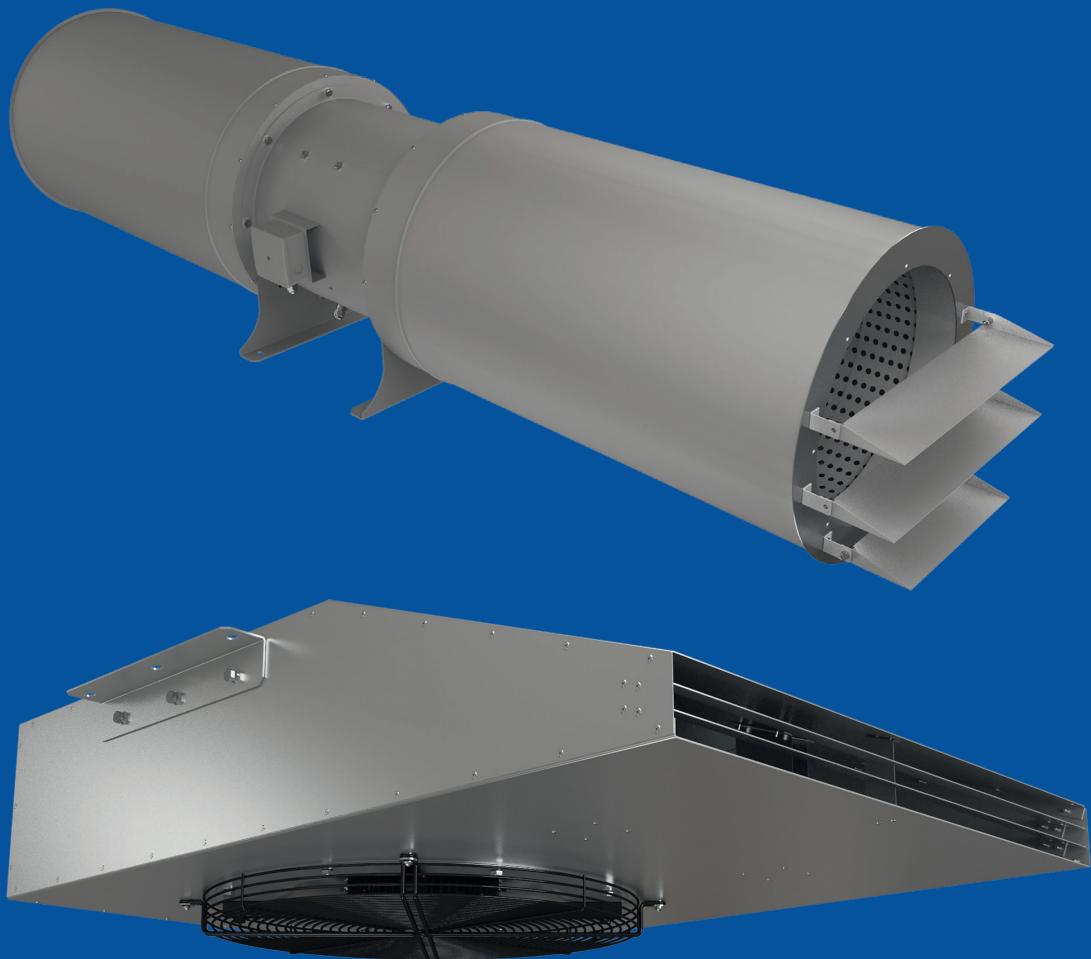


SMOKE EXTRACTION VENTILATION FOR PARKING PREMISES



2018

Fresh air in
your house!

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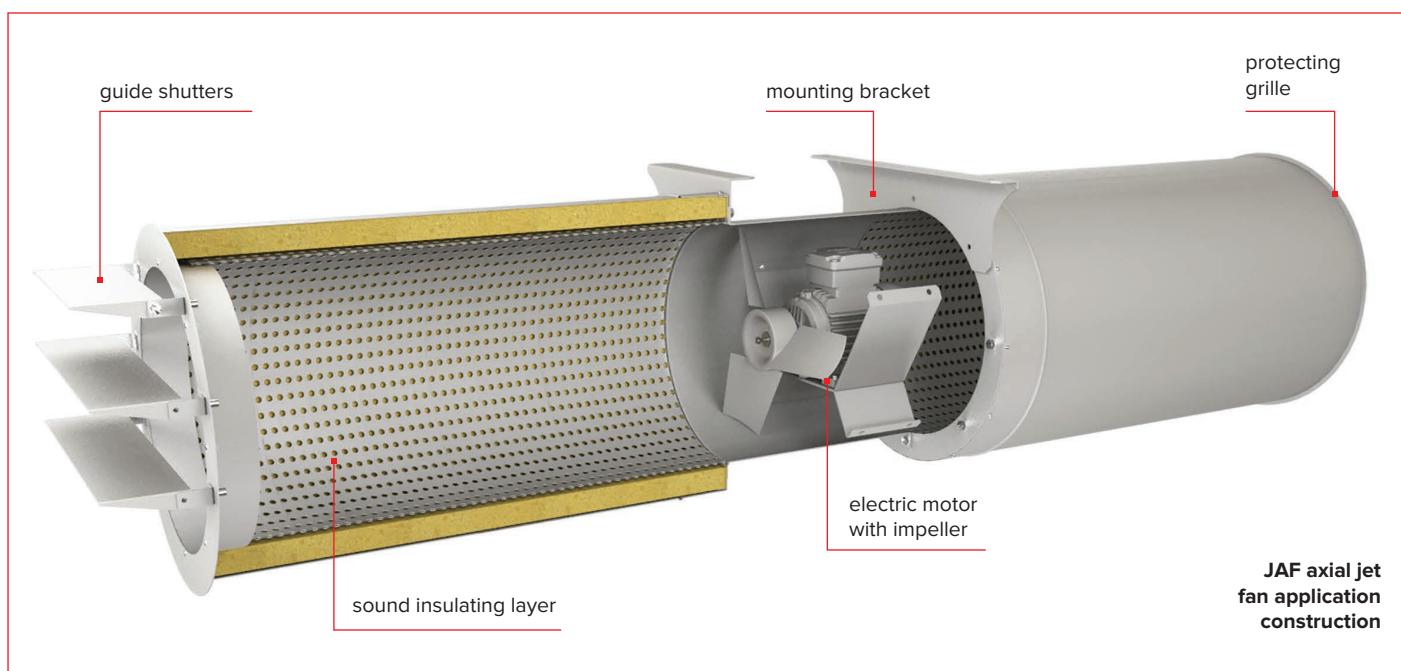
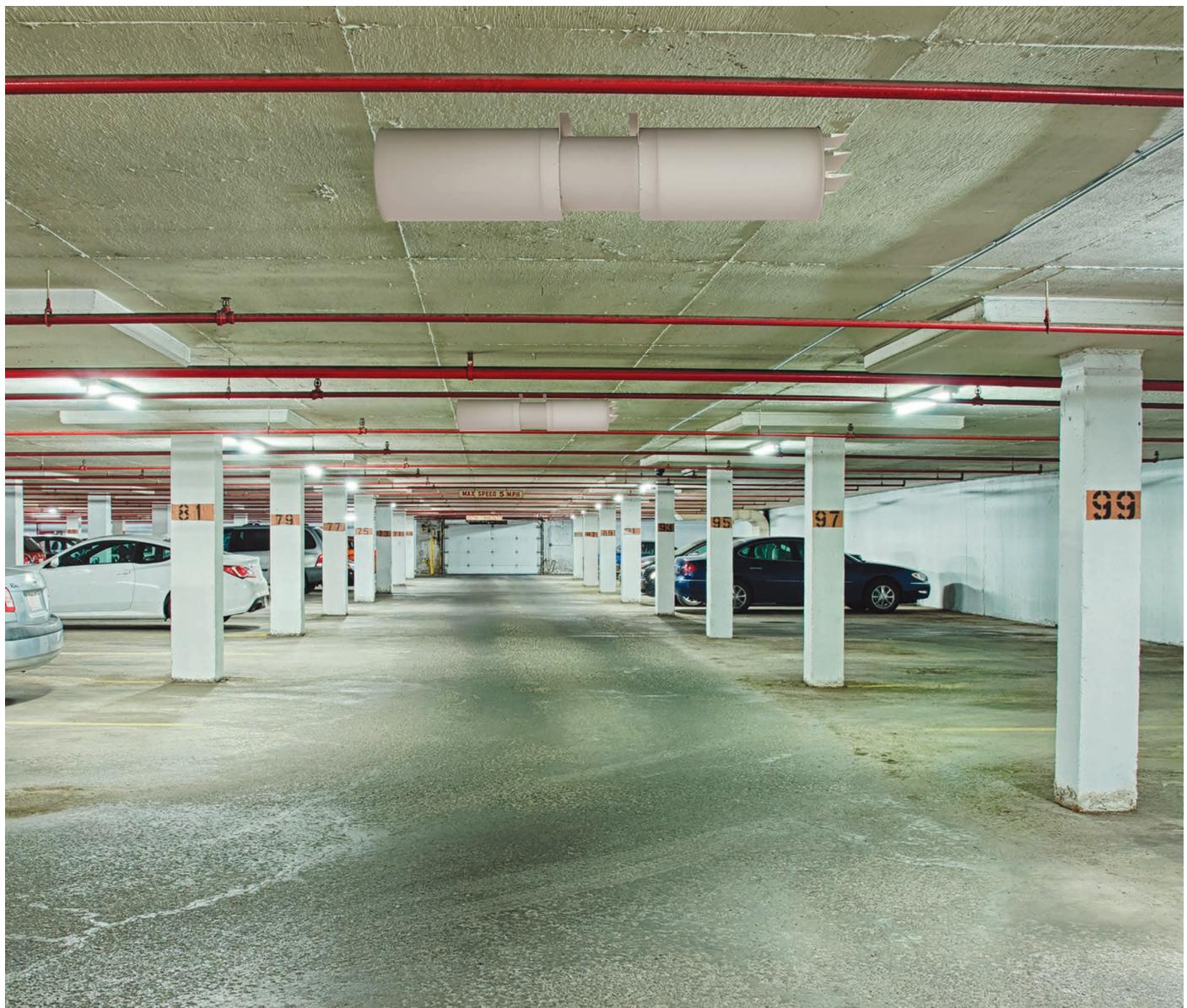
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SMOKE EXTRACTION SYSTEMS



Smoke control is a complex process involving smoke extraction and fresh air supply by the supply and extract ventilation system of buildings in order to ensure safe evacuation of people in case of a fire in any of the spaces.

Ventilation systems for underroof parking are designed to ensure the most important functions. Such systems are designed to protect people escaping fire through the evacuation routes against hazardous fire factors by extracting harmful combustion products and preventing their spreading in the air.

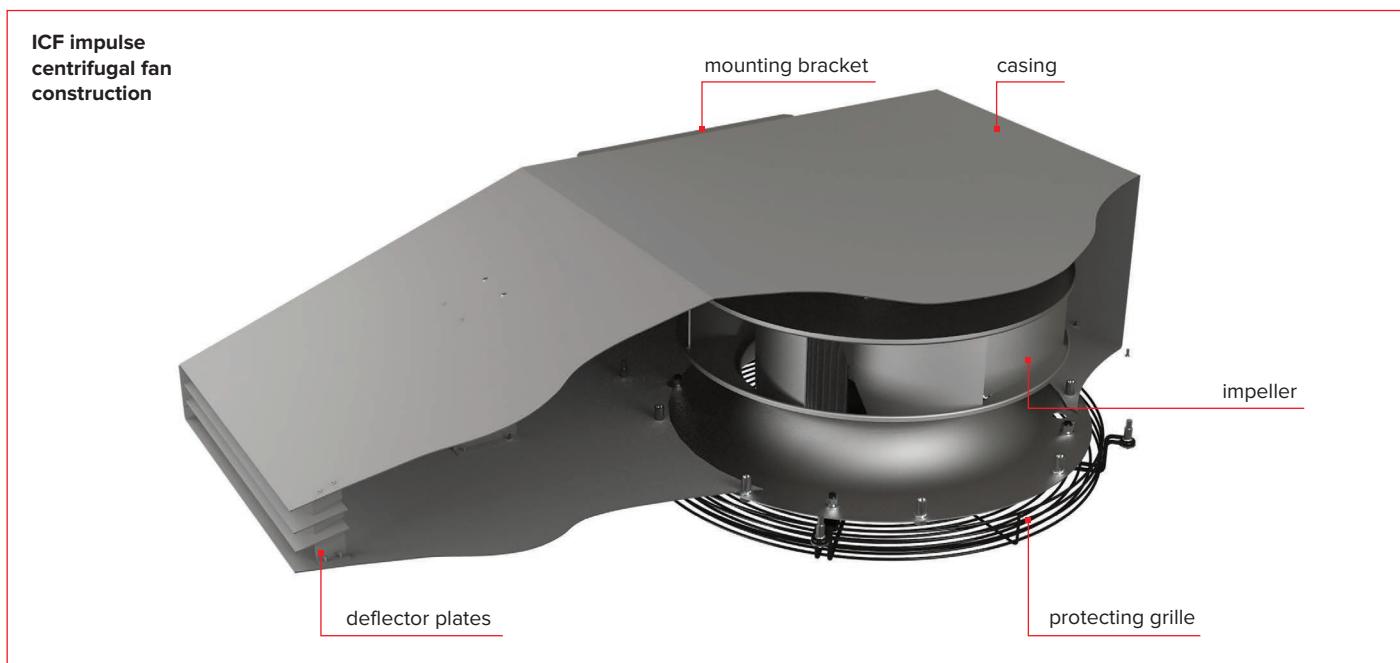
According to conclusive evidence the majority of mortalities in a fire are caused by poisoning from carbon monoxide and other combustion products. Carbon monoxide is one of the most toxic smoke components. It is carbon monoxide poisoning that accounts for 80 % the fire accident causes. Fires in closed spaces where oxygen supply is limited are especially prone to intensive carbon monoxide generation.

Smoke is able to cause loss of consciousness and cardiac standstill before a person may leave a house on fire. Jet ventilation system is the most suitable and safe ventilation solution for modern underground parkings. Arrangement of such ventilation requires no ductwork layout, thus the involved mounting expenses are reduced by 45 %. The energy losses caused by aerodynamic resistance in the air ducts are also reduced. The jet ventilation system design requires no complicated annual cleaning of the ductworks, thus reducing the maintenance costs by 35-40 %.

Jet axial fans are used for general ventilation purposes of underground and semiopened parkings, covered shelters, ventilation of tunnels, air recirculation in atriums and air supply to panoramic glass constructions. Such ventilation system does not require installation of ductworks and the air stream flows directly from air supply vent to air exhaust vent.

| Impurity content in the air [mg/m ³] and health effect | | | |
|--|-------------|-----------------|-----------------|
| Influence | CO | SO ₂ | NO _x |
| No marked effect in case of exposure for several hours | 115 | 6 | 15 |
| Symptoms of light poisoning or mucous membrane irritation in 2-3 hours | 115...575 | 130 | 20 |
| Poisoning in 30 minutes | 2300...3500 | 210...400 | 100 |
| Life hazard even if short-term exposure | 5700 | 1600 | 150 |

| Content, volume in % | Petrol type | Diesel type |
|-----------------------------------|--------------|---------------|
| N ₂ | 74-77 | 76-78 |
| O ₂ | 0.3-0.8 | 2.0-18.0 |
| H ₂ O (vapours) | 3.0-5.5 | 0.5-4.0 |
| CO ₂ | 0.0-16.0 | 1.0-10.0 |
| CO* | 0.1-5.0 | 0.01-0.5 |
| Nitrogen oxide* | 0.0-0.8 | 0.0002-0.5000 |
| Hydrocarbons* | 0.2-3.0 | 0.09-0.500 |
| Aldehydes* | 0.0-0.2 | 0.001-0.009 |
| Soot g/m ³ | 0.0-0.04 | 0.01-1.10 |
| Benzpyrene – 3.4 g/m ³ | 10-20 x 10-6 | 10 x 10-6 |

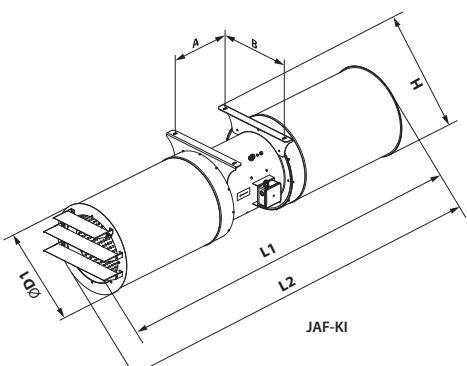


JAF series

Unidirectional single- and double-speed reversible fans



Axial jet fans with fire resistance
200 °C/2 hrs, 300 °C/2 hrs, 400 °C/2 hrs for ventilation of covered parkings. Functionality. Power. Efficiency.



Application

JAF jet axial fans are designed for general purpose ventilation of underground and semiopened parkings, ventilation of tunnels, smoke extraction in case of fire as a part of smoke extract system. The fans generate a high-speed and high-pressure directed air jet.

Motor

Three-phase asynchronous short-circuit rotor motor in the fan casing. Motor ingress protection rating is IP54. The motor design ensures operation of the fan in the smoke extract systems on unidirectional and reverse modes.

Modifications

Unidirectional single-speed type (U)
Unidirectional double-speed type (U)
Reversible single-speed (R)
Reversible double-speed (R)

Design

JAF casing has a tubular shape and is made of galvanized polymer coated steel. The fan has a sound insulation of mineral wool. The casing includes inner brackets for motor fixation. These brackets act as directing vanes and distribute air flow uniformly, thus increasing aerodynamic performances of the fan.

Impeller

Dynamically balanced impeller made of cast aluminium. The reversible fans are equipped with 100 % reversible two-directional impeller.

Mounting

JAF fans are designed for horizontal ceiling mounting and fixation by means of the supplied fixing brackets attached to the fan casing.

| Model | Dimensions [mm] | | | | | |
|-----------------------|-----------------|-----|-----|-----|------|------|
| | ØD1 | A | B | H | L1 | L2 |
| Unidirectional | | | | | | |
| JAF-KI-315 | 414 | 302 | 355 | 450 | 1654 | 1763 |
| JAF-KI-355 | 467 | 302 | 420 | 510 | 1954 | 2079 |
| JAF-KI-400 | 515 | 351 | 460 | 551 | 2004 | 2129 |
| JAF-KI-450 | 565 | 351 | 500 | 594 | 2004 | 2129 |
| JAF-KI-500 | 603 | 371 | 580 | 632 | 2004 | 2145 |
| Reversible | | | | | | |
| JAF-KI-315-R... | 414 | 302 | 355 | 450 | 1654 | 1872 |
| JAF-KI-355-R... | 467 | 302 | 420 | 510 | 1954 | 2202 |
| JAF-KI-400-R... | 515 | 351 | 460 | 551 | 2004 | 2253 |
| JAF-KI-450-R... | 565 | 351 | 500 | 594 | 2004 | 2253 |
| JAF-KI-500-R... | 603 | 371 | 580 | 632 | 2004 | 2290 |

| Model | Casing type | Casing insulation | Dia-meter [mm] | High-powered motor | Pole number | Air flow | Climatic category | Fire resistance limit/hrs |
|---------------------|-------------|---|---|--|---|---|---|--|
| JAF (jet axial fan) | K: round | no symbol means no sound insulation I: sound-insulated casing | 315 355 400 450 500 560 630 | no symbol means the only available standard size M, S: model with a high-power motor | 2 4 2/4 (applicable for double-speed motors) | U: uni-directional R: reversible | U: moderate climate (-40...+40 °C) HL: cold climate (-60...+40 °C) UHL: moderate and cold climate (-60...+40 °C) T: tropical climate (-10...+40 °C) M: maritime moderately cold climate (-40...+40 °C) O: general climatic modification (except maritime climate) (-60...+50 °C) OM: general maritime climatic modification (-40...+40 °C) V: universal climatic modification (-60...+50 °C) | no number: max. +55 °C 200/2: 200 °C/2 hrs. 300/2: 300 °C/2 hrs. 400/2: 400 °C/2 hrs. |

■ Technical data

| Ø [mm] | Air flow direction | Num-ber of speeds | Model | Unit voltage [V] | Fre-quence [Hz] | Power [kW] | Max. air capacity [m³/h] | Fan pull [N] | Air speed [m/s] | RPM | Operating tem-perature [°C] | Fire resistance |
|---------------|---------------------------|--------------------------|-----------------------------|-------------------------|------------------------|-------------------|---------------------------------|---------------------|------------------------|-------------|------------------------------------|------------------------|
| 315 | Uni-directional | 1 | JAF-KI-315-2-U-... | 3~400 | 50 | 0.55 | 4000 | 22 | 14.3 | 2880 | -25 – +55 °C | 55 °C |
| | | | JAF-KI-315-2-U-...-200/2 | | | | | | | | 200 °C/2 h | F200 |
| | | | JAF-KI-315-2-U-...-300/2 | | | | | | | | 300 °C/2 h | F300 |
| | | | JAF-KI-315-2-U-...-400/2 | | | | | | | | 400 °C/2 h | F400 |
| | | | JAF-KI-315M-2-U-... | | | | | | | | -25 – +55 °C | 55 °C |
| | | | JAF-KI-315M-2-U-...-200/2 | | | | | | | | 200 °C/2 h | F200 |
| | | | JAF-KI-315M-2-U-...-300/2 | | | | | | | | 300 °C/2 h | F300 |
| | | 2 | JAF-KI-315M-2-U-...-400/2 | 3~400 | 50 | 0.75 | 4800 | 30 | 17.2 | 2880 | -25 – +55 °C | 55 °C |
| | | | JAF-KI-315-2/4-U-... | | | | | | | | 200 °C/2 h | F200 |
| | | | JAF-KI-315-2/4-U-...-200/2 | | | | | | | | 300 °C/2 h | F300 |
| | | | JAF-KI-315-2/4-U-...-300/2 | | | | | | | | 400 °C/2 h | F400 |
| | | | JAF-KI-315-2/4-U-...-400/2 | | | | | | | | -25 – +55 °C | 55 °C |
| | | | JAF-KI-315M-2/4-U-... | | | | | | | | 200 °C/2 h | F200 |
| | | | JAF-KI-315M-2/4-U-...-200/2 | | | | | | | | 300 °C/2 h | F300 |
| | Reversible | 1 | JAF-KI-315-2/4-U-...-300/2 | 3~400 | 50 | 0.55 / 0.11 | 4000 / 2000 | 22 / 5.6 | 14.3 / 7.1 | 2880 / 1440 | -25 – +55 °C | 55 °C |
| | | | JAF-KI-315-2/4-U-...-400/2 | | | | | | | | 200 °C/2 h | F200 |
| | | | JAF-KI-315M-2/4-U-... | | | | | | | | 300 °C/2 h | F300 |
| | | | JAF-KI-315M-2/4-U-...-200/2 | | | | | | | | 400 °C/2 h | F400 |
| | | 2 | JAF-KI-315M-2/4-U-...-300/2 | 3~400 | 50 | 0.8 / 0.2 | 4800 / 2400 | 30 / 7.6 | 17.2 / 8.6 | 2880 / 1440 | -25 – +55 °C | 55 °C |
| | | | JAF-KI-315M-2/4-U-...-400/2 | | | | | | | | 200 °C/2 h | F200 |
| | | | JAF-KI-315M-2/4-U-...-300/2 | | | | | | | | 300 °C/2 h | F300 |
| | | | JAF-KI-315M-2/4-U-...-400/2 | | | | | | | | 400 °C/2 h | F400 |

* Smoke extraction mode: once for two hours

| | | | | | | | | | | | | |
|-----|-----------------|---|-----------------------------|-------|----|------------|-------------|---------|------------|-------------|--------------|-------|
| 355 | Uni-directional | 1 | JAF-KI-355-2-U-... | 3~400 | 50 | 0.75 | 5900 | 36 | 16.6 | 2880 | -25 – +55 °C | 55 °C |
| | | | JAF-KI-355-2-U-...-200/2 | | | | | | | | 200 °C/2 h | F200 |
| | | | JAF-KI-355-2-U-...-300/2 | | | | | | | | 300 °C/2 h | F300 |
| | | | JAF-KI-355-2-U-...-400/2 | | | | | | | | 400 °C/2 h | F400 |
| | | | JAF-KI-355M-2-U-... | | | | | | | | -25 – +55 °C | 55 °C |
| | | | JAF-KI-355M-2-U-...-200/2 | | | | | | | | 200 °C/2 h | F200 |
| | | | JAF-KI-355M-2-U-...-300/2 | | | | | | | | 300 °C/2 h | F300 |
| | 2 | 2 | JAF-KI-355M-2-U-...-400/2 | 3~400 | 50 | 0.8 / 0.2 | 5900 / 2900 | 36 / 9 | 16.6 / 8.2 | 2880 / 1440 | -25 – +55 °C | 55 °C |
| | | | JAF-KI-355-2/4-U-... | | | | | | | | 200 °C/2 h | F200 |
| | | | JAF-KI-355-2/4-U-...-200/2 | | | | | | | | 300 °C/2 h | F300 |
| | | | JAF-KI-355-2/4-U-...-300/2 | | | | | | | | 400 °C/2 h | F400 |
| | | 1 | JAF-KI-355-2/4-U-...-400/2 | 3~400 | 50 | 1.1 | 6900 | 48 | 19.4 | 2880 | -25 – +55 °C | 55 °C |
| | | | JAF-KI-355M-2/4-U-... | | | | | | | | 200 °C/2 h | F200 |
| | | | JAF-KI-355M-2/4-U-...-200/2 | | | | | | | | 300 °C/2 h | F300 |
| | Reversible | 2 | JAF-KI-355M-2/4-U-...-300/2 | 3~400 | 50 | 1.1 / 0.25 | 6900 / 3400 | 48 / 12 | 19.5 / 9.6 | 2880 / 1440 | -25 – +55 °C | 55 °C |
| | | | JAF-KI-355M-2/4-U-...-400/2 | | | | | | | | 200 °C/2 h | F200 |
| | | | JAF-KI-355M-2/4-U-...-300/2 | | | | | | | | 300 °C/2 h | F300 |
| | | | JAF-KI-355M-2/4-U-...-400/2 | | | | | | | | 400 °C/2 h | F400 |
| | | 1 | JAF-KI-355-2-R-... | 3~400 | 50 | 1.1 | 5900 | 35 | 16.6 | 2880 | -25 – +55 °C | 55 °C |
| | | | JAF-KI-355-2-R-...-200/2 | | | | | | | | 200 °C/2 h | F200 |
| | | | JAF-KI-355-2-R-...-300/2 | | | | | | | | 300 °C/2 h | F300 |
| | 2 | 2 | JAF-KI-355-2-R-...-400/2 | 3~400 | 50 | 1.1 | 5900 | 35 / 9 | 16.6 / 8.2 | 2880 / 1440 | -25 – +55 °C | 55 °C |
| | | | JAF-KI-355-2/4-R-... | | | | | | | | 200 °C/2 h | F200 |
| | | 1 | JAF-KI-355-2/4-R-...-200/2 | 3~400 | 50 | 1.1 / 0.25 | 5900 / 2900 | 48 / 12 | 19.5 / 9.6 | 2880 / 1440 | -25 – +55 °C | 55 °C |
| | | | JAF-KI-355-2/4-R-...-300/2 | | | | | | | | 200 °C/2 h | F200 |
| | | | JAF-KI-355-2/4-R-...-400/2 | | | | | | | | 300 °C/2 h | F300 |
| | | | JAF-KI-355-2/4-R-...-300/2 | | | | | | | | 400 °C/2 h | F400 |

* Smoke extraction mode: once for two hours

| | | | | | | | | | | | | |
|-----|-----------------|---|---------------------------|-------|----|-----|------|----|------|------|--------------|-------|
| 400 | Uni-directional | 1 | JAF-KI-400-2-U-... | 3~400 | 50 | 1.1 | 8500 | 57 | 18.8 | 2880 | -25 – +55 °C | 55 °C |
| | | | JAF-KI-400-2-U-...-200/2 | | | | | | | | 200 °C/2 h | F200 |
| | | | JAF-KI-400-2-U-...-300/2 | | | | | | | | 300 °C/2 h | F300 |
| | | | JAF-KI-400-2-U-...-400/2 | | | | | | | | 400 °C/2 h | F400 |
| | | | JAF-KI-400M-2-U-... | 3~400 | 50 | 2.2 | 9900 | 77 | 21.9 | 2880 | -25 – +55 °C | 55 °C |
| | | 2 | JAF-KI-400M-2-U-...-200/2 | | | | | | | | 200 °C/2 h | F200 |
| | | | JAF-KI-400M-2-U-...-300/2 | | | | | | | | 300 °C/2 h | F300 |
| | | | JAF-KI-400M-2-U-...-400/2 | | | | | | | | 400 °C/2 h | F400 |

JET AXIAL FANS

| Ø [mm] | Air flow direction | Number of speeds | Model | Unit voltage [V] | Fre-quenc[e] [Hz] | Power [kW] | Max. air capacity [m³/h] | Fan pull [N] | Air speed [m/s] | RPM | Operating tem-perature [°C] | Fire resistance | |
|---|---------------------------|-------------------------|-----------------------------|-------------------------|--------------------------|-------------------|---------------------------------|---------------------|------------------------|-------------|------------------------------------|------------------------|-------|
| 400 | Uni-directional | 2 | JAF-KI-400-2/4-U-... | 3~400 | 50 | 1.1 / 0.25 | 8500 / 4200 | 57 / 14 | 18.8 / 9.3 | 2880 / 1440 | -25 – +55 °C | 55 °C | |
| | | | JAF-KI-400-2/4-U-...-200/2 | | | | | | | | 200 °C/2 h | F200 | |
| | | | JAF-KI-400-2/4-U-...-300/2 | | | | | | | | 300 °C/2 h | F300 | |
| | | | JAF-KI-400-2/4-U-...-400/2 | | | | | | | | 400 °C/2 h | F400 | |
| | | 1 | JAF-KI-400M-2/4-U-... | | 3~400 | 50 | 2.2 / 0.5 | 9900 / 4900 | 77 / 19 | 21.9 / 10.9 | 2880 / 1440 | -25 – +55 °C | 55 °C |
| | | | JAF-KI-400M-2/4-U-...-200/2 | | | | | | | | 200 °C/2 h | F200 | |
| | | | JAF-KI-400M-2/4-U-...-300/2 | | | | | | | | 300 °C/2 h | F300 | |
| | | | JAF-KI-400M-2/4-U-...-400/2 | | | | | | | | 400 °C/2 h | F400 | |
| | Reversible | 1 | JAF-KI-400-2-R-... | 3~400 | 50 | 1.5 | 8400 | 55 | 18.6 | 2880 | -25 – +55 °C | 55 °C | |
| | | | JAF-KI-400-2-R-...-200/2 | | | | | | | | 200 °C/2 h | F200 | |
| | | | JAF-KI-400-2-R-...-300/2 | | | | | | | | 300 °C/2 h | F300 | |
| | | | JAF-KI-400-2-R-...-400/2 | | | | | | | | 400 °C/2 h | F400 | |
| | | 2 | JAF-KI-400-2/4-R-... | 3~400 | 50 | 1.5 / 0.37 | 8400 / 4200 | 55 / 13.9 | 18.6 / 9.3 | 2880 / 1440 | -25 – +55 °C | 55 °C | |
| | | | JAF-KI-400-2/4-R-...-200/2 | | | | | | | | 200 °C/2 h | F200 | |
| | | | JAF-KI-400-2/4-R-...-300/2 | | | | | | | | 300 °C/2 h | F300 | |
| | | | JAF-KI-400-2/4-R-...-400/2 | | | | | | | | 400 °C/2 h | F400 | |
| * Smoke extraction mode: once for two hours | | | | | | | | | | | | | |
| 450 | Uni-directional | 1 | JAF-KI-450-2-U-... | 3~400 | 50 | 1.5 | 10700 | 71 | 18.7 | 2880 | -25 – +55 °C | 55 °C | |
| | | | JAF-KI-450-2-U-...-200/2 | | | | | | | | 200 °C/2 h | F200 | |
| | | | JAF-KI-450-2-U-...-300/2 | | | | | | | | 300 °C/2 h | F300 | |
| | | | JAF-KI-450-2-U-...-450/2 | | | | | | | | 400 °C/2 h | F400 | |
| | | 2 | JAF-KI-450M-2-U-... | 3~400 | 50 | 2.2 | 11900 | 88 | 20.8 | 2880 | -25 – +55 °C | 55 °C | |
| | | | JAF-KI-450M-2-U-...-200/2 | | | | | | | | 200 °C/2 h | F200 | |
| | | | JAF-KI-450M-2-U-...-300/2 | | | | | | | | 300 °C/2 h | F300 | |
| | | | JAF-KI-450M-2-U-...-400/2 | | | | | | | | 400 °C/2 h | F400 | |
| | | 3 | JAF-KI-450S-2-U-... | 3~400 | 50 | 3 | 12800 | 106 | 22.4 | 2880 | -25 – +55 °C | 55 °C | |
| | | | JAF-KI-450S-2-U-...-200/2 | | | | | | | | 200 °C/2 h | F200 | |
| | | | JAF-KI-450S-2-U-...-300/2 | | | | | | | | 300 °C/2 h | F300 | |
| | | | JAF-KI-450S-2-U-...-400/2 | | | | | | | | 400 °C/2 h | F400 | |
| | | 4 | JAF-KI-450-2/4-U-... | 3~400 | 50 | 1.5 / 0.37 | 10700 / 5300 | 71 / 18 | 18.7 / 9.3 | 2880 / 1440 | -25 – +55 °C | 55 °C | |
| | | | JAF-KI-450-2/4-U-...-200/2 | | | | | | | | 200 °C/2 h | F200 | |
| | | | JAF-KI-450-2/4-U-...-300/2 | | | | | | | | 300 °C/2 h | F300 | |
| | | | JAF-KI-450-2/4-U-...-400/2 | | | | | | | | 400 °C/2 h | F400 | |
| | | 5 | JAF-KI-450M-2/4-U-... | 3~400 | 50 | 2.2 / 0.5 | 11900 / 5900 | 88 / 22 | 20.8 / 10.3 | 2880 / 1440 | -25 – +55 °C | 55 °C | |
| | | | JAF-KI-450M-2/4-U-...-200/2 | | | | | | | | 200 °C/2 h | F200 | |
| | | | JAF-KI-450M-2/4-U-...-300/2 | | | | | | | | 300 °C/2 h | F300 | |
| | | | JAF-KI-450M-2/4-U-...-400/2 | | | | | | | | 400 °C/2 h | F400 | |
| | | 6 | JAF-KI-450S-2/4-U-... | 3~400 | 50 | 2.5 / 0.65 | 12800 / 6400 | 106 / 26 | 22.4 / 11.2 | 2880 / 1440 | -25 – +55 °C | 55 °C | |
| | | | JAF-KI-450S-2/4-U-...-200/2 | | | | | | | | 200 °C/2 h | F200 | |
| | | | JAF-KI-450S-2/4-U-...-300/2 | | | | | | | | 300 °C/2 h | F300 | |
| | | | JAF-KI-450S-2/4-U-...-400/2 | | | | | | | | 400 °C/2 h | F400 | |
| | Reversible | 1 | JAF-KI-450-2-R-... | 3~400 | 50 | 1.5 | 10100 | 63 | 17.6 | 2880 | -25 – +55 °C | 55 °C | |
| | | | JAF-KI-450-2-R-...-200/2 | | | | | | | | 200 °C/2 h | F200 | |
| | | | JAF-KI-450-2-R-...-300/2 | | | | | | | | 300 °C/2 h | F300 | |
| | | | JAF-KI-450-2-R-...-450/2 | | | | | | | | 400 °C/2 h | F400 | |
| | | 2 | JAF-KI-450M-2-R-... | 3~400 | 50 | 2.2 | 11500 | 82 | 20 | 2880 | -25 – +55 °C | 55 °C | |
| | | | JAF-KI-450M-2-R-...-200/2 | | | | | | | | 200 °C/2 h | F200 | |
| | | | JAF-KI-450M-2-R-...-300/2 | | | | | | | | 300 °C/2 h | F300 | |
| | | | JAF-KI-450M-2-R-...-400/2 | | | | | | | | 400 °C/2 h | F400 | |
| | | 3 | JAF-KI-450S-2-R-... | 3~400 | 50 | 3 | 12200 | 96 | 21.3 | 2880 | -25 – +55 °C | 55 °C | |
| | | | JAF-KI-450S-2-R-...-200/2 | | | | | | | | 200 °C/2 h | F200 | |
| | | | JAF-KI-450S-2-R-...-300/2 | | | | | | | | 300 °C/2 h | F300 | |
| | | | JAF-KI-450S-2-R-...-400/2 | | | | | | | | 400 °C/2 h | F400 | |
| | | 4 | JAF-KI-450-2/4-R-... | 3~400 | 50 | 1.5 / 0.37 | 10100 / 5000 | 63 / 16 | 17.6 / 8.8 | 2880 / 1440 | -25 – +55 °C | 55 °C | |
| | | | JAF-KI-450-2/4-R-...-200/2 | | | | | | | | 200 °C/2 h | F200 | |
| | | | JAF-KI-450-2/4-R-...-300/2 | | | | | | | | 300 °C/2 h | F300 | |
| | | | JAF-KI-450-2/4-R-...-400/2 | | | | | | | | 400 °C/2 h | F400 | |

| Ø [mm] | Air flow direction | Number of speeds | Model | Unit voltage [V] | Fre-quency [Hz] | Power [kW] | Max. air capacity [m³/h] | Fan pull [N] | Air speed [m/s] | RPM | Operating tem-perature [°C] | Fire resistance | | |
|---|---------------------------|-------------------------|-----------------------------|-------------------------|------------------------|-------------------|---------------------------------|---------------------|------------------------|-------------|------------------------------------|------------------------|--------------|-------|
| 450 | Reversible | 2 | JAF-KI-450M-2/4-R-... | 3~400 | 50 | 2.2 / 0.5 | 11500 / 5700 | 82 / 20 | 20 / 10 | 2880 / 1440 | -25 – +55 °C | 55 °C | | |
| | | | JAF-KI-450M-2/4-R-...-200/2 | | | | | | | | 200 °C/2 h | F200 | | |
| | | | JAF-KI-450M-2/4-R-...-300/2 | | | | | | | | 300 °C/2 h | F300 | | |
| | | | JAF-KI-450M-2/4-R-...-400/2 | | | | | | | | 400 °C/2 h | F400 | | |
| | | | JAF-KI-450S-2/4-R-... | | | 3~400 | 50 | 2.5 / 0.65 | 12200 / 6000 | 96 / 24 | 21.3 / 10.4 | 2880 / 1440 | -25 – +55 °C | 55 °C |
| | | | JAF-KI-450S-2/4-R-...-200/2 | | | | | | | | 200 °C/2 h | F200 | | |
| | | | JAF-KI-450S-2/4-R-...-300/2 | | | | | | | | 300 °C/2 h | F300 | | |
| | | | JAF-KI-450S-2/4-R-...-400/2 | | | | | | | | 400 °C/2 h | F400 | | |
| * Smoke extraction mode: once for two hours | | | | | | | | | | | | | | |
| 500 | Uni-directional | 2 | JAF-KI-500-2/4-U-... | 3~400 | 50 | 3.1 / 0.8 | 16600 / 8200 | 143 / 36 | 23.6 / 11.6 | 2880 / 1440 | -25 – +55 °C | 55 °C | | |
| | | | JAF-KI-500-2/4-U-...-200/2 | | | | | | | | 200 °C/2 h | F200 | | |
| | | | JAF-KI-500-2/4-U-...-300/2 | | | | | | | | 300 °C/2 h | F300 | | |
| | | | JAF-KI-500-2/4-U-...-400/2 | | | | | | | | 400 °C/2 h | F400 | | |
| | | | JAF-KI-500M-2/4-U-... | | | 3~400 | 50 | 4.4 / 1.1 | 18800 / 9400 | 183 / 45 | 26.7 / 13.3 | 2880 / 1440 | -25 – +55 °C | 55 °C |
| | | | JAF-KI-500M-2/4-U-...-200/2 | | | | | | | | 200 °C/2 h | F200 | | |
| | | | JAF-KI-500M-2/4-U-...-300/2 | | | | | | | | 300 °C/2 h | F300 | | |
| | | | JAF-KI-500M-2/4-U-...-400/2 | | | | | | | | 400 °C/2 h | F400 | | |
| | | | JAF-KI-500-2/4-R-... | 3~400 | 50 | 2.5 / 0.65 | 14100 / 7000 | 103 / 25 | 20 / 10 | 2880 / 1440 | -25 – +55 °C | 55 °C | | |
| | | | JAF-KI-500-2/4-R-...-200/2 | | | | | | | | 200 °C/2 h | F200 | | |
| | | | JAF-KI-500-2/4-R-...-300/2 | | | | | | | | 300 °C/2 h | F300 | | |
| | | | JAF-KI-500-2/4-R-...-400/2 | | | | | | | | 400 °C/2 h | F400 | | |
| * Smoke extraction mode: once for two hours | | | | | | | | | | | | | | |
| 560 | Uni-directional | 2 | JAF-KI-560-2/4-U-... | 3~400 | 50 | 4.4 / 1.1 | 21400 / 10600 | 185 / 46 | 24.2 / 12 | 2880 / 1440 | -25 – +55 °C | 55 °C | | |
| | | | JAF-KI-560-2/4-U-...-200/2 | | | | | | | | 200 °C/2 h | F200 | | |
| | | | JAF-KI-560-2/4-U-...-300/2 | | | | | | | | 300 °C/2 h | F300 | | |
| | | | JAF-KI-560-2/4-U-...-400/2 | | | | | | | | 400 °C/2 h | F400 | | |
| | | | JAF-KI-560M-2/4-U-... | 3~400 | 50 | 8 / 2 | 24500 / 12200 | 245 / 61 | 27.6 / 13.8 | 2880 / 1440 | -25 – +55 °C | 55 °C | | |
| | | | JAF-KI-560M-2/4-U-...-200/2 | | | | | | | | 200 °C/2 h | F200 | | |
| | | | JAF-KI-560M-2/4-U-...-300/2 | | | | | | | | 300 °C/2 h | F300 | | |
| | | | JAF-KI-560M-2/4-U-...-400/2 | | | | | | | | 400 °C/2 h | F400 | | |
| | | | JAF-KI-560-2/4-R-... | 3~400 | 50 | 4.4 / 1.1 | 18200 / 9000 | 134 / 33 | 20.5 / 10.2 | 2880 / 1440 | -25 – +55 °C | 55 °C | | |
| | | | JAF-KI-560-2/4-R-...-200/2 | | | | | | | | 200 °C/2 h | F200 | | |
| | | | JAF-KI-560-2/4-R-...-300/2 | | | | | | | | 300 °C/2 h | F300 | | |
| | | | JAF-KI-560-2/4-R-...-400/2 | | | | | | | | 400 °C/2 h | F400 | | |
| * Smoke extraction mode: once for two hours | | | | | | | | | | | | | | |
| 630 | Uni-directional | 2 | JAF-KI-630-2/4-U-... | 3~400 | 50 | 12 / 3 | 30000 / 15000 | 298 / 74 | 26.8 / 13.4 | 2880 / 1440 | -25 – +55 °C | 55 °C | | |
| | | | JAF-KI-630-2/4-U-...-200/2 | | | | | | | | 200 °C/2 h | F200 | | |
| | | | JAF-KI-630-2/4-U-...-300/2 | | | | | | | | 300 °C/2 h | F300 | | |
| | | | JAF-KI-630-2/4-U-...-400/2 | | | | | | | | 400 °C/2 h | F400 | | |
| | | | JAF-KI-630M-2/4-U-... | 3~400 | 50 | 16 / 4 | 35500 / 17700 | 414 / 103 | 31.6 / 15.8 | 2880 / 1440 | -25 – +55 °C | 55 °C | | |
| | | | JAF-KI-630M-2/4-U-...-200/2 | | | | | | | | 200 °C/2 h | F200 | | |
| | | | JAF-KI-630M-2/4-U-...-300/2 | | | | | | | | 300 °C/2 h | F300 | | |
| | | | JAF-KI-630M-2/4-U-...-400/2 | | | | | | | | 400 °C/2 h | F400 | | |
| | | | JAF-KI-630-2/4-R-... | 3~400 | 50 | 12 / 3 | 30000 / 15000 | 300 / 75 | 26.8 / 13.4 | 2880 / 1440 | -25 – +55 °C | 55 °C | | |
| | | | JAF-KI-630-2/4-R-...-200/2 | | | | | | | | 200 °C/2 h | F200 | | |
| | | | JAF-KI-630-2/4-R-...-300/2 | | | | | | | | 300 °C/2 h | F300 | | |
| | | | JAF-KI-630-2/4-R-...-400/2 | | | | | | | | 400 °C/2 h | F400 | | |
| | | | JAF-KI-630M-2/4-R-... | 3~400 | 50 | 16 / 4 | 33000 / 16000 | 358 / 89 | 29.5 / 14.3 | 2880 / 1440 | -25 – +55 °C | 55 °C | | |
| | | | JAF-KI-630M-2/4-R-...-200/2 | | | | | | | | 200 °C/2 h | F200 | | |
| | | | JAF-KI-630M-2/4-R-...-300/2 | | | | | | | | 300 °C/2 h | F300 | | |
| | | | JAF-KI-630M-2/4-R-...-400/2 | | | | | | | | 400 °C/2 h | F400 | | |

IMPULSE CENTRIFUGAL FANS

ICF SERIES



Impulse centrifugal fans with fire resistance limit 200 °C/2 h, 300 °C/2 h and 400 °C/2 h for ventilation of underground parkings. Compactness. Power. Efficiency.

Application

Impulse centrifugal fans ICF are designed for general purpose ventilation of underground and semiopened parkings, smoke extraction in case of fire as a part of smoke extract system.

The fans generate a high-speed and high-pressure directed air jet.

Modifications

Single-speed
Double-speed

Design

ICF casing is made of polymer coated steel.
Due to low height of the casing the fan is recommended for use in low-ceilinged room.
The protecting grille on the intake side prevents ingress of foreign objects into the fan.
Deflector plates on the exhaust side of the fan ensure correct air flow distribution.

Motor

Single- or double-speed 4-, 6- or 8-pole asynchronous motors.

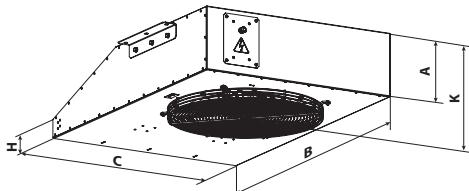
Motor ingress protection rating is IP55.

Impeller

The impeller with backward curved steel blades.

Mounting

ICF fans are designed for ceiling mounting and fixation by means of the supplied fixing brackets.
Power is supplied through the internal terminal box.
The fan wiring and mounting must be made according to the instructions and the wiring diagram shown in the terminal box.



| Model | Dimensions [mm] | | | | | Weight [kg] |
|----------|-----------------|------|------|-----|-----|-------------|
| | A | B | C | H | K | |
| ICF-50N | 290 | 1355 | 935 | 90 | 350 | 96 |
| ICF-85N | 330 | 1605 | 1105 | 110 | 390 | 136 |
| ICF-100N | 330 | 1605 | 1105 | 110 | 390 | 138 |

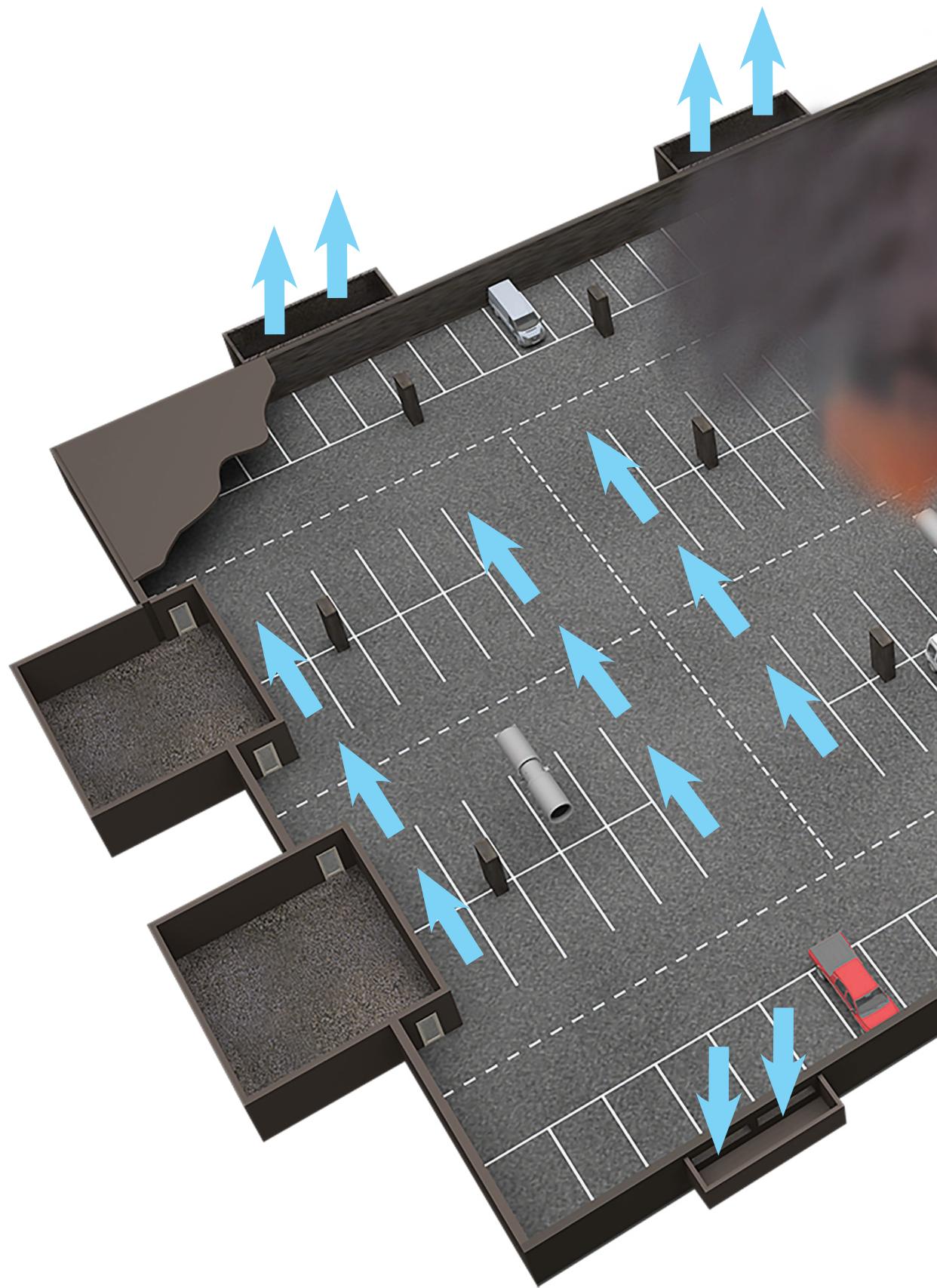
| Model | Fan pull [N] | Pole number | Climatic category | Fire resistance limit/hrs |
|------------------------------------|-----------------------|---|---|--|
| ICF (impulsion centrifugal fan) | 50 N 85 N 100 N | 4 4/6 (applicable for double-speed models) 4/8 (applicable for double-speed models) | U: moderate climate (-40...+40 °C) HL: cold climate (-60...+40 °C) UHL: moderate and cold climate (-60...+40 °C) T: tropical climate (-10...+40 °C) M: maritime moderately cold climate (-40...+40 °C) O: general climatic modification (except maritime climate) (-60...+50 °C) OM: general maritime climatic modification (-40...+40 °C) V: universal climatic modification (-60...+50 °C) | no number: max. +55 °C 200/2: 200 °C/2 hrs. 300/2: 300 °C/2 hrs. 400/2: 400 °C/2 hrs. |

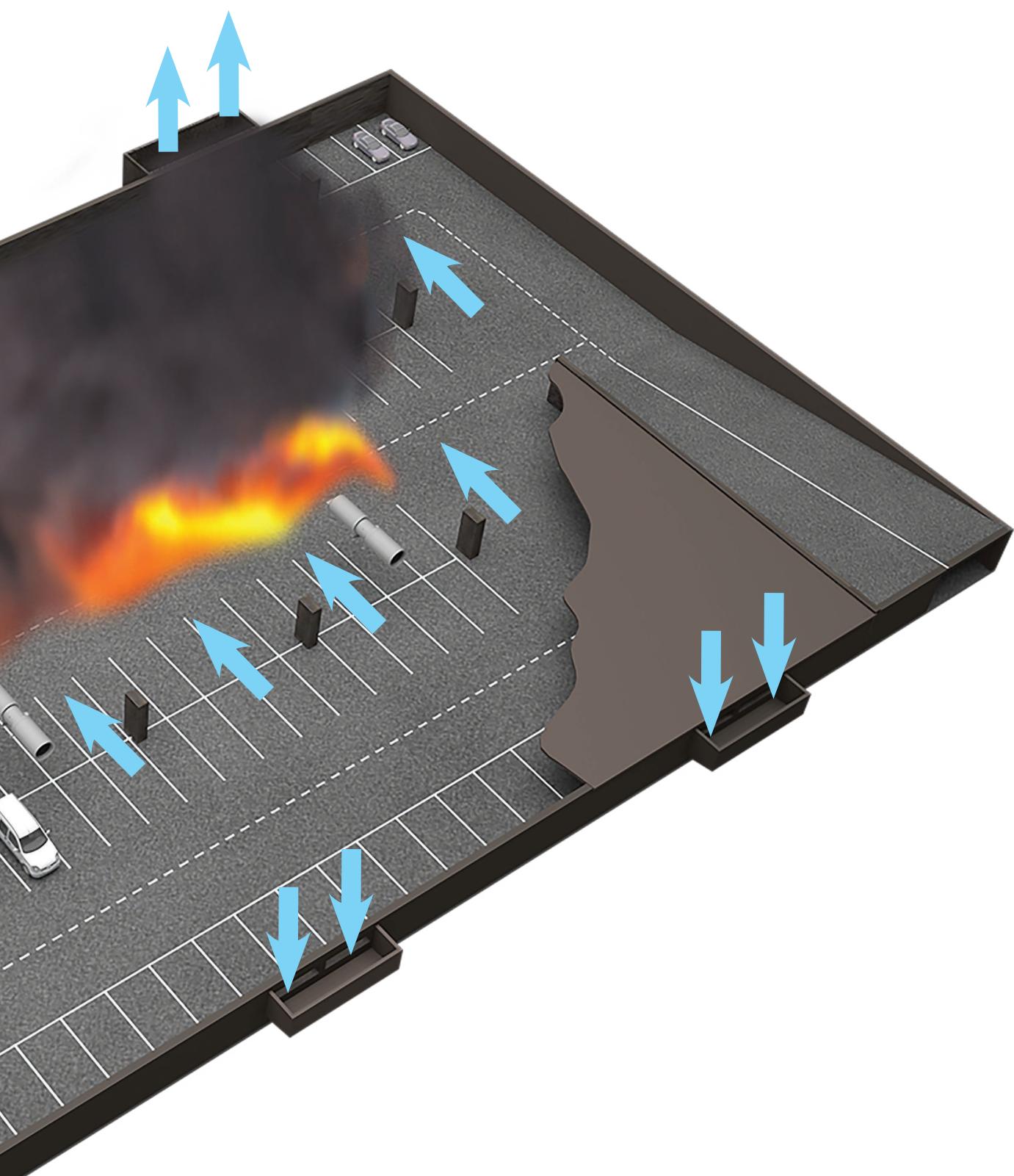
■ Technical data

| Model | Number of speeds | Unit voltage [V] | Frequency [Hz] | Max. air capacity [m³/h] | Power [kW] | Fan pull [N] | Air speed [m/s] | RPM | Operating temperature [°C]* | Fire resistance | Weight [kg] |
|---------------------------|------------------|------------------|----------------|--------------------------|------------|--------------|-----------------|-------------|-----------------------------|-----------------|-------------|
| 50N, SINGLE-SPEED | | | | | | | | | | | |
| ICF-50N-4... | 1 | 3~400 | 50 | 6200 | 1.5 | 50 | 20.5 | 1500 | -25 – +55 °C | 55 °C | 96 |
| ICF-50N-4...-200/2 | | | | | | | | | 200 °C/2 h | F200 | |
| ICF-50N-4...-300/2 | | | | | | | | | 300 °C/2 h | F300 | |
| ICF-50N-4...-400/2 | | | | | | | | | 400 °C/2 h | F400 | |
| 50N, DOUBLE-SPEED | | | | | | | | | | | |
| ICF-50N-4/6... | 2 | 3~400 | 50 | 6200 / 4100 | 1.5 / 0.37 | 50 / 20 | 20.5 / 13.5 | 1500 / 1000 | -25 – +55 °C | 55 °C | 96 |
| ICF-50N-4/6...-200/2 | | | | | | | | | 200 °C/2 h | F200 | |
| ICF-50N-4/6...-300/2 | | | | | | | | | 300 °C/2 h | F300 | |
| ICF-50N-4/6...-400/2 | | | | | | | | | 400 °C/2 h | F400 | |
| ICF-50N-4/8... | 2 | 3~400 | 50 | 6200 / 3100 | 1.6 / 0.4 | 50 / 13 | 20.5 / 10.2 | 1500 / 750 | -25 – +55 °C | 55 °C | 96 |
| ICF-50N-4/8...-200/2 | | | | | | | | | 200 °C/2 h | F200 | |
| ICF-50N-4/8...-300/2 | | | | | | | | | 300 °C/2 h | F300 | |
| ICF-50N-4/8...-400/2 | | | | | | | | | 400 °C/2 h | F400 | |
| 85N, SINGLE-SPEED | | | | | | | | | | | |
| ICF-85N-4... | 1 | 3~400 | 50 | 9750 | 2.2 | 85 | 22.3 | 1500 | -25 – +55 °C | 55 °C | 136 |
| ICF-85N-4...-200/2 | | | | | | | | | 200 °C/2 h | F200 | |
| ICF-85N-4...-300/2 | | | | | | | | | 300 °C/2 h | F300 | |
| ICF-85N-4...-400/2 | | | | | | | | | 400 °C/2 h | F400 | |
| 85N, DOUBLE-SPEED | | | | | | | | | | | |
| ICF-85N-4/6... | 2 | 3~400 | 50 | 9750 / 5950 | 2.2 / 0.7 | 85 / 28 | 22.3 / 13.6 | 1500 / 1000 | -25 – +55 °C | 55 °C | 136 |
| ICF-85N-4/6...-200/2 | | | | | | | | | 200 °C/2 h | F200 | |
| ICF-85N-4/6...-300/2 | | | | | | | | | 300 °C/2 h | F300 | |
| ICF-85N-4/6...-400/2 | | | | | | | | | 400 °C/2 h | F400 | |
| ICF-85N-4/8... | 2 | 3~400 | 50 | 9750 / 4150 | 2.2 / 0.55 | 85 / 20 | 22.3 / 9.5 | 1500 / 750 | -25 – +55 °C | 55 °C | 136 |
| ICF-85N-4/8...-200/2 | | | | | | | | | 200 °C/2 h | F200 | |
| ICF-85N-4/8...-300/2 | | | | | | | | | 300 °C/2 h | F300 | |
| ICF-85N-4/8...-400/2 | | | | | | | | | 400 °C/2 h | F400 | |
| 100N, SINGLE-SPEED | | | | | | | | | | | |
| ICF-100N-4... | 1 | 3~400 | 50 | 10200 | 3.0 | 100 | 23.3 | 1500 | -25 – +55 °C | 55 °C | 138 |
| ICF-100N-4...-200/2 | | | | | | | | | 200 °C/2 h | F200 | |
| ICF-100N-4...-300/2 | | | | | | | | | 300 °C/2 h | F300 | |
| ICF-100N-4...-400/2 | | | | | | | | | 400 °C/2 h | F400 | |
| 100N, DOUBLE-SPEED | | | | | | | | | | | |
| ICF-100N-4/8... | 2 | 3~400 | 50 | 10200 / 5150 | 2.8 / 0.7 | 100 / 26 | 23.3 / 11.8 | 1500 / 750 | -25 – +55 °C | 55 °C | 138 |
| ICF-100N-4/8...-200/2 | | | | | | | | | 200 °C/2 h | F200 | |
| ICF-100N-4/8...-300/2 | | | | | | | | | 300 °C/2 h | F300 | |
| ICF-100N-4/8...-400/2 | | | | | | | | | 400 °C/2 h | F400 | |

* Smoke extraction mode: once for two hours

VENTILATION OF UNDERROOF PARKING







SMOKE EXTRAXTION AND VENTILATION

VENTILATION SYSTEM
www.ventilation-system.com

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03/2018

