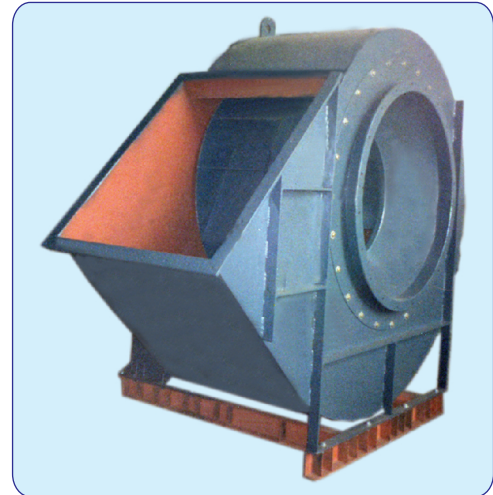


“Damair” Induced Draft Fans & Forced Draft Fans

Model IDR

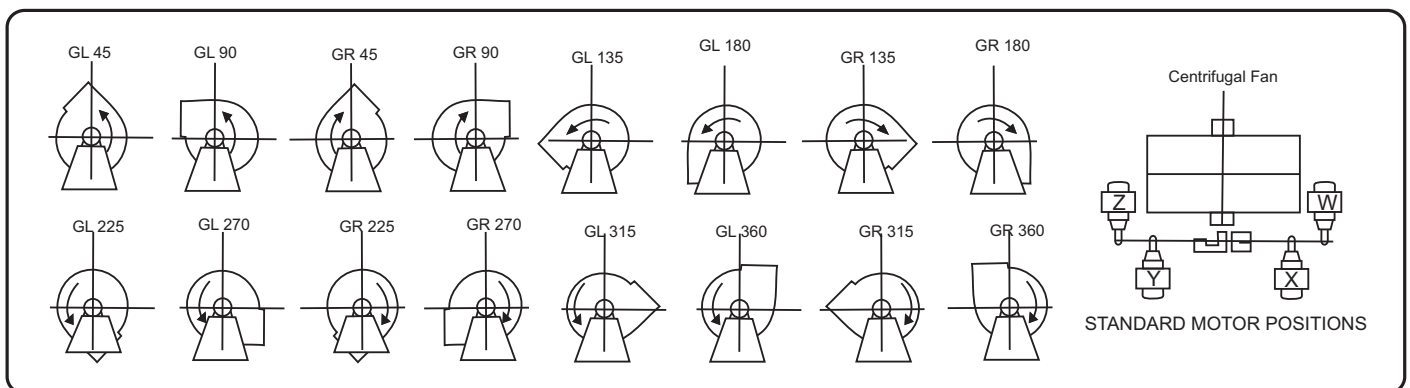
Available in

- Different discharge direction
- Various capacities of air
- Adequate Static pressures
- Hard faced impellers



Application :

- To improve the fuel efficiency of Boilers
- Suction of dust particles
- For conveying of material
- Sugar Mills
- Cement Plants
- Power Plants
- Steel Rolling Mills
- Melting Plants

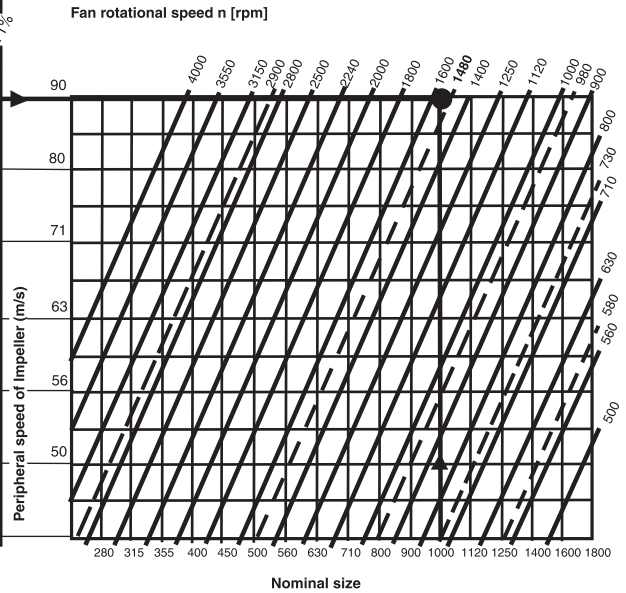
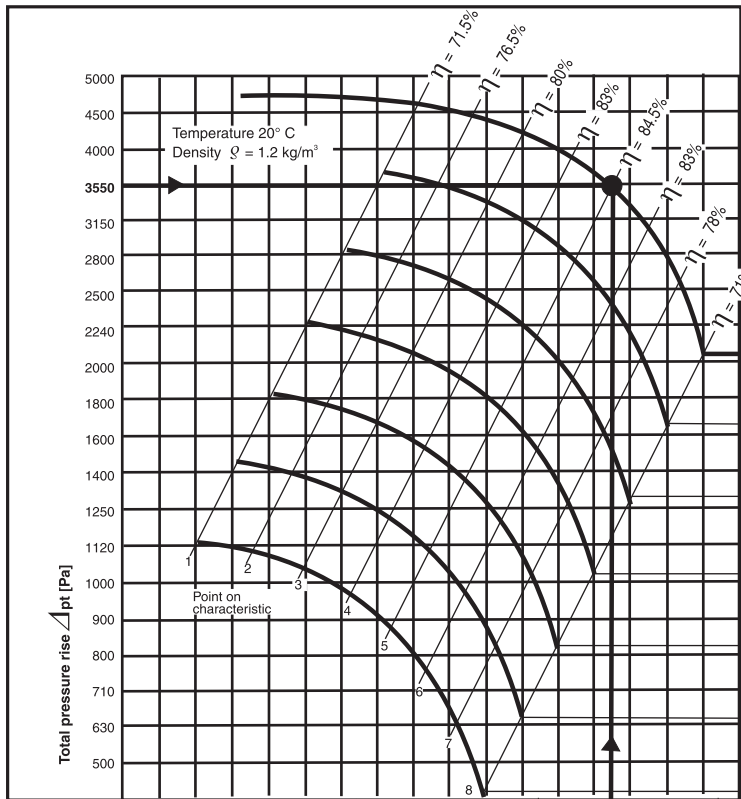


STANDARD DIRECTIONS OF DISCHARGE

Selection and Performance Curves Attached



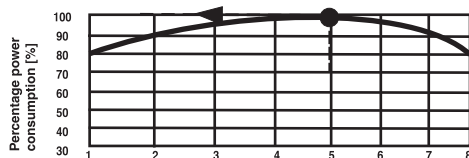
RADIAL FANS FOR INDUSTRY PERFORMANCE CHARTS 11/30 SERIES



Nominal Size	1800	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80
	1600	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50	56	63
	1400	8	9	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50
	1250	6.3	7.1	8	9	10	11	12.5	14	16	18	20	22.4	25	26	31.5	35.5	40
	1120	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5
	1000	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4	25
	900	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20
	800	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16
	710	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5
	630	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10
	560	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8
	500	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3
	450	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5
	400	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4
	355	0.5	0.56	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15
315	0.4	0.45	0.5	0.56	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	
280	0.3155	0.35	0.4	0.45	0.5	0.58	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	

Volume flow [m³/s]

Velocity of flow [m/s]	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5
Dyn. Pressure [Pa]	15	18.8	23.8	30.2	38.4	48.6	60	75.3	93.8	117.6	153.6	194.4	240	301	375	470	596

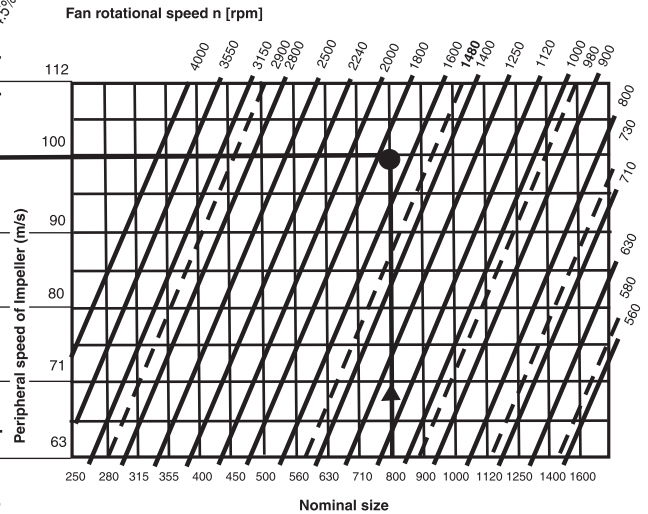
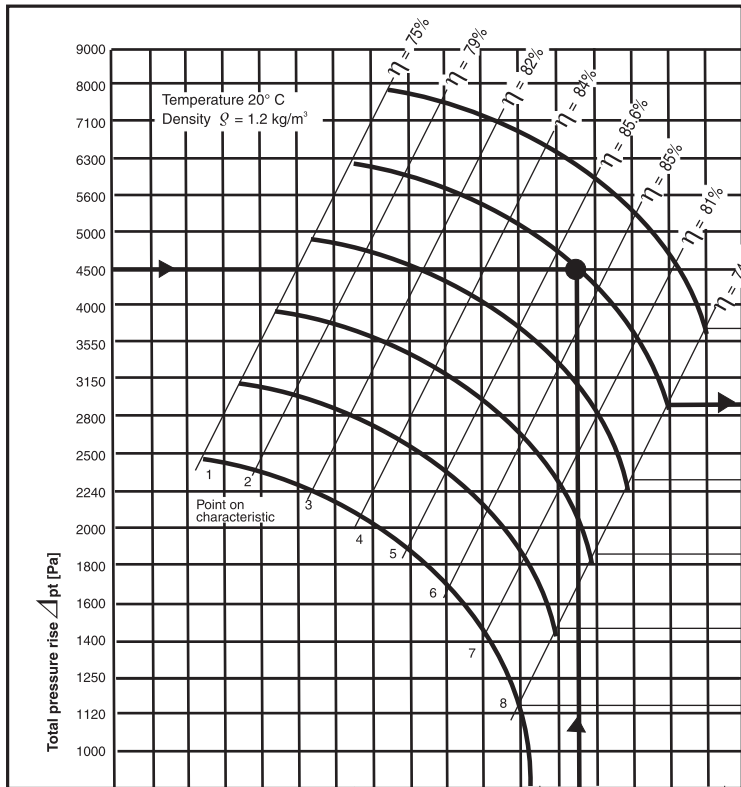


Worked example :

Series 11/30
 Nominal size 1000
 Volume flow \dot{V} 18 m³/s
 Total pressure rise Δpt 3550 Pa
 ($\approx 362 \text{ kp/m}^2$)
 Density ρ 1.2 kg/m³
 Efficiency η 84.5%
 Fan rotational speed n 1500 rpm
 Impeller peripheral speed 90 m/s
 Power consumption P_w 75.6 kW

$$P_w = \frac{\dot{V} \times \Delta pt}{1000 \times \eta} = \frac{18 \times 3550}{1000 \times 0.845} = 75.6 \text{ kW}$$

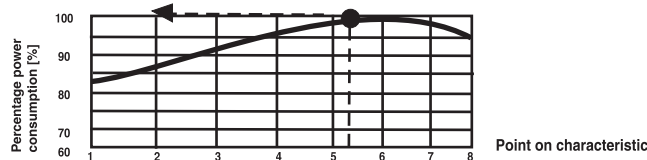
RADIAL FANS FOR INDUSTRY PERFORMANCE CHARTS 14/30 SERIES



1600	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90
1400	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71
1250	9	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50	56
1120	7.1	8	9	10	11	12.5	14	16	18	20	22.4	25	26	31.5	35.5	40	45
1000	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5
900	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4	25	28
800	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4
710	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16	18
630	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14
560	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2
500	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9
450	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1
400	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6
355	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5
315	0.56	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55
280	0.45	0.5	0.58	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8
250	0.355	0.4	0.45	0.5	0.58	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24

Volume flow [m³/s]

Velocity of flow [m/s]	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45
Dyn. Pressure [Pa]	30.2	38.4	48.6	60	75.3	93.8	117.6	153.6	194.4	240	301	375	470	596	756	960	1215



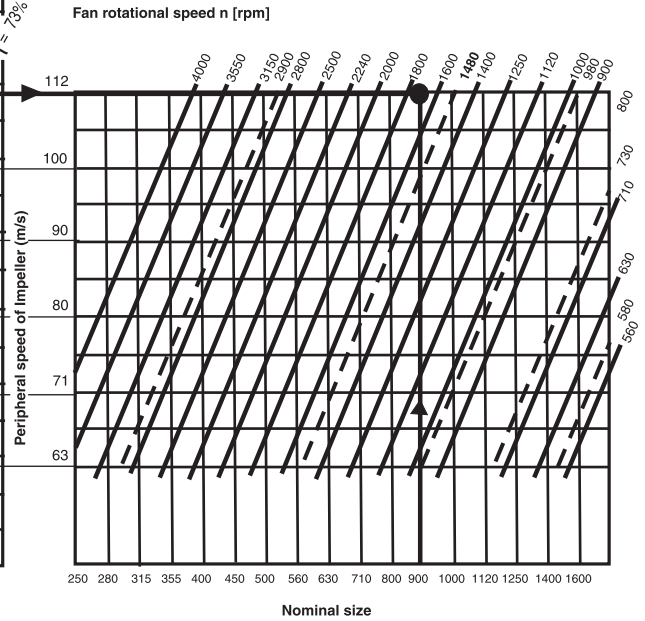
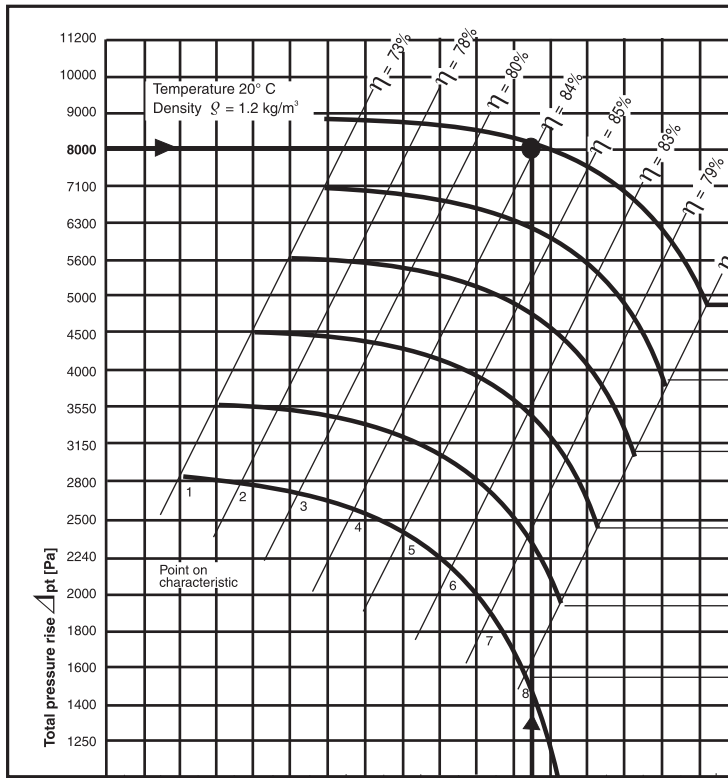
Worked example :

Series 14/30
Nominal size 800
Volume flow \dot{V} 14 m³/s
Total pressure rise Δpt 4500 Pa
(\triangleq 459 kp/m²)
Density ρ 1.2 kg/m³
Efficiency η 85.4%
Fan rotational speed n 1740 rpm
Impeller peripheral speed 100 m/s
Power consumption P_w 73.8 kW

$$P_w = \frac{\dot{V} \times \Delta pt}{1000 \times \eta} = \frac{14 \times 4500}{1000 \times 0.854} = 73.8 \text{ kW}$$

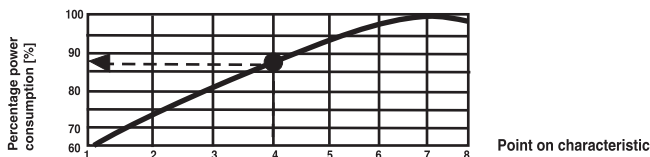


RADIAL FANS FOR INDUSTRY PERFORMANCE CHARTS 14/45 SERIES



1600	16	18	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90	100
1400	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80
1250	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50	56	63
1120	8	9	10	11	12.5	14	16	18	20	22.4	25	26	31.5	35.5	40	45	50
1000	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40
900	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5
800	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4	25
710	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20
630	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16
560	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5
500	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10
450	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8
400	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3
355	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5
315	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4
280	0.5	0.58	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15
250	0.4	0.45	0.5	0.58	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5

Velocity of flow [m/s]	8	9	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50
Dyn. Pressure [Pa]	38.4	48.6	60	75.3	93.8	117.6	153.6	194.4	240	301	375	470	596	756	960	1215	1500

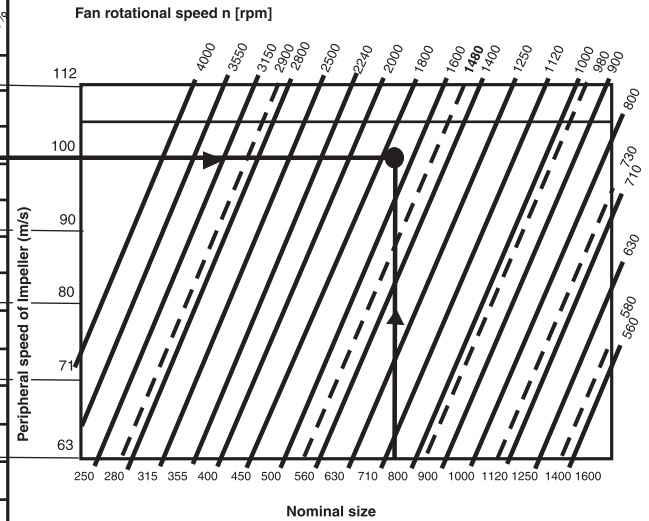
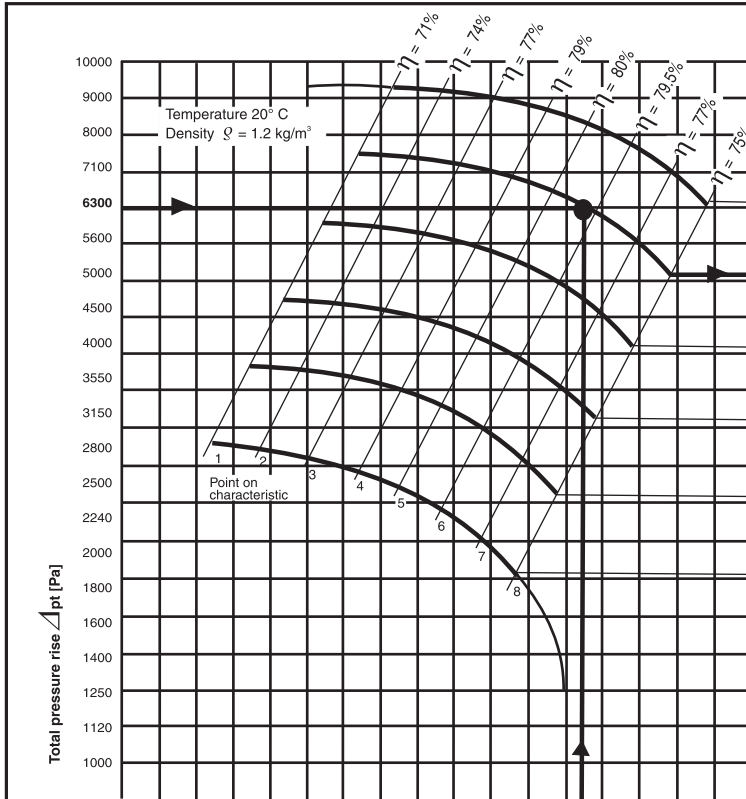


Worked example :

Series 14/45
 Nominal size 900
 Volume flow \dot{V} 18 m³/s
 Total pressure rise Δp_t 8000 Pa
 ($\triangleq 816 \text{ kp/m}^2$)
 Density ρ 1.2 kg/m³
 Efficiency η 84%
 Fan rotational speed n 1700 rpm
 Impeller peripheral speed 112 m/s
 Power consumption P_w 171.4 kW

$$P_w = \frac{\dot{V} \times \Delta p_t}{1000 \times \eta} = \frac{18 \times 8000}{1000 \times 0.84} = 171.4 \text{ kW}$$

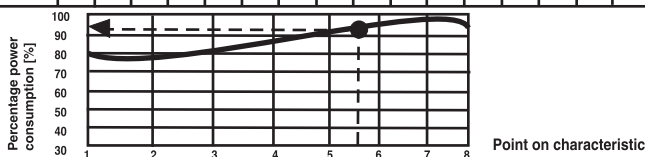
RADIAL FANS FOR INDUSTRY PERFORMANCE CHARTS 16/60 SERIES



	1600	16	18	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90	100
1400	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80	90
1250	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71
1120	8	9	10	11	12.5	14	16	18	20	22.4	25	26	31.5	35.5	40	45	50	56
1000	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45
900	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5
800	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4	25	28
710	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4
630	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16	18
560	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14
500	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2
450	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9
400	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1
355	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6
315	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5
280	0.5	0.58	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55
250	0.4	0.45	0.5	0.58	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8

Volume flow [m³/s]

Velocity of flow [m/s]	8	9	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50
Dyn. Pressure [Pa]	38.4	48.6	60	75.3	93.8	117.6	153.6	194.4	240	301	375	470	596	756	960	1215	1500



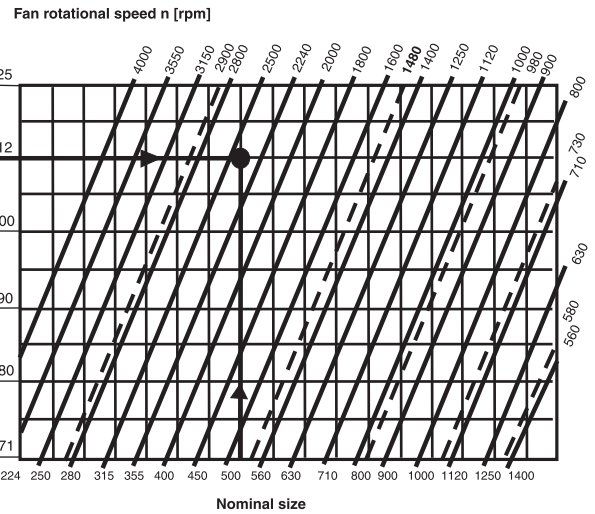
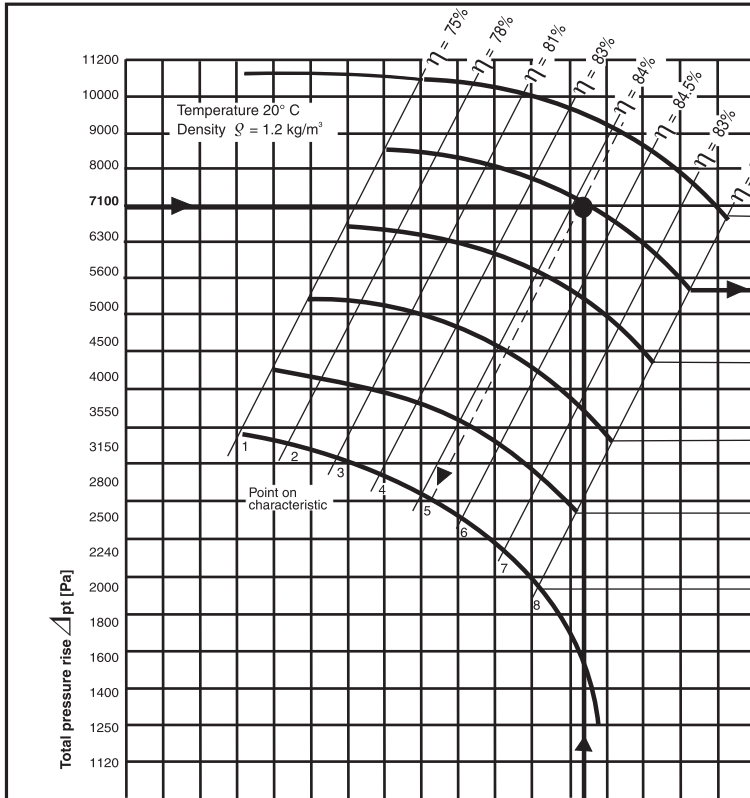
Worked example :

Series 14/60
 Nominal size 800
 Volume flow \dot{V} 16 m³/s
 Total pressure rise Δpt 6300 Pa
 ($\Delta \cong 642 \text{ kp/m}^2$)
 Density ρ 1.2 kg/m³
 Efficiency η 79.6%
 Fan rotational speed n 1700 rpm
 Impeller peripheral speed 100 m/s
 Power consumption P_w 126.6 kW

$$P_w = \frac{\dot{V} \times \Delta pt}{1000 \times \eta} = \frac{16 \times 6300}{1000 \times 0.796} = 126.6 \text{ kW}$$



RADIAL FANS FOR INDUSTRY PERFORMANCE CHARTS 18/30 SERIES



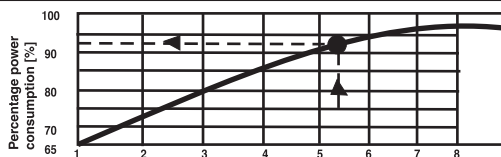
1400	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71	80
1250	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50	56	63
1120	8	9	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50
1000	6.3	7.1	8	9	10	11	12.5	14	16	18	20	22.4	25	26	31.5	35.5	40
900	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5
800	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4	25
710	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20
630	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16
560	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5
500	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10
450	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8
400	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3
355	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5
315	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4
280	0.5	0.56	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15
250	0.4	0.45	0.5	0.58	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5
224	0.3155	0.35	0.4	0.45	0.5	0.58	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2

Worked example :

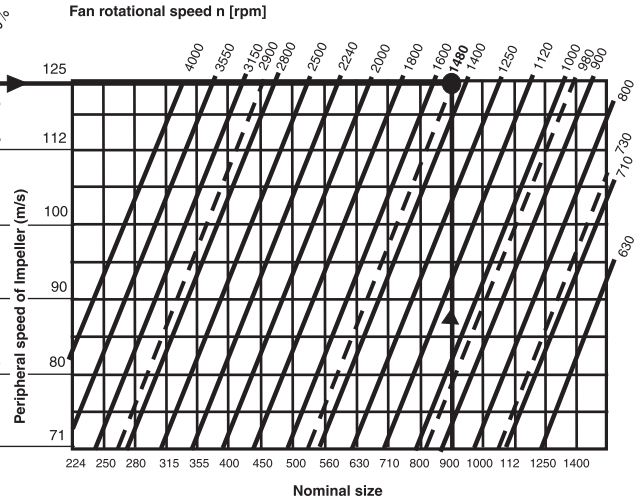
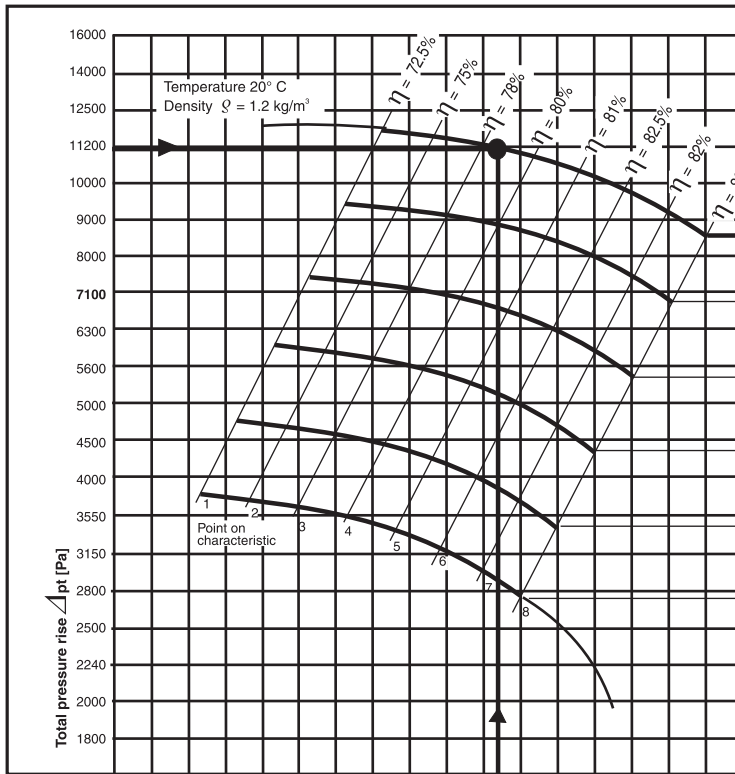
Series 18/30
 Nominal size 500
 Volume flow \dot{V} 6.3 m³/s
 Total pressure rise Δpt 7100 Pa
 (Δ 724 kp/m²)
 Density ρ 1.2 kg/m³
 Efficiency η 84.2%
 Fan rotational speed n 2400 rpm
 Impeller peripheral speed 112 m/s
 Power consumption P_w 53.1 kW

$$P_w = \frac{\dot{V} \times \Delta pt}{1000 \times \eta} = \frac{16.3 \times 7100}{1000 \times 0.842} = 53.1 \text{ kW}$$

		Volume flow [m ³ /s]																
Velocity of flow [m/s]	8	9	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50	
Dyn. Pressure [Pa]	38.4	48.6	60	75.3	93.8	117.6	153.6	194.4	240	301	375	470	596	756	960	1215	1500	

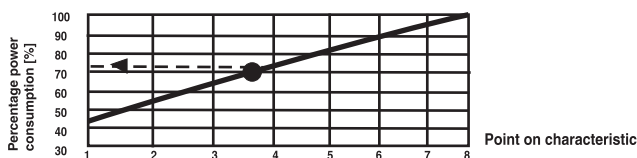


RADIAL FANS FOR INDUSTRY PERFORMANCE CHARTS 18/50 SERIES



1400	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50	56	63	71
1250	9	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50	56
1120	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45
1000	5.6	6.3	7.1	8	9	10	11	12.5	14	16	18	20	22.4	25	26	31.5	35.5
900	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4	25	28
800	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4
710	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16	18
630	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14
560	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2
500	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9
450	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1
400	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6
355	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5
315	0.56	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55
280	0.45	0.5	0.56	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8
250	0.355	0.4	0.45	0.5	0.58	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24
224	0.28	0.3155	0.35	0.4	0.45	0.5	0.58	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8

Volume flow [m³/s]	
Velocity of flow [m/s]	7.1 8 9 10 11.2 12.5 14 16 18 20 22.4 25 28 31.5 35.5 40 45
Dyn. Pressure [Pa]	30.2 38.4 48.6 60 75.3 93.8 117.6 153.6 194.4 240 301 375 470 596 756 960 1215

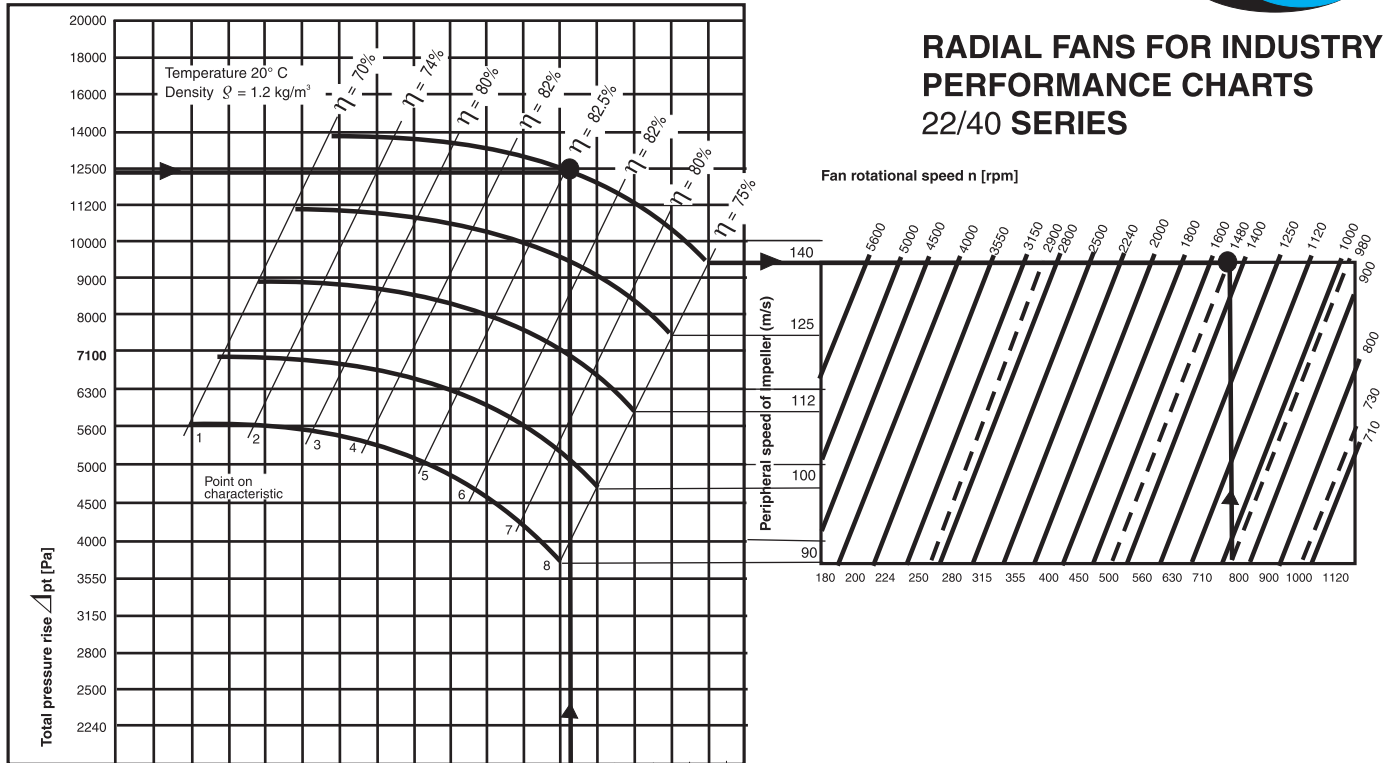


Worked example :

Series 18/50
 Nominal size 900
 Volume flow \dot{V} 14 m³/s
 Total pressure rise Δp_t 11200 Pa
 ($\triangleq 1142 \text{ kp/m}^2$)
 Density ρ 1.2 kg/m³
 Efficiency η 79%
 Fan rotational speed n 1480 rpm
 Impeller peripherical speed 125 m/s
 Power consumption P_w 198.5 kW

$$P_w = \frac{\dot{V} \times \Delta p_t}{1000 \times \eta} = \frac{14 \times 11200}{1000 \times 0.79} = 198.5 \text{ kW}$$

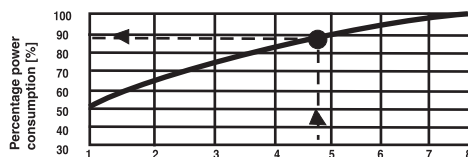
RADIAL FANS FOR INDUSTRY PERFORMANCE CHARTS 22/40 SERIES



	1120	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50	56	63
	1000	8	9	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50
	900	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40
	800	5	5.6	6.3	7.1	8	9	10	11	12.5	14	16	18	20	22.4	25	26	31.5
	710	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4	25
	630	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20
	560	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16
Nominal Size	500	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5
	450	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10
	400	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8
	355	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3
	315	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5
	280	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4
	250	0.5	0.56	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15
	224	0.4	0.45	0.5	0.56	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5
	200	0.315	0.355	0.4	0.45	0.5	0.58	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2
	180	0.25	0.28	0.3155	0.35	0.4	0.45	0.5	0.58	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6

Volume flow [m³/s]

Velocity of flow [m/s]	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50	56	63
Dyn. Pressure [Pa]	60	75.3	93.8	117.6	153.6	194.4	240	301	375	470	596	756	960	1215	1500	1885	2381



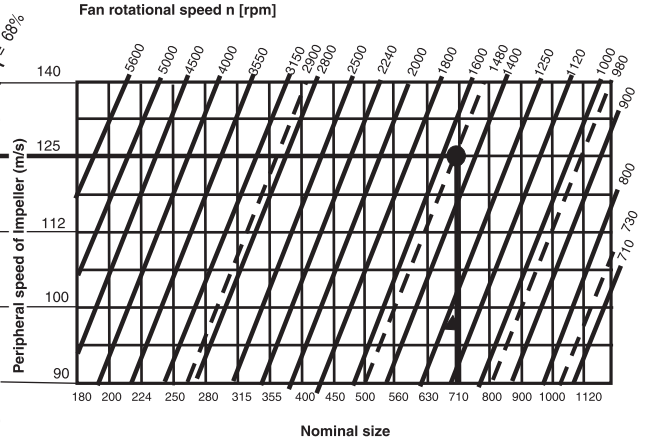
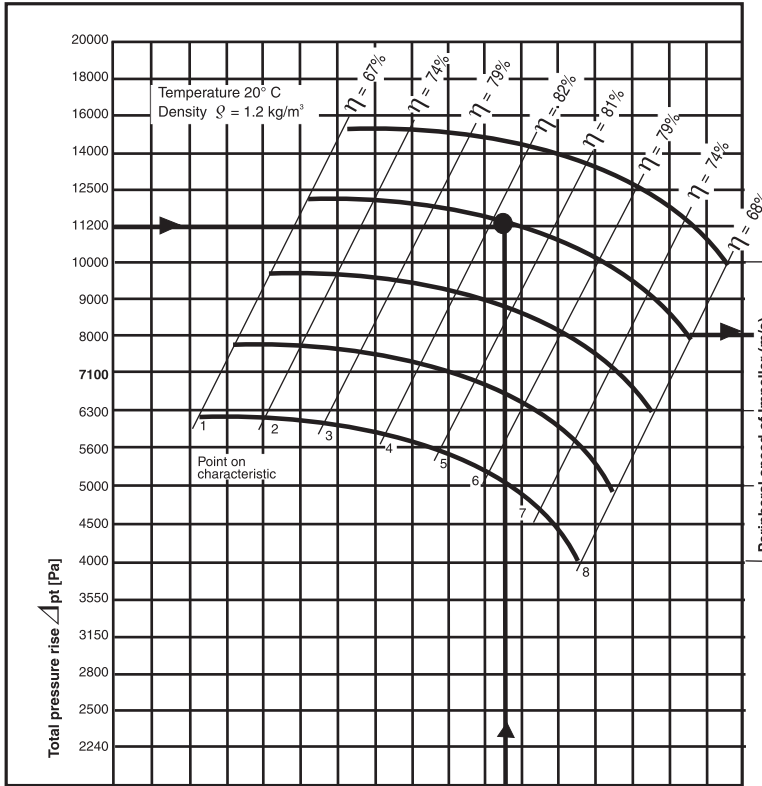
Worked example :

Series 22/40
 Nominal size 800
 Volume flow \dot{V} 20 m³/s
 Total pressure rise Δp_t 12500 Pa
 ($\approx 1275 \text{ kp/m}^2$)
 Density ρ 1.2 kg/m³
 Efficiency η 82.5%
 Fan rotational speed n 1480 rpm
 Impeller peripheral speed 140 m/s
 Power consumption P_w 303 kW

$$P_w = \frac{\dot{V} \times \Delta p_t}{1000 \times \eta} = \frac{20 \times 12500}{1000 \times 0.825} = 303 \text{ kW}$$



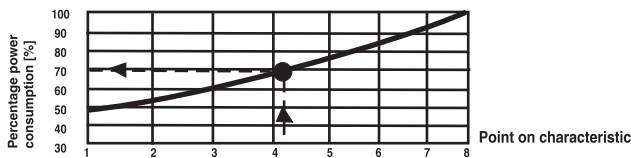
RADIAL FANS FOR INDUSTRY PERFORMANCE CHARTS 22/55 SERIES



	1120	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50	56	63
	1000	8	9	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50
	900	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40
	800	5	5.6	6.3	7.1	8	9	10	11	12.5	14	16	18	20	22.4	25	26	31.5
	710	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20	22.4	25
	630	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16	18	20
	560	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16
	500	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5
	450	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8	9	10
	400	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3	7.1	8
	355	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5	5.6	6.3
	315	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4	4.5	5
	280	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15	3.55	4
	250	0.5	0.56	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5	2.8	3.15
	224	0.4	0.45	0.5	0.56	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2	2.24	2.5
	200	0.315	0.355	0.4	0.45	0.5	0.58	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6	1.8	2
	180	0.25	0.28	0.315	0.35	0.4	0.45	0.5	0.58	0.63	0.71	0.8	0.9	1	1.12	1.25	1.4	1.6

Volume flow [m³/s]

Velocity of flow [m/s]	10	11.2	12.5	14	16	18	20	22.4	25	28	31.5	35.5	40	45	50	56	63
Dyn. Pressure [Pa]	60	75.3	93.8	117.6	153.6	194.4	240	301	375	470	596	756	960	1215	1500	1885	2381



Worked example :

Series 22/55
 Nominal size 710
 Volume flow \dot{V} 12.5 m³/s
 Total pressure rise Δpt 11200 Pa
 (\cong 1142 kp/m²)
 Density ρ 1.2 kg/m³
 Efficiency η 81.8%
 Fan rotational speed n 1480 rpm
 Impeller peripheral speed 125 m/s
 Power consumption P_w 171.1 kW

$$P_w = \frac{\dot{V} \times \Delta pt}{1000 \times \eta} = \frac{12.5 \times 11200}{1000 \times 0.818} = 171.1 \text{ kW}$$