

CENTRIFUGAL FAN



SINGLE INLET CENTRIFUGAL FAN



DOUBLE INLET CENTRIFUGAL FAN

Systemair's range of centrifugal fans offer the engineers the flexibility to choose the most suitable sizes and configurations to suit any site condition. With over 2000 variations of diameter, width and impeller type, specifications are virtually tailor-made to individual needs. We offer both single and double inlet forms and in three classes of construction to suit almost any applications.

There is a choice of eight impeller types, providing optimum performance to meet any duty. Casings are made of mild steel, welded and many are of semi-universal construction allowing the discharge angle to be modified to suit customer's requirements. Many additional features and ancillaries can be supplied on request, example; split casings, carbon steel and stainless steel impellers.

CENTRIFUGAL FANS – TYPES OF BLADES

There are many different types of Centrifugal Fans covering air volumes from 50 CFM to 60,000 CFM and from 0.1 inches water gauge to 60 inches water gauge. Each application requires a fan with different characteristics, whether it be the blade design, the width of the casing or even the method of drive. By way of a guide as to which is the best for certain projects, we list below information that might assist the potential user.

PADDLE BLADES :

This type of fans is used for the conveying of dust, woods and paper refuse, cotton fly etc. Since the blade design prevents 'Build up' of waste materials, discharge velocities vary dependent upon what is being conveyed in the air-stream. Normally in the region of 1500-4000 feet per minute.

MULTIVANE OR FORWARD CURVED BLADES :

Used for general ventilation purposes – not good for dust, etc. Limited pressure characteristics. Normal discharge velocities 1000-2500 feet per minute.

BACKWARD CURVED OR BACKWARD INCLINED BLADES :

Non-overloading power characteristic suitable for very light dust applications (e.g. clean side of dust collector) where a good efficiency is required. Used for high pressure ventilation systems or where the system resistance could fluctuate. Normal discharge velocities 1800-3000 feet per minute.

AEROFOIL SECTION BLADES :

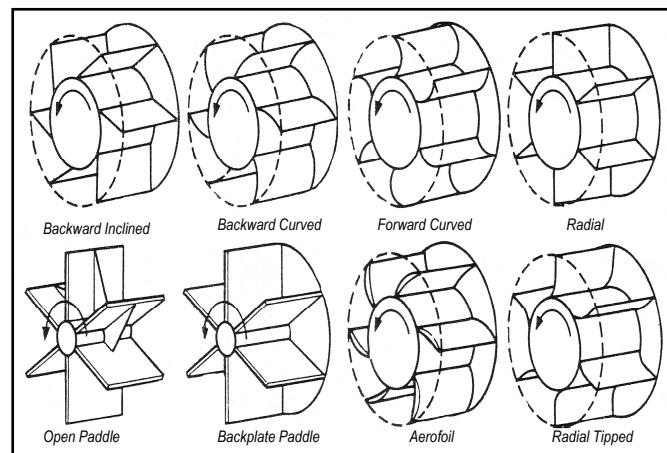
The most efficient of all centrifugal fans, ideally suited for general ventilation projects where there is no possibility of dust contamination. Recommended for high pressure ventilation systems or where the system resistance could fluctuate. Normal discharge velocities 1500-2800 feet per minute.

HIGH PRESSURE BLOWERS :

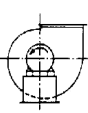
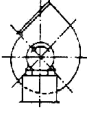
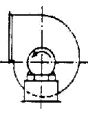

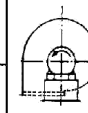
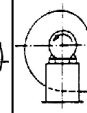

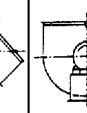
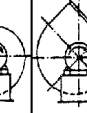
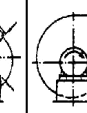
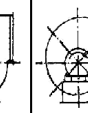
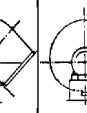
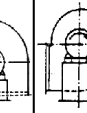

As their name suggests, these fans are supplied where the requirement is for high velocities, e.g. Air curtains, refuse conveying, etc. Normal discharge velocities 3000-6000 feet per minute.

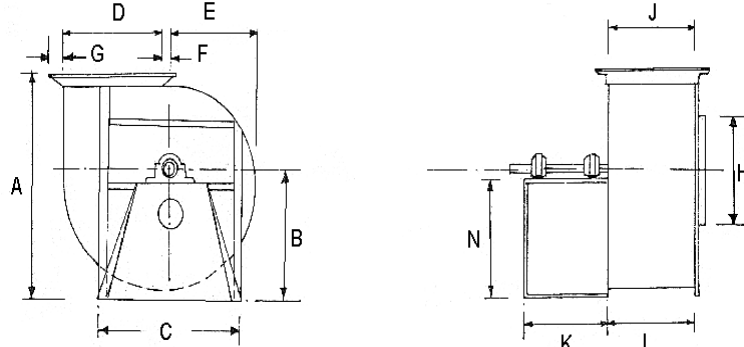
SPECIAL NOTE :

Since Forward Curved and Paddle Blade fans have overloading power characteristic it is important the selected static pressure is achieved. Any reduction in the requirement could easily overload the motor.



FAN DISCHARGE POSITION & DIMENSIONS

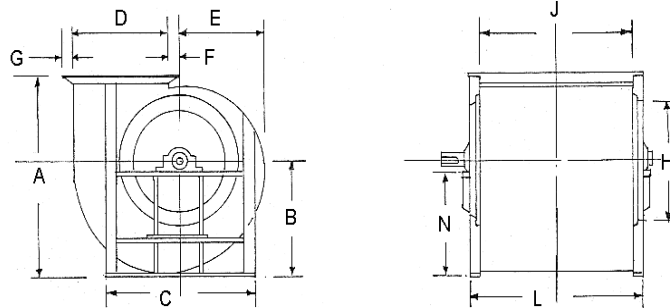
													
LG 0 (ACW 90)	LG 45 (ACW 135)	LG 90 (ACW 180)	LG 135 (ACW 225)	LG 180 (ACW 270)	LG 270 (ACW 0)	LG 315 (ACW 45)	RD 0 (CW 90)	RD 45 (CW 135)	RD 90 (CW 180)	RD 135 (CW 225)	RD 180 (CW 270)	RD 270 (CW 0)	RD 315 (CW 45)
LEFT HAND ROTATION							RIGHT HAND ROTATION						
STANDARD DISCHARGE POSITION VIEW FROM DRIVE SIDE													



S.I.S.W. DIMENSIONS

DIMENSIONS IN MILLIMETERS

FAN SIZE	AS30	AS35	AS40	AS45	AS50	AS55	AS60	AS65	AS75	AS80	AS90	AS100	AS110	AS120	AS135	AS145	AS165	
SHAFT DIA.	CL. I	25	25	32	32	38	38	45	50	50	57	57	63.5	63.5	75	75	90	90
	CL. II	25	25	32	38	38	45	45	50	50	57	57	63.5	75	75	90	90	100
A	635	660	725	790	875	914.5	1033	1130	1245	1342	1496	1665	1837	2066	2218	2435	2705	
B	333.5	362	406.5	446.5	487.5	533	590	648	718	764	867	935	1055	1205	1281	1407	1568.5	
C	445	485	510	535	580	610	635	660	690	720	880	1020	1060	1120	1320	1370	1425	
D	308	340	375	409	457.5	498.5	556	602	672	746.2	820	905	1000	1105	1216	1346	1474	
E	260	296	311	341.5	386	422	470	517	570	613	695	770	848	937	1030	1143	1260	
F	24	26	30	35	38	39	50	50	56	63	67	76	83	92	102	111	127	
G	38	38	38	38	50	50	50	50	50	50	50	63	63	76	76	76	76	
H	353	387	427	427	521	566	328.5	690	759	840	920	1023	1120	1240	1365	1510	1670	
J	270	299	333	367	404	440	495	545	597	663	730	807	809	981	1090	1213	1335	
K	290	300	310	325	350	400	430	430	430	485	485	635	660	710	810	830	915	
L	270	299	333	367	404	440	495	545	497	663	730	807	890	981	1090	1213	1335	
N	296.5	325	385.5	398	439	478	535	593	655	694	797	873	975	1110	1186	1295	1456.5	



D.I.D.W. DIMENSIONS

DIMENSIONS IN MILLIMETERS

FAN SIZE	AW30	AW35	AW40	AW45	AW50	AW55	AW60	AW65	AW75	AW80	AW90	AW100	AW110	AW120	AW135	AW145	AW165
SHAFT DIA.	CL. I	31.75	38	38	38	38	38	50.8	50.8	50.8	50.8	50.8	63.5	63.5	63.5	76.2	90
	CL. II	38	38	38	38	50.8	50.8	50.8	57.15	57.15	63.5	63.5	76.2	76.2	76.2	88.8	100
A	635	660	725	790	875	914.5	1033	1130	1245	1342	1496	1665	1837	2066	2218	2435	2705
B	333.5	362	406.5	446.5	487.5	533	590	648	718	764	867	953	1055	1205	1281	1407	1568.5
C	533	564.4	604.4	654	703	806	868.5	930	999	1080	1160	1325	1422	1594	1719	1864	2024
D	292	323	354	393	438	481	539.5	587	649	713	790	870	965	1068.5	1178	1302	1438
E	260	296	311	341.5	386	422	470	517	570	613	635	770	848	937	1030	1143	1260
F	40	45	60	63	63	63	69	73	79	94	100	105	112	128	140	156	161
G	38	38	38	38	38	50	50	50	50	50	50	63	63	76	76	76	76
H	353	387	427	427	521	566	6285	690	759	840	920	1023	1120	1240	1365	1510	1670
J	495	546	610	667	736	810	8985	997	1095	1210	1338	1473.5	1630	1790	1987.5	2191	2445
K	38	38	38	38	38	50	50	50	50	50	50	63	63	76	76	76	76
L	571	622	686	734	812	910	998.5	1097	1195	1310	1438	1599.5	1756	1942	2139.5	2343	2597
N	240.5	313	357.5	397.5	424.5	470	527	585	648	684	787	873	975	1125	1201	1295	1443.5



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Website : www.systemair.com

Available fan ranges

Fan range	Application	Impeller diameter (mm)	-20° to 55°C ∞	200°C ∞	250°C/ 120 min.	300°C/ 120 min.	400°C/ 120 min.	Car Park Jet Fans	Tunnel Jet Fans	Explosive atmosphere
AXC	supply/exhaust	315 - 2.240	•							
AXC (B)	exhaust	315 - 1.600	•			•				
AXC (F)	exhaust	315 - 1.600	•				•			
AXC -SC	exhaust	400 - 1.000	•							
AXCBF	exhaust	250 - 800	•	•						
AXR	supply/exhaust	315 - 2.240	•							
AXR (K)	supply/exhaust	1500 - 2.240	•		•					
AXR (B)	supply/exhaust	315 - 1.600	•			•				
AXR (F)	supply/exhaust	315 - 1.600	•				•			
AJR / AJ8	impulse ventilation	315 - 400	•					•		
AJR -TR	impulse ventilation reversible	315 - 400	•					•		
AJR (B) / AJ8 (B)	impulse ventilation	315 - 400	•			•		•		
AJR (B) -TR	impulse ventilation reversible	315 - 400	•			•		•		
AJR (F)	impulse ventilation	315 - 400	•				•	•		
AJR (F) -TR	impulse ventilation reversible	315 - 400	•				•	•		
AXC -EX*	supply/exhaust	315 - 1.600	•							•
AXCBF -EX*	exhaust	250 - 800	•							•
AJ	impulse ventilation reversible	500 - 1.600	•						•	
AJ (K)	impulse ventilation reversible	500 - 1.600	•		•				•	
AJ (B)	impulse ventilation reversible	500 - 1.600	•			•			•	
AJ (F)	impulse ventilation reversible	500 - 1.600	•				•		•	
...-G	two in series	315 - 2.000	•		•	•	•			
...-P	wall mounting	315 - 1.000	•		•	•	•			
...-D	roof mounting	315 - 1.250	•		•	•	•			
...-Box	sound insulated	315 - 1.000	•		•	•	•			

* -20°C to +40°C



Axial Fans AXC, AXR



AXC

Standard features:

- AXC with aerofoil impeller, adjustable pitch angle for maximum efficiency
- Die cast aluminium hub and blades
- Long casing, hot dip galvanized steel, to DIN EN ISO 1461
- Spun flanges for high rigidity, to Eurovent 1/2
- Terminal box in IP65 mounted at the outside of the casing for easy wiring
- IE2 motors IP55, insulation class F, in accordance with EN 60034-5/IEC 85
- Suitable for operating temperatures between -20°C and +55°C
- Inspection hole to verify correct direction of rotation
- Truly reversible version AXR on request
- 60Hz range available

The Systemair AXC/AXR range of long cased medium pressure axial fans is available in sizes from 315 up to 2.240 mm nominal diameter. The adjustable pitch angle setting offers a wide performance and maximum flexibility to match precisely individual airflow requirements. The AXC/AXR axial fans have been performance tested in accordance with DIN ISO 5801, DIN 24163 and AMCA 210-99 on the Systemair fan test rig.

High efficiency impellers

The AXC die cast aerofoil aluminium impellers can be offered with full or fractional solidities, maximum efficiencies can be obtained. Different impeller/hub configurations allow high operating pressures. AXR impellers are truly reversible.

Sturdy casing

AXC/AXR axial fan casings are heavy gauge, hot dip galvanized, with spun flanges for high rigidity. Long cased execution as standard stock range. Also available with short casing and with an acoustically insulated box.

Motors

The built-in motors are equipped with PTC thermistors for optimum motor protection. Single or two speed motors. Speed controllable by frequency converter.

Multi stage fans

For higher pressure drops two stage fans are offered. Two fans in series increase the available static operational pressure.

Quality

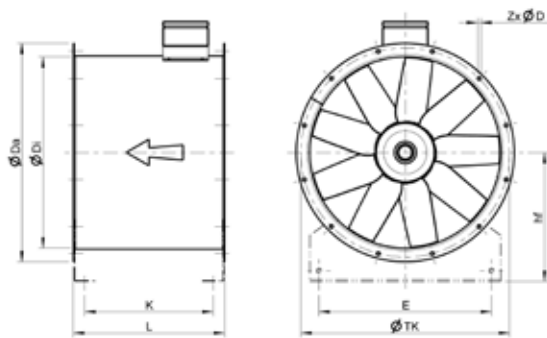
Systemair is certified according to ISO 9001:2008 and ISO 14001:2004. The Systemair quality system is regularly monitored by TÜV Süd.



Warranty

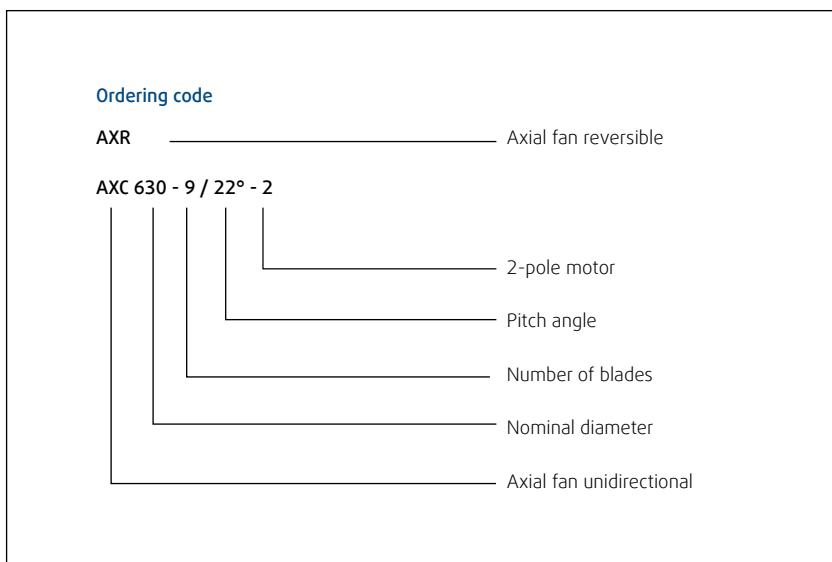
Systemair offers a three year warranty on all AXC/AXR fan models. The Systemair general terms and conditions apply.

Dimensions



AXC	$\varnothing Di$	$\varnothing Da$	$\varnothing Tk$	$\varnothing d$	L	hF	E	K
AXC 315	315	395	355	8x10	375	235	265	310
AXC 355	355	435	395	8x10	375	250	305	310
AXC 400	400	480	450	8x12	450	280	350	385
AXC 450	450	530	500	8x12	500	315	400	435
AXC 500	500	590	560	12x12	540	335	440	464
AXC 560	560	650	620	12x12	500/750	375	500	424/674
AXC 630	630	720	690	12x12	500/750	425	570	424/674
AXC 710	710	800	770	16x12	500/700/800	450	650	424/624/722
AXC 800	800	890	860	16x12	500/700	530	730	414/614
AXC 900	900	1005	970	16x15	640/850	560	830	552/762
AXC 1000	1000	1105	1070	16x15	640/850	670	930	552/762
AXC 1200	1120	1260	1190	20x15	700/1000	710	1030	612/910
AXC 1250	1250	1390	1320	20x15	850/1050	800	1180	740/938
AXC 1400	1400	1540	1470	20x15	950/1360	900	1300	820/1228
AXC 1600	1600	1740	1680	24x19	950/1360	1000	1500	800/1208

Dimensions L + K depend on motor frame size



Green Ventilation Car Park Systems

Higher safety, more efficiency





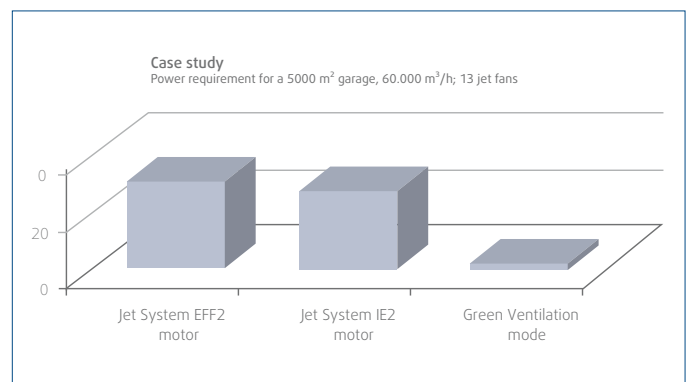
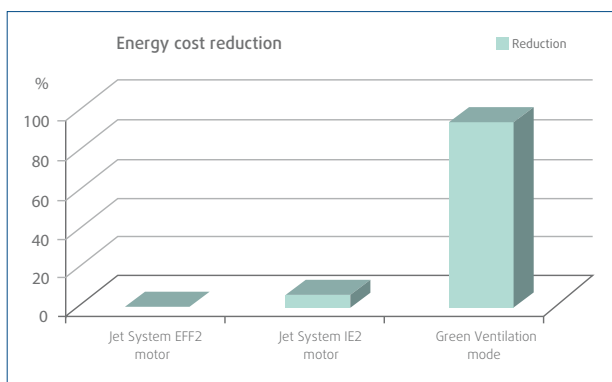
The space required by different ventilation systems has a direct impact on the investment cost of a project. Jet fans do only punctually reduce the available ceiling height and need often many other installation systems like electric wiring and water pipes less than 0.5% ceiling surface. The extra ceiling space can be used for technical appliances and/or allows to reduce the ceiling height during the planning stage already. Another advantage is a higher safety of an active system which, depending on the fire location, reacts in accordance with the defined fire scenario matrix and offers best possible protection to human beings and buildings .

Systemair remains your partner from the car park's planning to the commissioning and designs Green Ventilation garage exhaust systems according to your requirements.

Green Ventilation and smoke extraction function

Many systems provide an opportunity either to save energy or to extract smoke out of your garage. But why should you choose the one or the other?

Systemair educated smoke extraction car park systems in energy saving.



Jet Fan AJR

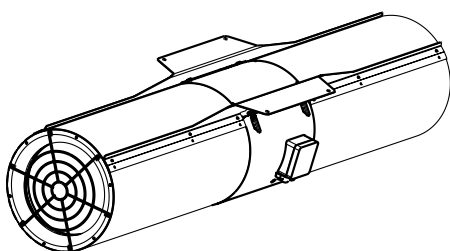
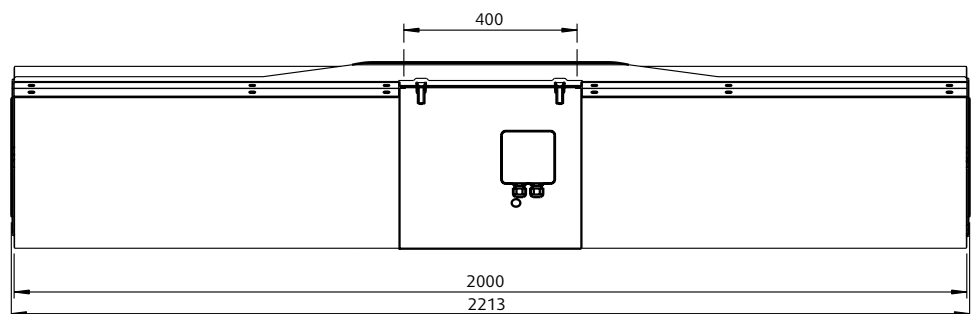
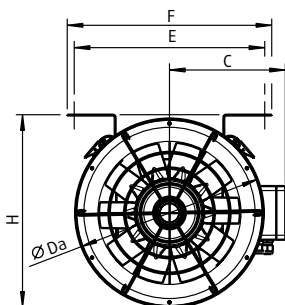


- Dual use: For daily ventilation and smoke extraction in case of fire F300 (300°C/120 min.)
- Aerodynamical impellers for maximum thrust and with low sound level
- Motors IP54, insulation class H (smoke extract); motors IP55, insulation class F (CO-exhaust), according to EN 60045-5/IEC 85
- Tested inspection switch optional
- Casing manufactured from galvanized steel
- Removable fan module also after installation for easy maintenance
- Certified to EN 12101-3
- CE-certification by TÜV Süd
- Approved by DIBt in Berlin under Z-78.11-182

Technical data:

Jet fan AJR 400V/50Hz	Thrust	Air volume	Motor rated power	Motor rated current	Speed	Sound level 3 m, from center of casing	Weight	Temperature
	N	m ³ /h	kW	A	rpm	LpA dB	kg	
AJR 315-2	23	4400	0,75	1,99	2900	62	78	55°C
AJR 315-2/4	23/6	4400/2200	0,75/0,17	2,14/0,75	2860/1420	62 / 47	80	55°C
AJR 355-2	37	6300	1,1	2,5	2900	69	84	55°C
AJR 355-2/4	37/9	6300/3150	1,4/0,3	3,13/1,11	2880/1430	69 / 54	86	55°C
AJR 400-2	55	7700	1,5	3,3	2840	73	93	55°C
AJR 400-2/4	55/11	7700/3850	1,9/0,4	4,18/1,47	2885/1435	73 / 58	95	55°C
AJR 315-2 (B)	23	4400	0,75	1,8	2900	62	78	300°C/120 Min.
AJR 315-2/4 (B)	23/6	4400/2200	0,75/0,15	1,6/0,4	2880/1450	62 / 47	80	300°C/120 Min.
AJR 355-2 (B)	37	6300	1,1	2,5	2870	69	84	300°C/120 Min.
AJR 355-2/4 (B)	37/9	6300/3150	1,3/0,25	3,1/0,68	2905/1460	69 / 54	86	300°C/120 Min.
AJR 400-2 (B)	55	8700	1,5	3,2	2870	73	93	300°C/120 Min.
AJR 400-2/4 (B)	55/11	8700/4350	1,8/0,37	3,9/0,95	2880/1455	73 / 58	95	300°C/120 Min.

Dimensions:

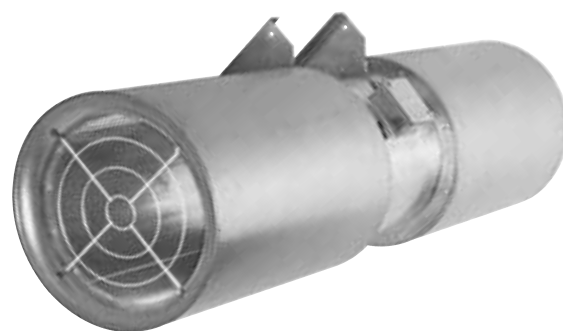


Size	ØDa	H	E	C	F
315	422	431	426,2	259	457,5
355	462	471	444,7	280	476
400	502	513	510	303	540

All dimensions in mm.

Jet Fan AJR-TR

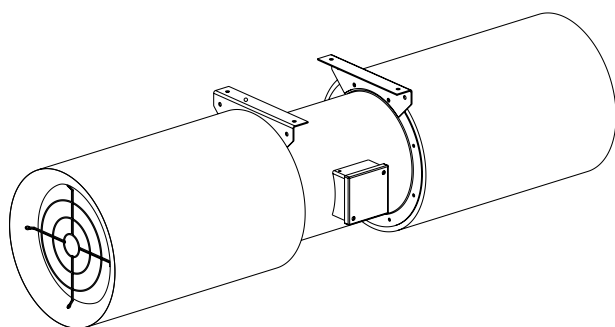
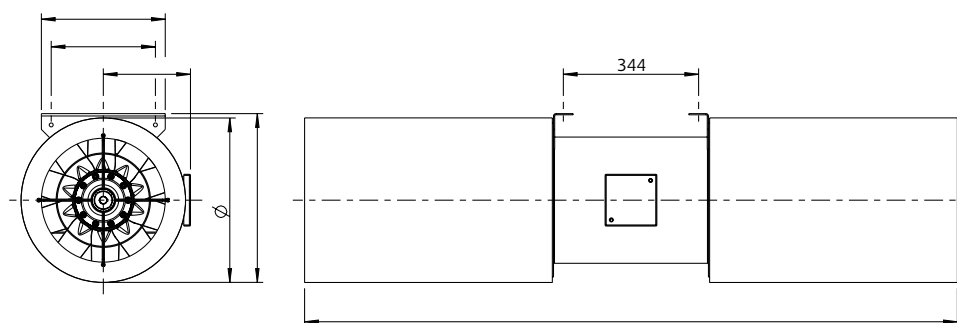
- Dual use: For daily ventilation and smoke extraction in case of fire F300 (300°C/120 min.); F400 (400°C/120 min.)
- Symmetrical blades; 100% reversible with low sound level
- Motors IP54, insulation class H (smoke extract); Motors IP55, insulation class F (CO-exhaust), according to EN 60045-5/IEC 85
- 60 Hz range available
- Tested inspection switch optional
- Casing manufactured from galvanized steel
- Certified to EN 12101-3
- CE-certification by TÜV Süd



Technical data:

Jet fan AJR-TR 400V/50Hz	Thrust	Air volume	Motor rated power	Motor rated current	Speed	Sound level 3 m, from center of casing	Weight	Temperature
	N	m ³ /h	kW	A	rpm	LpA dB	kg	
AJR 315-2-TR	22	4400	0,75	1,8	2900	60	50	55°C
AJR 315-2/4-TR	22/6	4400/2200	0,75/0,17	1,74/0,63	2860/1420	60 / 45	52	55°C
AJR 355-2-TR	37	6400	1,5	3,3	2840	66	65	55°C
AJR 355-2/4-TR	37/9	6400/3200	1,4/0,3	3,13/1,11	2880/1440	66 / 51	67	55°C
AJR 400-2-TR	55	8700	1,5	3,3	2840	72	83	55°C
AJR 400-2/4-TR	55/14	8700/4350	1,9/0,4	4,18/1,47	2885/1435	72 / 57	85	55°C
AJR 315-2 (B)-TR	22	4400	0,75	1,65	2880	60	50	300°C/120 Min.
AJR 315-2/4 (B)-TR	22/6	4400/2200	0,75/0,12	1,8/0,4	2880/1440	60 / 45	52	300°C/120 Min.
AJR 355-2 (B)-TR	37	6400	1,5	3,6	2880	66	65	300°C/120 Min.
AJR 355-2/4 (B)-TR	37/9	6400/3200	1,5/0,25	3,6/0,7	2880/1440	66 / 51	67	300°C/120 Min.
AJR 400-2 (B)-TR	55	8700	1,5	3,6	2880	72	83	300°C/120 Min.
AJR 400-2/4 (B)-TR	55/14	8700/4350	1,5/0,25	3,6/0,7	2880/1440	72 / 57	85	300°C/120 Min.

Dimensions:



Size	ØDa	H	E	C	F	L
315	419	430	265	235	315	1660
355	459	497	305	255	355	1820
400	504	558	350	280	400	2000

All dimensions in mm.