Cvsair®

JETFAN SYSTEMS

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Çalışmadan, öğrenmeden, yorulmadan rahat yaşamanın yollarını alışkanlık haline getirmiş milletler; evvela haysiyetlerini, sonra hürriyetlerini ve daha sonra da istikballerini kaybetmeye mahkumdurlar.

Mustafa Kemal ATATÜRK


CAR PARKS
GETS BREATH

INDEX

JETFAN SYSTEMS

All indoor parking spaces on the design the optimal system for which the dirty gas and evacuation of dangerous fumes from the vehicle in case of a fire.


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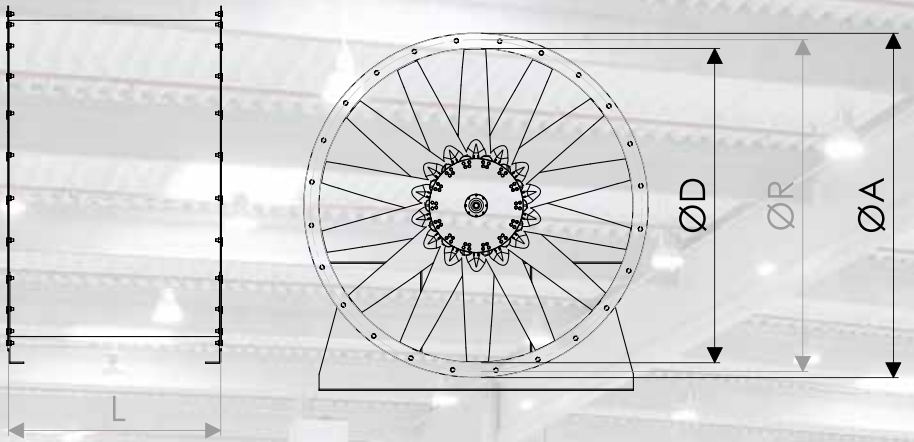
AXIAL DUCT FAN

- Galvaniz çelik gövde (TS EN ISO 1461)
- Aerofoil kesitli alüminyum kanatlar (Alternatif plastik)
- En yüksek verim için ayarlanabilir kanat açısı
- Frekans konvertörü ile çalışmaya uygun trifaze motorlar
- Çift devirli motor seçeneği
- -20°C/55°C'de sürekli çalışabilme
- EN 12101-3 sertifikalı 200°C/2h, 300°C/1h, 300°C/2h, 400°C/2h alternatifler
- İki yönde de çalışabilme özelliği (Opsiyonel)
- Dış ortamda çalışmaya uygun

- Galvanized steel case (TS EN ISO 1461)
- Aerofoil aluminium impellers (Plastic alternative)
- Adjustable pitch angle for maximum efficiency
- Three-phase motors suitable to be used with frequency invertor
- Suitable to use double speed
- Continuously operate on -20°C/55°C
- EN 12101-3 certified 200°C/2h , 300°C/1h , 300°C/2h , 400°C/2h
- Reversible (Optional)
- Suitable to use in outdoor applications

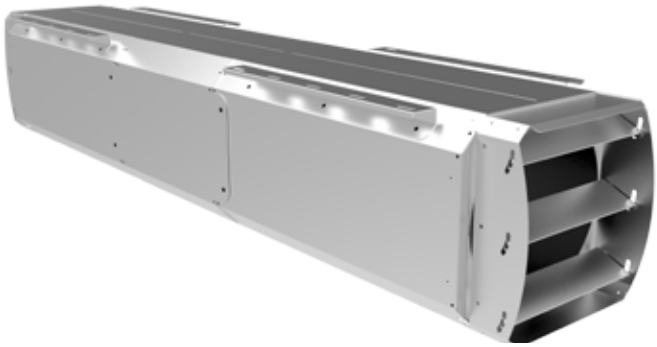
AXIAL DUCT FAN



MODEL	ØA	ØB	C
Ø400	400	500	500
Ø450	450	550	500
Ø500	500	600	500
Ø560	560	660	500
Ø630	630	730	700
Ø710	710	810	700
Ø800	800	900	700
Ø900	900	1000	800
Ø1000	1000	1100	800
Ø1120	1120	1220	1000
Ø1250	1250	1370	1000

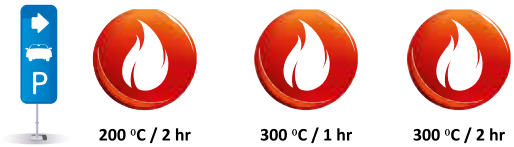
MODEL	Motor(kW)	Speed (rpm)	Air Flow (m^3/h)								
			0 Pa	100 Pa	200 Pa	300 Pa	400 Pa	500 Pa	600 Pa	700 Pa	800 Pa
Ø400	1,1	3000	7.400	6.800	6.100	5.500	4.500	3.000	2.500	2.000	1.500
	1,5	3000	9.000	8.250	7.500	7.000	6.000	3.750	3.000	2.750	2.250
	2,2	3000	11.000	10.300	9.600	8.500	7.500	6.250	5.500	5.000	4.250
Ø450	1,5	3000	9.500	9.000	8.000	7.000	6.000	5.250	4.000	3.500	3.000
	2,2	3000	13.250	12.500	11.750	11.000	10.000	8.000	4.000	3.000	1.500
	3	3000	15.000	14.250	13.500	12.250	11.500	9.500	8.500	7.250	6.500
Ø500	4	3000	18.000	17.000	16.000	15.000	14.000	12.000	10.750	8.000	5.000
	5,5	3000	21.500	19.500	18.250	17.500	16.250	14.250	12.500	9.250	8.000
Ø560	4	3000	22.000	20.500	19.000	18.000	17.000	15.000	13.000	10.000	8.500
	7,5	3000	28.000	26.000	24.000	22.250	21.000	19.500	18.000	16.500	15.250
Ø630	4	3000	20.000	19.000	18.000	17.000	16.000	14.750	13.250	11.500	9.000
	5,5	3000	26.000	24.250	23.000	21.250	20.000	17.500	15.000	7.000	4.000
	11	3000	33.500	32.000	30.500	28.500	26.500	25.000	23.000	18.000	16.250
Ø710	3	1500	26.000	23.500	21.250	17.500	14.000	12.000	9.000	-	-
	4	1500	30.000	28.000	24.000	21.000	17.500	15.750	13.250	-	-
Ø800	4	1500	27.500	26.000	24.000	21.500	17.500	16.000	14.250	-	-
	5,5	1500	37.500	34.250	31.500	27.500	22.500	18.500	15.000	-	-
	7,5	1500	42.000	38.000	36.000	32.500	27.500	25.000	22.000	-	-
Ø900	5,5	1500	44.000	40.500	36.000	30.500	20.000	15.000	-	-	-
	7,5	1500	43.000	41.000	38.750	35.750	32.000	26.000	21.000	-	-
	15	1500	57.500	55.000	51.500	48.000	42.000	36.500	32.500	-	-
Ø1000	15	1500	68.000	65.500	62.500	59.000	55.250	50.000	42.000	35.000	30.000
	22	1500	80.000	75.000	71.500	68.000	64.000	58.000	53.000	-	-
	30	1500	87.500	82.500	80.000	75.000	72.000	65.000	55.000	45.000	-
Ø1120	15	1500	70.000	65.000	60.500	57.500	55.000	52.000	48.000	43.000	27.500
	22	1500	90.000	85.000	82.000	78.000	74.000	68.000	58.000	51.000	42.000
	37	1500	102.500	98.000	95.000	90.000	82.500	75.000	65.000	55.000	42.500
Ø1250	22	1500	93.500	89.000	85.000	80.000	76.000	70.500	65.500	50.000	40.000
	30	1500	110.000	107.000	103.000	99.000	93.500	87.000	69.000	52.000	45.000
	45	1500	130.000	125.000	117.500	110.000	102.500	92.500	85.000	75.000	65.000

AXIAL JET FAN

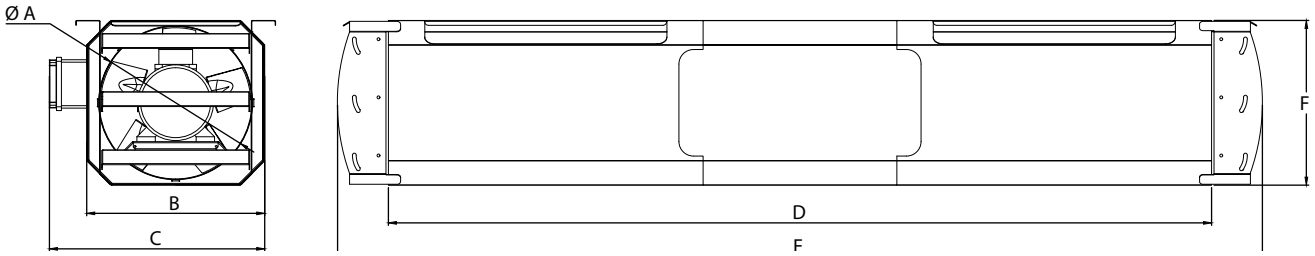


- Günlük havalandırma ve yangın anı için çift devirli motor
- Galvaniz çelik gövde(TS EN ISO 1461)
- Koruma teli ve ayarlanabilir yönlendirici(deflektör)
- Kendinden susturuculu fan gövdesi
- H yalıtım sınıfı, IP55 korumalı yüksek verimli IE2 motorlar
- EN 12101-3 sertifikalı 200°C/2h, 300°C/1h, 300°C/2h alternatifler

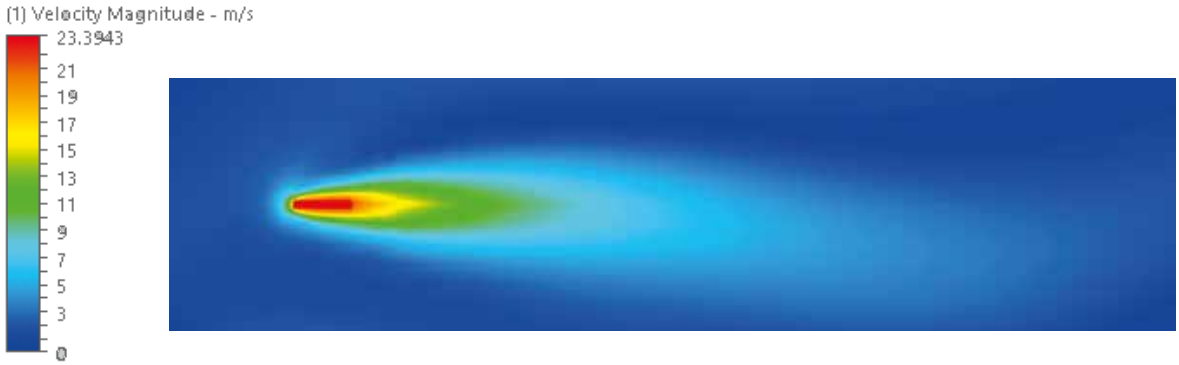
- Two speed motors for daily ventilation and in case of fire
- Galvanized steel case (TS EN ISO 1461)
- Guard grill and adjustable deflector
- Self-sound absorber fan case
- Insulation class H, IP55 high efficiency IE2 motors
- EN 12101-3 certified - 200°C/2h , 300°C/1h , 300°C/2h



AXIAL JET FAN



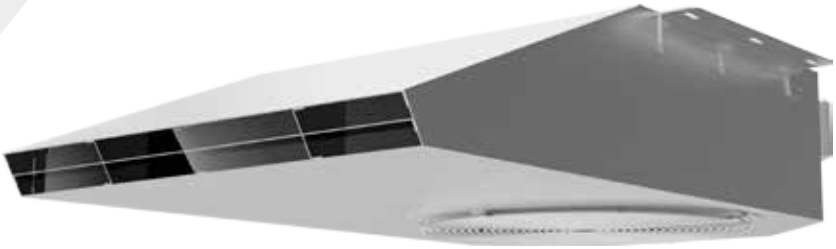
CODE	TYPE	ØA	B	C	D	E	F
4200101	AJ-315	315	365	415	1700	1910	340
4200102	AJ-355	355	405	455	1700	1910	380
4200103	AJ-400	400	450	500	1700	1910	425
4200104	AJ-500	500	550	600	1800	2010	525



TYPE 400 AXIAL JET FAN VELOCITY CHART										
0 m	0.5m	1m	5m	10m	15m	20m	25m	30m	35m	40m
23.4	20.3	17.2	9.4	5.2	3	2	1	0.6	0.3	0.2

CODE	TYPE	kW	A	m^3/h	N	LWA [dB(A) 3m]
4200101	315	0,17 / 0,75	0,6 / 1,8	2700 / 4788	10 / 40	48 / 63
4200102	355	0,33 / 1,30	0,9 / 2,8	3060 / 5400	13 / 50	51 / 67
4200103	400	0,50 / 2,00	1,2 / 4,2	5580 / 10440	20 / 80	56 / 72
4200104	500	0,9 / 3,8	1,9 / 7,7	9720 / 15120	47 / 106	60 / 68

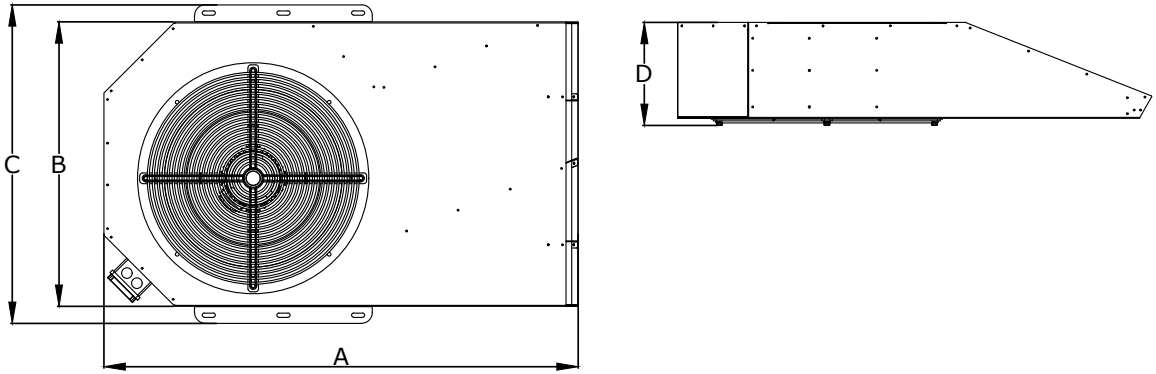
RADIAL JET FAN



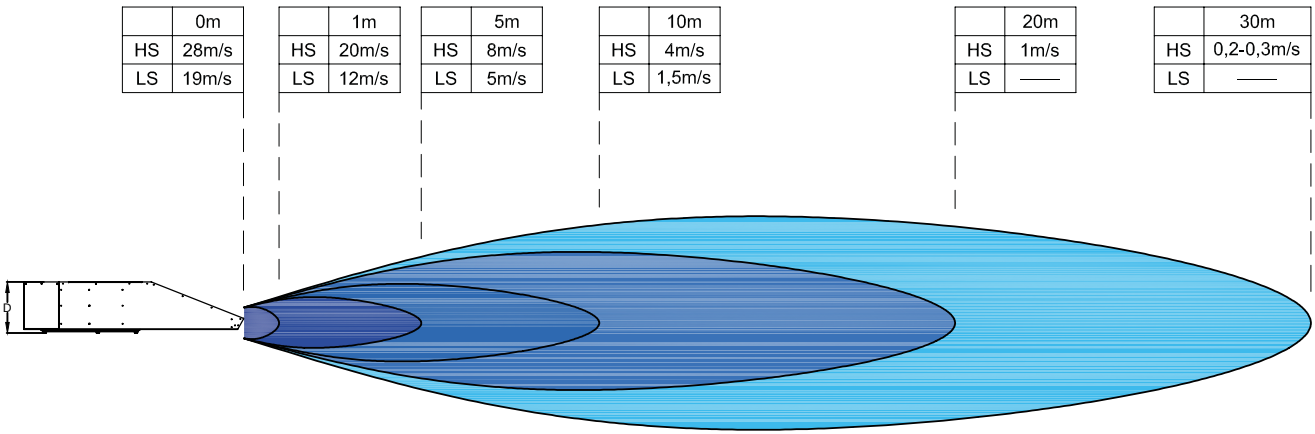
- Günlük havalandırma ve yangın anı için çift devirli motor
- Galvaniz çelik gövde(TS EN ISO 1461)
- Koruma teli ve entegre yönlendirici
- Gövde dışında konumlanmış terminal kutusu
- H yalıtım sınıfı, IP55 korumalı yüksek verimli IE2 motorlar
- EN 12101-3 sertifikalı 300°C/2h

- 2 speed motors for daily ventilation and in case of fire
- Galvanized steel case (TS EN ISO 1461)
- Guard grill and integrated deflector
- Terminal box out of case
- Insulation class H, IP55 high efficiency IE2 motors
- EN 12101-3 certified - 300°C/2h

RADIAL JET FAN



CODE	TYPE	A	B	C	D
4200203	RJ-60	1335	800	896	290
4200202	RJ-75	1635	1000	1096	340
4200201	RJ-100	1635	1000	1096	340



EBR-R-60

CODE	TYPE	kW	A	m³/h	N	LWA [dB(A) 3m]
4200201	RJ-60	0,33 / 1,4	1,3 / 3,3	3380 / 6690	16 / 63	60 / 76
4200202	RJ-75	0,6 / 2,5	2,5 / 6,0	4060 / 8120	19 / 75	61 / 77
4200203	RJ-100	0,6 / 2,5	2,5 / 6,0	5330 / 10690	25 / 100	62 / 78

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CONTROL UNITS

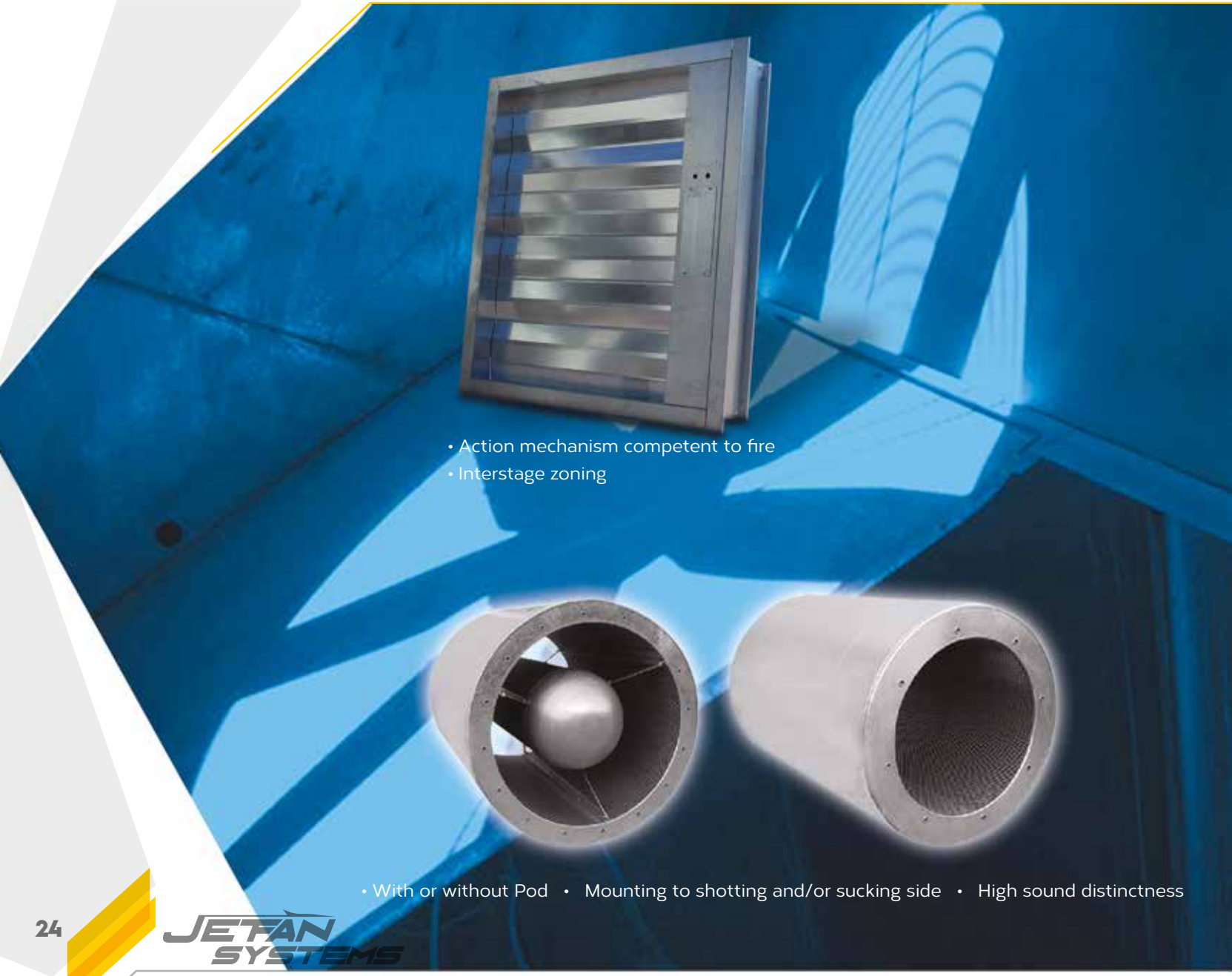
- MCC / DDC Pano
- Frequency invertor
- PLC software
- System script
- Operator Board
- Timer
- Damage info
- Low Maintenance and operating costs
- Energy saver

SYSTEM SCRIPT

Code	Sensing System			
	CO Low	CO Medium	CO High	Fire
JF-1	50%	50%	50%	100%
JP-2	50%	50%	50%	100%
JF-3	50%	50%	50%	100%
JF-4	50%	50%	50%	100%
JF-5	50%	50%	50%	100%
JF-6	50%	50%	50%	100%
DEF-1	25%	50%	75%	100%
DEF-2	25%	50%	75%	100%
THF-I	25%	50%	75%	100%
ŞD-1	OPEN	OPEN	OPEN	OPEN
ŞD-2	-	-	-	-

* Starts to work 3 min. after sensor signal and operates as your request.

SILENCER-DAMPER



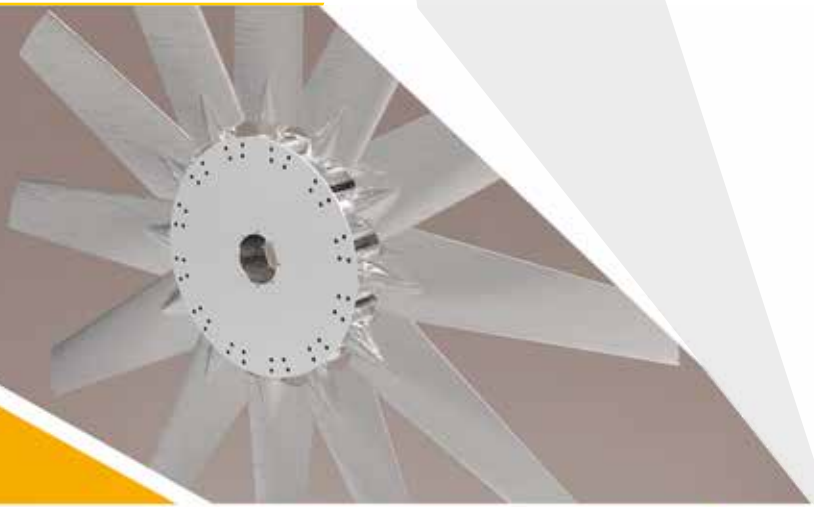
- Action mechanism competent to fire
- Interstage zoning

- With or without Pod
- Mounting to shotting and/or sucking side
- High sound distinctness

COMPONENTS

PATENDED CAST ALUMINIUM FAN BLADES

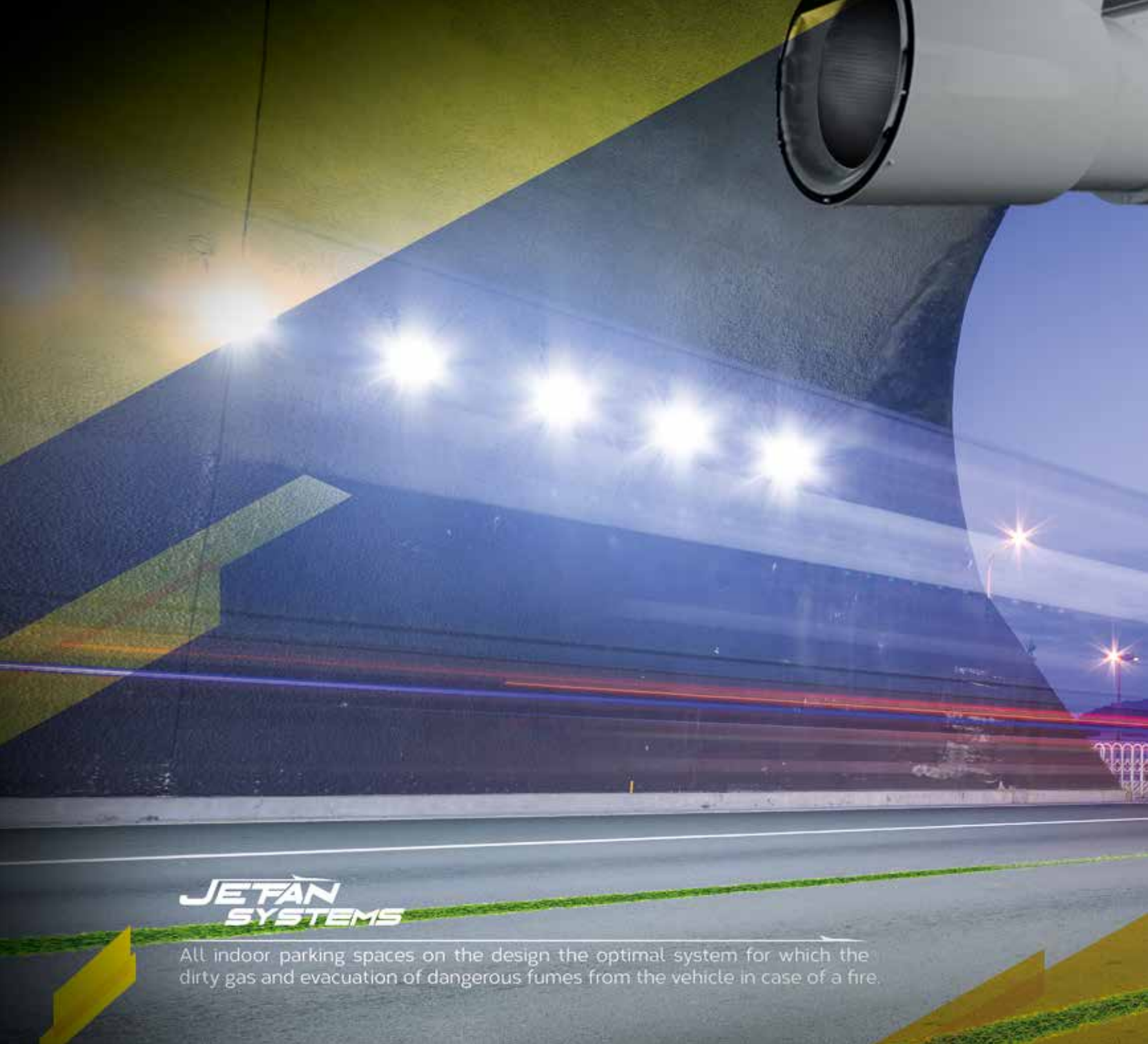
ADJUSTABLE FAN BLADES



VIBRATION ABSORBER

ELECTRICAL TERMINAL BOX

IE2 CLASS EFFICIENCY MOTOR



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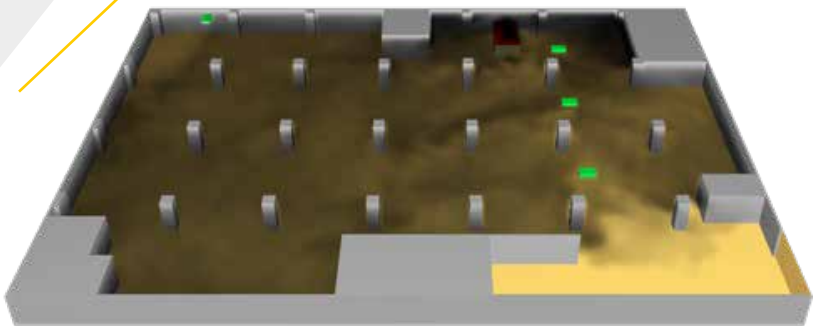
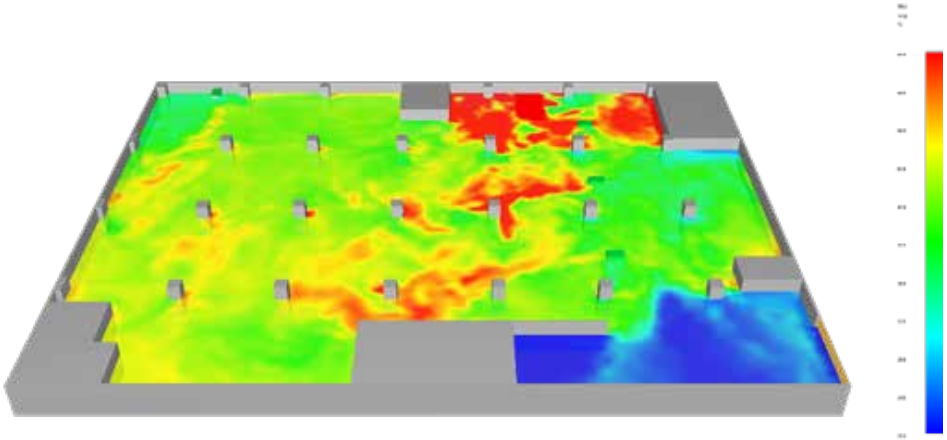
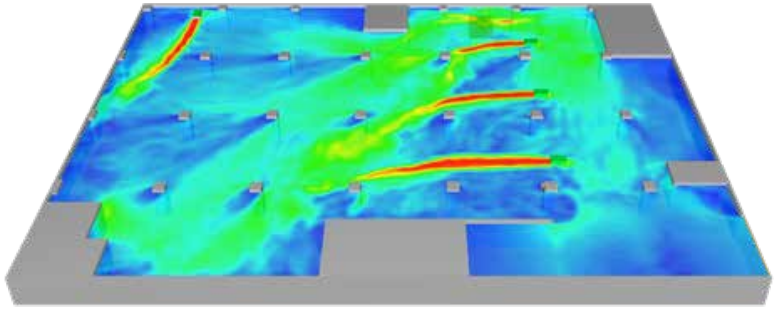
CFD (HAD) SIMULATION



- Smoke due to car fire is monitored as time-depented.
- In the carpark
- In the moment of the maximum fire load, smoke density is traced in the escape line.
- Smoke spread from ramp to the upstairs and downstairs is monitored.



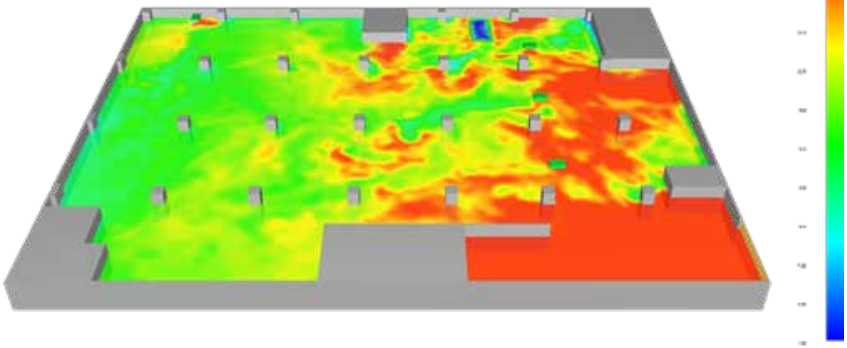
- Temperature gradient due to car fire is monitored.
- Temperature int the escape line is monitored whether they are below the value specified in the standards.



• Velocity gradients due fresh air fans, smoke exhaust fans and jet fans are monitored.

• Velocity values of escape lines and ramps are monitored to determine whether they are below the value specified in the standards.

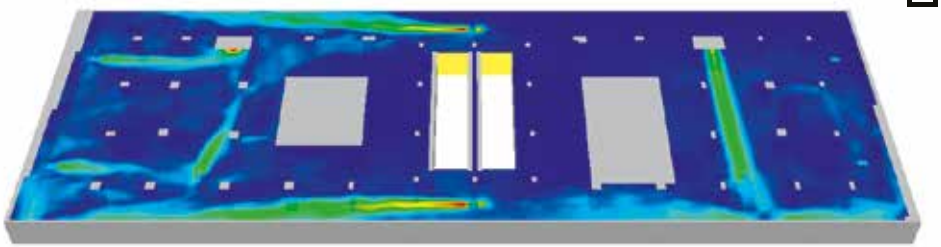
• Examine for the clearance volume existance



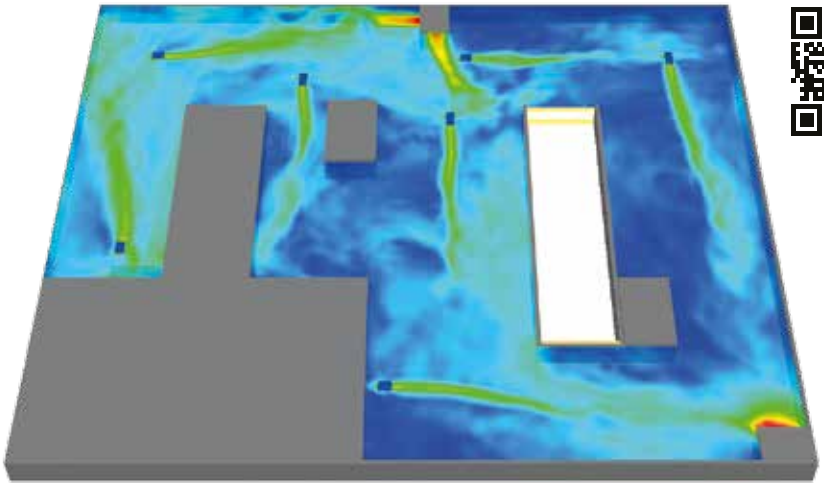
• Depending upon the car fire, visibility gradient is monitored.

• Visibility in the escape lines are monitored to determine whether they are below the value specified in the standards.

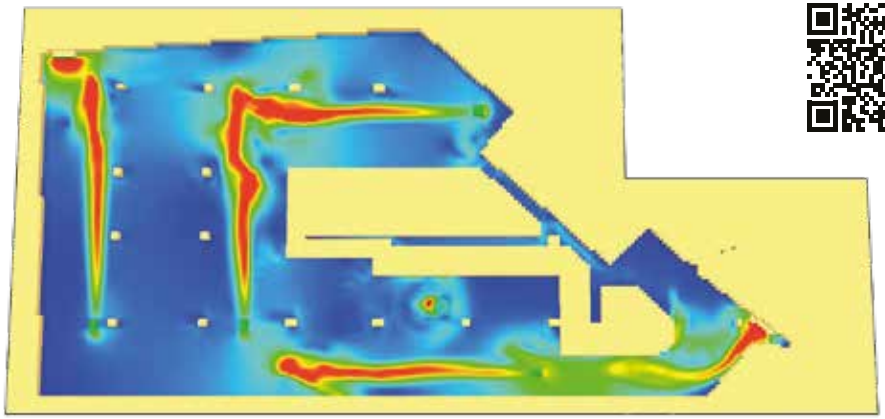
FIRE SIMULATION STUDIES



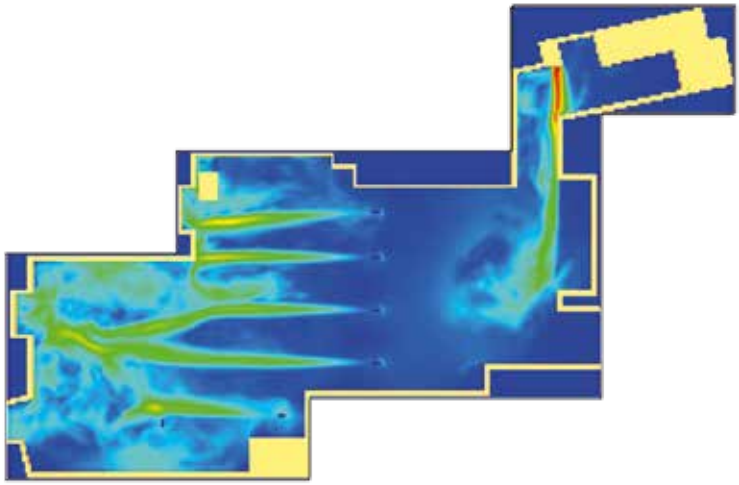
CVS34001



CVS34002



CVS35001



CVS34003

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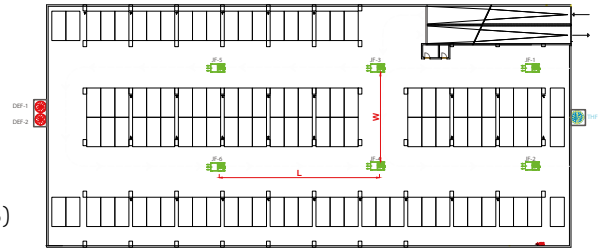
CITY AVM

JET FAN SYSTEM DESIGN AND CALCULATION STEPS

1-VOLUME CALCULATION



Volume <V> - Area (A) x Height (h)

Area = Length x Width

= 30 x 100 =. 3000 m²

Height = 3m

Volume = 3000 x 3 = 9000 m³

2-FLOW RATE CALCULATION

Flow Rate (Q) = Volume (V) x Air change (AEB)

a) Daily (CO) Dentilation Flow Rate

Air Exchange Rate = 6/h

Flow Rate = 9000 x 6 = 54000 m³/h

b) Fire Flow Rate

Air change Rate = 10/h

Flow Rate = 9000 x 10 = 90000 m³/h

* Air exchange rate per hour constant are received from minimum values of BS 7346-7 Standard.
For more number of floors and architectural details, air exchange rate can be increased

3-EXHAUST AND FRESH AIR FAN SELECTION

A- FLOW RATE

Smoke Exhaust Fan (SEF)

DEF = 90.000 m³/h x %50 = 45.000 m³/h DEF-1 = 45.000 m³/h DEF-2 * 45.000 m³/h

* Smoke exhaust fan is backed up of its 50% according to the BS-7346-7.

Fresh Air Fan

FAF = 90.000 mVh x %60 = 54.000 mVh

* Fresh air fan is calculated 50%-70% of exhaust fan

B- PRESSURE LOSS

Pressure losses due to shaft, damper and throw grill is determined according to the air velocities

C- FIRE ENDURANCE

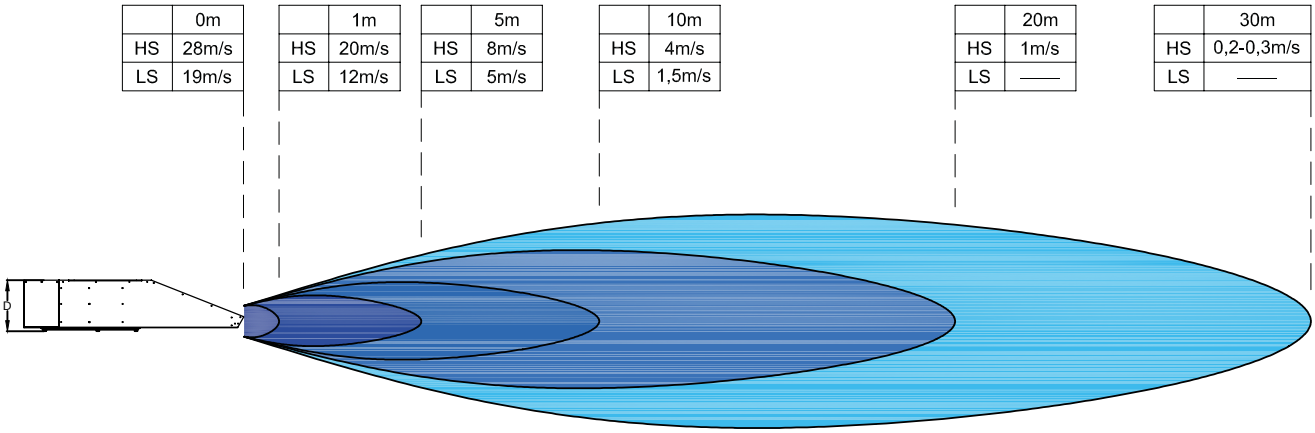
Exhaust and jet fans are selected from fire endurance class suitable for TS/EN 12101-3 standard

Class	Temperature (C)	Maximum Endurance (minute)
F200	200	120
F300	300	60
F400	400	120
F600	600	60
F842	842	30

* TS/EN 12J01-3 fire fighting class.

4-JET FAN SELECTION PLACEMENT

W=15m, L=25 m



EBR-R-60

5-SHAFT DESIGN

a) According to the Air Velocity

Shaft dimensions are calculated.

Flow Rate = Area x Velocity

Area = 54000 mVh > 1/3600 h/sn / 8 m/sn = 1,875 m²

b) According to the Fan Dimensions

Addressing to every fan in the exhayst shaft and using for zoning between the floor, smoke dampers are selected

6-SHAFT DAMPER SELECTION

Effective Area = 27000 m³/h x 3600 h/sn / 8 m/sn = 0,93 m²

CERTIFICATES

TECHNICKÝ A ZKUŠEBNÍ ÚSTAV STAVEBNÍ PRAHA, s.p.
Technical and Test Institute for Construction Prague

Notified Body 1020

CERTIFICATE
OF CONSTANCY OF PERFORMANCE

No. 1020 – CPR – 0800195 38

In compliance with Regulation 305/2011/EU of the European Parliament and of the Council of 9 March 2011 (the Construction Products Regulation or CPR), this certificate applies to the construction product:

Powered smoke and heat exhaust ventilators
Radial Jet Fan - Type 60NIR, 100NIR
Axial Duct Fan – Model 400, 450, 500, 560, 630, 710, 800, 900, 1000, 1120, 1250
Temperature time class: F300

produced by or for
CVS HAVALANDIRMA SİSTEMLERİ SAN. VE TİC. A.Ş.
Yakacık Cumhuriyet Mahallesi E-5 Yanyol Kartepe Sokak No: 101,
Kartal/Istanbul/Turkey

and produced in the manufacturing plant(s)
CVS HAVALANDIRMA SİSTEMLERİ SAN. VE TİC. A.Ş.
Yakacık Cumhuriyet Mahallesi E-5 Yanyol Kartepe Sokak No: 101,
Kartal/Istanbul/Turkey

This certificate attests that all provisions concerning the assessment and verification of constancy of performance described in Annex ZA of the standard
EN 12101-3:2002/AC:2005
under system 1 for the performances set out in this certificate are applied and that the construction product fulfils all the prescribed requirements for these performances.

This certificate will remain valid as long as the test methods and/or factory production control requirements included in the harmonized standard, used to assess the performance of the declared essential characteristics, do not change, and the construction product, and the manufacturing conditions in the plant are not modified significantly, unless suspended or withdrawn by the product certification body.

The stamp of the Notified Body 1020
Prague, April 17th, 2015

CERTIFICATE

The Certification Body
of TÜV SÜD/Türkiye
certifies that

CVS Havalandırma Sistemleri San. Tic. A.Ş.
Soğanlık Yeni Mah. Atatürk Cad. Kiler Apt. No:6/1 Kat:8
TR- 34860 Kartal-İSTANBUL

has established and applies
a Quality Management System for

Production, Purchasing and selling of all types of industrial heating, ventilation and cooling systems and its equipments, all contraction works and services

An audit was performed, Report No: 14 M 10469

Proof has been furnished that the requirements according to

TS EN ISO 9001: 2008
are fulfilled

The certificate is valid until 2017-10-14
if the yearly surveillance audits are performed

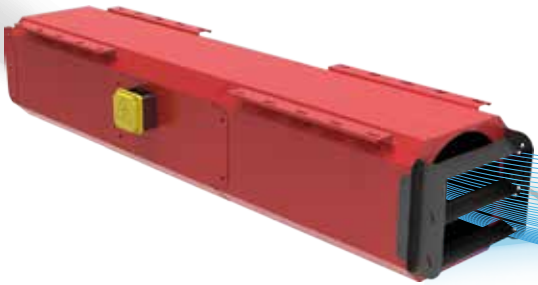
Certificate Registration No.: 12 300 0830

Istanbul, 2014-10-15

СВІДОЦТВО ВІДПОВІДНОСТІ


SALES
DEPARTMENT
AFTER SALES
DEPARTMENT
R&D
TECHNIC
INTERNATIOANAL
TRADE
DEPARTMENT
MANUFACTURING

JETFAN SYSTEMS



Cvsair

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