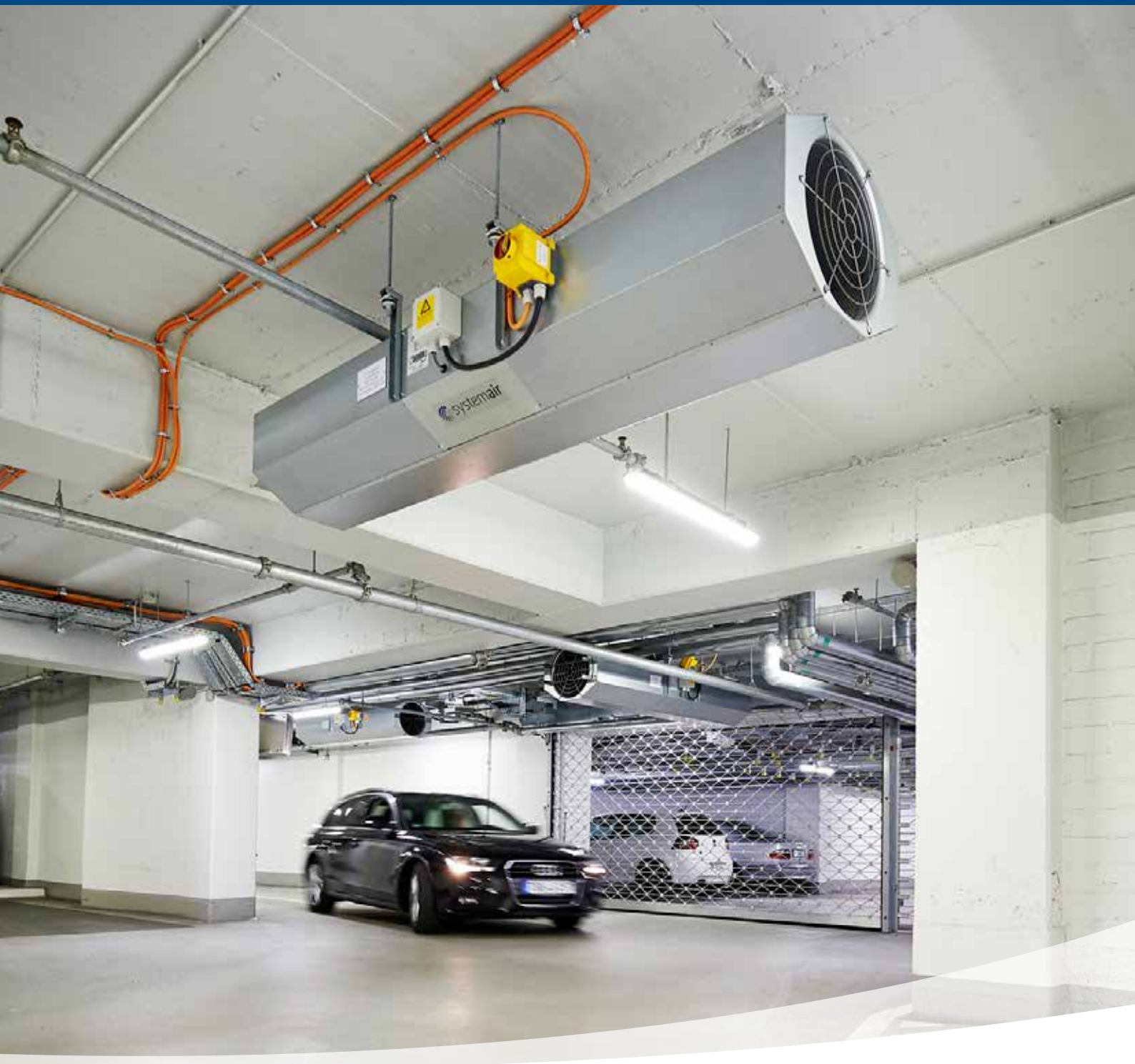
Jet Fan Systems

Contemporary ventilation for multi-storey and underground car parks.



systemair

Content

The Green Ventilation jet fan systems from Systemair: Our experts and developers have invested more time so that you get much less! That is, less energy consumption, fewer operating costs, less expense for planning, realisation and commissioning.

The combination of modern fans, tailored components and demand control results in a system fully attuned to your requirements, which is unrivalled in its efficiency: with up to 80% energy saving. At last, a breath of fresh air for the ventilation of multi-storey and underground car parks.

systemair

Power through motion.

Jet fans from Systemair

Whether residential accommodation, office complex or factory building – each building has its specific requirements for ventilation. One of the special challenges here are underground and multi-storey car parks, where, due to the carbon monoxide and nitrogen oxide, the air is severely contaminated with carbon monoxide, nitrogen oxide. Another scope of protection is the building itself. Minimisation of moisture damage through correct ventilation strategies, taking into account the dew point of the fresh air, is only one keyword here.

Therefore, the polluted air needs to be extracted quickly safely and efficient. However, the duct systems which are often used for this take-up a lot of space, often cross other services and generate a high pressure drop such as electrical or water lines, which is leading to an high energy consumption. This is reflected in the investment, installation and operating costs. Luckily there is an intelligent alternative: Green Ventilation jet fan systems from Systemair.

Thoroughly safe. Extremely economical.

Jet fans – also known as impulse or induction fans – support the natural flow between the supply air and extract air zones. They provide motion in regions with low air speeds, thus guaranteeing the daily ventilation requirement for all areas.

Since jet fans are only installed at particular points, they take up less than 0.5% of the ceiling area. This leaves room for other technical installations and the visibility across the parking decks is improved.

Often it is even possible to reduce the storey heights. This saves time and money.

For the system to be able to reach its full potential and react reliably in an emergency depends on precise planning and a perfectly-controlled interaction of all the components. This is why, if you wish, Systemair will support you right from the design phase and can offer you jet ventilation as a complete package. This means you only have a single contact and can be sure that everything functions smoothly.

You only need to install it, switch it on and you're done.

Something else you can count on: up to 80% energy saving when operating in Green Ventilation mode*. This is mainly due to the intelligent control system, which adapts flexibly to the current demand – naturally in full compliance with all the legal requirements. Convinced?

*Comparison of CO mode with rated power of car park extract air fans

Your all-inclusive service package from Systemair

- Conception of the entire system including CFD analysis
- Detailed ventilation planning
- Creation of cable lists and compilation of all components
- Delivery of the components to the building site
- Commissioning
- Accompanying the independent acceptance inspection with hot smoke test

Perfectly positioned for every challenge.

Made-to-measure jet fan systems

No matter what the design of your underground car park or multi-storey car park looks like – together with you, our experienced experts will develop a solution tailored to your project, consisting of supply air, extract air and jet fans, monitoring sensors, a superordinated control system and accessories as required. This takes into account any available supply air inlets, such as entry ramps or other openings. Of course, our planning is based on the legal requirements; not forgetting the different approaches taken in the German car park regulations (GAVO) for individual federal states.

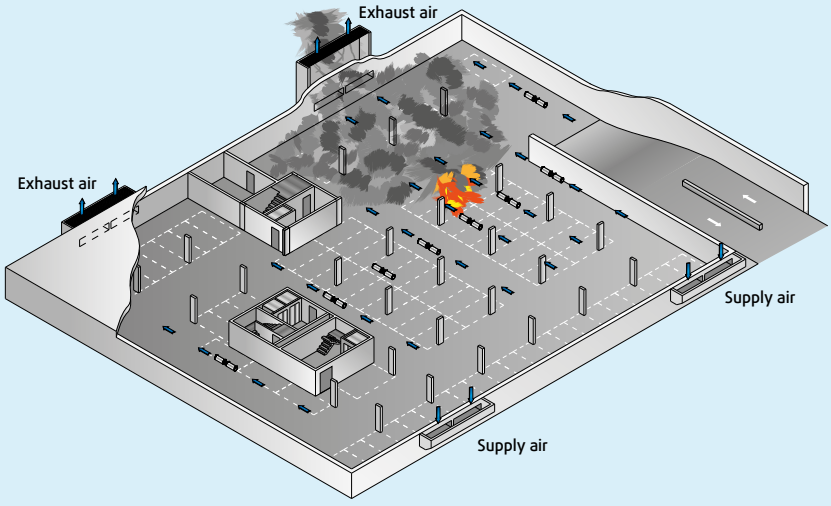
Ready in case of emergency

Jet fan systems from Systemair are active systems which, in an emergency, react according to a pre-saved switching matrix, thus offering people and buildings the greatest possible protection. To start with, protection targets are agreed for each project. If there is an emergency, the project-specific switching matrix ensures that the legal basic requirements and the predetermined protection targets are adhered to. These are for example maximum CO and smoke gas concentrations, required visibilities for self-rescue and preparation for firefighting by the fire services.

In case of fire, the aerodynamic forces of the jet fans (depending on the corresponding safety regulations) can build virtual smoke sections, if a structural separation of the smoke sections is not possible due to circumstances. Naturally always from the perspective of the highest efficiency and energy saving, without losing track of the investment costs.

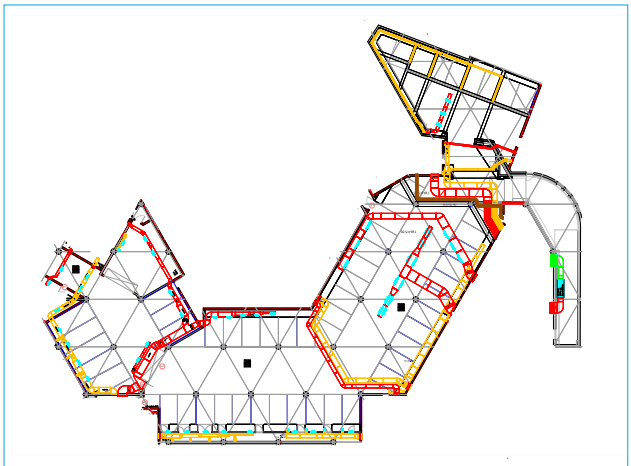
Good for the budget

Thanks to Systemair jet fans, possible virtual smoke extraction can make structural measures such as fire protection walls and gates redundant. This can reduce investment and later subsequent maintenance costs.

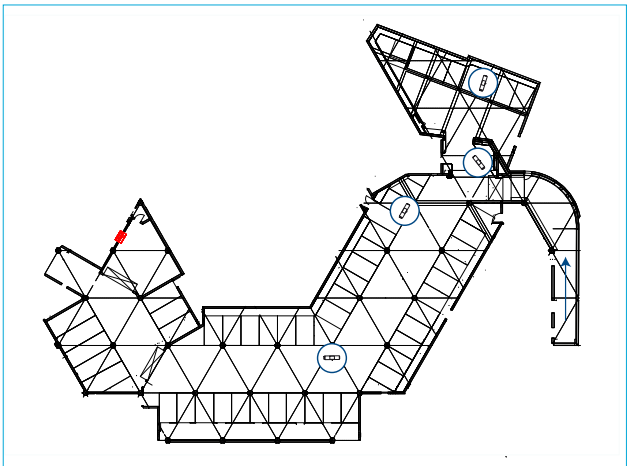


Example of a virtual smoke section.

The development of the underground car park



Conventional duct systems require a lot of space and are expensive to install.



In contrast, jet fans are only installed at particular points, taking up less than 0.5% of the ceiling area.

When you need to get the most from limited space...

Different garage types demand different solutions for their day-to-day ventilation. Whatever you are planning, we will find a solution that is efficient, cost effective and fit for the future.

1. AJR-TR
2. AJ8-TR
3. IV
4. IV smart

80%

energy saving in

Green Ventilation mode

Exceptionally efficient.

Green Ventilation for underground car parks

Reliable, effective ventilation and energy-saving are no longer a contradiction in terms, thanks to Green Ventilation jet fan systems from Systemair. Compared with conventional ventilation systems, energy savings of up to 80% are possible*. To achieve this, we have applied all our expertise and years of experience in the ventilation of modern, energy-efficient buildings to underground and multi-storey car parks. The result is a specially adapted Green Ventilation control system which is individually adjusted for your specific project. It evaluates the measurements from gas sensors (CO, NOx, LPG etc.) as well as from fire and smoke alarms, controlling the individually, virtually-formed smoke and CO compartments according to requirements. The jet fans, supply / exhaust air fans are operated according to the pre-saved control matrix.

So that everything functions perfectly, the control system must be exactly adjusted to all the requirements; in accordance with the other building services. This is why we will support you with help and advice right from the start and stay at your side until your system is commissioned. It goes without saying that during the design phase we observe all the legal federal requirements as well as the applicable regional fire regulations. Later on, all the documentation will be stored in the control cabinet and so it is easy to view and check during the annual inspection. The Systemair service makes it easy for you.

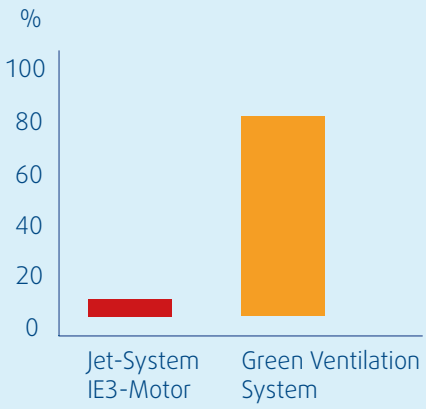
* In Systemair CO mode, compared with rated power of car park extract air fans

Reducing energy costs

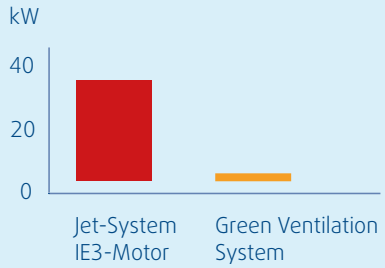
Many systems offer you the opportunity to save energy or to extract smoke from the car park. Why do one and do without the other? Systemair has applied the energy-saving to the smoke extraction system.

Case study

Reducing energy costs in kW



Reducing energy costs in %



Power consumption for 5,000 m^2 car parking area, 60,000 m^3/h and 13 impulse fans.

Perfect interaction.

Plant room

This is where the main fans (page 16 and 17) for supplying and extracting air are located, connected either in parallel or in series. Suitable are fans which fulfil the performance data and required temperature / time categories, such as, for example, the Systemair AXC, MUB series, or roof fans. AXC series axial fans are available in standard temperature versions or for temperature classes F300 and F400. Sizes range from 315 mm to 1,600 mm with single speed or dual speed versions. All smoke extraction fans can also be controlled via frequency converters in fire mode. There is also the option of equipping the MUB series or roof fans with EC motors. All fans are controlled in Green Ventilation mode, leading to increased energy saving. The appliance room for supply air can often be dispensed with if there is a natural supply of fresh air.

Main fans

Smoke extraction roof fan

Supply air

Extract air

Multi-storey or underground car park

Here, instead of using a duct system, our impulse fans are located at particular points on the ceiling, in order to guide the polluted air or smoke gases to the extract air point. They are designed to have two speeds and so can be controlled in the energy-saving Green Ventilation mode. Different models are appropriate depending on the storey height (from page 18). The AJR and AJ8 axial jet fans are available in the sizes 315, 355 and 400. Our radial type IV fans, or the prioJet operated with an EC motor, are suitable for low car park ceiling heights.

Our jet fans have a thrust of 12 – 100 N and are available for standard temperatures. The AJR, AJ8 and IV series fans are also available in smoke extraction versions (F300 and F400). Sensors are installed to comprehensively monitor the carbon monoxide or nitrogen monoxide concentrations. There are also transparent signs which light up and warn the users if the concentration is too high. All fans, sensors and transparent warning signs are connected with the central or the decentralised control system.

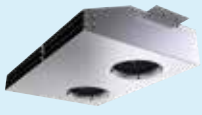
Transparent signs

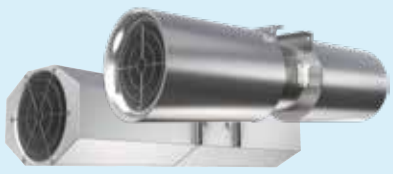
100 ppm

Sensoren

Messungen in ppm.
Signalton ab 120 ppm.

Jet fans





Control room

The control system is located in this structurally separate room. It consists of a fan control system and an integrated CO alarm system. All the fans, dampers and other necessary equipment are controlled from here. The interface for all incoming and outgoing signals and messages is also here.

VVP 1000

Connection with VVP 1000 over Modbus to BMS.

Gas warning system

The air quality in the car parking area is monitored using CO / NOx sensors and is evaluated by the CO central unit. For safety reasons, the central unit is equipped with an emergency power supply. If a preprogrammed CO / NOx threshold is exceeded, the main and / or impulse fans are activated and the transparent warning signs in the parking decks are switched on. In conjunction with the fan control system, the fans run at a high or low level – via a switching matrix which is especially adapted to the particular car park building.

Central unit

- low ppm
- medium ppm
- warning ppm
- Power supply
- Relay module
- Repeater

Fan control

This incorporates the current and voltage supply for the entire system as well as the load, control and logic units of the main and jet fans, via a contactor circuit or – optionally – via a frequency converter. The circuit is also equipped with fail-safe hard-wiring, but can also be implemented with a PLC (programmable logic controller) if necessary. The actuation of dampers or gates and connection of a fire alarm system are also possible.

L-TG

- Smoke extraction
- Central fire alarm
- Jet fans
- Mains fans
- Damper control

One system. Many advantages.

For investors: Low costs. Modern design.

- Low-cost due to point installation
- Perfect for renovation thanks to high flexibility
- Aesthetically appealing thanks to a modern design
- Good clarity in car parks thanks to compact jet fans

For planners: More safety.

- Can be used flexibly in new buildings and conversions
- Saves time because less planning is needed
- Safe thanks to the possibilities provided by CFD analysis and the hot smoke test

For installers: Simple commissioning.

- Easy to install and a high degree of flexibility due to individual fans
- Trouble-free installation:
  no collisions with other services such as electrical or water lines
- Operation-ready, inspected system:
  just install, switch on and you're done!

For operators: user-friendly.

- Aftersales service with a maintenance contract
- Low operating costs: up to 80% energy-saving thanks to intelligent control and demandbased operation
- No pressure losses because of a complex duct system
- Good air quality: lower concentration of hazardous substances than for conventional systems
- Optimum safety in case of fire thanks to rapid smoke and heat extraction
- Easy to maintain: especially the AJ8 series

Products you can rely on.

The all-inclusive service package from Systemair

Whether planning, implementing, commissioning or acceptance – in complex projects, each phase presents a real challenge to you and your team. Especially when ventilation and electrical plant – with their different requirements – come up against each other. We at Systemair want to make your daily work as easy as possible and offer you the greatest possible levels of safety. This is why we will support you with a lot of expertise, high-performance products and as much service as you wish. You could even go for our all-inclusive service package: from conception and detailed planning through to the final handover (page 4 and 5). This means we have an overview of all the planning phases and building services, coordinate the interfaces and are able to support you in the best possible way.

Safety right from the start

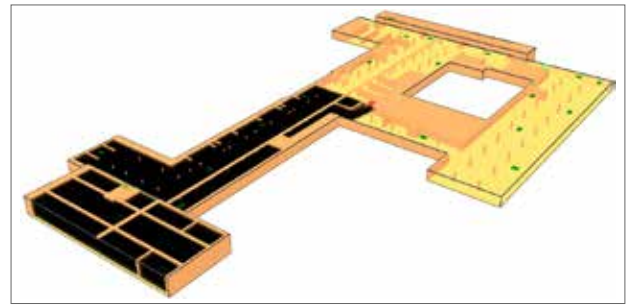
In the development of our products we place the highest value on quality, functionality, efficiency and reduced energy consumption. And because we only want to deliver the best to you, we will test your whole jet fan system thoroughly, including all the components, before handing it over to you. Our research and development centres in Sweden and Germany are among the most modern test laboratories for ventilation engineering in Europe. This means you can be sure that the commissioning of your system will not be burdened by troubleshooting. If you wish, when commissioning your jet fan system we can also carry out a smoke gas test, simulating the worst-case scenario.

Extremely important – and legally required for systems used for structural fire protection – is the annual maintenance and servicing. You can safely leave this to us as well. The Systemair service team knows what your system needs be able to do; in daily operation and in case of fire. So, how much service would you like?

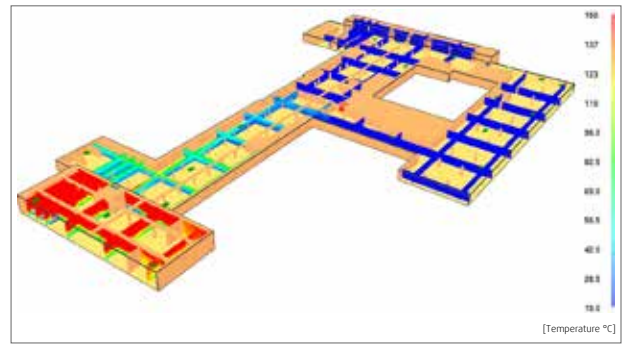
CFD simulation

On request, we can simulate the air flows within your underground car park using CFD simulation (Computational Fluid Dynamics). This means we are already able to check in the planning phase, whether the air motion is sufficient for the required air exchange rate and if enough jet fans have been planned in. The installation positions of the jet fans will also be determined. All we need for this is a 3D model of your building which includes all the flow-relevant information, such as all the openings, the ceiling heights and the nature of the ceilings (flat, with beams etc.).

Speed vektors with Jets.



Smoke spread after 30 minutes.



Spread of temperature within 30 minutes.

Everything under control!

The Systemair control system

In order for the individual components to be able to work together as a highly efficient and safe system, they need a controller which is just as intelligent as it is reliable. Good that you can completely put your faith in the expertise and experience of Systemair.

The Systemair control system encompasses the fan control for ventilation and smoke extraction in underground car parks. It is equipped with supply air and extract air fans, jet fans and sensors. Single and dual speed fans can be controlled as well as fans for a single flow direction or reversible fans. Each jet fan can be activated individually for maintenance work and commissioning. The Systemair control system has active motor protection in normal ventilation mode, with individual or group fault reporting (only for standard temperature version).

In normal ventilation mode, the function of the control system is either dependent on the CO alarm system, on clock timers, the building management system or data from the building management system. Here the fans always run with exactly the required speed in the direction of flow selected for the individual fan.

In case of fire, the control system then reacts independently of the fire alarm system. Virtual fire compartments with different flow directions for smoke extraction can be formed. All fans which are activated in the fire compartment work automatically in the speed and direction of rotation pre-set for this case.

The integrated overcurrent protection for the motor in the control cabinet is deactivated. As long as there is no mechanical damage due to the fire, each individual fan constantly maintains its life-saving function!

R&D Center in Windischbuch, Germany

One of the largest fan test facilities in Germany with a capacity of 600,000 m^3/h.

All good things come from above.

Supply air and extract air fans for underground car parks

As important as thorough planning and intelligent control may be, the efficiency and reliability of your system will stand or fall with the fan technology. With Systemair you profit from a broad portfolio of well-tried and tested solutions – with the most up-to-date technology.

For supply and extract air fans in multi-storey and underground car parks, Systemair recommends using AXC medium pressure axial fans. These are available in sizes from 315 to 2,000 mm and are equipped with easy-to-maintain direct-driven IEC standard motors. Depending on the requirement, they can be installed horizontally or vertically, as individual fans, in series or in parallel. For standard ambient temperatures of -20 °C to +55 °C as well as for high-temperature smoke extraction applications from 250 °C/120 min., 300 °C/120 min. and 400 °C/120 min.

All products are aerodynamically tested using the modern Systemair test facilities, according to AMCA 210 and DIN ISO 5801. The AXC fans undergo 100% factory-testing before delivery. This way we can ensure that they are absolutely vibration-free and electrically safe.

Our axial fans for high-temperature applications are tested and certified according to EN 12101-3. The certificates awarded by the authorised organisations are available for download at www.systemair.com.

AXC...

Fan housing

Depending on the application, the AXC fan housing is available in the following versions:

- Hot-dip galvanised (standard)
- Pre-galvanised (ventilation control centres)
- Stainless steel (corrosive atmosphere)

All housings have rolled flanges for airtight duct connection. The fan sizes up to 1,600 mm are equipped with an inspection opening for checking the direction of rotation.

Fan motor

IEC standard motors according to EN60034-5; standard, highly-efficient motors complying with the ErP Directive 327/2011. Insulation class F or H, depending on the application, 2-, 4- ,6- or 8-pole, one- or two-stage.

In the standard, the standard motor is suitable for inverter speed control for motor frame sizes up to 225. Motors for applications at ambient temperatures are equipped with PTC thermistors as standard for motor protection.

Fan impeller

Unidirectional or fully reversible blades made from die-cast aluminium (LM13 or ADC12 depending on size and application). All reversible impellers are x-rayed. Dynamically-balanced for vibration-free running. Adjustable impeller positioning angle for maximum efficiency at a standstill.

Connection box

The standard connection box is assembled on the outside of the fan housing for quick and easy connection. Insulation class IP 65. Die-cast aluminium, powder-coated steel or stainless steel, depending on the application.

Motor bearing

L10 motor bearing life over 40,000 hours for standard temperature motors and bearings with permanent lubrication. The bearing service life varies depending on its field of application.

Accessories

- Assembly feet / plates for horizontal and vertical installation
- Non-return dampers / shutters
- Vibration dampers
- Flange and flexible connections
- Protective cover
- Acoustic dampers
- Inlet nozzles
- Maintenance switch
- Frequency converter

Sound hood and weather proof Housing

- The fan unit is mounted in a vibration-damped housing with removable, double-skin galvanised steel panels. These are acoustically and thermally insulated with a 30 mm or 50 mm thick layer of non-flammable mineral wool. The panels for duct connection are single-skin without insulation.
- The box frame, including its corners, is made from aluminium. The fan can be accessed via a service door (selectable access side).
- Standard version for horizontal installation; version for vertical installation available on request.
- Weather-protection roof available for outdoor installation.
- Acoustic attenuation values for housing emissions see table.

Inseration attenuation DIN EN 1886	Hz	125	250	500	1,000	2,000	4,000	8,000
Wall thickness 30 mm	dB	17	21	26	30	36	29	35
Wall thickness 50 mm	dB	27	34	43	38	34	38	40

The functional one.

AJR-TR / AJR (B)-TR

AJR-TR / AJR (B)-TR

AJR(B)-TR REV

Characteristics and advantages at a glance

- For daily ventilation requirements and smoke extraction in case of fire F300 (300 °C/120 min.)
- Symmetrical impeller blades; 100% reversible (TR) with low noise emissions
- IP55 motors, insulation class H (smoke extraction version); insulation class F (CO ventilation), according to EN 60034-5
- 50/60 Hz version available
- Tested safety switch (REV) optional
- Housing from galvanised sheet steel
- CE certification by BSI

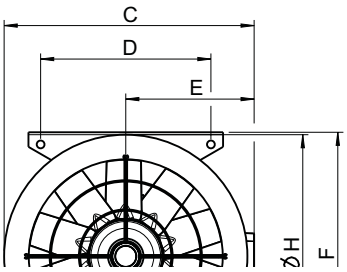
Technical data

AJR-TR*		315-2/4-TR	355-2/4-TR	400-2/4-TR
Item no. with terminal box		*36277*	*36278*	*36279*
Voltage/Frequency	V/50 Hz	400	400	400
Phase	~	3	3	3
Fan impeller speed	1/min	2880 / 1440	2840 / 1380	2840 / 1380
Power	kW	0.8 / 0.16	1.4 / 0.3	1.5 / 0.4
Current	A	1.95 / 0.39	3.08 / 1.1	4.18 / 1.47
Thrust	N	22 / 6	37 / 9	55 / 14
Max. airflow	m^3/s	1.22 / 0.61	1.78 / 0.89	2.42 / 1.21
Weight	kg	60	74	87

		300 °C/120 min.			
AJR(B)-TR*		315-2/4 (B)-TR	355-2/4 (B)-TR	400-2/4 (B)-TR	400-2/4 (B)-TR-L
Item no. with terminal box		*94784*	*94785*	*94786*	*94787*
AJR(B)-TR REV*		**315-2/4 (B)-TR REV**	**355-2/4 (B)-TR REV**	**400-2/4 (B)-TR REV**	**400-2/4 (B)-TR-L REV**
Item no. with safety switch		*94788*	*94789*	*94790*	*94791*
Voltage/Frequency	V/50 Hz	400	400	400	400
Phase	~	3	3	3	3
Fan impeller speed	1/min	2820 / 1400	2886 /1443	2886 / 1443	2886 / 1443
Power	kW	0.8 / 0.16	1.5 / 0.37	1.5 / 0.37	1.7 / 0.37
Current	A	1.91 / 0.6	3.91 / 1.28	3.91 / 1.28	3.91 / 1.28
Thrust	N	22 / 6	37 / 9	55 / 14	66 / 17
Max. airflow	m^3/s	1.22 / 0.61	1.77 / 0.88	2.42 / 1.21	2.62 / 1.32
Weight	kg	60	76	85	85

*Air volume related to air density 1.2 kg/m^3.

Dimensions



Size	A	B	C	D	E	F	ØH
315	1535	211	433	265	223	425	420
355	1695	211	473	305	243	465	460
400	1875	211	516	350	266	505	500

Dimensions in mm.

Technical data

60 Hz version

AJR-TR440-460V/60Hz		315-2/4-TR440-460V/60Hz	355-2/4-TR440-460V/60Hz	400-2/4-TR440-460V/60Hz
Item no.		*37095*	*37096*	*37097*
Voltage/Frequency	V/60 Hz	440-460	440-460	440-460
Phase	~	3	3	3
Fan impeller speed	1/min	3390 / 1630	1778 / 1650	3400 / 1650
Power	kW	0.75 / 0.17	1.4 / 0.3	1.9 / 0.4
Current	A	1.7 / 0.6	3 / 0.8	3.8 / 1
Thrust	N	22 / 6	37 / 9	55 / 14
Max. airflow	m^3/s	1.22 / 0.61	1.78 / 0.89	2.42 / 1.21
Weight	kg	53	74	88

AJR(B)-TR400-460V/60Hz		300 °C/120 min. 315-2/4 (B)-TR400-460V/60Hz	355-2/4 (B)-TR400-460V/60Hz	400-2/4 (B)-TR400-460V/60Hz	400-2/4 (B)-TR-L400-460V/60Hz
Item no.		*37099*	*37100*	*37101*	*37102*
Voltage/Frequency	V/60 Hz	400-460	400-460	400-460	400-460
Phase	~	3	3	3	3
Fan impeller speed	1/min	3450 / 1730	3450 / 1730	3450 / 1730	3450 / 1730
Power	kW	0.8 / 0.16	1.5 / 0.3	1.5 / 0.3	1.7 / 0.34
Current	A	2 / 0.4	2.9 / 0.68	2.9 / 0.68	3.6 / 0.8
Thrust	N	22 / 6	37 / 9	55 / 14	66 / 17
Max. airflow	m^3/s	1.22 / 0.61	1.78 / 0.90	2.42 / 1.21	2.62 / 1.32
Weight	kg	60	76	86	86

AJR(B)-TR380V/60Hz		300 °C/120 min. 315-2/4 (B)-TR380V/60Hz	355-2/4 (B)-TR380V/60Hz	400-2/4 (B)-TR380V/60Hz
Item no.		*73845*	*73846*	*73847*
Voltage/Frequency	V/60 Hz	380	380	380
Phase	~	3	3	3
Fan impeller speed	1/min	3275 / 1650	3445 / 1715	3445 / 1715
Power	kW	0.8 / 0.16	1.7 / 0.34	1.7 / 0.34
Current	A	2.1 / 0.4	3.8 / 0.9	3.8 / 0.9
Thrust	N	22 / 6	37 / 9	55 / 14
Max. airflow	m^3/s	1.47 / 0.73	2.13 / 1.07	2.9 / 1.45
Weight	kg	60	76	87

AJR(F)-TR

AJR(F)-TR

AJR(F)-TR REV

Characteristics and advantages at a glance

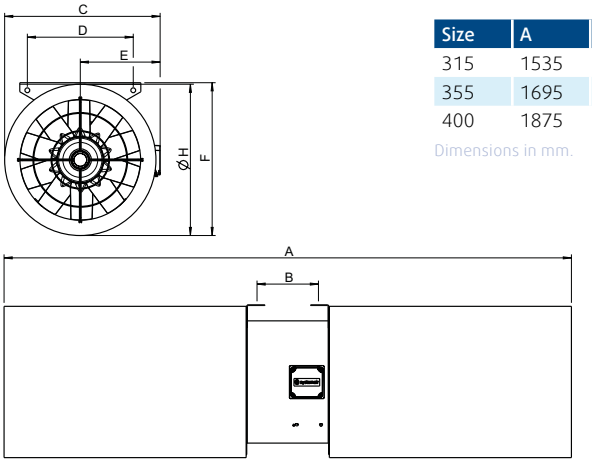
- For daily ventilation requirements and smoke extraction in case of fire F400 (400 °C/120 min.)
- Symmetrical impeller blades; 100% reversible (TR) with low noise emissions
- IP55 motors, insulation class H (smoke extraction version); insulation class F (CO ventilation), according to EN60034-5
- Tested safety switch (REV) optional
- Housing from galvanised sheet steel
- Tested according to EN 12101-3
- CE certification by BSI

Technical data

AJR(F)-TR*		400 °C/120 min. AJR 315-2/4 (F)-TR	AJR 355-2/4 (F)-TR	AJR 400-2/4 (F)-TR
Item no. with terminal box		*157378*	*157379*	*96701*
AJR(F)-TR REV*		**AJR 315-2/4 (F)-TR REV**	**AJR 355-2/4 (F)-TR REV**	**AJR 400-2/4 (F)-TR REV**
Item no. with safety switch		*157380*	*157381*	*96702*
Voltage/Frequency	V/50 Hz	400	400	400
Phase	~	3	3	3
Fan impeller speed	1/min.	2820 / 1400	2875 / 1430	2875 / 1430
Power	kW	0.8 / 0.2	1.1 / 0.25	1.5 / 0.37
Current	A	2.91 / 0.62	2.7 / 0.9	3.45 / 1.19
Thrust	N	21 / 6	34 / 8	60 / 15
Max. airflow	m^3/s	1.16 / 0.6	1.67 / 0.83	2.62 / 1.32
Weight	kg	62	69	80

*Air volume related to air density 1.2 kg/m^3.

Dimensions



Size	A	B	C	D	E	F	ØH
315	1535	211	433	265	223	425	420
355	1695	211	473	305	243	465	460
400	1875	211	516	350	266	505	500

Dimensions in mm.


← Ausfahrt
← -2

The stylish one.

AJ8-TR / AJ8(B)-TR - Premium

AJ8-TR / AJ8(B)-TR

AJ8(B)-TR REV

Characteristics and advantages at a glance

- For daily ventilation requirements and smoke extraction in case of fire F300 (300 °C/120 min.)
- Symmetrical impeller blades; 100% reversible (TR) with low noise emissions
- IP55 motors, insulation class H (smoke extraction version); insulation class F (CO ventilation), according to EN60034-5
- 50/60 Hz version available (60 Hz data see page 22)
- Tested safety switch (REV) optional
- Housing from galvanised sheet steel
- Tested according to EN 12101-3
- CE certification by BSI

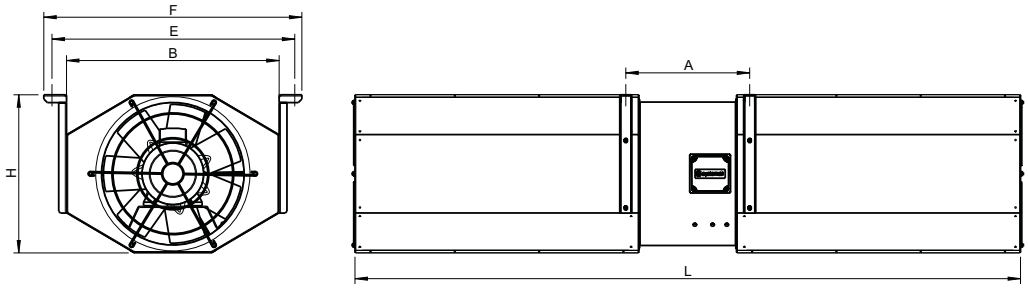
Technical data

AJ8-TR*		AJ8 315-2/4-TR	AJ8 355-2/4-TR	AJ8 400-2/4-TR
Item no.		*30158*	*31272*	*30842*
Voltage/Frequency	V/50 Hz	400	400	400
Phase	~	3	3	3
Fan impeller speed	l/min	2880 / 1440	2840 / 1380	2840 / 1380
Power	kW	0.8 / 0.16	1.4 / 0.3	1.5 / 0.4
Current	A	1.95 / 0.39	3.08 / 1.1	4.18 / 1.47
Thrust	N	22 / 6	37 / 9	55 / 14
Max. airflow	m^3/s	1.22 / 0.61	1.78 / 0.89	2.42 / 1.21
Weight	kg	59	70	96

		300 °C/120 min.			
AJ8(B)-TR*		AJ8 315-2/4 (B)-TR	AJ8 355-2/4 (B)-TR	AJ8 400-2/4 (B)-TR	AJ8 400-2/4 (B)-TR-L
Item no. with terminal box		*94792*	*94793*	*94794*	*30831*
AJ8(B)-TR REV*		**AJ8 315-2/4 (B)-TR REV**	**AJ8 355-2/4 (B)-TR REV**	**AJ8 400-2/4 (B)-TR REV**	**AJ8 400-2/4 (B)-TR-L REV**
Item no. with safety switch		*94796*	*94797*	*94798*	*78833*
Voltage/Frequency	V/50 Hz	400	400	400	400
Phase	~	3	3	3	3
Fan impeller speed	l/min	2810 / 1390	2886 / 1443	2886 / 1443	2886 / 1440
Power	kW	1.1 / 0.25	1.5 / 0.37	1.5 / 1.28	1.7 / 0.34
Current	A	2.49 / 0.8	3.91 / 1.28	3.91 / 0.81	3.91 / 1.28
Thrust	N	22 / 6	37 / 9	55 / 14	66 / 17
Max. airflow	m^3/s	1.22 / 0.61	1.77 / 0.88	2.42 / 1.21	2.62 / 1.32
Weight	kg	59	72	96	96

Air volume related to air density 1.2 kg/m^3.

Dimensions



Size	A	B	E	F	H	L
315	349	550	635	678	365	1535
355	349	550	635	678	395	1695
400	349	600	684	727	445	1875

Dimensions in mm.

The stylish one.

AJ8(F)-TR

AJ8(F)-TR

AJ8(F)-TR REV

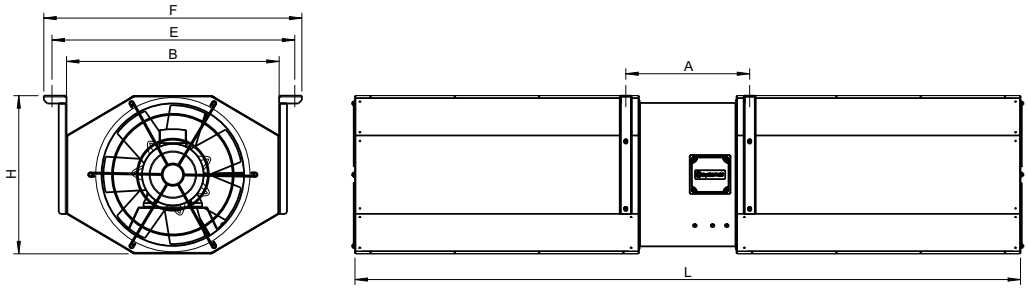
Characteristics and advantages at a glance

- For daily ventilation requirements and smoke extraction in case of fire F400 (400 °C/120 min.)
- Symmetrical impeller blades; 100% reversible (TR) with low noise level
- IP55 motors, insulation class H (smoke extraction version); insulation class F (CO ventilation), according to EN 60034-5
- Tested safety switch (REV) optional
- Housing from galvanised sheet steel
- Compact design with optimised height
- Tested according to EN 12101-3
- CE certification by BSI

Technical data

AJ8(F)-TR		400 °C/120 min. AJ8 315-2/4 (F)-TR	AJ8 355-2/4 (F)-TR	AJ8 400-2/4 (F)-TR
Item no.		*157382*	*157383*	*96703*
AJ8(F)-TR REV		**AJ8 315-2/4 (F)-TR REV**	**AJ8 355-2/4(F)-TR REV**	**AJ8 400-2/4(F)-TR REV**
Item no. with safety switch		*157384*	*157385*	*96704*
Voltage/Frequency	V/50 Hz	400	400	400
Phase	~	3	3	3
Fan impeller speed	l/min	2810 / 1390	2875 / 1430	2845 / 1420
Power	kW	1.1 / 0.25	1.5 / 0.37	2.2 / 0.5
Current	A	2.49 / 0.8	3.45 / 1.19	4.63 / 1.54
Thrust	N	22 / 6	45 / 15	59 / 16
Max. airflow	m^3/s	1.22 / 0.61	1.92 / 0.94	2.42 / 1.21
Weight	kg	61	71	97

Dimensions



Size	A	B	E	F	H	L
315	349	550	635	678	365	1535
355	349	550	635	678	395	1695
400	349	600	684	727	445	1875

Dimensions in mm.

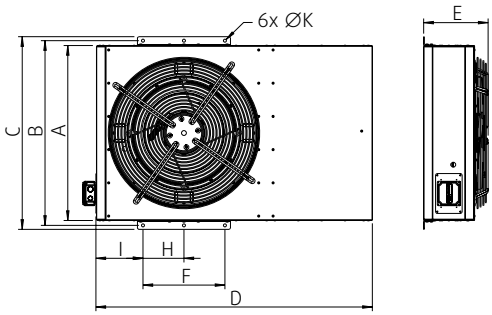
The compact one.

IV

Characteristics and advantages at a glance

- For daily ventilation requirements and smoke extraction in case of fire F300 (300 °C/120 min.), F400 (400 °C/120 min.)
- Aerodynamic radial impeller for maximum thrust and low noise emissions
- IP55 motors, insulation class H (smoke extraction version)
- Tested safety switch optional
- Compact housing design, ideal for low ceiling heights
- Housing from galvanised sheet steel
- Integrated deflector (adjustable discharge direction)
- Tested according to EN 12101-3
- CE certification by BSI
- Available in 60 Hz

Dimensions



Size	A	B	C	D	E	F	H	I	6xØK
50	790	834	870	1248	285	370	185	210	13.5
85	1140	1184	1220	1900	340	420	210	430	13.5
100	1140	1184	1220	1900	340	420	210	430	13.5

Dimensions in mm.

Technical data

IV		300 °C/120 min. 50-4 (B)	50-4/6 (B)	50-4/8 (B)	100-4 (B)	100-4/6 (B)	100-4/8 (B)
Item no.		*92028*	*92028*	*79013*	*92032*	*92034*	*79390*
Voltage/Frequency	V/50 Hz	400	400	400	400	400	400
Phase	~	3	3	3	3	3	3
Fan impeller speed	1/min	1455	1445 / 955	1430 / 715	1410	1450 / 965	1410 / 700
Power	kW	1.5	1.5 / 0.55	1.3 / 0.22	2.2	2.2 / 0.7	2.2 / 0.55
Current	A	3.18	3.7 / 1.9	3.3 / 1.2	6.2	6.2 / 3.2	6.2 / 1.8
Thrust	N	55	52 / 20	52 / 14	100	100 / 28	100 / 25
Max. airflow	m^3/s	1.61	1.72 / 1.16	1.71 / 1.16	2.81	2,81 / 1.63	2.81 / 1.42
Weight	kg	76	78	78	162	163	164

IV		400 °C/120 min. 50-4 (F)	50-4/6 (F)	50-4/8 (F)
Item no.		*34108*	*34109*	*34110*
Voltage/Frequency	V/50 Hz	400	400	400
Phase	~	3	3	3
Fan impeller speed	1/min	1430	1430 / 955	1430 / 715
Power	kW	1.5	1.3 / 0.55	1.3 / 0.22
Current	A	3.4	3.3 / 6.5	3.3 / 1.1
Thrust	N	52	52 / 20	52 / 14
Max. airflow	m^3/s	1.71	1.65 / 1.1	1.71 / 0.86
Weight	kg	91	94	94

The space-saving miracle.

IV smart

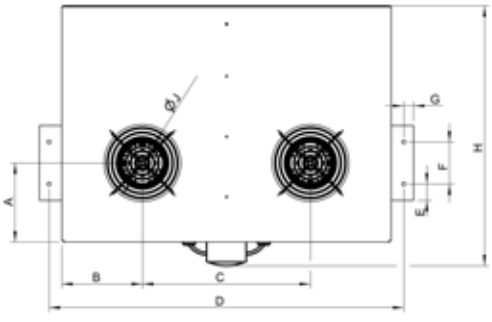
Characteristics and advantages at a glance

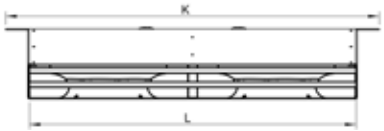
- Green Ventilation jet fan with energy efficient EC technology for daily demand ventilation, CO control and cold smoke extraction.
  Your benefit: in an energy-efficient way IV smart meets all necessary requirements you have to fulfil.
- Available in 50/60 Hz, 230 V EC motors IP 44, according to EN 60034-5.
  Your benefit: cost-efficient - no expensive supply lines required.
- Very high efficiency. Your benefit: maximum performance and low energy consumption.
- Flat, compact housing.
  Your benefit: low installation height.
- Low weight and pre-installed ceiling mountings made of galvanised steel. Your benefit: easy, fast and safe installation.
- 100% controllable via 0 - 10 V signal
- Integrated motor protection
- Casing made of galvanised steel sheet
- For medium temperatures up to 55 °C in continuous operation
- Terminal box mounted at the outside of the casing for easy wiring

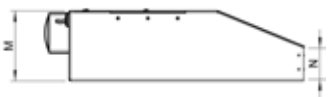
Technical data

IV smart		AC	EC
Item no.		38372	38373
Frequency	Hz	50/60	50/60
Voltage		230 V	230 V
Phase	~	1	1
Fan impeller speed	1/min	2350 / 2560	2630
Power	kW	0.46 / 0.71	0.35
Current	A	1.9 / 3	2.6
Thrust	N	12/13	12
Max. airflow	m^3/s	0.65 / 0.71	0.63
Sound pressure level at 3 m (20 m^2 Sabine)	dB(A)	73 / 74	70
Weight	kg	20	17

Dimensions







Size	A	B	C	D	E	F	G	H	J	K	L	M	N
AC	169	173	360	760	35	90	20	555.8	8	802	706	150	67
EC	169	173	360	760	35	90	20	555.8	8	802	706	150	67

Dimensions in mm.

A perfect fit.

Our accessories

Deflector AJ8 / AJR

AJ8

AJR

Deflector made of galvanized sheet steel, for directing the airflow.

DF		Item no.
315	AJ8	*300886*
355	AJ8	*300887*
400	AJ8	*303989*
315	AJR	*314420*
355	AJR	*314528*
400	AJR	*314531*

CO LED warning sign

Illuminated transparent with pictogram switch off engine / leave the garage. LED lighting unit with 50,000 hours operating life.

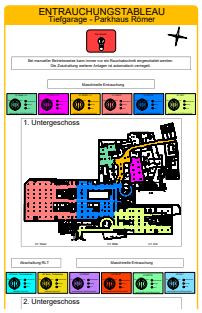
W x B x H: 605 x 187 x 22 mm

Identification distance: 40 m (acc. DIN 4844)

Optionally:

- With connection box 24 V or 230 V
- Different colours available (standard yellow)
- With or without acoustic signal

Fire indicator panel *(project-related)*



FWS-S4	
Item no..	*77152*

Fire brigade switch

Fire brigade switch in a wall mounting housing.
Switch positions: ready / smoke extraction / off.

Profil cylinder (Item no. 77157) available as an accessory.

FWS-P4	
Item no.	*77153*

Push button alarm

Push button signal "smoke exhaust" made from plastic. With locking switch and buried resetting. Indicator for being ready and pressed. With protection class.
Voltage: 12 - 48 V DC. Colour: grey, yellow, orange.

HRM-3K	Colour	Item no.
HRM-3K-GR	Grey	77154
HRM-3K-GE	Yellow	77155
HRM-3K-OR	Orange	77156

Safety switch

Safety switches are mounted and wired on a bracket. In the "off" position they can be locked with a padlock. Imax 20 A.

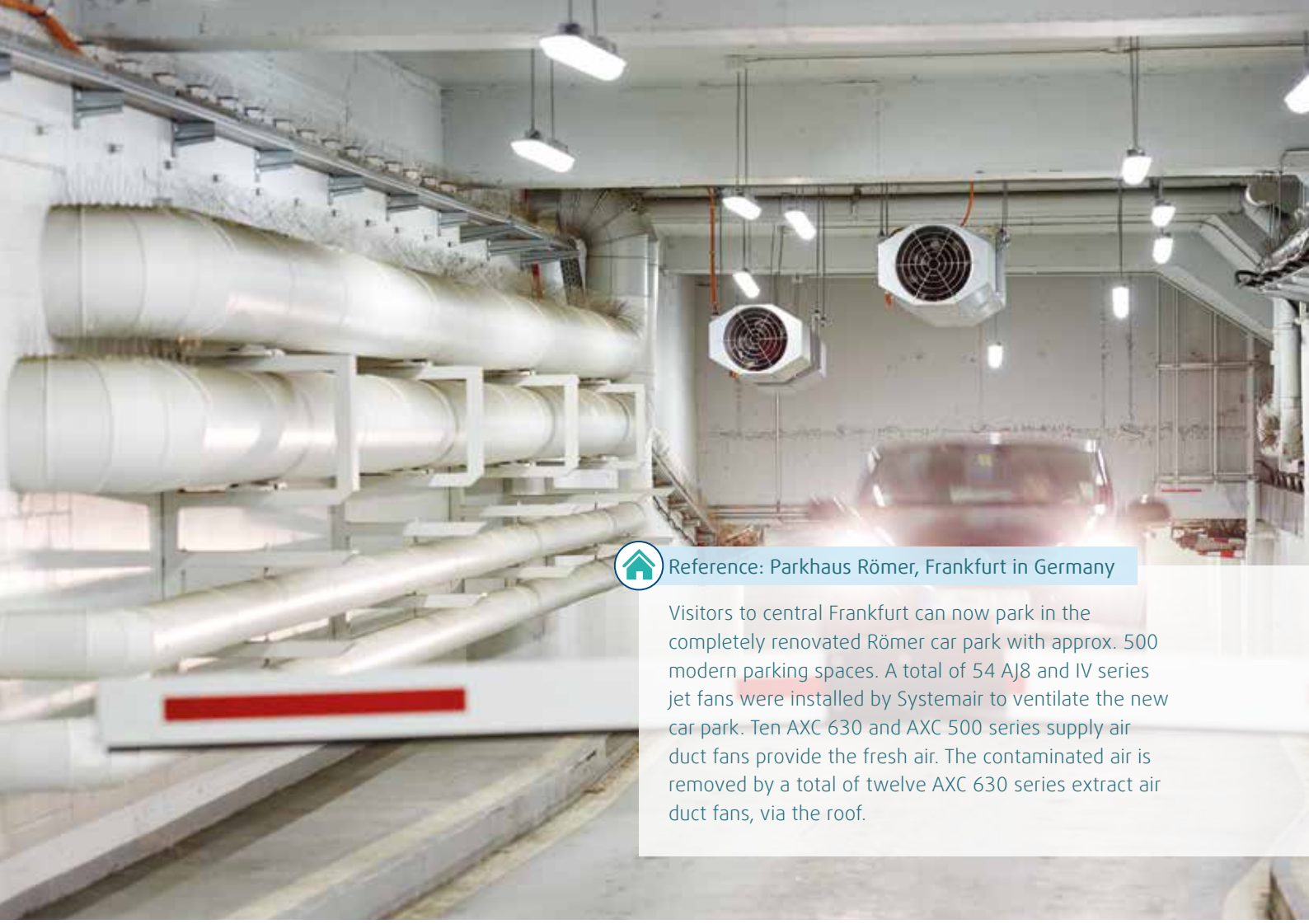
- 9-pole
- Degree of protection: IP65

REV-9POL/12		
Item no.		*33981*
Max. power	kW	7.5
Max. current	A	20

Well done.

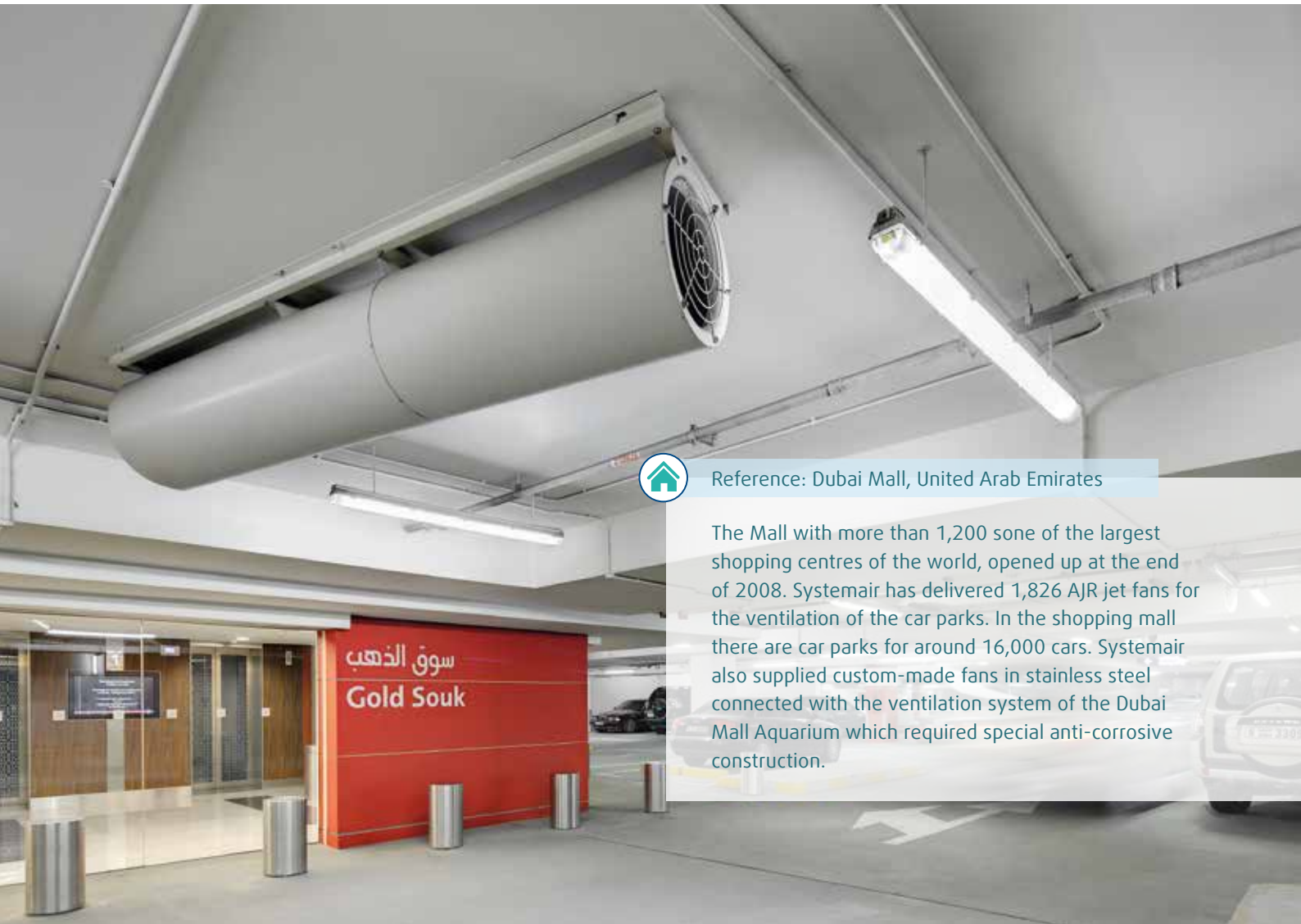
Systemair in action

Project	Location	Parking spaces (ca.)	Year
Karlsbader Platz	Wiesbaden, Germany	356	2018
Car park Krankenhaus Gerresheim	Düsseldorf, Germany	150	2018
TG Bosch	Feuerbach, Germany	200	2018
TG Look 21 Bauteil A+B	Stuttgart, Germany	322	2018
TG Paradeplatz	Forchheim, Germany	200	2017
Neckarbogen Haus_1 BUGA Gelände	Heilbronn, Germany	90	2017
Residence Aal Heffingen	Heffingen, Luxembourg	40	2017
Bosch	Feuerbach, Germany	189	2017
Europa Center	Essen, Germany	100	2017
Römer Frankfurt BT2	Frankfurt, Germany	600	2017
Carpark TPS	Aserbaidschan	180	2017
Frankenallee	Frankfurt, Germany	51	2016
Mercaden	Dorsten, Germany	400	2016
Kronprinzengärten	Berlin, Germany	70	2016
Heinrich-Heine-Gärten	Düsseldorf, Germany	ca. 200	2016
Ostermeierquartier	Regensburg, Germany	160	2016
Alea Mainzer Str.	Frankfurt, Germany	215	2016
Ganja Mall	Ganja, Aserbaidschan	ca. 400	2016
Großpeter Tower	Basel, Switzerland	150	2016
SAP Arena	Ratingen, Germany	290	2016
Car park Ost City Concorde	Bertrange, Luxemburg	850	2016
Car park Hertie	Lünen, Germany	370	2016
Car park LeFlair	Düsseldorf, Germany	ca. 160	2016
Fasanengarten FAN	München, Germany	120	2016
Búseti. Loftræsing í bílakjallara	Iceland	130	2016
Marktpassage	Bielefeld, Germany	154	2016
TG Tirelis	Fellbach, Germany	200	2016
Residential building, building 7	Castrop-Rauxel, Germany	45	2015
Ingohöfe	Ingolstadt, Germany	161	2015
Mathildenstraße 11-17, Residential building	Offenbach, Germany	129	2015
Kingdom Hall	Kraainem, Belgium	74	2015
Mathematikon Heidelberg, Part B	Heidelberg, Germany	395	2015
Koohsangi	Mashad, Iran	700	2015
Cicero	Aschaffenburg, Germany	101	2015
Südzucker AG, Management	Mannheim, Germany	249	2015
New builing Moabiter Werder	Berlin, Germany	216	2014
Stuttgart Airport, Office building FSG F32	Stuttgart, Germany	180	2014
Medical centre	Bonn, Germany	127	2014
Apartments Europaplatz, Fasanenhof	Stuttgart, Germany	355	2014
Narimanov Car Park	Baku, Aserbaidschan	599	2014
Dock 1 at Phonix Sea	Dortmund, Germany	90	2014
LeFlair	Düsseldorf, Germany	164	2014
Westside Living	Frankfurt, Germany	-	2014
Kourosh Complex	Teheran, Iran	1.589	2014
Car Park Bahnhof	Schaffhausen, Switzerland	483	2014
Moser Bau, Postareal, Block D	Freiburg, Germany	160	2013
FORUM1	Böblingen, Germany	50	2013
Santier FCC Mall	Romania	1320	2013
RIVA 1 at Phönix Sea	Dortmund, Germany	105	2013
B.O.C. office building	Düsseldorf, Germany	102	2013
Herrenhäuser Markt	Hannover, Germany	107	2013
Ebersberg Car Park	Ebersberg, Germany	179	2013
Medical centre Pradus	Düsseldorf, Germany	198	2013
Renovation Parkhaus Römer	Frankfurt, Germany	500	2013
Edeka	Freiburg-Riesefeld, Germany	139	2012
Medical centre at Drehscheibe	Walldorf, Germany	89	2012
OAS Office building	Bremen, Germany	80	2012
Green Market Car Park	Montenegro	224	2012
Edeka, warehouse	Balingen, Germany	179	2012
Prime Estate Europakreisel	Hamburg, Germany	90	2012
Car Park Kaufland	Waldshut/Tiengen, Germany	180	2012
Office building Mercedes Benz, Verkauf	Berlin, Germany	92	2012
Dubai Mall	Dubai, United Arab Emirates	16.000	2008



Reference: Parkhaus Römer, Frankfurt in Germany

Visitors to central Frankfurt can now park in the completely renovated Römer car park with approx. 500 modern parking spaces. A total of 54 AJ8 and IV series jet fans were installed by Systemair to ventilate the new car park. Ten AXC 630 and AXC 500 series supply air duct fans provide the fresh air. The contaminated air is removed by a total of twelve AXC 630 series extract air duct fans, via the roof.



Reference: Dubai Mall, United Arab Emirates

The Mall with more than 1,200 sone of the largest shopping centres of the world, opened up at the end of 2008. Systemair has delivered 1,826 AJR jet fans for the ventilation of the car parks. In the shopping mall there are car parks for around 16,000 cars. Systemair also supplied custom-made fans in stainless steel connected with the ventilation system of the Dubai Mall Aquarium which required special anti-corrosive construction.

Systemair around the globe

3

Distribution Centers

50

Countries with Sales Subsidiaries

Always close to you!

Notes

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