	5211	823	2021	2680	3.11	58.8
D	5740	617	1902	2680	2.94	51.7
<b>Performance at 2100 rpm</b>						
A	2284	776	938	2100	1.50	52.4
B	3331	654	1041	2100	1.66	58.0
C	4064	499	1030	2100	1.64	54.6
D	4495	379	982	2100	1.57	48.0
<b>Performance at 1500 rpm</b>						
A	1639	395	387	1500	0.75	46.3
B	2382	334	426	1500	0.80	51.9
C	2909	256	418	1500	0.79	49.3
D	3220	194	399	1500	0.77	43.4
<b>Performance at 900 rpm</b>						
A	974	141	114	900	0.36	33.3
B	1420	118	123	900	0.37	37.8
C	1734	91	122	900	0.37	35.9
D	1910	68	117	900	0.36	30.9
<b>Performance at 450 rpm</b>						
A	486	35	35	450	0.20	13.4
B	706	29	36	450	0.20	15.8
C	873	23	36	450	0.20	15.4
D	966	17	36	450	0.20	13.2

### ErP Data acc. to Reg. 327/11/CE

Performance referred to the best efficiency duty point

Compl. with Reg. 327/11/EC: Tier II (2015)  
Overall Efficiency ( $\eta \times C_c$ ) [%]: 66.2  
Measurement category: A  
Efficiency category: Static  
Efficiency grade N [%]: 73.3  
A variable speed drive is integrated with this fan  
Manufactured since: 2018  
By:

Nicotra Gebhardt S.p.A.  
Via Modena 18  
24040 Ciserano - Italy

Power input [kW]: 2.1  
Volume flow rate qv [m³/s]: 1.195  
Static Pressure [Pa]: 1094  
Speed [rpm]: 2680  
Specific ratio: 1.011

Information on:

- Disassembly, recycling and disposal at end of life
- Optimal installation, use and maintenance of fans are freely downloadable from

[www.nicotra-geebhardt.com](http://www.nicotra-geebhardt.com)

Testing is carried out with the optional components of the test airway required, according to ISO 5801:2007, for the installation type detailed here on top.

WIRING DIAGRAM SCHEMA DI COLLEGAMENTO		NOISE DATA DATI DI RUMORE										
		Working point										
			m <sup>3</sup> /h	63	125	250	500	1k	2k	4k	8kHz	LwA
230 V / 50 Hz	A	2939	84.0	85.0	92.0	84.0	78.0	75.0	70.0	64.0		87.0
Fan Maximum	B	4302	79.0	79.0	86.0	81.0	76.0	73.0	70.0	63.0		83.0
Working	C	5211	78.0	78.0	85.0	80.0	75.0	72.0	69.0	62.0		82.0
Limit	D	5740	80.0	80.0	87.0	82.0	77.0	74.0	71.0	64.0		84.0
230 V / 50 Hz	A	2284	78.0	79.0	86.0	78.0	72.0	69.0	64.0	58.0		81.0
2100 rpm	B	3331	73.0	73.0	80.0	75.0	70.0	67.0	64.0	57.0		77.0
	C	4064	73.0	73.0	80.0	75.0	70.0	67.0	64.0	57.0		77.0
	D	4495	74.0	74.0	81.0	76.0	71.0	68.0	65.0	58.0		78.0
230 V / 50 Hz	A	1639	73.0	80.0	73.0	71.0	68.0	61.0	56.0	49.0		73.0
1500 rpm	B	2382	67.0	72.0	70.0	66.0	64.0	59.0	52.0	44.0		69.0
	C	2909	67.0	72.0	70.0	66.0	64.0	59.0	52.0	44.0		69.0
	D	3220	69.0	74.0	72.0	68.0	66.0	61.0	54.0	46.0		71.0
230 V / 50 Hz	A	974	61.0	68.0	61.0	59.0	56.0	49.0	44.0	37.0		61.0
900 rpm	B	1420	54.0	59.0	57.0	53.0	51.0	46.0	39.0	31.0		56.0
	C	1734	54.0	59.0	57.0	53.0	51.0	46.0	39.0	31.0		56.0
	D	1910	56.0	61.0	59.0	55.0	53.0	48.0	41.0	33.0		58.0
230 V / 50 Hz	A	486	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		N.A.
450 rpm	B	706	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		N.A.
	C	873	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		N.A.
	D	966	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		N.A.

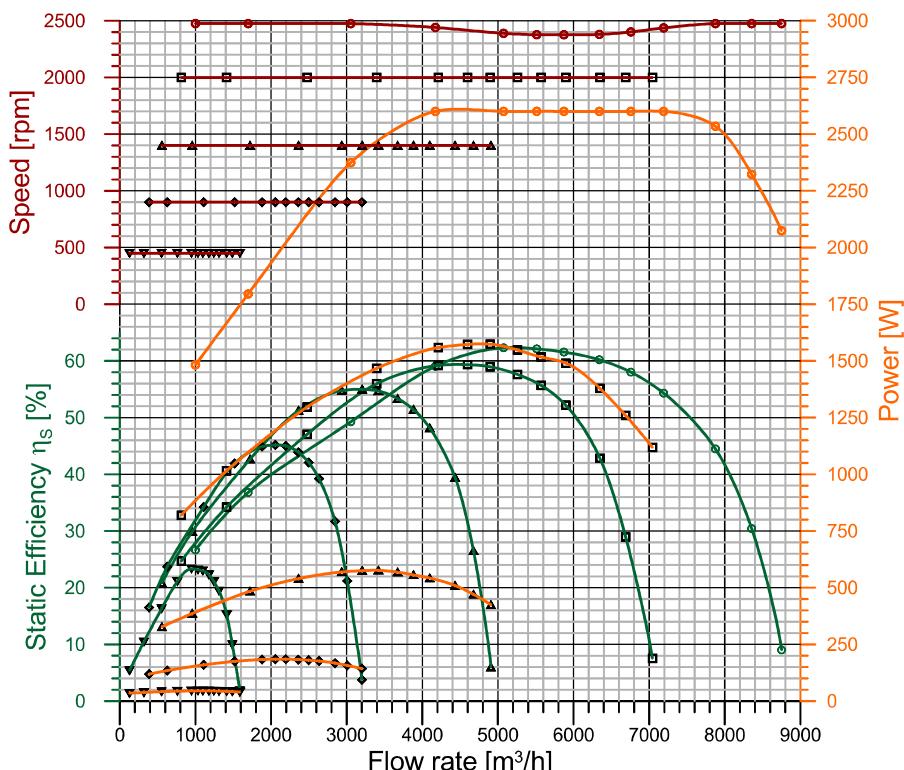
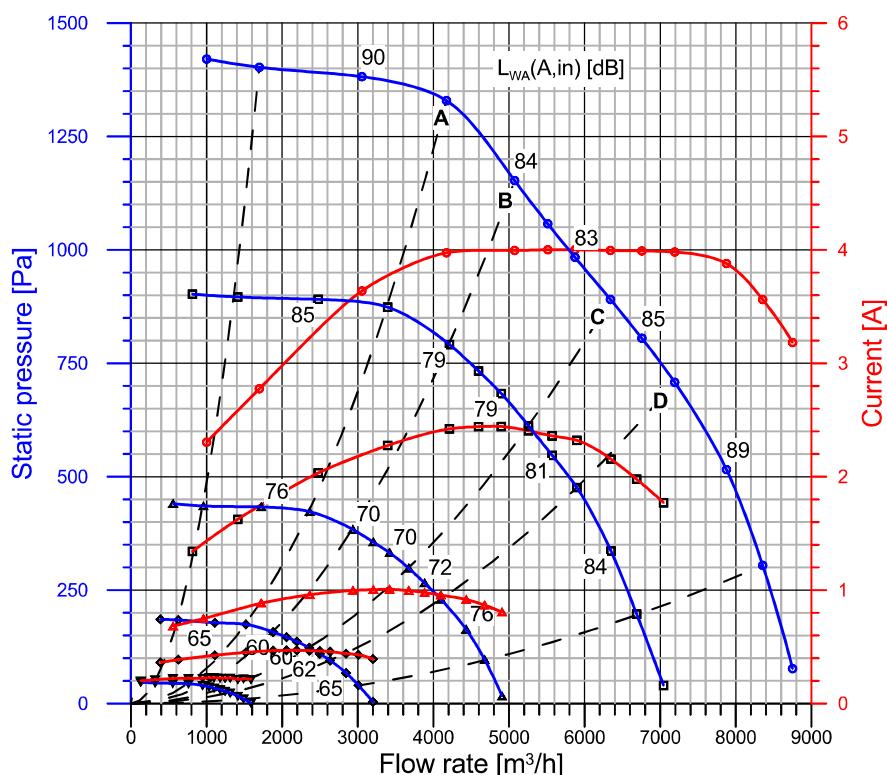
  

DIMENSIONAL DRAWINGS DISEGNI DIMENSIONALI	
<b>S80540 – PFP A1-0355 M6F6</b>	

<b>S80531BQE – PFP A3-0355 M6F6</b>	

Power:	2600 W (input, max)	Protection Cl.:	IP 54
Poles:	8	Insulation Cl.:	F
Voltage:	400 V	Thermal prot.:	YES-Integral
Supply:	3~	Temp. Min:	-20 °C
Frequency:	50-60 Hz	Temp. Max:	+40 °C (+50°C)
Capacitor:	n.a.	Current Max:	4.0 A



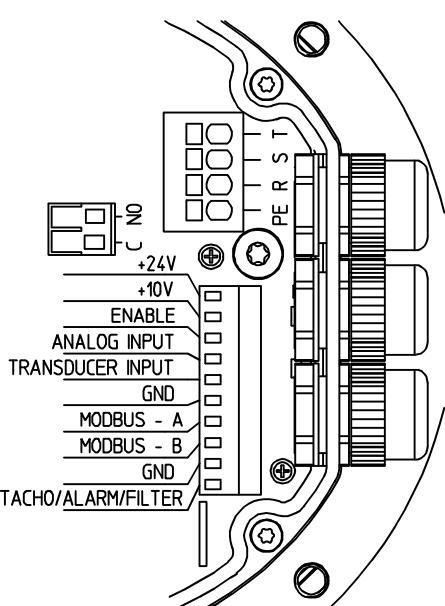
## Integral speed-control by On-board Integral Driver

	qv m3/h	pfs Pa	Pe W	n rpm	I A	$\eta_S$ %
<b>○ Maximum performance curve (10 V)</b>						
A	4173	1329	2600	2441	3.97	59.1
B	5074	1153	2600	2389	4.00	62.3
C	6341	891	2600	2380	4.00	60.2
D	7192	708	2600	2437	3.98	54.3
<b>□ Performance at 2000 rpm</b>						
A	3396	874	1467	2000	2.28	56.0
B	4212	791	1558	2000	2.42	59.2
C	5259	612	1548	2000	2.40	57.6
D	5897	476	1490	2000	2.32	52.2
<b>△ Performance at 1400 rpm</b>						
A	2364	423	540	1400	0.96	51.3
B	2935	383	569	1400	1.00	54.8
C	3674	298	568	1400	1.00	53.3
D	4098	230	542	1400	0.96	48.2
<b>◇ Performance at 900 rpm</b>						
A	1519	174	175	900	0.45	41.9
B	1881	158	183	900	0.47	44.9
C	2359	123	183	900	0.47	43.9
D	2634	95	177	900	0.46	39.2
<b>▽ Performance at 450 rpm</b>						
A	761	44	44	450	0.22	21.1
B	947	40	45	450	0.22	23.3
C	1178	31	45	450	0.23	22.3
D	1311	24	44	450	0.23	19.4

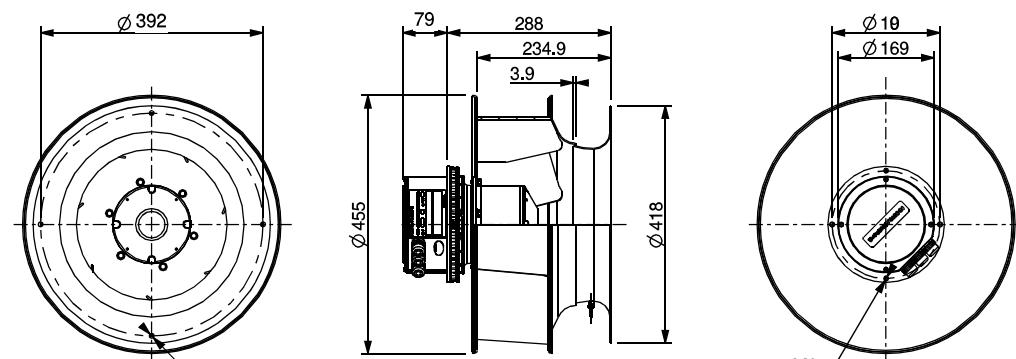
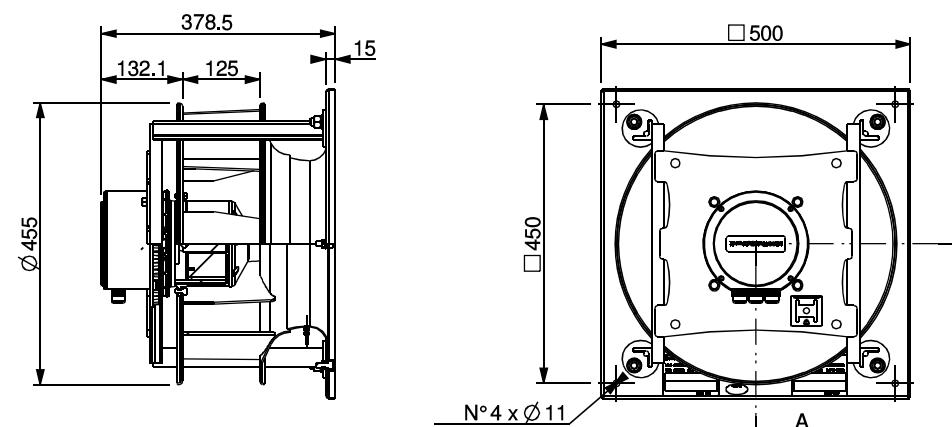
ErP Data acc. to Reg. 327/11/CE

Performance referred to the best efficiency duty point

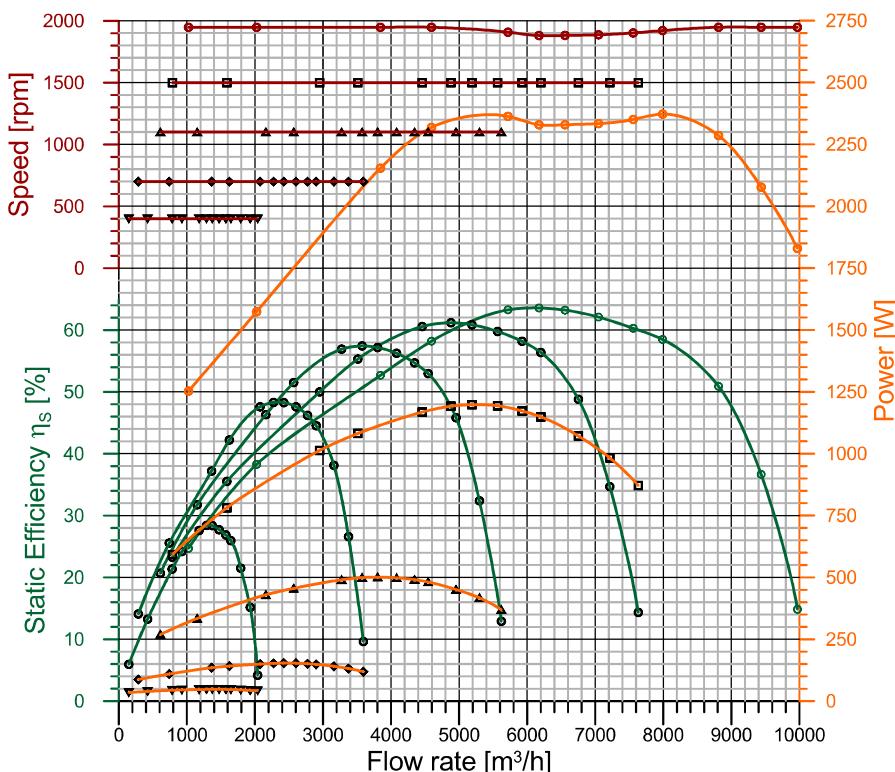
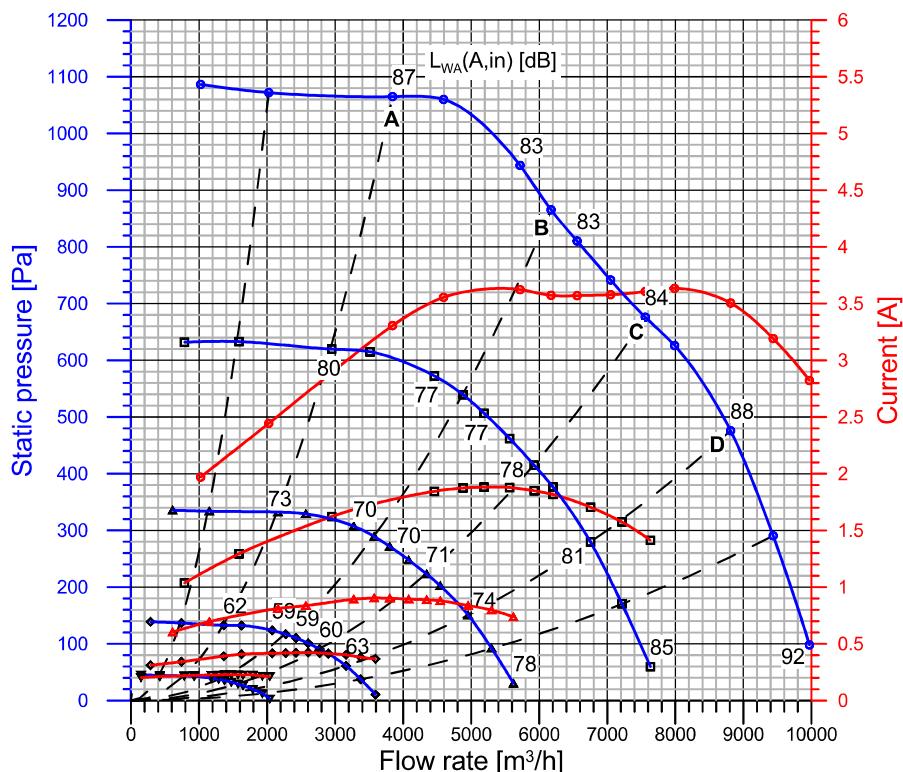
Compl. with Reg. 327/11/EC: Tier II (2015)  
 Overall Efficiency ( $\eta \times C_c$ ) [%]: 66.0  
 Measurement category: A  
 Efficiency category: Static  
 Efficiency grade N [%]: 72.1  
 A variable speed drive is integrated with this fan  
 Manufactured since: 2018  
 By:  
*Nicotra Gebhardt S.p.A.*  
*Via Modena 18*  
*24040 Ciserano - Italy*  
 Power input [kW]: 2.6  
 Volume flow rate  $q_v$  [ $m^3/s$ ]: 1.410  
 Static Pressure [Pa]: 1153  
 Speed [rpm]: 2389  
 Specific ratio: 1.011  
 Information on:  
   - Disassembly, recycling and disposal at end of life  
   - Optimal installation, use and maintenance of fans  
 are freely downloadable from  
[www.nicotra-gehardt.com](http://www.nicotra-gehardt.com)  
 Testing is carried out with the optional  
 components of the test airway required,  
 according to ISO 5801:2007, for the

WIRING DIAGRAM SCHEMA DI COLLEGAMENTO		NOISE DATA DATI DI RUMORE										
		Working point										
			m <sup>3</sup> /h	63	125	250	500	1k	2k	4k	8kHz	LwA
230 V / 50 Hz	A	4173	81.0	86.0	90.0	85.0	78.0	72.0	67.0	62.0	62.0	86.0
Fan Maximum	B	5074	79.0	81.0	87.0	82.0	76.0	74.0	69.0	63.0	63.0	84.0
Working	C	6341	79.0	81.0	87.0	82.0	76.0	74.0	69.0	63.0	63.0	84.0
Limit	D	7192	82.0	84.0	90.0	85.0	79.0	77.0	72.0	66.0	66.0	87.0
230 V / 50 Hz	A	3396	76.0	81.0	85.0	80.0	73.0	67.0	62.0	57.0	57.0	81.0
2000 rpm	B	4212	74.0	76.0	82.0	77.0	71.0	69.0	64.0	58.0	58.0	79.0
	C	5259	75.0	77.0	83.0	78.0	72.0	70.0	65.0	59.0	59.0	80.0
	D	5897	77.0	79.0	85.0	80.0	74.0	72.0	67.0	61.0	61.0	82.0
230 V / 50 Hz	A	2364	73.0	81.0	73.0	71.0	66.0	61.0	56.0	50.0	50.0	73.0
1400 rpm	B	2935	68.0	75.0	72.0	69.0	64.0	58.0	52.0	44.0	44.0	70.0
	C	3674	69.0	76.0	73.0	70.0	65.0	59.0	53.0	45.0	45.0	71.0
	D	4098	71.0	78.0	75.0	72.0	67.0	61.0	55.0	47.0	47.0	73.0
230 V / 50 Hz	A	1519	62.0	70.0	62.0	60.0	55.0	50.0	45.0	39.0	39.0	62.0
900 rpm	B	1881	58.0	65.0	62.0	59.0	54.0	48.0	42.0	34.0	34.0	60.0
	C	2359	58.0	65.0	62.0	59.0	54.0	48.0	42.0	34.0	34.0	60.0
	D	2634	61.0	68.0	65.0	62.0	57.0	51.0	45.0	37.0	37.0	63.0
230 V / 50 Hz	A	761	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
450 rpm	B	947	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	C	1178	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	D	1311	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

DIMENSIONAL DRAWINGS DISEGNI DIMENSIONALI	
<b>S80541 – PFP A1-0400 M6F5</b>	
	
<b>S80532BQE – PFP A3-0400 M6F5</b>	
	

Power:	2370 W (input, max)	Protection Cl.:	IP 54
Poles:	8	Insulation Cl.:	F
Voltage:	400 V	Thermal prot.:	YES-Integral
Supply:	3~	Temp. Min:	-20 °C
Frequency:	50-60 Hz	Temp. Max:	+40 °C (+50°C)
Capacitor:	n.a.	Current Max:	3.64 A



Performance data referring to:  
Standard air density  $\rho = 1.20 \text{ kg / m}^3$   
Installation type "A": free inlet, free outlet  
Sound Power Levels shown are  
Inlet-side  $L_{WA}(A,in)$ , A-weighted, in dBA

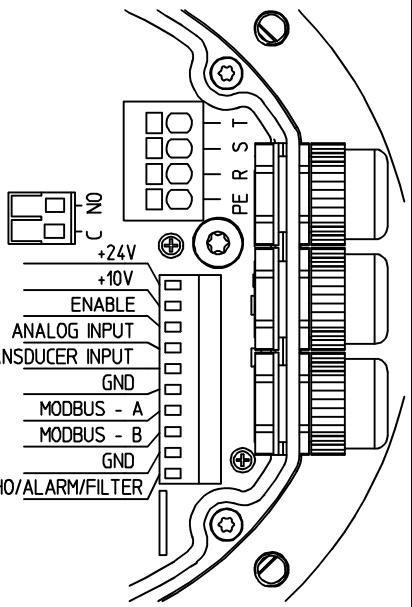
### Integral speed-control by On-board Integral Driver

qv m³/h	pfs Pa	Pe W	n rpm	I A	η <sub>s</sub> %
<b>Maximum performance curve (10 V)</b>					
A	3844	1065	2154	1948	3.31 52.7
B	6173	865	2329	1881	3.57 63.6
C	7558	676	2351	1902	3.61 60.3
D	8812	476	2285	1948	3.51 50.9
<b>Performance at 1500 rpm</b>					
A	2951	620	1013	1500	1.62 50.0
B	4880	539	1192	1500	1.87 61.2
C	5925	415	1172	1500	1.85 58.2
D	6753	280	1071	1500	1.70 48.8
<b>Performance at 1100 rpm</b>					
A	2160	332	430	1100	0.81 46.3
B	3575	289	499	1100	0.90 57.4
C	4345	223	491	1100	0.89 54.7
D	4955	151	451	1100	0.84 45.8
<b>Performance at 700 rpm</b>					
A	1363	133	135	700	0.39 37.2
B	2274	117	153	700	0.42 48.3
C	2773	91	151	700	0.42 46.2
D	3161	61	141	700	0.40 38.1
<b>Performance at 400 rpm</b>					
A	784	43	44	400	0.22 21.3
B	1289	38	47	400	0.23 28.4
C	1573	29	47	400	0.23 26.9
D	1791	20	45	400	0.23 21.5

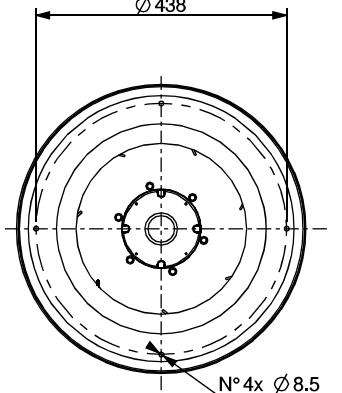
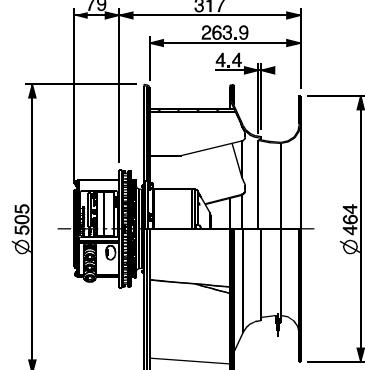
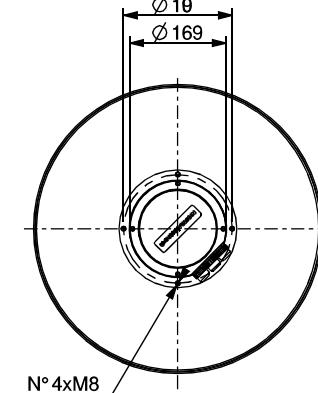
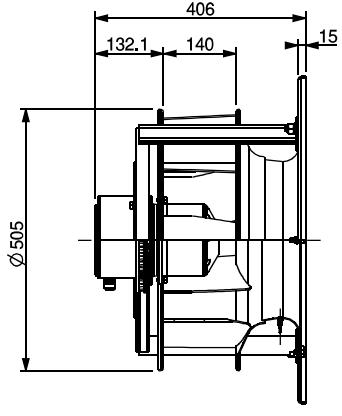
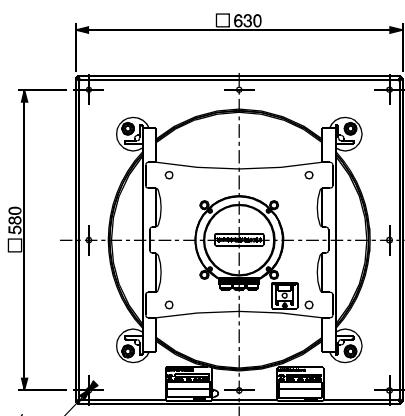
### ErP Data acc. to Reg. 327/11/CE

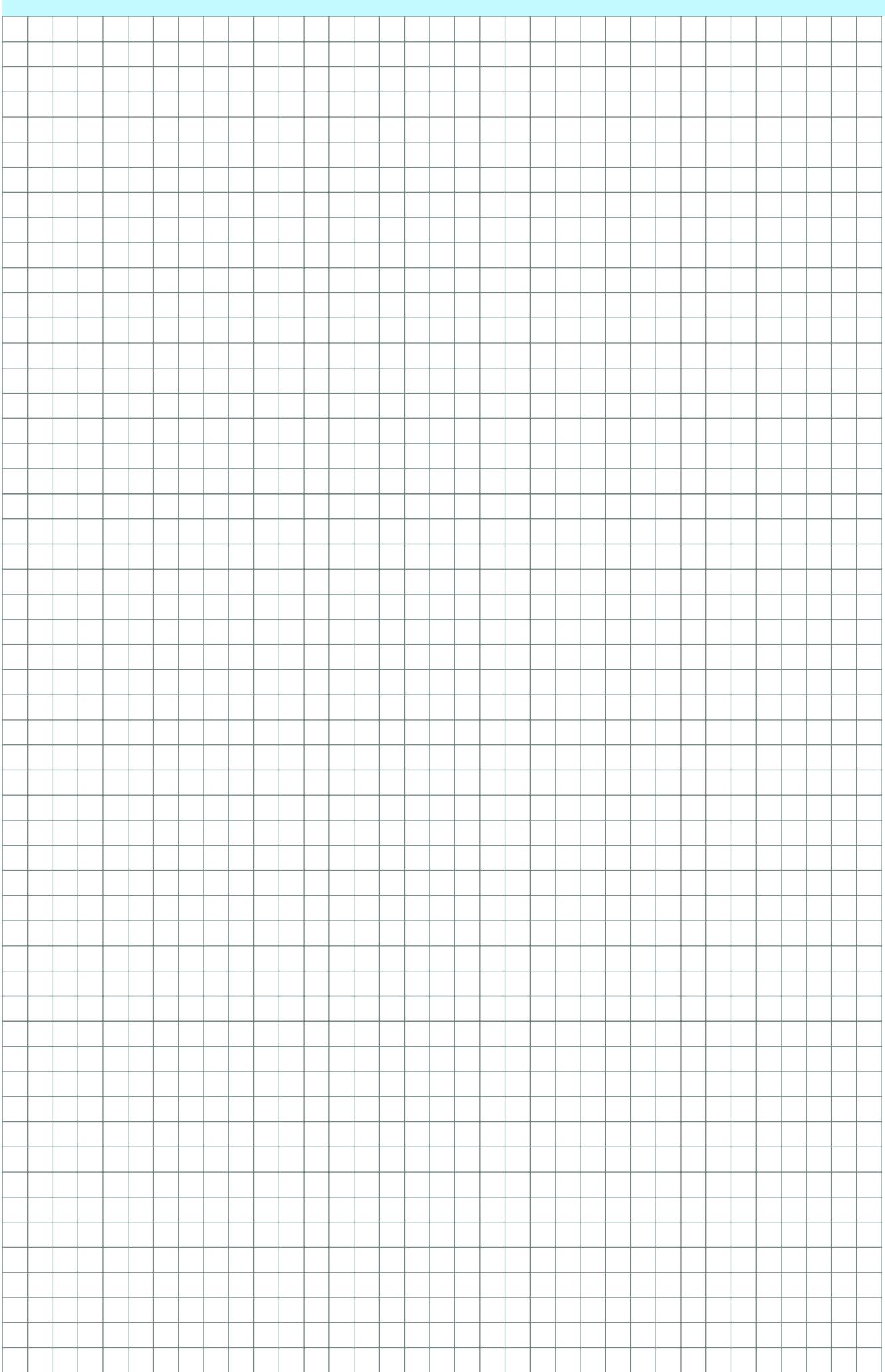
Performance referred to the best efficiency duty point

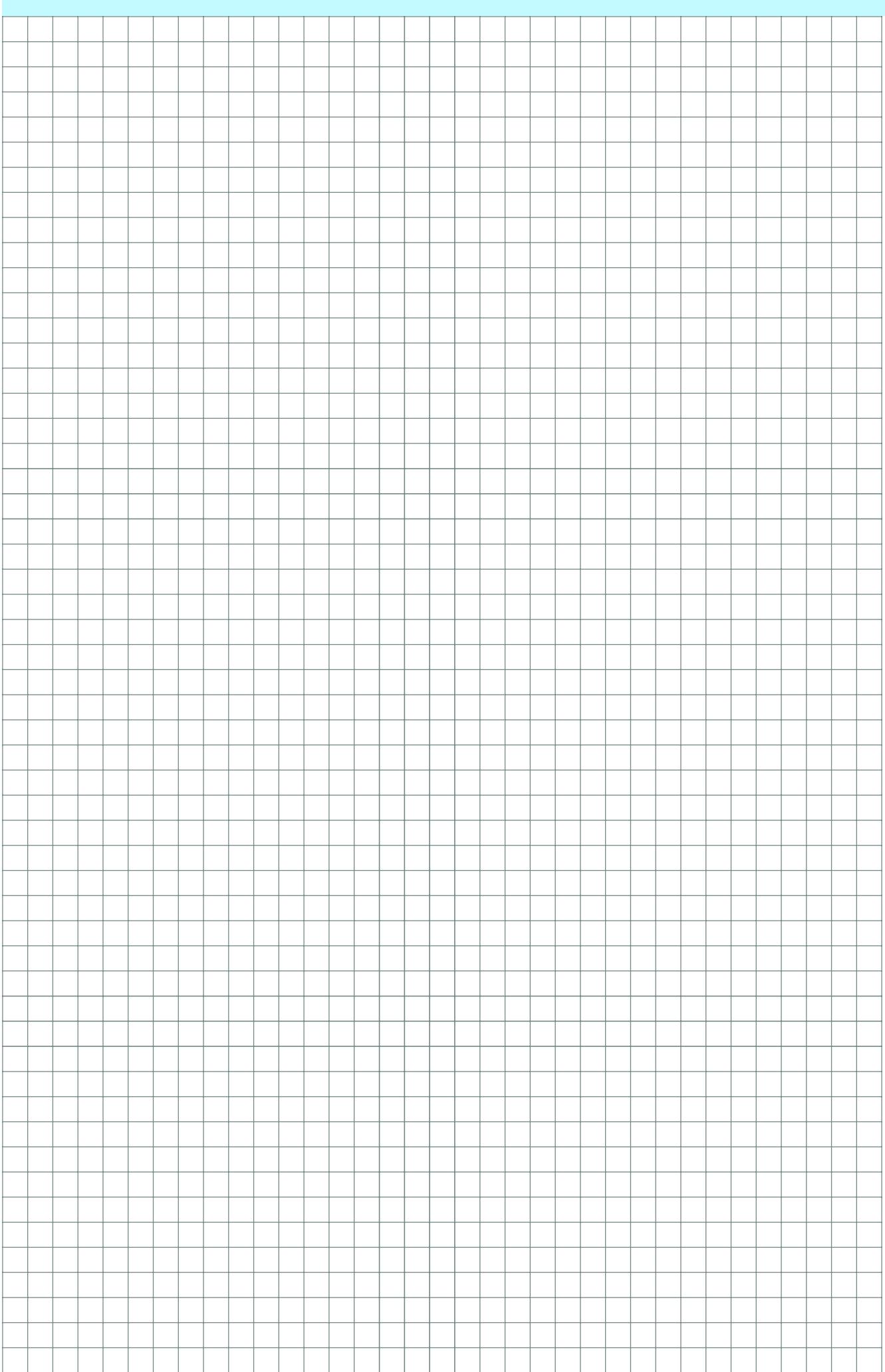
Compl. with Reg. 327/11/EC:	Tier II (2015)
Overall Efficiency ( $\eta \times C_c$ ) [%]:	67.6
Measurement category:	A
Efficiency category:	Static
Efficiency grade N [%]:	74.2
A variable speed drive is integrated with this fan	
Manufactured since:	2018
By:	Nicotra Gebhardt S.p.A. Via Modena 18 24040 Ciserano - Italy
Power input [kW]:	2.329
Volume flow rate qv [m³/s]:	1.715
Static Pressure [Pa]:	865
Speed [rpm]:	1881
Specific ratio:	1.009
Information on:	<ul style="list-style-type: none"> <li>- Disassembly, recycling and disposal at end of life</li> <li>- Optimal installation, use and maintenance of fans are freely downloadable from <a href="http://www.nicotra-geebhardt.com">www.nicotra-geebhardt.com</a></li> </ul>
Testing is carried out with the optional components of the test airway required, according to ISO 5801:2007, for the installation type detailed here on top.	

WIRING DIAGRAM SCHEMA DI COLLEGAMENTO		NOISE DATA DATI DI RUMORE										
												
Working point		m <sup>3</sup> /h	63	125	250	500	1k	2k	4k	8kHz	LwA	
230 V / 50 Hz	A	3844	84.0	95.0	89.0	85.0	79.0	74.0	67.0	62.0	87.0	
Fan Maximum	B	6173	79.0	86.0	87.0	81.0	75.0	71.0	65.0	59.0	83.0	
Working	C	7558	80.0	87.0	88.0	82.0	76.0	72.0	66.0	60.0	84.0	
Limit	D	8812	84.0	91.0	92.0	86.0	80.0	76.0	71.0	65.0	88.0	
230 V / 50 Hz	A	2951	86.0	89.0	81.0	78.0	73.0	67.0	62.0	55.0	80.0	
1500 rpm	B	4880	73.0	80.0	81.0	75.0	69.0	65.0	59.0	53.0	77.0	
	C	5925	74.0	81.0	82.0	76.0	70.0	66.0	60.0	54.0	78.0	
	D	6753	77.0	84.0	85.0	79.0	73.0	69.0	64.0	58.0	81.0	
230 V / 50 Hz	A	2160	79.0	82.0	74.0	71.0	66.0	60.0	55.0	48.0	73.0	
1100 rpm	B	3575	70.0	76.0	71.0	67.0	63.0	57.0	50.0	43.0	69.0	
	C	4345	72.0	78.0	73.0	69.0	65.0	59.0	52.0	45.0	71.0	
	D	4955	74.0	81.0	76.0	72.0	68.0	62.0	55.0	48.0	74.0	
230 V / 50 Hz	A	1363	68.0	71.0	63.0	60.0	55.0	49.0	44.0	37.0	62.0	
700 rpm	B	2274	60.0	66.0	61.0	57.0	53.0	47.0	40.0	33.0	59.0	
	C	2773	61.0	67.0	62.0	58.0	54.0	48.0	41.0	34.0	60.0	
	D	3161	63.0	70.0	65.0	61.0	57.0	51.0	44.0	37.0	63.0	
230 V / 50 Hz	A	784	N.A.									
400 rpm	B	1289	N.A.									
	C	1573	N.A.									
	D	1791	N.A.									

DIMENSIONAL DRAWINGS DISEGNI DIMENSIONALI	
<b>S80542 – PFP A1-0450 M6F7</b>	
	
	
<b>S80533BQE – PFP A3-0450 M6F7</b>	
	





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