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Niroo Tahviah Industries Co.

شرکت صنایع نیرو تهویه

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NIROO TAHVIEH INDUSTRIES CO.

تماس با شرکت نیرو تهویه

تهران - شهر صنعتی پرد ، بلوار صنعت، خیابان نور ، خیابان کاچ ، پلاک A4

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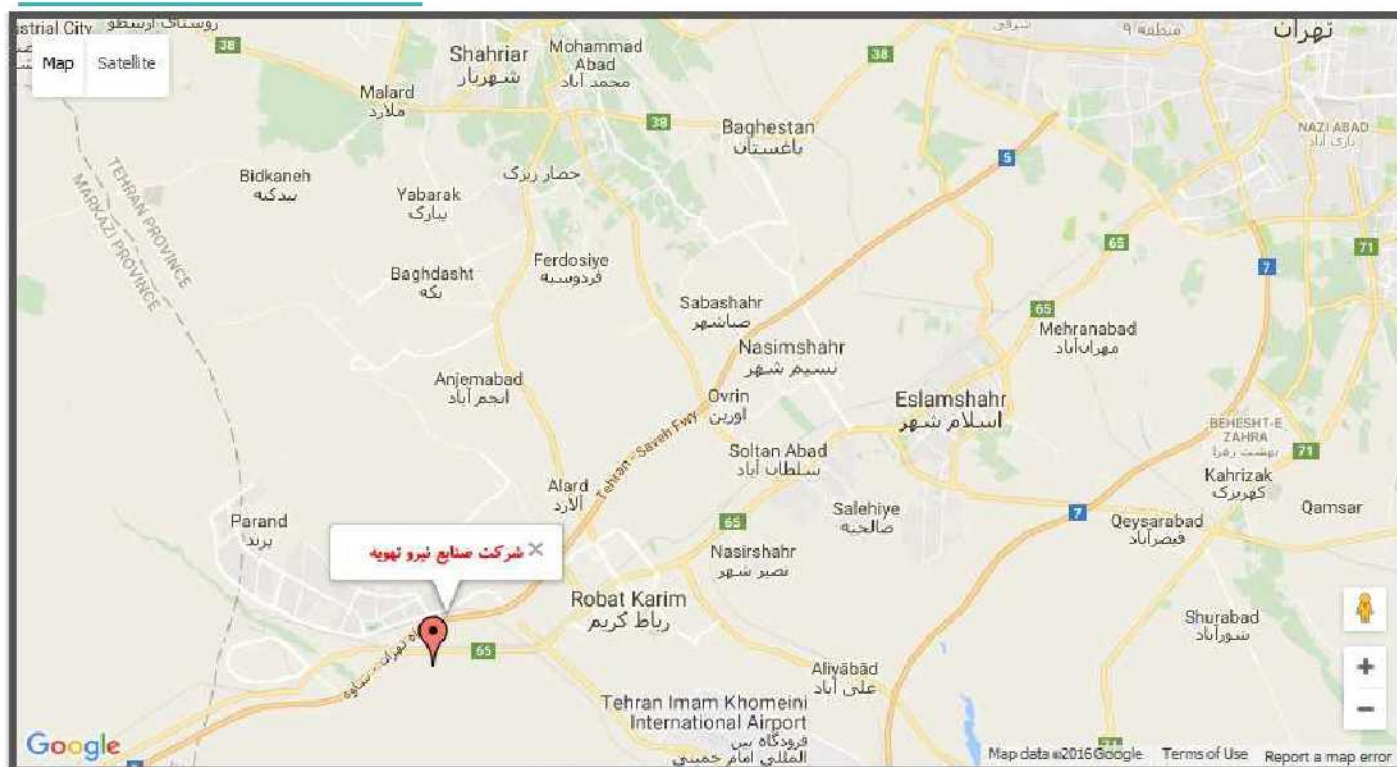


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NO. A 4 KAJ ST. SANAT BLVD.,
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, TEHRAN - IRAN



Products

Niroo Tahviah Industries Co.



Electromotor



Axial Flow Fan



Double Inlet Centrifugal Fans



Single Inlet Centrifugal Fans

Selection Guide of - 1/2 Ph Direct Drive Centrifugal Fans (Double Inlet)

جدول راهنمای فن های سانتریفیوژ کوپل مستقیم تکفاز (دو طرفه)

Type	Air volume [C.F.M]	Current [A]	Power [W]	Speed [r.p.m]	Starting Torque[Nm]	Starting Current [A]	Power Factor Cos ϕ	Capacitor [μ F]/[V]	Dimensions H*W*D [Cm]	Outlet Area H*W [Cm]	Net Weight [Kg]
مدل	هوادهی [C.F.M]	جریان [A]	توان [W]	سرعت [r.p.m]	گشتاور راه اندازی [Nm]	جریان راه اندازی [A]	ضریب قدرت Cos ϕ	خازن [μ F]/[V]	ابعاد فن [Cm]	دعانه خروجی [Cm]	وزن خالص [Kg]
D112	900	1.1	230	1100	1.5	2	0.90	6/400	33*31*30	22*30	8
D114	1000	1.2	230	900	1.5	2	0.90	6/400	33*31*40	22*40	8
D116	1100	1.4	230	900	1.5	2	0.90	6/400	33*31*47	22*47	9
D222/4	1500	2.5	500	1100	1.5	4	0.90	10/400	40*30*38	26*30	14.5
D222/6	1100	1.8	350	850	1.5	4	0.90	10/400	40*30*38	26*30	14.5
D224/6	1500	2	400	740	1.5	4	0.90	10/400	40*40*38	26*40	16
D226/6	1700	2.3	450	700	1.5	4	0.90	10/400	40*47*38	26*47	17
D322/4	1600	2.8	550	1050	1.5	4	0.90	10/400	45*30*42	29*30	15.5
D322/6	1200	1.9	370	850	1.5	4	0.90	10/400	45*30*42	29*30	15.5
D324/6	1600	2.1	420	750	1.4	4	0.90	10/400	45*40*42	29*40	16.5
D326/6	1800	2.4	470	700	1.4	4	0.90	10/400	45*46*42	29*47	17.5
D442	3000	3.5	750	850	3.5	7	0.95	25/400	54*30*50	36*30	22
D444	3000	4.2	900	700	4	7	0.95	30/400	54*40*50	36*40	28
D446	3300	4.7	1000	700	4	7	0.95	30/400	54*47*50	36*47	30
D542	3500	4.0	850	850	3.5	7	0.95	25/400	59*30*54	36*30	24
D544	3500	4.5	950	700	4	7	0.95	30/400	59*40*54	36*40	30
D644	4000	5.0	1050	700	4	7	0.95	30/400	62*40*57	40*40	32
D646	4100	5.5	1150	650	4	7	0.95	30/400	62*47*57	40*47	34
15-13A	4600	9.0	1900	700	8	14	0.95	2*30/400	62*42*56	42*42	52
15-13B	5000	9.0	1900	700	8	14	0.95	2*30/400	64*42*58	42*42	52
15-15A	5500	10.0	2100	700	8	14	0.95	2*30/400	62*47*56	42*47	54
15-15B	6000	10.0	2100	700	8	14	0.95	2*30/400	64*47*58	42*47	54

** مشخصات مشترک در تمامی مدل ها **

Voltage [V]	Frequency [Hz]	Insulation Class	Protection Class	Air Temp Max / Min	Blade Type
ولتاژ	فرکانس	کلاس عایقی	کلاس حفاظتی	درجه حرارت	نوع پره
100 ~ 220	50	H	IP65	-40° / +60°	Forward Curved

D112 / E10-4

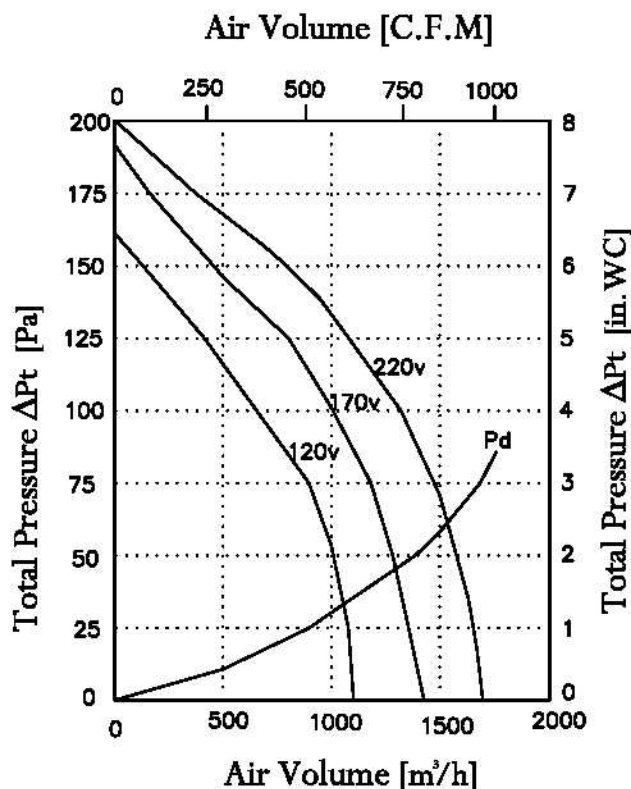
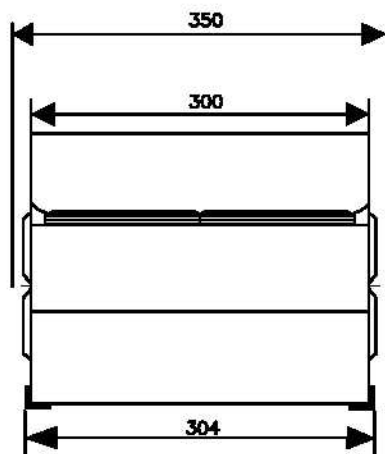


Diagram is based on standard air $\rho = 1.2 \text{ kg/m}^3$

P_d is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line P_d and Static Pressure is shown above that line.



Double Inlet Centrifugal Fan 220 V IN~ 50 Hz

CFM	900
Voltage Range	100 ~ 220 [V]
Frequency	50 [Hz]
current max @free air	1.1 [A]
Power max @free air	230 [W]
Fan speed @free air	1100 [rpm]
Insulation Class	H
Protection Class	IP65
Power Factor (Cos ϕ)	0.90
Capacitor	6 [μ F] 400 [V]
Net weight	8 [Kg]
Starting Torque	1.5 [nm]
Starting Current max	2 [A]
Air Temperature max	60 [c°]

Voltage [V]	Air Volume [m^3/h] @ $\rho = 1.2 [\text{kg/m}^3]$					
	Free Air	Total Pressure ΔP_t [Pa]				
		50	75	100	150	200
120	1030	951	820	650	145	
170	1250	1243	1115	1012	467	
220	1510	1551	1465	1315	792	0

Wheel Diameter = 180 mm = 7 in

29 Blades, 20 mm = $\frac{3}{4}$ " Chord Width

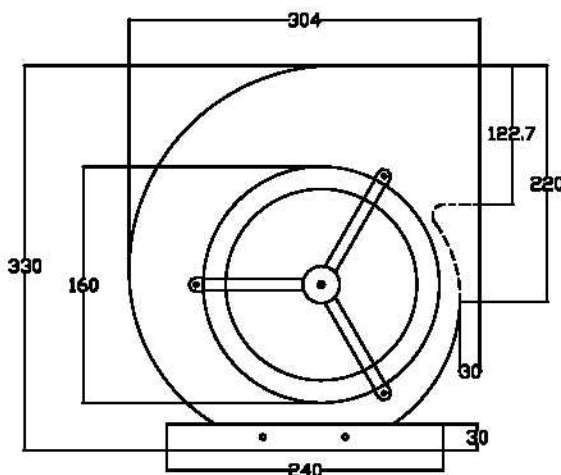
Tip Speed = rpm * 0.012 [m/s]

= rpm * 2.37 [FPM]

Outlet Area = 0.039 [m^2] = 420 [SQ.FT.]

Voltage [V]	Sound Pressure Level in dB(A)		
	100	170	220
Inlet	46	59	64
Outlet	48	60	65

Measured in distance of 3m, @ free Air



D114 / E10-4

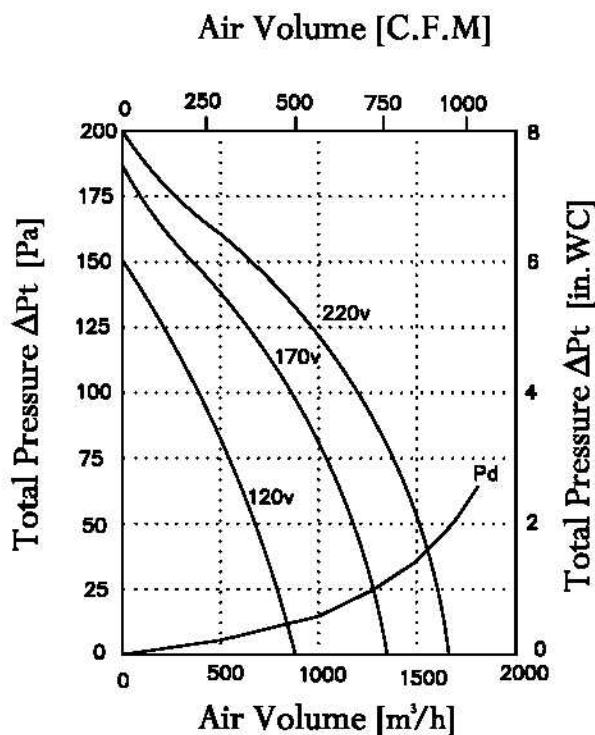
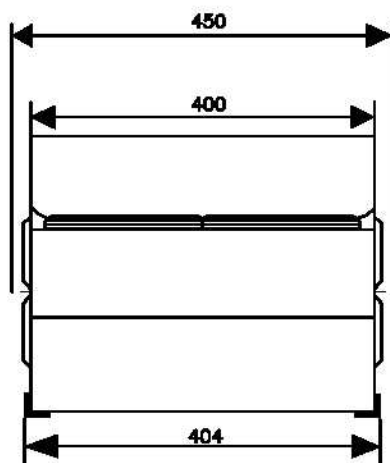


Diagram is based on standard air $\rho = 1.2 \text{ kg/m}^3$.

Pd is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line Pd and Static Pressure is shown above that line.



Double Inlet Centrifugal Fan 220 V IN~ 50 Hz

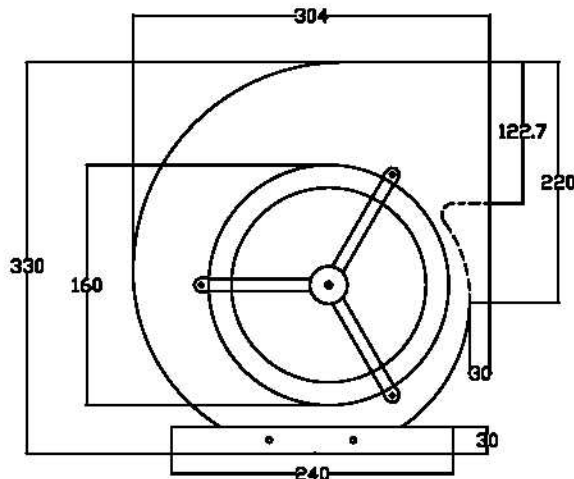
CFM	1000
Voltage Range	100 ~ 220 [v]
Frequency	50 [Hz]
Current max @free air	1.2 [A]
Power max @free air	230 [W]
Fan speed @free air	900 [rpm]
Insulation Class	H
Protection Class	IP65
Power Factor (Cosφ)	0.90
Capacitor	6 [μF] 400 [v]
Net weight	8 [Kg]
Starting Torque	1.5 [nm]
Starting Current max	2 [A]
Air Temperature max	60 [c°]

Voltage [V]	Air Volume [m³/h] @ $\rho = 1.2 \text{ kg/m}^3$					
	Free Air	Total Pressure ΔPt [Pa]				
		50	75	100	150	200
120	860	737	594	418	0	
170	1370	1298	1160	994	495	0
220	1630	1600	1490	1320	836	0

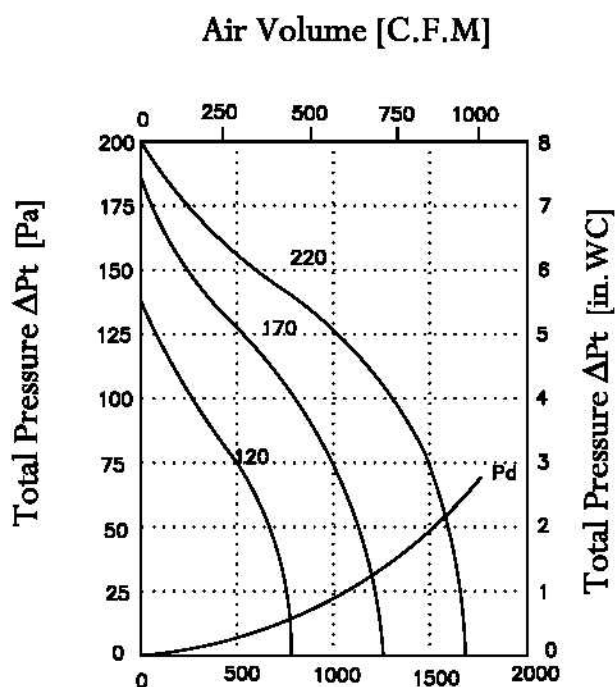
Wheel Diameter = 180 mm = 7 in
 24 Blades, 20 mm = $\frac{3}{4}$ " Chord Width
 Tip Speed = rpm * 0.012 [m/s]
 = rpm * 2.37 [FPM]
 Outlet Area = 0.052 [m²] = 0.56 [SQ.FT.]

Voltage [V]	Sound Pressure Level in dB(A)		
	100	170	220
Inlet	46	59	64
Outlet	48	60	65

Measured in distance of 3m, @ free Air



D116 / E10-4



Double Inlet Centrifugal Fan

220 V IN~ 50 Hz

CFM 1100

Voltage Range 100 ~ 220 [v]
 Frequency 50 [Hz]
 Current max @free air 1.4 [A]
 Power max @free air 230 [W]
 Fan speed @free air 900 [rpm]
 Insulation Class H
 Protection Class IP65
 Power Factor (Cosφ) 0.90
 Capacitor 6 [μF] 400 [v]
 Net weight 9 [Kg]
 Starting Torque 1.5 [nm]
 Starting Current max 2 [A]
 Air Temperature max 60 [c°]

Voltage [V]	Air Volume [m³/h] @ $\rho=1.2[\text{kg/m}^3]$					
	Free Air	Total Pressure ΔP_t [Pa]				
		50	75	100	150	200
120	806	670	460	250	0	
170	1270	1225	1115	995	815	
220	1730	1750	1661	1500	900	0

Wheel Diameter = 180 mm = 7 in

24 Blades, 20 mm = ($\frac{4}{5}$)" Chord Width

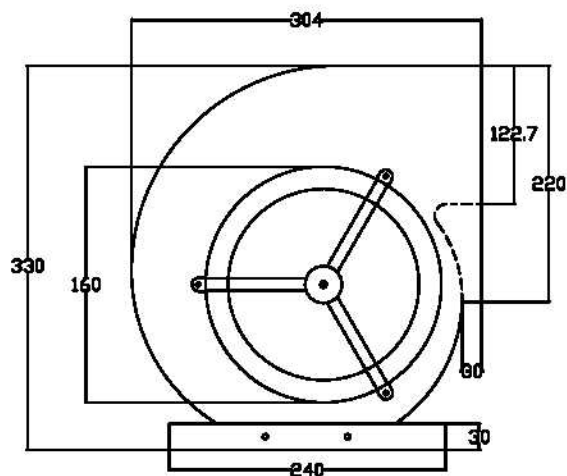
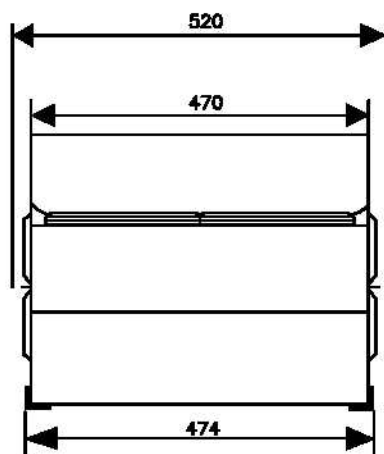
Tip Speed = rpm * 0.012 [m/s]

= rpm * 2.37 [FPM]

Outlet Area = 0.034 [m²] = 0.42 [SQ.FT.]

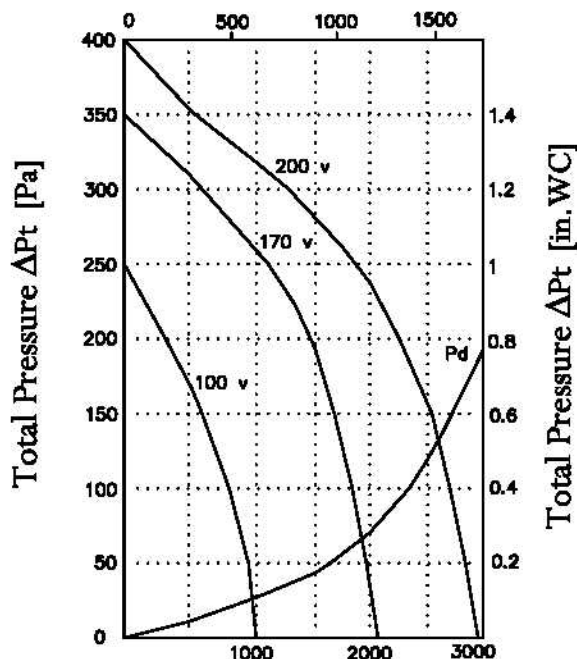
Voltage [V]	Sound Pressure Level in dB(A)		
	100	170	220
Inlet	46	59	64
Outlet	48	60	65

Measured in distance of 3m, @ free Air



D222 / E25-4

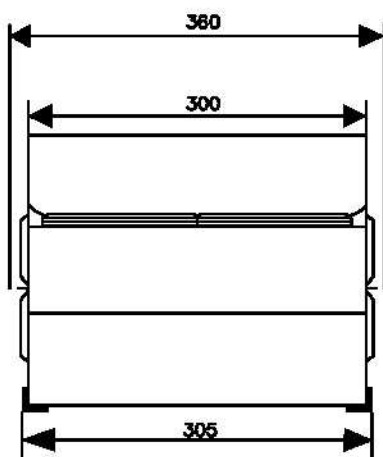
Air Volume [C.F.M]



Air Volume [m^3/h]

Diagram is based on standard air $\rho = 1.2 kg/m^3$

Pd is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line Pd and Static Pressure is shown above that line.



Double Inlet Centrifugal Fan

220 V IN ~ 50 Hz

CFM 1500

Voltage Range 100 ~ 220 [v]
 Frequency 50 [Hz]
 Current max @free air 2.5 [A]
 Power max @free air 500 [W]
 Fan speed @free air 1100 [rpm]
 Insulation Class H
 Protection Class IP65
 Power Factor (Cos ϕ) 0.90
 Capacitor 10 [μF] 400 [v]
 Net weight 14.5 [Kg]
 Starting Torque 1.5 [nm]
 Starting Current max 4 [A]
 Air Temperature max 60 [c°]

Voltage [V]	Air Volume [m^3/h] @ $\rho = 1.2 [kg/m^3]$					
	Free Air	Total Pressure ΔP_t [Pa]				
		50	100	150	200	250
120	920	910	800	590	320	
170	1910		1850	1675	1475	1100
220	2640			2520	2285	1900

Wheel Diameter = 230 mm = 9 in

35 Blades, 20 mm = $(\frac{3}{4})$ " Chord Width

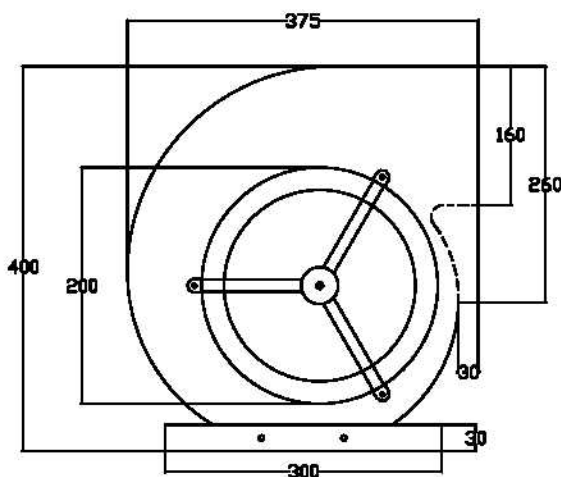
Tip Speed = rpm * 0.012 [m/s]

= rpm * 2.37 [FPM]

Outlet Area = 0.048 [m^2] = 0.52 [SQ.FT.]

Voltage [V]	Sound Pressure Level in dB(A)		
	100	170	220
Inlet	46	59	64
Outlet	48	60	65

Measured in distance of 3m, @ free Air



D222 / E25-6

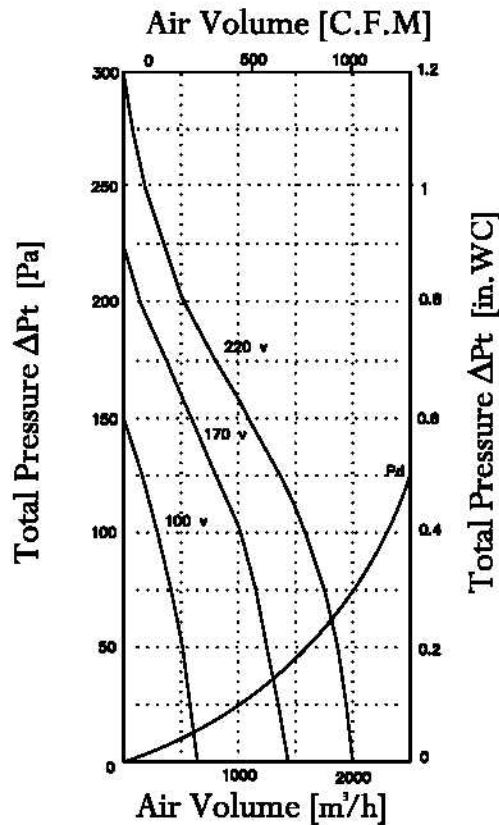
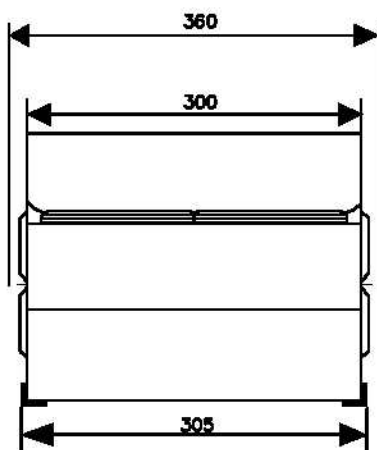


Diagram is based on standard air $\rho = 1.2 \text{ kg/m}^3$.

Pd is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line Pd and Static Pressure is shown above that line.



Double Inlet Centrifugal Fan

220 V IN ~ 50 Hz

CFM	1100
Voltage Range	100 ~ 220 [V]
Frequency	50 [Hz]
Current max @free air	1.8 [A]
Power max @free air	350 [W]
Fan speed @free air	850 [rpm]
Insulation Class	H
Protection Class	IP65
Power Factor (Cosφ)	0.90
Capacitor	10 [μF] 400 [V]
Net weight	14.5 [Kg]
Starting Torque	1.5 [nm]
Starting Current max	4 [A]
Air Temperature max	60 [c°]

Voltage [V]	Air Volume [m³/h] @ $\rho = 1.2 \text{ kg/m}^3$						
	Free Air	Total Pressure ΔP_t [Pa]					
		50	100	150	200	250	300
100	630	505	295				
170	1340	1260	1005	600	80		
220	1835		1600	1140	550	185	

Wheel Diameter = 230 mm = 9 in

35 Blades, 20 mm = $\frac{4}{5}$ " Chord Width

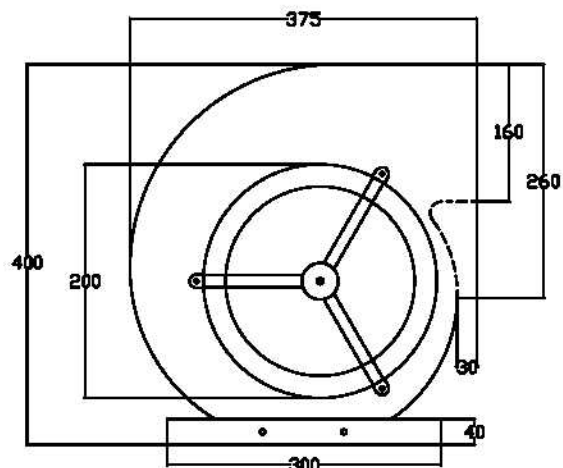
Tip Speed = rpm * 0.012 [m/s]

= rpm * 2.37 [FPM]

Outlet Area = 0.048 [m²] = 0.52 [SQ.FT.]

Voltage [V]	Sound Pressure Level in dB(A)		
	100	170	220
Inlet	44	56	60
Outlet	46	57	61

Measured in distance of 3m, @ free Air



D224 / E25-6

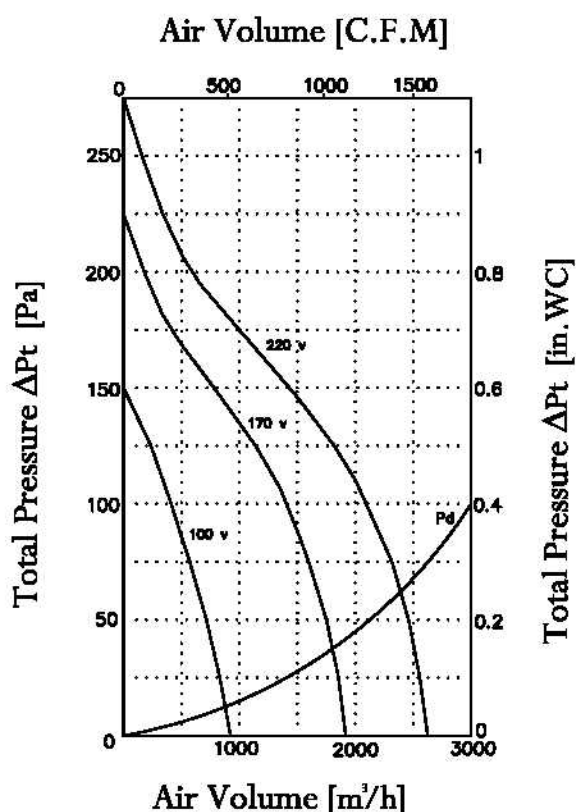
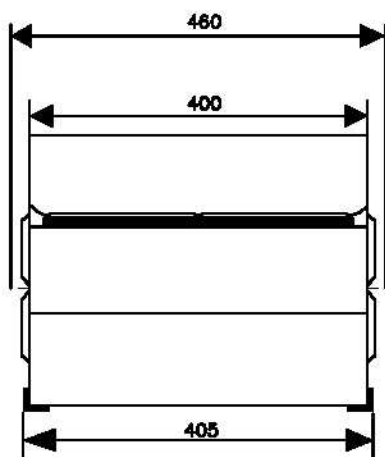


Diagram is based on standard air $\rho = 1.2 \text{ kg/m}^3$.

Pd is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line **Pd** and Static Pressure is shown above that line.



Double Inlet Centrifugal Fan 220 V IN~ 50 Hz

CFM	1500
Voltage Range	100 ~ 220 [v]
Frequency	50 [Hz]
Current max @free air	2 [A]
Power max @free air	400 [W]
Fan speed @free air	750 [rpm]
Insulation Class	H
Protection Class	IP65
Power Factor (Cosφ)	0.90
Capacitor	10 [μF] 400 [v]
Net weight	14.5 [Kg]
Starting Torque	1.5 [nm]
Starting Current max	4 [A]
Air Temperature max	60 [c°]

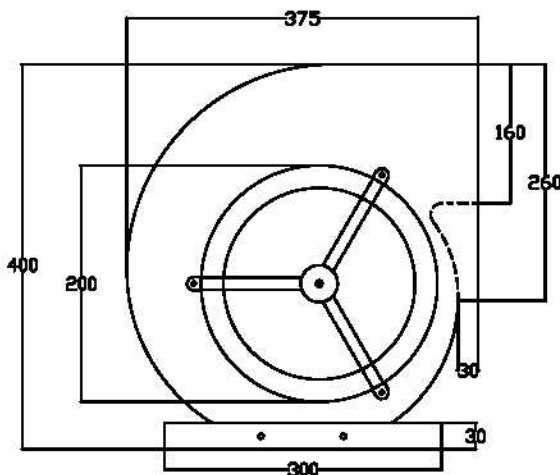
Voltage [V]	Air Volume [m³/h] @ $\rho = 1.2 \text{ kg/m}^3$						
	Free Air	Total Pressure ΔPt [Pa]					
		50	100	150	200	225	250
120	840	670	395				
170	1775	1675	1345	800	90		
220	2410		2075	1430	580	250	90

Wheel Diameter = 230 mm = 9 in
28 Blades, 20 mm = 1" Chord Width
Tip Speed = rpm * 0.012 [m/s]
= rpm * 2.37 [FPM]

Outlet Area = 0.064 m^2 = 0.69 [SQ.FT.]

Voltage [V]	Sound Pressure Level in dB(A)		
	100	170	220
Inlet	44	57	60
Outlet	47	57	62

Measured in distance of 3m, @ free Air



D226/ E25-6

Air Volume [C.F.M]

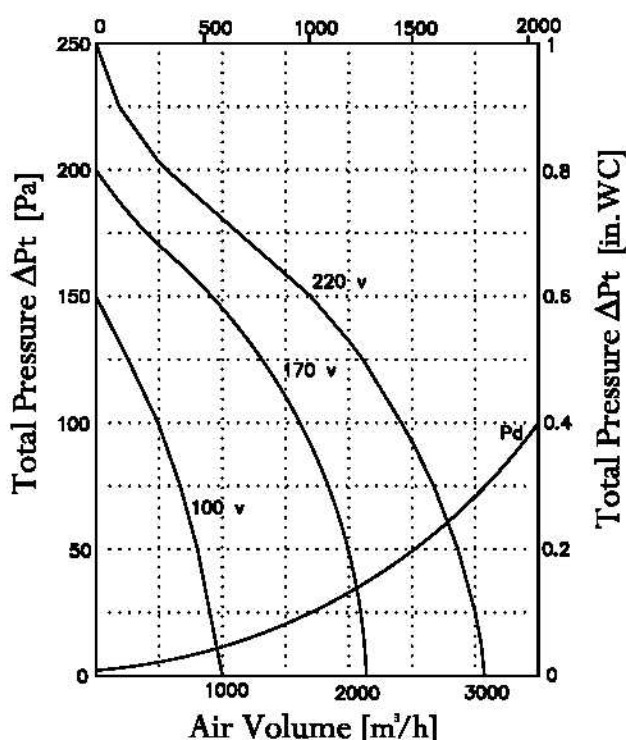
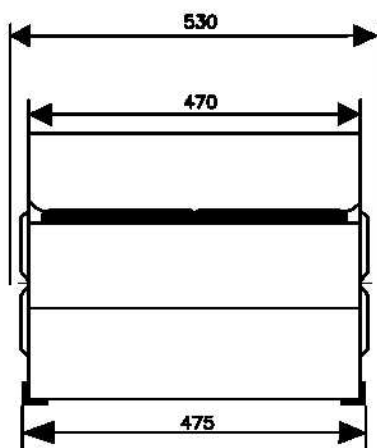


Diagram is based on standard air $\rho = 1.2 \text{ kg/m}^3$.

Pd is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line Pd and Static Pressure is shown above that line.



Double Inlet Centrifugal Fan

220 V IN~ 50 Hz

CFM 1700

Voltage Range 100 ~ 220 [v]
 Frequency 50 [Hz]
 Current max @free air 2.3 [A]
 Power max @free air 450 [W]
 Fan speed @free air 700 [rpm]
 Insulation Class H
 Protection Class IP65
 Power Factor (Cos ϕ) 0.90
 Capacitor 10 [μ F] 400 [v]
 Net weight 17 [Kg]
 Starting Torque 1.5 [nm]
 Starting Current max 4 [A]
 Air Temperature max 60 [c°]

Voltage [V]	Air Volume [m^3/h] @ $\rho = 1.2 \text{ kg/m}^3$					
	Free Air	Total Pressure ΔP_t [Pa]				
		50	100	150	175	200
100	990	790	465			
170	2090	1970	1580	945	390	
220	2880		2410	1685	1135	520

Wheel Diameter = 230 mm = 9 in

28 Blades, 20 mm = 1" Chord Width

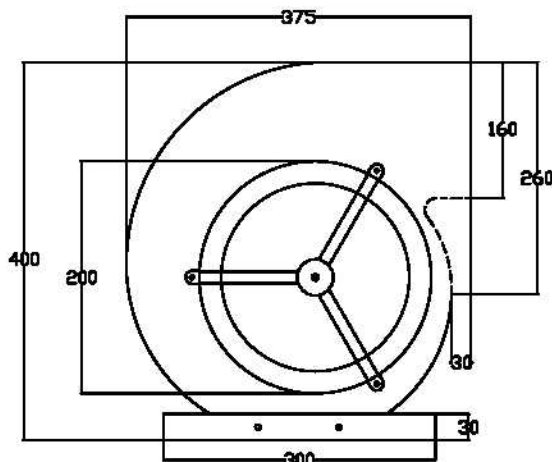
Tip Speed = rpm * 0.012 [m/s]

= rpm * 2.37 [FPM]

Outlet Area = 0.075 m^2 = 0.81 [SQ.FT.]

Voltage [V]	Sound Pressure Level in dB(A)		
	100	170	220
Inlet	45	56	61
Outlet	47	58	63

Measured in distance of 3m, @ free Air



D322/ E25-4

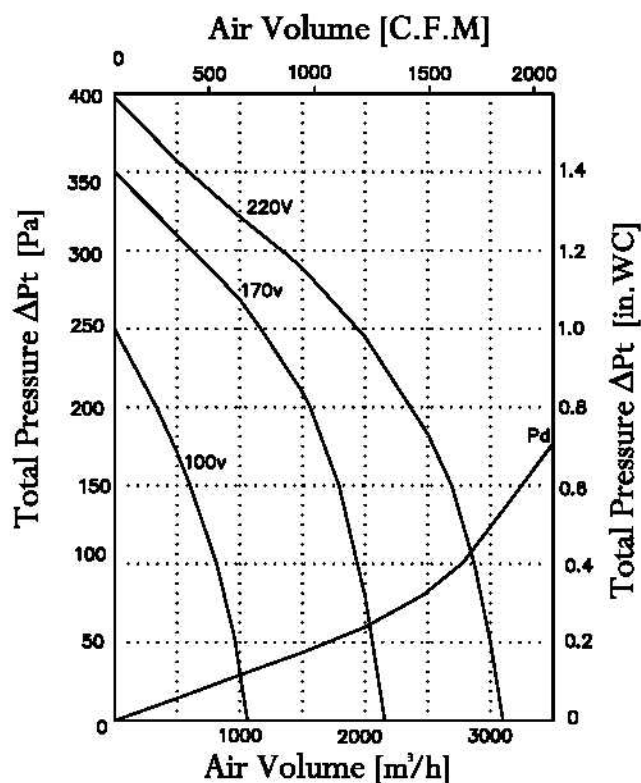
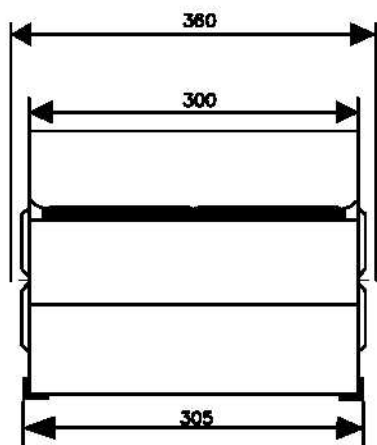


Diagram is based on standard air $\rho = 1.2 \text{ kg/m}^3$.

Pd is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line Pd and Static Pressure is shown above that line.



Double Inlet Centrifugal Fan 220 V IN~ 50 Hz

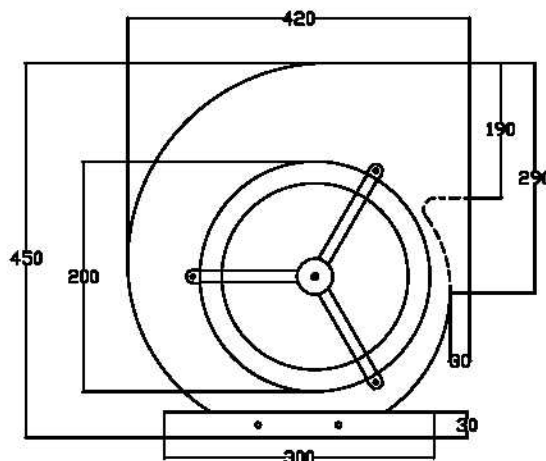
CFM	1600
Voltage Range	100 ~ 220 [v]
Frequency	50 [Hz]
Current max @free air	2.8 [A]
Power max @free air	550 [W]
Fan speed @free air	1080 [rpm]
Insulation Class	H
Protection Class	IP65
Power Factor (Cosφ)	0.90
Capacitor	10 [μF] 400 [v]
Net weight	15.5 [Kg]
Starting Torque	1.5 [nm]
Starting Current max	4 [A]
Air Temperature max	60 [c°]

Voltage [V]	Air Volume [m³/h] @ $\rho = 1.2 [\text{kg/m}^3]$					
	Free Air	Total Pressure ΔP_t [Pa]				
		50	100	150	200	250
100	1025	970	850	625	340	
170	2025		1965	1780	1550	1155
220	2795			2670	2400	1968

Wheel Diameter = 230 mm = 9 in
 35 Blades, 20 mm = ($\frac{3}{4}$)" Chord Width
 Tip Speed = rpm * 0.012 [m/s]
 = rpm * 2.37 [FPM]
 Outlet Area = 0.057 [m²] = 0.61 [SQ.FT.]

Voltage [V]	Sound Pressure Level in dB(A)		
	100	170	220
Inlet	46	60	64
Outlet	48	61	66

Measured in distance of 3m, @ free Air



D322 / E25-6

Air Volume [C.F.M]

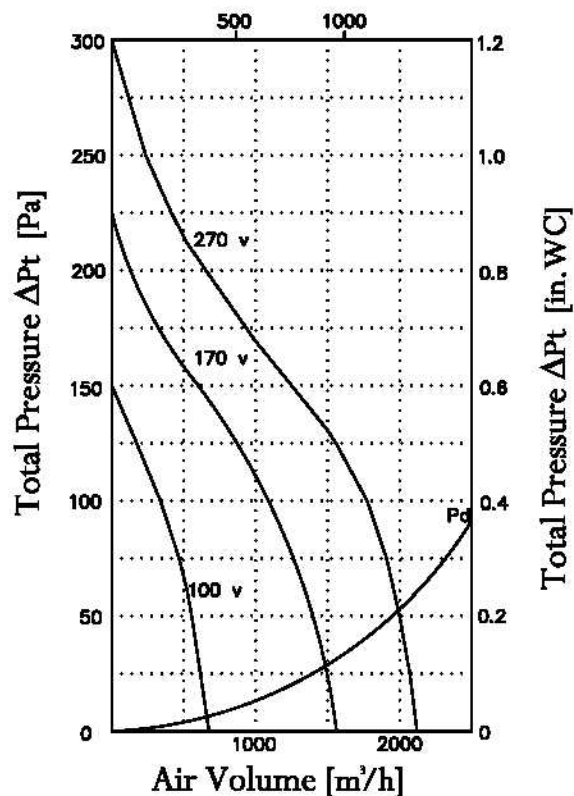
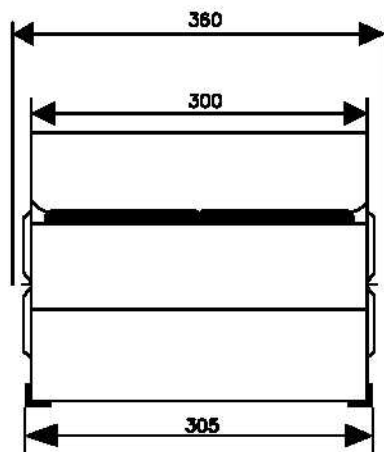


Diagram is based on standard air $\rho = 1.2 \text{ kg/m}^3$.

Pd is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line Pd and Static Pressure is shown above that line.



Double Inlet Centrifugal Fan

220 V IN~ 50 Hz

CFM

1200

Voltage Range	100 ~ 220 [V]
Frequency	50 [Hz]
Current max @free air	1.9 [A]
Power max @free air	370 [W]
Fan speed @free air	850 [rpm]
Insulation Class	H
Protection Class	IP65
Power Factor (Cosφ)	0.90
Capacitor	10 [μ F] 400 [V]
Net weight	15.5 [Kg]
Starting Torque	1.5 [nm]
Starting Current max	4 [A]
Air Temperature max	60 [$^{\circ}$ C]

Voltage [V]	Air Volume [m^3/h] @ $\rho = 1.2 \text{ kg/m}^3$					
	Free Air	Total Pressure ΔP_t [Pa]				
		50	100	150	200	250
100	1025	970	850	625	340	
170	2025		1965	1780	1550	1155
220	2795			2670	2400	1968

Wheel Diameter = 230 mm = 9 in

35 Blades, 20 mm = $(\frac{3}{4})$ " Chord Width

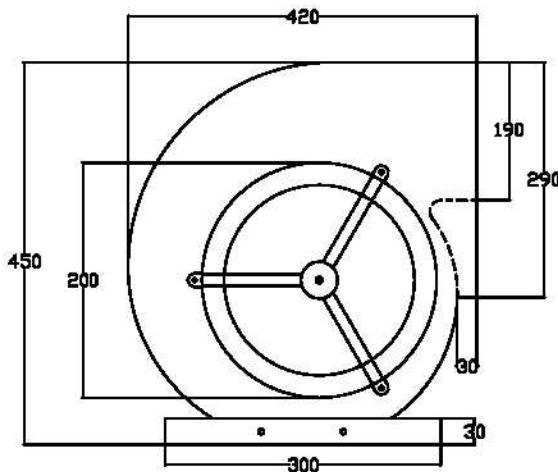
Tip Speed = rpm * 0.012 [m/s]

= rpm * 2.37 [FPM]

Outlet Area = 0.057 m^2 = 0.61 [SQ.FT.]

Voltage [V]	Sound Pressure Level in dB(A)		
	100	170	220
Inlet	46	60	64
Outlet	48	61	66

Measured in distance of 3m, @ free Air



D324 / E25-6

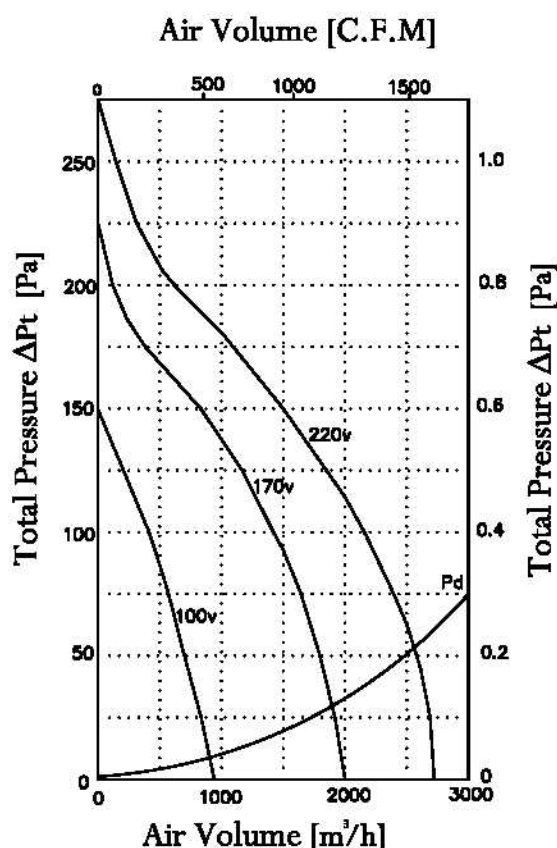
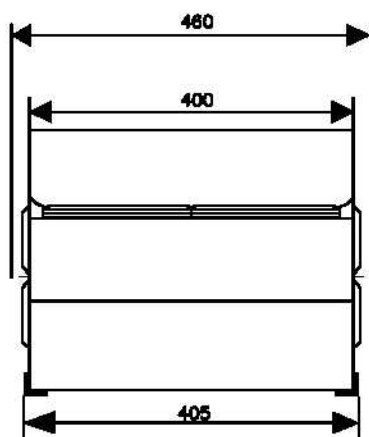


Diagram is based on standard air $\rho = 1.2 \text{ kg/m}^3$

Pd is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line Pd and Static Pressure is shown above that line.



Double Inlet Centrifugal Fan 220 V IN ~ 50 Hz

CFM	1600
Voltage Range	100 ~ 220 [v]
Frequency	50 [Hz]
Current max @free air	2.1 [A]
Power max @free air	420 [W]
Fan speed @free air	750 [rpm]
Insulation Class	H
Protection Class	IP65
Power Factor (Cosφ)	0.90
Capacitor	10 [μF] 400 [v]
Net weight	16.5 [Kg]
Starting Torque	1.5 [nm]
Starting Current max	4 [A]
Air Temperature max	60 [c°]

Voltage [V]	Air Volume [m³/h] @ $\rho = 1.2 \text{ kg/m}^3$						
	Free Air	Total Pressure ΔP_t [Pa]					
100	895	715	420	150	200	225	250
170	1890	1780	1425	825	85		
220	2560		2200	1510	605	280	90

Wheel Diameter = 230 mm = 9 in

28 Blades, 25 mm = (1) Chord Width

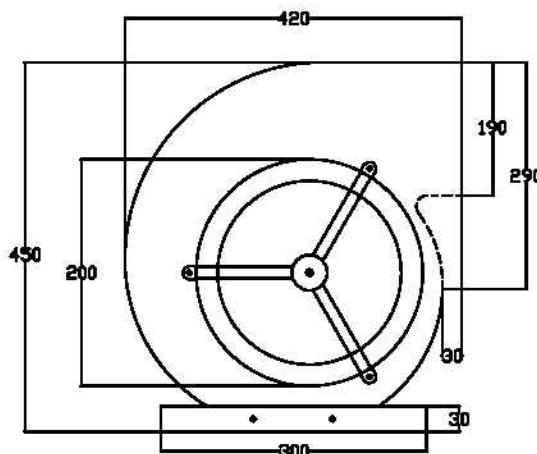
Tip Speed = rpm * 0.012 [m/s]

= rpm * 2.37 [FPM]

Outlet Area = 0.076 m^2 = 0.82 [SQ.FT.]

Voltage [V]	Sound Pressure Level in dB(A)		
	100	170	220
Inlet	46	57	61
Outlet	47	58	62

Measured in distance of 3m, @ free Air



D326 / E25-6

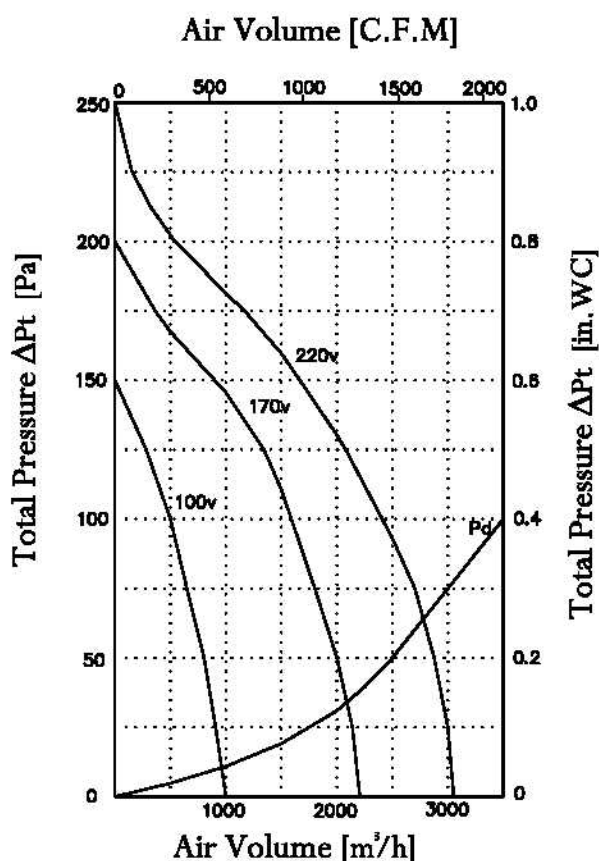
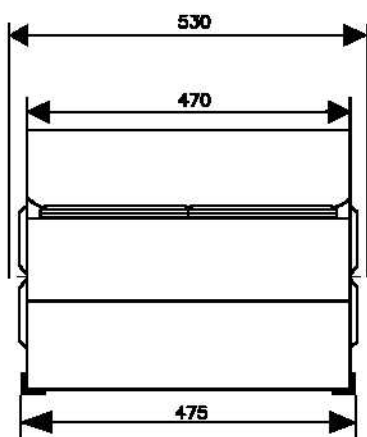


Diagram is based on standard air $\rho = 1.2 \text{ kg/m}^3$.

Pd is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line Pd and Static Pressure is shown above that line.



Double Inlet Centrifugal Fan 220 V IN~ 50 Hz

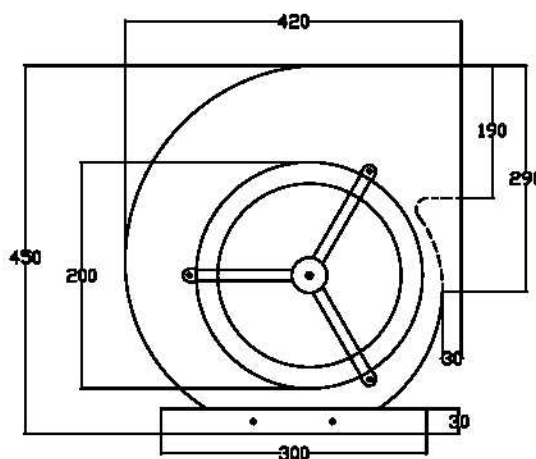
CFM	1800
Voltage Range	100 ~ 220 [v]
Frequency	50 [Hz]
Current max @free air	2.4 [A]
Power max @free air	470 [W]
Fan speed @free air	700 [rpm]
Insulation Class	H
Protection Class	IP65
Power Factor (Cosφ)	0.90
Capacitor	10 [μF] 400 [v]
Net weight	17.5 [Kg]
Starting Torque	1.5 [nm]
Starting Current max	4 [A]
Air Temperature max	60 [c°]

Voltage [V]	Air Volume [m³/h] @ $\rho = 1.2 [\text{kg/m}^3]$						
	Free Air	Total Pressure ΔPt [Pa]					
		50	100	150	175	200	225
100	1040	790	465				
170	2090	1970	1580	945	390		
220	2880		2410	1685	1135	500	150

Wheel Diameter = 230 mm = 9 in
 28 Blades, 25 mm = (1)" Chord Width
 Tip Speed = rpm * 0.012 [m/s]
 = rpm * 2.37 [FPM]
 Outlet Area = 0.089[m²] = 0.96 [SQ.FT.]

Voltage [V]	Sound Pressure Level in dB(A)		
	100	170	220
Inlet	46	57	61
Outlet	47	58	62

Measured in distance of 3m, @ free Air



D442 / E65-6

Air Volume [C.F.M]

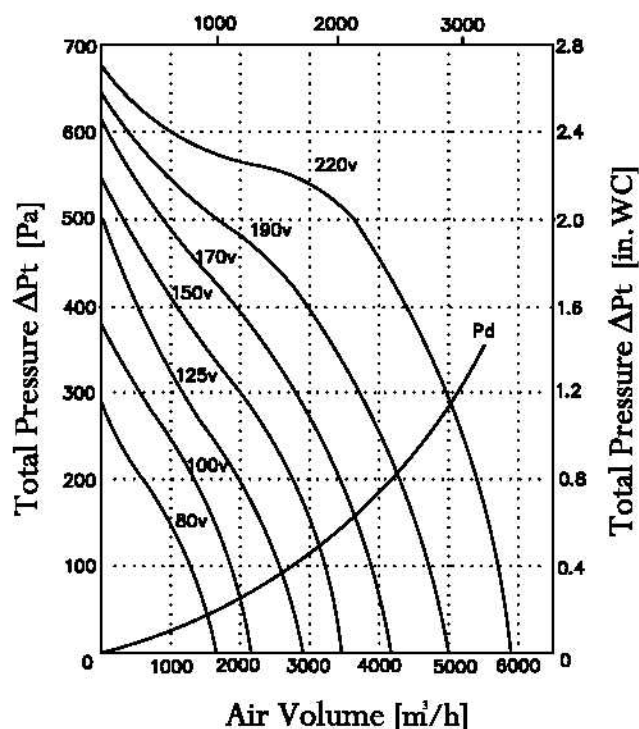
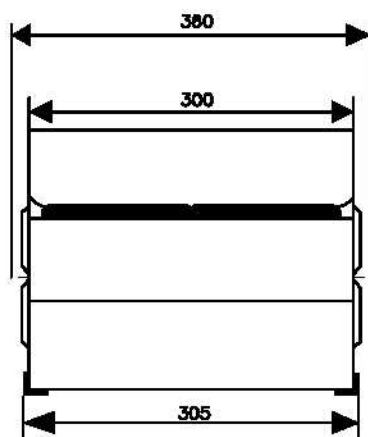


Diagram is based on standard air $\rho = 1.2 \text{ kg/m}^3$.

Pd is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line *Pd* and Static Pressure is shown above that line.



Double Inlet Centrifugal Fan 220 V IN ~ 50 Hz

CFM 3000
 Voltage Range 100 ~ 220 [v]
 Frequency 50 [Hz]
 Current max @free air 3.5 [A]
 Power max @free air 750 [W]
 Fan speed @free air 850 [rpm]
 Insulation Class H
 Protection Class IP65
 Power Factor ($\cos\phi$) 0.90
 Capacitor 25 [μF] 400 [v]
 Net weight 25 [Kg]
 Starting Torque 3.5 [nm]
 Starting Current max 7 [A]
 Air Temperature max 60 [c°]

Voltage [V]	Air Volume [m³/h] @ $\rho = 1.2 \text{ kg/m}^3$					
	Free Air	Total Pressure ΔP_t [Pa]				
		100	250	400	500	600
80	1525	1260	230			
100	2040	1845	925			
125	2610	2530	1720	560	25	
150	3135		2450	1095	340	
170	3710		3260	1905	730	90
190	4250		4065	3080	1585	310
220	4980			4475	3710	1320

Wheel Diameter = 333 mm = 13 $\frac{1}{8}$ in

50 Blades, 20 mm = $\frac{3}{4}$ " Chord Width

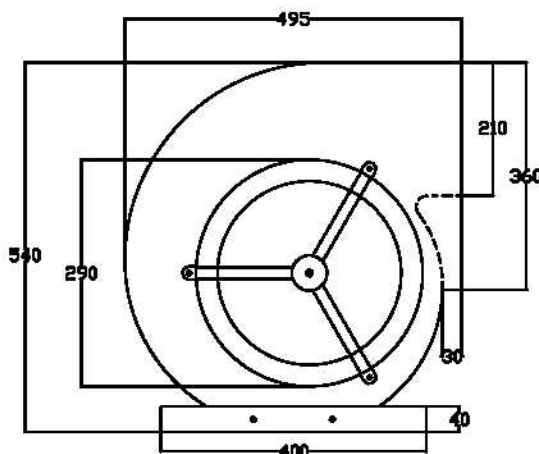
Tip Speed = rpm * 0.017 [m/s]

= rpm * 3.45 [FPM]

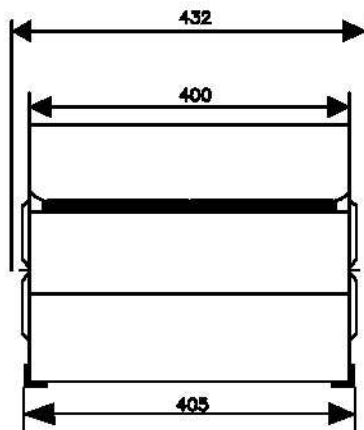
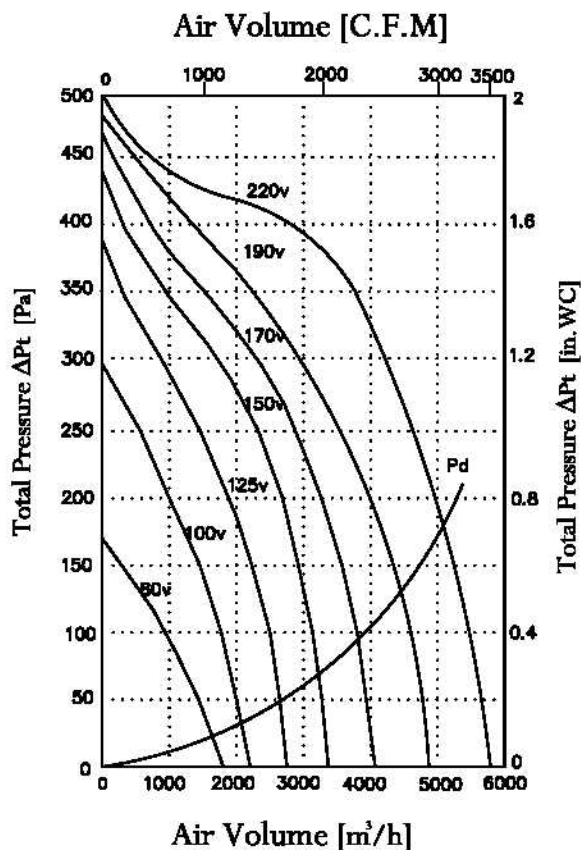
Outlet Area = 0.063 [m²] = 0.67 [SQ.FT.]

Voltage [V]	Sound Pressure Level in dB(A)						
	75	100	125	150	170	190	220
Inlet	51	55	60	64	66	69	71
Outlet	52	57	61	65	67	70	73

Measured in distance of 3m, @ free Air



D444 / E65-6



Double Inlet Centrifugal Fan

220 V IN ~ 50 Hz

CFM 3000

Voltage Range	100 ~ 220 [v]
Frequency	50 [Hz]
Current max @free air	4.5 [A]
Power max @free air	950 [W]
Fan speed @free air	700 [rpm]
Insulation Class	H
Protection Class	IP65
Power Factor (Cosφ)	0.90
Capacitor	30 [μF] 400 [v]
Net weight	28 [Kg]
Starting Torque	4 [nm]
Starting Current max	7 [A]
Air Temperature max	60 [c°]

Voltage [V]	Air Volume [m³/h] @ $\rho = 1.2 \text{ kg/m}^3$					
	Free Air	Total Pressure ΔPt [Pa]				
		100	200	300	400	500
80	1610	780				
100	2080	1710	1000			
125	2620	2440	1900	880		
150	3180	3070	2620	1810	340	
170	3750	3730	3210	2400	720	
190	4360		3980	3200	1510	
220	5100		4980	4330	2930	80

Wheel Diameter = 333 mm = 13 1/8 in

40 Blades, 25 mm = 1 1/8" Chord Width

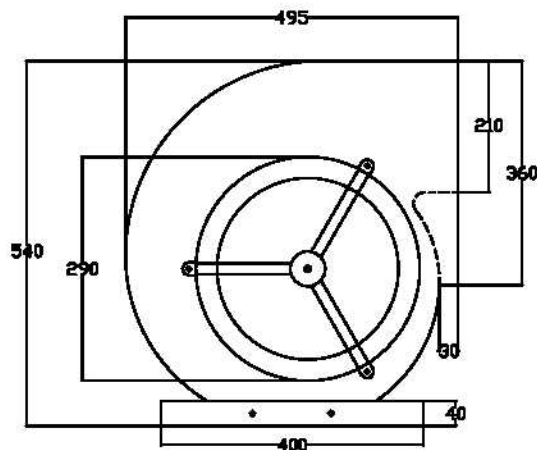
Tip Speed = rpm * 0.017 [m/s]

= rpm * 3.45 [FPM]

Outlet Area = 0.083 [m²] = 0.89 [SQ.FT.]

Voltage [V]	Sound Pressure Level in dB(A)						
	80	100	125	150	170	190	220
Inlet	48	53	58	62	65	68	71
Outlet	49	55	60	63	67	70	72

Measured in distance of 3m, @ free Air



D446 / E65-6

Air Volume [C.F.M]

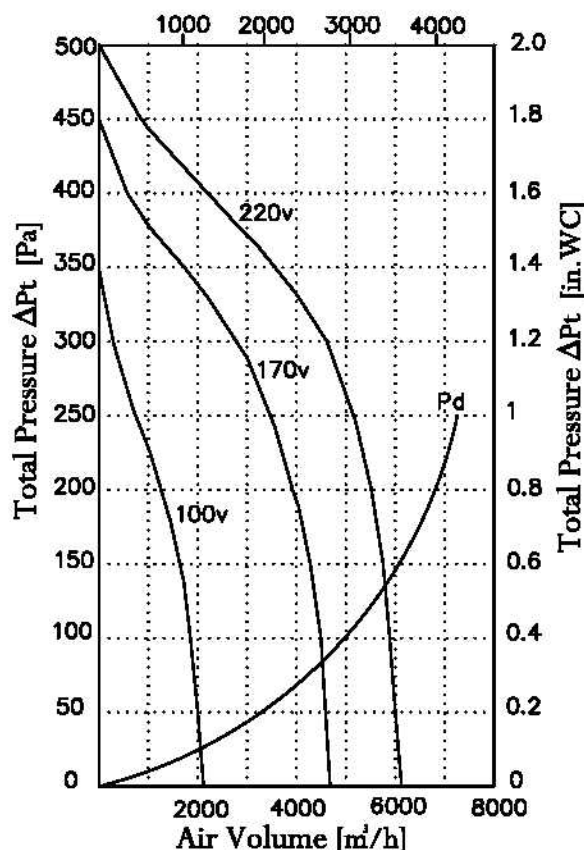
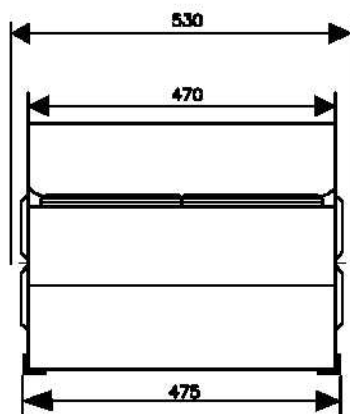


Diagram is based on standard air $\rho = 1.2 \text{ kg/m}^3$.

Pd is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line Pd and Static Pressure is shown above that line.



Double Inlet Centrifugal Fan 220 V IN ~ 50 Hz

CFM 3300

Voltage Range 100 ~ 220 [V]

Frequency 50 [Hz]

Current max @free air 4.7 [A]

Power max @free air 1000 [W]

Fan speed @free air 700 [rpm]

Insulation Class H

Protection Class IP65

Power Factor (Cosφ) 0.90

Capacitor 30 [μF] 400 [V]

Net weight 30 [Kg]

Starting Torque 4 [nm]

Starting Current max 7 [A]

Air Temperature max 60 [°C]

Voltage [V]	Air Volume [m³/h] @ $\rho = 1.2 \text{ kg/m}^3$						
	Free Air	Total Pressure ΔP_t [Pa]					
		100	200	300	350	400	450
100	2080	1880	1125	180			
170	4560	4450	3910	2850	1850	550	
220	5260		5405	4570	3600	2225	900

Wheel Diameter = 330 mm = 13 in

40 Blades, 25 mm = 1" Chord Width

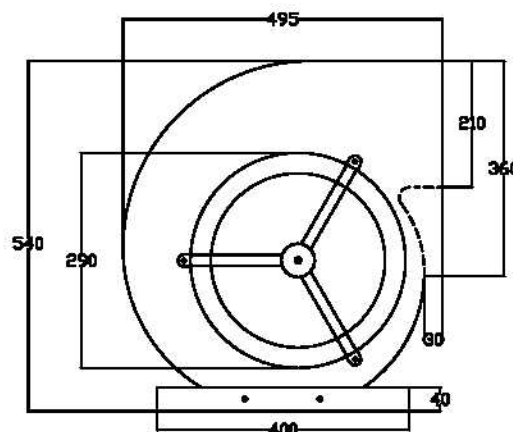
Tip Speed = rpm * 0.017 [m/s]

= rpm * 3.40 [FPM]

Outlet Area = 0.099 [m²] = 1.06 [SQ.FT.]

Voltage [V]	Sound Pressure Level in dB(A)		
	100	170	220
Inlet	55	66	71
Outlet	57	68	72

Measured in distance of 3m, @ free Air



D542 / E65-6

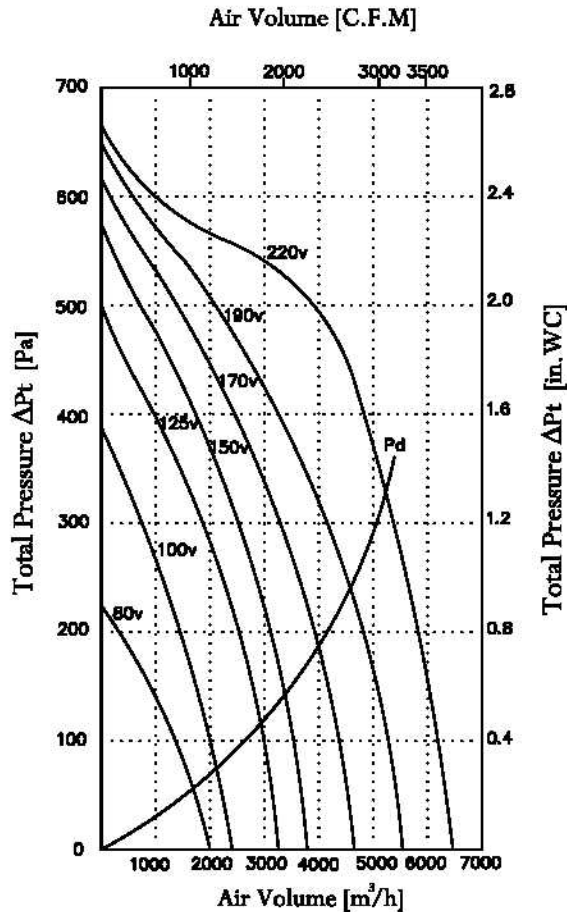
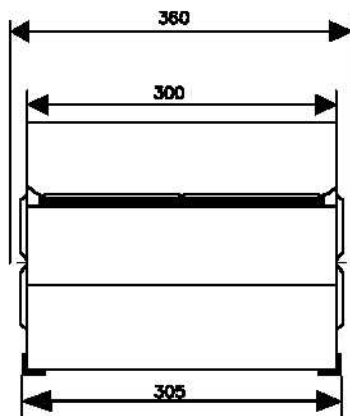


Diagram is based on standard air $\rho = 1.2 \text{ kg/m}^3$.

Pd is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line Pd and Static Pressure is shown above that line.



Double Inlet Centrifugal Fan 220 V IN~ 50 Hz

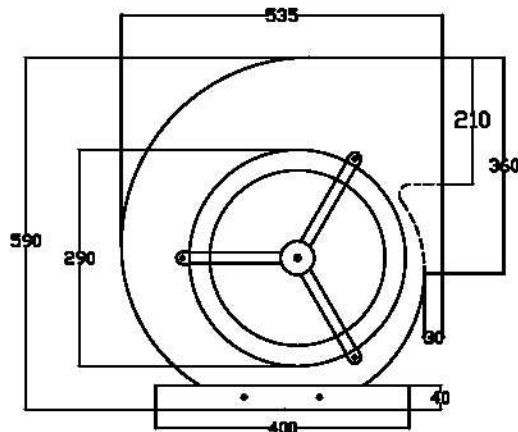
CFM	3500
Voltage Range	100 ~ 220 [v]
Frequency	50 [Hz]
Current max @free air	4.0 [A]
Power max @free air	850 [W]
Fan speed @free air	850 [rpm]
Insulation Class	H
Protection Class	IP65
Power Factor (Cosφ)	0.95
Capacitor	25 [μF] 400 [v]
Net weight	24 [Kg]
Starting Torque	3.5 [nm]
Starting Current max	7 [A]
Air Temperature max	60 [c°]

Voltage [V]	Air Volume [m³/h] @ $\rho = 1.2 \text{ kg/m}^3$					
	Free Air	Total Pressure ΔPt [Pa]				
		100	250	400	500	600
80	1730	1220				
100	2270	2080	1200			
125	2850	2840	2200	870		
150	3440		3010	1890	530	
170	3980		3680	2550	1060	120
190	4560		4320	3480	2030	390
220	5270			4780	3650	660

Wheel Diameter = 333 mm = 13 $\frac{1}{8}$ in
 50 Blades, 20 mm = $\frac{4}{5}$ " Chord Width
 Tip Speed = rpm * 0.017 [m/s]
 = rpm * 3.45 [FPM]
 Outlet Area = 0.063[m²] = 0.67 [SQ.FT.]

Voltage [V]	Sound Pressure Level in dB(A)						
	80	100	125	150	170	190	220
Inlet	51	55	61	64	67	70	72
Outlet	53	57	63	65	68	72	74

Measured in distance of 3m, @ free Air



D544 / E65-6

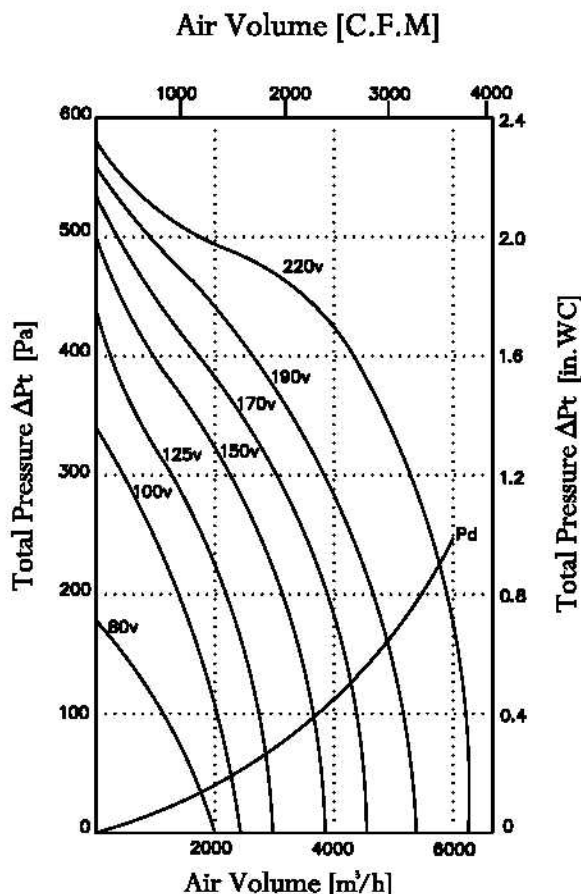
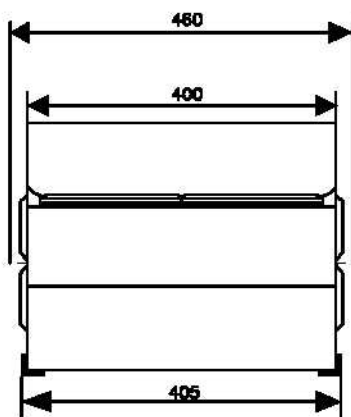


Diagram is based on standard air $\rho = 1.2 \text{ kg/m}^3$.

Pd is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line Pd and Static Pressure is shown above that line.



Double Inlet Centrifugal Fan

220 V IN ~ 50 Hz

CFM 3500

Voltage Range 100 ~ 220 [v]

Frequency 50 [Hz]

Current max @free air 4.5 [A]

Power max @free air 950 [W]

Fan speed @free air 700 [rpm]

Insulation Class H

Protection Class IP65

Power Factor (Cos ϕ) 0.95

Capacitor 30 [μ F] 400 [v]

Net weight 30 [Kg]

Starting Torque 4 [nm]

Starting Current max 7 [A]

Air Temperature max 60 [c°]

Voltage [V]	Air Volume [m³/h] @ $\rho = 1.2 \text{ kg/m}^3$					
	Free Air	Total Pressure ΔP_t [Pa]				
		100	200	300	400	500
80	1820	1120				
100	2360	2020	1350	440		
125	2945	2820	2340	1510	330	
150	3580	3530	3130	2490	1060	
170	4220		3840	3130	1770	340
190	4890		4680	4020	2880	760
220	5700			5240	4320	1290

Wheel Diameter = 333 mm = 13 $\frac{1}{8}$ in

40 Blades, 25 mm = 1" Chord Width

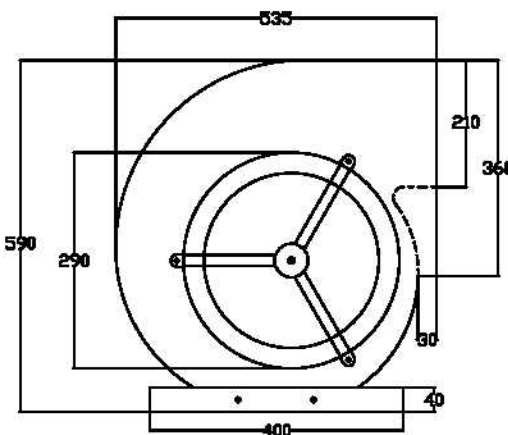
Tip Speed = rpm * 0.017 [m/s]

= rpm * 3.45 [FPM]

Outlet Area = 0.084[m²] = 0.90 [SQ.FT.]

Voltage [V]	Sound Pressure Level in dB(A)						
	80	100	125	150	170	190	220
Inlet	47	53	58	62	65	68	71
Outlet	48	55	59	63	66	70	72

Measured in distance of 3m, @ free Air



D644 / E65-6

Air Volume [C.F.M]

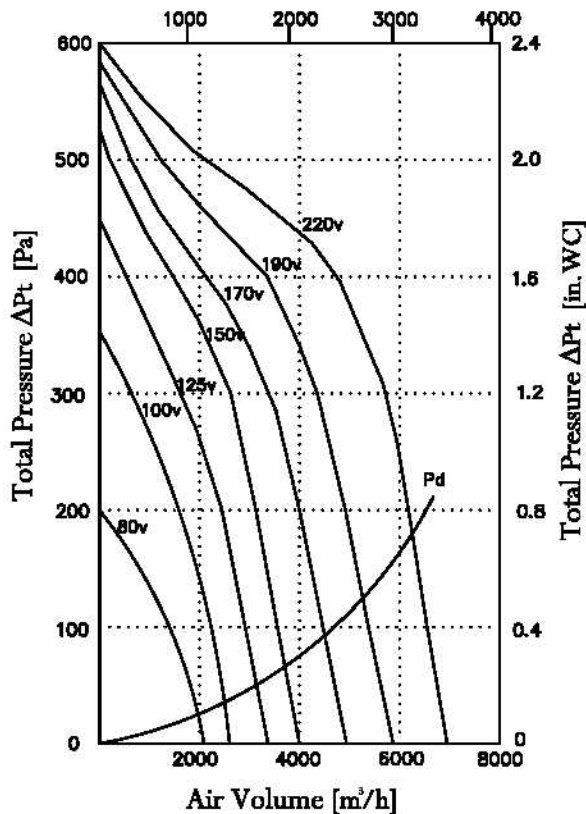
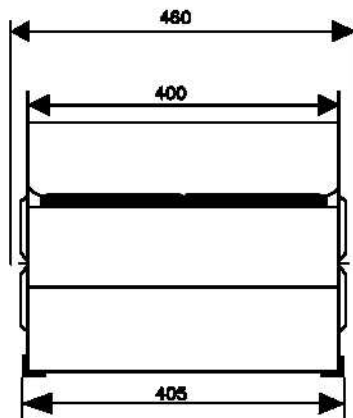


Diagram is based on standard air $\rho = 1.2 \text{ kg/m}^3$.

Pd is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line Pd and Static Pressure is shown above that line.



Double Inlet Centrifugal Fan 220 V IN~ 50 Hz

CFM	4000
Voltage Range	100 ~ 220 [v]
Frequency	50 [Hz]
Current max @free air	5.0 [A]
Power max @free air	1050 [W]
Fan speed @free air	700 [rpm]
Insulation Class	H
Protection Class	IP65
Power Factor (Cosφ)	0.95
Capacitor	30 [μF] 400 [v]
Net weight	32 [Kg]
Starting Torque	4 [nm]
Starting Current max	7 [A]
Air Temperature max	60 [c°]

Voltage [V]	Air Volume [m³/h] @ $\rho = 1.2 \text{ kg/m}^3$					
	Free Air	Total Pressure ΔP_t [Pa]				
		100	200	300	400	500
80	1970	1210				
100	2540	2160	1500	610		
125	3170	2980	2510	1720	510	
150	3850	3740	3340	2730	1390	180
170	4550	4540	4080	3410	2130	560
190	5320		4980	4310	3240	1170
220	6240		6130	5570	4730	2260

Wheel Diameter = 333 mm = 13 $\frac{1}{8}$ in

40 Blades, 25 mm = 1" Chord Width

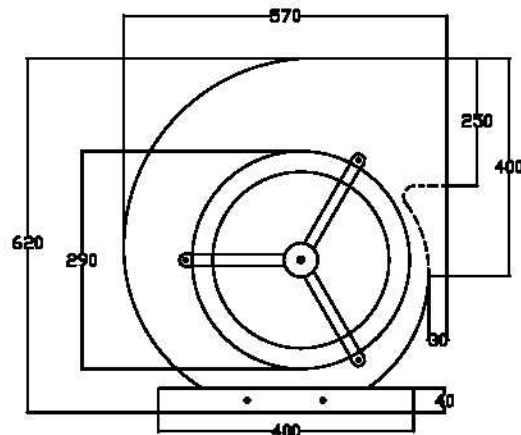
Tip Speed = rpm * 0.017 [m/s]

= rpm * 3.45 [FPM]

Outlet Area = 0.084[m_a] = 0.90 [SQ.FT.]

Voltage [V]	Sound Pressure Level in dB(A)						
	80	100	125	150	170	190	220
Inlet	46	53	57	60	64	66	69
Outlet	48	54	58	62	65	78	70

Measured in distance of 3m, @ free Air



D646 / E65-6

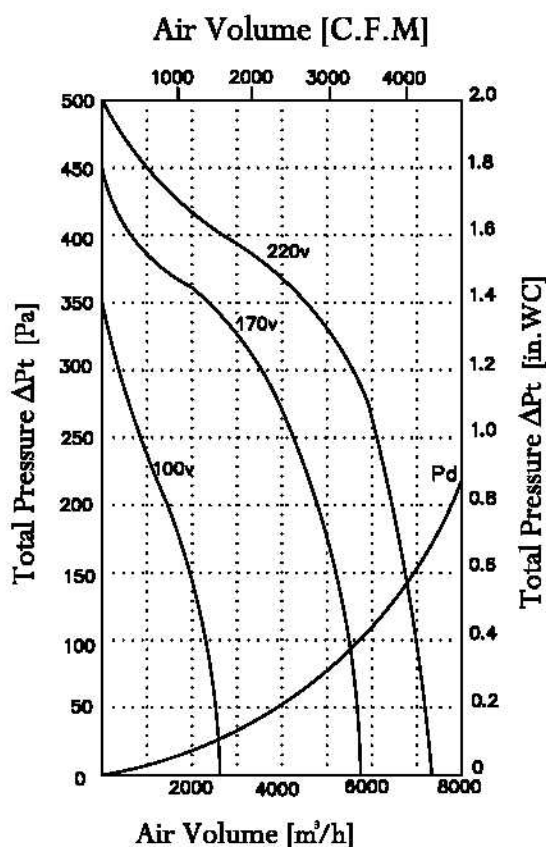
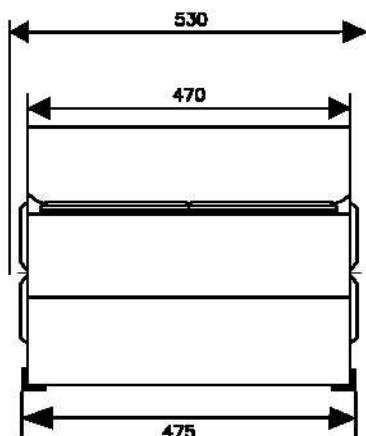


Diagram is based on standard air $\rho = 1.2 \text{ kg/m}^3$.

Pd is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line Pd and Static Pressure is shown above that line.



Double Inlet Centrifugal Fan 220 V IN ~ 50 Hz

CFM	4100
Voltage Range	100 ~ 220 [v]
Frequency	50 [Hz]
Current max @free air	5.5 [A]
Power max @free air	1150 [W]
Fan speed @free air	650 [rpm]
Insulation Class	H
Protection Class	IP65
Power Factor (Cosφ)	0.95
Capacitor	30 [μF] 400 [v]
Net weight	34 [Kg]
Starting Torque	4 [nm]
Starting Current max	7 [A]
Air Temperature max	60 [c°]

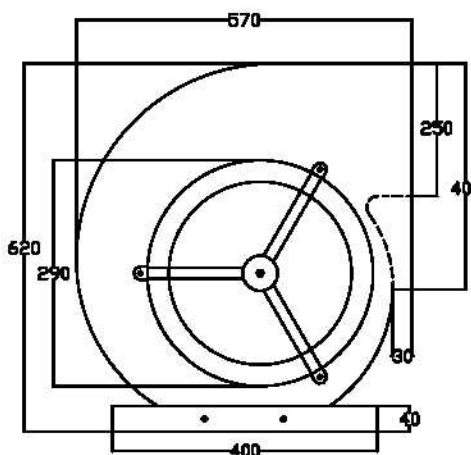
Voltage [V]	Air Volume [m^3/h] @ $\rho = 1.2 [\text{kg/m}^3]$						
	Free Air	Total Pressure ΔP_t [Pa]					
100	2540	2295	1375	220	350	400	450
170	5420	5430	4770	3445	2240	685	
220	6855		6590	5575	4465	2695	990

Wheel Diameter = 330 mm = 13 in
40 Blades, 25 mm = 1" Chord Width
Tip Speed = $\text{rpm} \times 0.017 [\text{m/s}]$
= $\text{rpm} \times 3.4 [\text{FPM}]$

Outlet Area = $0.118 [\text{m}^2] = 1.26 [\text{SQ.FT.}]$

Voltage [V]	Sound Pressure Level in dB(A)		
	100	170	220
Inlet	56	67	71
Outlet	57	68	72

Measured in distance of 3m, @ free Air



15-13 A / TE130-6

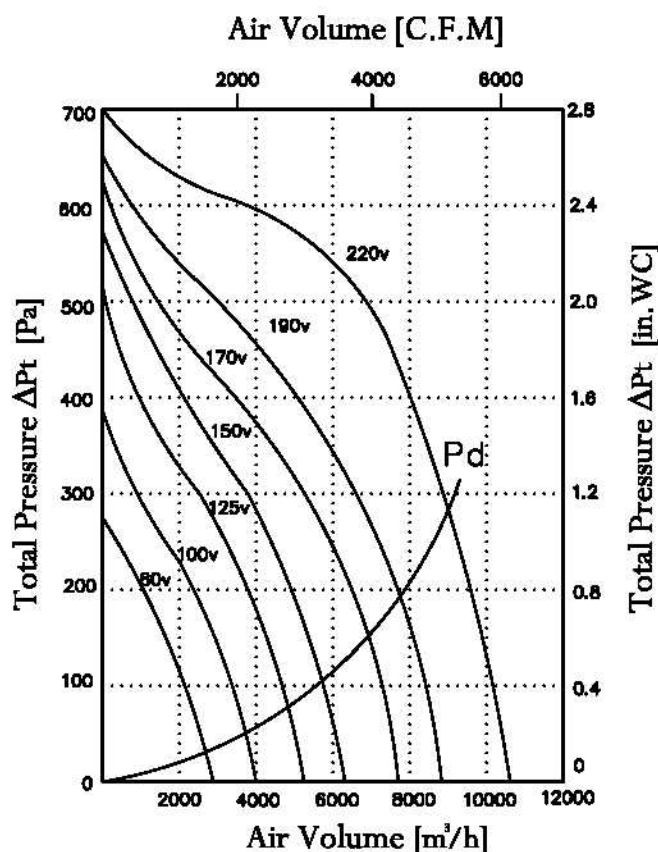
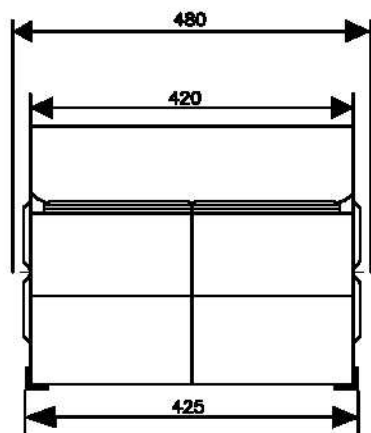


Diagram is based on standard air $\rho = 1.2 \text{ kg/m}^3$

Pd is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line Pd and Static Pressure is shown above that line.



Double Inlet Centrifugal Fan

220 V IN~ 50 Hz

CFM 4600

Voltage Range 100 ~ 220 [v]

Frequency 50 [Hz]

Current max @free air 9.0 [A]

Power max @free air 1900 [W]

Fan speed @free air 700 [rpm]

Insulation Class H

Protection Class IP65

Power Factor (Cosφ) 0.95

Capacitor 2*30 [μF] 400 [v]

Net weight 52 [Kg]

Starting Torque 8 [nm]

Starting Current max 14 [A]

Air Temperature max 60 [°c]

Voltage [V]	Air Volume [m³/h] @ $\rho = 1.2 [\text{kg/m}^3]$					
	Free Air	Total Pressure ΔPt [Pa]				
		100	250	400	500	600
80	2790	2280	540			
100	3680	3350	1820			
125	4720	4570	3190	1160	170	
150	5710		4490	2190	770	
170	6700		5940	3720	1550	350
190	7700		7390	5750	3350	830
220	9040			8150	6930	3770

Wheel Diameter = 380 mm = 15 in

51 Blades, 35 mm = 1 3/8" Chord Width

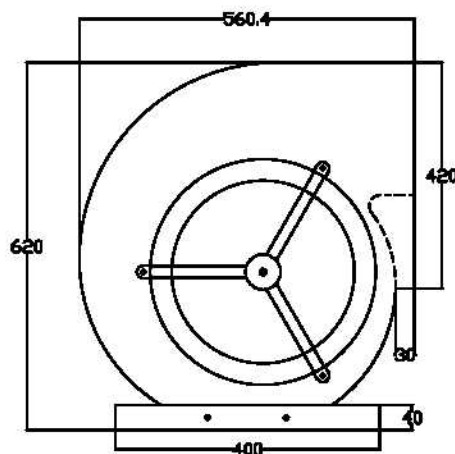
Tip Speed = rpm * 0.019 [m/s]

= rpm * 3.95 [FPM]

Outlet Area = 0.12 [m²] = 1.36 [SQ.FT.]

Voltage [V]	Sound Pressure Level in dB(A)						
	80	100	125	150	170	190	220
Inlet	45	51	55	61	66	68	71
Outlet	47	52	58	63	68	70	73

Measured in distance of 3m, @ free Air



15-13 B / TE130-6

Double Inlet Centrifugal Fan

220 V IN ~ 50 Hz

CFM 5000

Voltage Range 100 ~ 220 [v]

Frequency 50 [Hz]

Current max @free air 9.0 [A]

Power max @free air 1900 [W]

Fan speed @free air 700 [rpm]

Insulation Class H

Protection Class IP65

Power Factor (Cosφ) 0.95

Capacitor 2*30 [μF] 400 [v]

Net weight 52 [Kg]

Starting Torque 8 [nm]

Starting Current max 14 [A]

Air Temperature max 60 [°C]

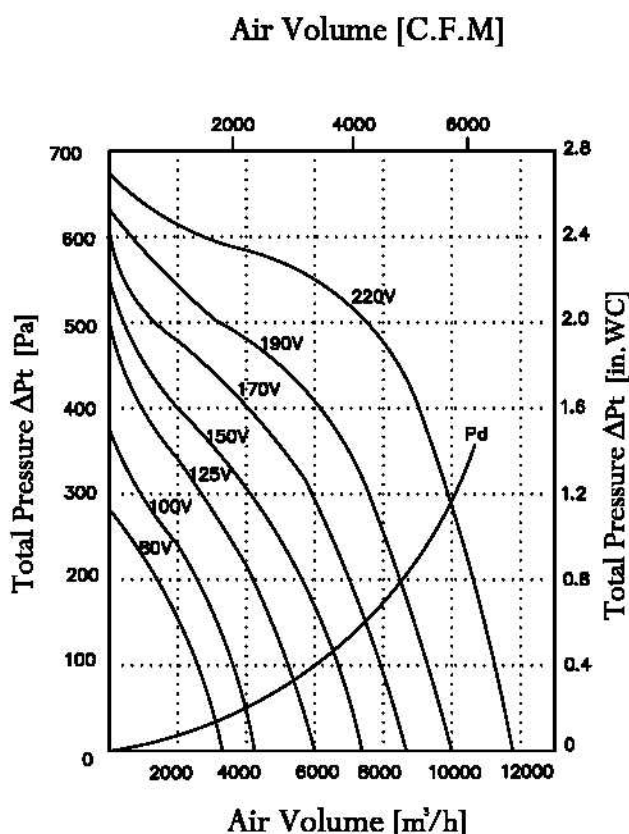


Diagram is based on standard air $\rho = 1.2 \text{ kg/m}^3$

Pd is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line Pd and Static Pressure is shown above that line.

Voltage [V]	Air Volume [m³/h] @ $\rho = 1.2 \text{ kg/m}^3$				
	Free Air	100	250	400	500
80	2790	2280	540		
100	3680	3350	1820		
125	4720	4570	3190	1160	170
150	5710		4490	2190	770
170	6700		5940	3720	1550
190	7700		7390	5750	3350
220	9040			8150	6930

Wheel Diameter = 380 mm = 15 in

51 Blades, 35 mm = 1 3/8" Chord Width

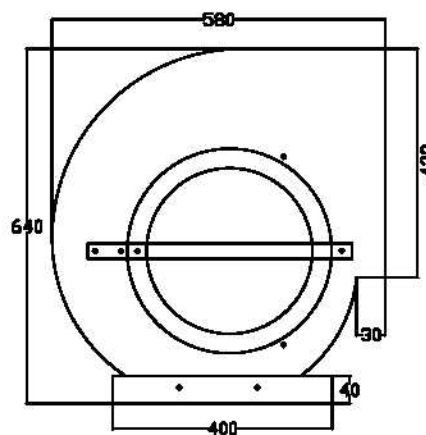
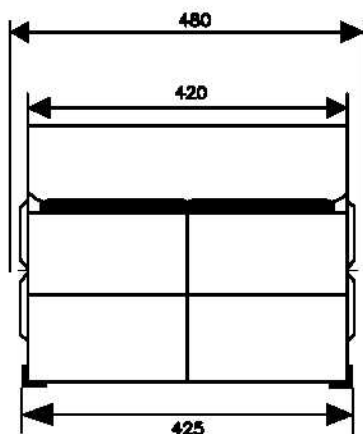
Tip Speed = rpm * 0.019 [m/s]

= rpm * 3.95 [FPM]

Outlet Area = 0.12 [m²] = 1.36 [SQ.FT.]

Voltage [V]	Sound Pressure Level in dB(A)						
	80	100	125	150	170	190	220
Inlet	45	51	55	61	66	68	71
Outlet	47	52	58	63	68	70	73

Measured in distance of 3m, @ free Air



15-15 A / TE130-6

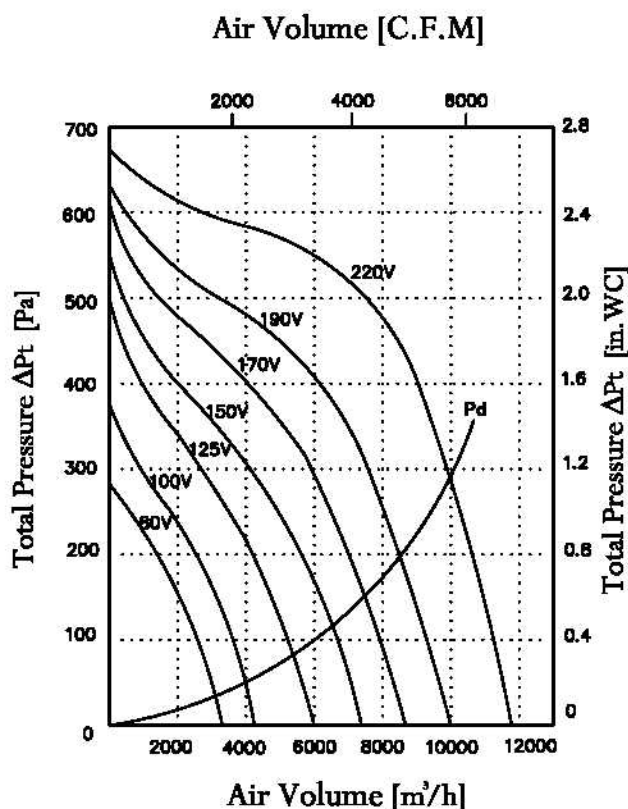
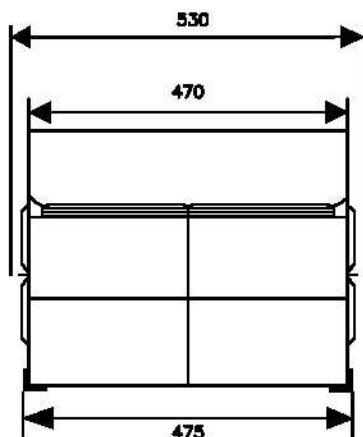


Diagram is based on standard air $\rho = 1.2 \text{ kg/m}^3$.

P_d is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line P_d and Static Pressure is shown above that line.



Double Inlet Centrifugal Fan 220 V IN~ 50 Hz

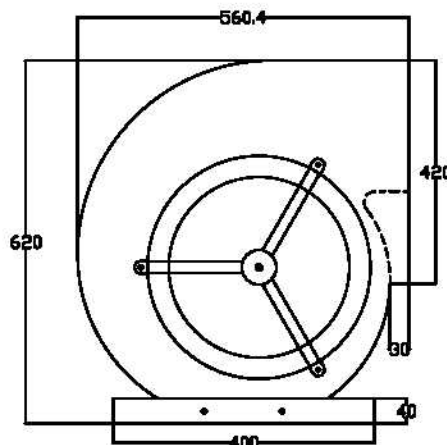
CFM	5500
Voltage Range	100 ~ 220 [v]
Frequency	50 [Hz]
Current max @free air	10.0 [A]
Power max @free air	2100 [W]
Fan speed @free air	700 [rpm]
Insulation Class	H
Protection Class	IP65
Power Factor (Cosφ)	0.95
Capacitor	2*30 [μF] 400 [v]
Net weight	54 [Kg]
Starting Torque	8 [nm]
Starting Current max	14 [A]
Air Temperature max	60 [°c]

Voltage [V]	Air Volume [m^3/h] @ $\rho = 1.2 \text{ kg/m}^3$					
	Free Air	Total Pressure ΔP_t [Pa]				
		100	250	400	500	600
80	3060	2510	460			
100	4070	3690	1840			
125	5220	5050	3400	1130	60	
150	6270		4880	2180	670	
170	7400		6520	3810	1450	170
190	8490		8110	6140	3170	610
220	9940			8930	7400	2600

Wheel Diameter = 380 mm = 15 in
 51 Blades, 35 mm = $1\frac{3}{8}$ " Chord Width
 Tip Speed = $\text{rpm} \times 0.019 \text{ [m/s]}$
 = $\text{rpm} \times 3.95 \text{ [FPM]}$
 Outlet Area = $0.12 \text{ [m}^2\text{]} = 1.36 \text{ [SQ.FT.]}$

Voltage [V]	Sound Pressure Level in dB(A)						
	80	100	125	150	170	190	220
Inlet	46	52	56	61	66	68	71
Outlet	49	54	59	64	68	71	74

Measured in distance of 3m, @ free Air



15-15 B / TE130-6

Double Inlet Centrifugal Fan 220 V IN ~ 50 Hz

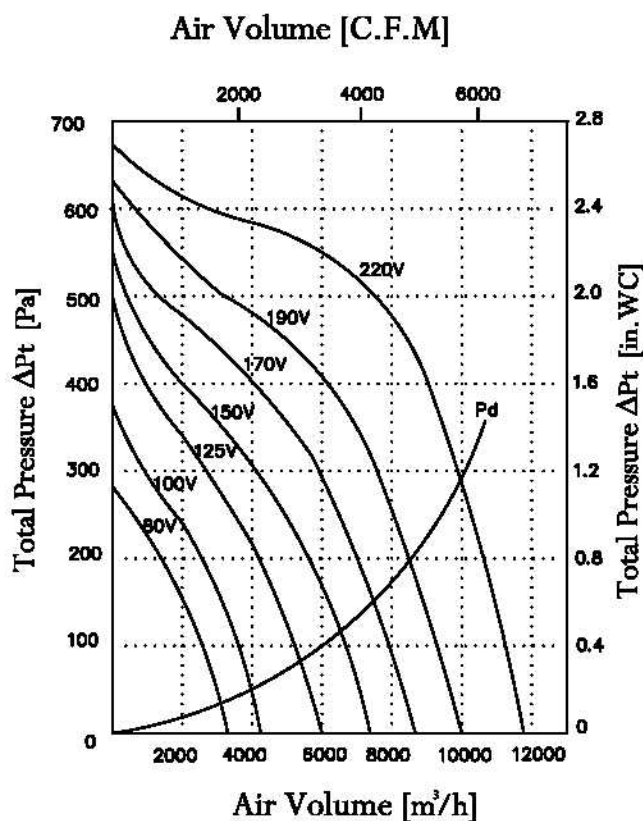
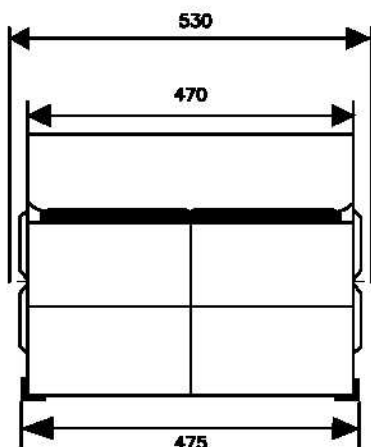


Diagram is based on standard air $\rho = 1.2 \text{ kg/m}^3$.

P_d is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line P_d and Static Pressure is shown above that line.



CFM	6000
Voltage Range	100 ~ 220 [v]
Frequency	50 [Hz]
Current max @free air	10.0 [A]
Power max @free air	2100 [W]
Fan speed @free air	700 [rpm]
Insulation Class	H
Protection Class	IP65
Power Factor (Cosφ)	0.95
Capacitor	2*30 [μF] 400 [v]
Net weight	54 [Kg]
Starting Torque	8 [nm]
Starting Current max	14 [A]
Air Temperature max	60 [°c]

Voltage [V]	Air Volume [m^3/h] @ $\rho = 1.2 \text{ kg/m}^3$					
	Free Air	Total Pressure ΔP_t [Pa]				
		100	250	400	500	600
80	3060	2510	460			
100	4070	3690	1840			
125	5220	5050	3400	1130	60	
150	6270		4880	2180	670	
170	7400		6520	3810	1450	170
190	8490		8110	6140	3170	610
220	9940			8930	7400	2600

Wheel Diameter = 380 mm = 15 in

51 Blades, 35 mm = $1\frac{3}{8}$ " Chord Width

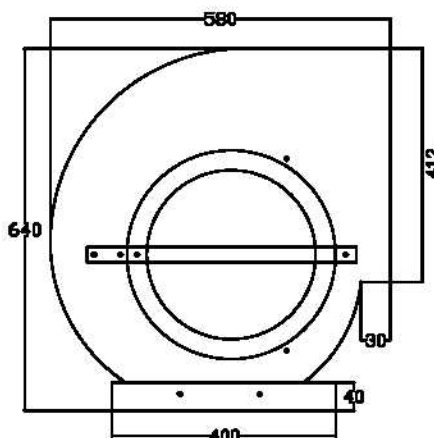
Tip Speed = $\text{rpm} \times 0.019 \text{ [m/s]}$

= $\text{rpm} \times 3.95 \text{ [FPM]}$

Outlet Area = $0.12 \text{ [m}^2\text{]} = 1.36 \text{ [SQ.FT.]}$

Voltage [V]	Sound Pressure Level in dB(A)						
	80	100	125	150	170	190	220
Inlet	46	52	56	61	66	68	71
Outlet	49	54	59	64	68	71	74

Measured in distance of 3m, @ free Air



Selection Guide of 1-Ph Direct Drive Centrifugal Fans (Single Inlet)

جدول راهنمای فن های سانتریفیوژ کوپل مستقیم تکفاز (یک طرفه)

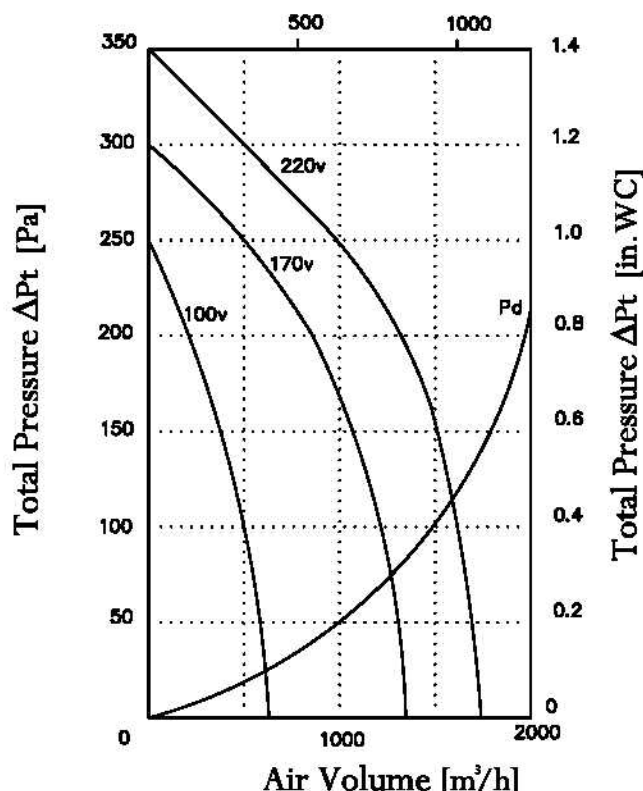
Type	Air volume [C.F.M]	Current [A]	Power [W]	Speed [r.p.m]	Starting Torque[Nm]	Starting Current [A]	Power Factor Cos φ	Capacitor [μF]/[V]	Dimensions H*W*D [Cm]	Outlet Area H*W [Cm]	Net Weight [Kg]
مدل	هوادهی [C.F.M]	جریان [A]	توان [W]	سرعت [r.p.m]	گشتاور راه اندازی [Nm]	جریان راه اندازی [A]	ضریب قدرت Cos φ	خازن [μF]/[V]	ابعاد فن [Cm]	دهانه خروجی [Cm]	وزن خالص [Kg]
E221/4	950	1.8	350	1350	1.5	4	0.90	10/400	40*19*38	26*19	12.5
E221/6	650	1.5	300	920	1.5	4	0.90	10/400	40*19*38	26*19	12.5
E223/4	1200	2.1	400	1200	1.5	4	0.90	10/400	40*24*38	26*24	13.5
E223/6	850	1.7	340	850	1.5	4	0.90	10/400	40*24*38	26*24	13.5
E225/4	1300	2.4	470	1100	1.5	4	0.90	10/400	40*26*38	26*26	14.5
E225/6	1000	1.8	470	700	1.5	4	0.90	10/400	40*26*38	26*26	14.5
E443	1500	3.0	650	850	3.5	7	0.98	25/400	54*24*50	36*24	22
E543	2000	3.5	750	850	3.5	7	0.98	25/400	59*24*54	36*24	23
E643	2500	4.0	850	850	3.5	7	0.98	25/400	62*24*57	40*24	24
15-8A	2800	4.5	950	700	4	7	0.95	30/400	62*26*56	42*26	29.5
15-8B	3000	4.5	950	700	4	7	0.95	30/400	64*26*58	42*26	29.5

** مشخصات مشترک در تمامی مدل ها **

Voltage [V]	Frequency [Hz]	Insulation Class	Protection Class	Air Temp Max / Min	Blade Type
ولتاژ	فرکانس	کلاس عایقی	کلاس حفاظتی	درجه حرارت	نوع پره
100 ~ 220	50	H	IP65	-40° / +60°	Forward Curved

E221 / E25-4

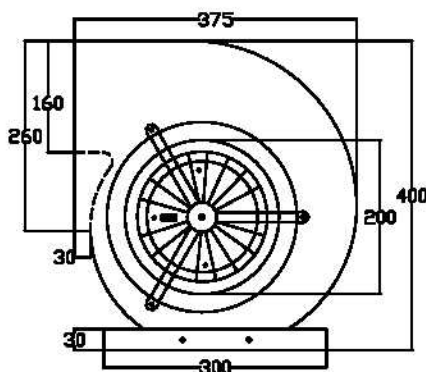
Air Volume [C.F.M]



Air Volume [m^3/h]

Diagram is based on standard air $\rho = 1.2 kg/m^3$.

P_d is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line P_d and Static Pressure is shown above that line.



Single Inlet Centrifugal Fan 220 V IN~ 50 Hz

CFM	950
Voltage Range	100 ~ 220 [v]
Frequency	50 [Hz]
current max @free air	1.8 [A]
Power max @free air	350 [W]
Fan speed @free air	1350 [rpm]
Insulation Class	H
Protection Class	IP65
Power Factor (Cos ϕ)	0.90
Capacitor	10 [μF] 400 [v]
Net weight	12.5 [Kg]
Starting Torque	1.5 [nm]
Starting Current max	4 [A]
Air Temperature max	60 [c°]

Voltage [V]	Air Volume [m^3/h] @ $\rho = 1.2 [kg/m^3]$					
	Free Air	Total Pressure ΔP_t [Pa]				
		50	100	150	200	250
100	570	560	490	360	195	
170	1185		1145	1035	860	530
220	1635			1550	1330	1000

Wheel Diameter = 230 mm = 9 in

35 Blades, 20 mm = ($\frac{3}{4}$)" Chord Width

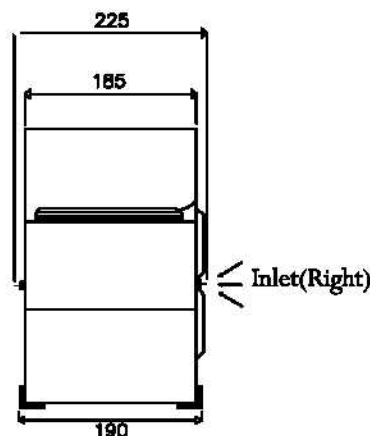
Tip Speed = rpm * 0.012 [m/s]

= rpm * 2.37 [FPM]

Outlet Area = 0.030 [m^2] = 0.32 [SQ.FT.]

Voltage [V]	Sound Pressure Level in dB(A)		
	120	170	220
Inlet	43	61	65
Outlet	44	61	66

Measured in distance of 3m, @ free Air



E221 / E25-6

Air Volume [C.F.M]

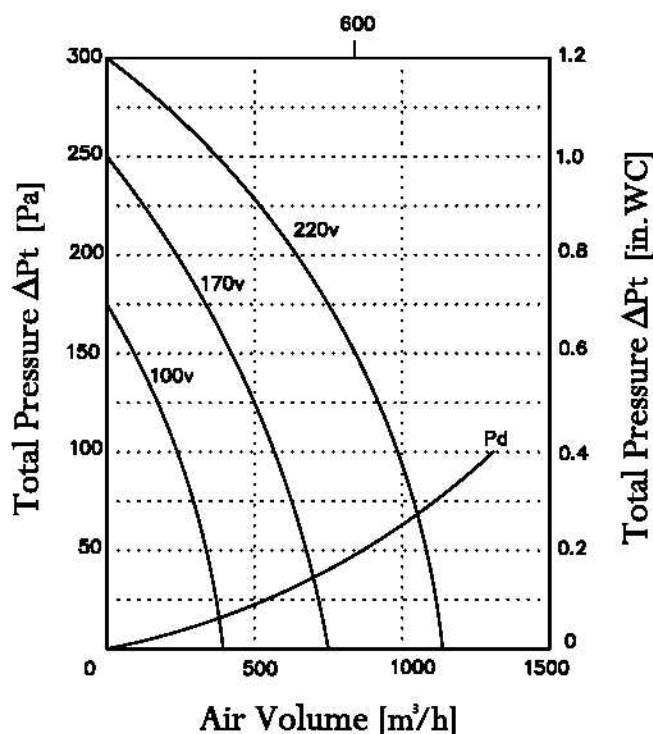
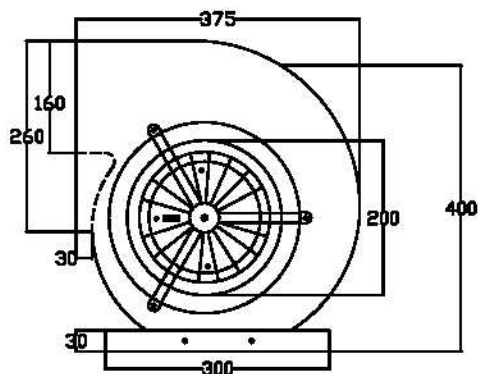


Diagram is based on standard air $\rho = 1.2 \text{ kg/m}^3$.

Pd is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line Pd and Static Pressure is shown above that line.



Single Inlet Centrifugal Fan

220 V IN ~ 50 Hz

CFM 650

Voltage Range 100 ~ 220 [v]

Frequency 50 [Hz]

current max @free air 1.5 [A]

Power max @free air 300 [W]

Fan speed @free air 920 [rpm]

Insulation Class H

Protection Class IP65

Power Factor (Cos ϕ) 0.90

Capacitor 10 [μ F] 400 [v]

Net weight 12.5 [Kg]

Starting Torque 1.5 [nm]

Starting Current max 4 [A]

Air Temperature max 60 [c°]

Voltage [V]	Air Volume [m^3/h] @ $\rho = 1.2 \text{ kg/m}^3$					
	Free Air	Total Pressure ΔP_t [Pa]				
		50	100	150	175	200
100	325	310	225	80		
170	695	690	592	385	225	125
220	1050		910	670	520	365

Wheel Diameter = 230 mm = 9 in

35 Blades, 20 mm = ($\frac{4}{5}$)" Chord Width

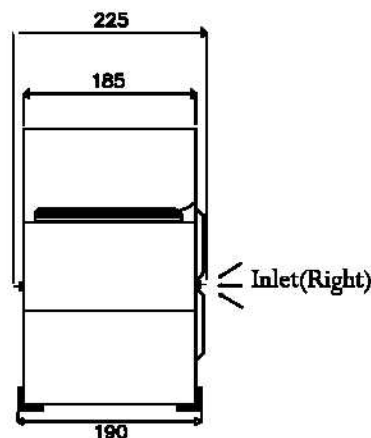
Tip Speed = rpm * 0.012 [m/s]

= rpm * 2.37 [FPM]

Outlet Area = 0.03 [m^2] = 0.32 [SQ.FT.]

Voltage [V]	Sound Pressure Level in dB(A)		
	120	170	220
Inlet	40	57	61
Outlet	41	57	62

Measured in distance of 3m, @ free Air



E223 / E25-4

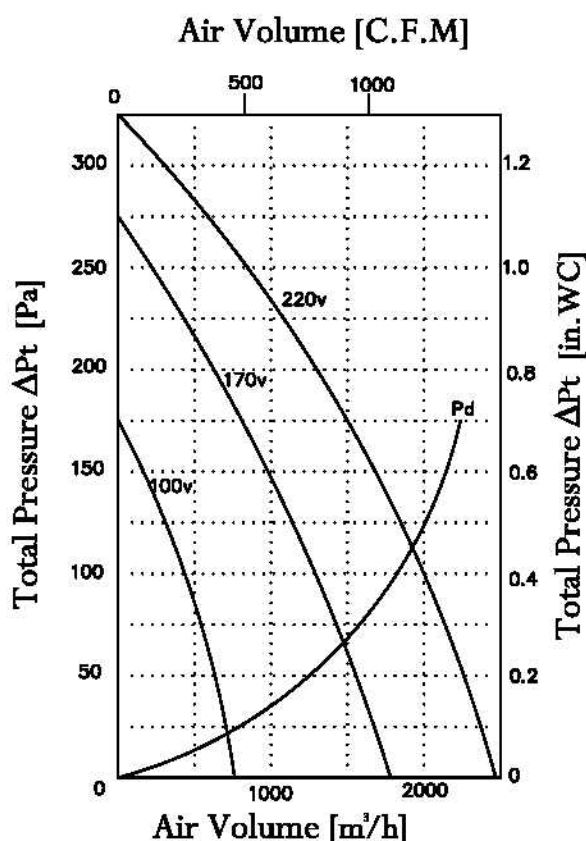
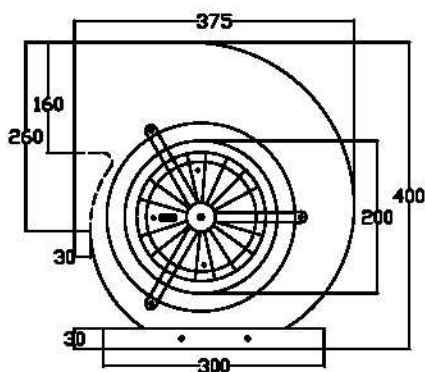


Diagram is based on standard air $\rho = 1.2 \text{ kg/m}^3$.

Pd is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line Pd and Static Pressure is shown above that line.



Single Inlet Centrifugal Fan 220 V IN ~ 50 Hz

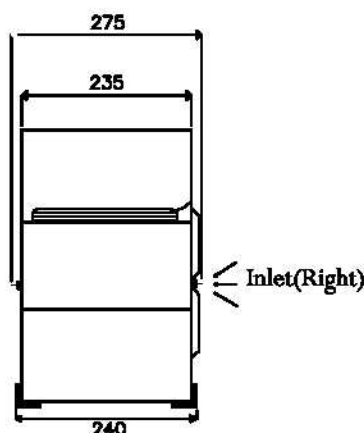
CFM	1200
Voltage Range	100 ~ 220 [v]
Frequency	50 [Hz]
current max @free air	2.1 [A]
Power max @free air	400 [W]
Fan speed @free air	1200 [rpm]
Insulation Class	H
Protection Class	IP65
Power Factor (Cosφ)	0.90
Capacitor	10 [μ F] 400 [v]
Net weight	13.5 [Kg]
Starting Torque	1.5 [nm]
Starting Current max	4 [A]
Air Temperature max	60 [c°]

Voltage [V]	Air Volume [m^3/h] @ $\rho = 1.2 \text{ kg/m}^3$					
	Free Air	Total Pressure ΔP_t [Pa]				
100	710	50	100	125	150	175
170	1505	620	390	135		
220	1980	1320	1000	650	250	
			1790	1325	805	207

Wheel Diameter = 230 mm = 9 in
 28 Blades, 25 mm = 1" Chord Width
 Tip Speed = $\text{rpm} \times 0.012 \text{ [m/s]}$
 = $\text{rpm} \times 2.37 \text{ [FPM]}$
 Outlet Area = $0.038 \text{ [m}^2\text{]} = 0.40 \text{ [SQ.FT.]}$

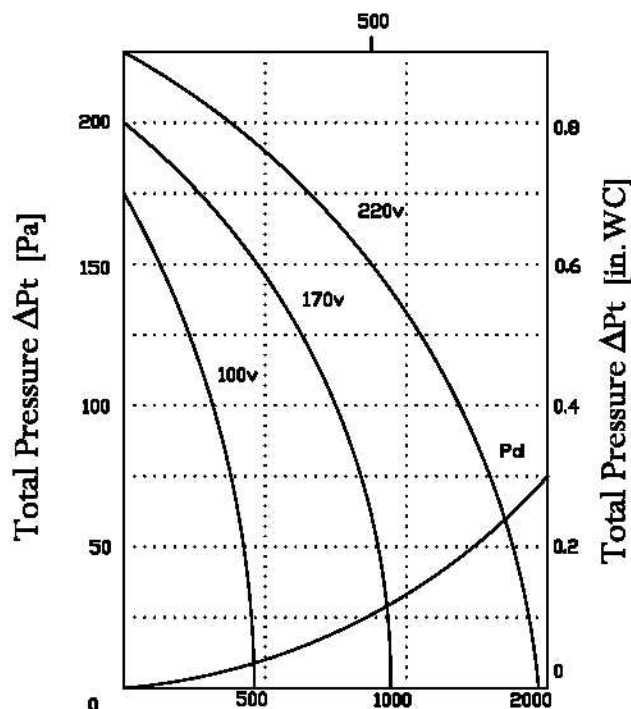
Voltage [V]	Sound Pressure Level in dB(A)		
	120	170	220
Inlet	41	57	61
Outlet	42	58	62

Measured in distance of 3m, @ free Air



E223/ E25-6

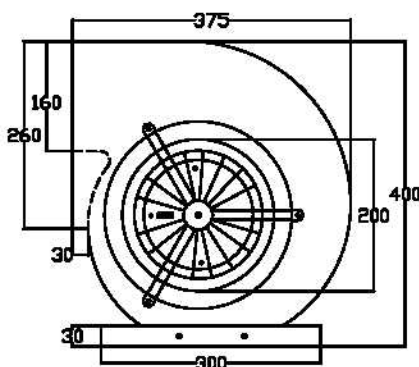
Air Volume [C.F.M]



Air Volume [m^3/h]

Diagram is based on standard air $\rho = 1.2 kg/m^3$

Pd is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line Pd and Static Pressure is shown above that line.



Single Inlet Centrifugal Fan

220 V IN~ 50 Hz

CFM	850
Voltage Range	100 ~ 220 [v]
Frequency	50 [Hz]
current max @free air	1.7 [A]
Power max @free air	340 [W]
Fan speed @free air	850 [rpm]
Insulation Class	H
Protection Class	IP65
Power Factor (Cosφ)	0.90
Capacitor	10 [μF] 400 [v]
Net weight	13.5 [Kg]
Starting Torque	1.5 [nm]
Starting Current max	4 [A]
Air Temperature max	60 [c°]

Voltage [V]	Air Volume [m^3/h] @ $\rho = 1.2 [kg/m^3]$						
	Free Air	Total Pressure ΔP_t [Pa]					
		50	100	125	150	175	200
100	425	295	295	200	100		
170	905	900	770	660	520	335	
220	1365		1185	1040	880	660	365

Wheel Diameter = 230 mm = 9 in

28 Blades, 25 mm = (1") Chord Width

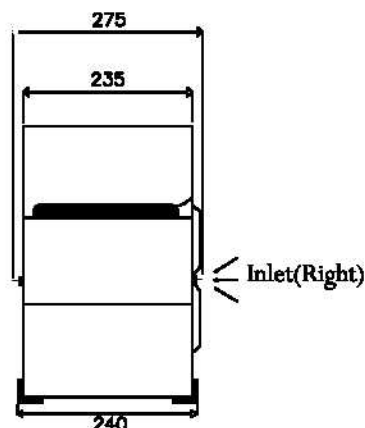
Tip Speed = rpm * 0.012 [m/s]

= rpm * 2.37 [FPM]

Outlet Area = 0.038 [m^2] = 0.40 [SQ.FT.]

Voltage [V]	Sound Pressure Level in dB(A)		
	120	170	220
Inlet	41	57	61
Outlet	42	58	62

Measured in distance of 3m, @ free Air



E225 / E 25-4

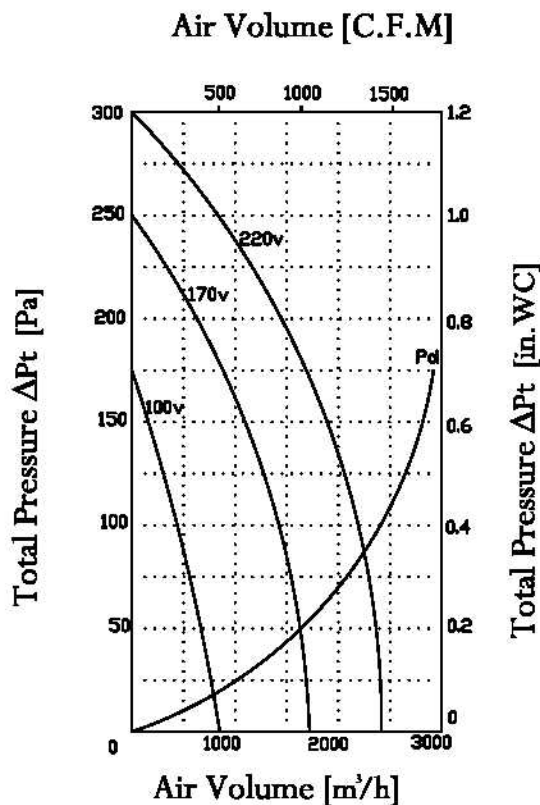
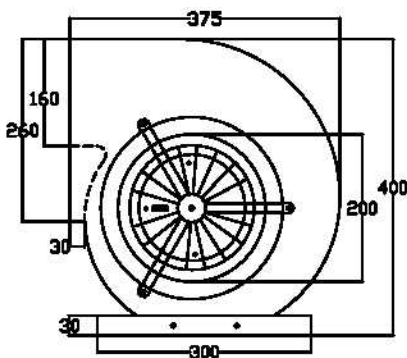


Diagram is based on standard air $\rho = 1.2 \text{ kg/m}^3$

Pd is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line Pd and Static Pressure is shown above that line.



Single Inlet Centrifugal Fan 220 V IN ~ 50 Hz

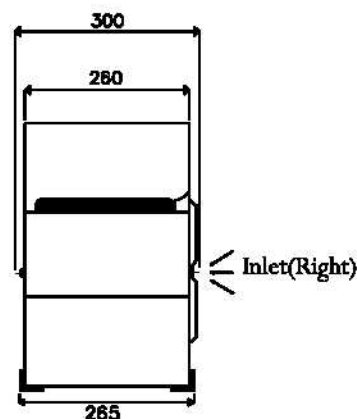
CFM	1300
Voltage Range	100 ~ 220 [v]
Frequency	50 [Hz]
current max @free air	2.4 [A]
Power max @free air	470 [W]
Fan speed @free air	1100 [rpm]
Insulation Class	H
Protection Class	IP65
Power Factor (Cosφ)	0.90
Capacitor	10 [μF] 400 [v]
Net weight	14.5 [Kg]
Starting Torque	1.5 [nm]
Starting Current max	4 [A]
Air Temperature max	60 [c°]

Voltage [V]	Air Volume [m³/h] @ $\rho = 1.2 [\text{kg/m}^3]$						
	Free Air	Total Pressure ΔP_t [Pa]					
		50	100	125	150	175	200
100	780	675	445	155			
170	1625	1640	1395	1075	675		
220	2170		2130	1820	1410	875	505

Wheel Diameter = 230 mm = 9 in
 28 Blades, 25 mm = 1" Chord Width
 Tip Speed = rpm * 0.012 [m/s]
 = rpm * 2.37 [FPM]
 Outlet Area = 0.042[m²] = 0.45 [SQ.FT.]

Voltage [V]	Sound Pressure Level in dB(A)		
	120	170	220
Inlet	44	62	66
Outlet	45	63	68

Measured in distance of 3m, @ free Air



E 225 / E 25-6

Air Volume [C.F.M]

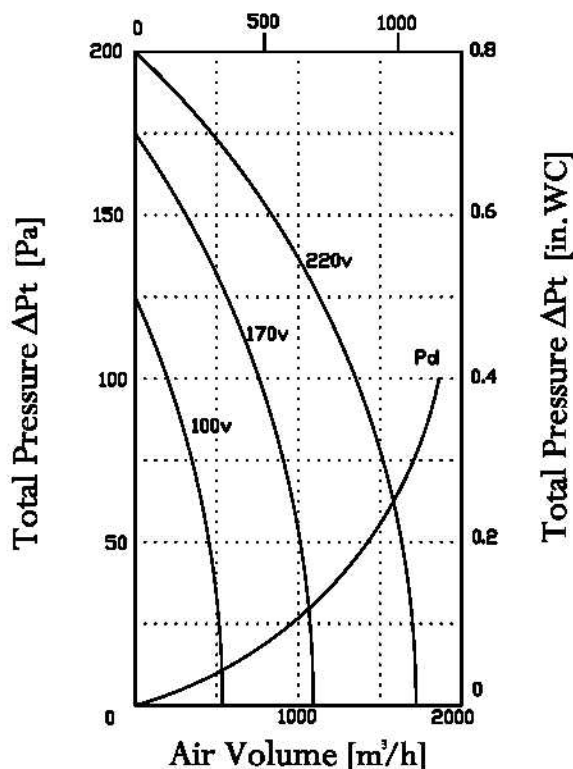
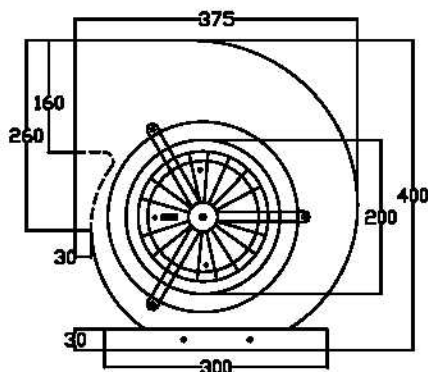


Diagram is based on standard air $\rho = 1.2 \text{ kg/m}^3$.

Pd is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line Pd and Static Pressure is shown above that line.



Single Inlet Centrifugal Fan

220 V IN ~ 50 Hz

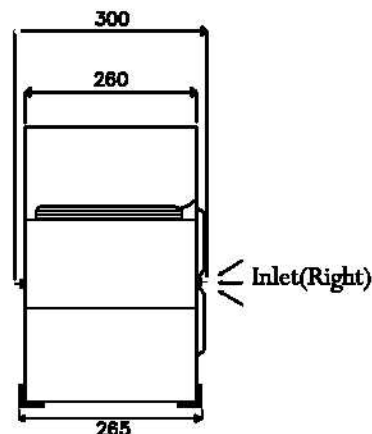
CFM	1000
Voltage Range	100 ~ 220 [v]
Frequency	50 [Hz]
current max @free air	1.8 [A]
Power max @free air	350 [W]
Fan speed @free air	850 [rpm]
Insulation Class	H
Protection Class	IP65
Power Factor (Cosφ)	0.90
Capacitor	10 [μF] 400 [v]
Net weight	14.5 [Kg]
Starting Torque	1.5 [nm]
Starting Current max	4 [A]
Air Temperature max	60 [c°]

Voltage [V]	Air Volume [m³/h] @ $\rho = 1.2 [\text{kg/m}^3]$						
	Free Air	Total Pressure ΔP_t [Pa]					
		50	75	100	125	150	175
100	535	480	425	305			
170	1070	1055	1000	910	755	470	
220	1590		1550	1420	1250	1000	555

Wheel Diameter = 230 mm = 9 in
 28 Blades, 25 mm = 1" Chord Width
 Tip Speed = rpm * 0.012 [m/s]
 = rpm * 2.37 [FPM]
 Outlet Area = 0.042[m²] = 0.45 [SQ.FT.]

Voltage [V]	Sound Pressure Level in dB(A)		
	120	170	220
Inlet	44	62	66
Outlet	45	63	68

Measured in distance of 3m, @ free Air



E443 / E65-6

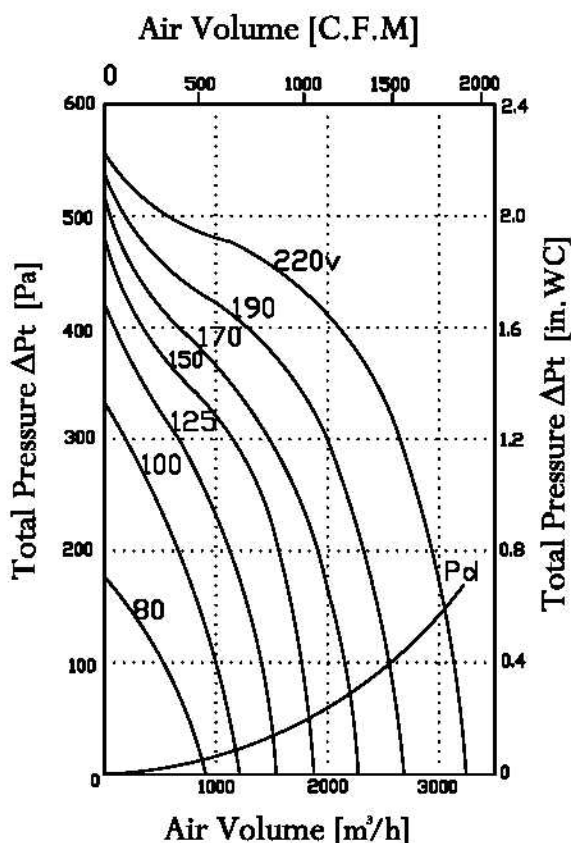
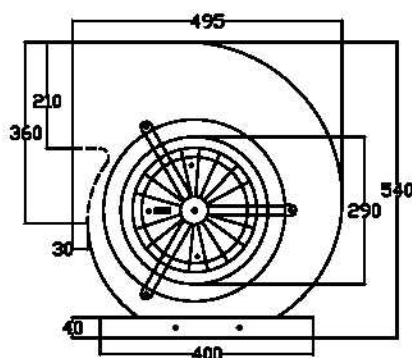


Diagram is based on standard air $\rho=1.2\text{kg/m}^3$.

Pd is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line Pd and Static Pressure is shown above that line.



Single Inlet Centrifugal Fan 220 V IN~ 50 Hz

C.F.M	1500
Voltage Range	100 ~ 220 [v]
Frequency	50 [Hz]
current max @free air	3 [A]
Power max @free air	650 [W]
Fan speed @free air	850 [rpm]
Insulation Class	H
Protection Class	IP65
Power Factor (Cosφ)	0.90
Capacitor	25 [μF] 400 [v]
Net weight	22 [Kg]
Starting Torque	3.5 [nm]
Starting Current max	7 [A]
Air Temperature max	60 [c°]

Voltage [V]	Air Volume [m³/h] @ $\rho=1.2[\text{kg/m}^3]$					
	Free Air	Total Pressure ΔPt [Pa]				
		50	100	125	150	175
80	940	550				
100	1220	1020	670	180		
125	1530	1410	1160	710	110	
150	1860	1780	1560	1210	430	
170	2200	2150	1910	1540	750	100
190	2580		2340	2000	1310	270
220	3040		2900	2590	2070	440

Wheel Diameter = 333 mm = 13 $\frac{1}{8}$ in

40 Blades, 25 mm = 1" Chord Width

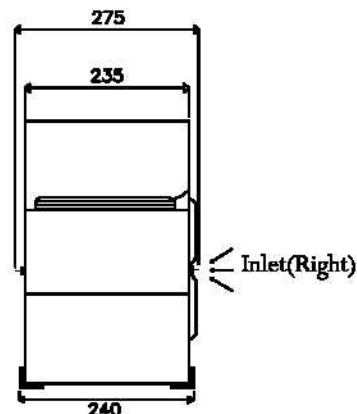
Tip Speed = rpm * 0.017 [m/s]

= rpm * 3.45 [FPM]

Outlet Area = 0.049[m²] = 0.53 [SQ.FT.]

Voltage [V]	Sound Pressure Level in dB(A)						
	80	100	125	150	170	190	220
Inlet	43	52	57	61	66	68	72
Outlet	46	54	59	63	68	71	73

Measured in distance of 3m, @ free Air



E543 / E65-6

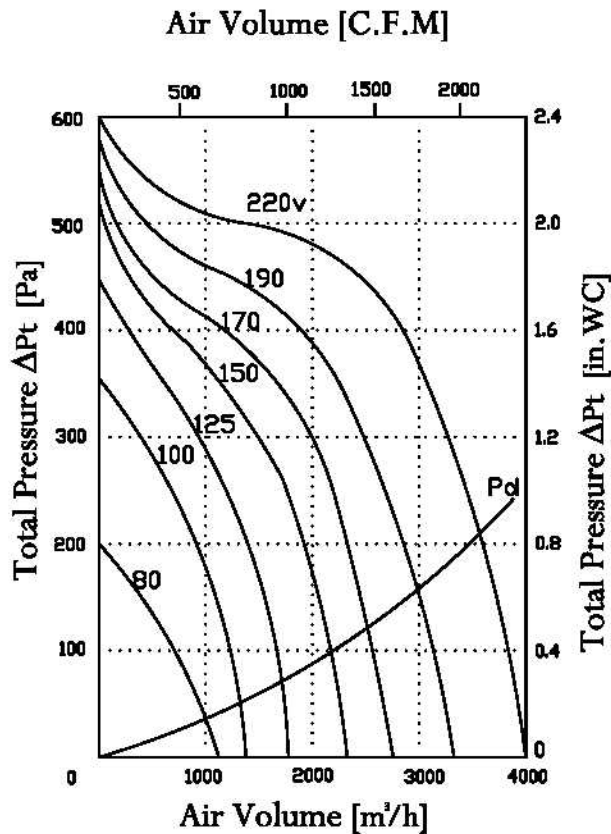
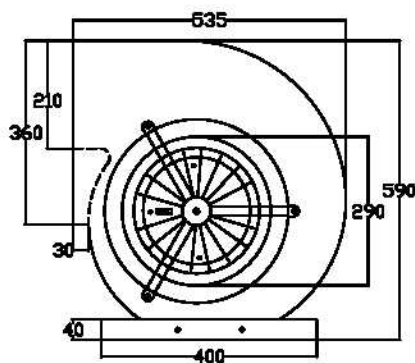


Diagram is based on standard air $\rho = 1.2 \text{ kg/m}^3$.

Pd is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line Pd and Static Pressure is shown above that line.



Single Inlet Centrifugal Fan

220 V IN ~ 50 Hz

C.F.M 2000
Voltage Range 100 ~ 220 [v]
Frequency 50 [Hz]
Current max @free air 3.5 [A]
Power max @free air 750 [W]
Fan speed @free air 850 [rpm]
Insulation Class H
Protection Class IP65
Power Factor (Cosφ) 0.98
Capacitor 25 [μF] 400 [v]
Net weight 23 [Kg]
Starting Torque 3.5 [nm]
Starting Current max 7 [A]
Air Temperature max 60 [c°]

Voltage [V]	Air Volume [m³/h] @ $\rho = 1.2 \text{ kg/m}^3$					
	Free Air	Total Pressure ΔPt [Pa]				
		100	200	300	400	500
80	1110	710				
100	1450	1240	870	360		
125	1810	1710	1440	1010	310	
150	2190	2140	1920	1570	830	120
170	2580		2330	1960	1270	350
190	3010		2850	2480	1900	720
220	3520		3510	3210	2730	1440

Wheel Diameter = 333 mm = 13 $\frac{1}{8}$ in

40 Blades, 25 mm = 1" Chord Width

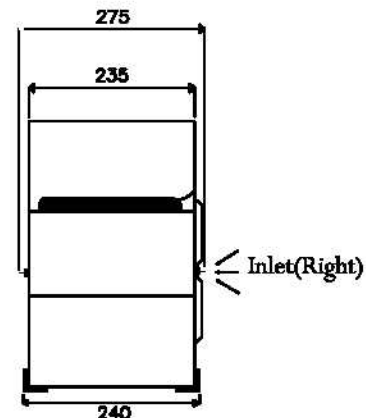
Tip Speed = rpm * 0.017 [m/s]

= rpm * 3.45 [FPM]

Outlet Area = 0.049 [m²] = 0.53 [SQ.FT.]

Voltage [V]	Sound Pressure Level in dB(A)						
	80	100	125	150	170	190	220
Inlet	45	52	57	61	65	67	70
Outlet	46	54	59	62	67	70	72

Measured in distance of 3m, @ free Air



E643 / E65-6

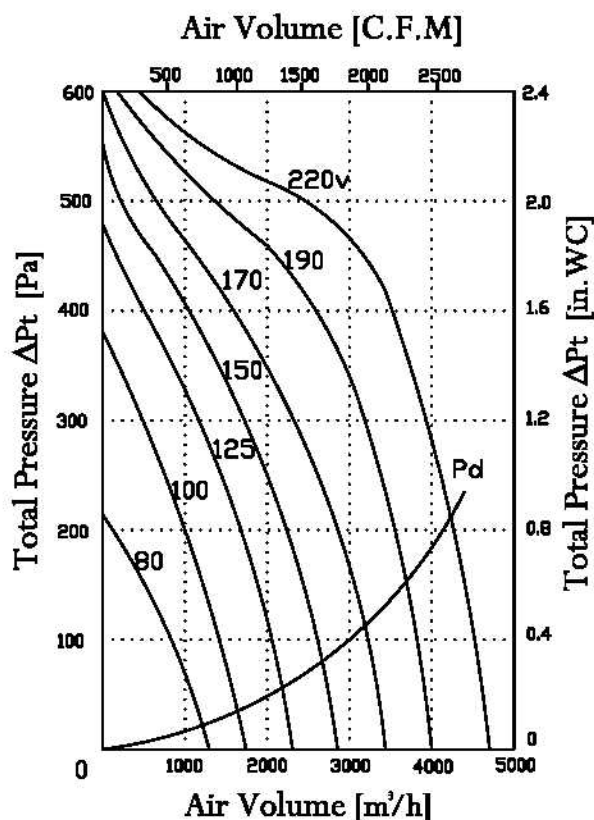
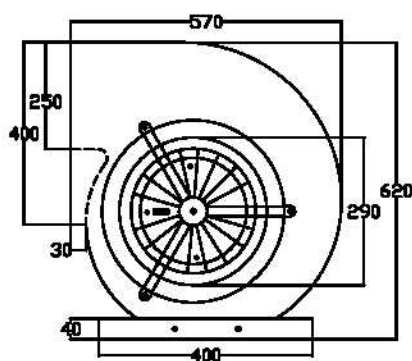


Diagram is based on standard air $\rho = 1.2 \text{ kg/m}^3$

P_d is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line P_d and Static Pressure is shown above that line.



Single Inlet Centrifugal Fan 220 V IN~ 50 Hz

C.F.M	2500
Voltage Range	100 ~ 220 [v]
Frequency	50 [Hz]
Current max @free air	4.0 [A]
Power max @free air	850 [W]
Fan speed @free air	850 [rpm]
Insulation Class	H
Protection Class	IP65
Power Factor (Cosφ)	0.98
Capacitor	25 [μ F] 400 [v]
Net weight	24 [Kg]
Starting Torque	3.5 [nm]
Starting Current max	7 [A]
Air Temperature max	60 [c°]

Voltage [V]	Air Volume [m^3/h] @ $\rho = 1.2 \text{ kg/m}^3$					
	Free Air	Total Pressure ΔP_t [Pa]				
		100	200	300	400	500
80	1340	870	100			
100	1740	1500	1090	540		
125	2180	2070	1770	1320	540	
150	2640	2580	2330	1970	1270	310
170	3110		2840	2440	1750	640
190	3640		3450	3060	2470	1280
220	4260		4260	3910	3420	2460

Wheel Diameter = 333 mm = 13 $\frac{1}{8}$ in

40 Blades, 25 mm = 1" Chord Width

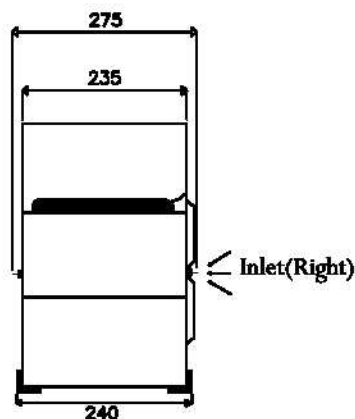
Tip Speed = rpm * 0.017 [m/s]

= rpm * 3.45 [FPM]

Outlet Area = 0.058 [m^2] = 0.63 [SQ.FT.]

Voltage [V]	Sound Pressure Level in dB(A)						
	80	100	125	150	170	190	220
Inlet	44	52	56	60	65	67	69
Outlet	45	53	57	62	66	69	71

Measured in distance of 3m, @ free Air



15 - 8 A / E 65-6

Air Volume [C.F.M]

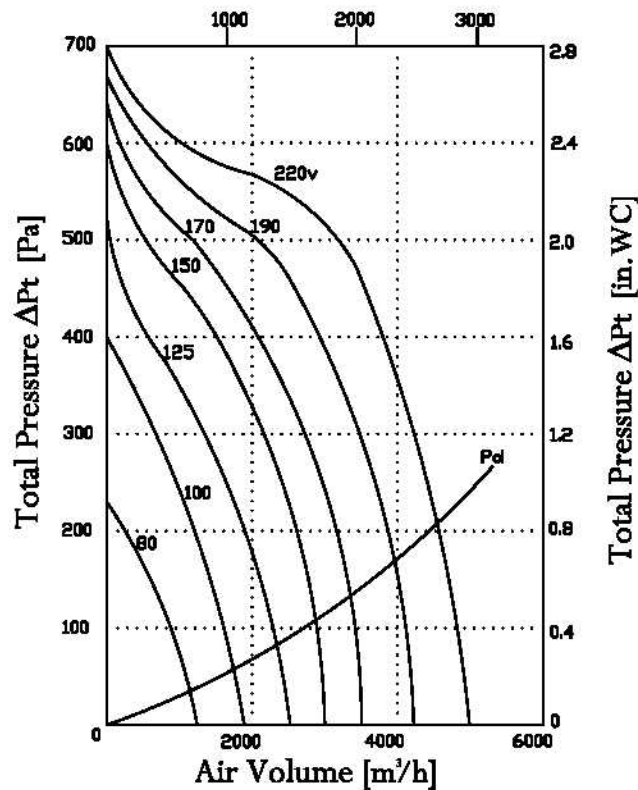
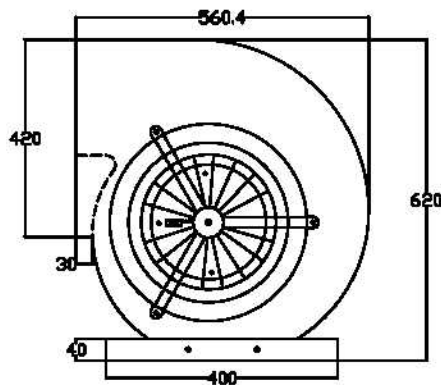


Diagram is based on standard air $\rho = 1.2 \text{ kg/m}^3$.

Pd is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line *Pd* and Static Pressure is shown above that line.



Single Inlet Centrifugal Fan

220 V IN ~ 50 Hz

C.F.M 2800

Voltage Range 100 ~ 220 [v]

Frequency 50 [Hz]

Current max @free air 4.5 [A]

Power max @free air 950 [W]

Fan speed @free air 700 [rpm]

Insulation Class H

Protection Class IP65

Power Factor (Cosφ) 0.98

Capacitor 30 [μF] 400 [v]

Net weight 29.5 [Kg]

Starting Torque 4 [nm]

Starting Current max 7 [A]

Air Temperature max 60 [c°]

Voltage [V]	Air Volume [m³/h] @ $\rho = 1.2 [\text{kg/m}^3]$					
	Free Air	Total Pressure ΔP_t [Pa]				
		100	250	400	500	600
80	1530	1050				
100	1980	1740	1060	90		
125	2490	2360	1880	910	150	
150	3000	2960	2550	1770	670	40
170	3560		3110	2300	1180	280
190	4160		3820	3050	2090	650
220	4880		4720	4100	3360	1080

Wheel Diameter = 380 mm = 15 in

51 Blades, 35 mm = 1 3/8" Chord Width

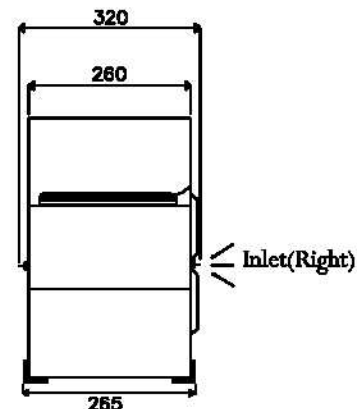
Tip Speed = rpm * 0.019 [m/s]

= rpm * 3.95 [FPM]

Outlet Area = 0.070 [m²] = 0.75 [SQ.FT.]

Voltage [V]	Sound Pressure Level in dB(A)						
	80	100	125	150	170	190	220
Inlet	46	50	54	59	62	66	68
Outlet	45	51	56	60	64	67	70

Measured in distance of 3m, @ free Air



15 - 8 B / E 65-6

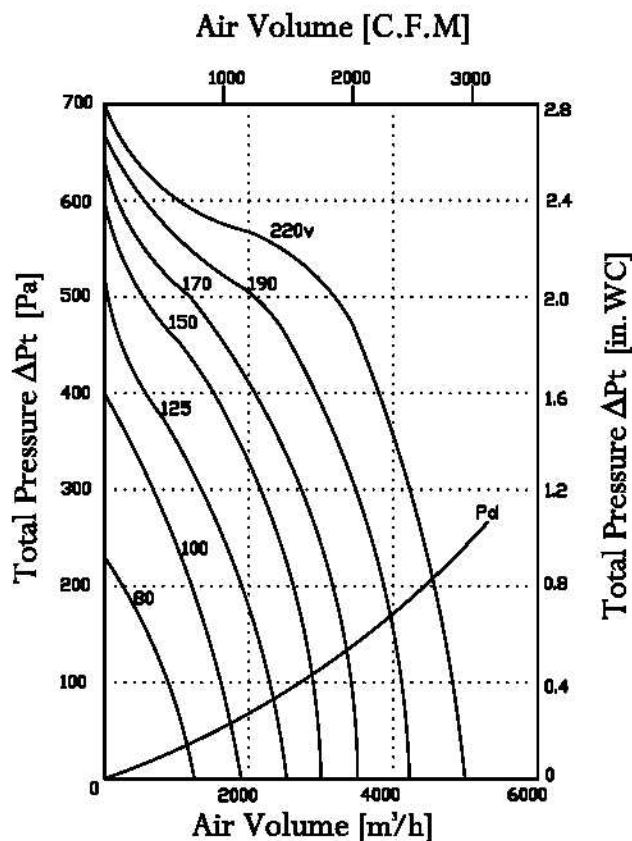
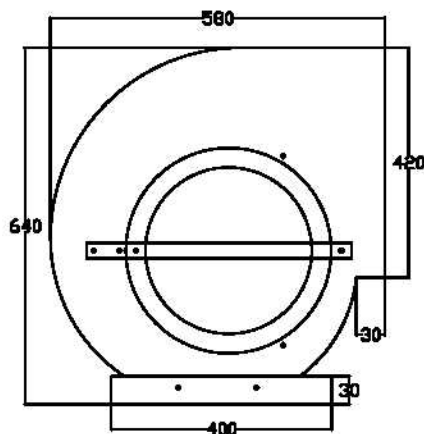


Diagram is based on standard air $\rho = 1.2 \text{ kg/m}^3$.

Pd is system curve for dynamical pressure part related Total Pressure (the sum of the dynamic and static pressure) is shown in relation to the Air Volume, Dynamic pressure is shown below system line *Pd* and Static Pressure is shown above that line.



Single Inlet Centrifugal Fan 220 V IN ~ 50 Hz

C.F.M	3000
Voltage Range	100 ~ 220 [v]
Frequency	50 [Hz]
Current max @free air	4.5 [A]
Power max @free air	950 [W]
Fan speed @free air	700 [rpm]
Insulation Class	H
Protection Class	IP65
Power Factor (Cosφ)	0.98
Capacitor	30 [μF] 400 [v]
Net weight	29.5 [Kg]
Starting Torque	4 [nm]
Starting Current max	7 [A]
Air Temperature max	60 [c°]

Voltage [V]	Air Volume [m³/h] @ $\rho = 1.2 \text{ kg/m}^3$					
	Free Air	Total Pressure ΔPt [Pa]				
		100	250	400	500	600
80	1530	1050				
100	1980	1740	1060	90		
125	2490	2360	1880	910	150	
150	3000	2960	2550	1770	670	40
170	3560		3110	2300	1180	280
190	4160		3820	3050	2090	650
220	4880		4720	4100	3360	1080

Wheel Diameter = 380 mm = 15 in

51 Blades, 35 mm = 1 3/8" Chord Width

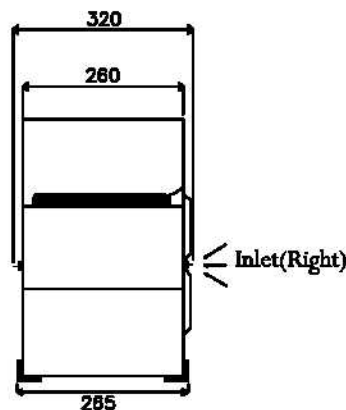
Tip Speed = rpm * 0.019 [m/s]

= rpm * 3.95 [FPM]

Outlet Area = 0.070 [m²] = 0.75 [SQ.FT.]

Voltage [V]	Sound Pressure Level in dB(A)						
	80	100	125	150	170	190	220
Inlet	46	50	54	59	62	66	68
Outlet	45	51	56	60	64	67	70

Measured in distance of 3m, @ free Air





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