Woods
AIR MOVEMENT

JET FANS

Efficient pollution and smoke control

JET FANS

Unlock the potential of superior tunnel ventilation with Woods Air Movement. Specialising in road and rail tunnels, metro systems, and tunnel construction, we bring unparalleled expertise to underground projects around the globe. Our renowned innovative Jet Fan product range stands at the forefront of technology, delivering exceptional efficiency and performance to meet the most demanding ventilation challenges.

JET FANS

- 630 - 1250 mm diameters
- Thrust up to 3100 N
- Fully adjustable die cast aluminium impellers in uni-directional and truly reversible configurations
- 100% X-ray of all cast impeller components
- Casing - either hot dipped galvanised mild steel with optional painted finish, or stainless-steel
- 1D Silencers fitted as standard – with optional configurations
- Motor protection IP55 minimum
- Emergency ventilation 300°C / 2 hours certified to EN 12101-3 – other categories available
- Truly reversible impellers provide comparable thrust and airflow in both forward and reverse directions
- Best in class acoustic performance

Fläkt Woods Limited, trading as Woods Air Movement, certifies that our Jet Fan products shown herein are licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

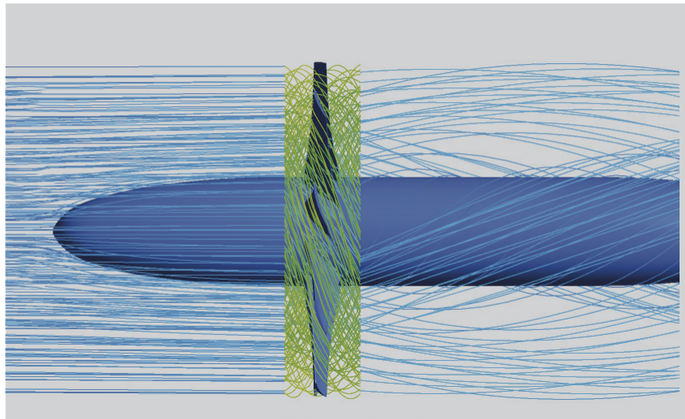
Scan the QR Code to view our AMCA certification.

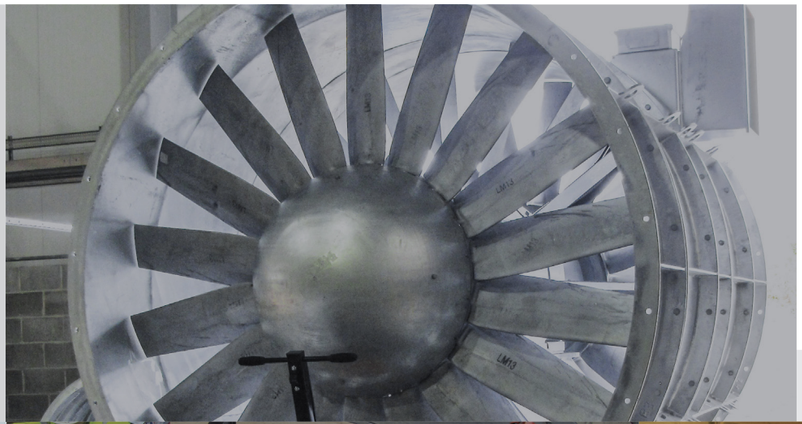
Application **Expertise and Support** Services

1

TUNNEL VENTILATION DESIGN & CFD ANALYSIS

The Woods Air Movement design team is focused on delivering the optimum design, tailored to local regulations, optimising air quality, life safety, installed cost and full life cycle costs.





3

FACTORY ACCEPTANCE TESTING

Our dedicated lab conducts regular Factory Acceptance Testing (FAT) for our clients all over the world. Customers can inspect the factory and understand the manufacturing process so they can have complete confidence in our solution.

2

PRESSURE DROP CALCULATIONS & VALIDATION OF NOISE CALCULATIONS

Our engineering department is able to assist in making sure all calculations are correct and the products selected meet all requirements.

4

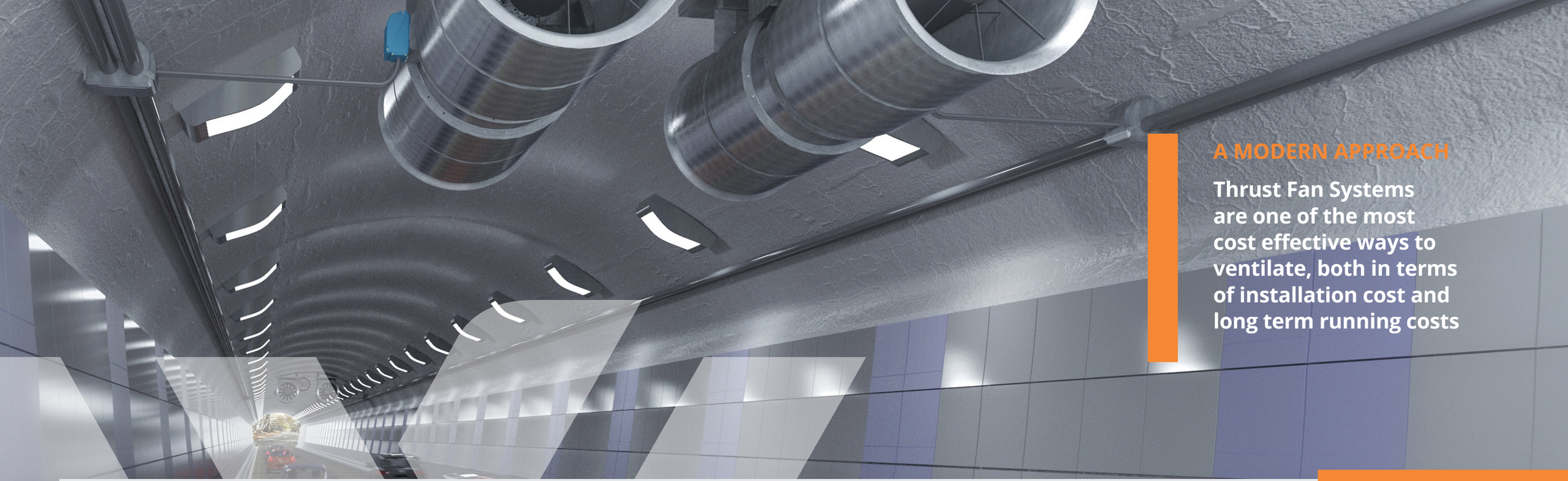
4. FAN INSTALLATION GUIDANCE & COMMISSIONING ASSISTANCE

Due to the made-to-order nature of tunnel ventilation design, we provide extensive support.

5

5. GLOBAL COVERAGE & SUPPORT SERVICE

As your local partners, Woods Air Movement will work directly with you.



A MODERN APPROACH

Thrust Fan Systems are one of the most cost effective ways to ventilate, both in terms of installation cost and long term running costs

Jet Fan specifications

1 PERFORMANCE

1.1 All tests shall be performed on complete units with the appropriate silencers or bellmouth(s) fitted.

1.2 The fan shall deliver the specified thrust when tested in accordance with ISO 13350 or AMCA 250. Air velocities are derived using the area calculated from the inlet/outlet diameter.

1.3 The fan shall give the sound power level specified when tested in accordance with ISO 13350 or AMCA 250. Inlet and outlet sound levels shall be measured and in the case of reversible fans, the sound level shall be measured in both directions of airflow.

2 CONSTRUCTION

2.1 The impeller shall have aerofoil section blades fitted to a hub in a manner that allows simple adjustment of blade pitch angle. Blades and hubs will be cast from aluminium alloy. The hub shall incorporate a cast iron or steel insert. Unidirectional impellers shall be fitted with an aerodynamically shaped spinner.

2.2 The fan casing shall be manufactured from mild steel to BS EN 10111 Grade DD11 with integral spun flanges. Four radial motor supports shall be used, continuously welded to the casing. The casing assembly shall be hot dip galvanised in accordance with BS EN ISO 1461. Stainless steel casing is also available.

2.3 Silencers shall be either:

2.3.1 Standard construction with pre-galvanised steel outer skin fastened to hot dip galvanised flanges and bellmouths, fitted with internal pre-galvanised steel perforated liner and galvanised steel aerodynamic pod.

2.3.2 **OR**, heavy construction, with steel outer skin welded to flanges and bellmouth and the complete assembly hot dip galvanised after fabrication, stainless steel perforated liner and hot dip galvanised aerodynamic pod.

2.3.3 **OR** fully stainless steel construction.

3 MOTOR

3.1 Fan motors shall be of the totally enclosed, squirrel cage induction, continuous duty, variable torque type.

3.2 Bearings shall be ball or roller type with a L10 life of at least 20,000 hours when calculated using ISO 281 for rated fan duty.

3.3 Motors shall be airstream rated and the temperature rise shall be in accordance with EN 60034-1 and EN 12101-3.

3.4 All motors shall have IP55 protection with drain plug fitted. All terminal boxes shall have the same level of protection as the motor.

4 FAN VIBRATION

4.1 The Jet Fan balance and vibration will be in accordance with ISO 13350.

5 PAINT FINISH

5.1 Painted finishes are available upon request.

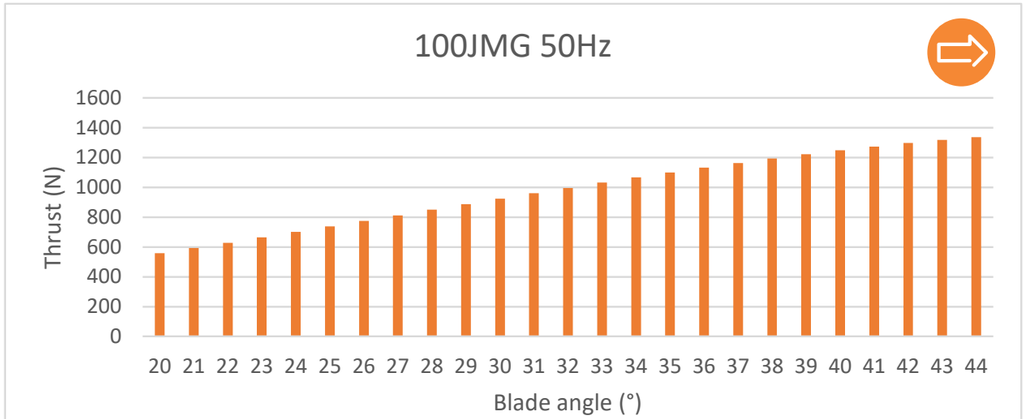
6 QUALITY ASSURANCE

6.1 The manufacturer shall be registered as a firm of assessed ability to produce goods or services in accordance with ISO 9001.

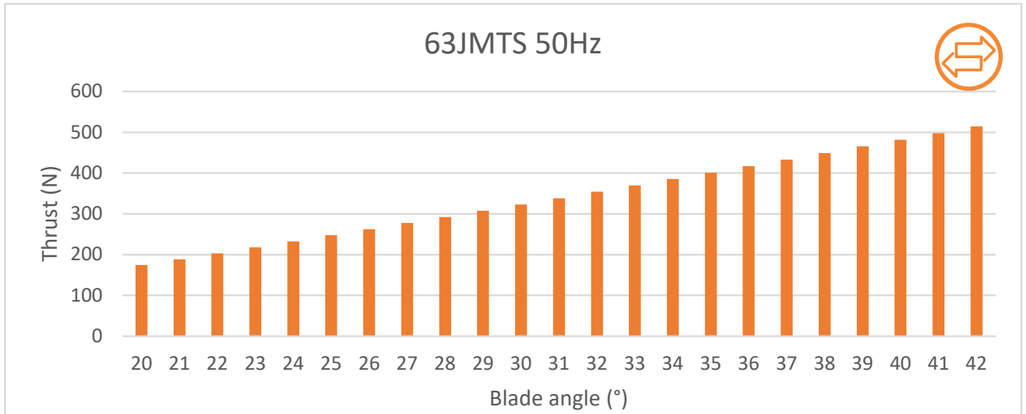
6.2 All cast aluminium impeller components shall be x-rayed in accordance with ASTM E155. X-ray records shall be traceable to the components and retained for a period of 10 years.

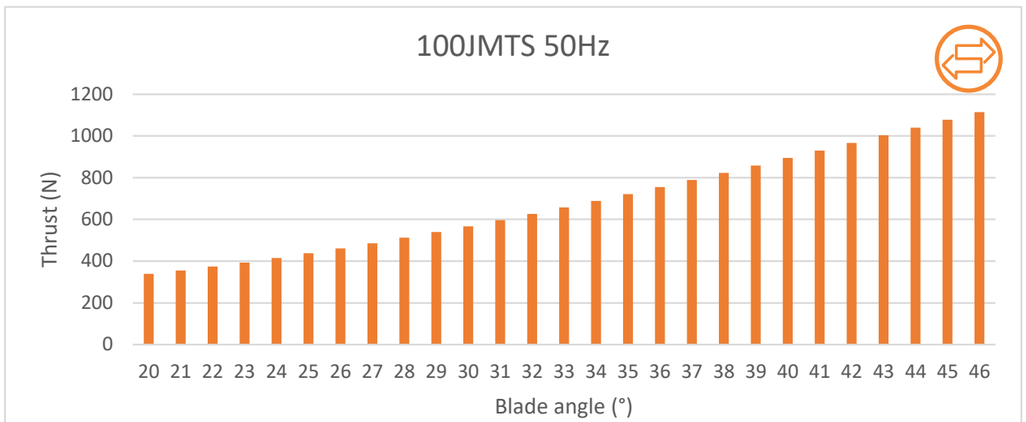
50 Hz Jet Fan selection charts

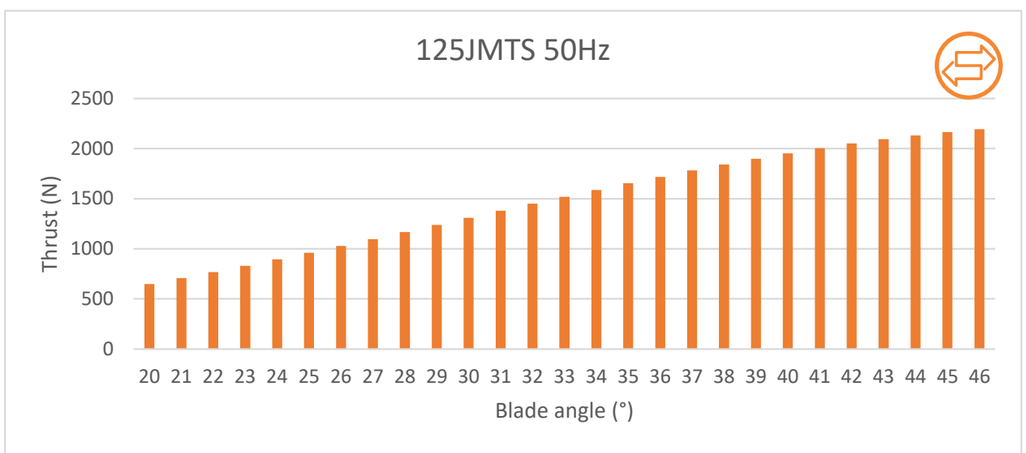
UNI-DIRECTIONAL JET FANS



REVERSIBLE JET FANS







100JMG 50 Hz

Technical Parameters	
Model	100JMG/40/4/9
Fan Description	Uni-Directional Jet Fan
Nominal Motor Size*	200 (IEC)
Motor Speed	4 pole, 50 Hz
Air Density	1.2 kg/m³
Emergency Rating	300°C / 2 hours

UNI-DIRECTIONAL

*Motor rating to suit required performance

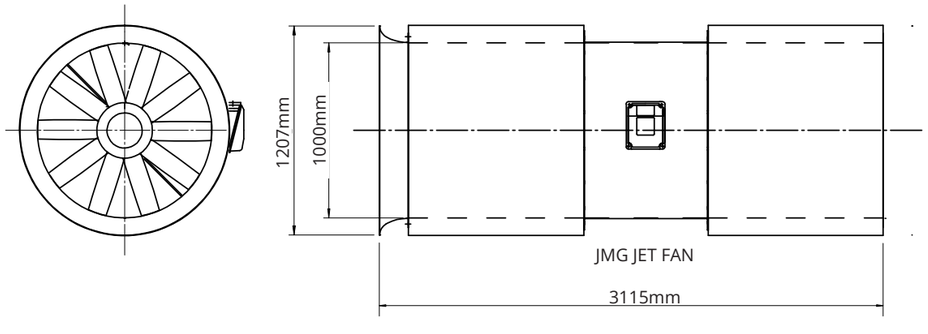
PERFORMANCE DATA

Blade Angle (°)	Thrust (N)	Outlet Velocity† (m/s)	Shaft Power (kW)
20	559	24.4	12.1
21	594	25.1	13.1
22	630	25.8	14.1
23	665	26.6	15.2
24	701	27.3	16.3
25	738	28.0	17.5
26	775	28.7	18.7
27	813	29.4	20.0
28	850	30.0	21.3
29	887	30.7	22.6
30	924	31.3	24.0
31	961	31.9	25.4
32	997	32.5	26.9

Blade Angle (°)	Thrust (N)	Outlet Velocity† (m/s)	Shaft Power (kW)
33	1032	33.1	28.4
34	1067	33.6	30.0
35	1100	34.2	31.6
36	1133	34.7	33.3
37	1164	35.1	35.0
38	1194	35.6	36.7
39	1222	36.0	38.5
40	1249	36.4	40.3
41	1274	36.8	42.2
42	1297	37.1	44.1
43	1319	37.4	46.1
44	1338	37.7	48.1

†Outlet velocity calculated from thrust measurement

DIMENSIONS



125JMG 50 Hz

Technical Parameters	
Model	125JMG/50/4/9
Fan Description	Uni-Directional Jet Fan
Nominal Motor Size*	250 (IEC)
Motor Speed	4 pole, 50 Hz
Air Density	1.2 kg/m³
Emergency Rating	300°C / 2 hours

UNI-DIRECTIONAL

*Motor rating to suit required performance

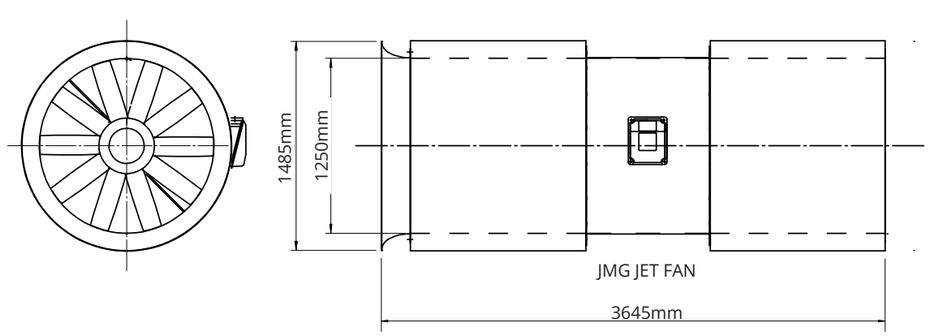
PERFORMANCE DATA

Blade Angle (°)	Thrust (N)	Outlet Velocity† (m/s)	Shaft Power (kW)
20	1136	27.8	25.2
21	1218	28.8	27.6
22	1301	29.7	30.1
23	1384	30.7	32.9
24	1469	31.6	35.8
25	1555	32.5	38.9
26	1642	33.4	42.2
27	1730	34.3	45.7
28	1819	35.1	49.3
29	1909	36.0	53.2
30	2000	36.9	57.2
31	2092	37.7	61.3
32	2185	38.5	65.7

Blade Angle (°)	Thrust (N)	Outlet Velocity† (m/s)	Shaft Power (kW)
33	2279	39.3	70.3
34	2374	40.2	75.0
35	2470	41.0	79.9

†Outlet velocity calculated from thrust measurement

DIMENSIONS



63JMTS 50 Hz

Technical Parameters	
Model	63JMTS/31/2/9
Fan Description	Reversible Jet Fan
Nominal Motor Size*	160 (IEC)
Motor Speed	2 pole, 50 Hz
Air Density	1.2 kg/m³
Emergency Rating	300°C / 2 hours

REVERSIBLE

*Motor rating to suit required performance

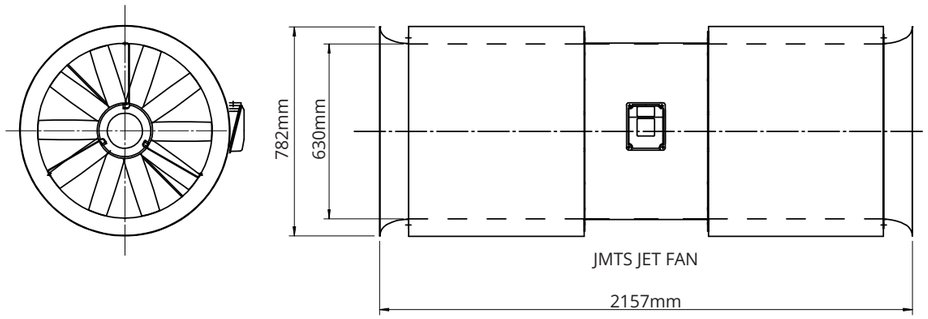
PERFORMANCE DATA

Blade Angle (°)	Thrust (N)	Outlet Velocity† (m/s)	Shaft Power (kW)
20	174	21.6	4.5
21	189	22.5	4.8
22	203	23.3	5.3
23	218	24.1	5.8
24	233	24.9	6.3
25	248	25.7	6.9
26	262	26.5	7.5
27	277	27.2	8.1
28	293	28.0	8.8
29	308	28.7	9.6
30	323	29.4	10.4
31	338	30.1	11.2
32	354	30.8	12.1

Blade Angle (°)	Thrust (N)	Outlet Velocity† (m/s)	Shaft Power (kW)
33	370	31.4	13.1
34	385	32.1	14.0
35	401	32.7	15.1
36	417	33.4	16.1
37	433	34.0	17.2
38	449	34.6	18.4
39	465	35.3	19.6
40	481	35.9	20.9
41	498	36.5	22.2
42	514	37.1	23.5

†Outlet velocity calculated from thrust measurement

DIMENSIONS



100JMTS 50 Hz

Technical Parameters	
Model	100JMTS/40/4/9
Fan Description	Reversible Jet Fan
Nominal Motor Size*	200 (IEC)
Motor Speed	4 pole, 50 Hz
Air Density	1.2 kg/m³
Emergency Rating	300°C / 2 hours

REVERSIBLE

*Motor rating to suit required performance

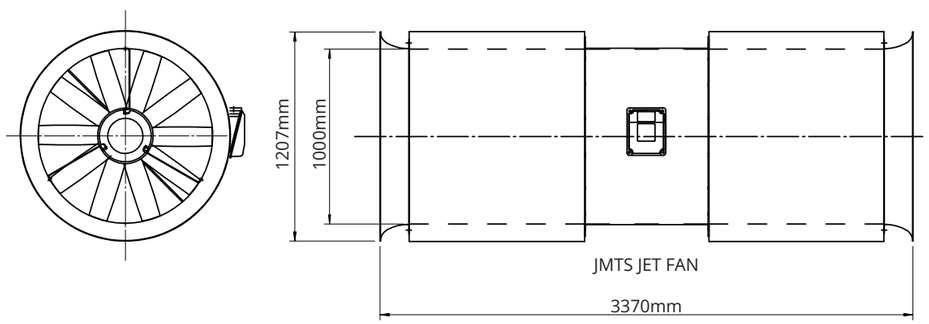
PERFORMANCE DATA

Blade Angle (°)	Thrust (N)	Outlet Velocity† (m/s)	Shaft Power (kW)
20	339	19.0	4.9
21	356	19.4	5.4
22	374	19.9	5.9
23	394	20.4	6.5
24	415	21.0	7.2
25	437	21.5	7.9
26	461	22.1	8.6
27	486	22.7	9.4
28	512	23.3	10.3
29	539	23.9	11.2
30	567	24.5	12.2
31	597	25.2	13.2
32	627	25.8	14.3
33	658	26.4	15.4

Blade Angle (°)	Thrust (N)	Outlet Velocity† (m/s)	Shaft Power (kW)
34	689	27.0	16.6
35	722	27.7	17.9
36	755	28.3	19.2
37	789	28.9	20.5
38	823	29.6	21.9
39	859	30.2	23.4
40	894	30.8	24.9
41	930	31.4	26.5
42	966	32.0	28.1
43	1003	32.6	29.8
44	1040	33.2	31.5
45	1077	33.8	33.3
46	1115	34.4	35.1

†Outlet velocity calculated from thrust measurement

DIMENSIONS



125JMTS 50 Hz

Technical Parameters	
Model	125JMTS/50/4/9
Fan Description	Reversible Jet Fan
Nominal Motor Size*	250 (IEC)
Motor Speed	4 pole, 50 Hz
Air Density	1.2 kg/m³
Emergency Rating	300°C / 2 hours

REVERSIBLE

*Motor rating to suit required performance

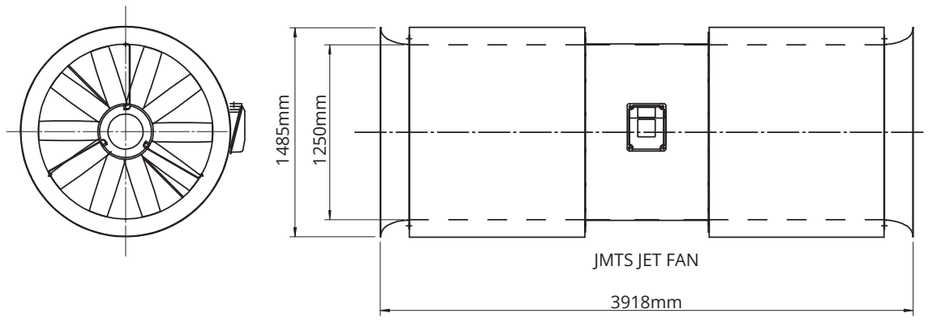
PERFORMANCE DATA

Blade Angle (°)	Thrust (N)	Outlet Velocity† (m/s)	Shaft Power (kW)
20	650	21.0	11.9
21	707	21.9	13.3
22	767	22.8	14.8
23	829	23.7	16.4
24	894	24.6	18.1
25	961	25.5	20.0
26	1029	26.4	21.9
27	1098	27.3	23.9
28	1168	28.2	26.1
29	1238	29.0	28.4
30	1309	29.8	30.7
31	1380	30.6	33.2
32	1450	31.4	35.8
33	1519	32.1	38.5

Blade Angle (°)	Thrust (N)	Outlet Velocity† (m/s)	Shaft Power (kW)
34	1587	32.8	41.3
35	1654	33.5	44.3
36	1719	34.2	47.3
37	1781	34.8	50.5
38	1841	35.4	53.7
39	1899	35.9	57.1
40	1953	36.4	60.6
41	2004	36.9	64.2
42	2051	37.3	67.9
43	2094	37.7	71.7
44	2132	38.0	75.6
45	2166	38.3	79.6
46	2194	38.6	83.7

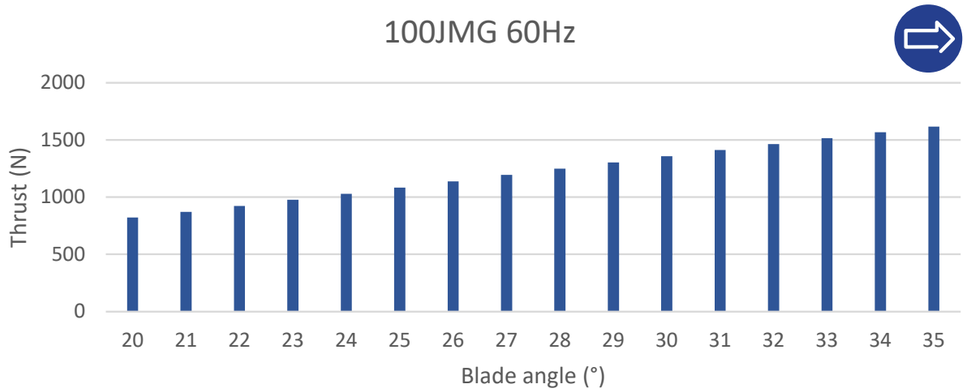
†Outlet velocity calculated from thrust measurement

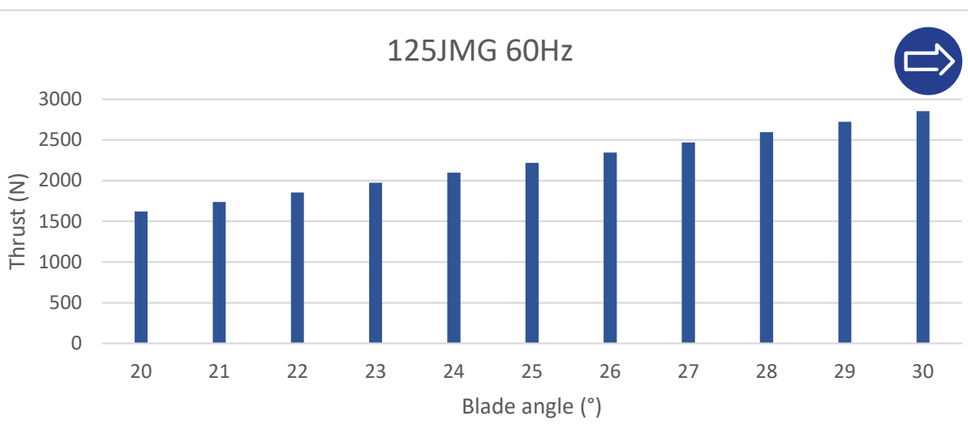
DIMENSIONS



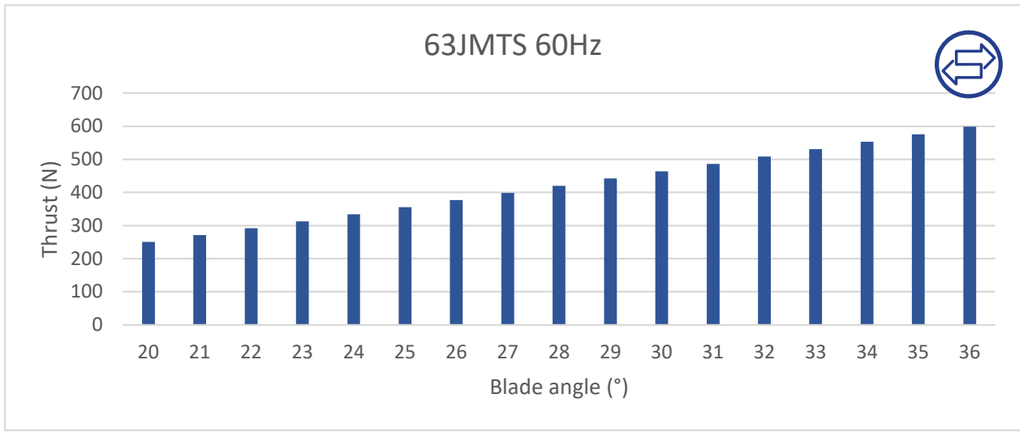
60Hz Jet Fan selection charts

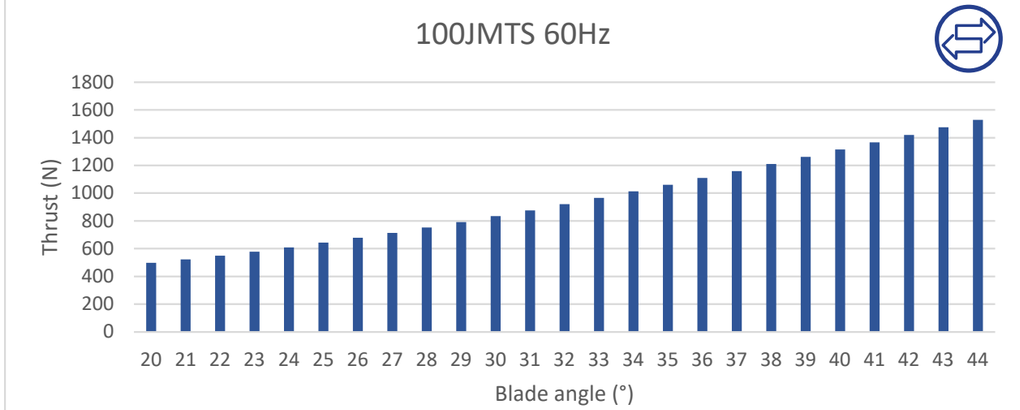
UNI-DIRECTIONAL JET FANS

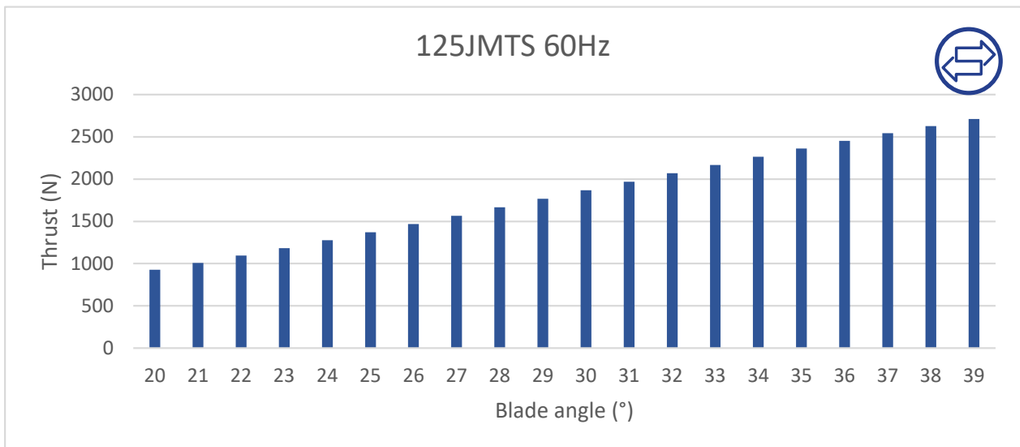




REVERSIBLE JET FANS







100JMG 60 Hz

Technical Parameters	
Model	100JMG/40/4/9
Fan Description	Uni-Directional Jet Fan
Nominal Motor Size*	200 (IEC)
Motor Speed	4 pole, 60 Hz
Air Density	1.2 kg/m³
Emergency Rating	300°C / 2 hours

*Motor rating to suit required performance

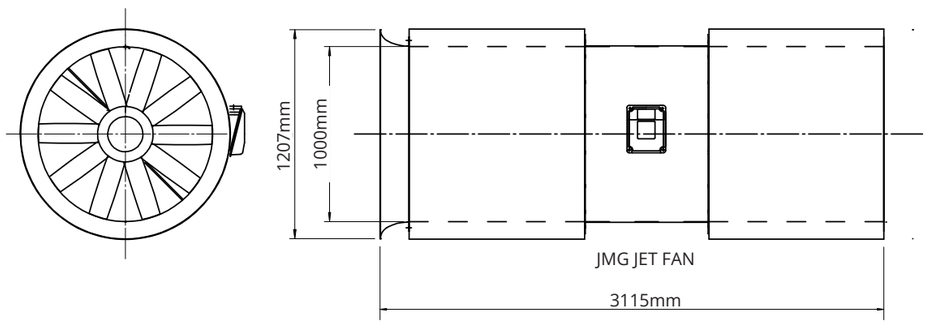
PERFORMANCE DATA

Blade Angle (°)	Thrust (N)	Outlet Velocity† (m/s)	Shaft Power (kW)
20	822	29.5	21.5
21	873	30.4	23.3
22	925	31.3	25.1
23	977	32.2	27.0
24	1031	33.1	29.1
25	1085	33.9	31.2
26	1140	34.8	33.3
27	1194	35.6	35.6
28	1249	36.4	37.9
29	1304	37.2	40.3
30	1358	38.0	42.8
31	1412	38.7	45.3
32	1465	39.4	48.0

Blade Angle (°)	Thrust (N)	Outlet Velocity† (m/s)	Shaft Power (kW)
33	1517	40.1	50.7
34	1568	40.8	53.5
35	1617	41.4	56.4

†Outlet velocity calculated from thrust measurement

DIMENSIONS



125JMG 60 Hz

Technical Parameters	
Model	125JMG/50/4/9
Fan Description	Uni-Directional Jet Fan
Nominal Motor Size*	250 (IEC)
Motor Speed	4 pole, 60 Hz
Air Density	1.2 kg/m³
Emergency Rating	300°C / 2 hours

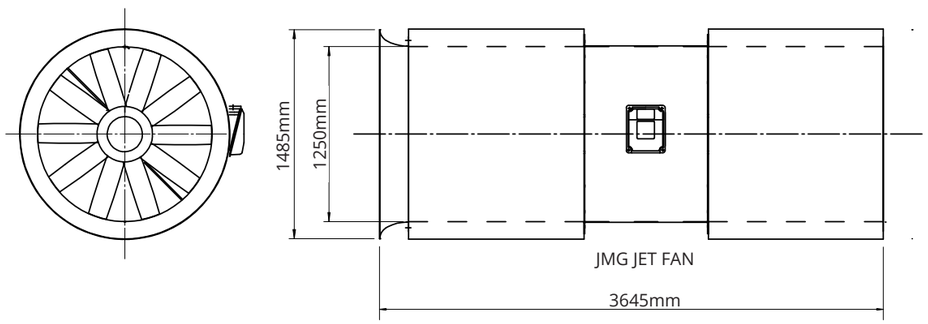
*Motor rating to suit required performance

PERFORMANCE DATA

Angle (°)	Thrust (N)	Outlet Velocity† (m/s)	Shaft Power (kW)
20	1621	33.2	43.0
21	1738	34.4	47.0
22	1856	35.5	51.4
23	1976	36.6	56.1
24	2097	37.7	61.1
25	2219	38.8	66.4
26	2343	39.9	72.0
27	2469	40.9	77.9
28	2596	42.0	84.1
29	2724	43.0	90.6
30	2854	44.0	97.5

†Outlet velocity calculated from thrust measurement

DIMENSIONS



63JMTS 60 Hz

Technical Parameters	
Model	63JMTS/31/2/9
Fan Description	Reversible Jet Fan
Nominal Motor Size*	160 (IEC)
Motor Speed	2 pole, 60 Hz
Air Density	1.2 kg/m³
Emergency Rating	300°C / 2 hours

REVERSIBLE

*Motor rating to suit required performance

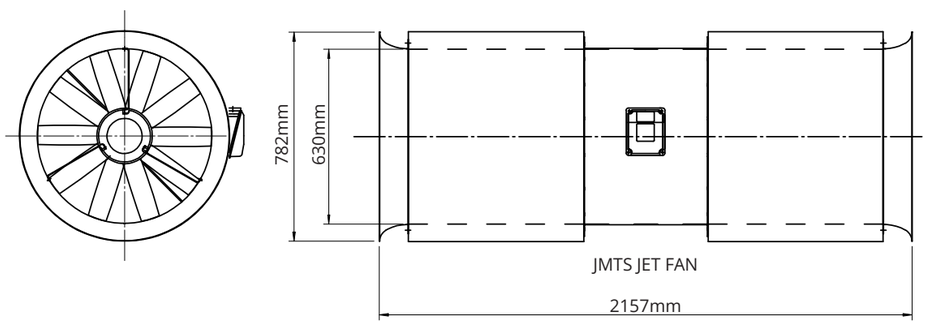
PERFORMANCE DATA

Blade Angle (°)	Thrust (N)	Outlet Velocity† (m/s)	Shaft Power (kW)
20	251	25.9	7.7
21	271	26.9	8.3
22	292	27.9	9.1
23	313	28.9	9.9
24	334	29.9	10.8
25	356	30.8	11.8
26	377	31.7	12.9
27	399	32.6	14.0
28	420	33.5	15.2
29	442	34.4	16.5
30	464	35.2	17.9
31	486	36.1	19.3
32	509	36.9	20.9
33	531	37.7	22.5

Blade Angle (°)	Thrust (N)	Outlet Velocity† (m/s)	Shaft Power (kW)
34	554	38.5	24.2
35	576	39.2	25.9
36	599	40.0	27.8

†Outlet velocity calculated from thrust measurement

DIMENSIONS



100JMTS 60 Hz

Technical Parameters	
Model	100JMTS/40/4/9
Fan Description	Reversible Jet Fan
Nominal Motor Size*	200 (IEC)
Motor Speed	4 pole 60 Hz
Air Density	1.2 kg/m³
Emergency Rating	300°C / 2 hours

REVERSIBLE

*Motor rating to suit required performance

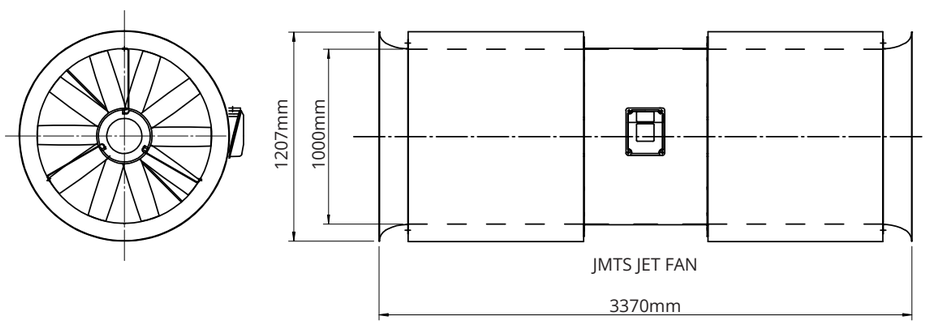
PERFORMANCE DATA

Blade Angle (°)	Thrust (N)	Outlet Velocity† (m/s)	Shaft Power (kW)
20	498	23.0	8.8
21	523	23.5	9.6
22	550	24.1	10.6
23	579	24.8	11.6
24	610	25.4	12.8
25	643	26.1	14.0
26	677	26.8	15.4
27	714	27.5	16.8
28	753	28.3	18.3
29	792	29.0	20.0
30	834	29.7	21.7
31	877	30.5	23.5
32	921	31.3	25.5
33	966	32.0	27.5

Blade Angle (°)	Thrust (N)	Outlet Velocity† (m/s)	Shaft Power (kW)
34	1013	32.8	29.6
35	1061	33.6	31.8
36	1110	34.3	34.1
37	1160	35.1	36.5
38	1210	35.8	39.1
39	1262	36.6	41.7
40	1314	37.3	44.4
41	1367	38.1	47.2
42	1420	38.8	50.0
43	1474	39.6	53.0
44	1529	40.3	56.1

†Outlet velocity calculated from thrust measurement

DIMENSIONS



125JMTS 60 Hz

Technical Parameters	
Model	125JMTS/50/4/9
Fan Description	Reversible Jet Fan
Nominal Motor Size*	250 (IEC)
Motor Speed	4 pole, 60 Hz
Air Density	1.2 kg/m³
Emergency Rating	300°C / 2 hours

REVERSIBLE

*Motor rating to suit required performance

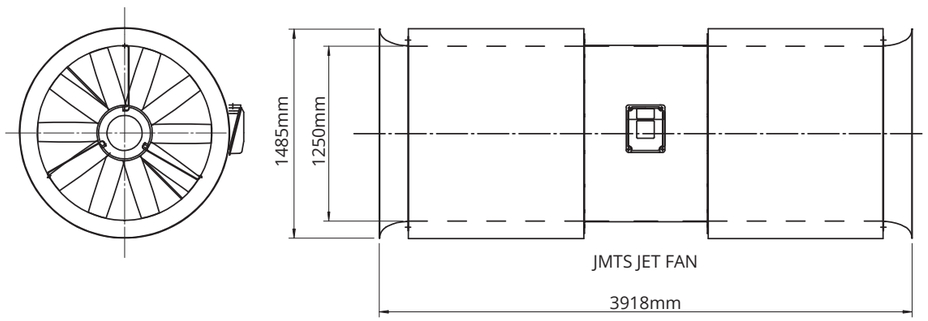
PERFORMANCE DATA

Angle (°)	Thrust (N)	Outlet Velocity† (m/s)	Shaft Power (kW)
20	927	25.0	20.3
21	1009	26.2	22.7
22	1095	27.3	25.2
23	1184	28.3	28.0
24	1276	29.4	30.9
25	1371	30.5	34.0
26	1468	31.6	37.3
27	1567	32.6	40.8
28	1667	33.6	44.5
29	1767	34.6	48.3
30	1869	35.6	52.4
31	1969	36.6	56.6
32	2069	37.5	61.1
33	2168	38.4	65.7

Angle (°)	Thrust (N)	Outlet Velocity† (m/s)	Shaft Power (kW)
34	2265	39.2	70.5
35	2360	40.0	75.5
36	2453	40.8	80.7
37	2542	41.5	86.0
38	2628	42.2	91.6
39	2710	42.9	97.3

†Outlet velocity calculated from thrust measurement

DIMENSIONS



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- All impeller parts are X-ray inspected in accorance with ASTM E155.
- We ensure our products follow the ISO1940 Balance standards and Vibration BS848 pt 7 ISO14694.
- Our fans endure impeller strain gauge tests of speed over 125% for 15min.

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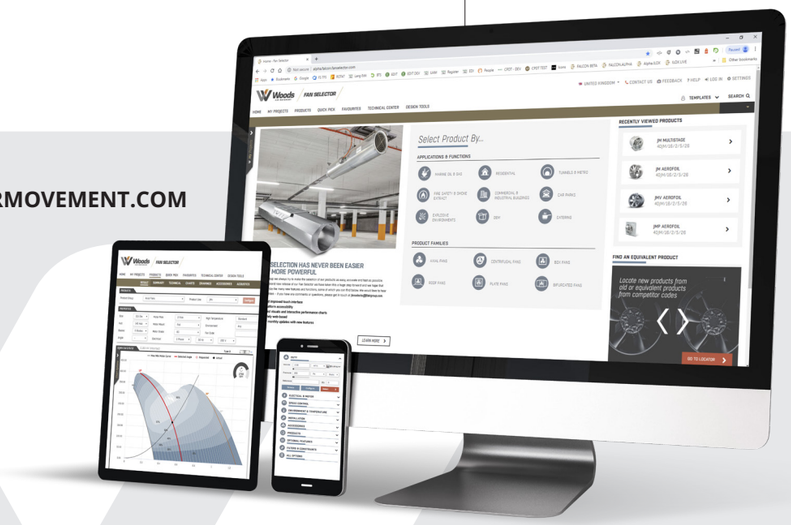

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We always try to make the selection of our products as easy, accurate and fast as possible. With the brand new release of our Fan Selector we have taken a huge step forward and we hope that you will enjoy the many new features and functions – including web-based multi-platform accessibility with touch interface and interactive performance charts.

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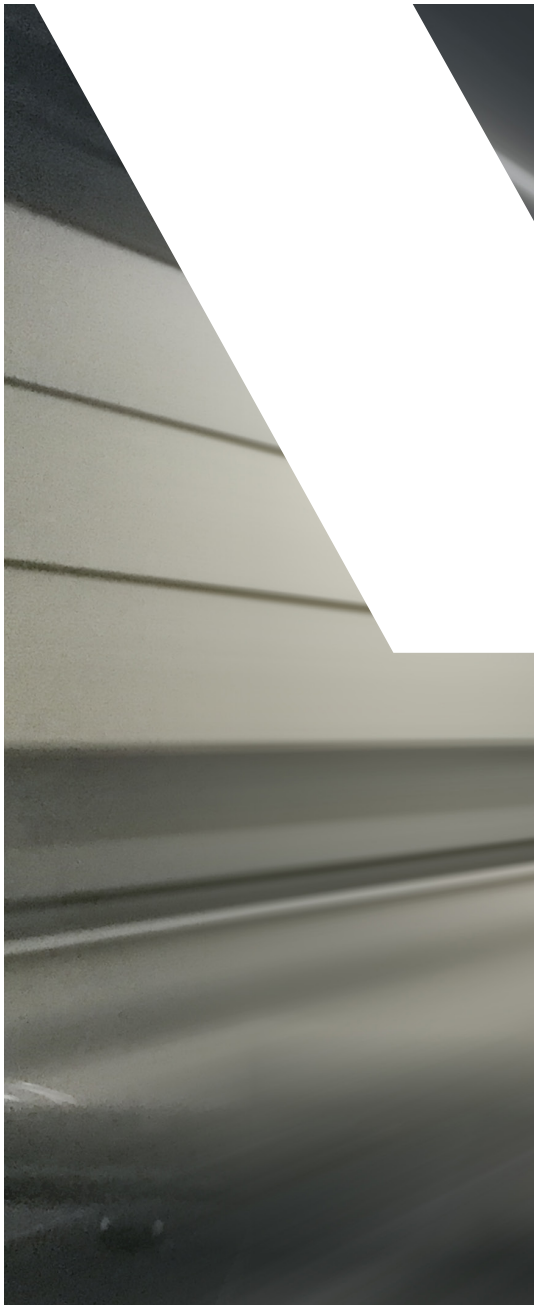

Contact our friendly sales team today for more information

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