

Helios Jet fans. High-thrust, flat and remarkably quiet.

Certified for
temperature classes
F300 and F400 ac-
cording to DIN EN
12101-3



Axial and centrifugal jet fans are used in parking garages for daily supply and extract ventilation and they ensure smoke extraction to support fire service efforts in case of fire. They have an impulse effect on the air due to the generated air jet. Thus, there is a movement of air in the respective air flow direction towards the central extract air fan or towards the next

jet fan unit. In contrast to a ducted parking garage ventilation system, the use of jet fans allows control of the air flow to ensure continuous and effective supply and extract ventilation as well as life-saving smoke extraction in case of emergency.

Particularly quiet.

The lowest sound emissions at maximum thrust performances from 6 to 75 N speak for themselves.

Simple installation.

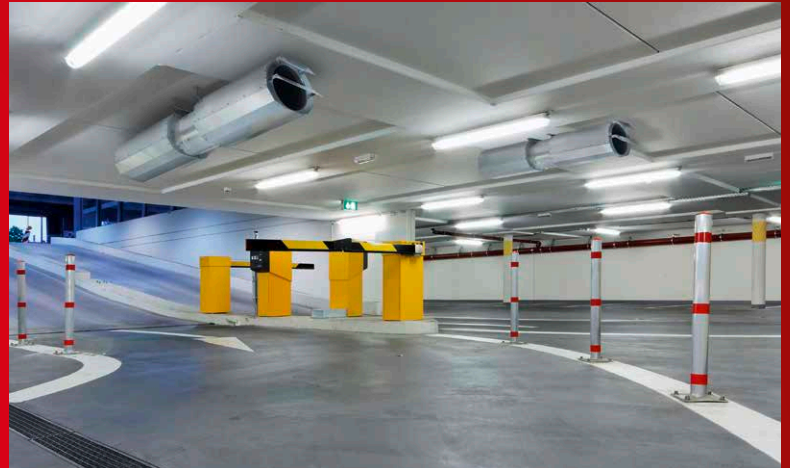
Helios jet fans are characterised by particularly easy installation due to the low net weight. Practical, integrated standard mounting rails for easy ceiling installation

perfectly complement the lightweight aluminium construction.

First-class service.

The first-class service from Helios for support with planning, design and commissioning completes the range perfectly.





■ Axial jet fans
IVAD and B IVAD

Low-noise and universal in application, they set standards in thrust and weight.

- High-performance axial impeller for unidirectional and reversible operation.
- ø 315-400, Thrust 6-67 N
- Optional in F300 and F400 (300 °C or 400 °C/120 min.)



136^f

■ Centrifugal jet fans
IVRD and B IVRD

Slimline, compact, lightweight and full power. Ideal for restricted spatial conditions.

- High-performance centrifugal impeller with backward curved blades.
- ø 500-560, Thrust 16-75 N
- Optional in F300 (300 °C/120 min.)



144^f

■ Centrifugal jet fans
IVRW / IVRD EC

Latest EC technology for economical ventilation solutions in parking garages and commercial applications.

- Highly efficient motor with EC technology.
- High-performance centrifugal impeller with backward curved blades.
- ø 400-450, Thrust 50-75 N
- Three phase and alternating current version



142^f

■ Axial and centrifugal jet fans

Product-specific information.

134^f

Axial jet fan
IVAD and B IVAD F300/F400

■ Application

- For supply and extract ventilation and smoke extraction in car parks.
- For areas of application with air flow temperatures of 300 °C and 400 °C for 120 min. (F300 and F400). In continuous supply and extract ventilation up to max. +60 °C air flow temperature.

■ Casing

- Duct casing made from corrosion-resistant aluminium with motor support and ceiling suspension. Aerodynamically shaped inlet with safety guard according to DIN EN 13857, outlet nozzle with adjustable guide vanes. Reversible types with adjustable guide vanes on both sides.
- Polygon-shaped impact attenuators on both sides of casing. Casing made from corrosion-resistant aluminium, abrasion-resistant mineral wool lining (non-flammable according to DIN 4102) and galvanised perforated plate.

■ Impeller

- High-performance impeller for unidirectional and reversible operation.
- Dynamically balanced, quality class 6.3.
- With aerodynamically optimal blades made from corrosion-resistant aluminium alloy, continuously adjustable in standstill.

■ Motor

- The connection for direct start-up is provided for single-speed fans with three phase motor and nominal motor output ≤ 3.00 kW.
- Series IVAD: Maintenance-free efficient IE3 three phase motor, protection class IP55. Connection cable (Ölflex SY cable) centrifugal design, with metal cladding.
- Series B IVAD: Efficient IE3 smoke exhaust three phase motor in temperature-resistant design, protection class IP55. Radial external cable to terminal box with fire-resistant sheathing.

■ Motor protection

- Series IVAD and B IVAD: All types are equipped with PTC resistors from the terminal boxes. Thus, effective motor protection is possible by means of full motor protection device (type MSA, Ref. no. 01289, Accessories) or FU (Accessories).
- Series B IVAD: For the smoke extraction function, all motor protection devices

and speed controllers (FU) of the smoke extraction fan must be bridged to achieve the required output and max. operating duration.

■ Electrical connection

- Series IVAD: Standard plastic terminal box (protection class IP55), mounted on outside of ducting.
- Series B IVAD: Standard aluminium die-cast terminal box (protection class IP55), mounted on outside of ducting.

■ Air flow temperatures

- Series IVAD: Suitable for supply and extract ventilation from -20 °C to +60 °C permanent temperature.
- Series B IVAD: Suitable for smoke gases up to 300 °C/120 min. (F300) or 400 °C/120 min. (F400).

■ Air flow direction

Depending on the selected type, both unidirectional and 100% reversible air flow directions are possible.

■ Certification

The jet fans B IVAD have been tested according to DIN EN 12101-3.
 EC certificate of conformity:
 F300: 0036 CPD RG05 10
 F400: 0036 CPD RG05 11

■ Installation

- Easy and safe installation by integrated standard mounting rails directly to the ceiling. Rail attachment with just four fixing points.
- When installing a fan from series B IVAD, temperature-resistant plugs and screws (Accessories, to be provided on-site) should be used.
- In order to avoid vibration transmission the use of anti-vibration mounts is recommended.
- For girders or other suspensions, the jet fan guide van must be adjusted. Thus, different distances to girders can be realised.
- Compliance with Federal and regional fire protection regulations.

Centrifugal jet fan IVRD, B IVRD F300, IVRW EC 400 and IVRD EC 450

■ Application

- For supply and extract ventilation and smoke extraction in car parks.
- For areas of application with air flow temperatures of 300 °C (F300). In continuous supply and extract ventilation up to max. +60 °C air flow temperature.

- Centrifugal jet fans with EC technology for continuous supply and extract ventilation up to max. +40°C air flow temperature.

■ Casing

Casing made from corrosion-resistant aluminium in compact design. Aerodynamically designed inlet nozzle. Continuous optimal surface protection through steel powder coating.

■ Impeller IVRD and B IVRD F300

High-performance centrifugal impeller with backward curved blades made of powder-coated steel sheet. Dynamically balanced, quality class 6.3.

■ Impeller IVR EC

High-performance centrifugal impeller with backward curved blades made of plastic. Dynamically balanced, quality class 6.3.

■ Motor

The connection for direct start-up is provided for single-speed fans with three phase motor and nominal motor output ≤ 3.00 kW.

- Series IVRD: Maintenance-free efficient IE3 three phase motor, protection class IP55. Connection cable (Ölflex SY cable) centrifugal design, with metal cladding.
- Series B IVRD: IEC smoke exhaust three phase motor in temperature-resistant design, protection class IP55. Radial external cable to terminal box with fire-resistant sheathing.
- Series IVR EC: Highly efficient EC motor, variably controllable via 0-10 Volt signal, protection category IP 54. Connection cable led out to the casing terminal box.

■ Motor protection

- Series IVRD and B IVRD: All types are equipped with PTC resistors from the terminal boxes. Thus, effective motor protection is possible by means of full motor protection device (type MSA, Ref. no. 01289, Accessories) or FU (Accessories).
- Series B IVRD: or the smoke extraction function, all motor protection devices and speed controllers (FU) of the smoke extraction fan must be bridged to achieve the required output and max. operating duration.
- Series IVR EC: Standard terminal box made of plastic, mounted to outside of casing.

■ Electrical connection

- Series IVRD: Standard plastic terminal box (protection class IP55), mounted on outside of ducting.

- Series B IVRD: Standard aluminium die-cast terminal box (protection class IP55), mounted on outside of ducting.
- Series IVR EC: Integrated electronic temp. monitoring system for EC motor and electronics.

■ Air flow temperatures

- Series IVRD: Suitable for supply and extract ventilation from -20 °C to +60 °C permanent temperature.
- Series B IVRD: Suitable for smoke gases up to 300 °C/120 min. (F300).
- Series IVR EC: Suitable for supply and extract ventilation from -20°C to +40°C continuous temperature.

■ Certification

The jet fans B IVRD have been tested according to DIN EN 12101-3.
 EC certificate of conformity:
 F300: 0036 CPD RG05 12

■ Installation

- Easy and safe installation by integrated standard mounting rails directly to the ceiling. Rail attachment with just four fixing points.
- When installing a fan from series B IVRD temperature-resistant plugs and screws (on-site accessories) should be used.
- In order to avoid vibration transmission the use of anti-vibration mounts is recommended.

■ Requirements for car park ventilation systems

- Each ventilation system must have at least two fans of the same size, which together provide the required total air flow volume in simultaneous operation. Explosion-proof fans are not required.
- Each fan in a mechanised supply or extract air system must be powered by a dedicated circuit to which other systems may not be connected.
- Each final and auxiliary circuit of a mechanical supply or extract air system must be designed in such a way that an electrical fault will not cause the failure of the entire ventilation system.
- If the ventilation system will be operated with one fan from time to time, the fans must be connected in such a way that if one fan fails, the other fan will switch on automatically.

■ Mechanical smoke and heat extraction

Smoke and heat extraction is prescribed in addition to the pure ventilation function in some countries (see table).

- The requirements of the Ordinance Governing Parking Facilities in the Federal States with regard to mechanical smoke and heat extraction have the following in common:
 - Automatic activation on in case of smoke.
 - Maximum load temperature of 300 °C (F300)/1 hour.
 - 10 air changes per hour (max. 70,000 m³/h in Baden-Württemberg).
 - Functional integrity of the electrical cable systems in case of external fire for at least 1 ½ hours.
- **Isolator switch and control**

The use of isolator switches on smoke and heat exhaust fans is only permissible if it is secured against unauthorised operation. This can be done through the use of key switches or by attaching a padlock. Furthermore, the terminal boxes in smoke and heat exhaust fans must be temperature resistant. The smoke and heat exhaust fan control equipment (cabinets) must not be placed inside the garage, but are to be installed outside the fire risk areas.
- **Car park ventilation systems**

The perfect ventilation solution in a car park consists of:

 - Jet fans for the development of a controlled air flow in the direction of the extract air unit, and for the after-flow of the supply air.
 - Central extraction units for the extraction of extract air in normal operation or smoke gases in case of fire.
- Supply air fans, if the air supply via access ramps or other supply air openings is not sufficient.
- **Functionality in ventilation mode**

Jet fans have an impulse effect on the air due to the generated air jet. Thus, there is continuous air movement in the respective flow direction towards the central extract air unit or towards the next jet fan unit. Indoor air is induced into the jet through the generated wake turbulence. Due to this induction effect and the mixture of indoor air, the discharge flow rate of the fan increases by approx. tenfold to an effective total air flow rate. Thus, reliable and highly effective air circulation in the car park is guaranteed. Dead zones, which are usual for duct-guided extract air systems, are avoided through the use of jet fans.

 - Extract air fans discharge the polluted air from the car park. The supply air flow circulation is passive via the entrance and exit or supply air openings, or alternatively mechanically through supply air fans.
 - The number of fans, size and exact positioning of the jet fans is project-specific in consideration of structural conditions such as geometry, girders, supply air flows, columns, etc.
 - Helios jet fans are available in axial and centrifugal design. Different system solutions can be realised depending on the structural conditions or ventilation system requirements.
- **Functionality in case of fire**

Helios jet fans are available in different temperature classes. If mechanical smoke and heat extraction is not required in relation to building law or regulatory requirements, jet fans with a permissible permanent temperature of up to +60 °C are used. The two temperature classes F300 (120 min.) and F400 (120 min.) are available for use as smoke and heat exhaust fans.

 - While the aim is to provide an escape route keeping the smoke layer above head height when designing smoke extraction for factories, assembly areas, sales outlets and non-residential buildings, this cannot be achieved in car parks due to the low height of the ceiling (approx. 2.50 m). In order to provide an escape route for affected people in the event of a fire and the necessary smoke extraction, the ultimate planning goal is to create low smoke or smoke free areas.

Car parks are usually required to have fire alarm systems which not only monitor smoke within the car park, but also offer a suitable control strategy which observes the operation of impulse and smoke extraction fans. In the event of smoke extraction, the primary task for jet fan systems is to effectively prevent the spread of smoke and fumes and to direct the smoke gases towards the main extraction points. Depending on the design strategy, defined areas in a car park can be kept smoke-free for longer periods. Reversible (thrust-reversible) jet fans can be used in all sorts of scenarios (depending on the fire locations in the car park).

	Extract air flow rate	Closed medium-sized garage 101 – 1000 m ²		Closed large garage > 1000 m ²				Sprinkler system required (building is not only for garage use)	Max. permissible CO content	CO content warning threshold	Status
		Incoming and outgoing traffic low or busy		Incoming and outgoing traffic			Air volume if sprinkler system present (instead of smoke extraction)				
		low	busy	low	busy	low					
Federal state	m ³ /h per m ² garage space	Smoke and heat extract.	Gas warn. system	Smoke and heat extract. min. LW (1/h)	Gas warn. system	Gas warn. system	m ³ /h per m ²	ppm / min. average	ppm / min. actual value		
Baden-Württemberg	6 / 12	–	–	10 / F300 ¹⁾²⁾	–	x		A1, B1, E	100 / 30	250	Feb 17
Bavaria	6 / 12	–	–	10 / F300	–	x	12	A, B, C	100 / 30	250	Aug 18
Berlin	6 / 12	F300 ³⁾	–	F300 ³⁾	–	x		A, B, D	100 / 30	250	Feb 19
Brandenburg	6 / 12	–	–	10 / F300	–	x	12	A, B, D	100 / 30	250	Nov 17
Bremen	6 / 12	–	–	–	–	x		A, B, D	100 / 30	250	Jun 14
Hamburg	6 / 12	–	–	12 m ³ /h je m ² ⁵⁾	–	x		A, B, D	100 / 30	250	Jan 12
Hesse	8 / 16	–	x	10 / F300 ⁶⁾	x	x	16	A, D	50 / 60	85/15	Jan 15
Mecklenburg-West	6 / 12	–	–	–	–	x		A, B, D	100 / 30	250	Mirz 13
Lower Saxony	6 / 12	–	–	10 / F300 ¹⁾	–	x	12	A, B, D*	100 / 30	250	Okt 12
North Rhine-Westphalia	6 / 12	–	–	10 / F300	–	x	12	A, B, C	100 / 30	250	Dez 16
Rhineland Palatinate	6 / 12	–	–	–	–	x		A, B, D	100 / 30	250	Dez 02
Saarland	6 / 12	–	–	–	–	x		A, B, C	100 / 60	250	Aug 08
Saxony	6 / 12	–	–	10 / F300 ⁴⁾	–	x		A, B, D	100 / 30	250	Jul 11
Saxony-Anhalt	6 / 12	–	–	10 / F300	–	x	12	A, B, D	100 / 30	250	Mai 15
Schleswig-Holstein	6 / 12	–	–	–	–	x		A, B, D	100 / 30	250	Apr 20
Thuringia	6 / 12	–	–	10 / F300	–	x	12	A, B, C	100 / 30	250	Mirz 95

¹⁾ Only for floors which are more than 4m below ground surface on average, optional mechanical smoke extraction or sprinkler system, for smoke sections larger than 2500 m² sprinkler system + mechanical smoke extraction.

²⁾ max. 70 000 m³/h. ³⁾ Extract air flow rate same as smoke extraction rate.

⁴⁾ 300 °C for 30 minutes.

⁵⁾ The Hamburg Construction Inspection Service must be taken into account.

⁶⁾ Underground floors larger than 2500 m² optional mechanical smoke extraction or sprinkler system.

A Overground garage larger than 5000 m².

A1 Overground garage larger than 5000 m² alternative smoke extraction with max. 70000 m³/h.

B Underground garage larger than 2500 m².

B1 Undergr. garage up to max. 4 m below ground surf. and larger than 2500 m² altern. smoke extraction with max. 70000 m³/h.

C Floors which are below the 1st underground floor.

D Floors which are more than 4 m below ground surface.

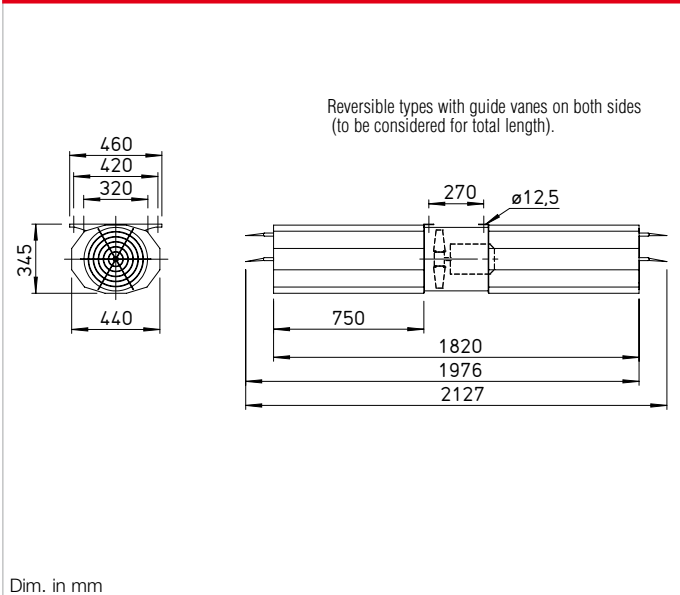
E Floors which are more than 4 m below ground surface and larger than 2500 m²

* Ordinance Governing Parking Facilities is unclear, coordination with experts necessary.

IVAD 315



Dimensions IVAD 315



Dim. in mm

High-quality, high-performance jet fans with optimal dimensions for minimum space requirement. Suitable for supply and extract ventilation of car parks with air flow temperatures up to 60 °C.

■ **Special features**

- Low noise emission.
- Maximum thrust.
- Easy and fast to install due to low weight (aluminium construction).
- Direct driven, axial.
- Optional 100% reversible (types IVAD R).

■ **Casing**

Duct casing made from corrosion-resistant aluminium with motor support and ceiling suspension. Aerodynamically shaped inlet with guard, outlet nozzle with adjustable guide vane. Reversible types with adjustable guide vanes (to be considered for total length).

■ **Impeller**

High-performance impeller for unidirectional and reversible operation. Dynamically balanced, quality class 6.3. With flow-optimised blades made from corrosion-resistant aluminium alloy, adjustable in standstill.

■ **Motor**

Direct via efficient IE 3 three phase motor. Pole-switching fans with IEC standard motor. Protection class IP55.

■ **Motor protection**

All types are equipped with PTC resistors from the terminal boxes. Thus, efficient motor protection is possible by means of full motor protection device (type MSA, Ref. no. 01289, Accessories) or FU (Accessories).

■ **Noise insulation**

Polygon attenuators mounted on both sides, whose aluminium casings are fully lined with abrasion-resistant mineral wool and galvanised perforated plate according to DIN 4102 (non-flammable).

■ **Installation**

With integrated mounting rails as standard, which are fixed directly to the ceiling using plugs (Accessories, on-site) at four fixing points.

In order to prevent vibration transmission, the use of anti-vibration mounts is recommended (SDZ, Accessories, see table).

■ **Electrical connection**

Plastic terminal box (protection class IP55) as standard, outside on casing.

■ **Assembly**

The Federal, State and regional regulations and ordinances must be observed for the assembly.

■ **Accessories**

Anti-vibration mounts for tensile loading (1 set = 4 pcs.)



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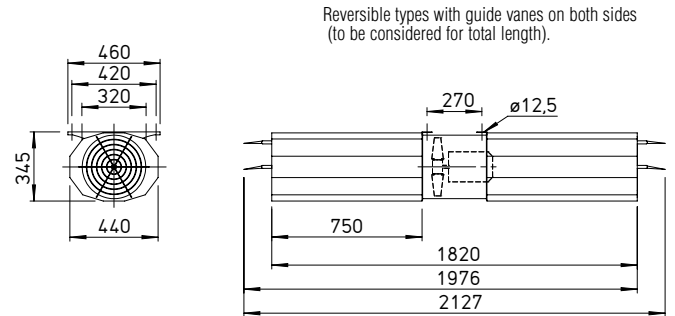
Type	Ref. no.	Thrust	Discharge speed	Max. output	Nominal speed	Reversible	Sound pressure level ¹⁾	Nominal motor power (output)	Nominal motor current		Wiring diagram	Max. air flow temperature	Net weight approx.	Anti-vibration mount (1 set = 4 pcs.)	
									Operation	Start-up				Type	Ref. no.
60° Three phase motor, 400 V, 50 Hz, protection class IP55															
IVAD 315/2 R	04102	23	15.4	4400	2890	Yes	59	1.10	2.3	8.0	796	60	37	SDZ 1	01454
IVAD 315/2	04110	25	15.9	4600	2890	No	58	1.10	2.3	8.0	796	60	37	SDZ 1	01454
60° Pole-switching, 2 speed, three phase motor, Dahlander winding Y/YY, 400 V, 50 Hz, protection class IP55															
IVAD 315/4/2 R	04101	6/23	7.6/15.3	2200/4400	1340/2835	Yes	39/59	0.25/0.95	0.9/2.3	4.6/17.2	777	60	42	SDZ 1	01454
IVAD 315/4/2	04109	6/24	7.9/15.8	2200/4400	1340/2835	No	39/58	0.25/0.95	0.9/2.3	5.0/17.4	777	60	42	SDZ 1	01454

¹⁾ measured in freefield conditions below 45°, at distance of 3 m

B IVAD 315 F300/F400



Dimensions B IVAD 315 F300/F400



Dim. in mm

High-quality, high-performance jet fans with optimal dimensions for minimum space requirement. Suitable for supply and extract ventilation of car parks. Temperature range optional 300 °C/120 min. or 400 °C/ 120 min. (in smoke extraction operation) or 60 °C in permanent operation.

Special features

- Low noise emission.
- Maximum thrust.
- Easy and fast to install due to low weight (aluminium construction).
- Direct driven, axial.
- Optional 100% reversible (types B IVAD R).

Casing

Duct casing made from corrosion-resistant aluminium with motor support and ceiling suspension. Aerodynamically shaped inlet with guard, outlet nozzle with adjustable guide vane. Reversible types with adjustable guide vanes on both sides (to be considered for total length).

Impeller

High-performance impeller for unidirectional and reversible operation. Dynamically balanced, quality class 6.3. With flow-optimised blades made from corrosion-resistant aluminium alloy, adjustable in standstill.

Motor

Direct via efficient IE 3 three phase motor. Pole-switching fans with IEC standard motor. Protection class IP55 and temperature-resistant design.

Motor protection

All types are equipped with PTC resistors from the terminal boxes. Thus, efficient motor protection is possible by means of full motor protection device (type MSA, Ref. no. 01289, Accessories) or FU (Accessories). For the smoke extraction function, all full motor protection devices and speed controllers (FU) for the smoke extraction fan must be bridged to achieve the required output and max. operating duration.

Noise insulation

Polygon attenuators mounted on both sides, whose aluminium casings are fully lined with abrasion-resistant mineral wool and galvanised perforated plate according to DIN 4102 (non-flammable).

Installation

With integrated mounting rails as standard, which are fixed directly to the ceiling using temperature-resistant plugs (Accessories, on-site) at four fixing points. In order to prevent vibration transmission, the use of anti-vibration mounts is recommended (SDZ, Accessories, see table).

Electrical connection

Aluminium die-cast terminal box (protection class IP55) as standard, outside on casing. On-site cabling with temperature-resistant connection cable.

Certification

- Structural tolerances according to DIN 2768
 - Performance measurement according to DIN 24163
 - The jet fans B IVAD have been tested according to DIN EN 12101-3.
- EC certificate of compliance:
F300: 0036 CPD RG05 10
F400: 0036 CPD RG05 11

Accessories

Anti-vibration mounts for tensile loading (1 set = 4 pcs.)

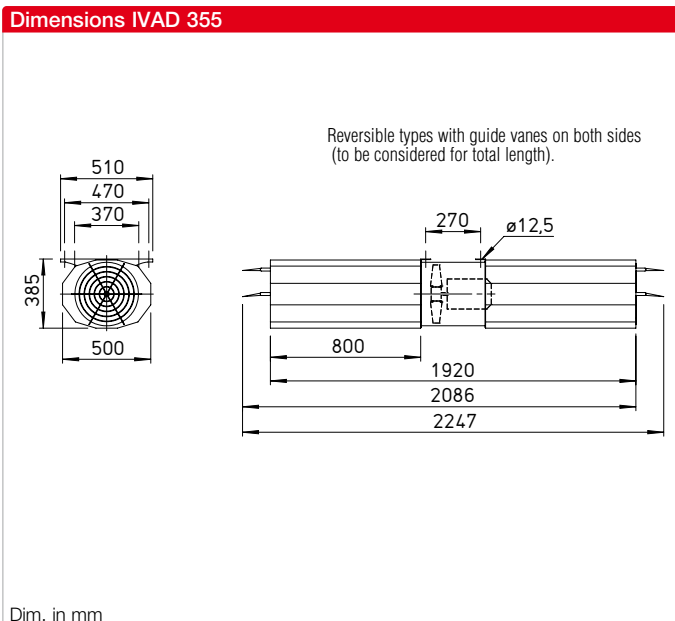
SDZ 1 F



Type	Ref. no.	Thrust	Discharge speed	Max. output	Nominal speed	Reversible	Sound pressure level ¹⁾	Nominal motor power (output)	Nominal motor current		Wiring diagram	Max. air flow temperature	Net weight approx.	Anti-vibration mount (1 set = 4 pcs.)	
									Operation	Start-up				No.	+ °C
F300 Three phase motor, 400 V, 50 Hz, protection class IP55															
B IVAD 315/2 R F300	04118	23	15.3	4400	2830	Yes	59	1.10	2.3	17.2	776	60/300	41	SDZ 1 F	01943
B IVAD 315/2 F300	04126	25	15.8	4500	2830	No	58	1.10	2.3	17.2	776	60/300	41	SDZ 1 F	01943
F300 Pole-switching, 2 speed, three phase motor, Dahlander winding Y/YY, 400 V, 50 Hz, protection class IP55															
B IVAD 315/4/2 R F300	04117	6/23	7.6/15.3	2200/4400	1390/2810	Yes	40/60	0.25/1.10	0.8/2.5	3.4/14.9	777	60/300	40	SDZ 1 F	01943
B IVAD 315/4/2 F300	04125	7/25	7.9/15.7	2300/4500	1390/2810	No	39/58	0.25/1.10	0.8/2.5	3.4/14.9	777	60/300	40	SDZ 1 F	01943
F400 Three phase motor, 400 V, 50 Hz, protection class IP55															
B IVAD 315/2 R F400	04134	23	15.3	4400	2830	Yes	59	1.10	2.33	17.2	776	60/400	42	SDZ 1 F	01943
B IVAD 315/2 F400	04142	25	15.8	4500	2830	No	58	1.10	2.33	17.2	776	60/400	42	SDZ 1 F	01943
F400 Pole-switching, 2 speed, three phase motor, Dahlander winding Y/YY, 400 V, 50 Hz, protection class IP55															
B IVAD 315/4/2 R F400	04133	6/23	7.6/15.3	2200/4400	1390/2810	Yes	39/59	0.25/1.10	0.8/2.4	2.9/14.4	777	60/400	43	SDZ 1 F	01943
B IVAD 315/4/2 F400	04141	7/25	7.9/15.7	2300/4500	1390/2810	No	37/58	0.25/1.10	0.8/2.4	2.9/14.4	777	60/400	43	SDZ 1 F	01943

¹⁾ measured in freefield conditions below 45°, at distance of 3 m

²⁾ For ventilation / smoke extraction (one-off 120 min.)



High-quality, high-performance jet fans with optimal dimensions for minimum space requirement. Suitable for supply and extract ventilation of car parks with air flow temperatures up to 60 °C.

Special features

- Low noise emission.
- Maximum thrust.
- Easy and fast to install due to low weight (aluminium construction).
- Direct driven, axial.
- Optional 100% reversible (types IVAD R).

Casing

Duct casing made from corrosion-resistant aluminium with motor support and ceiling suspension. Aerodynamically shaped inlet with guard, outlet nozzle with adjustable guide vane. Reversible types with adjustable guide vanes on both sides (to be considered for total length).

Impeller

High-performance impeller for unidirectional and reversible operation. Dynamically balanced, quality class 6.3. With flow-optimised blades made from corrosion-resistant aluminium alloy, adjustable in standstill.

Motor

Direct via efficient IE 3 three phase motor. Pole-switching fans with IEC standard motor. Protection class IP55.

Motor protection

All types are equipped with PTC resistors from the terminal boxes. Thus, efficient motor protection is possible by means of full motor protection device (type MSA, Ref. no. 01289, Accessories) or FU (Accessories).

Noise insulation

Polygon attenuators mounted on both sides, whose aluminium casings are fully lined with abrasion-resistant mineral wool and galvanised perforated plate according to DIN 4102 (non-flammable).

Installation

With integrated mounting rails as standard, which are fixed directly to the ceiling using plugs (Accessories, on-site) at four fixing points. In order to prevent vibration transmission, the use of anti-vibration mounts is recommended (SDZ, Accessories, see table).

Electrical connection

Plastic terminal box (protection class IP55) as standard, outside on casing.

Assembly

The Federal, State and regional regulations and ordinances must be observed for the assembly.

Accessories

Anti-vibration mounts for tensile loading (1 set = 4 pcs.)



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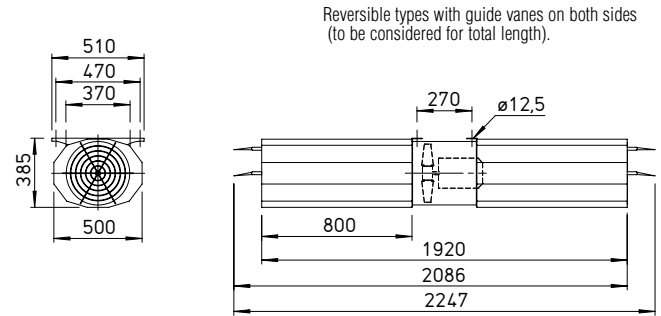
Type	Ref. no.	Thrust	Discharge speed	Max. output	Nominal speed	Reversible	Sound pressure level ¹⁾	Nominal motor power (output)	Nominal motor current		Wiring diagram	Max. air flow temperature	Net weight approx.	Anti-vibration mount (1 set = 4 pcs.)	
									Operation	Start-up				Type	Ref. no.
60° Three phase motor, 400 V, 50 Hz, protection class IP55															
IVAD 355/2 R	04105	38	17.7	6400	2890	Yes	63	1.50	3.1	23.6	796	60	47	SDZ 1	01454
IVAD 355/2	04113	46	19.4	7000	2890	No	63	1.50	3.1	23.6	796	60	47	SDZ 1	01454
60° Pole-switching, 2 speed, three phase motor, Dahlander winding Y/YY, 400 V, 50 Hz, protection class IP55															
IVAD 355/4/2 R	04104	10/37	8.7/17.4	3200/6300	1340/2850	Yes	38/62	0.30/1.40	1.1/3.1	6.1/23.1	777	60	48	SDZ 1	01454
IVAD 355/4/2	04112	11/42	9.4/18.7	3400/6800	1340/2850	No	41/62	0.30/1.40	1.1/3.1	6.1/23.1	777	60	48	SDZ 1	01454

¹⁾ measured in freefield conditions below 45°, at distance of 3 m

B IVAD 355 F300/F400



Dimensions B IVAD 355 F300/F400



Dim. in mm

High-quality, high-performance jet fans with optimal dimensions for minimum space requirement. Suitable for supply and extract ventilation of car parks. Temperature range optional 300 °C/120 min. or 400 °C/ 120 min. (in smoke extraction operation) or 60 °C in permanent operation.

Special features

- Low noise emission.
- Maximum thrust.
- Easy and fast to install due to low weight (aluminium construction).
- Direct driven, axial.
- Optional 100% reversible (types B IVAD R).

Casing

Duct casing made from corrosion-resistant aluminium with motor support and ceiling suspension. Aerodynamically shaped inlet with guard, outlet nozzle with adjustable guide vane. Reversible types with adjustable guide vanes on both sides (to be considered for total length).

Impeller

High-performance impeller for unidirectional and reversible operation. Dynamically balanced, quality class 6.3. With flow-optimised blades made from corrosion-resistant aluminium alloy, adjustable in standstill.

Motor

Direct via efficient IE 3 three phase motor. Pole-switching fans with IEC standard motor. Protection class IP55 and temperature-resistant design.

Motor protection

All types are equipped with PTC resistors from the terminal boxes. Thus, efficient motor protection is possible by means of full motor protection device (type MSA, Ref. no. 01289, Accessories) or FU (Accessories). For the smoke extraction function, all full motor protection devices and speed controllers (FU) for the smoke extraction fan must be bridged to achieve the required output and max. operating duration.

Noise insulation

Polygon attenuators mounted on both sides, whose aluminium casings are fully lined with abrasion-resistant mineral wool and galvanised perforated plate according to DIN 4102 (non-flammable).

Installation

With integrated mounting rails as standard, which are fixed directly to the ceiling using temperature-resistant plugs (Accessories, on-site) at four fixing points. In order to prevent vibration transmission, the use of anti-vibration mounts is recommended (SDZ, Accessories, see table).

Electrical connection

Aluminium die-cast terminal box (protection class IP55) as standard, outside on casing. On-site cabling with temperature-resistant connection cable.

Certification

- Structural tolerances according to DIN 2768
 - Performance measurement according to DIN 24163
 - The jet fans B IVAD have been tested according to DIN EN 12101-3.
- EC certificate of compliance:
F300: 0036 CPD RG05 10
F400: 0036 CPD RG05 11

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Type	Ref. no.	Thrust	Discharge speed	Max. output	Nominal speed	Reversible	Sound pressure level ¹⁾	Nominal motor power (output)	Nominal motor current		Wiring diagram	Max. air flow temperature	Net weight approx.	Anti-vibration mount (1 set = 4 pcs.)	
									Operation	Start-up				Type	Ref. no.
		N	m/s	V m ³ /h	min ⁻¹		dB(A)	kW	A	A	No.	+ °C	kg		
F300 Three phase motor, 400 V, 50 Hz, protection class IP55															
B IVAD 355/2 R F300	04121	38	17.5	6400	2875	Yes	62	1.50	3.1	23.5	776	60/300	51	SDZ 1 F	01943
B IVAD 355/2 F300	04129	46	19.2	7000	2875	No	63	1.50	3.1	23.5	776	60/300	51	SDZ 1 F	01943
F300 Pole-switching, 2 speed, three phase motor, Dahlander winding Y/YY, 400 V, 50 Hz, protection class IP55															
B IVAD 355/4/2 R F300	04120	10/38	8.9/17.7	3200/6400	1430/2875	Yes	41/62	0.37/1.50	1.2/3.6	6.0/25.1	777	60/300	53	SDZ 1 F	01943
B IVAD 355/4/2 F300	04128	12/46	9.7/19.4	3600/7000	1430/2875	No	41/63	0.37/1.50	1.2/3.6	6.0/25.1	777	60/300	53	SDZ 1 F	01943
F400 Three phase motor, 400 V, 50 Hz, protection class IP55															
B IVAD 355/2 R F400	04137	38	17.5	6400	2875	Yes	62	1.50	3.1	23.5	776	60/400	54	SDZ 1 F	01943
B IVAD 355/2 F400	04145	46	19.2	7000	2875	No	63	1.50	3.1	23.5	776	60/400	54	SDZ 1 F	01943
F400 Pole-switching, 2 speed, three phase motor, Dahlander winding Y/YY, 400 V, 50 Hz, protection class IP55															
B IVAD 355/4/2 R F400	04136	10/38	8.9/17.7	3200/6400	1435/2900	Yes	41/62	0.37/1.50	1.3/3.5	5.6/23.0	777	60/400	52	SDZ 1 F	01943
B IVAD 355/4/2 F400	04144	12/46	9.7/19.4	3600/7000	1435/2900	No	41/64	0.37/1.50	1.3/3.5	5.6/23.0	777	60/400	52	SDZ 1 F	01943

¹⁾ measured in freefield conditions below 45°, at distance of 3 m

²⁾ For ventilation / smoke extraction (one-off 120 min.)