



# FTDF SERIES

DWDI Forward-curved  
Centrifugal Fans

# FTDF SERIES

## Product Overview

### Description

FTDF series of DWDF forward-curved centrifugal fans

Licensed to bear the AMCA Seal for Sound and Air performance and Fan Efficiency Grade (FEG)

15 models ranging from 200mm to 1000mm

Air volume flow rates from 1,000m<sup>3</sup>/h to 100,000m<sup>3</sup>/h

Belt driven

Operating ambient temperature of up to +40°C

Available in 3 versions: Standard base (SB), Standard (S) and Heavy duty (H)

Also available in twin-fan configuration for selected sizes

Each fan comprises a housing unit, impeller, bearing and shaft

If motor is required IP55 protection is standard, Class F insulation with Class B temperature rise

### Features

Housing is made of galvanised steel

Advanced aerodynamic forward curved impeller is made of high-grade galvanised steel

Inlet cones are fitted to side plates

Designed to achieve highly aerodynamic inlet conditions

Frames for S version are made of galvanised angled iron

H version has additional steel plates welded to angled iron frames for enhanced rigidity and strength

Fan shaft is made of carbon steel and coated to resist corrosion

Bearings are of high quality to minimise fan noise

High efficiency & low power consumption

Outlet flange and thermal protection for motors are available upon request

### Construction

Scroll is joint to the side plates through spot welds or Pittsburgh seam

High strength impellers balanced to ANSI/AMCA 204-05

Shafts undergo stress relief and heat treatment process and are designed to operate at 1.4 times the fan maximum running speed

Bearings are either sealed and maintenance free or have lubrication fittings

Can be built to suit one of the four discharge positions



### Product Coding

Code	Reference
FTDF	DWDF forward curved centrifugal fan
560	Nominal Diameter (mm)
-	
ACW	Direction of rotation (see Fig.1)
90	Discharge position (see Fig.1)
-	
	Type of construction: SB : Standard base S : Standard H : Heavy Duty
e.g.	FTDF560-ACW90-H

### Typical applications

Central air-conditioning system

Air purification systems and a variety of ventilation applications

Not suitable for corrosive, inflammable, toxic or explosive environments

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Elta Fans Malaysia Sdn Bhd certifies that the FTDF Series fans 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 AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program. All the Centrifugal Fans described herein are licensed to bear the AMCA Seal, and their certified ratings are shown on pages 5 through 19.



Fig 1: Discharge positions and Direction of rotation

	0 °	90 °	180 °	270 °
ACW Anticlockwise				
CW Clockwise				

Note: Direction of rotation is determined from the drive side

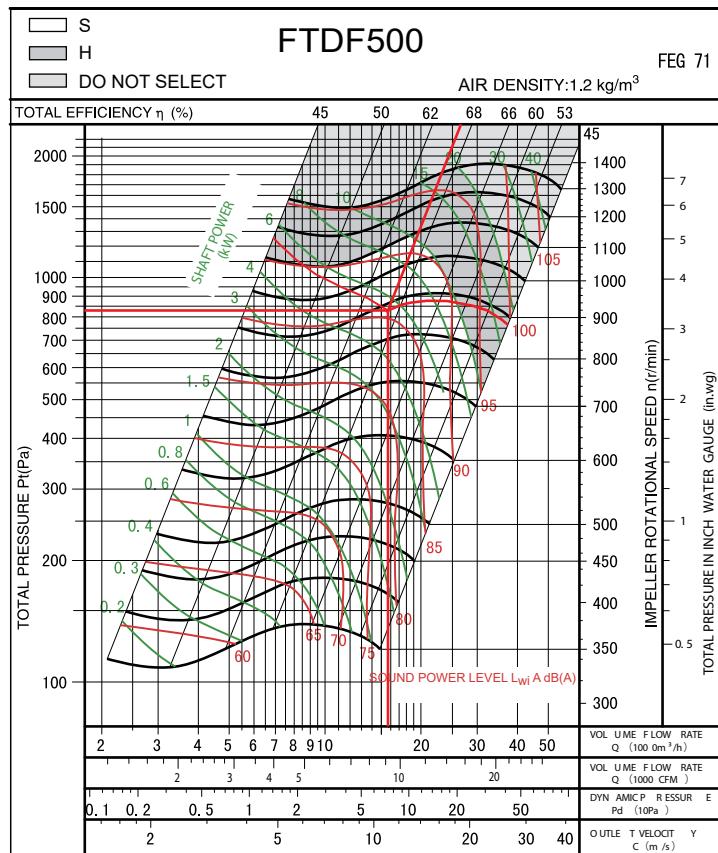
Fig 2: Types of construction

Version	Fan Size	Fan Diagram
SB	200-250	
S	200-710	
H	280-1000	
S2	280-500	
H2	355-500	

# FTDF SERIES

## How to Select

Model	FTDF500H
Volume	$q_v = 15700 \text{ m}^3/\text{h}$
Total Pressure	$P_{if} = 839 \text{ Pa}$
Dynamic Pressure	$P_{df} = 109 \text{ Pa}$
Outlet Velocity	$C = 13.5 \text{ m/s}$
Fan Speed	$n = 980 \text{ r/min}$
Shaft Power	$P_{sh} = 5.34 \text{ kW}$
A Sound Power Level	$L_{wiA} = 86 \text{ dB(A)}$
Total Efficiency	$\eta_{tf} = 68.5 \%$



### Motor selection

The power ( $P_{sh}$ ) on the performance chart refers to the shaft power of the fan.

The rated power of the drive motor equals the total required shaft input multiplied by the safety factor :  $P = P_{sh} \times K + \eta_{me}$   
The value of mechanical drive efficiency can be obtained from Table 1.

The required safety factors is provided in Table 2.

(Table 1)

Drive type	$\eta_{me}$
Motor Direct	1
Coupling Direct	0.98
Belt	0.95

(Table 2)

Power of electric motor (Kw)	Value k
$\leq 0.75 \text{ Kw}$	1.3
$\leq 2.2 \text{ Kw}$	1.2
$\leq 7.5 \text{ Kw}$	1.15
$\geq 11 \text{ Kw}$	1.1

### The twin fan performance calculation

Volume	x 2	RPM	x 1.05
Shaft Power	x 2.15	Noice	+ 3 dB

Performance of twin ventilators are not licensed by AMCA International.

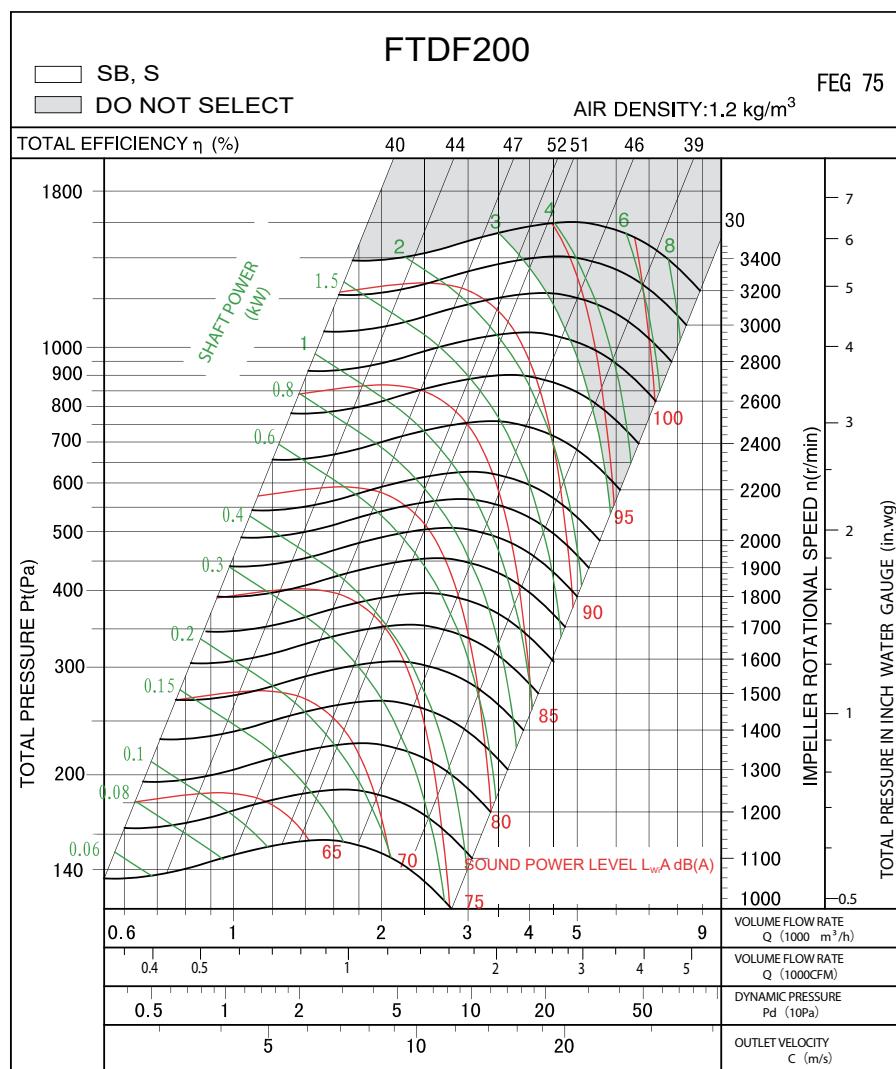
# FTDF200

## FEG75

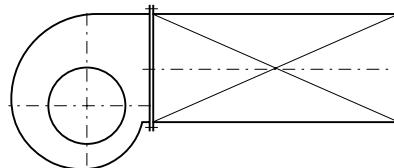
### Technical Data & Performance Curve

Wheel diameter	$D = 200 \text{ mm}$	Fan weight	$m = 9.4 \text{ kg}$
Moment of inertia	$J = 0.015 \text{ kg m}^2$	Speed limit	$n_{\max} = 3200 \text{ r/min}$

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet  $L_{wA}$  sound power levels for installation type B: free inlet, ducted outlet.



Measured in installation B according to AMCA Standard 210:



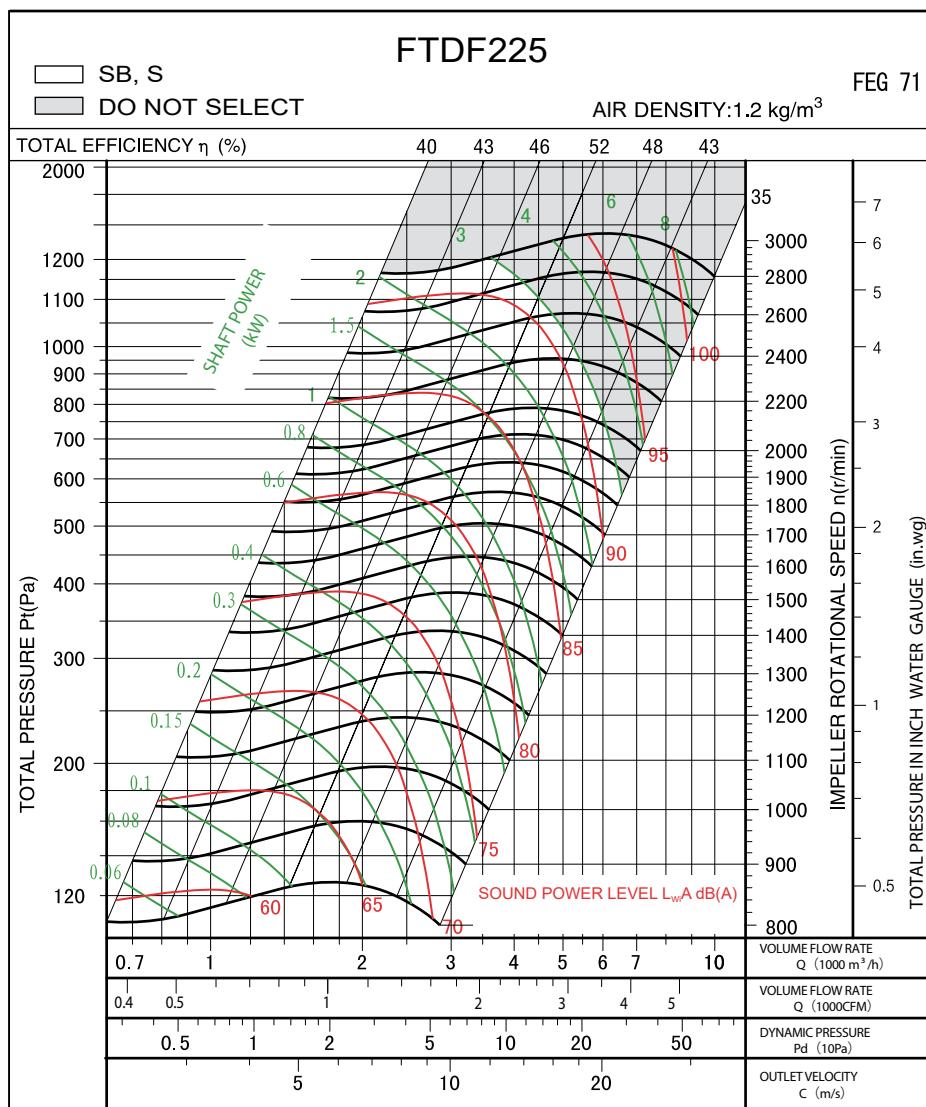
# FTDF225

## FEG71

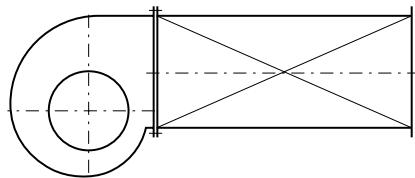
### Technical Data & Performance Curve

Wheel diameter	$D = 225 \text{ mm}$	Fan weight	$m = 10.8 \text{ kg}$
Moment of inertia	$J = 0.021 \text{ kg}\cdot\text{m}^2$	Speed limit	$n_{\max} = 2800 \text{ r/min}$

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet  $L_{wA}$  sound power levels for installation type B: free inlet, ducted outlet.



Measured in installation B according to AMCA Standard 210:



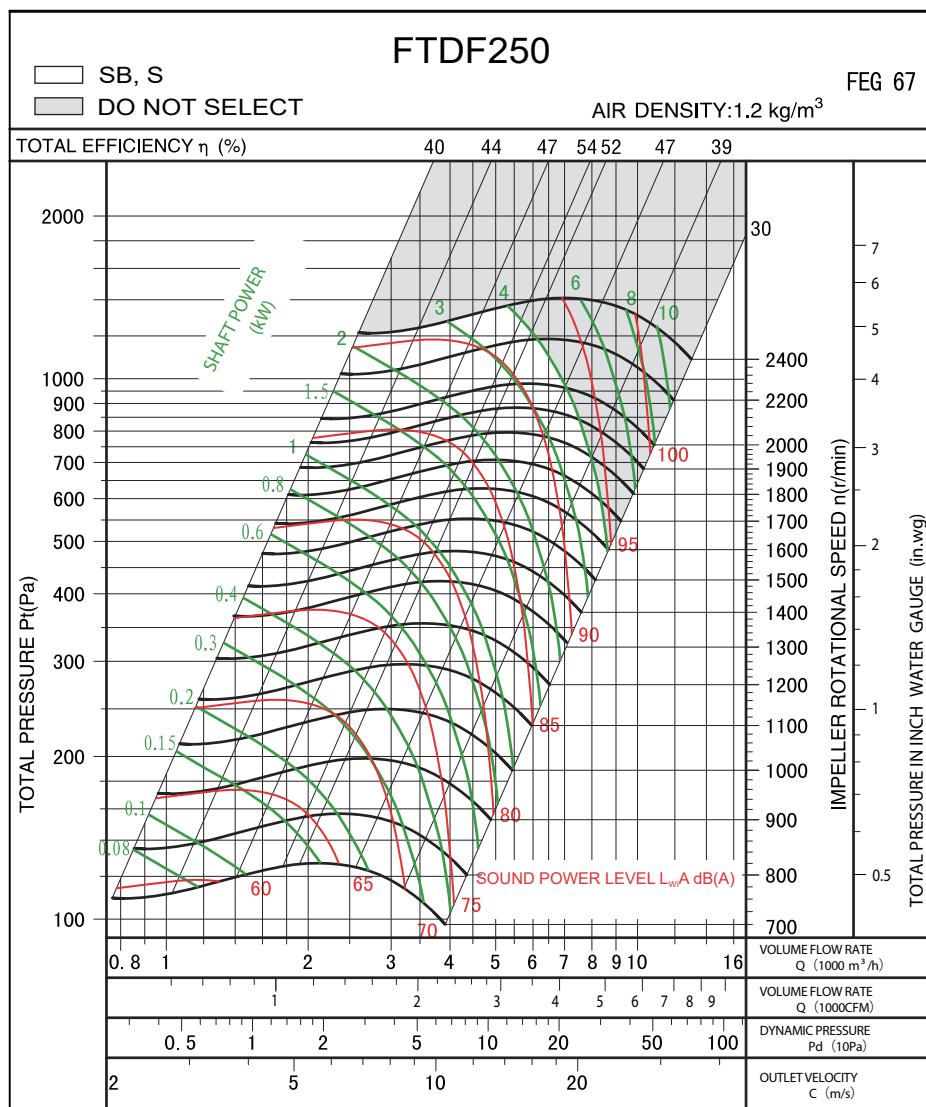
# FTDF250

## FEG67

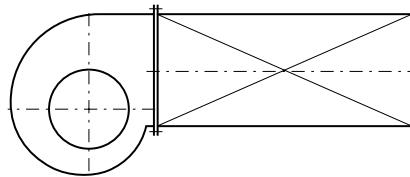
### Technical Data & Performance Curve

Wheel diameter	$D = 250 \text{ mm}$	Fan weight	$m = 13 \text{ kg}$
Moment of inertia	$J = 0.038 \text{ kg}\cdot\text{m}^2$	Speed limit	$n_{\max} = 2400 \text{ r/min}$

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet  $L_{wA}$  sound power levels for installation type B: free inlet, ducted outlet.



Measured in installation B according to AMCA Standard 210:



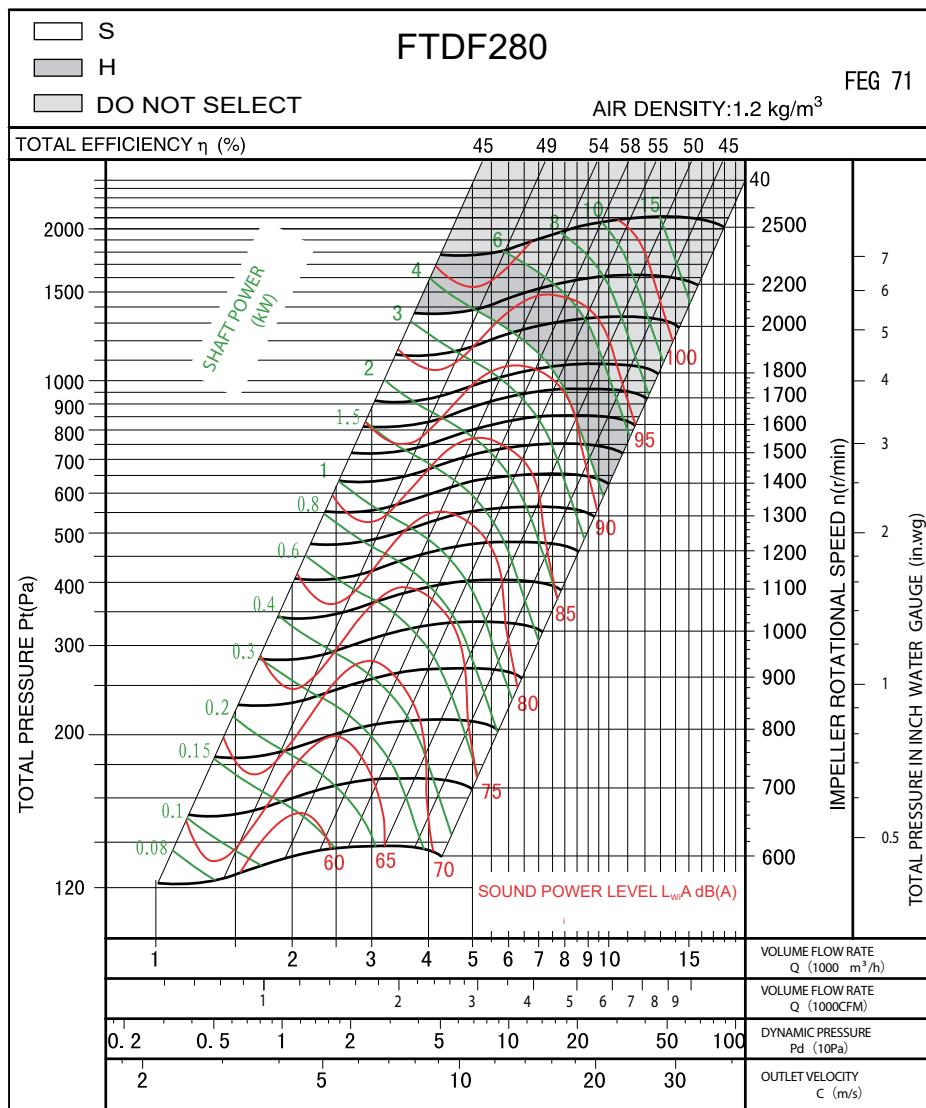
# FTDF280

## FEG71

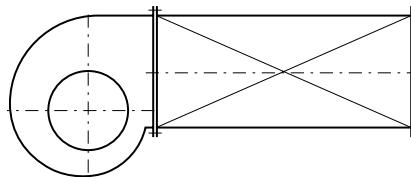
### Technical Data & Performance Curve

Wheel diameter	$D = 280 \text{ mm}$	Fan weight	$m = 29 \text{ kg}$
Moment of inertia	$J = 0.06 \text{ kg}\cdot\text{m}^2$	Speed limit	$n_{\max} = 2500 \text{ r/min}$

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet  $L_wA$  sound power levels for installation type B: free inlet, ducted outlet.



Measured in installation B according to AMCA Standard 210:



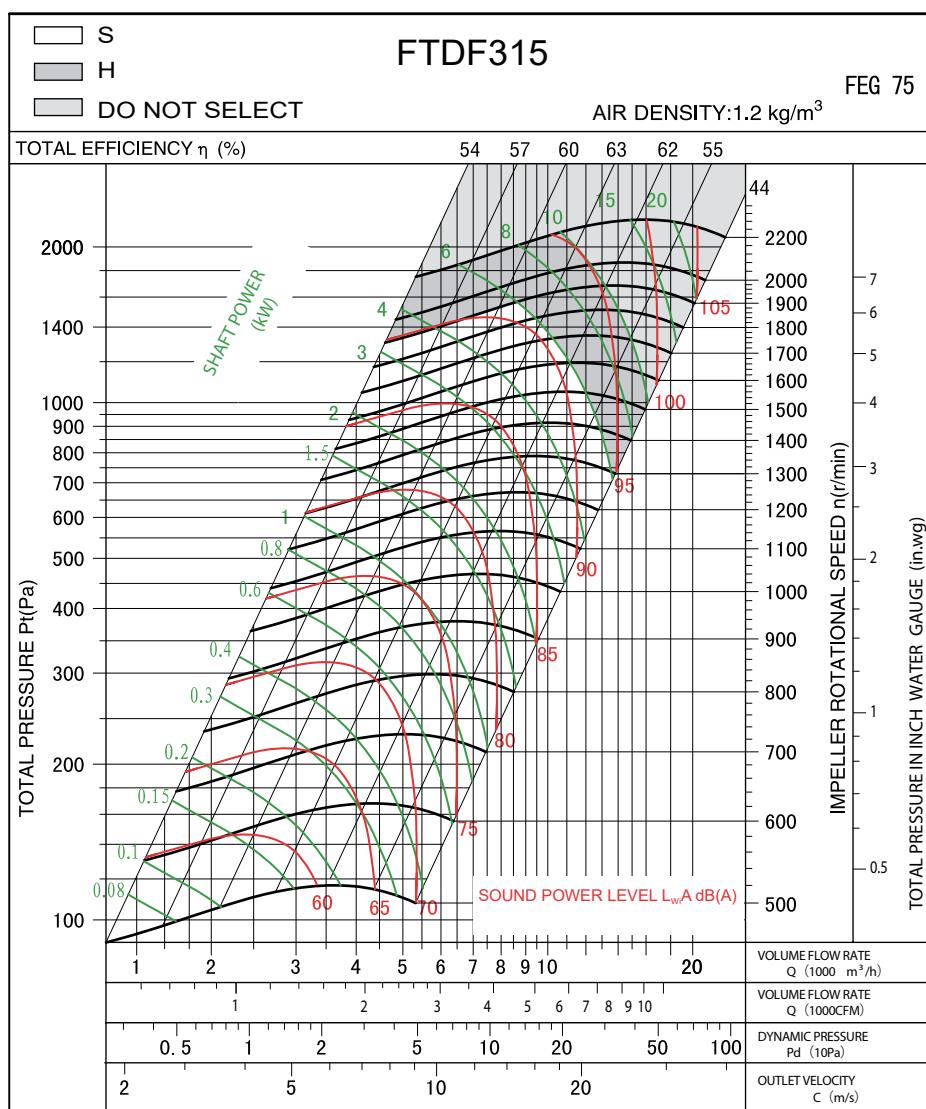
# FTDF315

## FEG75

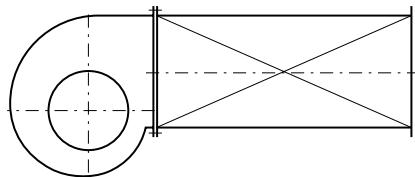
### Technical Data & Performance Curve

Wheel diameter	$D = 315 \text{ mm}$	Fan weight	$m = 35 \text{ kg}$
Moment of inertia	$J = 0.1 \text{ kg}\cdot\text{m}^2$	Speed limit	$n_{\max} = 2200 \text{ r/min}$

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet  $L_wA$  sound power levels for installation type B: free inlet, ducted outlet.



Measured in installation B according to AMCA Standard 210:



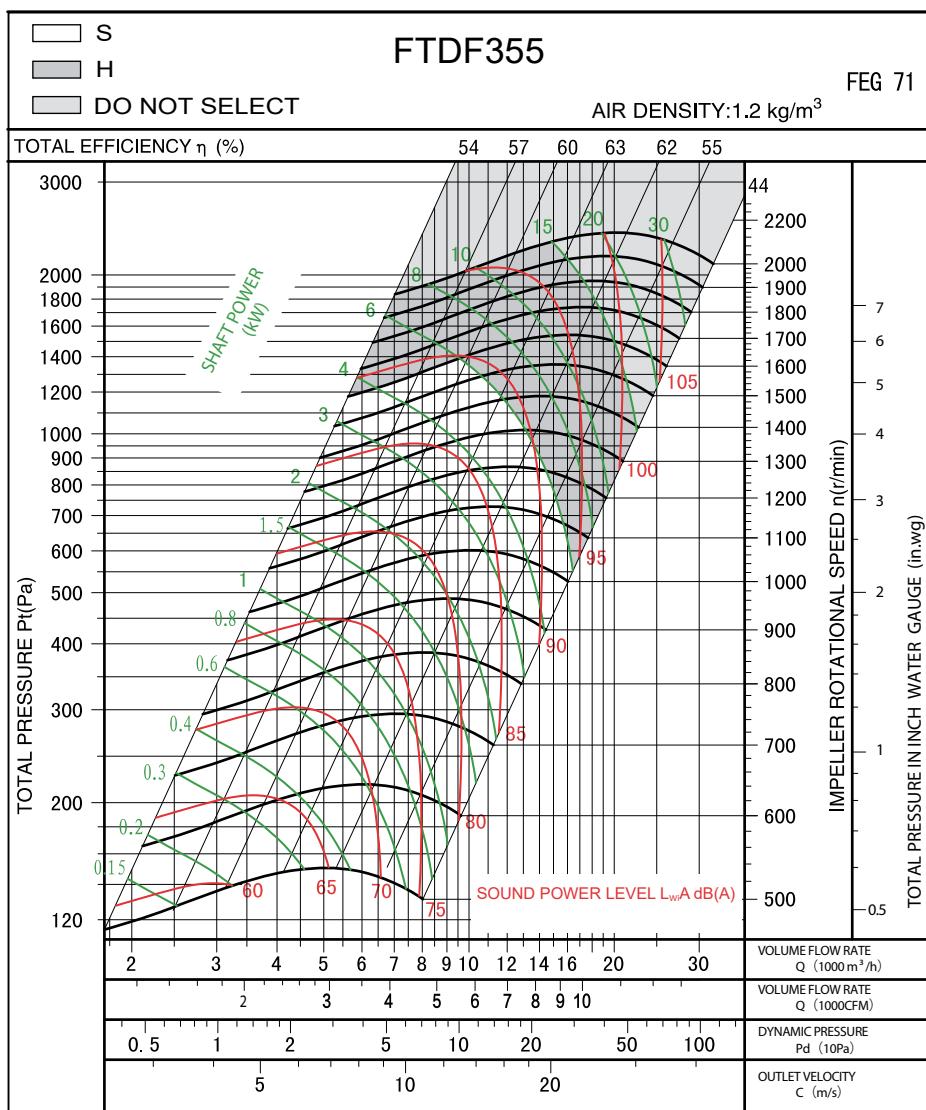
# FTDF355

## FEG71

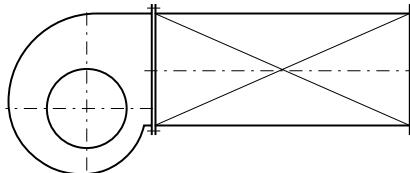
### Technical Data & Performance Curve

Wheel diameter	$D = 355 \text{ mm}$	Fan weight	$m = 42 \text{ kg}$
Moment of inertia	$J = 0.15 \text{ kg}\cdot\text{m}^2$	Speed limit	$n_{\max} = 2000 \text{ r/min}$

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet  $L_{wA}$  sound power levels for installation type B: free inlet, ducted outlet.



Measured in installation B according to AMCA Standard 210:



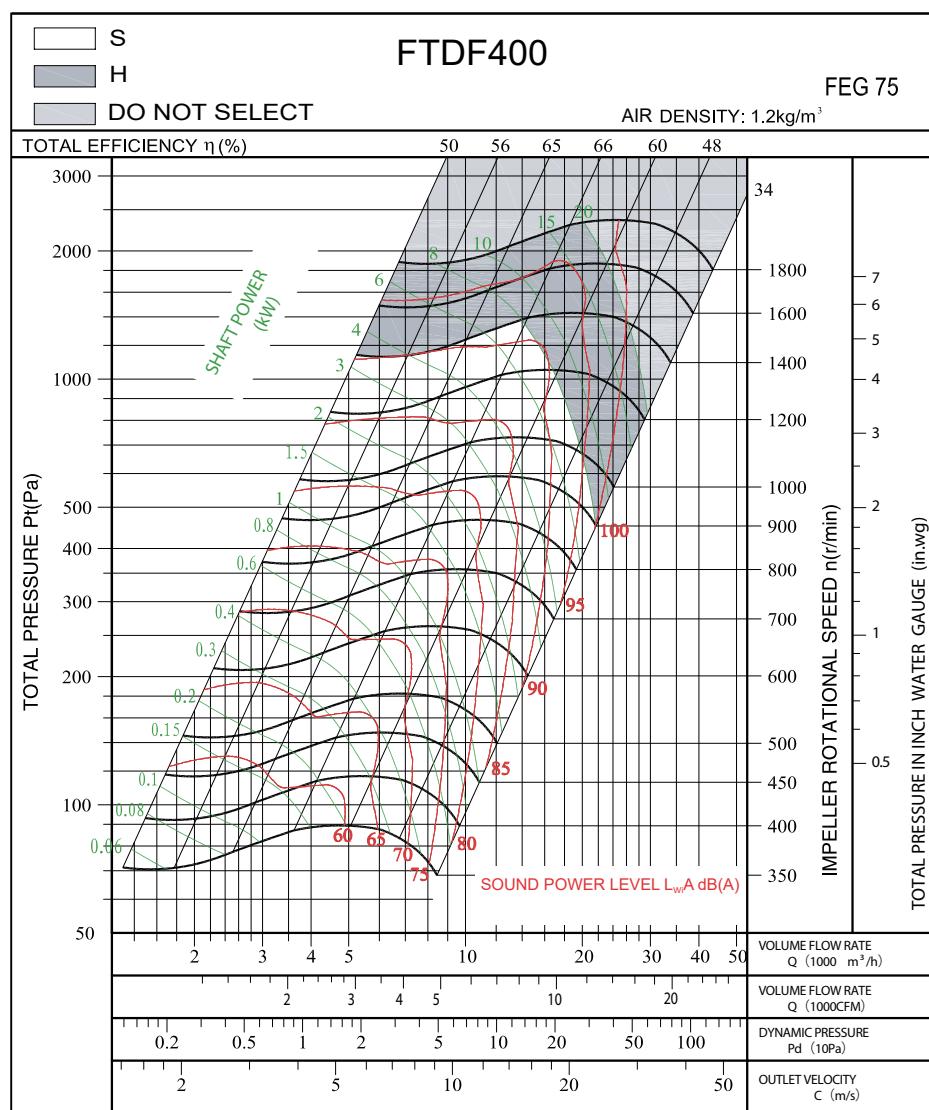
# FTDF400

## FEG75

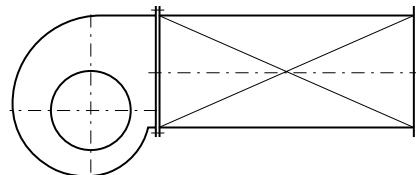
### Technical Data & Performance Curve

Wheel diameter	$D = 400 \text{ mm}$	Fan weight	$m = 57 \text{ kg}$
Moment of inertia	$J = 0.31 \text{ kg}\cdot\text{m}^2$	Speed limit	$n_{\max} = 1800 \text{ r/min}$

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet  $L_{WA}$  sound power levels for installation type B: free inlet, ducted outlet.



Measured in installation B according to AMCA Standard 210:

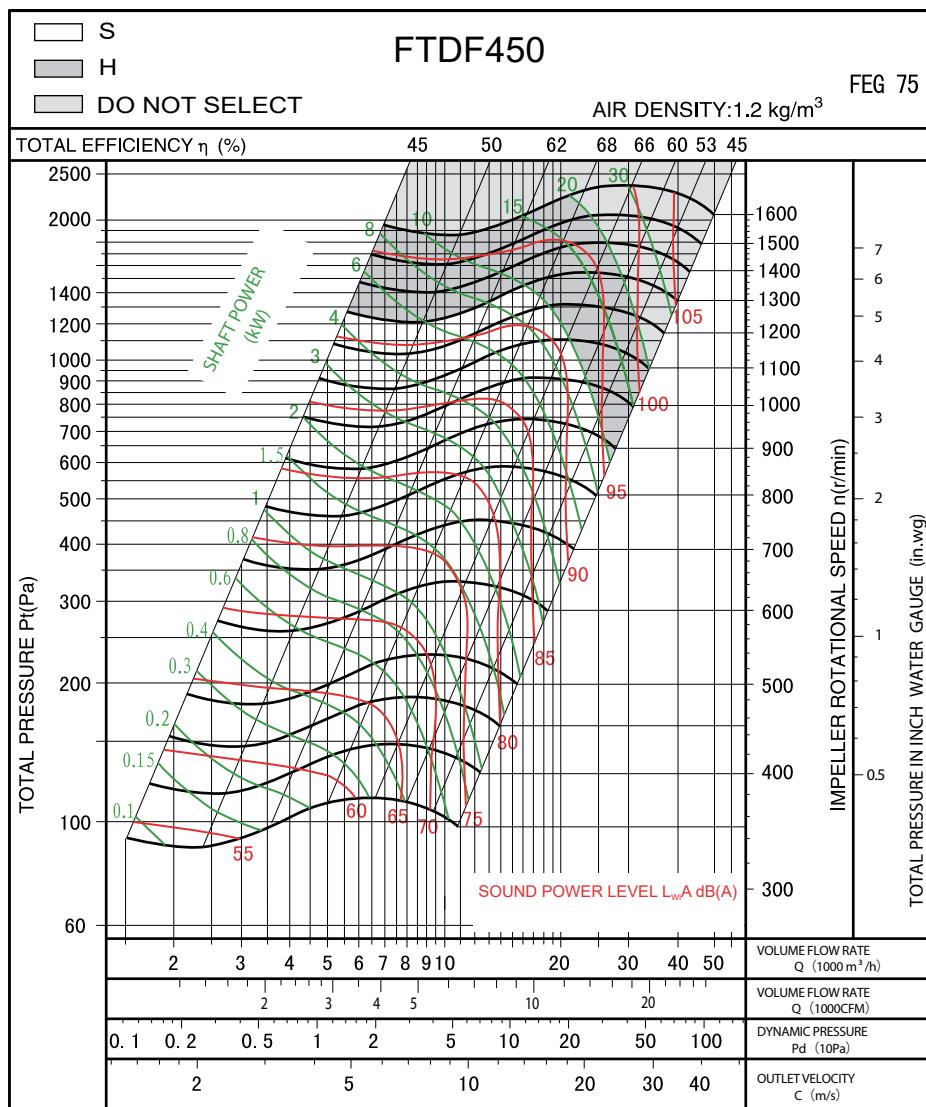


# FTDF450 FEG75

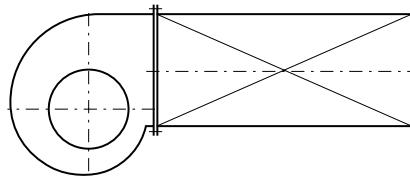
## Technical Data & Performance Curve

Wheel diameter	$D = 450 \text{ mm}$	Fan weight	$m = 72 \text{ kg}$
Moment of inertia	$J = 0.48 \text{ kg}\cdot\text{m}^2$	Speed limit	$n_{\max} = 1600 \text{ r/min}$

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet  $L_wA$  sound power levels for installation type B: free inlet, ducted outlet.



Measured in installation B according to AMCA Standard 210:



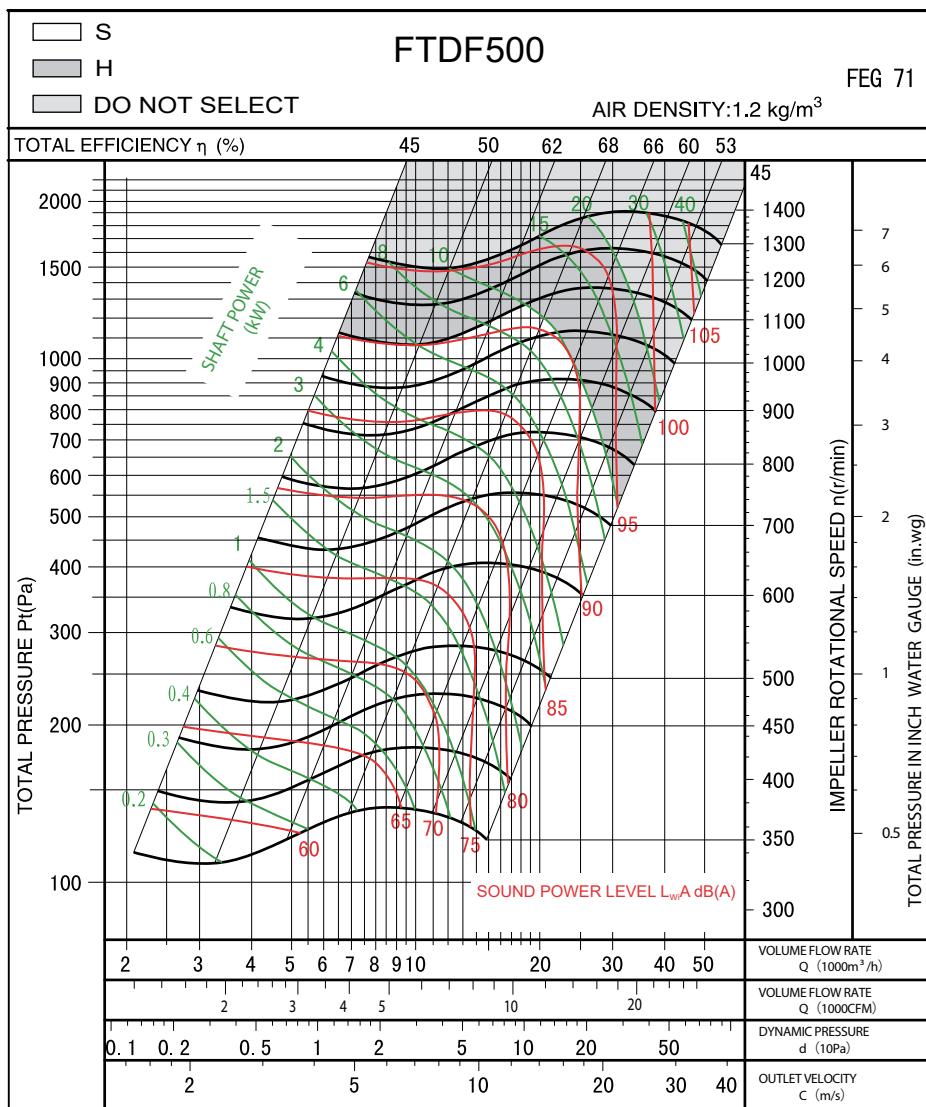
# FTDF500

## FEG71

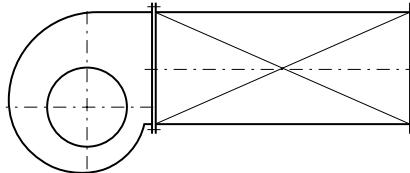
### Technical Data & Performance Curve

Wheel diameter	$D = 500 \text{ mm}$	Fan weight	$m = 92 \text{ kg}$
Moment of inertia	$J = 0.9 \text{ kg}\cdot\text{m}^2$	Speed limit	$n_{\max} = 1300 \text{ r/min}$

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet  $L_wA$  sound power levels for installation type B: free inlet, ducted outlet.



Measured in installation B according to AMCA Standard 210:



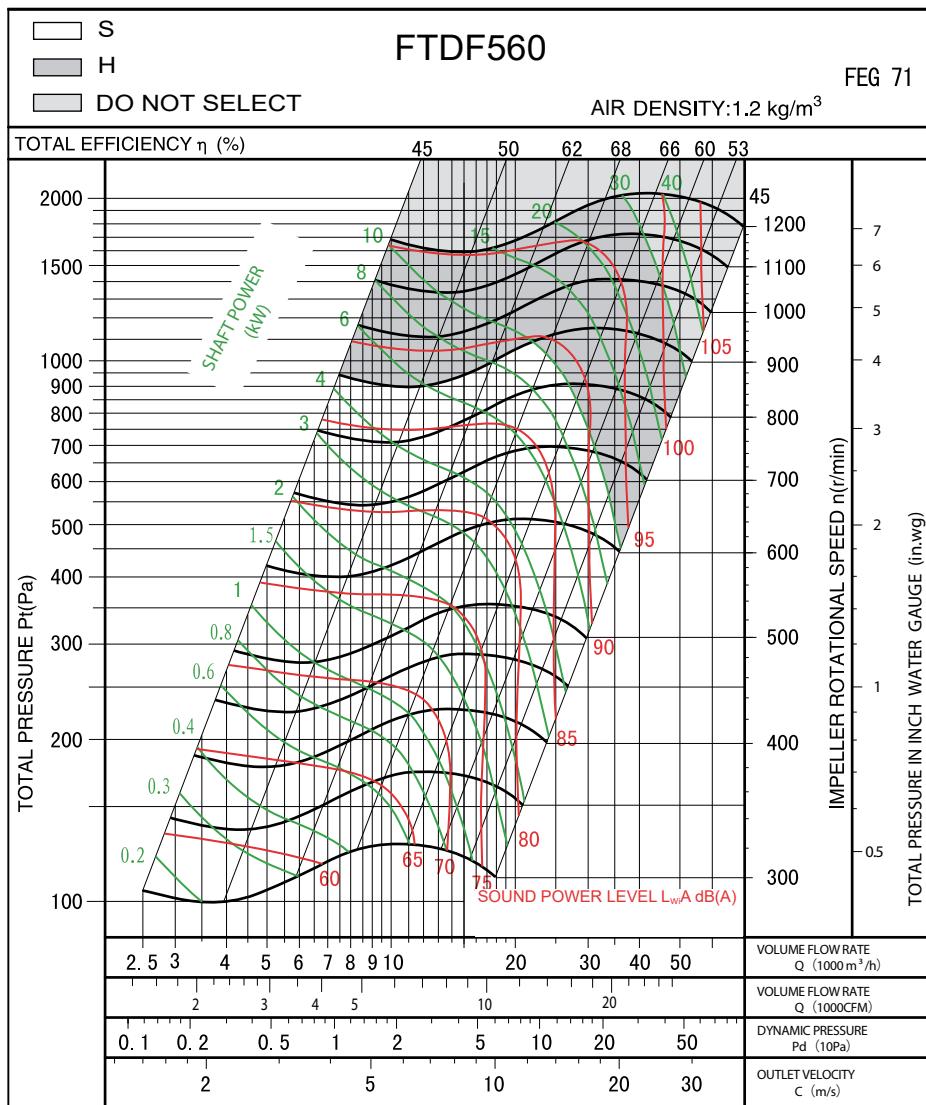
# FTDF560

## FEG71

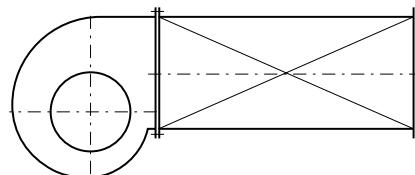
### Technical Data & Performance Curve

Wheel diameter	$D = 560 \text{ mm}$	Fan weight	$m = 160 \text{ kg}$
Moment of inertia	$J = 1.66 \text{ kg}\cdot\text{m}^2$	Speed limit	$n_{\max} = 1200 \text{ r/min}$

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet  $L_{wA}$  sound power levels for installation type B: free inlet, ducted outlet.



Measured in installation B according to AMCA Standard 210:



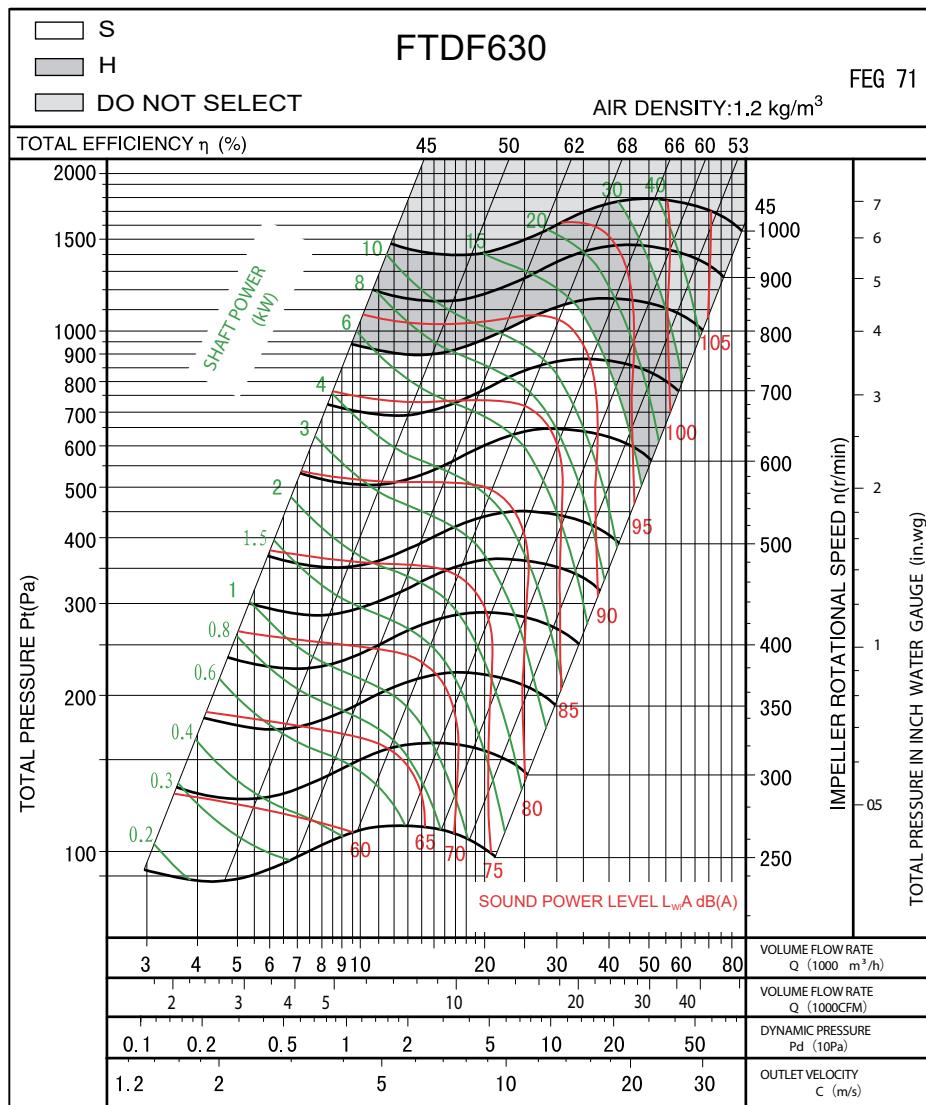
# FTDF630

## FEG71

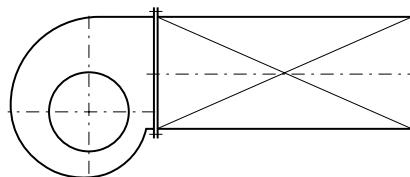
### Technical Data & Performance Curve

Wheel diameter	$D = 630 \text{ mm}$	Fan weight	$m = 185 \text{ kg}$
Moment of inertia	$J = 2.15 \text{ kg}\cdot\text{m}^2$	Speed limit	$n_{\max} = 1000 \text{ r/min}$

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet  $L_{WA}$  sound power levels for installation type B: free inlet, ducted outlet.



Measured in installation B according to AMCA Standard 210:



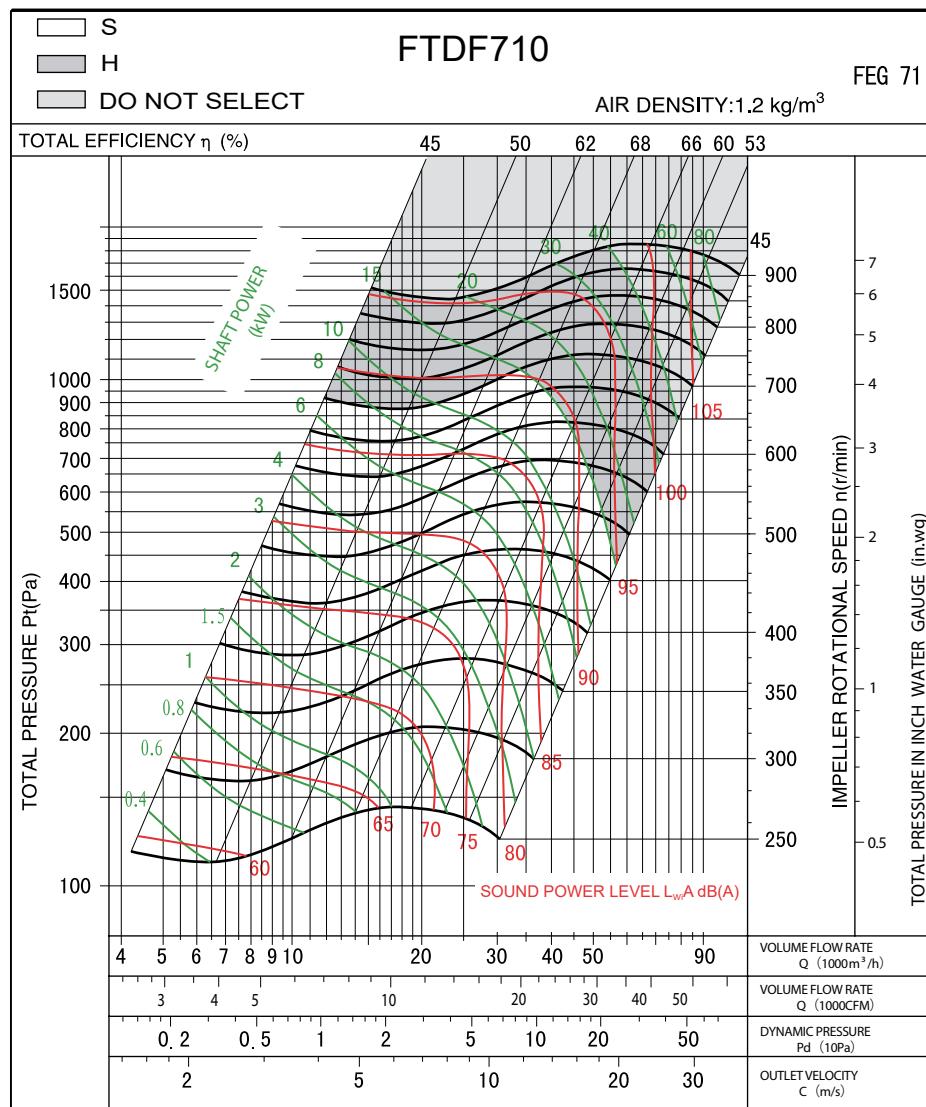
# FTDF710

## FEG71

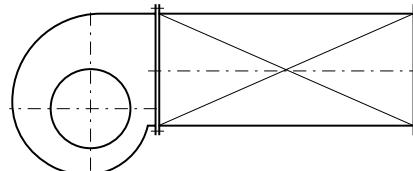
### Technical Data & Performance Curve

Wheel diameter	$D = 710 \text{ mm}$	Fan weight	$m = 240 \text{ kg}$
Moment of inertia	$J = 4.02 \text{ kg}\cdot\text{m}^2$	Speed limit	$n_{\max} = 900 \text{ r/min}$

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet  $L_{WA}$  sound power levels for installation type B: free inlet, ducted outlet.



Measured in installation B according to AMCA Standard 210:



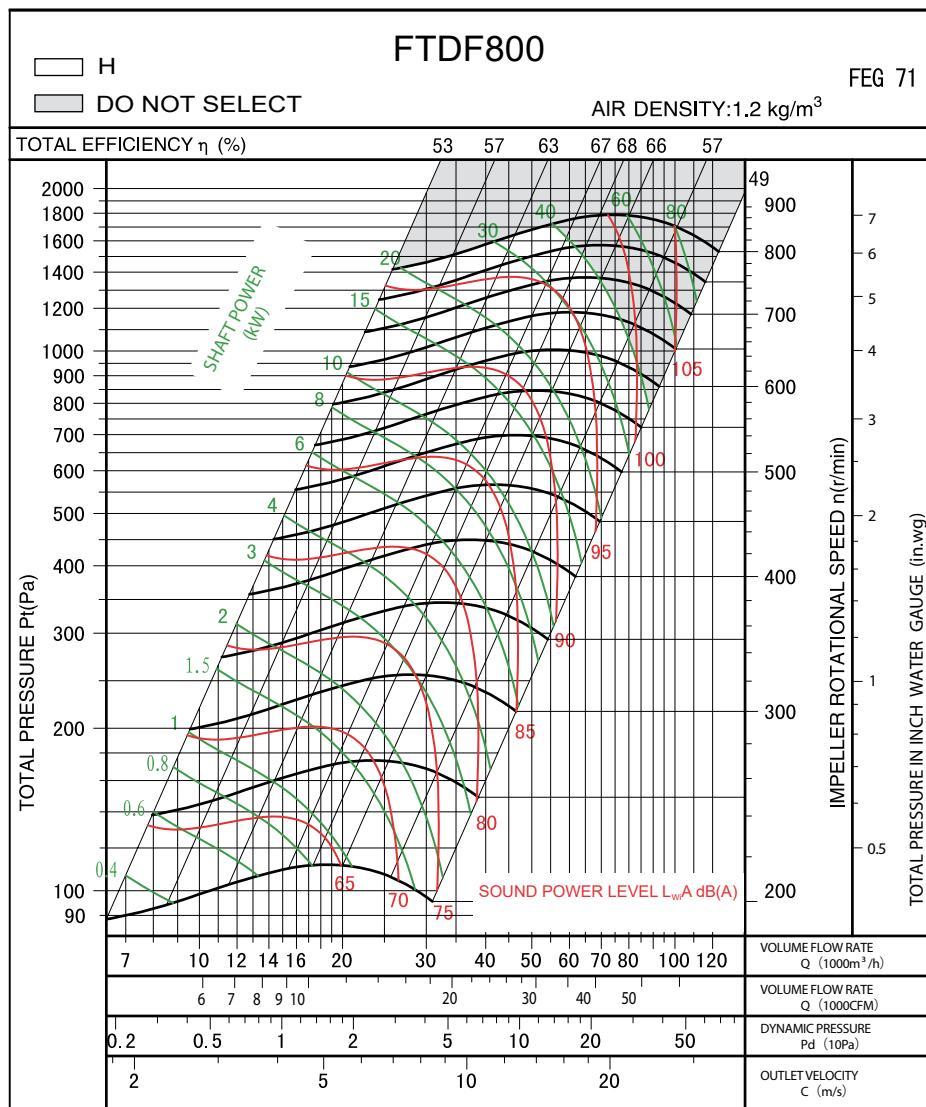
# FTDF800

## FEG71

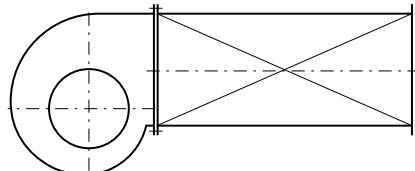
### Technical Data & Performance Curve

Wheel diameter	$D = 800 \text{ mm}$	Fan weight	$m = 290 \text{ kg}$
Moment of inertia	$J = 8.31 \text{ kg}\cdot\text{m}^2$	Speed limit	$n_{\max} = 800 \text{ r/min}$

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet  $L_{wA}$  sound power levels for installation type B: free inlet, ducted outlet.



Measured in installation B according to AMCA Standard 210:



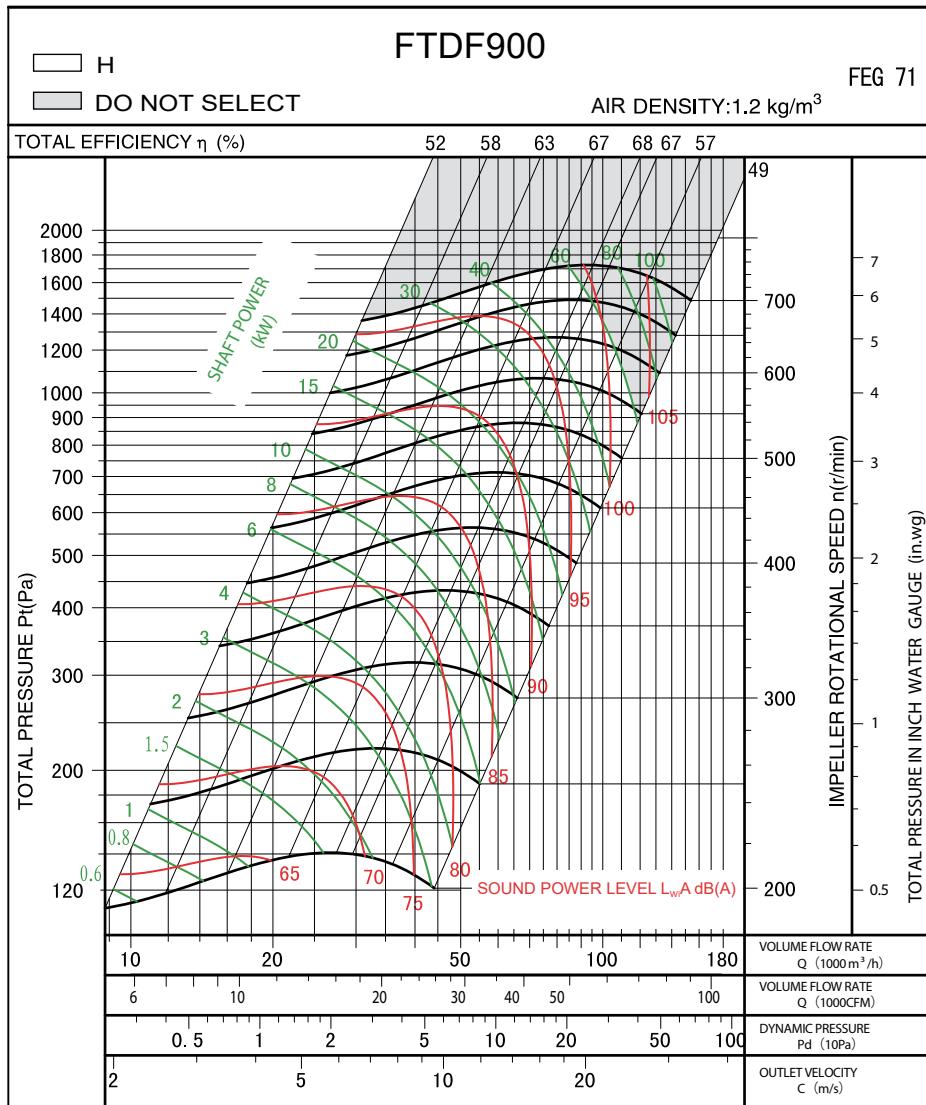
# FTDF900

## FEG71

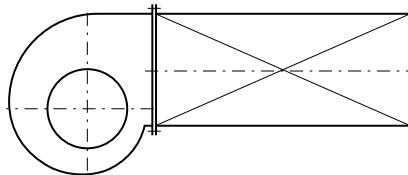
### Technical Data & Performance Curve

Wheel diameter	$D = 900 \text{ mm}$	Fan weight	$m = 365 \text{ kg}$
Moment of inertia	$J = 12.7 \text{ kg}\cdot\text{m}^2$	Speed limit	$n_{\max} = 700 \text{ r/min}$

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet  $L_{w,A}$  sound power levels for installation type B: free inlet, ducted outlet.



Measured in installation B according to AMCA Standard 210:



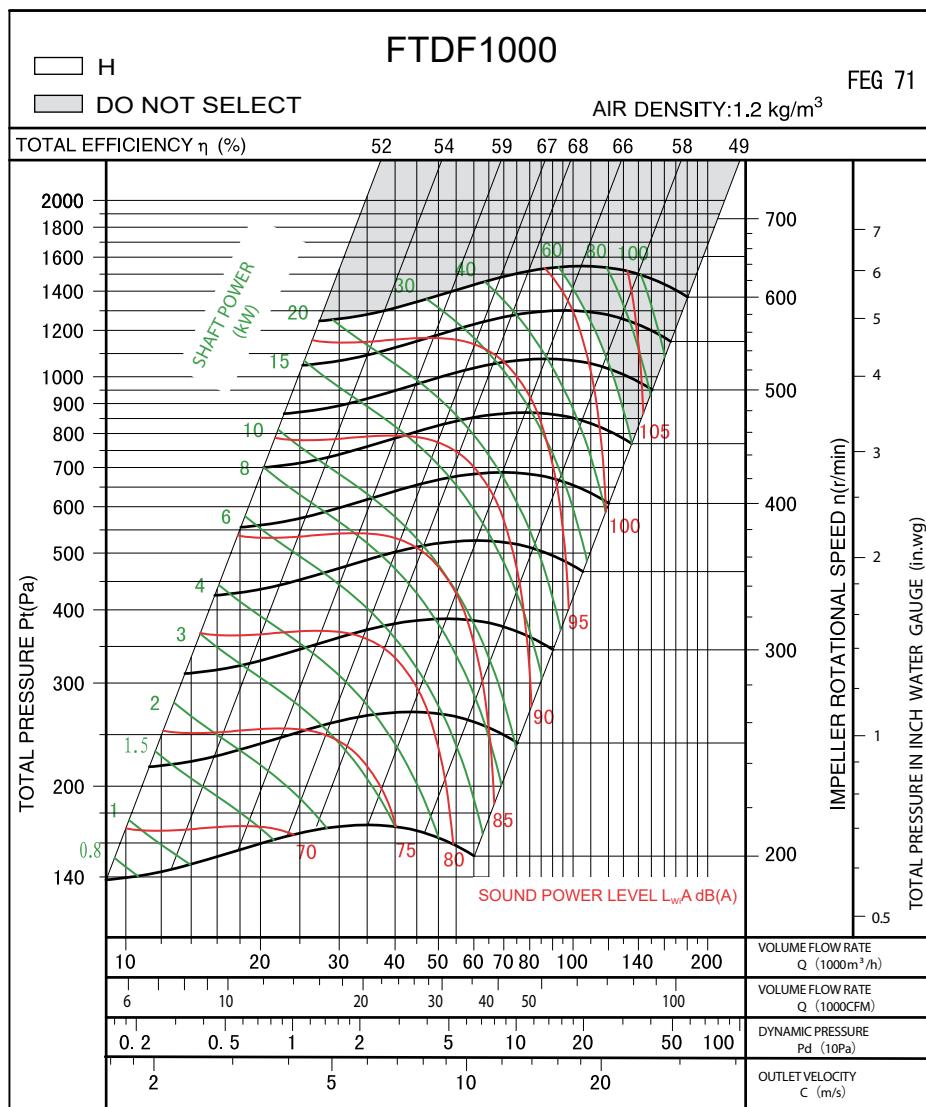
# FTDF1000

## FEG71

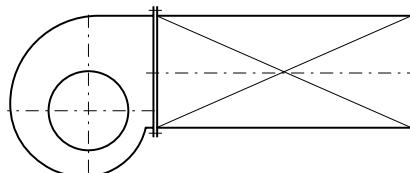
### Technical Data & Performance Curve

Wheel diameter	$D = 1000 \text{ mm}$	Fan weight	$m = 480 \text{ kg}$
Moment of inertia	$J = 18.9 \text{ kg}\cdot\text{m}^2$	Speed limit	$n_{\max} = 600 \text{ r/min}$

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet  $L_{wA}$  sound power levels for installation type B: free inlet, ducted outlet.



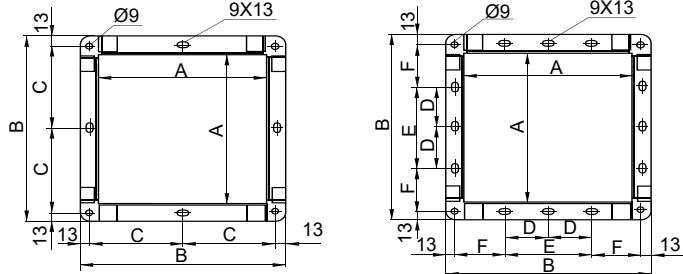
Measured in installation B according to AMCA Standard 210:



# FTDF SERIES

## Dimensional Data

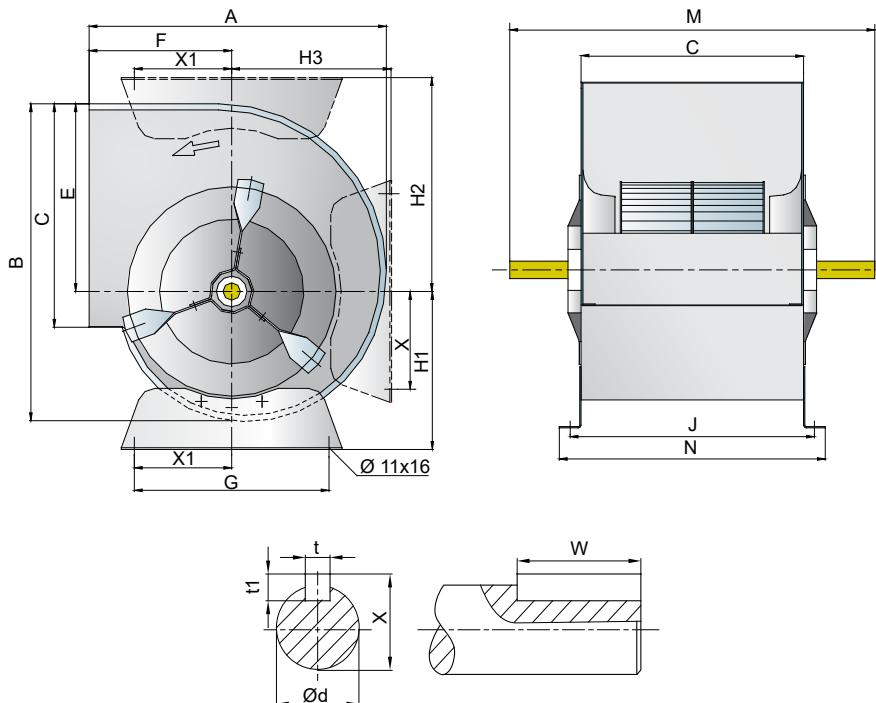
### Outlet Flange (Ancillary)



Unit : mm

Dim.	Size	200	225	250	280	315	355	400	450	500	560	630	710	800	900	1000
A	256	288	322	361	404	453	507	569	638	715	801	898	1007	1130	1267	
B	296	328	362	417	460	509	563	625	694	771	857	954	1063	1186	1323	
C	138	154	171	195.5	217	241.5	\	\	\	\	\	\	\	\	\	\
D	\	\	\	\	\	\	\	\	\	\	\	200	250	300	350	
E	\	\	\	\	\	\	200	200	250	250	300	400	500	600	700	
F	\	\	\	\	\	\	168.5	199.5	209	247.5	265.5	264	268.5	280	298.5	

### FTDF-SB



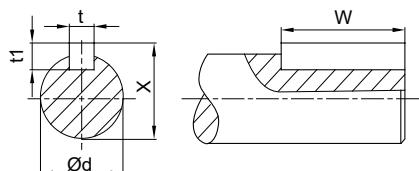
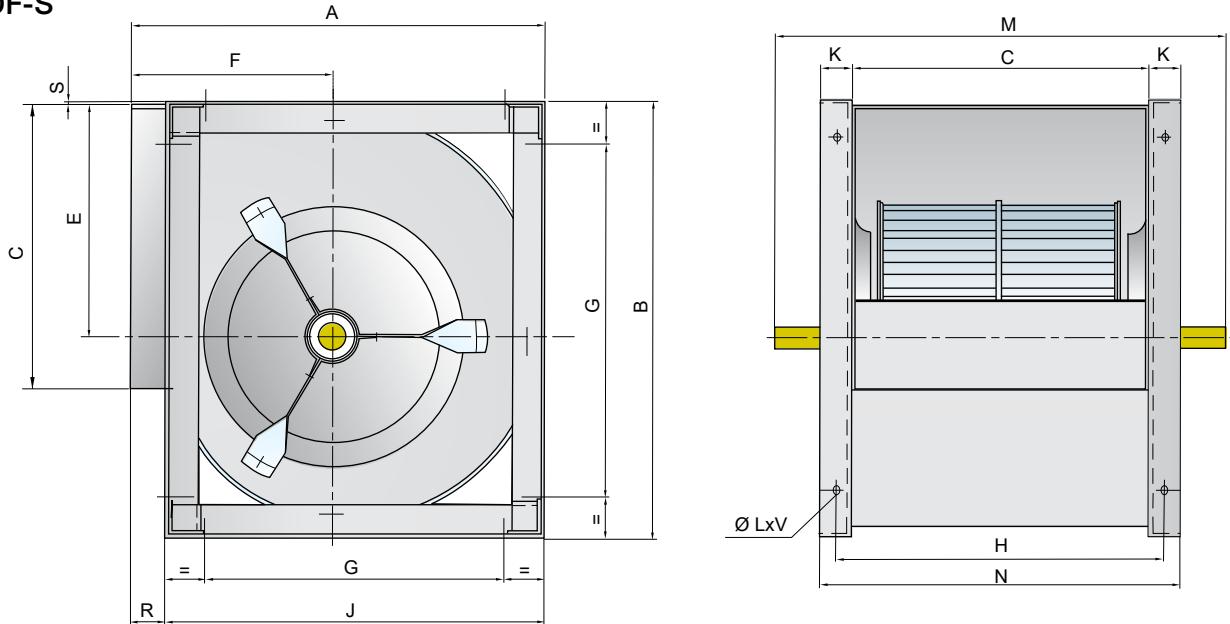
Unit : mm

Dim.	A	B	C	E	F	G	J	M	N	X1	H1	H2	H3	t	t1	X	W	Φd
200	342	364	256	215	164	224	281	420	306	112	181	245	184	6	6	22.5	40	20
225	380	407.8	288	243	180	224	313	460	338	112	197	274	204	6	6	22.5	50	20
250	417	454	322	270	195	224	347	490	372	112	210	299	227	6	6	22.5	50	20

# FTDF SERIES

## Dimensional Data

**FTDF-S**



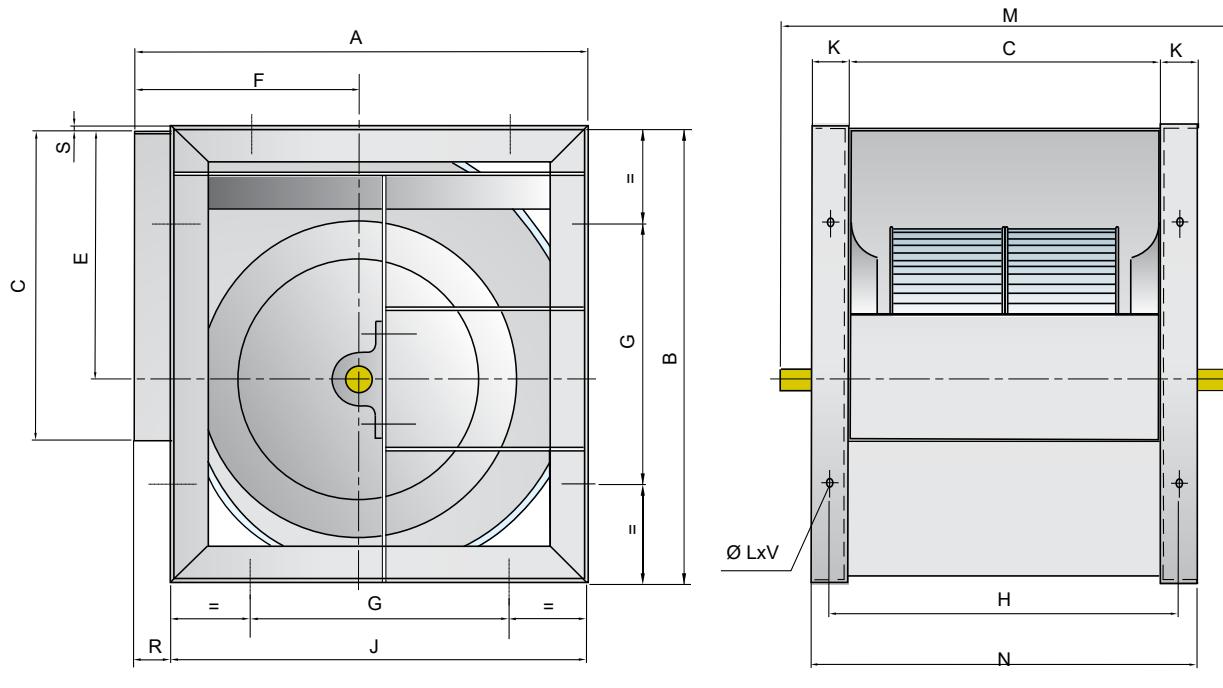
Unit : mm

Size	Dim.	A	B	C	E	F	G	H	J	K	M	N	R	S	t	t1	W	X	Φd	LxV
200		343	370	256	215	164	224	281	306	25	420	306	37	4	6	6	40	22.5	20	11x16
225		383	415	288	243	180	224	313	348	25	460	338	35	3	6	6	50	22.5	20	11x16
250		419	461	322	270	195	224	347	384	25	490	372	35	4	6	6	50	22.5	20	11x16
280		466	518	361	302	215	280	391	432	30	555	421	34	5	8	7	40	28	25	13x18
315		518	578	404	340	236	280	434	480	30	600	464	38	3	8	7	40	28	25	13x18
355		578	655	453	383	261	355	493	548	40	675	533	30	6	8	7	65	33	30	13x18
400		651	736	507	431.5	290	355	547	613	40	725	587	38	4.5	8	7	65	33	30	13x18
450		726	827	569	486	322	530	609	681	40	815	649	45	5	10	8	70	38	35	13x18
500		800	914	638	538	352	530	678	750	40	885	718	50	5	10	8	50	38	35	13x18
560		893	1030	715	602	390	530	765	845	50	1000	815	48	8	12	8	70	43	40	13x18
630		999	1157	801	678.5	434	530	851	946	50	1090	901	53	7	14	9	70	48.5	45	13x18
710		1121	1303	898	765	485	630	948	1058	50	1255	998	63	7	14	9	90	53.5	50	17x22

# FTDF SERIES

## Dimensional Data

### FTDF-H

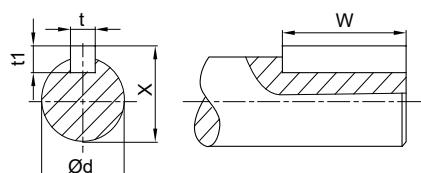
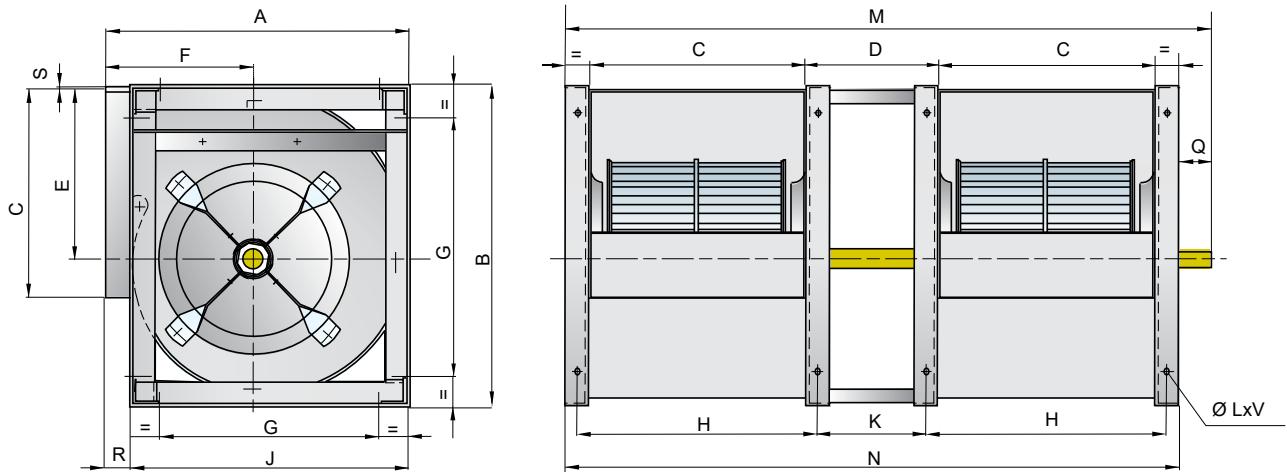


Size	Dim.	Unit : mm																	
		A	B	C	E	F	G	H	J	K	M	N	R	S	t	t1	W	X	Ød
280	466	518	361	302	215	280	391	432	30	580	421	34	5	8	7	40	33	30	13x18
315	518	578	404	340	236	280	434	480	30	625	464	38	3	8	7	40	33	30	13x18
355	578	655	453	383	261	355	493	548	40	685	533	30	6	10	8	50	38	35	13x18
400	651	736	507	431.5	290	355	547	613	40	790	587	38	4.5	10	8	70	38	35	13x18
450	726	827	569	486	322	530	609	681	40	850	649	45	5	12	8	70	43	40	13x18
500	800	918	638	538	352	530	678	750	40	920	718	50	5	12	8	70	43	40	13x18
560	893	1030	715	602	390	530	765	845	50	1070	815	48	8	14	9	90	53.5	50	13x18
630	999	1157	801	678.5	434	530	851	946	50	1155	901	53	7	14	9	90	53.5	50	13x18
710	1121	1303	898	765	485	630	948	1058	50	1290	998	63	7	18	11	90	64	60	17x22
800	1250	1468	1007	862	535	710	1057	1181	50	1450	1107	69	7	18	11	90	64	60	17x22
900	1408	1648	1130	971	604	800	1180	1319	60	1570	1250	89	9	18	11	100	64	60	17x22
1000	1541	1810	1267	1066	657	900	1317	1462	60	1700	1387	79	9	18	11	100	64	60	17x22

# FTDF SERIES

## Dimensional Data

### FTDF-S2



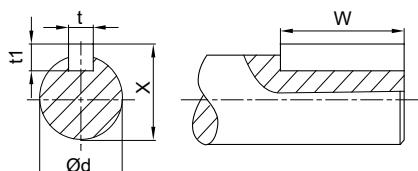
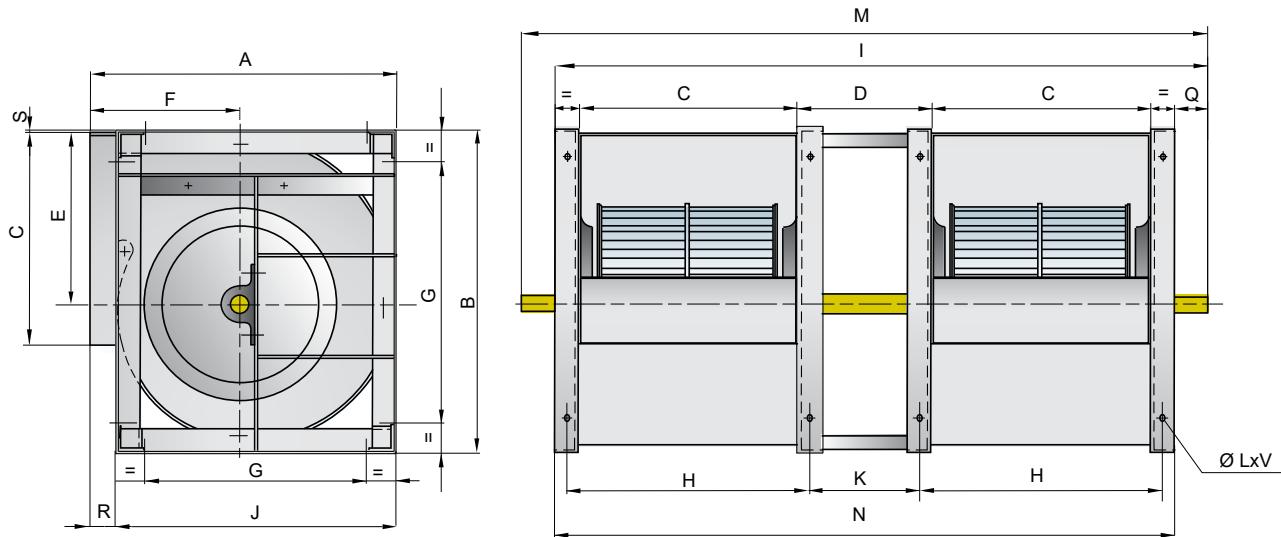
Unit : mm

Dim. Size	A	B	C	D	E	F	G	H	J	K	M	N	Q	R	S	t	t1	W	X	Φd	LxV
280	466	518	361	280	302	215	280	391	432	250	1140	1062	78	34	5	8	7	60	33	30	13x18
315	518	578	404	315	340	236	280	434	480	285	1263	1183	80	38	3	8	7	60	33	30	13x18
355	578	655	453	355	383	261	355	493	548	315	1431	1341	90	30	6	10	8	50	38	35	13x18
400	650	736	507	400	432	290	355	547	612	360	1582	1494	98	38	4	10	8	50	38	35	13x18
450	726	827	569	450	486	322	530	609	681	410	1768	1668	100	45	5	12	8	70	43	40	13x18
500	800	918	638	500	538	352	530	678	750	460	1956	1856	100	50	5	12	8	70	43	40	13x18

# FTDF SERIES

## Dimensional Data

### FTDF-H2



Unit: mm

Dim. Size	A	B	C	D	E	F	G	H	I	J	K	M	N	Q	R	S	t	t1	Φd	W	X	LxV
355	578	655	453	355	383	261	355	493	1451	548	315	\	1341	110	30	6	12	8	40	70	43	13x18
400	651	736	507	400	432	290	355	547	1604	613	360	\	1494	110	38	4.5	12	8	40	70	43	13x18
450	726	827	569	450	486	322	530	609	1803	681	410	\	1668	135	45	5	14	9	45	90	48.5	13x18
500	800	918	638	500	538	352	530	678	1991	750	460	\	1856	135	50	5	14	9	50	90	53.5	13x18

# FTDF SERIES

## Dimensional Data

### FTDF-SB

		0 °			90 °			180 °		
ACW Anticlockwise				C			C			C
CW Clockwise				C			C			C
Size	Motor Frame Size	A	B	C	A	B	C	A	B	C
200	56	730	420	404	730	420	358	730	420	406
	63	730	420	404	730	420	358	730	420	406
	71	730	420	404	730	420	358	730	420	406
	80	730	420	404	730	420	358	730	420	406
225	63	760	460	450	760	460	394	760	460	450
	71	760	460	450	760	460	394	760	460	450
	80	760	460	450	760	460	394	760	460	450
	90	760	460	450	760	460	394	760	460	450
250	63	820	490	484	820	490	422	820	490	482
	71	820	490	484	820	490	422	820	490	482
	80	820	490	484	820	490	422	820	490	482
	90	820	490	484	820	490	422	820	490	482

### FTDF-S

		0 °			90 °			180 °		
ACW Anticlockwise				C			C			C
CW Clockwise				C			C			C
Size	Motor Frame Size	A	B	C	A	B	C	A	B	C
200	56	730	420	404	730	420	358	730	420	406
	63	730	420	404	730	420	358	730	420	406
	71	730	420	404	730	420	358	730	420	406
	80	730	420	404	730	420	358	730	420	406
225	63	760	460	450	760	460	394	760	460	450
	71	760	460	450	760	460	394	760	460	450
	80	760	460	450	760	460	394	760	460	450
	90	760	460	450	760	460	394	760	460	450
250	63	820	490	484	820	490	422	820	490	482
	71	820	490	484	820	490	422	820	490	482
	80	820	490	484	820	490	422	820	490	482
	90	820	490	484	820	490	422	820	490	482

# FTDF SERIES

## Dimensional Data

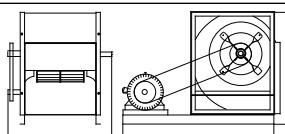
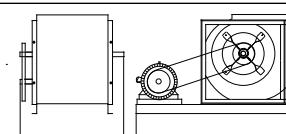
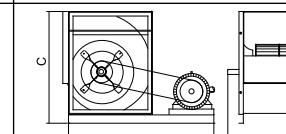
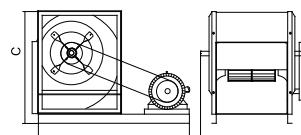
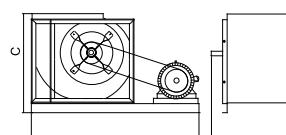
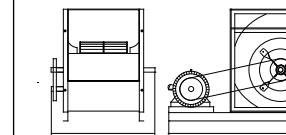
### FTDF-S

		0 °			90 °			180 °		
ACW Anticlockwise										
Size	Motor Frame Size	A	B	C	A	B	C	A	B	C
280	71	940	575	568	940	575	516	940	575	568
	80	940	575	568	940	575	516	940	575	568
	90	940	575	568	940	575	516	940	575	568
	100	940	575	568	940	575	516	940	575	568
	112	940	575	568	940	575	516	940	575	568
	132	940	575	568	940	575	516	940	575	568
315	71	1040	630	628	1040	640	568	1040	640	628
	80	1040	640	628	1040	640	568	1040	640	628
	90	1040	640	628	1040	640	568	1040	640	628
	100	1040	640	628	1040	640	568	1040	640	628
	112	1040	640	628	1040	640	568	1040	640	628
	132	1040	640	628	1040	640	568	1040	640	628
355	71	1110	700	705	1110	700	628	1110	700	705
	80	1110	700	705	1110	700	628	1110	700	705
	90	1110	700	705	1110	700	628	1110	700	705
	100	1110	700	705	1110	700	628	1110	700	705
	112	1110	700	705	1110	700	628	1110	700	705
	132	1110	700	705	1110	700	628	1110	700	705
400	71	1250	760	786	1250	760	701	1250	760	786
	80	1250	760	786	1250	760	701	1250	760	786
	90	1250	760	786	1250	760	701	1250	760	786
	100	1250	760	786	1250	760	701	1250	760	786
	112	1250	760	786	1250	760	701	1250	760	786
	132	1250	760	786	1250	760	701	1250	760	786
450	71	1340	845	877	1340	845	776	1340	845	877
	80	1340	845	877	1340	845	776	1340	845	877
	90	1340	845	877	1340	845	776	1340	845	877
	100	1340	845	877	1340	845	776	1340	845	877
	112	1340	845	877	1340	845	776	1340	845	877
	132	1340	845	877	1340	845	776	1340	845	877
	160	1340	845	877	1340	845	776	1340	845	877

# FTDF SERIES

## Dimensional Data

### FTDF-S

		0 °			90 °			180 °		
ACW Anticlockwise										
CW Clockwise										
Size	Motor Frame Size	A	B	C	A	B	C	A	B	C
500	80	1420	915	981	1420	915	863	1420	915	981
	90	1420	915	981	1420	915	863	1420	915	981
	100	1420	915	981	1420	915	863	1420	915	981
	112	1420	915	981	1420	915	863	1420	915	981
	132	1420	915	981	1420	915	863	1420	915	981
	160	1420	915	981	1420	915	863	1420	915	981
560	80	1580	1000	1093	1580	1000	956	1580	1000	1093
	90	1580	1000	1093	1580	1000	956	1580	1000	1093
	100	1580	1000	1093	1580	1000	956	1580	1000	1093
	112	1580	1000	1093	1580	1000	956	1580	1000	1093
	132	1580	1000	1093	1580	1000	956	1580	1000	1093
	160	1580	1000	1093	1580	1000	956	1580	1000	1093
630	90	1770	1090	1220	1770	1090	1062	1770	1090	1220
	100	1770	1090	1220	1770	1090	1062	1770	1090	1220
	112	1770	1090	1220	1770	1090	1062	1770	1090	1220
	132	1770	1090	1220	1770	1090	1062	1770	1090	1220
	160	1770	1090	1220	1770	1090	1062	1770	1090	1220
	180	1770	1090	1220	1770	1090	1062	1770	1090	1220
710	100	1950	1255	1366	1950	1255	1184	1950	1255	1366
	112	1950	1255	1366	1950	1255	1184	1950	1255	1366
	132	1950	1255	1366	1950	1255	1184	1950	1255	1366
	160	1950	1255	1366	1950	1255	1184	1950	1255	1366
	180	1950	1255	1366	1950	1255	1184	1950	1255	1366

# FTDF SERIES

## Dimensional Data

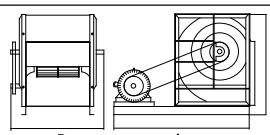
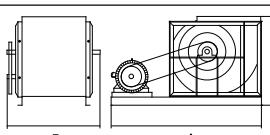
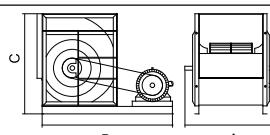
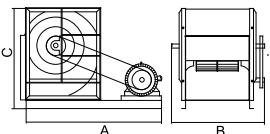
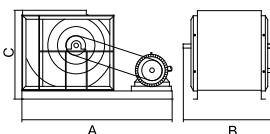
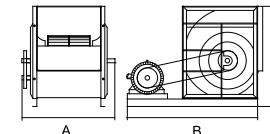
### FTDF-H

		0 °			90 °			180 °		
ACW Anticlockwise										
CW Clockwise										
Size	Motor Frame Size	A	B	C	A	B	C	A	B	C
280	90	940	600	568	940	600	516	940	600	568
	100	940	600	568	940	600	516	940	600	568
	112	940	600	568	940	600	516	940	600	568
	132	940	600	568	940	600	516	940	600	568
	160	940	600	568	940	600	516	940	600	568
315	100	1040	665	628	1040	665	568	1040	665	628
	112	1040	665	628	1040	665	568	1040	665	628
	132	1040	665	628	1040	665	568	1040	665	628
	160	1040	665	628	1040	665	568	1040	665	628
	180	1040	665	628	1040	665	568	1040	665	628
355	100	1110	725	705	1110	725	628	1110	725	705
	112	1110	725	705	1110	725	628	1110	725	705
	132	1110	725	705	1110	725	628	1110	725	705
	160	1110	725	705	1110	725	628	1110	725	705
	180	1110	725	705	1110	725	628	1110	725	705
400	100	1250	790	786	1250	790	701	1250	790	786
	112	1250	790	786	1250	790	701	1250	790	786
	132	1250	790	786	1250	790	701	1250	790	786
	160	1250	790	786	1250	790	701	1250	790	786
	180	1250	790	786	1250	790	701	1250	790	786
450	100	1340	845	877	1340	845	776	1340	845	877
	112	1340	890	877	1340	890	776	1340	890	877
	132	1340	890	877	1340	890	776	1340	890	877
	160	1340	890	877	1340	890	776	1340	890	877
	180	1340	890	877	1340	890	776	1340	890	877
	200	1340	890	877	1340	890	776	1340	890	877
500	100	1420	915	981	1420	915	863	1420	915	981
	112	1420	960	981	1420	960	863	1420	960	981
	132	1420	960	981	1420	960	863	1420	960	981
	160	1420	960	981	1420	960	863	1420	960	981
	180	1420	960	981	1420	960	863	1420	960	981
	200	1420	960	981	1420	960	863	1420	960	981

# FTDF SERIES

## Dimensional Data

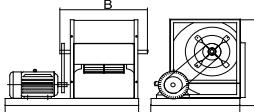
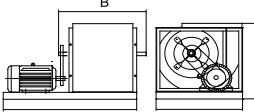
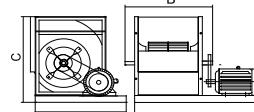
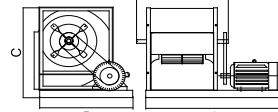
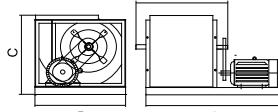
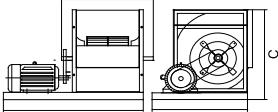
### FTDF-H

		0 °			90 °			180 °		
ACW Anticlockwise				C			C			
CW Clockwise				C			A			
Size	Motor Frame Size	A	B	C	A	B	C	A	B	C
560	132	1580	1070	1093	1580	1070	956	1580	1070	1093
	160	1580	1070	1093	1580	1070	956	1580	1070	1093
	180	1580	1070	1093	1580	1070	956	1580	1070	1093
	200	1580	1070	1093	1580	1070	956	1580	1070	1093
630	132	1770	1155	1220	1770	1155	1062	1770	1155	1220
	160	1770	1155	1220	1770	1155	1062	1770	1155	1220
	180	1770	1155	1220	1770	1155	1062	1770	1155	1220
	200	1770	1155	1220	1770	1155	1062	1770	1155	1220
710	132	1950	1290	1366	1950	1290	1284	1950	1290	1366
	160	1950	1290	1366	1950	1290	1284	1950	1290	1366
	180	1950	1290	1366	1950	1290	1284	1950	1290	1366
	200	1950	1290	1366	1950	1290	1284	1950	1290	1366
	225	1950	1290	1366	1950	1290	1284	1950	1290	1366
800	100	2130	1450	1548	2130	1450	1330	2130	1450	1548
	112	2130	1450	1548	2130	1450	1330	2130	1450	1548
	132	2130	1450	1548	2130	1450	1330	2130	1450	1548
	160	2130	1450	1548	2130	1450	1330	2130	1450	1548
	180	2130	1450	1548	2130	1450	1330	2130	1450	1548
	200	2130	1450	1548	2130	1450	1330	2130	1450	1548
	225	2130	1450	1548	2130	1450	1330	2130	1450	1548
900	112	2450	1570	1748	2450	1570	1508	2450	1570	1748
	132	2450	1570	1748	2450	1570	1508	2450	1570	1748
	160	2450	1570	1748	2450	1570	1508	2450	1570	1748
	180	2450	1570	1748	2450	1570	1508	2450	1570	1748
	200	2450	1570	1748	2450	1570	1508	2450	1570	1748
	225	2450	1570	1748	2450	1570	1508	2450	1570	1748
1000	112	2650	1700	1910	2650	1700	1641	2650	1700	1910
	132	2650	1700	1910	2650	1700	1641	2650	1700	1910
	160	2650	1700	1910	2650	1700	1641	2650	1700	1910
	180	2650	1700	1910	2650	1700	1641	2650	1700	1910
	200	2650	1700	1910	2650	1700	1641	2650	1700	1910
	225	2650	1700	1910	2650	1700	1641	2650	1700	1910
	250	2650	1700	1910	2650	1700	1641	2650	1700	1910

# FTDF SERIES

## Dimensional Data

### FTDF-S (Alternative motor position)

		0 °			90 °			180 °		
ACW Anticlockwise										
CW Clockwise										
Size	Motor Frame Size	A	B	C	A	B	C	A	B	C
280	71	840	612	568	840	612	516	840	612	568
	80	840	612	568	840	612	516	840	612	568
	90	840	612	568	840	612	516	840	612	568
	100	840	612	568	840	612	516	840	612	568
	112	840	612	568	840	612	516	840	612	568
315	71	880	617	628	880	617	568	880	617	628
	80	880	617	628	880	617	568	880	617	628
	90	880	617	628	880	617	568	880	617	628
	100	880	617	628	880	617	568	880	617	628
	112	880	617	628	880	617	568	880	617	628
355	71	940	655	705	940	655	628	940	655	705
	80	940	655	705	940	655	628	940	655	705
	90	940	655	705	940	655	628	940	655	705
	100	940	655	705	940	655	628	940	655	705
	112	940	655	705	940	655	628	940	655	705
400	80	1130	736	786	1130	736	613	1130	736	786
	90	1130	736	786	1130	736	613	1130	736	786
	100	1130	736	786	1130	736	613	1130	736	786
	112	1130	736	786	1130	736	613	1130	736	786
	132	1130	736	786	1130	736	613	1130	736	786
450	90	1210	827	877	1210	827	776	1210	827	877
	100	1210	827	877	1210	827	776	1210	827	877
	112	1210	827	877	1210	827	776	1210	827	877
	132	1210	827	877	1210	827	776	1210	827	877
500	90	1290	918	981	1290	918	863	1290	918	981
	100	1290	918	981	1290	918	863	1290	918	981
	112	1290	918	981	1290	918	863	1290	918	981
	132	1290	918	981	1290	918	863	1290	918	981
	160	1290	918	981	1290	918	863	1290	918	981
560	90	1410	1030	1093	1410	1030	956	1410	1030	1093
	100	1410	1030	1093	1410	1030	956	1410	1030	1093
	112	1410	1030	1093	1410	1030	956	1410	1030	1093
	132	1410	1030	1093	1410	1030	956	1410	1030	1093
	160	1410	1030	1093	1410	1030	956	1410	1030	1093

# FTDF SERIES

## Dimensional Data

### FTDF-S (Alternative motor position)

		0 °			90 °			180 °		
ACW Anticlockwise		B	C	A	B	C	A	B	C	
CW Clockwise		C	B	D	C	B	D	A	C	
Size	Motor Frame Size	A	B	C	A	B	C	A	B	C
630	90	1510	1157	1220	1510	1157	1062	1510	1157	1220
	100	1510	1157	1220	1510	1157	1062	1510	1157	1220
	112	1510	1157	1220	1510	1157	1062	1510	1157	1220
	132	1510	1157	1220	1510	1157	1062	1510	1157	1220
710	160	1730	1303	1366	1730	1303	1491	1730	1303	1366
	100	1730	1303	1366	1730	1303	1491	1730	1303	1366
	112	1730	1303	1366	1730	1303	1491	1730	1303	1366
	132	1730	1303	1366	1730	1303	1491	1730	1303	1366
	160	1730	1303	1366	1730	1303	1491	1730	1303	1366
	180	1730	1303	1366	1730	1303	1491	1730	1303	1366

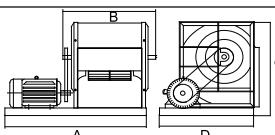
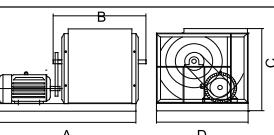
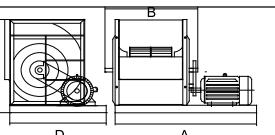
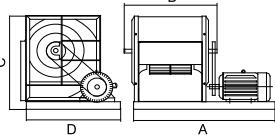
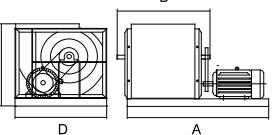
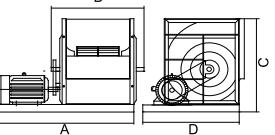
### FTDF-H (Alternative motor position)

		0 °			90 °			180 °		
ACW Anticlockwise		B	C	A	B	C	A	B	C	
CW Clockwise		C	B	D	C	B	D	A	C	
Size	Motor Frame Size	A	B	C	A	B	C	A	B	C
280	100	840	612	568	840	612	516	840	612	568
	112	840	612	568	840	612	516	840	612	568
	132	840	612	568	840	612	516	840	612	568
315	100	880	617	628	880	617	568	880	617	628
	112	880	617	628	880	617	568	880	617	628
	132	880	617	628	880	617	568	880	617	628
	160	880	617	628	880	617	568	880	617	628
355	100	940	655	705	940	655	628	940	655	705
	112	940	655	705	940	655	628	940	655	705
	132	940	655	705	940	655	628	940	655	705
	160	940	655	705	940	655	628	940	655	705
400	112	1130	736	786	1130	736	613	1130	736	786
	132	1130	736	786	1130	736	613	1130	736	786
	160	1130	736	786	1130	736	613	1130	736	786

# FTDF SERIES

## Dimensional Data

### FTDF-H (Alternative motor position)

		0°			90°			180°		
ACW Anticlockwise								A	B	C
Size	Motor Frame Size	A	B	C	A	B	C	A	B	C
450	112	1210	827	877	1210	827	776	1210	827	877
	132	1210	827	877	1210	827	776	1210	827	877
	160	1210	827	877	1210	827	776	1210	827	877
	180	1210	827	877	1210	827	776	1210	827	877
500	112	1290	918	981	1290	918	863	1290	918	981
	132	1290	918	981	1290	918	863	1290	918	981
	160	1290	918	981	1290	918	863	1290	918	981
	180	1290	918	981	1290	918	863	1290	918	981
560	132	1410	1030	1093	1410	1030	956	1410	1030	1093
	160	1410	1030	1093	1410	1030	956	1410	1030	1093
	180	1410	1030	1093	1410	1030	956	1410	1030	1093
	200	1410	1030	1093	1410	1030	956	1410	1030	1093
630	132	1510	1157	1220	1510	1157	1062	1510	1157	1220
	160	1510	1157	1220	1510	1157	1062	1510	1157	1220
	180	1510	1157	1220	1510	1157	1062	1510	1157	1220
	200	1510	1157	1220	1510	1157	1062	1510	1157	1220
710	132	1730	1303	1366	1730	1303	1491	1730	1303	1366
	160	1730	1303	1366	1730	1303	1491	1730	1303	1366
	180	1730	1303	1366	1730	1303	1491	1730	1303	1366
	200	1730	1303	1366	1730	1303	1491	1730	1303	1366
	225	1730	1303	1366	1730	1303	1491	1730	1303	1366
800	132	1870	1468	1548	1870	1468	1330	1870	1468	1548
	160	1870	1468	1548	1870	1468	1330	1870	1468	1548
	180	1870	1468	1548	1870	1468	1330	1870	1468	1548
	200	1870	1468	1548	1870	1468	1330	1870	1468	1548
	225	1870	1468	1548	1870	1468	1330	1870	1468	1548
900	160	2170	1648	1748	2170	1648	1748	2170	1648	1748
	180	2170	1648	1748	2170	1648	1748	2170	1648	1748
	200	2170	1648	1748	2170	1648	1748	2170	1648	1748
	225	2170	1648	1748	2170	1648	1748	2170	1648	1748
1000	160	2300	1810	1910	2300	1810	1641	2300	1810	1910
	180	2300	1810	1910	2300	1810	1641	2300	1810	1910
	200	2300	1810	1910	2300	1810	1641	2300	1810	1910
	225	2300	1810	1910	2300	1810	1641	2300	1810	1910
	250	2300	1810	1910	2300	1810	1641	2300	1810	1910

# FTDF SERIES

## Fan Operating Limits

			200	225	250	280	315	355	400	450	500	560	630	710	800	900	1000
Max.Absorbed Power	SB	Kw	3	3	4	/	/	/	/	/	/	/	/	/	/	/	/
	S	Kw	3	3	4	4	6	6	8	10	10	10	15	15	/	/	/
	H	Kw	/	/	/	6	10	15	20	20	20	30	30	40	40	60	60
	S2	Kw	/	/	/	9	13	13	18	22	22	/	/	/	/	/	/
	H2	Kw	/	/	/	/	/	33	45	45	45	/	/	/	/	/	/
Max.Speed	SB	rmp	3200	2800	2400	/	/	/	/	/	/	/	/	/	/	/	/
	S	rmp	3200	2800	2400	2200	1900	1600	1400	1300	1100	900	800	700	/	/	/
	H	rmp	/	/	/	2500	2200	2000	1800	1600	1300	1200	1000	900	800	700	600
	S2	rmp	/	/	/	1800	1600	1400	1200	1000	900	/	/	/	/	/	/
	H2	rmp	/	/	/	/	/	1600	1400	1200	1000	/	/	/	/	/	/
Air Temperature Limits (Min-20°C)	SB	Max.°C	85	85	85	/	/	/	/	/	/	/	/	/	/	/	/
	S	Max.°C	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85
	H	Max.°C	/	/	/	85	85	85	85	85	85	85	85	85	85	85	85
	S2	Max.°C	/	/	/	85	85	85	85	85	85	/	/	/	/	/	/
	H2	Max.°C	/	/	/	/	/	85	85	85	85	/	/	/	/	/	/
Fan Weight	SB	Kg	7.4	9.2	11	/	/	/	/	/	/	/	/	/	/	/	/
	S	Kg	9.4	10.8	13	19	25	36	44	57	71.5	131	156	192	/	/	/
	H	Kg	/	/	/	29	35	42	57	72	92	160	185	240	290	365	480
	S2	Kg	/	/	/	38	50	71	87	113	142	/	/	/	/	/	/
	H2	Kg	/	/	/	/	/	85	107	136	175	/	/	/	/	/	/



## Elta Fans Malaysia Sdn Bhd

Tel **+603 7846 0340**

Fax **+603 7842 1132**

Email **info@eltafans.asia**

No. 147, Jalan TUDM, Kampung Baru Subang,  
40150 Shah Alam, Selangor, West Malaysia, Malaysia

**eltafans.asia**

October 2019  
FTDF-10-2019 Issue B

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