



# TURBOFLOW TF

Contra Rotating Axial Flow Fan

# TURBOFLOW TF

## Product Overview



- 5 standard sizes from 450mm to 630mm
- Air volume flow rates up to 4.6 m<sup>3</sup>/s
- Static pressures up to 764 Pa
- Suitable for operating temperatures up to +70°C
- Ideal for internal or external use
- Available in **AC**

**The Turboflow TF is a two stage axial fan which has been specifically developed to tackle higher pressure requirements with a straightforward, efficient and definitive approach.**

### Easy Installation

Motors are wired via a weatherproofed cable to an IP55 protected terminal box mounted on the outside of the unit casing for ease of electrical connection.

### Efficient Performance

High efficiency adjustable pitch aerofoil impellers are provided with blades made from high quality pressure die cast aluminium. Increased blade chord and twist provides 7% higher efficiency reducing overall energy consumption. The use of contra-rotating impellers allow operation at higher pressures within a smaller fan diameter.

### Controllability

The Eltadrive range of inverters has been designed encompassing the latest technology and combining robustness with reliability. Using an inverter to control fans via sensors to reduce fan speed can provide significant cost-savings through lower energy consumption.

### Long Life

The use of robust three phase motors, coupled with inverter soft starts, reduces wear and prolongs life.

### Warranty

Each TF has a 12 month warranty.

### Construction

Units have been constructed from a single sheet of steel, with both motors and axial impellers mounted within the length of the unit casing. All casing parts are heavy gauge mild steel sheet, roll formed and welded for added strength and durability, hot dip galvanised to BS EN ISO 1461:2009.

### Motor

Motors are totally enclosed, airstream rated induction motors with sealed for life, maintenance free ball bearings, allowing the fan to be installed at any angle. Available in either 1 phase or 3 phase. Fans are suitable for operating temperatures between -20°C and +70°C. Single phase fans up to +50°C when speed controlled.

### Impeller

Increased twist aerofoil impellers provide improved efficiency and acoustics suitable for higher stress applications. Blades are made from high quality pressure die cast aluminium (LM6), natural finish. Impellers are factory set at an angle to provide maximum performance.

### Typical Applications

- Boiler Rooms
- Changing Rooms
- Commercial Kitchens
- Factories
- Gymnasiums
- Plant rooms
- Sport Centres
- Squash Courts
- Warehousing and stores

### Contents

Page	Information
3	Performance Range Curves
4	Performance, SFP & Electrical Data
6	Sound Data
8	Dimensional Data
10	Accessories

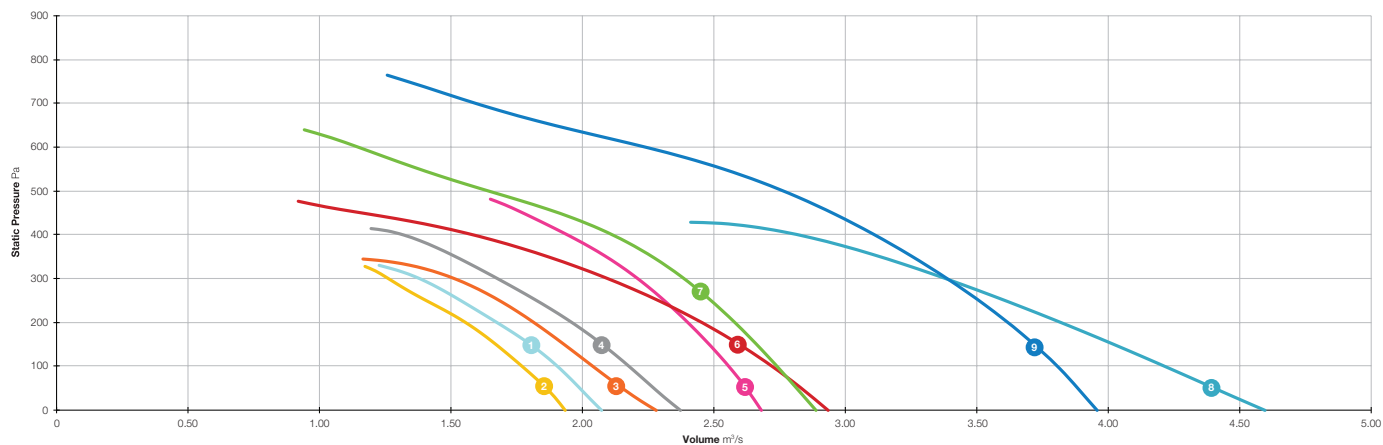
### Product Coding

Code	Reference
<b>TF</b>	Product Range
<b>450</b>	Diameter (315/350/400...)
<b>/</b>	
<b>4</b>	Number of Poles (2/4/6)
<b>-</b>	
<b>3</b>	Voltage Supply (Single Phase / Three Phase)
<b>AC</b>	Motor Type (AC/EC)
<b>A - Z</b>	Additional Coding (A - Z) Product Variants
e.g.	<b>TF450 / 4 - 3AC</b>

# TURBOFLOW TF



## Performance Range Curves



- 1 TF450 / 4-1AC
- 2 TF450 / 4-3AC
- 3 TF500 / 4-1AC

- 4 TF500 / 4A-3AC
- 5 TF500 / 4B-3AC
- 6 TF560 / 4-1AC

- 7 TF560 / 4-3AC
- 8 TF630 / 4-1AC
- 9 TF630 / 4-3AC

# TURBOFLOW TF

Performance, SFP & Electrical Data



Single Phase 220V to 240V / 50Hz

Product Code	Speed r/min	Airflow SFP	Airflow m <sup>3</sup> /s @ Static Pressure Pa											At Best Efficiency Point			Electrical Data		dBA @ 3m
			0	25	50	75	100	150	200	250	300	350	400	Overall Eff %	FMEG N	Input kW	Peak Amps		
TF450/4-1AC	1465	m <sup>3</sup> /s	2.070	2.028	1.988	1.948	1.904	1.801	1.675	1.538	1.382	-	-	52.7	59	0.900	4.01	Inlet	67
		W/(L/s)	0.32	0.34	0.35	0.37	0.40	0.45	0.51	0.58	0.66	-	-					Outlet	68
TF500/4-1AC	1465	m <sup>3</sup> /s	2.284	2.217	2.156	2.099	2.043	1.933	1.817	1.686	1.514	-	-	56.7	63	0.882	3.94	Inlet	64
		W/(L/s)	0.26	0.28	0.30	0.33	0.35	0.40	0.46	0.52	0.60	-	-					Outlet	64
TF560/4-1AC	1375	m <sup>3</sup> /s	2.938	2.888	2.836	2.782	2.724	2.599	2.456	2.290	2.097	1.868	1.580	52.6	58	1.364	6.17	Inlet	65
		W/(L/s)	0.35	0.37	0.38	0.40	0.42	0.47	0.52	0.58	0.65	0.75	0.88					Outlet	65
TF630/4-1AC	1340	m <sup>3</sup> /s	4.600	4.504	4.409	4.315	4.220	4.026	3.824	3.612	3.386	3.136	2.823	54.2	58	2.364	11.40	Inlet	69
		W/(L/s)	0.41	0.43	0.44	0.46	0.48	0.53	0.57	0.63	0.69	0.76	0.86					Outlet	68

Data provided is at standard air density of 1.2 kg/m<sup>3</sup>.

Data in accordance with ErP 327/2011 of the European Parliament. Measurement category used to determine energy efficiency: D.

Peak Amps @ 230V / 1PH / 50Hz.

The overall A-weighted sound pressure level is at a distance of 3m with spherical free-field propagation. It is expressed in dB re-20μPa and is presented for comparative purposes only.

# TURBOFLOW TF



## Performance, SFP & Electrical Data

Three Phase 380V to 415V / 50Hz

Product Code	Speed r/min	Airflow SFP	Airflow m <sup>3</sup> /s @ Static Pressure Pa												At Best Efficiency Point			Electrical Data		dBA @ 3m	
			0	25	50	75	100	150	200	250	300	350	400	500	Overall Eff %	FMEG N	Input kW	Peak Amps	Δ / Y		
TF450/4-3AC	1415	m <sup>3</sup> /s	1.938	1.905	1.866	1.821	1.773	1.673	1.556	1.406	1.261	-	-	-	51.1	58	0.797	2.0	Mains	Inlet	69
		W/(L/s)	0.30	0.32	0.35	0.37	0.40	0.45	0.51	0.59	0.68	-	-	-						Outlet	70
TF500/4A-3AC	1455	m <sup>3</sup> /s	2.377	2.324	2.276	2.229	2.181	2.079	1.963	1.828	1.679	1.519	1.317	-	55.9	62	1.017	2.22	Mains	Inlet	69
		W/(L/s)	0.29	0.31	0.33	0.35	0.37	0.42	0.48	0.54	0.62	0.70	0.81	-						Outlet	67
TF500/4B-3AC	1445	m <sup>3</sup> /s	2.682	2.654	2.624	2.592	2.558	2.484	2.402	2.312	2.211	2.091	1.942	-	53.4	58	1.620	3.20	Mains	Inlet	66
		W/(L/s)	0.42	0.43	0.45	0.47	0.49	0.54	0.59	0.65	0.71	0.78	0.88	-						Outlet	68
TF560/4-3AC	1440	m <sup>3</sup> /s	2.886	2.850	2.813	2.776	2.739	2.661	2.578	2.488	2.385	2.264	2.113	1.641	56.7	61	1.607	3.22	Mains	Inlet	68
		W/(L/s)	0.35	0.37	0.38	0.40	0.42	0.47	0.52	0.57	0.64	0.71	0.79	1.04						Outlet	70
TF630/4-3AC	1460	m <sup>3</sup> /s	3.956	3.922	3.886	3.847	3.806	3.717	3.618	3.508	3.387	3.256	3.112	2.765	62.6	66	2.351	4.61	Mains	Inlet	73
		W/(L/s)	0.35	0.37	0.38	0.40	0.42	0.46	0.51	0.56	0.61	0.67	0.74	0.88						Outlet	74

Data provided is at standard air density of 1.2 kg/m<sup>3</sup>.

Data in accordance with ErP 327/2011 of the European Parliament. Measurement category used to determine energy efficiency: D.

Peak Amps @ 400V / 3PH / 50Hz.

The overall A-weighted sound pressure level is at a distance of 3m with spherical free-field propagation. It is expressed in dB re-20μPa and is presented for comparative purposes only.

# TURBOFLOW TF



## Sound Data

Single Phase 220V to 240V / 50Hz

Product Code		Sound Power Level dBW @ Octave Band Hz								Total dB
		63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
TF450/4-1AC	Inlet	89	92	91	85	82	76	71	66	96
	Outlet	90	91	90	87	82	79	73	68	96
TF500/4-1AC	Inlet	78	86	89	83	77	74	70	63	92
	Outlet	79	86	88	82	79	75	71	64	91
TF560/4-1AC	Inlet	79	85	86	82	80	77	73	68	91
	Outlet	80	84	85	82	81	79	75	70	90
TF630/4-1AC	Inlet	86	87	88	85	84	83	80	75	94
	Outlet	85	87	88	86	84	81	76	71	94

Data provided at standard air density of 1.2 Kg/m<sup>3</sup>.  
Tests and preparation of the sound data have been carried out in accordance with BS 848 Part 2:1985 at 50% peak pressure.  
The Sound Power Level Spectra are in dB re-1pW.

# TURBOFLOW TF



## Sound Data

Three Phase 380V to 415V / 50Hz

Product Code	Speed r/min		Sound Power Level dBW @ Octave Band Hz								Total dB
			63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
TF450/4-3AC	1415	Inlet	87	94	97	83	80	75	70	64	99
		Outlet	88	94	98	83	81	78	72	66	100
TF500/4A-3AC	1455	Inlet	79	91	97	81	78	74	70	64	98
		Outlet	79	89	95	81	79	76	72	67	96
TF500/4B-3AC	1445	Inlet	82	84	88	85	82	77	72	65	92
		Outlet	82	83	88	87	83	80	75	69	93
TF560/4-3AC	1440	Inlet	82	83	91	87	83	80	76	70	94
		Outlet	83	83	91	89	85	82	78	72	95
TF630/4-3AC	1460	Inlet	85	85	92	91	89	84	81	77	97
		Outlet	86	85	93	92	90	87	83	79	98

Data provided at standard air density of 1.2 kg/m<sup>3</sup>.  
Tests and preparation of the sound data have been carried out in accordance with BS 848 Part 2:1985 at 50% peak pressure.  
The Sound Power Level Spectra are in dB re-1pW.

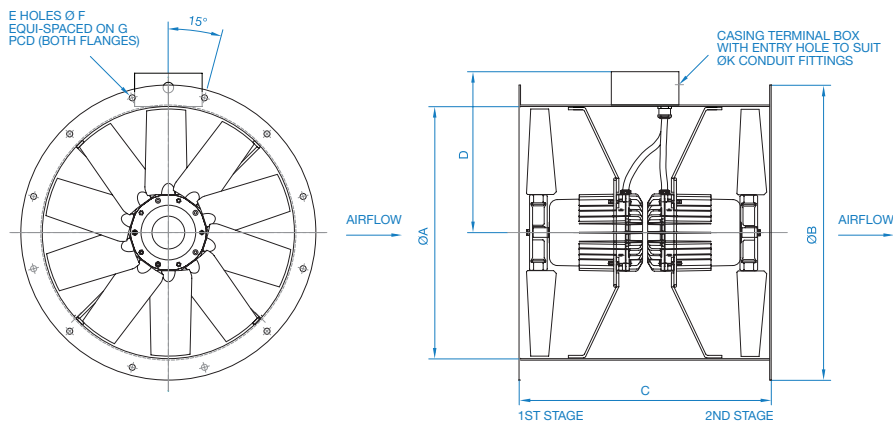
# TURBOFLOW TF



## Dimensional Data

### Single Phase

Product Code	Fan Dia A	B	C	D	E	F	G	K	Weight kg
TF450/4-1AC	450	530	540	287	8	12	500	20	81
TF500/4-1AC	500	585	550	313	12	12	560	20	85
TF560/4-1AC	560	645	500	344	12	12	620	20	58
TF630/4-1AC	630	715	500	380	12	12	690	20	67



Dimensions are in mm.



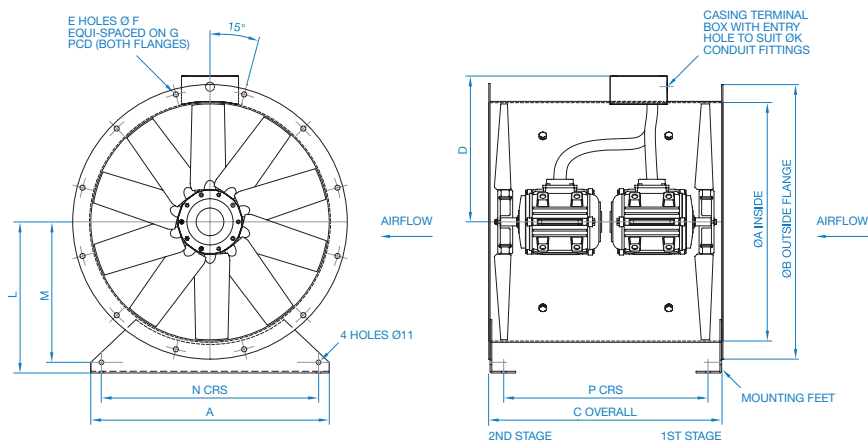
# TURBOFLOW TF



## Dimensional Data

### Three Phase

Product Code	A	B	C	D	E	F	G	K	L	M	N	P	Weight kg
TF450/4-3AC	450	530	500	285	8	12	500	20	280	255	400	439	42
TF500/4A-3AC	500	585	550	315	12	12	560	20	315	290	450	489	53
TF500/4B-3AC	500	585	550	315	12	12	560	20	315	290	450	489	53
TF560/4-3AC	560	645	550	345	12	12	620	20	355	330	510	480	59
TF630/4-3AC	630	715	600	380	12	12	690	20	400	375	580	530	83



\*Weight does not include mounting feet.  
Dimensions are in mm.

# TURBOFLOW TF



## Accessories

### Single Phase

Product Code	Ancillary Pack*	AV Mounts (set of 4)**	Bell Mouth Inlet	Flanged Damper	Flanged Silencer 1D Podded	Flanged Silencer 1D Unpodded	Flanged Silencer 2D Podded
<b>TF450/4-1AC</b>	APK450SI/003	062-003	241B-0450-BELL	019-0450-STD	068-0450-1DEP	068-0450-1DENP	068-0450-2DEP
<b>TF500/4-1AC</b>	APK500SI/003	062-003	241B-0500-BELL	019-0500-STD	068-0500-1DEP	068-0500-1DENP	068-0500-2DEP
<b>TF560/4-1AC</b>	APK560SI/003	062-003	241B-0560-BELL	019-0560-STD	068-0560-1DEP	068-0560-1DENP	068-0560-2DEP
<b>TF630/4-1AC</b>	APK630SI/003	062-003	241B-0630-BELL	019-0630-STD	068-0630-1DEP	068-0630-1DENP	068-0630-2DEP

Product Code	Flanged Silencer 2D Unpodded	Impeller Side Guard	Matching Flanges (each)	Mounting Feet (each)	Standard Ambient Flexible Connector (each)	Transformer Controller	Wiring Diagram
<b>TF450/4-1AC</b>	068-0450-2DENP	078C-0450-C	061B-0450	060B-0450	063-0450-MAN150	149-TC110	152-502
<b>TF500/4-1AC</b>	068-0500-2DENP	078C-0500-C	061B-0500	060B-0500	063-0500-MAN150	149-TC110	152-502
<b>TF560/4-1AC</b>	068-0560-2DENP	078C-0560-C	061B-0560	060B-0560	063-0560-MAN150	149-TC110	152-510
<b>TF630/4-1AC</b>	068-0630-2DENP	078C-0630-C	061B-0630	060B-0630	063-0630-MAN200	-	152-510

\*Consists of Flexible Connections, Matching Flanges, AV Mounts and Mounting Feet.

\*\*Supplied as a single mount.

# TURBOFLOW TF



## Accessories

### Three Phase

Product Code	Ancillary Pack*	AV Mounts (set of 4)**	Bell Mouth Inlet	Eitadrive Variable Speed Drive 3PH-3PH IP66	Eitadrive Variable Speed Drive 3PH-3PH IP20	Eitadrive Variable Speed Drive 1PH-3PH IP66
<a href="#">TF450/4-3AC</a>	APK450SI/003	062-003	241B-0450-BELL	149-ODE3-14075-3KA1Y	149-ODE3-14075-3KA12	149-ODE3-12075-1KB1Y
<a href="#">TF500/4A-3AC</a>	APK500SI/003	062-003	241B-0500-BELL	149-ODE3-14150-3KA1Y	149-ODE3-14150-3KA12	149-ODE3-12150-1KB1Y
<a href="#">TF500/4B-3AC</a>	APK500SI/003	062-003	241B-0500-BELL	149-ODE3-14150-3KA1Y	149-ODE3-14150-3KA12	149-ODE3-12150-1KB1Y
<a href="#">TF560/4-3AC</a>	APK560SI/003	062-003	241B-0560-BELL	149-ODE3-14150-3KA1Y	149-ODE3-14150-3KA12	149-ODE3-12150-1KB1Y
<a href="#">TF630/4-3AC</a>	APK630SI/003	062-003	241B-0630-BELL	149-ODE3-24220-3KA4Y	149-ODE3-24220-3KA42	149-ODE3-22220-1KB4Y

Product Code	Eitadrive Variable Speed Drive 1PH-3PH IP20	Flanged Damper	Flanged Silencer 1D Podded	Flanged Silencer 1D Unpodded	Flanged Silencer 2D Podded	Flanged Silencer 2D Unpodded
<a href="#">TF450/4-3AC</a>	149-ODE3-12075-1KB12	019-0450-STD	068-0450-1DEP	068-0450-1DENP	068-0450-2DEP	068-0450-2DENP
<a href="#">TF500/4A-3AC</a>	149-ODE3-12150-1KB12	019-0500-STD	068-0500-1DEP	068-0500-1DENP	068-0500-2DEP	068-0500-2DENP
<a href="#">TF500/4B-3AC</a>	149-ODE3-12150-1KB12	019-0500-STD	068-0500-1DEP	068-0500-1DENP	068-0500-2DEP	068-0500-2DENP
<a href="#">TF560/4-3AC</a>	149-ODE3-12150-1KB12	019-0560-STD	068-0560-1DEP	068-0560-1DENP	068-0560-2DEP	068-0560-2DENP
<a href="#">TF630/4-3AC</a>	149-ODE3-22220-1KB42	019-0630-STD	068-0630-1DEP	068-0630-1DENP	068-0630-2DEP	068-0630-2DENP

Product Code	Impeller Side Guard	Matching Flanges (each)	Mounting Feet (each)	Standard Ambient Flexible Connector (each)	Wiring Diagram
<a href="#">TF450/4-3AC</a>	078C-0450-C	061B-0450	060B-0450	063-0450-MAN150	152-600
<a href="#">TF500/4A-3AC</a>	078C-0500-C	061B-0500	060B-0500	063-0500-MAN150	152-600
<a href="#">TF500/4B-3AC</a>	078C-0500-C	061B-0500	060B-0500	063-0500-MAN150	152-600
<a href="#">TF560/4-3AC</a>	078C-0560-C	061B-0560	060B-0560	063-0560-MAN150	152-600
<a href="#">TF630/4-3AC</a>	078C-0630-C	061B-0630	060B-0630	063-0630-MAN200	152-600



### Fan & inverter packages available.

Please contact Elta Fans for more information.

\*Consists of Flexible Connections, Matching Flanges, AV Mounts and Mounting Feet.

\*\*Supplied as a single mount.





## Building Services

Tel **+44 (0) 1384 275800**  
Fax **+44 (0) 1384 275810**  
Email **info@eltafans.co.uk**

46 Third Avenue, Pensnett Trading Estate, Kingswinford,  
West Midlands, DY6 7US United Kingdom

## Applied Technology & Building Services Export

Tel **+44 (0) 1489 566500**  
Fax **+44 (0) 1489 566555**  
Email **at@eltafans.co.uk / export@eltafans.co.uk**

17 Barnes Wallis Road, Segensworth East Industrial Estate,  
Fareham, Hampshire, PO15 5ST United Kingdom

**eltafans.com**

TF-07-2022 Issue D



BS EN ISO 9001:2015 FM 556465

