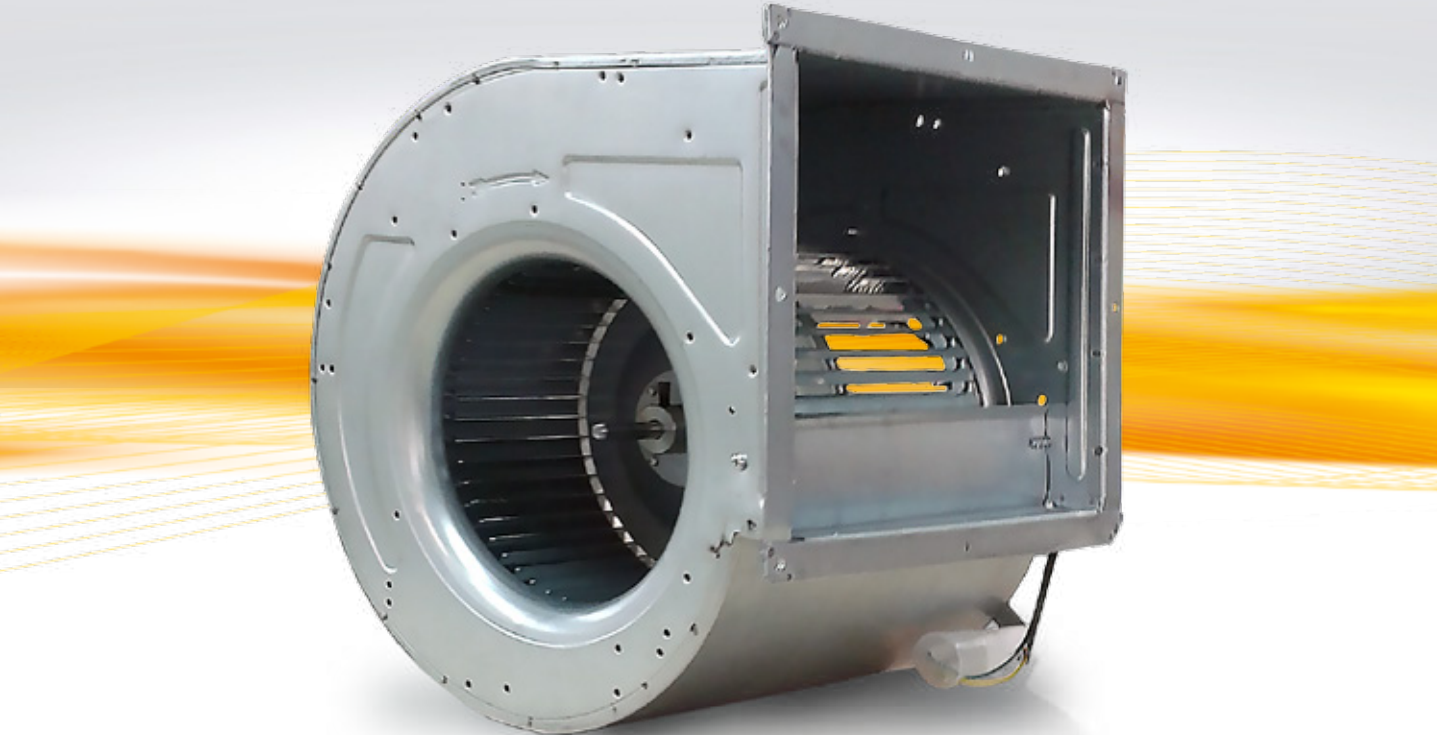


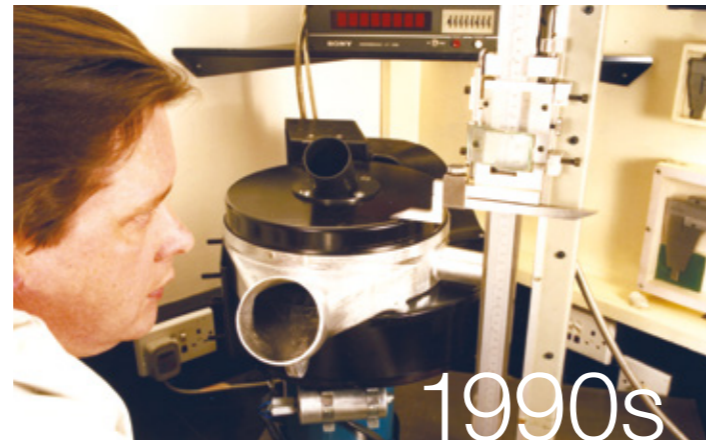
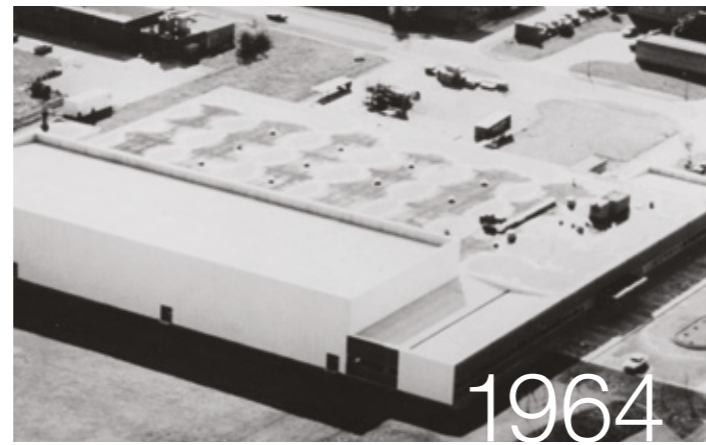
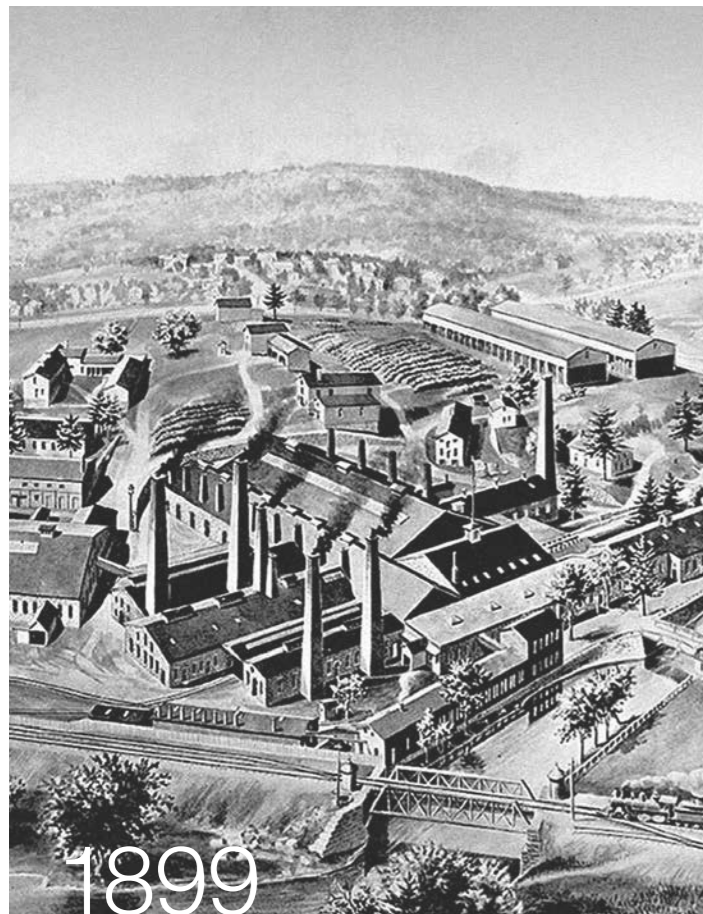
Innovate **360** 



AC Single & Three-Phase
Direct Drive Fans

torin-sifan
The Partner of Choice





For over a century...

History

Originally formed over 100 years ago as part of the USA based Torin Corporation, and then established as a UK subsidiary in 1964; Torin-Sifan has developed into an independent market leader in the supply of air-movement products, incorporating more than 50 years of continued UK innovation.

Core Focus

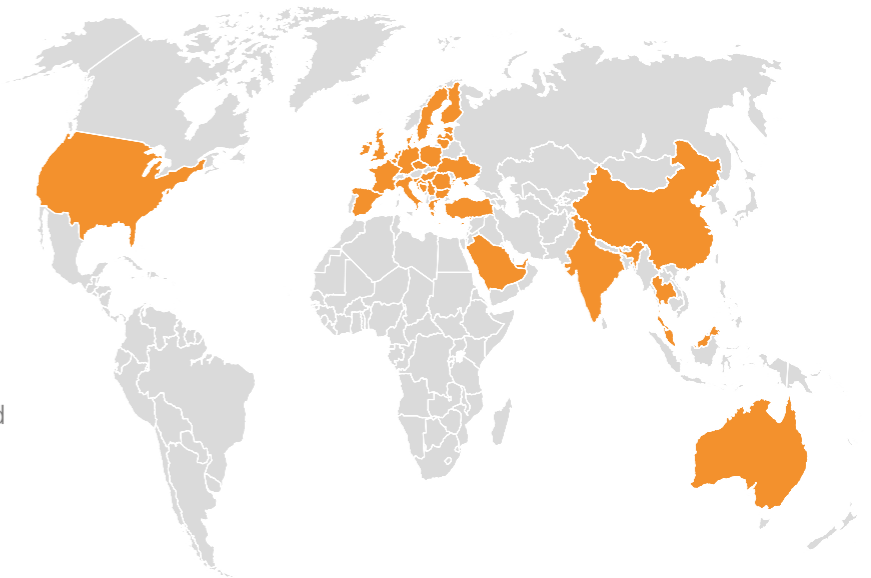
Torin-Sifan is a technology expert in the design, development and manufacture of centrifugal impellers, traditional AC motors and highly efficient Electronically Commutated (EC) motors.

Torin-Sifan products exceed the requirements of European energy saving legislation, and importantly this helps our customers to position themselves at the forefront of their markets.



International

Torin-Sifan sales are distributed evenly between the UK and various international markets across Europe, USA and the Asia Pacific region. Our product range has proven to be ideal for a diverse range of applications such as the heating, ventilation, air conditioning, household appliance and IT/telecom sectors, amongst others.



Investments

An investment of over £2m in 2014 saw Torin-Sifan opening its new EC Manufacturing & Technology Centre in the UK. This provides additional capacity to ensure best-in-class service levels for the ever increasing demand for high efficiency fans.

During 2016, we launched our latest generation EC motor platform, offering leading edge specification, various features and benefits, together with a design which takes into account manufacturing techniques, ensuring high levels of reliability and quality.

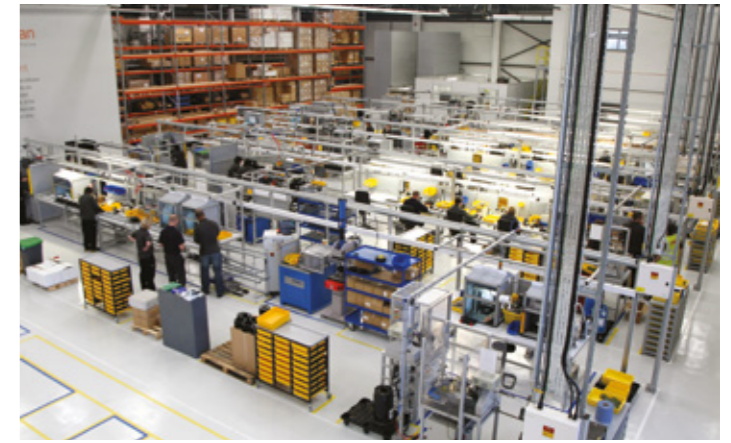
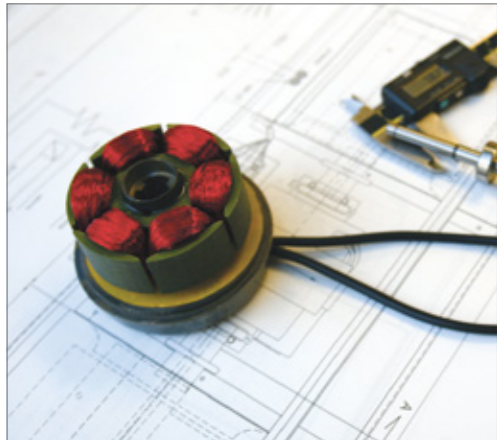


Quality and Legislation

Torin-Sifan is an ISO 9001 certified organisation. We recognise that the quality and reliability of our products, coupled with great service, form the most sought after set of purchasing criteria for our customers.

Torin-Sifan is also an active member of the UK Trade Association (FETA) and the European Ventilation Industry Association (EVIA).

This ensures that Torin-Sifan is at the forefront of European policy meaning regulatory challenges set by the EU are commercially and technically realistic for both our business and our customers.



Why is Torin-Sifan the partner of choice?

Torin-Sifan is proud to partner with the customer base on custom designs, co-developments and technology licence agreements. Understanding the needs of customers, legislation that affects the various industries, whilst creating value and innovation is at the very heart of business for Torin-Sifan.

Expertise in aerodynamic design, EC motor technology, drive technology, efficiency and acoustics, plus our willingness to share this knowledge has positioned Torin-Sifan as the partner of choice for energy efficient air movement solutions.

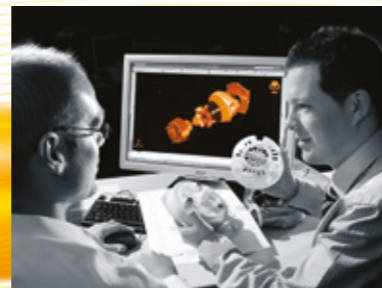
We want our customers to always get the best from their products, so your requirements are paramount to us. You can benefit from a flexible & tailored set of services on offer.

Current examples include:

- Specific housing designs, including material thickness, mounting-hole locations and flange design
- Lead lengths cut to size and your specified plug fitted
- External or on-board electronics options
- Performance optimisation, including impeller and electronics design
- Licensing agreements for electronic circuitry

- Production and balancing of fans within your own product assemblies

Feel free to ask about our value-add-services if you don't see what you require.



“Most importantly, our expertise is centred on understanding a fan’s specific performance in each application, however complex that application is”

Direct Drive Pedigree

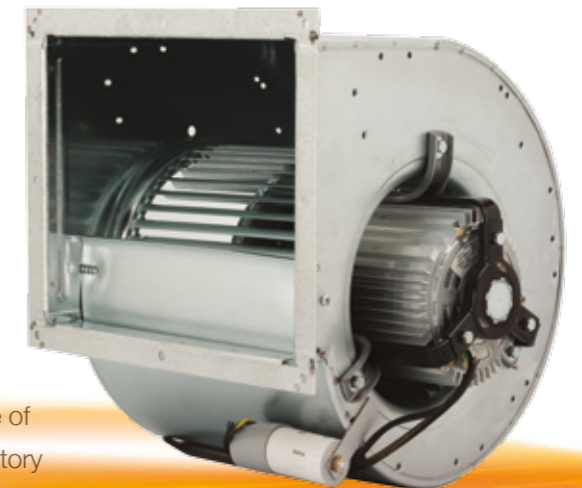
Here at Torin-Sifan we first started manufacturing AC Direct Drive fans in our UK Factory in 1964 and have since established ourselves as a leading producer of Direct Drive fans in Europe. Literally millions of Torin-Sifan Direct Drive fans have been produced and supplied into the Worldwide air-movement market over the years.

Torin-Sifan offers a full range of direct drive fans utilising both traditional single and three-phase AC motor technology as well as three-phase AC motors with integrated inverters providing

higher efficiencies and enhanced controllability.

In addition, our latest generation EC range, with on-board electronics, offers the ultimate in efficiency and controllability and far exceeds the efficiency requirements of the Energy Related Products Directive (ErP), January 2015.

All of our direct drive products benefit from a range of accessories which can be factory fitted including outlet flanges, mounting feet, cubic frames and painted finishes.



ACDDC Single-Phase range summary



ACDDC 241-181 (9/7) ACDDC 241-241 (9/9) ACDDC 270-203 (10/8) ACDDC 270-270 (10/10) ACDDC 321-241 (12/9) ACDDC 321-321 (12/12) ACDDC 381-286 (15/11) ACDDC 381-381 (15/15)

Description

The AC Direct Drive Fans from Torin-Sifan comprise a range of impeller sizes from 241 mm to 381 mm.

All of the metal components that make up the Direct Drive fan are produced within our press shop, including side housings, wraps and impellers, prior to arriving at the assembly process where the impellers are balanced and

the products are engineered together.

A key feature of the services that Torin-Sifan offers is our ability to design non-standard and application-specific fans. This means that we optimise our products to suit your application, rather than you having to compromise your application to suit our product.

The types of applications that these high-flow fans are typically suited to include: ventilation units, air handling units, air curtains, commercial heating units and heat recovery.

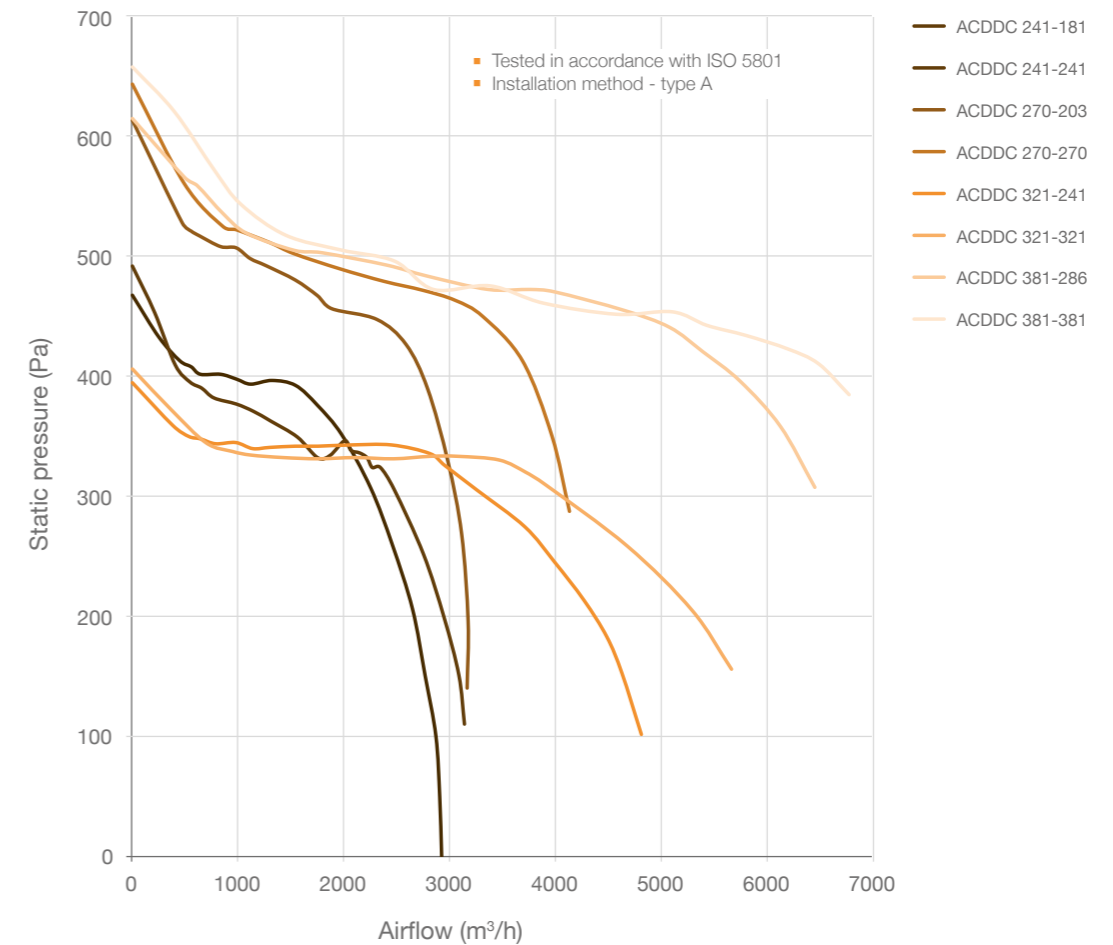
Fan cases and impellers are manufactured from corrosion resistant galvanised steel.

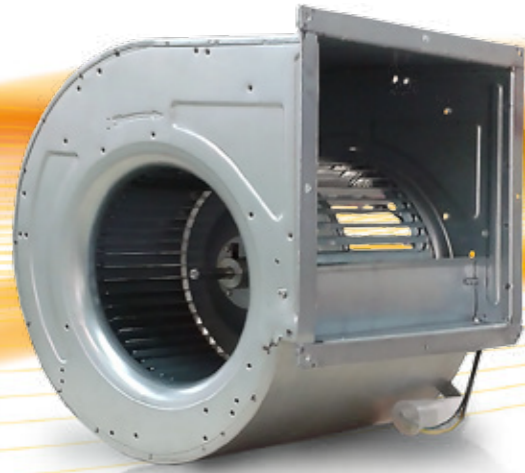
Typical Specifications & Features

Technical Data	
Mode of Operation	Continuous
Supply Voltage	230 V (single-phase models) 400 V (three-phase models)
Supply Frequency	50 Hz
Flash Test	1800 V for 3 seconds
Protection	Thermal protector 160 °C ± 10 °C
Motor Protection	IP10 through to IP31
Motor Insulation Class	F
Operational Temperature	-20 °C to +40 °C
Material - Housing	Galvanised steel
- Impeller	Galvanised steel
- Motor	Cast/extruded aluminium
Mounting - Motor	In airstream
Bearings	Sealed for life ball
Balance Grade	G6.3 or better
Standards - LVD	EN 60335-1 EN60335-2-80

Technical Data								
Supply (V/Ph/Hz)	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
Max Airflow (m³/h)	2933	3148	3175	4133	4816	5667	6390	6782
Max Current (A)	5.0	4.7	6.4	8.8	6.8	8.0	9.8	10.0
Max Input Power (W)	1060	970	1268	1754	1420	1610	2070	2200
Max Speed (rpm)	1472	1475	1464	1481	991	992	986	986
ErP Efficiency Rating (FMEG)	45	44	44	44	45	44	44	44
IP Rating	31	10	30	10	10	10	10	10
Motor Insulation Class	F	F	F	F	F	F	F	F
Temperature Range (°C)	-20 to +40	-20 to +40	-20 to +40	-20 to +40	-20 to +40	-20 to +40	-20 to +40	-20 to +40

ACDDC Single-Phase Consolidated Graph – Test Power Supply: 230V 50Hz





3-speed option

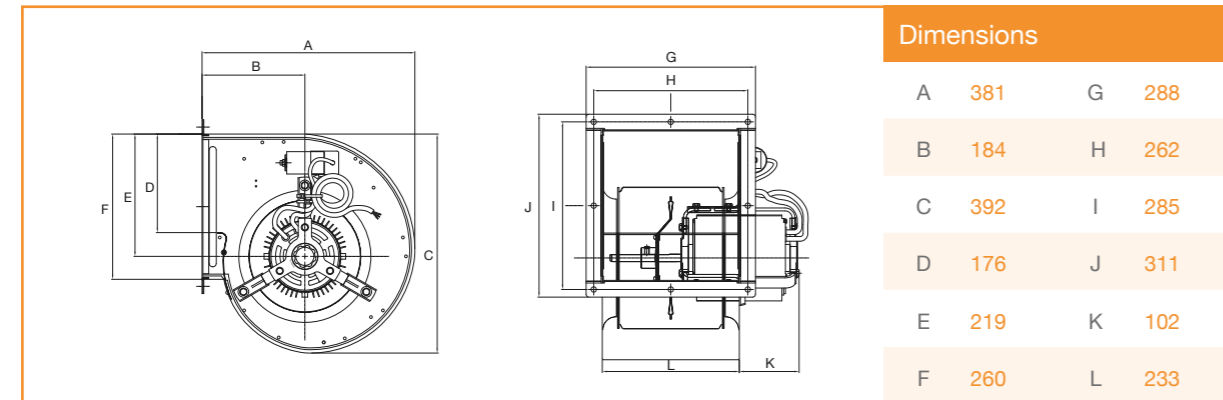
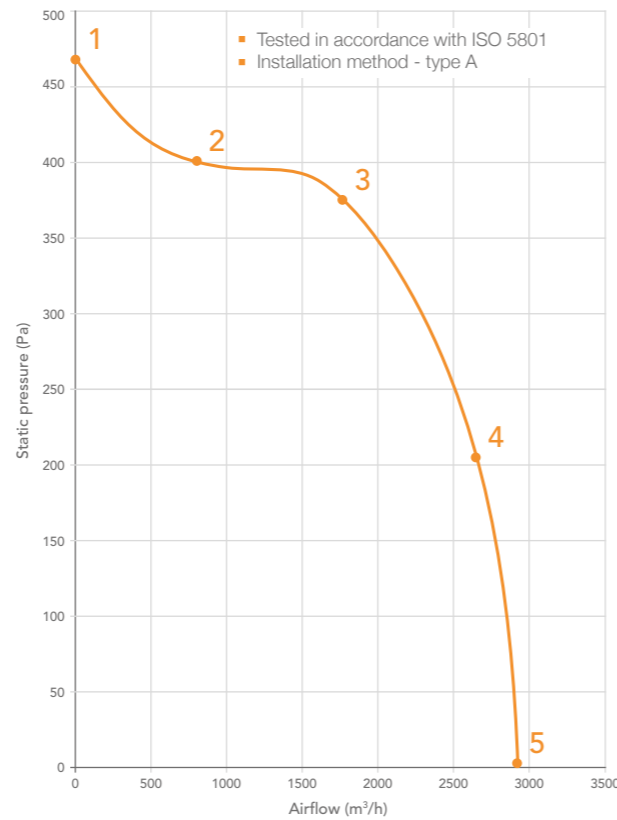


AC Single-Phase direct drive fans

ACDDC 241-181 (9/7)

Technical Data	
Supply (V/Ph/Hz)	230/1/50
Max Airflow	2933 m ³ /h
Max Current	5.0 A
Max Input Power	1060 W
Max Speed	1472 rpm
ErP Efficiency Rating (FMEG)	45
IP Rating	31
Motor Insulation Class	F
Temperature Range	-20 °C to +40 °C

Performance Data					
Data point	Static Pressure (Pa)	Airflow (m ³ /h)	Current (A)	Speed (rpm)	Power (W)
1	467	0.0	1.34	1472	275
2	401	837	1.57	1457	339
3	376	1754	2.29	1414	510
4	206	2656	3.78	1287	820
5	0.0	2933	5.00	1061	1060



3-speed option

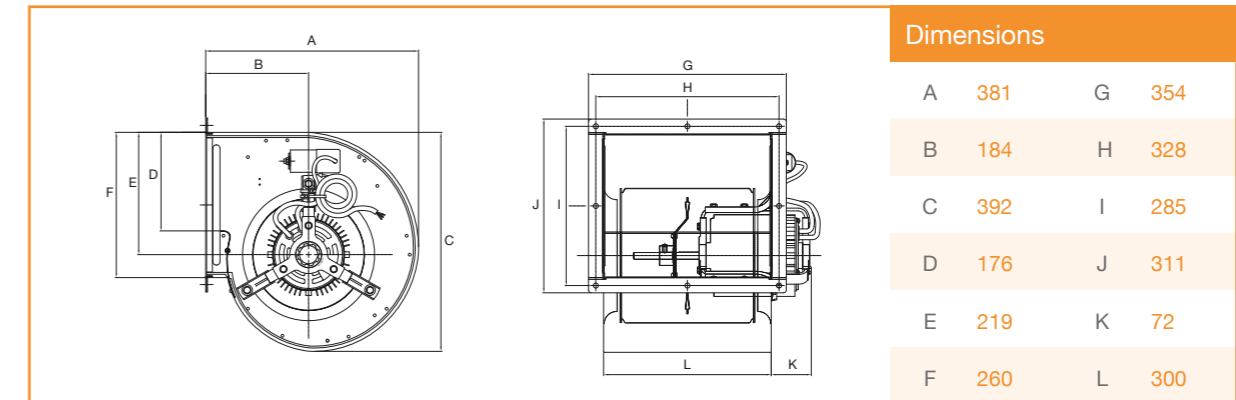
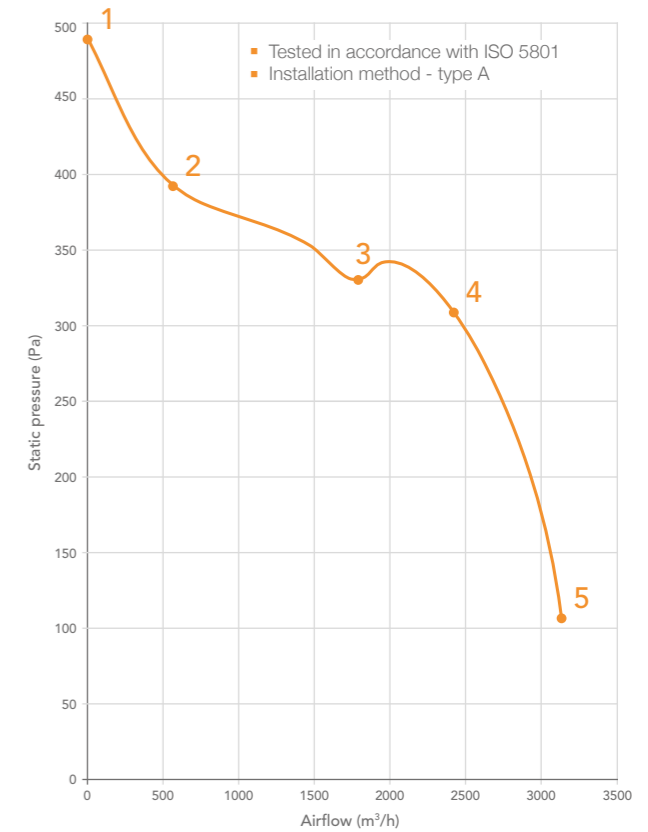


AC Single-Phase direct drive fans

ACDDC 241-241 (9/9)

Technical Data	
Supply (V/Ph/Hz)	230/1/50
Max Airflow	3148 m ³ /h
Max Current	4.7 A
Max Input Power	970 W
Max Speed	1475 rpm
ErP Efficiency Rating (FMEG)	44
IP Rating	10
Motor Insulation Class	F
Temperature Range	-20 °C to +40 °C

Performance Data					
Data point	Static Pressure (Pa)	Airflow (m ³ /h)	Current (A)	Speed (rpm)	Power (W)
1	492	0.0	1.38	1475	287
2	395	547	1.45	1465	306
3	332	1758	2.23	1419	491
4	306	2482	2.99	1365	651
5	110	3148	4.68	1167	970





AC Single-Phase direct drive fans

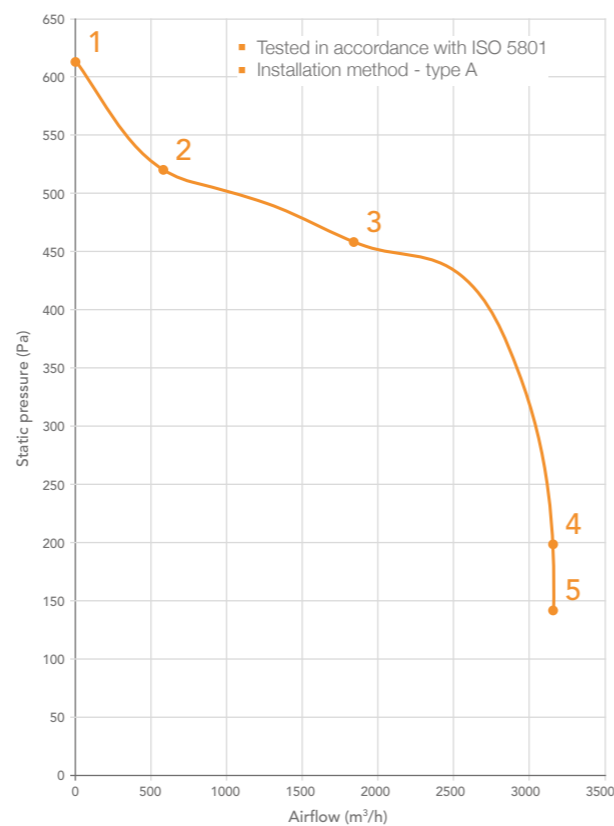
ACDDC 270-203 (10/8)

Technical Data

Supply (V/Ph/Hz)	230/1/50
Max Airflow	3175 m ³ /h
Max Current	6.4 A
Max Input Power	1268 W
Max Speed	1464 rpm
ErP Efficiency Rating (FMEG)	44
IP Rating	30
Motor Insulation Class	F
Temperature Range	-20 °C to +40 °C

Performance Data

Data point	Static Pressure (Pa)	Airflow (m ³ /h)	Current (A)	Speed (rpm)	Power (W)
1	614	0.0	2.69	1464	412
2	522	556	2.69	1455	426
3	457	1885	3.33	1393	653
4	196	3175	6.20	1058	1268
5	140	3165	6.40	988	1324



3-speed option



AC Single-Phase direct drive fans

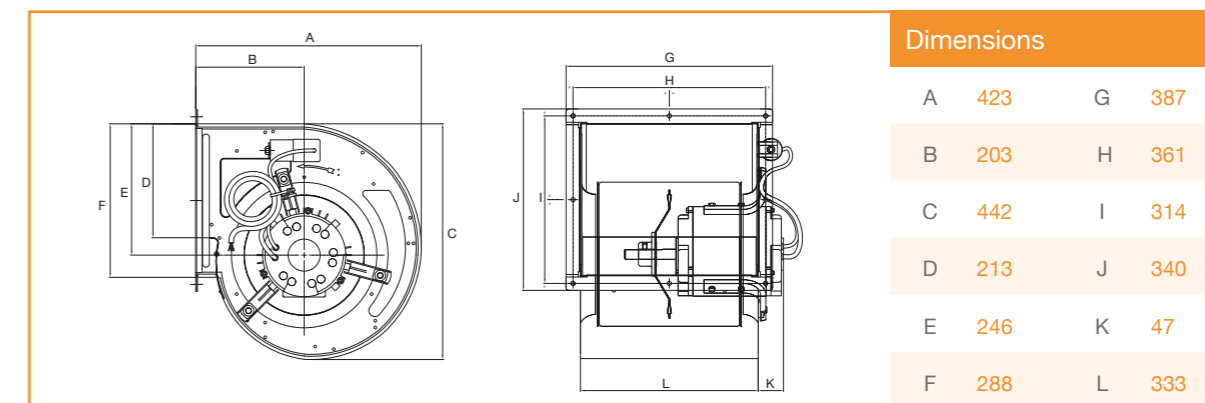
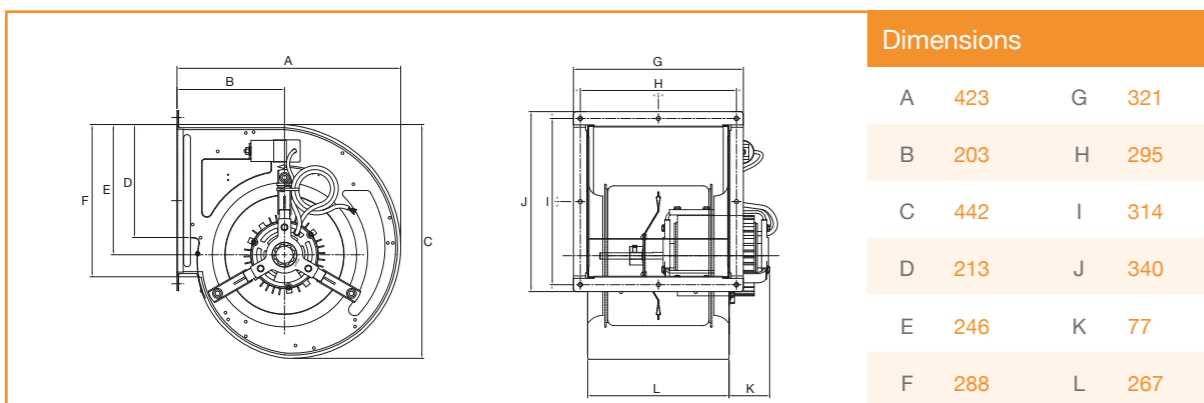
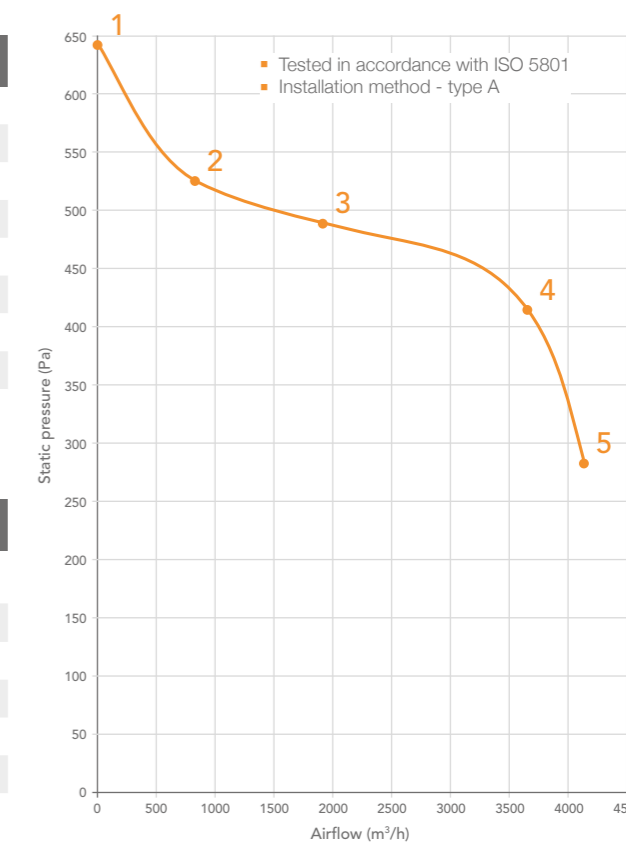
ACDDC 270-270 (10/10)

Technical Data

Supply (V/Ph/Hz)	230/1/50
Max Airflow	4133 m ³ /h
Max Current	8.8 A
Max Input Power	1754 W
Max Speed	1481 rpm
ErP Efficiency Rating (FMEG)	44
IP Rating	10
Motor Insulation Class	F
Temperature Range	-20 °C to +40 °C

Performance Data

Data point	Static Pressure (Pa)	Airflow (m ³ /h)	Current (A)	Speed (rpm)	Power (W)
1	644	0.0	2.73	1481	495
2	525	853	2.86	1477	535
3	490	1963	3.64	1459	731
4	413	3687	6.49	1380	1329
5	288	4133	8.82	1271	1754



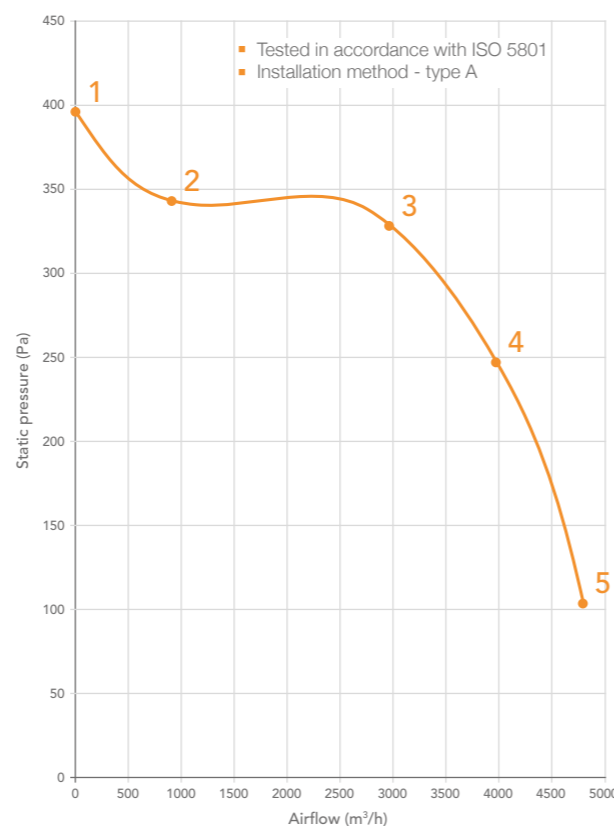


AC Single-Phase direct drive fans

ACDDC 321-241 (12/9)

Technical Data	
Supply (V/Ph/Hz)	230/1/50
Max Airflow	4816 m ³ /h
Max Current	6.8 A
Max Input Power	1420 W
Max Speed	989 rpm
ErP Efficiency Rating (FMEG)	45
IP Rating	10
Motor Insulation Class	F
Temperature Range	-20 °C to +40 °C

Performance Data					
Data point	Static Pressure (Pa)	Airflow (m ³ /h)	Current (A)	Speed (rpm)	Power (W)
1	395	0.0	1.95	989	400
2	344	786	2.04	989	424
3	326	2959	3.23	969	713
4	246	3996	4.52	951	1000
5	102	4816	6.80	883	1420

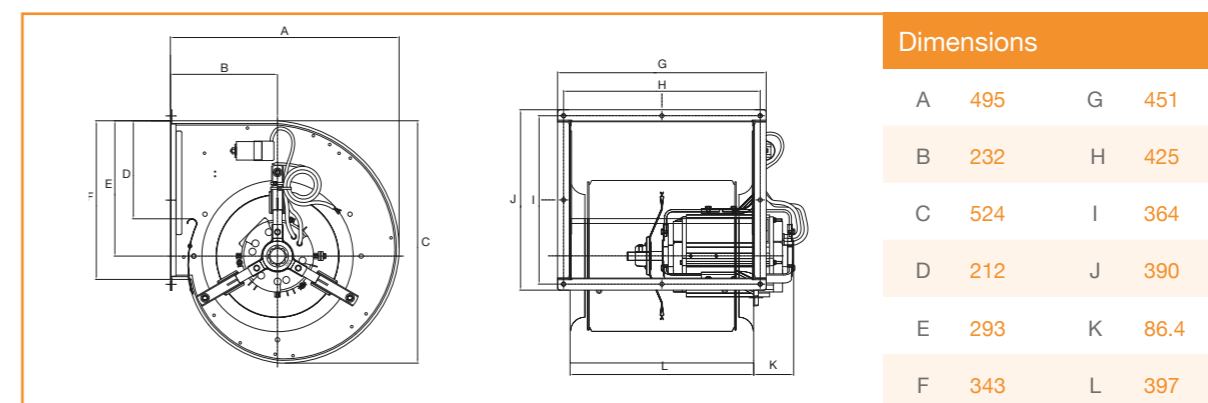
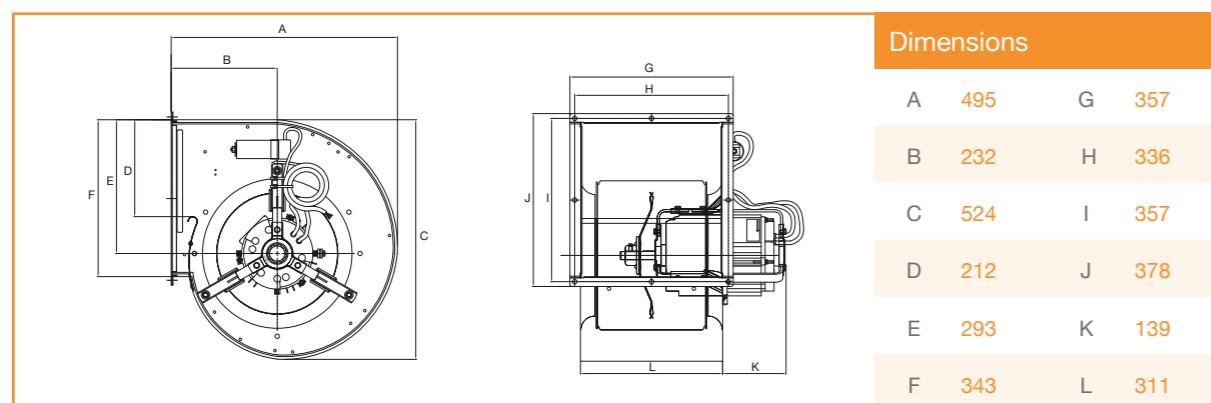
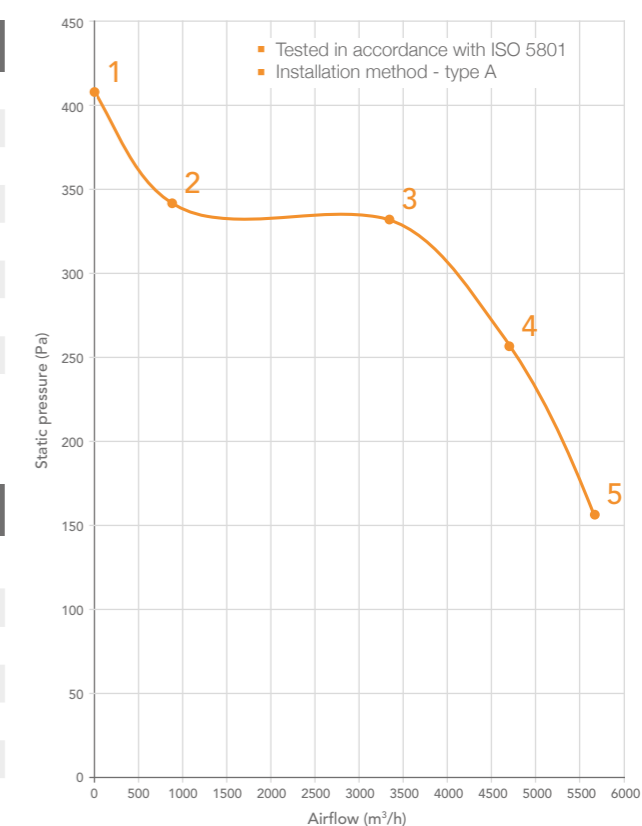


AC Single-Phase direct drive fans

ACDDC 321-321 (12/12)

Technical Data	
Supply (V/Ph/Hz)	230/1/50
Max Airflow	5667 m ³ /h
Max Current	8.0 A
Max Input Power	1610 W
Max Speed	991 rpm
ErP Efficiency Rating (FMEG)	44
IP Rating	10
Motor Insulation Class	F
Temperature Range	-20 °C to +40 °C

Performance Data					
Data point	Static Pressure (Pa)	Airflow (m ³ /h)	Current (A)	Speed (rpm)	Power (W)
1	406	0.0	3.22	991	488
2	337	945	3.33	990	523
3	330	3470	4.36	977	851
4	258	4682	5.60	951	1139
5	156	5667	8.00	903	1592



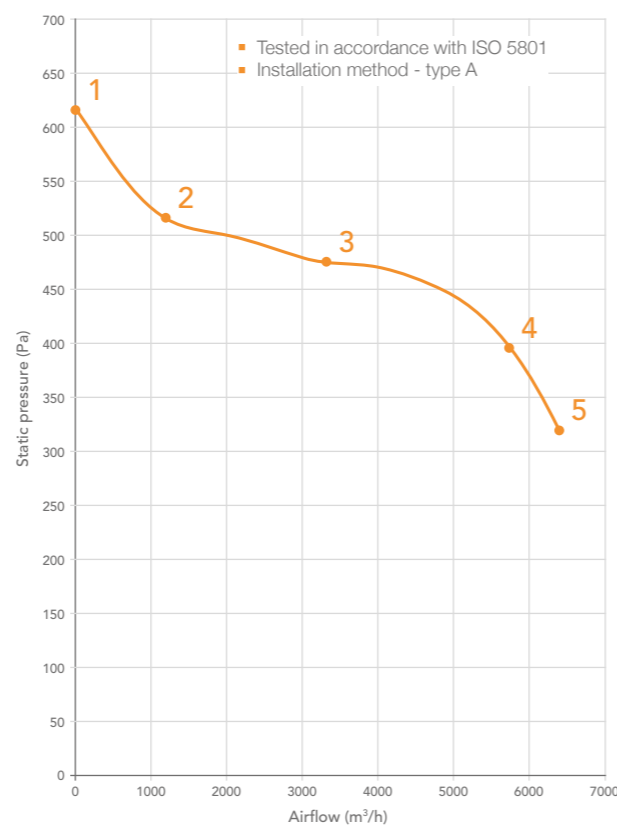


AC Single-Phase direct drive fans

ACDDC 381-286 (15/11)

Technical Data	
Supply (V/Ph/Hz)	230/1/50
Max Airflow	6390 m ³ /h
Max Current	9.8 A
Max Input Power	2070 W
Max Speed	985 rpm
ErP Efficiency Rating (FMEG)	44
IP Rating	10
Motor Insulation Class	F
Temperature Range	-20 °C to +40 °C

Performance Data					
Data point	Static Pressure (Pa)	Airflow (m ³ /h)	Current (A)	Speed (rpm)	Power (W)
1	615	0.0	4.38	985	848
2	519	1081	4.62	983	909
3	472	3364	5.79	968	1231
4	396	5746	8.44	927	1832
5	322	6390	9.80	895	2070

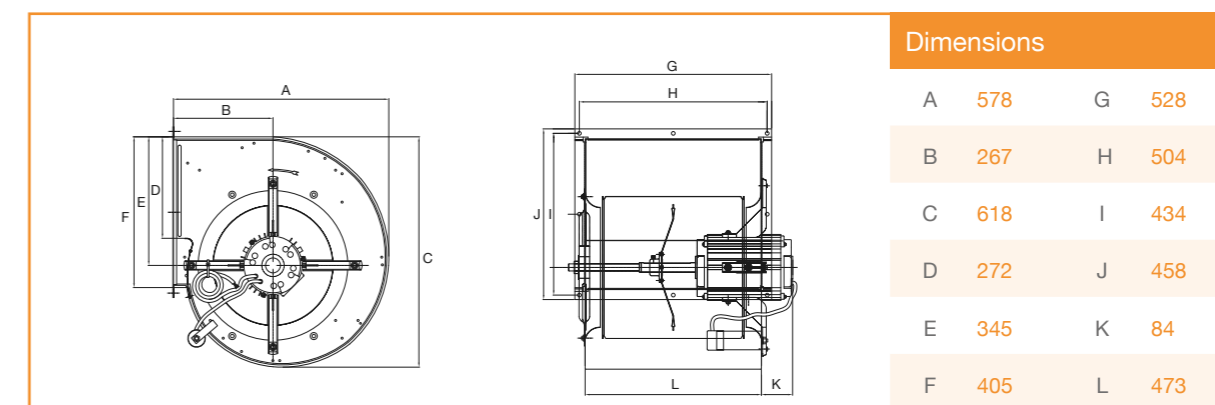
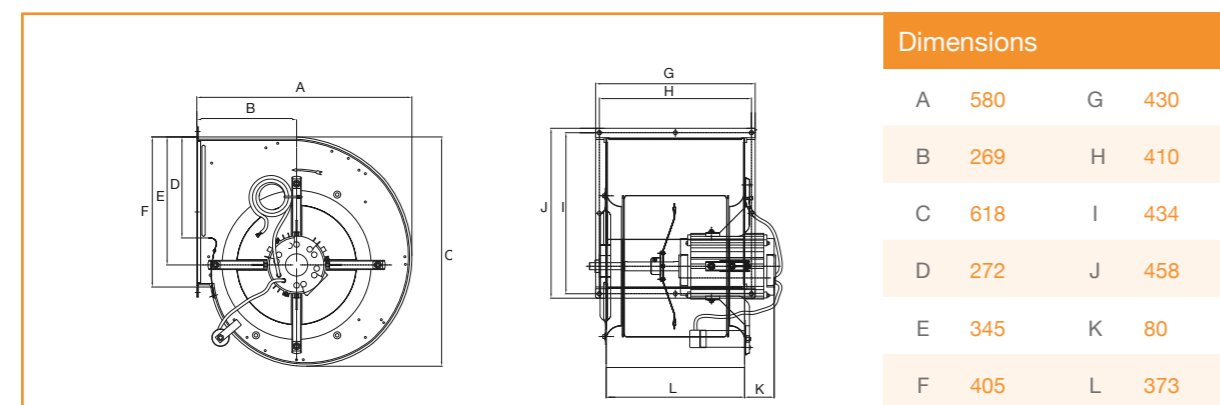
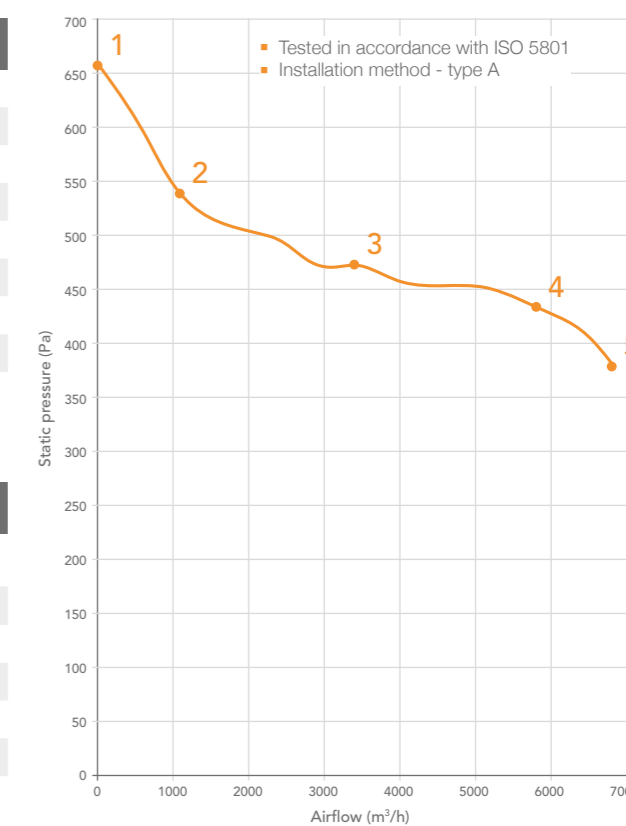


AC Single-Phase direct drive fans

ACDDC 381-381 (15/15)

Technical Data	
Supply (V/Ph/Hz)	230/1/50
Max Airflow	6782 m ³ /h
Max Current	10.0 A
Max Input Power	2200 W
Max Speed	986 rpm
ErP Efficiency Rating (FMEG)	44
IP Rating	10
Motor Insulation Class	F
Temperature Range	-20 °C to +40 °C

Performance Data					
Data point	Static Pressure (Pa)	Airflow (m ³ /h)	Current (A)	Speed (rpm)	Power (W)
1	658	0.0	4.68	986	947
2	543	1026	4.75	983	970
3	475	3386	5.97	968	1305
4	434	5803	8.18	933	1820
5	384	6782	9.80	904	2140

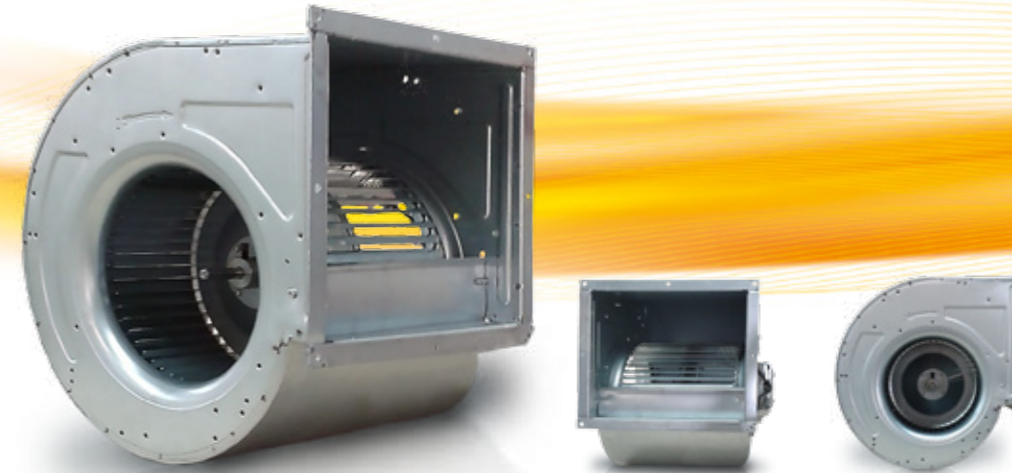


ACDDC Three-Phase range summary



ACDDC 321-241 (12/9)	ACDDC 321-321 (12/12)	ACDDC 381-286 (15/11)	ACDDC 381-381 (15/15)
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Technical Data				
Supply (V/Ph/Hz)	400/3/50	400/3/50	400/3/50	400/3/50
Max Airflow (m³/h)	6298	6684	7600	7995
Max Current (A)	3.5	3.7	5.2	5.4
Max Input Power (W)	1385	1450	2540	2540
Max Speed (rpm)	992	991	979	982
ErP Efficiency Rating (FMEG)	45	48	45	45
IP Rating	20	20	10	10
Motor Insulation Class	F	F	F	F
Temperature Range (°C)	-20 to +40	-20 to +40	-20 to +40	-20 to +40

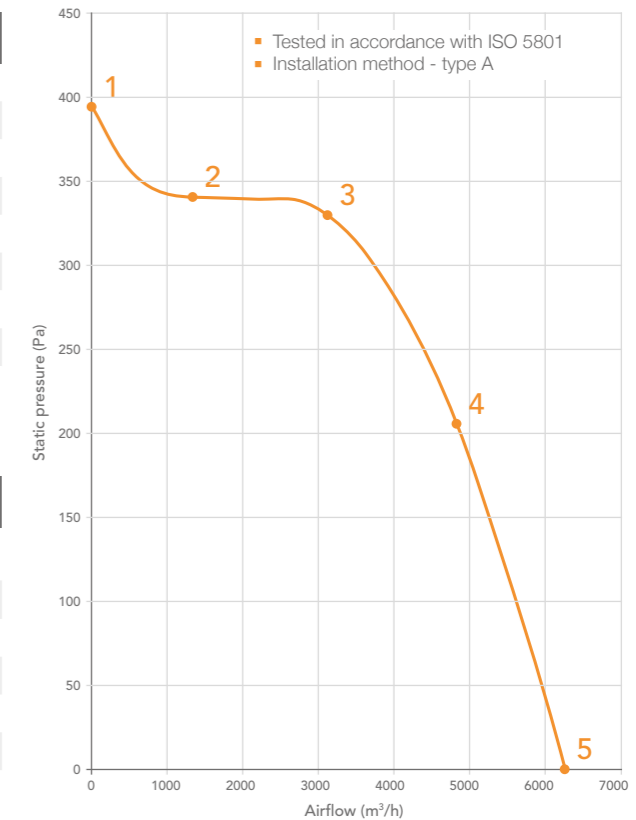


AC Three-Phase direct drive fans

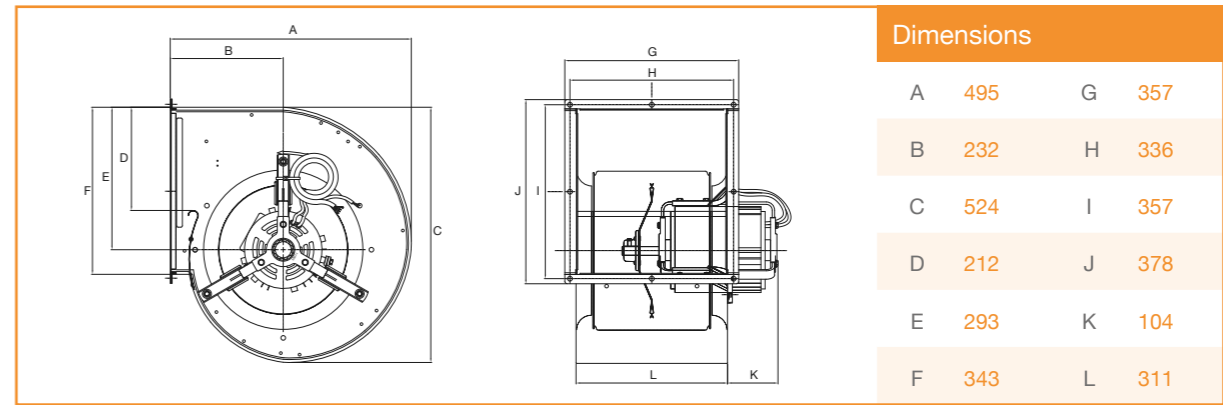
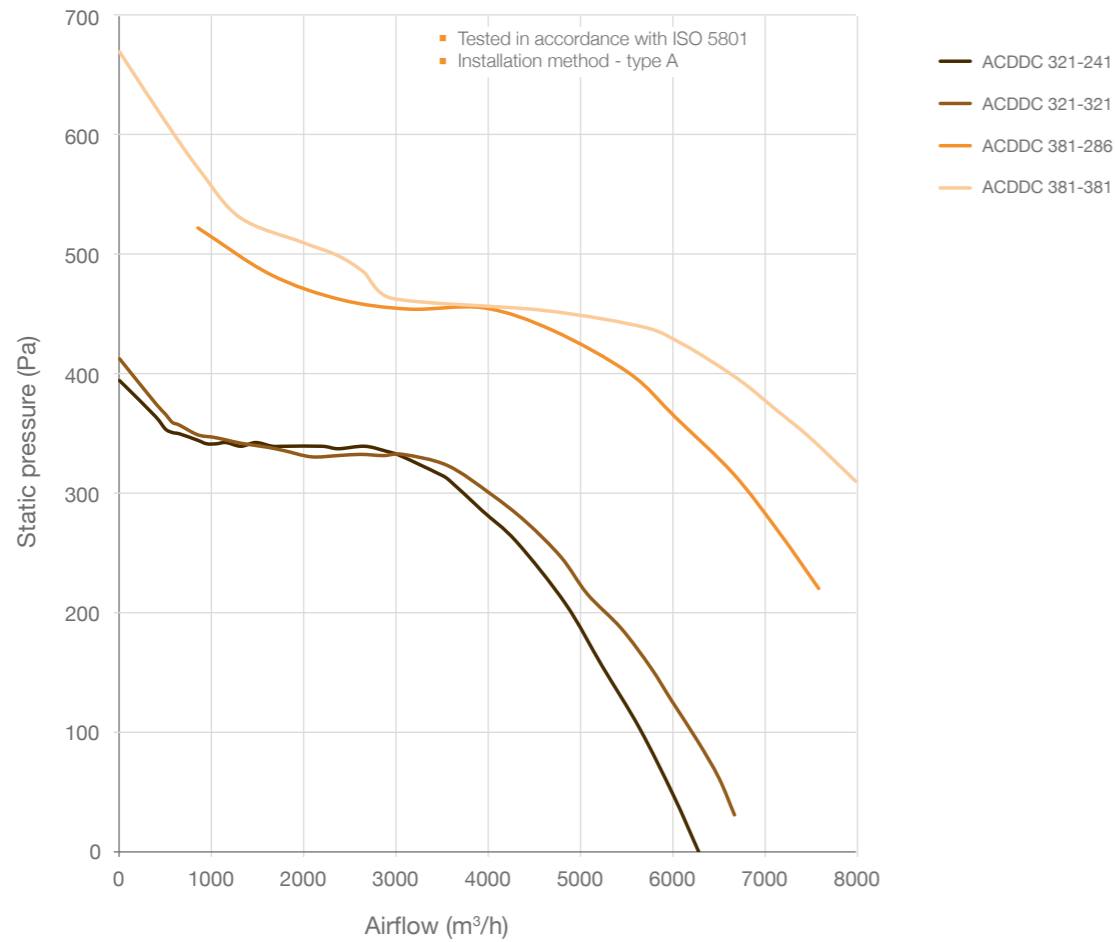
ACDDC 321-241 (12/9)

Technical Data	
Supply (V/Ph/Hz)	400/3/50
Max Airflow	6298 m³/h
Max Current	3.5 A
Max Input Power	1385 W
Max Speed	992 rpm
ErP Efficiency Rating (FMEG)	45
IP Rating	20
Motor Insulation Class	F
Temperature Range	-20 °C to +40 °C

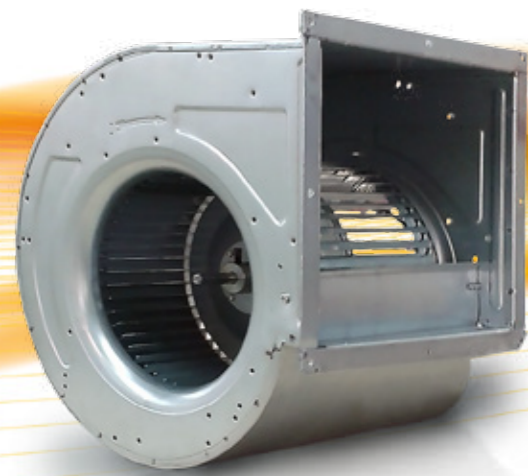
Performance Data					
Data point	Static Pressure (Pa)	Airflow (m³/h)	Current (A)	Speed (rpm)	Power (W)
1	395	0.0	2.06	992	556
2	340	1320	2.08	986	601
3	333	3034	2.25	965	743
4	208	4849	2.75	931	1014
5	0.0	6298	3.56	872	1385



ACDDC Three-Phase Consolidated Graph – Test Power Supply: 400V 50Hz



Dimensions			
A	495	G	357
B	232	H	336
C	524	I	357
D	212	J	378
E	293	K	104
F	343	L	311

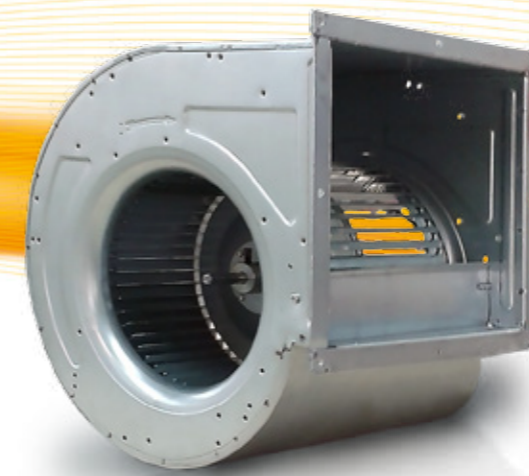
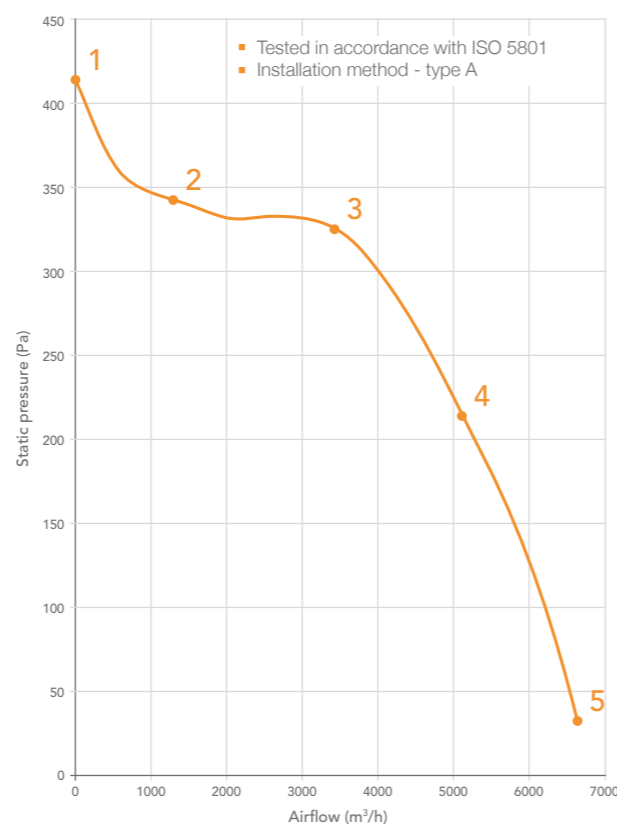


AC Three-Phase direct drive fans

ACDDC 321-321 (12/12)

Technical Data	
Supply (V/Ph/Hz)	400/3/50
Max Airflow	6684 m ³ /h
Max Current	3.7 A
Max Input Power	1450 W
Max Speed	991 rpm
ErP Efficiency Rating (FMEG)	48
IP Rating	20
Motor Insulation Class	F
Temperature Range	-20 °C to +40 °C

Performance Data					
Data point	Static Pressure (Pa)	Airflow (m ³ /h)	Current (A)	Speed (rpm)	Power (W)
1	413	0.0	2.08	991	570
2	342	1325	2.09	984	599
3	324	3562	2.29	961	780
4	216	5086	2.72	933	1000
5	31	6684	3.59	878	1385

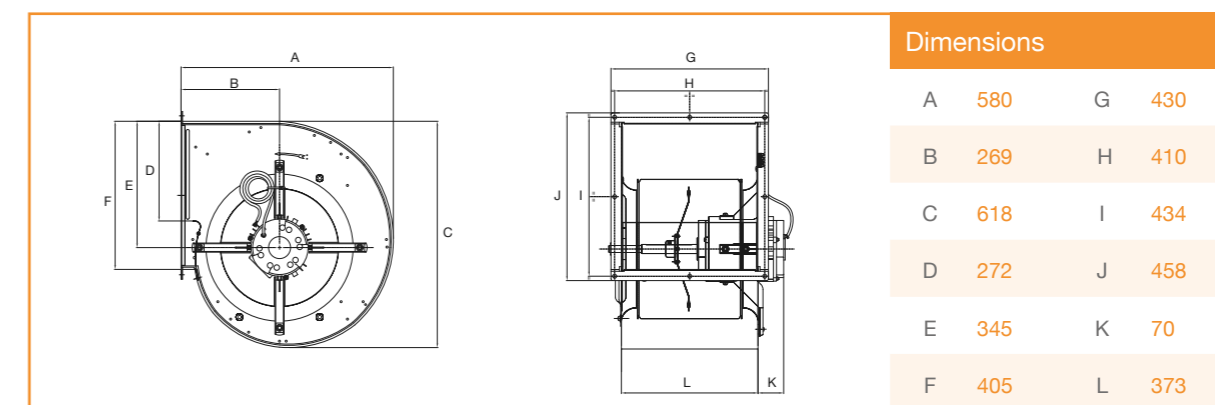
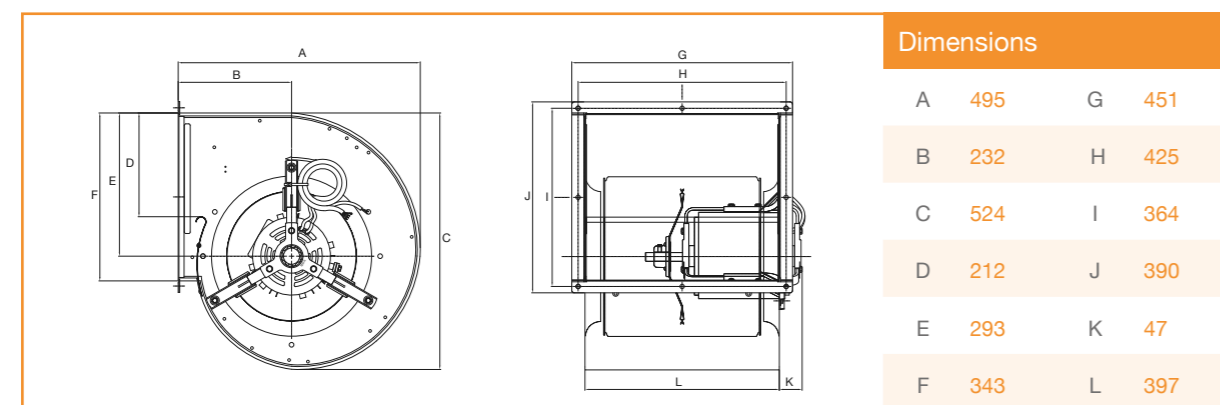
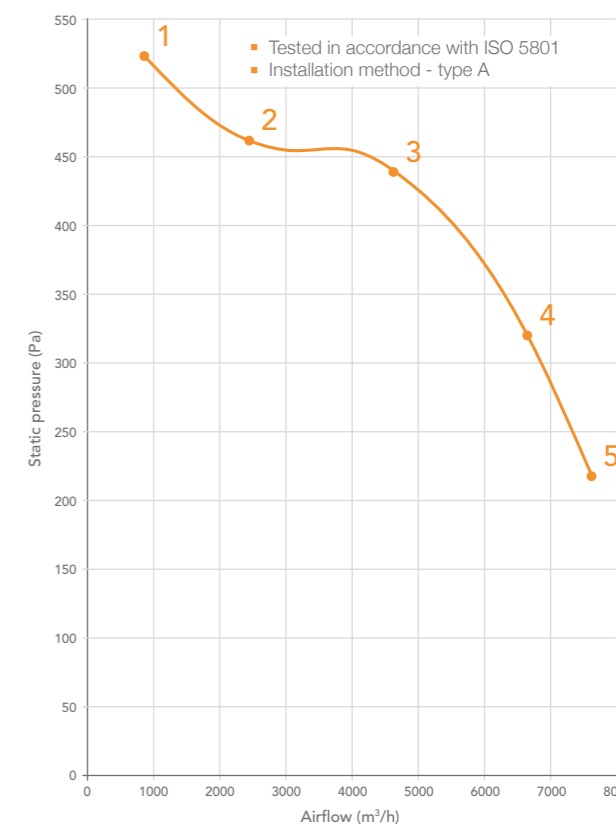


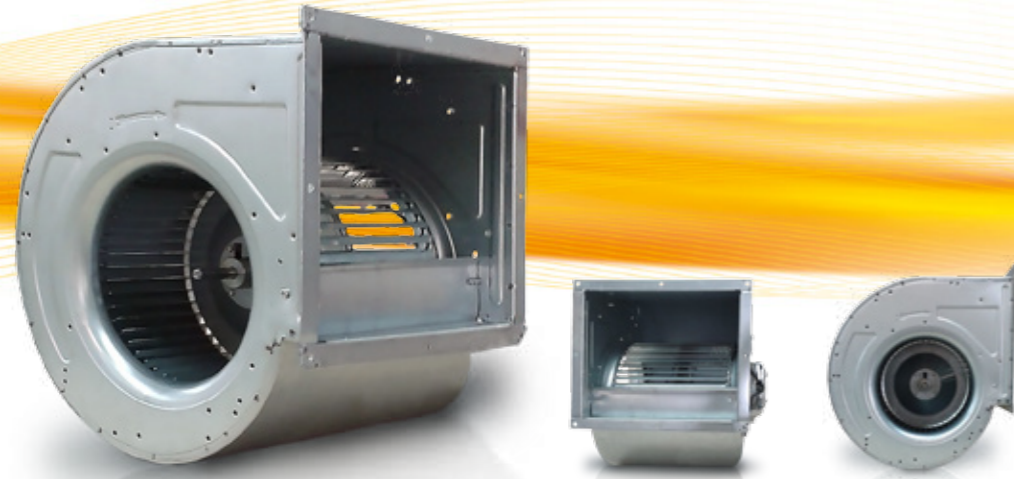
AC Three-Phase direct drive fans

ACDDC 381-286 (15/11)

Technical Data	
Supply (V/Ph/Hz)	400/3/50
Max Airflow	7600 m ³ /h
Max Current	5.2 A
Max Input Power	2540 W
Max Speed	979 rpm
ErP Efficiency Rating (FMEG)	45
IP Rating	10
Motor Insulation Class	F
Temperature Range	-20 °C to +40 °C

Performance Data					
Data point	Static Pressure (Pa)	Airflow (m ³ /h)	Current (A)	Speed (rpm)	Power (W)
1	522	864	3.32	979	710
2	462	2409	3.38	965	930
3	436	4718	3.78	936	1470
4	316	6675	4.55	888	2120
5	220	7600	5.20	860	2540





AC Three-Phase direct drive fans

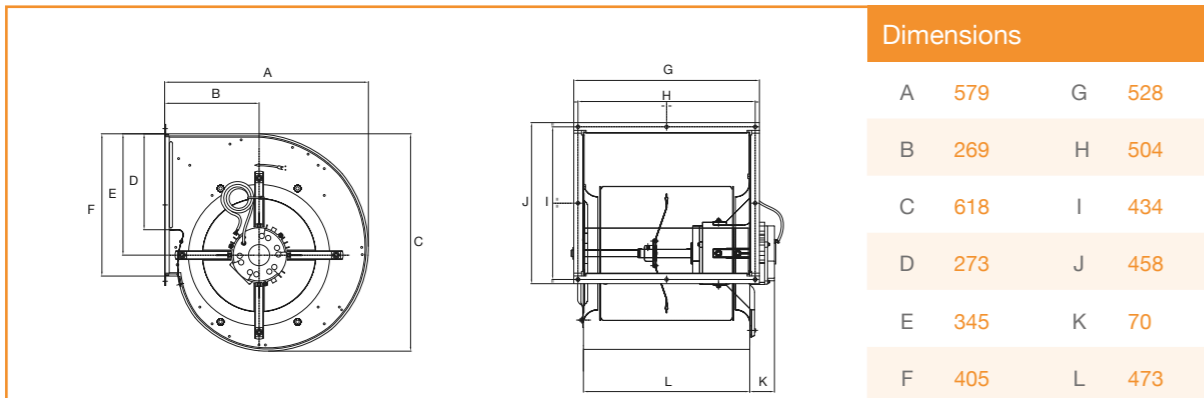
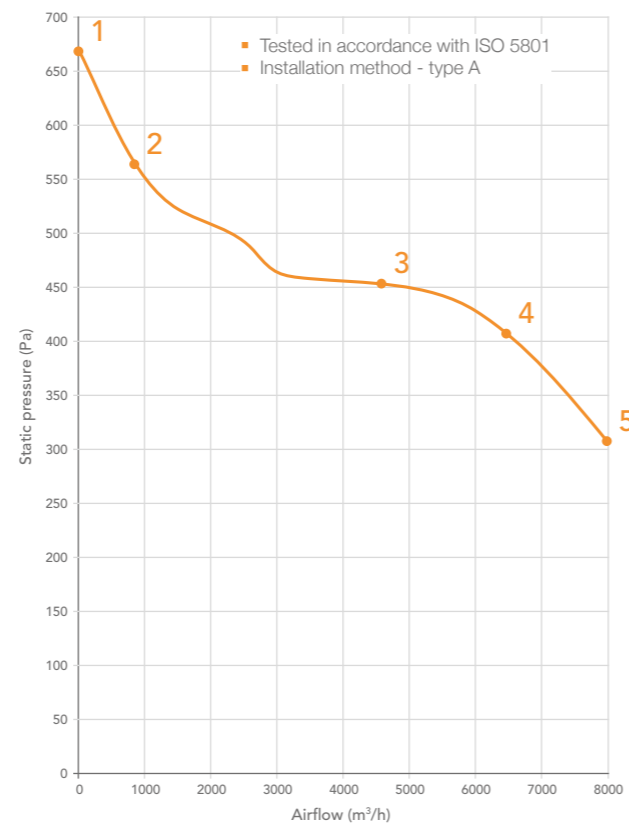
ACDDC 381-381 (15/15)

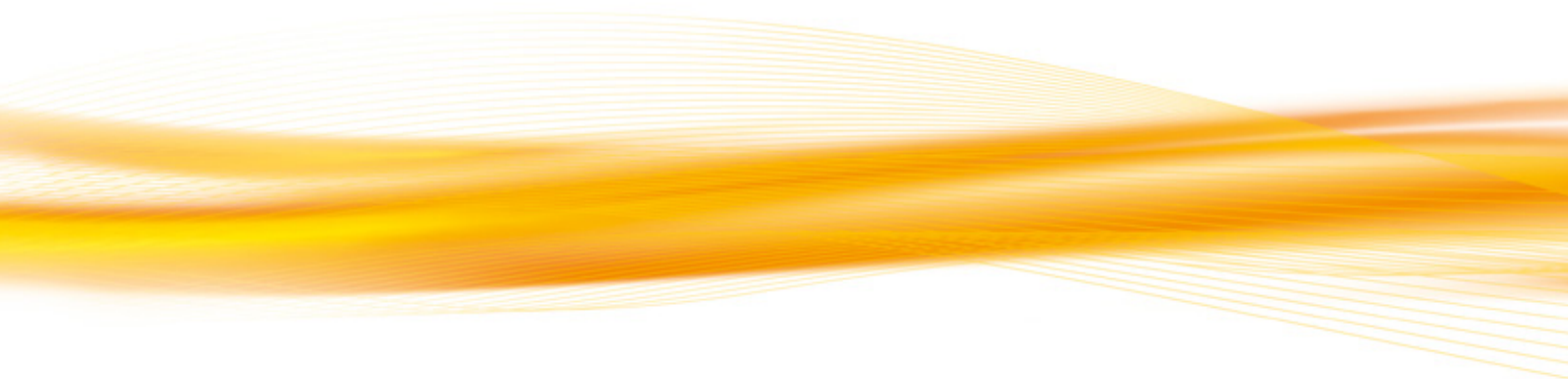
Technical Data

Supply (V/Ph/Hz)	400/3/50
Max Airflow	7995 m ³ /h
Max Current	5.4 A
Max Input Power	2540 W
Max Speed	982 rpm
ErP Efficiency Rating (FMEG)	45
IP Rating	10
Motor Insulation Class	F
Temperature Range	-20 °C to +40 °C

Performance Data

Data point	Static Pressure (Pa)	Airflow (m ³ /h)	Current (A)	Speed (rpm)	Power (W)
1	670	0.0	3.50	982	750
2	569	880	3.49	981	760
3	453	4607	4.04	952	1460
4	409	6455	4.61	920	1970
5	310	7995	5.42	876	2540





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