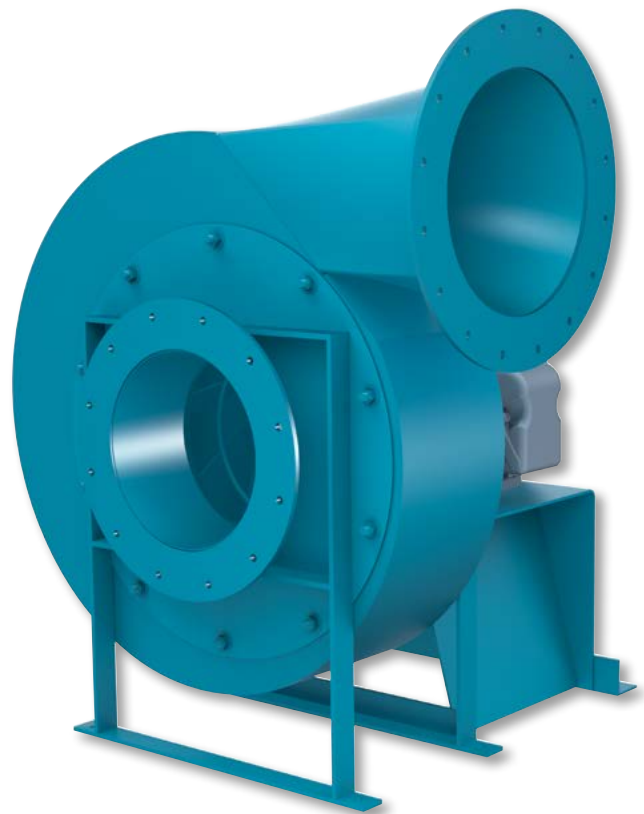




INDUSTRIAL PROCESS AND
COMMERCIAL VENTILATION SYSTEMS

TURBO PRESSURE BLOWERS

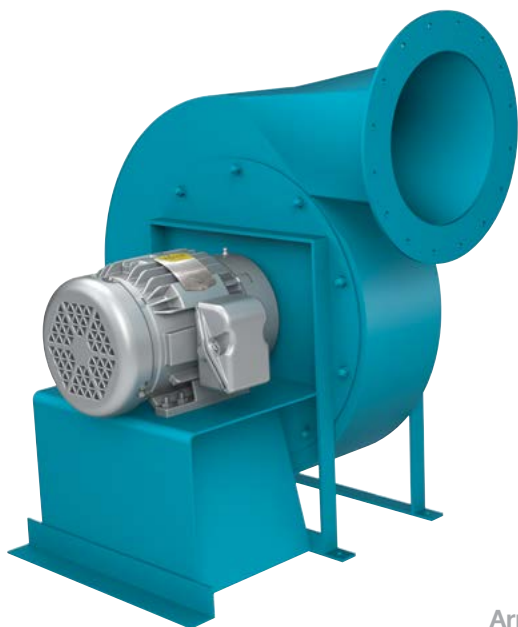
TBA | TBR



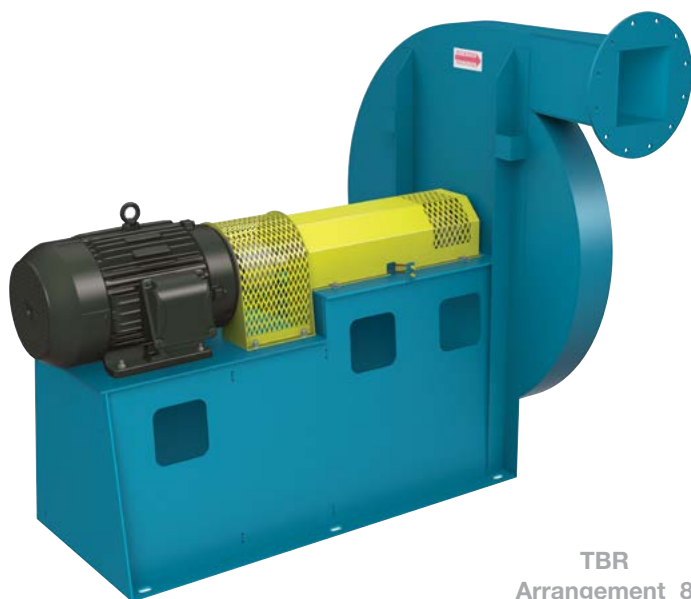


Overview

TBA | TBR



TBA
Arrangement 4



TBR
Arrangement 8

Model TBA and TBR fans from Twin City Fan & Blower are constant pressure, variable volume blowers. Turbo pressure blowers are generally used in applications for relatively low volumes and high pressures. They are used primarily for handling air, gas, and fumes relatively free of dust and materials.

Twin City Fan & Blower's TBA and TBR turbo blowers provide uniform pressure through the operating range. Stable operation can be maintained from free delivery to shutoff by throttling at the discharge. The design volume of a particular fan can be varied by selecting one of the various impeller options that will fit within the housing.

Typical Industries Include

Agriculture, Air Pollution Control, Automotive, Boilers, Brick, Car Wash, Commercial Plan & Spec, Composting, Ethanol, Food & Beverage, Foundry, General Manufacturing, Glass, Green/LEED, HVAC, Institutional & Hospitality, Metal & Minerals, Microchip, Mining, Nuclear, OEM, Petrochemical, Pharmaceutical, Power Generation, Pulp & Paper, Recycling, Textile, Transportation

Configurations

Upblast, Hooded, Hooded Filtered

Impeller Types

Fabricated Steel, Cast Aluminum, Die Cast Aluminum

Optional Construction

Special Coatings, Spark 'B' Resistant (Belt Driven Only), UL 705, UL 762, UL Smoke & Heat

Certifications

UL 705 Listed for Electrical, UL Listed for Smoke Control Systems



For complete product performance, drawings and available accessories, download our Fan Selector program at tcf.com.

Overview

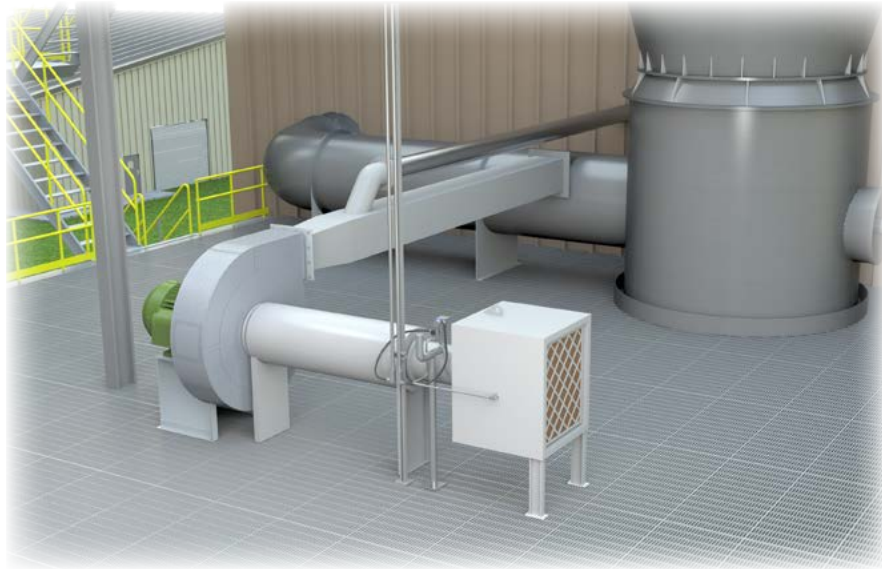
TBA | TBR

Model TBA

- 11.19" to 32.06" impeller diameters
- Airflow to 28,700 CFM
- Static pressure to 70" w.g.

Model TBR

- 10.75" to 35.19" impeller diameters
- Airflow to 10,100 CFM
- Static pressure to 104" w.g.



Fluidizing Dryer with Model TBR

IMPELLER TYPES



TBA
Air Handling Impeller



TBR
Radial Bladed Impeller

TBA Impeller (Air Handling)

The turbo air handling impeller is a more efficient type of impeller and is used for relatively high volumes of air. The impeller is constructed with heavy-gauge, backwardly inclined blades welded to a spun cone and heavy-gauge backplate. The backplate uses a taperlock hub for easy impeller removal and self-centering reinstallation. The TBA impeller is generally suitable for clean air applications.

TBR Impeller (Radial Bladed)

The turbo radial bladed impeller is designed for lower air volume at high pressures. The radial blades provide stable airflow over a wide range of airflows. The all-welded impeller uses a taperlock hub for easy removal and self-centering reinstallation. The TBR impeller is generally suitable for clean air applications.

ARRANGEMENTS



Arrangement 4

Arrangement 4 is the standard arrangement, with the impeller mounted directly on the motor shaft. The fan performance is dependent upon the RPM of the motor, which is usually a 3500 RPM motor. This drive arrangement is the most compact and has minimum maintenance and service requirements. Standard Arrangement 4 fans are suitable to 180°F operating temperature.



Arrangement 8

Arrangement 8 is a direct-connect unit. The impeller is mounted on a separate fan shaft and is mounted to the fan base with pillow block bearings (minimum L-10 40,000 hours). The fan shaft is connected to the motor shaft with a flexible coupling. Arrangement 8 blowers offer the ability to remove the motor for service without disturbing the fan assembly. Arrangement 8 units are limited to 300°F. For special arrangements and higher temperature requirements, please consult the factory.



OPTIONAL CONSTRUCTION

Spark Resistant Construction

Fan applications may involve the handling of fumes or vapors. Such applications require careful consideration by the system designer to insure the safe handling of such gases. Twin City Fan & Blower offers the following classifications of spark resistant construction per AMCA Standard 99-0401-86. It is the specifier's or the user's responsibility to specify the type of spark resistant construction with full recognition of the potential hazards and the degree of protection required.

Construction

Type A - All parts of the fan in contact with the airstream must be made of nonferrous material — usually aluminum and limited to 200°F.

Type B - The fan shall have a nonferrous impeller and nonferrous rub ring about the opening through which the shaft passes — usually aluminum impeller and rub ring and limited to 200°F.

Type C - Not available.

High Temperature Construction

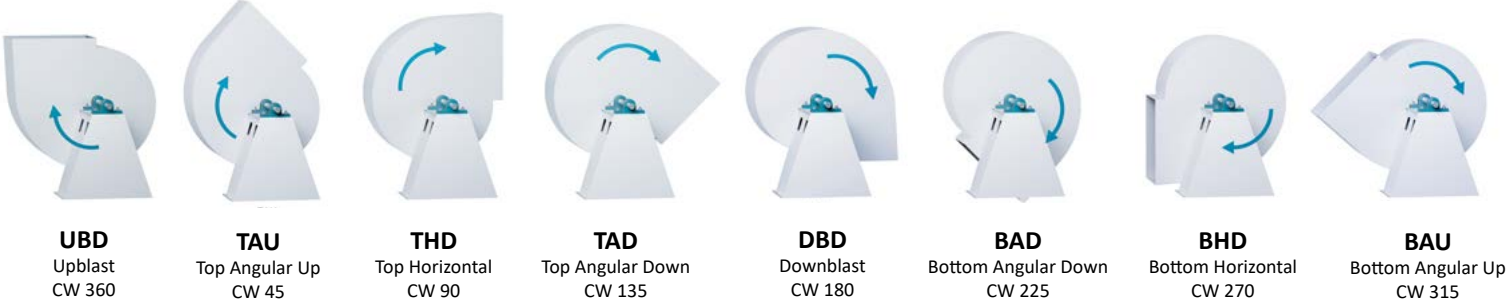
301 to 500°F - Package includes shaft seal, shaft cooler with guard, high temperature grease, and standard enamel paint.

501 to 600°F - Package includes shaft seal, shaft cooler with guard, high temperature grease, and high temperature aluminum paint.

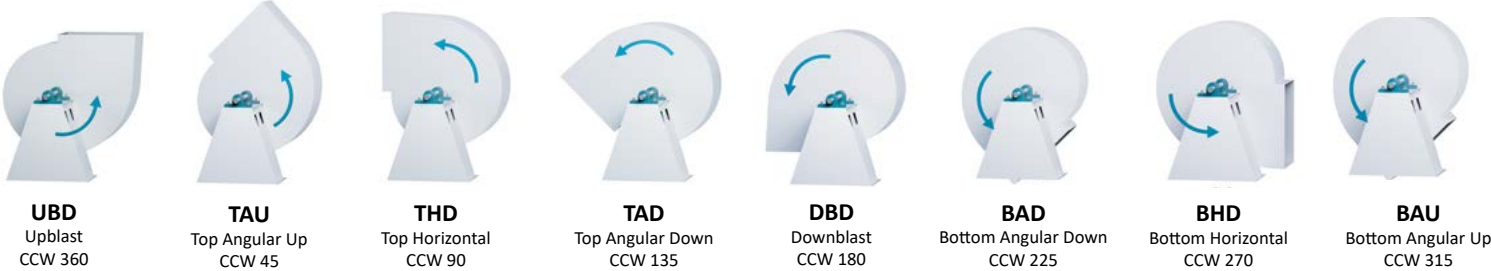
Special Materials - Stainless steel and other special alloys are available in the type TBNS radial design.



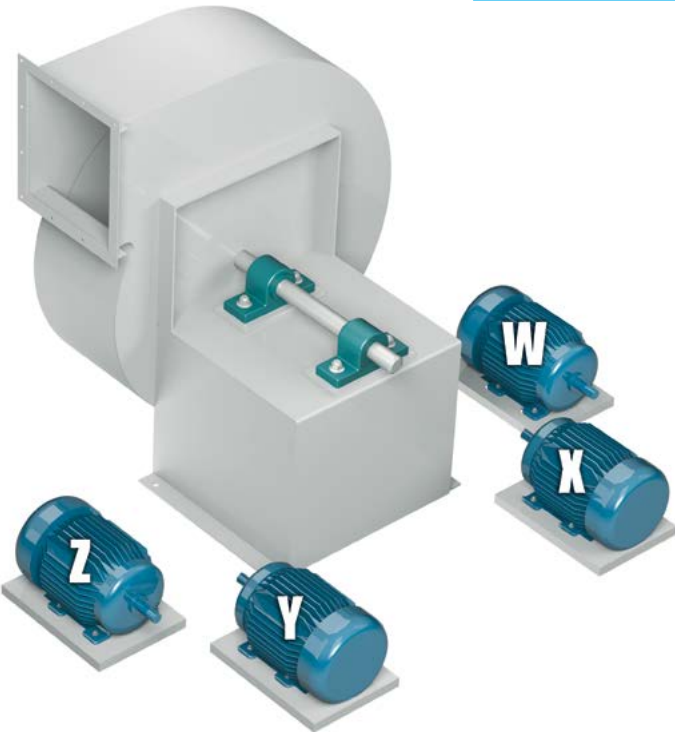
CLOCKWISE (CW) - ROTATION & DISCHARGE (ROTATION VIEW FROM DRIVE SIDE)



COUNTER CLOCKWISE (CCW) - ROTATION & DISCHARGE (ROTATION VIEW FROM DRIVE SIDE)



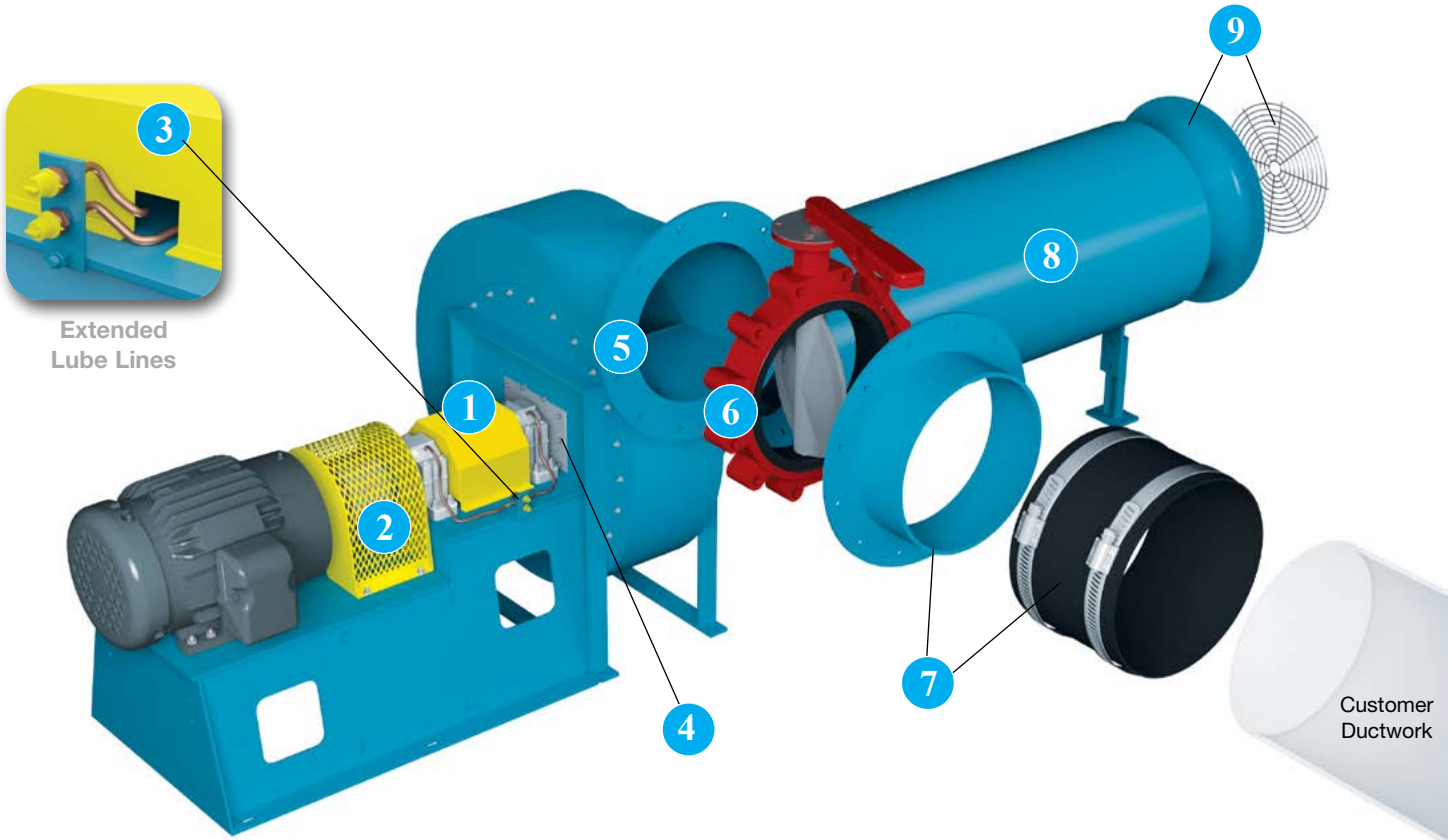
AMCA MOTOR POSITION STANDARDS



The drawing above illustrates the AMCA motor position standards for Arrangement 1 and 3 fans (Arrangement 1 shown). The location of the motor is determined by facing the drive side of the fan and designating the motor position by letters W, X, Y, or Z, in accordance with the diagram shown above.



Extended Lube Lines

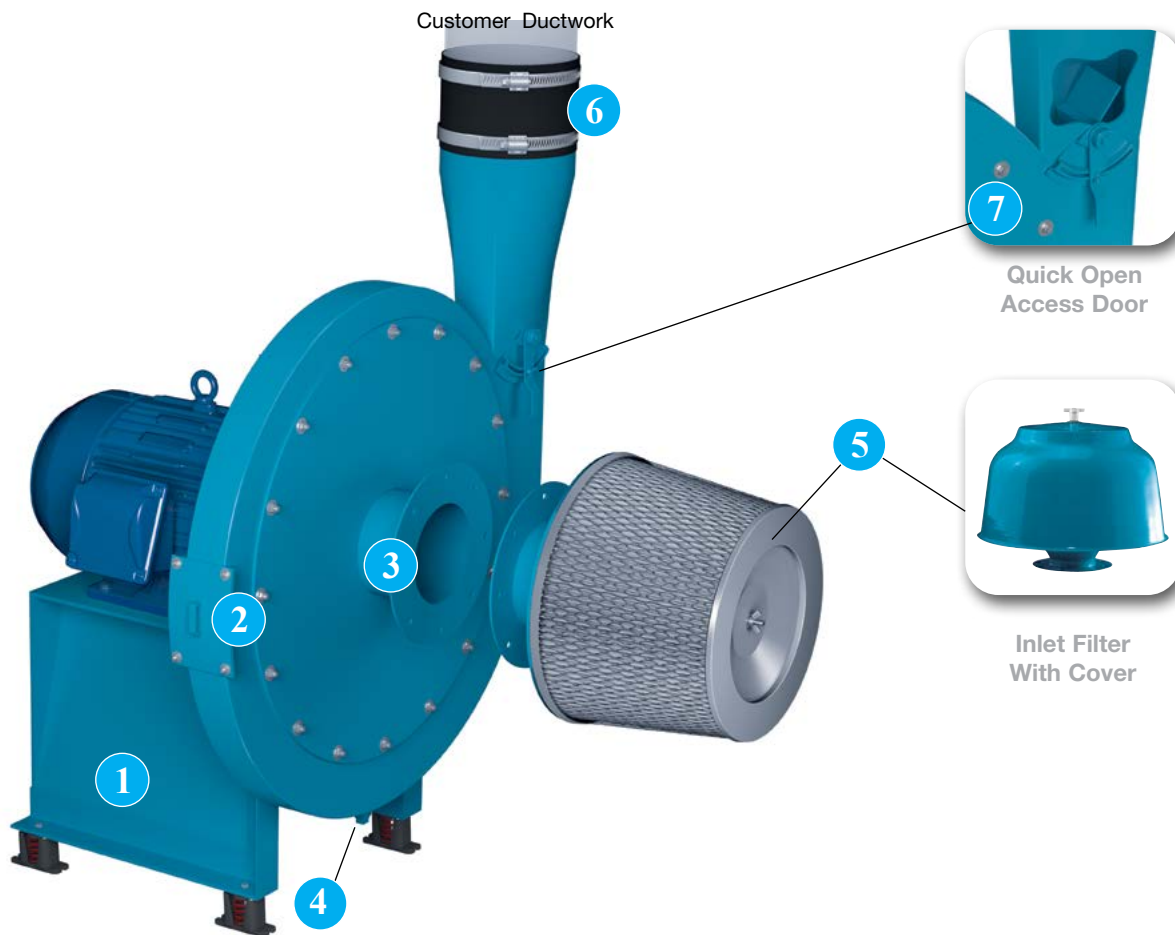


- 1 Shaft Guard** OSHA style to enclose the shaft. Painted safety yellow.
- 2 Coupling Guards** are designed to cover the rotating shaft and drive components.
- 3 Extended Lube Lines** Exterior mounting zerk fittings are available with lines to the fan shaft bearings for relubrication from outside the unit.
- 4 Shaft Seals** reduce leakage and protect the bearings from a contaminated airstream. Standard seals are constructed of Tetraglas compressed between an aluminum cover plate and the fan housing. The standard shaft seal is not gas tight. Special seals are available for low leakage applications requiring more protection.
- 5 Flanged Outlet** punched to ANSI 125/150 hole pattern for bolted connection is standard.
- 6 Blast Gate with Handle** A wafer-type butterfly valve for mounting to outlet flange allows controlling flow to full shutoff. Available for automatic control. Maximum temperature 250°F.

- 7 Companion Flange with Rubber Sleeve & Clamps** offers flexible connection between the fan and outlet ductwork. Flexible rubber sleeve is good to 200°F operation.
- 8 Inlet Silencer with Support Leg** Welded steel construction with acoustical absorption material to reduce noise emanating from fan inlet. Flanged connection is suggested for mounting to the inlet of the fan. The opposite end of the silencer can be furnished with an inlet venturi, inlet flange, or inlet pipe assembly. Unless otherwise specified, the silencer will be furnished with flanges (punched) at both ends.
- 9 Inlet Bell w/ Screen** On installations with an open inlet, an inlet bell (venturi) is required to achieve the catalog performance. Inlet bell is provided with screen.

Other Accessories Include:

- Special Coatings
- Steel Wall & Aluminum Clad Housings
- Insulation Pins



Customer Ductwork

Quick Open Access Door

Inlet Filter With Cover

- 1 Vibration Rails with RIS Isolators** are designed to limit forces transmitted to the support structure of an operating fan. Constructed of structural angle, the rails extend the distance between mounting points distributing a more even load to the isolators. Rubber-in-shear type isolators and flexible connectors at inlet and outlet are required.
- 2 Inspection Door** Heavy duty bolted panel provides access for impeller inspection. Quick Open and Raised Access Doors are also available.
- 3 Flanged Inlet** The flanged inlet enables attachment of rigid pipe connections on the blower inlet. The flange has a drilling pattern to match 125# ASA pipe flange. The thickness of the flange is not according to ASA standards.
- 4 Drain** Standard $\frac{3}{4}$ " NPT half coupling located at the lowest point of the housing. Available with or without plug.

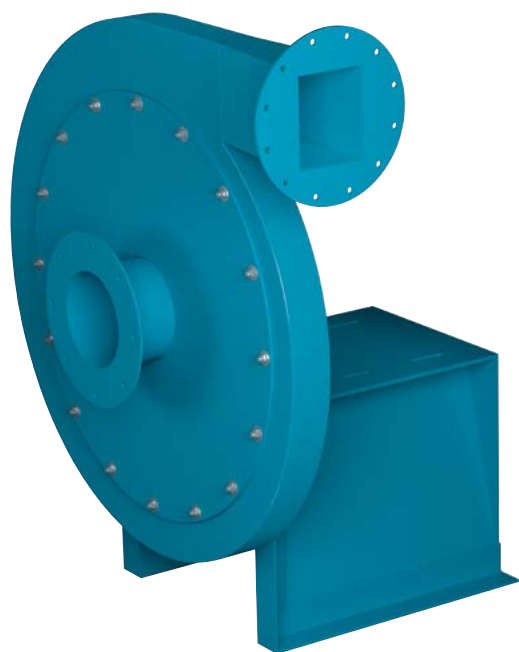
- 5 Inlet Filter** An inlet filter is recommended when a turbo blower is installed in a dust-laden atmosphere to help keep the impeller clean and free of clogging, loading and erosion. The filter media is ultra synthetic. Filters are sized for a maximum pressure drop of 1" SP. The filter assembly includes a mounting flange drilled to match 125# ASA pattern (thickness of flange is manufacturer standard). The turbo blower is furnished with a flanged inlet for mounting the filter assembly.
- 6 Outlet Tube Adapter With Rubber Sleeve** This consists of a 4" long steel collar and flange which bolts to the blower discharge. A 6" long, 2-ply molded rubber slip-type connector with two hose clamps connects the adapter to the pipe line and helps to isolate vibration and noise transmission to the rest of the system. The connector is rated for pressures up to 5 psi and 180°F.
- 7 Built-In Outlet Damper** offers a low cost single blade damper installed near the discharge of the fan housing for volume control where moderate leakage can be allowed. Available for manual control only.



Model TBA – Bare Fan Weights* and Data

SIZE	BARE FAN WT. (LBS.) IN ARR. 4	NOMINAL IMPELLER DIA. (IN.)	NOMINAL IMPELLER WT. (LBS.)	WR ² (LB-FT ²)
706	130	12 ³ / ₁₆	14	2
710	130	12 ³ / ₁₆	14	2
806	155	13 ⁵ / ₁₆	17	4
810	155	13 ⁵ / ₁₆	18	4
906	200	15 ¹ / ₁₆	23	5
910	222	15 ¹ / ₁₆	24	5
1006	240	17 ³ / ₈	26	8
1010	270	17 ³ / ₈	28	8
1106	256	19 ¹ / ₈	37	14
1110	288	19 ¹ / ₈	37	14
1206	308	20 ⁷ / ₈	45	19
1210	347	20 ⁷ / ₈	45	19
1306	360	22 ⁵ / ₈	57	28
1308	383	22 ⁵ / ₈	57	28
1310	405	22 ⁵ / ₈	60	28
1406	420	24 ³ / ₈	63	37
1408	446	24 ³ / ₈	63	37
1410	472	24 ³ / ₈	68	37
1506	479	26 ¹ / ₈	79	54
1508	509	26 ¹ / ₈	79	54
1510	539	26 ¹ / ₈	85	54
1706	669	29 ⁵ / ₈	154	129
1710	842	29 ⁵ / ₈	166	129

*Fan Weight Only – Arr. 4 does not include motor.



Model TBR – Bare Fan Weights* and Data

SIZE	BARE FAN WT. (LBS.) IN ARR. 4	NOMINAL IMPELLER DIA. (IN.)	NOMINAL IMPELLER WT. (LBS.)	WR ² (LB-FT ²)
R11	100	11	8	0.6
R12	110	12	9	0.9
R13	120	13	10	1.2
R14	151	14	11	1.5
R15	166	15	12	2.0
R16	190	16	15	3.1
R18	200	18	21	6.1
R21	270	21	45	15
R23	300	23	47	17
R25	365	25	57	30
R27	400	27	75	48
R29	430	29	101	78
R31	560	31	130	121
R33	715	33	180	192

*Fan Weight Only – Arr. 4 does not include motor.

Use the TBR/TBA selection chart below (Figure 1) with desired CFM and static pressure to determine if TBR, TBA, or both can give acceptable selections.

Select a fan based on efficiency, first cost and operating point on the fan curve. From the performance tables, select a fan based on CFM and SP (at standard density of 0.075 lb/ft³) closest to the value specified. When specified performance is at a density different than standard, it must be converted to the equivalent standard conditions before entering the performance tables.

Review the fan curve for your selection. Attempt to offer a fan with higher efficiency wherever possible.

Example 1

Given: 1460 CFM, 35" SP

- Model TBR R23Q shows 12.9 BHP, use 15 HP motor
- Model TBR R25N shows 17.0 BHP, use 15 HP with 1.15 S.F. or 20 HP motor

R23Q is more efficient and should be selected unless operating point of R25N is required by the customer.

Example 2

Given: 5000 CFM, 40" SP

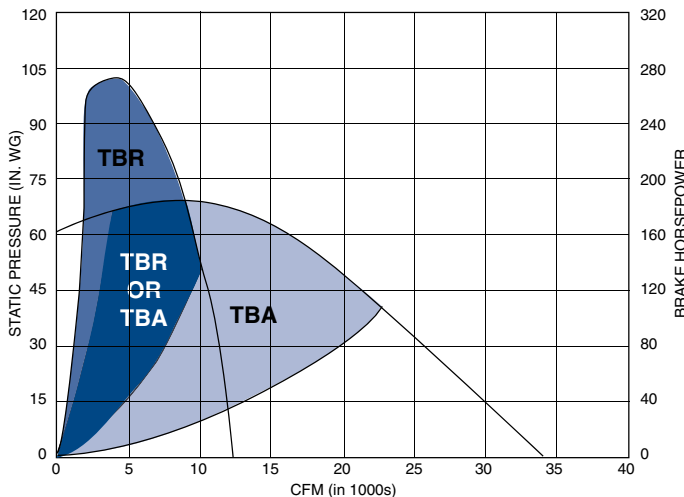
- Model TBR R29Q shows 4980 CFM and 65.6 BHP
- Model TBA 1406P5 shows 5160 CFM and 47.7 BHP

Both selections are usable. The TBA is a better choice based on its higher efficiency.

The performance curve for each fan shows the relationship of CFM versus SP and also denotes recommended motor HP. Referring to the curve for Model TBR R-33:

CFM	SP	BHP	Motor Selection
4300	102.7	100	100 HP motor (1.0 or 1.15 SF)
4600	102	106	100 HP with 1.15 SF or 125 HP
5000	101	115	100 HP with 1.15 SF or 125 HP

It is normal to use turbo blowers with motors operating into the service factor.



Density Ratios For Inlet Suction Conditions

If inlet pressure is suction or negative, static pressure required must be corrected by the inlet density ratio.

Example: Operating conditions 70°F at sea level. System resistance at fan inlet is 40". Density ratio for correcting inlet air density is as follows:

$$(407 - 40) \div 407 = 0.902$$

Equivalent static pressure to be used for fan selection from standard tables:

$$40 \div 0.902 = 44.36"$$

Actual air density at inlet = 0.075 x 0.902 = 0.0676 lb/ft³

Operation at Other RPMs or Variation of Fan Speed

CFM varies with fan speed.

Static pressure varies with square of fan speed.

Brake horsepower varies with cube of fan speed.

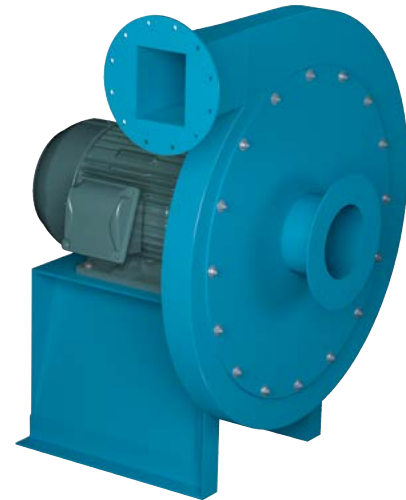
Example: Model TBA 1710P7 delivers 19900 CFM at 50" at 3500 RPM and 212 BHP. At 2900 RPM (50 Hz speed):

$$\text{CFM} = (2900 \div 3500) \times 19900 = 16489$$

$$\text{SP} = (2900 \div 3500)^2 \times 50 = 34.32$$

$$\text{BHP} = (2900 \div 3500)^3 \times 212 = 120.6$$

The above formula can be used to select fans for 50 Hz operation as well as for V-belt drive applications.



Model TBA

SIZE	CFM	BHP
Static Pressure = 39		
1706M5	9798	87.7
1510S7	10234	82.5
1706S3	12976	117.0
1710M7	13486	113.0
1510P7	13522	114.0
1706P3	13793	138.0
1706S5	14673	141.0
1706P5	16688	179.0
1710S7	18690	173.0
1710P7	23292	226.0
Static Pressure = 40		
1406P3	3118	29.5
1408P3	3726	34.8
1508S3	4627	43.3
1406P5	5201	48.1
1506S3	5219	45.3
1410S7	5295	44.0
1408P5	6047	53.8
1508S5	6257	57.3
1506S5	6265	56.7
1506P3	6330	58.0
1508P3	6419	60.0
1706M3	8053	71.8
1506P5	8438	80.0
1410P7	8970	73.8
1508P5	9181	86.8
1706M5	9449	85.8
1510S7	9883	80.8
1706S3	12679	115.0
1710M7	12971	110.0
1510P7	13236	113.0
1706P3	13552	136.0
1706S5	14339	139.0

SIZE	CFM	BHP
Static Pressure = 40		
1706P5	16446	177.0
1710S7	18403	172.0
1710P7	23010	225.0
Static Pressure = 42		
1506S3	4084	37.8
1406P5	4644	44.6
1408P5	5279	48.9
1508S5	5485	52.1
1506S5	5563	52.2
1506P3	5758	54.5
1508P3	5792	56.3
1706M3	7244	67.5
1506P5	8031	77.8
1410P7	8233	70.2
1508P5	8594	83.3
1706M5	8699	81.4
1510S7	9117	77.0
1710M7	11825	103.0
1706S3	12075	113.0
1510P7	12642	111.0
1706P3	13053	134.0
1706S5	13676	135.0
1706P5	15964	174.0
1710S7	17814	170.0
1710P7	22443	224.0
Static Pressure = 44		
1406P5	3776	38.5
1408P5	4433	42.9
1506S5	4678	46.1
1506P3	5104	50.3
1508P3	5186	52.6
1706M3	6319	61.8
1510S7	12827	92.7

SIZE	CFM	BHP
Static Pressure = 44		
1410P7	7282	64.6
1506P5	7594	75.4
1706M5	7859	76.0
1508P5	7960	79.3
1510S7	8196	72.1
1710M7	10406	94.1
1706S3	11448	109.0
1510P7	12000	109.0
1706P3	12532	131.0
1706S5	13005	132.0
1706P5	15482	170.0
1710S7	17199	167.0
1710P7	21866	222.0
Static Pressure = 46		
1506P3	4353	45.0
1508P3	4526	48.6
1706M5	6841	68.8
1510S7	6876	64.3
1506P5	7101	72.4
1508P5	7258	74.5
1710M7	8270	78.4
1706S3	10808	106.0
1510P7	11300	105.0
1706P3	11989	128.0
1706S5	12325	128.0
1706P5	14998	167.0
1710S7	16566	164.0
1710P7	21273	221.0
Static Pressure = 48		
1508P5	6480	68.8
1506P5	6541	68.8
1706S3	10122	102.0

SIZE	CFM	BHP
Static Pressure = 48		
1510P7	10529	101.0
1706P3	11418	124.0
1706S5	11638	124.0
1706P5	14518	164.0
1710S7	15905	160.0
1710P7	20663	219.0
Static Pressure = 50		
1508P5	5649	62.1
1506P5	5835	63.8
1706S3	9357	97.4
1510P7	9603	95.7
1706P3	10815	120.0
1706S5	10915	119.0
1706P5	14039	161.0
1710S7	15200	156.0
1710P7	20048	216.0
Static Pressure = 52		
1506P5	4577	53.7
1510P7	8335	86.1
1706S3	8491	91.6
1706S5	10147	114.0
1706P3	10174	116.0
1706P5	13553	159.0
1710S7	14426	152.0
1710P7	19419	214.0
Static Pressure = 54		
1706S3	7380	83.0
1706S5	9325	108.0
1706P3	9483	111.0
1706P5	13049	155.0
1710S7	13579	146.0
1710P7	18767	211.0

SIZE	CFM	BHP
Static Pressure = 56		
1706S5	8365	99.9
1706P3	8733	105.0
1706P5	12526	152.0
1710S7	12619	140.0
1710P7	18076	208.0
Static Pressure = 58		
1706S5	7220	89.8
1706P3	7894	98.2
1710S7	11430	131.0
1706P5	11992	148.0
1710P7	17332	204.0
Static Pressure = 60		
1706P3	6942	89.9
1710S7	9735	118.0
1706P5	11427	144.0
1710P7	16544	199.0
Static Pressure = 62		
1706P5	10798	140.0
1710P7	15689	193.0
Static Pressure = 64		
1706P5	10083	134.0
1710P7	14721	186.0
Static Pressure = 66		
1706P5	9238	127.0
1710P7	13539	176.0
Static Pressure = 68		
1706P5	7993	115.0
1710P7	11958	160.0



Model TBR

SIZE	CFM	BHP
Static Pressure = 37		
R25Y	3868	48.2
R27V	4107	51.7
R27X	4466	58.1
R27W	4682	64.3
R27Y	5136	74.7
R29Q	5223	68.6
R29V	5882	84.1
R29X	6288	93.8
R29W	6525	102.0
R31Q	6686	99.8
R31V	7405	120.0
Static Pressure = 38		
R23N	714	7.71
R21Y	1018	9.51
R25M	1053	12.1
R25L	1076	13.3
R23P	1083	12.0
R25N	1353	15.9
R25P	1640	20.9
R23V	1659	16.0
R27L	1806	24.3
R27M	1871	23.6
R23X	2012	19.4
R27N	2172	28.5
R23W	2251	22.9
R25Q	2272	22.9
R29L	2437	37.1
R27P	2515	36.5
R29M	2525	36.1
R23Y	2656	28.1
R29N	2856	42.8
R25V	2864	31.2
R25X	3196	35.8
R31M	3199	51.5
R29P	3224	53.5
R25W	3398	40.2
R27Q	3481	40.3
R31N	3559	60.1
R25Y	3815	47.6
R27V	4041	50.9
R27X	4406	57.4
R27W	4627	63.6
R27Y	5089	74.0
R29Q	5152	67.8
R29V	5821	83.3
R29X	6235	93.0
R29W	6474	102.0
R31Q	6619	98.8
R29Y	7023	117.0
R31V	7347	119.0
R31X	7813	133.0
R33Q	8215	138.0
Static Pressure = 39		
R25M	977	11.4
R25L	1024	12.8
R23P	1031	11.5
R25N	1304	15.5
R23V	1485	14.5
R25P	1602	20.5
R27L	1763	23.8
R27M	1822	23.0
R23X	1884	18.3
R27N	2130	28.0
R25Q	2149	21.8
R23W	2157	22.1
R29L	2398	36.7
R27P	2480	36.0
R29M	2483	35.6
R23Y	2582	27.4
R25V	2780	30.4
R29N	2818	42.3
R31L	3044	52.2
R25X	3121	35.0
R31M	3161	51.0
R29P	3192	53.0
R25W	3332	39.5
R27Q	3398	39.5
R31N	3524	59.6
R25Y	3759	46.9
R27V	3973	50.1
R27X	4344	56.6
R27W	4571	62.9
R27Y	5040	73.3
R29Q	5078	66.8
R29V	5759	82.5
R29X	6181	92.2
R29W	6422	101.0
R31Q	6551	97.8
R29Y	6977	116.0
R31V	7288	118.0
R31X	7761	132.0
R33Q	8150	137.0

SIZE	CFM	BHP
Static Pressure = 40		
R25M	885	10.6
R25L	967	12.3
R23P	971	11.0
R23V	1210	12.1
R25N	1252	15.0
R25P	1564	20.1
R27L	1717	23.4
R23X	1730	16.9
R27M	1772	22.5
R25Q	2009	20.6
R23W	2055	21.2
R27N	2088	27.6
R29L	2358	36.2
R29M	2439	35.1
R27P	2444	35.6
R23Y	2502	26.6
R25V	2689	29.6
R29N	2780	41.8
R31L	3008	51.7
R25X	3041	34.1
R31M	3121	50.5
R29P	3160	52.5
R25W	3264	38.7
R27Q	3310	38.6
R31N	3488	59.1
R25Y	3701	46.2
R27V	3903	49.3
R27X	4279	55.8
R27W	4513	62.2
R33M	4576	82.2
R27Y	4990	72.7
R29Q	5003	65.9
R29V	5696	81.6
R29X	6126	91.4
R29W	6369	99.9
R31Q	6482	96.8
R29Y	6931	115.0
R31V	7229	117.0
R31X	7709	131.0
R31W	8012	143.0
R33Q	8084	136.0
Static Pressure = 42		
R23P	822	9.73
R25L	833	11.0
R25N	1133	13.8
R23X	1293	12.9
R25P	1481	19.2
R27L	1621	22.4
R25Q	1638	17.2
R27M	1663	21.4
R23W	1819	19.1
R27N	1999	26.6
R29L	2277	35.2
R23Y	2310	24.7
R29M	2349	34.0
R27P	2371	34.7
R25V	2488	27.7
R29N	2702	40.9
R25X	2862	32.3
R31L	2934	50.8
R31M	3040	49.5
R29P	3093	51.5
R25W	3117	37.1
R27Q	3120	36.6
R31N	3414	58.1
R25Y	3576	44.7
R27V	3755	47.7
R31P	3851	72.6
R27X	4142	54.1
R27W	4391	60.6
R33M	4486	80.6
R29Q	4846	64.0
R27Y	4885	71.2
R29V	5564	79.8
R29X	6013	89.7
R29W	6261	98.2
R31Q	6339	94.8
R29Y	6836	114.0
R31V	7107	115.0
R31X	7602	129.0
R31W	7908	141.0
R33Q	7950	134.0
R33V	8831	162.0
Static Pressure = 44		
R25N	976	12.3
R25P	1389	18.2
R23W	1514	16.4
R27L	1516	21.3
R27M	1538	20.1
R27N	1903	25.6
R23Y	2067	22.3
R29L	2191	34.2
R25V	2246	25.4

SIZE	CFM	BHP
Static Pressure = 44		
R29M	2252	32.8
R27P	2294	33.7
R29N	2621	39.9
R25X	2651	30.1
R31L	2857	49.8
R27Q	2906	34.4
R25W	2950	35.4
R31M	2956	48.4
R29P	3023	50.5
R31N	3339	57.1
R25Y	3437	43.0
R27V	3593	45.9
R31P	3786	71.5
R27X	3995	52.3
R33L	4168	79.5
R27W	4261	59.0
R33M	4396	79.1
R29Q	4678	62.0
R27Y	4773	69.7
R33N	4916	93.7
R29V	5425	78.0
R29X	5894	88.0
R29W	6149	96.6
R31Q	6190	92.7
R29Y	6739	112.0
R31V	6980	113.0
R31X	7492	127.0
R31W	7802	139.0
R33Q	7810	131.0
R31Y	8473	161.0
R33V	8710	160.0
R33X	9284	178.0
Static Pressure = 46		
R25P	1283	17.1
R27M	1389	18.6
R27L	1399	20.0
R23Y	1716	18.8
R27N	1798	24.5
R25V	1923	22.2
R29L	2100	33.1
R29M	2149	31.6
R27P	2212	32.6
R25X	2399	27.5
R29N	2536	38.8
R27Q	2655	31.8
R25W	2761	33.5
R31L	2776	48.8
R31M	2868	47.3
R29P	2951	49.5
R31N	3261	56.1
R25Y	3285	41.2
R27V	3416	44.0
R31P	3719	70.4
R27X	3836	50.4
R33L	4086	78.1
R27W	4123	57.3
R33M	4203	77.6
R29Q	4497	59.8
R27Y	4654	68.0
R33N	4831	92.1
R29V	5280	76.2
R29X	5768	86.2
R29W	6032	94.8
R31Q	6034	90.6
R29Y	6639	111.0
R31V	6847	111.0
R31X	7378	125.0
R33Q	7665	129.0
R31W	7693	137.0
R31Y	8377	159.0
R33V	8586	157.0
R33X	9176	176.0
R33W	9504	191.0
Static Pressure = 48		
R25P	1157	15.8
R27M	1185	16.5
R27L	1267	18.6
R27N	1682	23.2
R29L	2003	32.0
R29M	2037	30.3
R25X	2067	24.0
R27P	2125	31.5
R27Q	2341	28.5
R29N	2446	37.7
R25W	2547	31.3
R31L	2693	47.7
R31M	2775	46.1
R29P	2875	48.4
R25Y	3107	39.2
R31N	3180	55.0
R27V	3218	41.8
R31P	3650	69.4

SIZE	CFM	BHP
Static Pressure = 48		
R27X	3656	48.2
R27W	3974	55.5
R33L	4002	76.7
R33M	4208	76.0
R29Q	4300	57.5
R27Y	4525	66.2
R33N	4744	90.5
R29V	5125	74.2
R33P	5308	112.0
R29X	5633	84.3
R31Q	5870	88.4
R29W	5908	93.0
R29Y	6535	109.0
R31V	6709	109.0
R31X	7260	123.0
R33Q	7516	127.0
R31W	7580	135.0
R31Y	8279	157.0
R33V	8458	155.0
R33X	9065	174.0
R33Y	9397	189.0
R33W	10191	218.0
Static Pressure = 50		
R25P	994	14.2
R27L	1107	16.9
R27N	1549	21.8
R27Q	1858	23.4
R29L	1900	30.7
R29M	1911	28.8
R27P	2032	30.4
R25W	2293	28.7
R29N	2350	36.5
R31L	2605	46.5
R31M	2677	44.8
R29P	2797	47.3
R25Y	2895	36.7
R27V	2994	39.3
R31N	3096	53.9
R27X	3453	45.8
R31P	3578	68.3
R27W	3809	53.5
R33L	3915	75.3
R29Q	4082	54.9
R33M	4110	74.4
R27Y	4387	64.3
R33N	4656	88.8
R29V	4961	72.1
R33P	5231	111.0
R29X	5487	82.2
R31Q	5697	86.1
R29W	5777	91.1
R29Y	6426	107.0
R31V	6565	107.0
R31X	7135	121.0
R33Q	7360	124.0
R31W	7463	133.0
R31Y	8178	155.0
R33V	8325	153.0
R33X	8950	171.0
R33W	9287	187.0
R33Y	10094	216.0
Static Pressure = 52		
R27N	1387	20.0
R29M	1769	27.2
R29L	1787	29.4
R27P	1930	29.1
R25W	1985	25.4
R29N	2248	35.3
R31L	2512	45.3
R31M	2572	43.4
R25Y	2642	33.8
R29P	2714	46.1
R27V	2725	36.3
R31N	3009	52.7
R27X	3225	43.1
R31P	3505	67.1
R27W	3628	51.4
R33L	3825	73.9
R29Q	3837	52.0
R33M	4008	72.8
R27Y	4237	62.3
R33N	4566	87.2
R29V	4785	69.9
R33P	5153	109.0
R29X	5330	80.1
R31Q	5513	83.6
R29W	5637	89.1
R29Y	6312	105.0
R31V	6413	105.0
R31X	7003	119.0
R33Q	7198	122.0
R31W	7341	131.0
R31Y	8074	153.0

SIZE	CFM	BHP
Static Pressure = 52		
R33V	8188	151.0
R33X	8831	169.0
R33W	9174	185.0
R33Y	9995	214.0
Static Pressure = 54		
R27N	1130	17.0
R29M	1597	25.1
R29L	1663	27.8
R27P	1817	27.7

SIZE	CFM	BHP
Static Pressure = 58		
R29W	5160	82.5
R31V	5910	98.3
R29Y	5920	99.2
R31X	6555	112.0
R33Q	6663	114.0
R31W	6936	125.0
R31Y	7737	147.0
R33V	7744	144.0
R33X	8439	162.0
R33W	8809	178.0
R33Y	9683	207.0
Static Pressure = 60		
R29L	1121	21.2
R27P	1336	22.0
R29N	1703	28.4
R31M	2049	36.4
R31L	2084	39.5
R29P	2331	40.8
R31N	2615	47.3
R27W	2670	39.8
R31P	3182	62.1
R27Y	3416	51.2
R33L	3428	68.0
R33M	3564	66.3
R29V	3876	58.6
R33N	4179	80.7
R29X	4538	69.2
R31Q	4602	71.6
R33P	4832	103.0
R29W	4976	80.0
R31V	5721	95.6
R29Y	5768	96.9
R31X	6385	109.0
R33Q	6464	111.0
R31W	6786	123.0
R33V	7584	141.0
R31Y	7613	145.0
R33X	8296	159.0
R33W	8677	175.0
R33Y	9572	205.0
Static Pressure = 62		
R29N	1466	25.2
R31M	1862	33.8
R31L	1956	37.7
R29P	2216	39.2
R27W	2344	35.6
R31N	2498	45.7
R31P	3092	60.7
R27Y	3118	47.1
R33L	3318	66.4
R33M	3437	64.4
R29V	3555	54.4
R33N	4074	79.1
R29X	4270	65.6
R31Q	4308	67.6
R33P	4748	101.0
R29W	4772	77.2
R31V	5517	92.8
R29Y	5604	94.3
R31X	6203	107.0
R33Q	6252	108.0
R31W	6628	120.0

SIZE	CFM	BHP
Static Pressure = 62		
R33V	7417	139.0
R31Y	7482	143.0
R33X	8144	157.0
R33W	8540	173.0
R33Y	9456	202.0
Static Pressure = 64		
R31M	1613	30.4
R31L	1811	35.7
R29P	2088	37.4
R31N	2370	43.9
R27Y	2749	42.0
R31P	2998	59.2
R29V	3142	49.0
R33L	3200	64.6
R33M	3303	62.4
R31Q	3961	62.8
R29X	3963	61.3
R33N	3966	77.5
R29W	4545	74.1
R33P	4660	99.7
R31V	5297	89.7
R29Y	5426	91.6
R31X	6009	104.0
R33Q	6024	105.0
R31W	6462	118.0
R33V	7242	136.0
R31Y	7343	140.0
R33X	7985	154.0
R33W	8396	170.0
R33Y	9336	200.0
Static Pressure = 66		
R31L	1647	33.4
R29P	1942	35.4
R27Y	2160	34.1
R31N	2226	41.8
R31P	2898	57.7
R33L	3075	62.8
R33M	3158	60.3
R31Q	3530	56.8
R29X	3581	56.0
R33N	3852	75.8
R29W	4295	70.7
R33P	4569	98.0
R31V	5055	86.3
R29Y	5231	88.6
R33Q	5778	101.0
R31X	5794	100.0
R31W	6286	115.0
R33V	7057	133.0
R31Y	7196	138.0
R33X	7816	151.0
R33W	8246	168.0
R33Y	9211	198.0
Static Pressure = 68		
R31L	1432	30.4
R29P	1766	33.0
R31N	2055	39.2
R31P	2791	56.0
R33L	2942	60.8
R33M	2998	57.9
R29X	3102	49.1

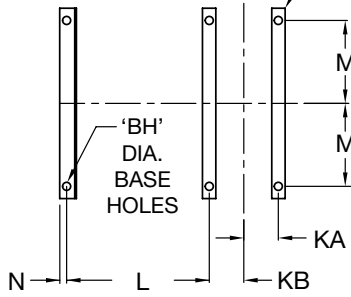
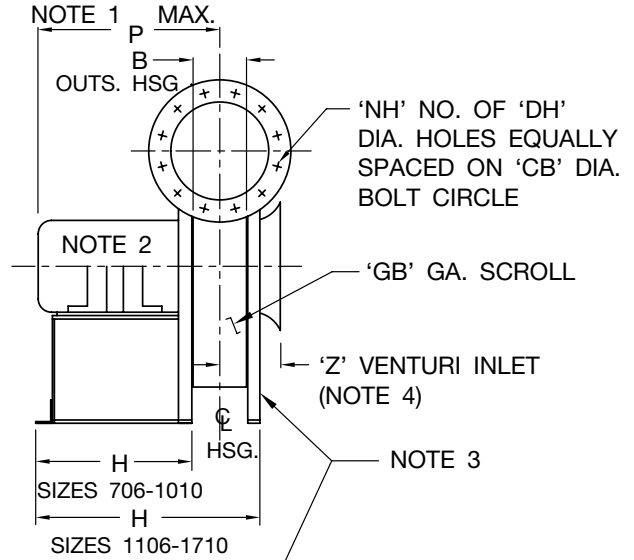
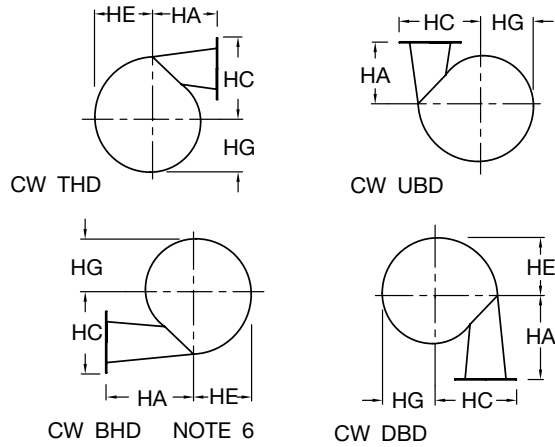
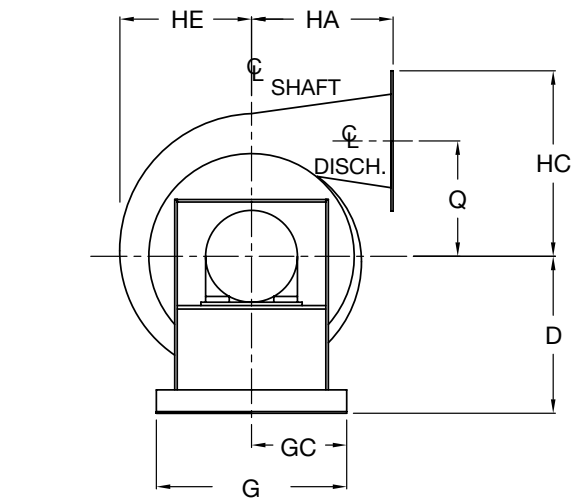
SIZE	CFM	BHP
Static Pressure = 68		
R33N	3733	74.0
R29W	4017	66.9
R33P	4474	96.3
R31V	4785	82.4
R29Y	5006	85.2
R33Q	5510	97.2
R31X	5555	96.7
R31W	6097	112.0
R33V	6861	130.0
R31Y	7038	135.0
R33X	7639	149.0
R33W	8089	165.0
R33Y	9079	195.0
Static Pressure = 70		
R29P	1539	30.0
R31N	1837	35.9
R31P	2676	54.2
R33L	2799	58.6
R33M	2819	55.2
R33N	3607	72.0
R29W	3692	62.4
R33P	4376	94.5
R31V	4474	77.9
R29Y	4745	81.2
R33Q	5212	92.7
R31X	5288	92.5
R31W	5891	109.0
R33V	6651	127.0
R31Y	6871	132.0
R33X	7453	145.0
R33W	7925	163.0
R33Y	8940	192.0
Static Pressure = 72		
R31P	2550	52.2
R33M	2611	52.0
R33L	2645	56.2
R29W	3307	56.9
R33N	3474	70.0
R31V	4100	72.3
R33P	4274	92.7
R29Y	4448	76.6
R33Q	4872	87.4
R31X	4995	87.9
R31W	5666	105.0
R33V	6426	124.0
R31Y	6692	129.0
R33X	7253	142.0
R33W	7754	160.0
R33Y	8794	190.0
Static Pressure = 74		
R33M	2345	47.9
R31P	2411	50.1
R33L	2476	53.6
R29W	2850	50.2
R33N	3332	67.8
R31V	3636	65.0
R29Y	4087	70.9
R33P	4168	90.9
R33Q	4469	81.2
R31X	4653	82.5
R31W	5424	102.0

SIZE	CFM	BHP
Static Pressure = 74		
R33V	6185	120.0
R31Y	6499	126.0
R33X	7036	138.0
R33W	7575	157.0
R33Y	8641	187.0
Static Pressure = 76		
R33M	1902	40.9
R31P	2252	47.6
R33L	2283	50.5
R33N	3175	65.4
R29Y	3612	63.5
R33Q	3975	73.1
R33P	4057	88.9
R31X	4240	75.9
R31W	5164	97.6
R33V	5923	115.0
R31Y	6284	122.0
R33X	6799	134.0
R33W	7384	153.0
R33Y	8480	184.0
Static Pressure = 78		
R33L	2057	46.9
R31P	2067	44.8
R29Y	2950	52.8
R33N	3000	62.5
R31X	3756	67.9
R33P	3939	86.9
R31W	4875	93.0
R33V	5632	111.0
R31Y	6042	118.0
R33X	6541	130.0
R33W	7179	150.0
R33Y	8310	181.0
Static Pressure = 80		
R33L	1744	42.0
R31P	1836	41.3
R33N	2800	59.3
R33P	3814	84.6
R31W	4548	87.8
R33V	5303	105.0
R31Y	5772	113.0
R33X	6264	125.0
R33W	6961	146.0
R33Y	8131	177.0
Static Pressure = 82		
R33N	2550	55.1
R33P	3681	82.3
R31W	4170	81.7
R33V	4917	98.7
R31Y	5475	108.0
R33X	5959	119.0
R33W	6727	142.0
R33Y	7942	174.0
Static Pressure = 84		
R33N	2162	48.3
R33P	3538	79.7
R31W	3766	74.9
R33V	4462	90.5
R31Y	5128	102.0
R33X	5611	113.0
R33W	6481	138.0
R33Y	7735	170.0

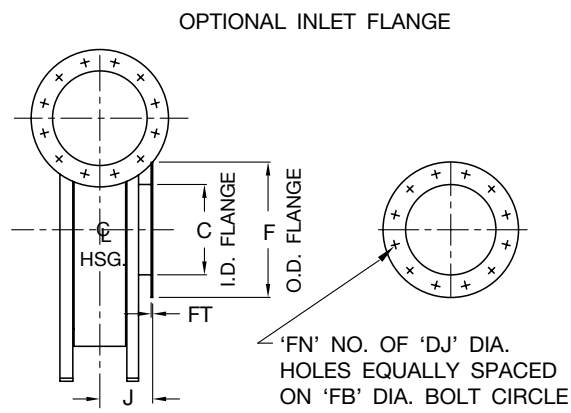
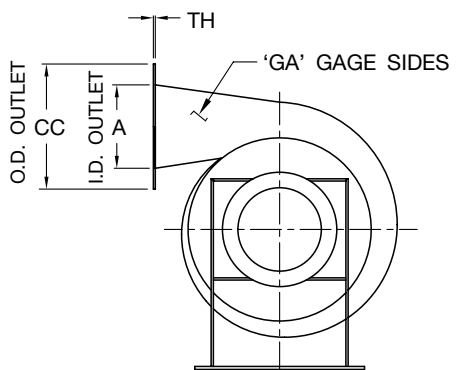
SIZE	CFM	BHP
Static Pressure = 86		
R33P	3381	76.9
R33V	3696	77.2
R31Y	4703	93.9
R33X	5209	106.0
R33W	6217	133.0
R33Y	7508	165.0
Static Pressure = 88		
R33P	3206	73.8
R31Y	4188	84.5
R33N	4754	97.4
R33	5929	128.0
R33Y	7261	160.0
Static Pressure = 90		
R33P	3006	70.3
R33X	4205	87.0
R33W	5610	122.0
R33Y	6992	155.0
Static Pressure = 92		
R33P	2765	66.1
R33W	5253	116.0
R33Y	6703	149.0
Static Pressure = 94		
R33P	2452	60.7
R33W	4871	109.0
R33Y	6379	143.0
Static Pressure = 96		
R33W	4445	101.0
R33Y	6002	135.0
Static Pressure = 98		
R33Y	5561	126.0
Static Pressure = 100		
R33Y	5062	116.0
Static Pressure = 102		
R33Y	4368	102.0



Model TBA – Arrangement 4



FOUNDATION PLAN



Notes:

1. Dimension 'P' varies with motor size and manufacturer.
2. Dimension 'FR' is maximum motor frame.
3. Inlet stand on Sizes 1106 and larger only.
4. Inlet screen included with venturi type inlet.
5. CW rotation is shown, CCW rotation is similar but opposite.
6. * Discharge flange on BHD discharge extends below pedestal base. Amount equals dimension "HC" minus 'D'.

Model TBA – Arrangement 4

FAN SIZE	A	B	BH	C	CB	CC	D*	DH	DJ	F	FB	FN	FR	FT	G	GA	GB	GC	HC	HE
706	6.00	4.19	0.56	7.00	9.50	11.00	12.38	0.44	0.44	13.50	11.75	8	145T	0.31	15.75	12	10	7.88	14.13	9.88
710	8.00	6.19	0.56	7.00	11.75	13.50	12.38	0.44	0.44	13.50	11.75	8	145T	0.31	15.75	12	10	7.88	15.38	9.88
806	6.00	4.63	0.56	8.00	9.50	11.00	14.00	0.44	0.44	13.50	11.75	8	184T	0.31	13.00	12	10	6.50	15.44	11.38
810	10.00	6.81	0.56	8.00	14.25	16.00	14.00	0.44	0.44	13.50	11.75	8	184T	0.31	13.00	12	10	6.50	17.94	11.38
906	8.00	5.25	0.56	9.00	11.75	13.50	15.50	0.44	0.44	16.00	14.25	12	215T	0.31	18.75	12	10	9.38	17.88	12.75
910	10.00	7.75	0.56	9.00	14.25	16.00	15.50	0.44	0.44	16.00	14.25	12	215T	0.31	18.75	12	10	9.38	19.13	12.75
1006	8.00	5.75	0.56	10.00	11.75	13.50	17.25	0.44	0.44	16.00	14.25	12	254T	0.31	16.50	12	7	8.25	19.19	14.25
1010	12.00	8.50	0.56	10.00	17.00	19.00	17.25	0.56	0.44	16.00	14.25	12	254T	0.31	16.50	12	7	8.25	21.94	14.25
1106	10.00	6.38	0.56	11.00	14.25	16.00	18.50	0.44	0.56	19.00	17.00	12	256T	0.31	18.00	10	7	9.00	21.56	15.50
1110	12.00	9.44	0.56	11.00	17.00	19.00	18.50	0.56	0.56	19.00	17.00	12	256T	0.31	18.00	10	7	9.00	23.06	15.50
1206	10.00	6.88	0.56	12.00	14.25	16.00	20.25	0.44	0.56	19.00	17.00	12	324TS	0.31	23.50	10	7	11.75	22.88	17.13
1210	14.00	10.13	0.56	12.00	18.75	21.00	20.25	0.56	0.56	19.00	17.00	12	324TS	0.31	23.50	10	7	11.75	25.38	17.13
1306	10.00	7.50	0.56	13.00	14.25	16.00	21.75	0.44	0.56	21.00	18.75	12	326TS	0.31	25.00	10	7	12.50	24.06	18.38
1308	12.00	7.50	0.56	13.00	17.00	19.00	21.75	0.56	0.56	21.00	18.75	12	326TS	0.31	25.00	10	7	12.50	25.56	18.38
1310	14.00	11.06	0.56	13.00	18.75	21.00	21.75	0.56	0.56	21.00	18.75	12	326TS	0.31	25.00	10	7	12.50	26.56	18.38
1406	10.00	8.00	0.56	14.00	14.25	16.00	23.25	0.44	0.56	21.00	18.75	12	364TS	0.31	28.50	10	7	14.25	25.38	19.88
1408	14.00	8.00	0.56	14.00	18.75	21.00	23.25	0.56	0.56	21.00	18.75	12	364TS	0.31	28.50	10	7	14.25	27.88	19.88
1410	16.00	11.81	0.56	14.00	21.25	23.50	23.25	0.56	0.56	21.00	18.75	12	364TS	0.31	28.50	10	7	14.25	29.13	19.88
1506	12.00	8.63	0.81	15.00	17.00	19.00	24.75	0.56	0.56	23.50	21.25	16	404TS	0.31	28.50	10	7	14.25	28.00	21.25
1508	14.00	8.63	0.81	15.00	18.75	21.00	24.75	0.56	0.56	23.50	21.25	16	404TS	0.31	28.50	10	7	14.25	29.00	21.25
1510	18.00	12.75	0.81	15.00	22.75	25.00	24.75	0.56	0.56	23.50	21.25	16	404TS	0.31	28.50	10	7	14.25	31.00	21.25
1706	16.00	9.81	0.81	17.00	21.25	23.50	28.00	0.56	0.56	25.00	22.75	16	444TS	0.31	30.50	7	7	15.25	32.75	24.00
1710	20.00	14.44	0.81	17.00	25.00	27.50	28.00	0.56	0.56	25.00	22.75	16	444TS	0.31	30.50	7	7	15.25	34.75	24.00

FAN SIZE	HG	THD & UBD ONLY						DBD & BHD ONLY						M	N	NH	P	Q	TH	Z
		H	HA	J	KA	KB	L	H	HA	J	KA	KB	L							
706	9.13	12.19	11.00	6.25	—	3.25	9.06	10.19	16.75	6.25	—	5.25	7.06	6.88	2.13	8	14.50	8.63	0.31	5.94
710	9.13	12.19	11.00	7.25	—	4.25	9.06	10.19	16.75	7.25	—	6.25	7.06	6.88	2.13	8	15.50	8.63	0.31	6.94
806	10.50	12.31	12.00	6.50	—	3.50	9.19	10.31	22.00	6.50	—	5.50	7.19	5.50	2.13	8	15.63	9.94	0.31	6.94
810	10.50	12.31	12.00	7.56	—	4.56	9.19	10.31	22.00	7.56	—	6.56	7.19	5.50	2.13	12	16.69	9.94	0.31	8.06
906	11.75	15.94	13.00	6.81	—	3.81	12.81	13.94	19.81	6.81	—	5.81	10.81	8.38	2.13	8	19.81	11.13	0.31	7.06
910	11.75	15.94	13.00	8.06	—	5.06	12.81	13.94	19.81	8.06	—	7.06	10.81	8.38	2.13	12	21.06	11.13	0.31	8.31
1006	13.13	17.50	14.00	7.06	—	4.06	14.38	15.50	25.06	7.06	—	6.06	12.38	7.25	2.13	8	25.06	12.44	0.31	7.63
1010	13.13	17.50	13.94	8.44	—	5.44	14.38	15.50	25.00	8.44	—	7.44	12.38	7.25	2.13	12	26.44	12.44	0.31	9.00
1106	14.25	28.31	16.00	7.38	4.38	4.38	16.44	30.31	23.50	9.38	6.38	6.38	14.44	8.00	2.13	12	25.38	13.56	0.31	8.38
1110	14.25	31.38	15.94	8.88	5.88	5.88	16.44	33.38	23.44	10.88	7.88	7.88	14.44	8.00	2.13	12	26.88	13.56	0.31	9.94
1206	15.75	32.13	17.00	7.63	4.63	4.63	19.75	34.13	28.31	9.63	6.63	6.63	17.75	10.75	2.13	12	30.50	14.88	0.31	9.19
1210	15.75	35.38	16.94	9.25	6.25	6.25	19.75	37.38	28.25	11.25	8.25	8.25	17.75	10.75	2.13	12	32.13	14.88	0.31	10.81
1306	16.88	32.94	18.00	7.94	4.94	4.94	19.94	34.94	26.88	9.94	6.94	6.94	17.94	11.50	2.13	12	30.81	16.06	0.31	10.13
1308	16.88	32.94	17.94	7.94	4.94	4.94	19.94	34.94	26.82	9.94	6.94	6.94	17.94	11.50	2.13	12	30.81	16.06	0.31	10.13
1310	16.88	36.50	18.00	9.69	6.69	6.69	19.94	38.50	26.88	11.69	8.69	8.69	17.94	11.50	2.13	12	32.56	16.06	0.38	11.94
1406	18.25	34.75	21.00	8.19	5.19	5.19	21.25	36.75	32.31	10.19	7.19	7.19	19.25	13.00	2.13	12	32.81	17.38	0.31	9.38
1408	18.25	34.75	21.00	8.19	5.19	5.19	21.25	36.75	32.13	10.19	7.19	7.19	19.25	13.00	2.13	12	32.81	17.38	0.38	9.38
1410	18.25	38.56	21.00	10.06	7.06	7.06	21.25	40.56	32.31	12.06	9.06	9.06	19.25	13.00	2.13	16	34.69	17.38	0.38	11.31
1506	19.50	36.69	20.94	8.50	5.50	5.50	22.56	38.69	38.19	10.50	7.50	7.50	20.56	13.00	2.13	12	37.13	18.50	0.38	10.69
1508	19.50	36.69	21.00	8.50	5.50	5.50	22.56	38.69	38.25	10.50	7.50	7.50	20.56	13.00	2.13	12	37.13	18.50	0.38	10.69
1510	19.50	40.81	21.00	10.56	7.56	7.56	22.56	42.81	38.25	12.56	9.56	9.56	20.56	13.00	2.13	16	39.19	18.50	0.38	12.75
1706	22.13	39.31	25.00	9.06	6.06	6.06	24.00	41.31	41.81	11.06	8.06	8.06	22.00	14.00	2.13	16	43.81	21.00	0.38	10.81
1710	22.13	43.94	25.00	11.38	8.38	8.38	24.00	45.94	41.81	13.38	10.38	10.38	22.00	14.00	2.13	20	46.13	21.00	0.38	13.13

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DIMENSIONS NOT TO BE USED FOR CONSTRUCTION. CERTIFIED DRAWINGS AVAILABLE UPON REQUEST.



Model TBR – Arrangement 4

FAN SIZE	IMPELLER	A	B	BH	C	CB	CC	D	DH	DJ	F	FB	FN	FT	G	GA	GB	GC	THD, UBD & BHD		DBD	HC
																			HA			
R11	QVWXY	4	2.38	0.56	4.13	7.50	9.00	12.00	0.44	0.44	9.00	7.50	8	0.31	10.25	10	10	5.13	10.38	18.38	11.69	
R12	QVWXY	4	2.50	0.56	4.63	7.50	9.00	13.00	0.44	0.44	10.00	8.50	8	0.31	10.25	10	10	5.13	11.06	19.06	12.81	
R13	MNP	3	1.88	0.56	4.13	6.00	7.50	14.00	0.44	0.44	9.00	7.50	8	0.31	10.25	10	10	5.13	11.94	19.94	12.75	
R13	QVWXY	4	2.63	0.56	5.25	7.50	9.00	14.00	0.44	0.44	10.00	8.50	8	0.31	10.25	10	10	5.13	12.00	20.00	13.50	
R14	MNP	3	1.94	0.56	4.13	6.00	7.50	15.00	0.44	0.44	9.00	7.50	8	0.31	11.25	10	10	5.63	12.88	20.88	13.50	
R14	QVWXY	5	2.75	0.56	5.63	8.50	10.00	15.00	0.44	0.44	11.00	9.50	8	0.31	11.25	10	10	5.63	12.81	20.81	14.75	
R15	MNP	3	2.00	0.56	4.13	6.00	7.50	16.00	0.44	0.44	9.00	7.50	8	0.31	12.50	10	10	6.25	13.81	21.81	14.19	
R15	QVWXY	5	2.88	0.56	6.38	8.50	10.00	16.00	0.44	0.44	11.00	9.50	8	0.31	12.50	10	10	6.25	13.75	21.75	15.44	
R16	MNP	4	2.06	0.56	4.63	7.50	9.00	16.50	0.44	0.44	10.00	8.50	8	0.31	13.75	10	10	6.88	14.75	22.75	15.38	
R16	QVWXY	5	3.00	0.56	6.63	8.50	10.00	16.50	0.44	0.44	13.50	11.75	8	0.31	13.75	10	10	6.88	14.69	22.69	16.13	
R18	LMNP	4	2.19	0.69	5.25	7.50	9.00	18.25	0.44	0.44	11.00	9.50	8	0.31	15.00	10	10	7.50	16.56	24.56	17.00	
R18	QVWXY	6	3.31	0.69	7.38	9.50	11.00	18.25	0.44	0.44	13.50	11.75	8	0.31	15.00	10	10	7.50	16.56	24.56	18.00	
R21	LMNP	4	2.56	0.69	5.63	7.50	9.00	19.50	0.44	0.44	11.00	9.50	8	0.31	16.75	7	7	8.38	18.38	26.38	18.38	
R21	QVWXY	6	3.81	0.69	7.75	9.50	11.00	19.50	0.44	0.44	13.50	11.75	8	0.31	16.75	7	7	8.38	18.32	26.32	19.38	
R23	LMNP	5	2.81	0.69	6.38	8.50	10.00	22.25	0.44	0.44	13.50	11.75	8	0.31	18.00	7	7	9.00	20.13	28.13	20.31	
R23	QVWXY	8	4.13	0.69	8.63	11.75	13.50	22.25	0.44	0.56	16.00	14.25	12	0.31	18.00	7	7	9.00	20.13	28.13	22.06	
R25	LMNP	5	3.00	0.69	6.63	8.50	10.00	23.50	0.44	0.44	13.50	11.75	8	0.31	19.75	7	7	9.88	21.94	29.94	21.69	
R25	QVWXY	8	4.50	0.69	9.88	11.75	13.50	23.50	0.44	0.56	16.00	14.25	12	0.31	19.75	7	7	9.88	21.94	29.94	23.44	
R27	LMNP	6	3.19	0.69	7.25	9.50	11.00	25.00	0.44	0.44	13.50	11.75	8	0.31	21.00	7	7	10.50	23.75	31.75	23.56	
R27	QVWXY	8	4.75	0.69	10.31	11.75	13.50	25.00	0.44	0.56	16.00	14.25	12	0.31	21.00	7	7	10.50	23.75	31.75	24.81	
R29	LMNP	6	3.56	0.81	7.75	9.50	11.00	27.50	0.44	0.44	13.50	11.75	8	0.31	22.75	.25	.25	11.38	25.56	33.56	24.94	
R29	QVWXY	10	5.25	0.81	11.00	14.25	16.00	27.50	0.56	0.56	19.00	17.00	12	0.50	22.75	.25	.25	11.38	25.56	33.56	27.44	
R31	LMNP	6	3.75	0.81	8.50	9.50	11.00	29.00	0.44	0.56	16.00	14.25	12	0.31	25.25	.25	.25	12.63	27.38	35.38	26.38	
R31	QVWXY	10	5.63	0.81	12.25	14.25	16.00	29.00	0.56	0.56	19.00	17.00	12	0.50	25.25	.25	.25	12.63	27.38	35.38	28.88	
R33	LMNP	8	3.94	0.81	9.00	11.75	13.50	30.50	0.44	0.56	16.00	14.25	12	0.31	26.00	.25	.25	13.00	29.25	37.25	29.00	
R33	QVWXY	10	5.94	0.81	12.63	14.25	16.00	30.50	0.56	0.56	19.00	17.00	12	0.50	26.00	.25	.25	13.00	29.25	37.25	30.25	

SIZE	IMPELLER	CONSTRUCTION #1				CONSTRUCTION #2				HE	HG	J	K	M	NH	Q	SQ	TH	Z
		FR	H	L	P	FR	H	L	P										
R11	QVWXY	56-143T	8.00	5.00	14.69					8.69	8.25	5.13	2.69	4.50	8	7.44	3.25	0.31	3.88
R12	QVWXY	56-145T	10.00	7.00	14.88					9.69	9.19	5.19	2.75	4.50	8	8.31	3.56	0.31	3.94
R13	MNP	56-182T	10.00	7.00	16.06					10.44	9.88	4.88	2.44	4.50	4	9.00	2.63	0.31	3.63
R13	QVWXY	56-182T	10.00	7.00	16.44					10.44	9.88	5.25	2.81	4.50	8	9.00	3.88	0.31	4.00
R14	MNP	56-184T	11.00	8.00	16.13					11.25	10.69	4.94	2.50	5.00	4	9.75	2.81	0.31	3.69
R14	QVWXY	56-184T	11.00	8.00	16.50					11.25	10.69	3.31	2.88	5.00	8	9.75	4.19	0.31	4.06
R15	MNP	56-184T	11.00	8.00	16.13					12.00	11.38	4.94	2.50	5.63	4	10.44	3.00	0.31	3.69
R15	QVWXY	56-184T	11.00	8.00	16.56					12.00	11.38	5.38	2.94	5.63	8	10.44	4.50	0.31	4.13
R16	MNP	56-215T	13.00	10.00	18.94					12.81	12.19	5.00	2.56	6.25	8	11.13	3.19	0.31	3.75
R16	QVWXY	56-215T	13.00	10.00	19.38					12.81	12.19	5.44	3.00	6.25	8	11.13	4.75	0.31	5.69
R18	LMNP	143T-215T	13.00	10.00	19.50					14.44	13.69	5.06	2.63	6.63	8	12.50	3.50	0.31	3.81
R18	QVWXY	143T-215T	13.00	10.00	20.06					14.44	13.69	5.63	3.19	6.63	8	12.50	5.31	0.31	5.00
R21	LMNP	145T-213T	13.00	10.00	20.19	215T-256T	18.00	15.00	25.19	16.00	15.25	5.25	2.81	7.50	8	13.88	4.00	0.31	4.00
R21	QVWXY	145T-213T	13.00	10.00	20.81	215T-256T	18.00	15.00	25.81	16.00	15.25	5.88	3.44	7.50	8	13.88	5.94	0.31	6.56
R23	LMNP	182T-215T	14.00	11.00	20.19	254T-286TS	19.00	16.00	27.94	17.63	16.75	5.31	2.94	8.13	8	15.31	4.31	0.31	4.13
R23	QVWXY	182T-215T	14.00	11.00	20.81	254T-286TS	19.00	16.00	28.56	17.63	16.75	5.94	3.56	8.13	8	15.31	6.44	0.31	7.06
R25	LMNP	184T-254T	17.00	14.00	25.13	256T-324TS	20.00	17.00	30.75	19.19	18.25	5.38	3.00	9.00	8	16.69	4.69	0.31	5.69
R25	QVWXY	184T-254T	17.00	14.00	25.88	256T-324TS	20.00	17.00	31.50	19.19	18.25	6.13	3.75	9.00	8	16.69	7.00	0.31	5.75
R27	LMNP	215T-256T	18.00	15.00	25.25	284TS-364TS	22.00	19.00	32.63	20.75	19.75	5.50	3.13	9.63	8	18.06	5.06	0.31	4.94
R27	QVWXY	215T-256T	18.00	15.00	26.00	284TS-364TS	22.00	19.00	33.38	20.75	19.75	6.25	3.88	9.63	8	18.06	7.56	0.31	5.50
R29	LMNP	215T-286TS	19.00	16.00	28.19	324TS-365TS	23.00	20.00	32.81	22.44	21.38	5.56	3.31	10.25	8	19.44	5.56	0.31	6.44
R29	QVWXY	215T-286TS	19.00	16.00	29.00	324TS-365TS	23.00	20.00	33.63	22.44	21.38	6.38	4.13	10.25	12	19.44	8.25	0.31	7.56
R31	LMNP	254T-324TS	20.00	17.00	31.00	326TS-444TS	26.00	23.00	42.75	24.00	22.88	5.63	3.38	11.50	8	20.88	5.88	0.31	6.88
R31	QVWXY	254T-324TS	20.00	17.00	31.94	326TS-444TS	26.00	23.00	43.69	24.00	22.88	6.56	4.31	11.50	12	20.88	8.75	0.31	9.19
R33	LMNP	286TS-364TS	21.00	18.00	33.00	365TS-445TS	28.00	25.00	45.00	25.63	24.38	5.75	3.50	11.88	8	22.25	6.25	0.31	6.25
R33	QVWXY	286TS-364TS	21.00	18.00	34.00	365TS-445TS	28.00	25.00	46.00	25.63	24.38	6.63	4.50	11.88	12	22.25	9.31	0.31	9.88

BC13279J

DIMENSIONS NOT TO BE USED FOR CONSTRUCTION. CERTIFIED DRAWINGS AVAILABLE UPON REQUEST.





Model TBA

Furnish and install as shown on the plans Model TBA Turbo Pressure Air Handling Blower of the arrangement indicated, as manufactured by Twin City Fan & Blower, Minneapolis, Minnesota.

PERFORMANCE — Fans shall be tested in accordance with ANSI/AMCA Standard 210 (air performance) and 300 (sound performance) in an AMCA accredited laboratory.

HOUSING — Model TBA Turbo Blower housings are to be constructed with frames of continuously welded heavy gauge steel with reinforcement as required to maintain shape and prevent vibration at operating pressures. Turbo blowers feature a solidly welded steel motor pedestal with heavy plate and angle bracing for positive alignment and smooth operation. The housing design provides for impeller removal on the inlet side. The TBA housing is adjustable to 6 discharge positions. Positions BHD and DBD require an extended discharge. An inlet venturi for smooth air entry on non-ducted fans is included. Flanges match the hole pattern and diameters of ASA 125# flanges. Model TBA Turbo Blowers are available in Arrangement 4 and Arrangement 8.

IMPELLER — TBA impellers with backward-inclined blades are designed for high efficiency air handling at relatively high volume and pressures. Impellers shall be all welded construction from high strength steel. Heavy gauge blades shall be welded to a spun cone and heavy gauge backplate. Impellers shall be precision balanced for trouble-free operation. Hubs shall be taperlock for easy removal and accurate, self-centering reinstallation. Aluminum and stainless steel construction is available. Model TBA Blowers are generally suitable for clean air applications.

FINISH AND COATING — The entire fan assembly, excluding the shaft, shall be thoroughly degreased and deburred before application of a rust-preventative primer. After the fan is completely assembled, a finish coat of paint shall be applied to the entire assembly. The fan shaft shall be coated with a petroleum-based rust protectant. Aluminum components shall be unpainted.

ACCESSORIES — When specified, accessories shall be provided by Twin City Fan & Blower to maintain one source responsibility.

FACTORY RUN TEST — All fans prior to shipment shall be completely assembled and test run as a unit at the specified operating speed or maximum RPM allowed for the particular construction type. Each impeller shall be statically and dynamically balanced in accordance with ANSI/AMCA 204-96 "Balance Quality and Vibration Levels for Fans" to Fan Application Category BV-3, Balance Quality Grade G6.3. Balance readings shall be taken by electronic type equipment in the axial, vertical, and horizontal directions on each of the bearings. Records shall be maintained and a written copy shall be available upon request.

GUARANTEE — The manufacturer shall guarantee the workmanship and materials for at least one (1) year from startup or eighteen (18) months from shipment, whichever occurs first.





Model TBR

Furnish and install as shown on the plans Model TBR Turbo Pressure Radial Blade Blower of the arrangement indicated, as manufactured by Twin City Fan & Blower, Minneapolis, Minnesota.

PERFORMANCE — Fans shall be tested in accordance with ANSI/AMCA Standard 210 (air performance) and 300 (sound performance) in an AMCA accredited laboratory.

HOUSING — Model TBR Turbo Blower housings are to be constructed with frames of continuously welded heavy gauge steel with reinforcement as required for pulsation-free operation and to maintain shape at operating pressures. Model TBR Blowers shall be constructed with a non-rotatable housing design. An inlet venturi for smooth air entry on non-ducted fans is included. The housing design provides for impeller removal on the inlet side. The turbo blower features a solidly welded steel motor pedestal with heavy plate and angle bracing for positive and smooth operation. Model TBR Turbo Blowers are available in Arrangement 4 and Arrangement 8 and are available in all 8 discharge positions.

IMPELLER — TBR radial impellers are designed for high efficiency air handling at relatively low volume and high pressures. Impellers shall be all welded construction from high strength steel. Heavy gauge blades shall be welded to heavy gauge front and back plates. Impellers shall be precision balanced for trouble-free operation. Hubs shall be taperlock for easy removal and accurate, self-centering reinstallation. Aluminum and stainless steel construction is available. Model TBR Blowers are generally suitable for clean air applications.

FINISH AND COATING — The entire fan assembly, excluding the shaft, shall be thoroughly degreased and deburred before application of a rust-preventative primer. After the fan is completely assembled, a finish coat of paint shall be applied to the entire assembly. The fan shaft shall be coated with a petroleum-based rust protectant. Aluminum components shall be unpainted.

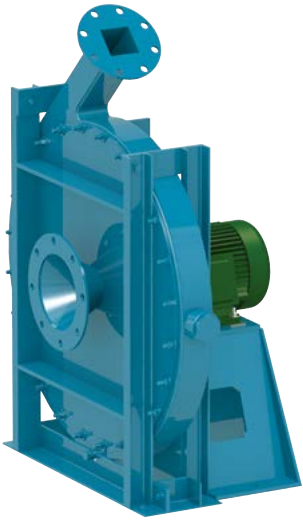
ACCESSORIES — When specified, accessories shall be provided by Twin City Fan & Blower to maintain one source responsibility.

FACTORY RUN TEST — All fans prior to shipment shall be completely assembled and test run as a unit at the specified operating speed or maximum RPM allowed for the particular construction type. Each impeller shall be statically and dynamically balanced in accordance with ANSI/AMCA 204-96 "Balance Quality and Vibration Levels for Fans" to Fan Application Category BV-3, Balance Quality Grade G6.3. Balance readings shall be taken by electronic type equipment in the axial, vertical, and horizontal directions on each of the bearings. Records shall be maintained and a written copy shall be available upon request.

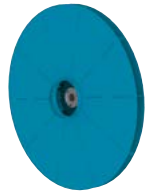
GUARANTEE — The manufacturer shall guarantee the workmanship and materials for at least one (1) year from startup or eighteen (18) months from shipment, whichever occurs first.



ALTERNATIVE PRESSURE BLOWERS



HRO Impeller



HRS Impeller

Models

HRO | HRS

Sizes

19.75" to 61.25" impeller diameters

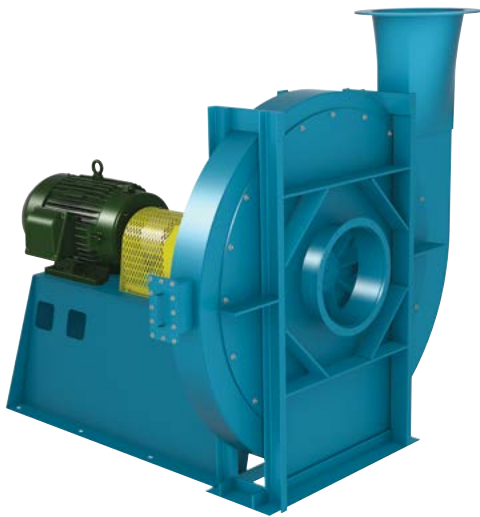
Performance

Airflow to 10,000 CFM

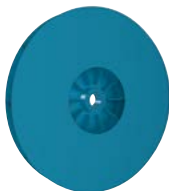
Static pressures up to 120" w.g.



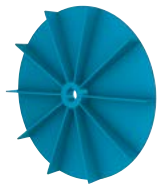
See Catalog 1300 for more information



MBO Impeller



MBR Impeller



MBW Impeller

Models

MBO | MBR | MBW

Sizes

19.63" to 58.94" impeller diameters

MBO Performance

Airflow to 18,000 CFM

Static pressures over 170" w.g.

MBR Performance

Airflow to 18,000 CFM

Static pressures over 180" w.g.

MBW Performance

Airflow to 20,000 CFM

Static pressures over 160" w.g.



See Catalog 1400 for more information

ALTERNATIVE PRESSURE BLOWERS

Models

TBNA | TBNS

Sizes

14.5" to 38" inches impeller diameters

Performance

Airflow to 20,000 CFM

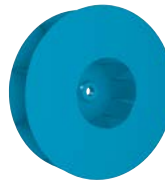
Static pressure to 128 inches w.g.



See Catalog 1250 for more information



TBNA
Aluminum Impeller



TBNS
Steel Impeller



Model

BCN

Sizes

27" to 73" impeller diameters

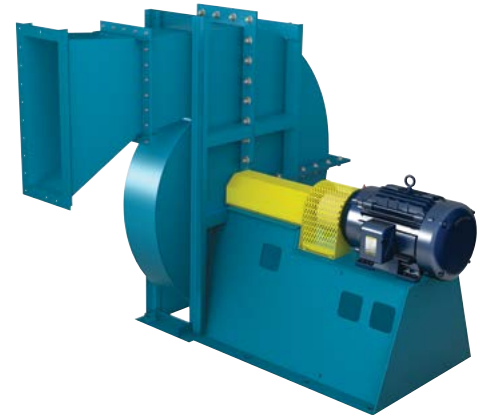
Performance

Airflow to 75,000 CFM

Static pressures to 100" w.g.



See Catalog 1450 for more information



Model

PBW

Sizes

19" to 26" impeller diameters

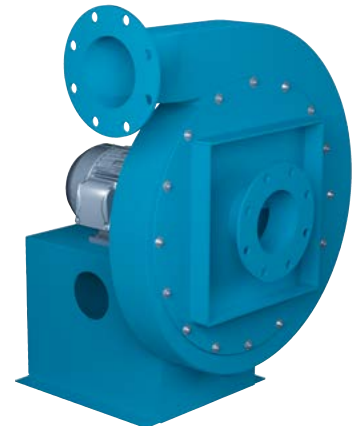
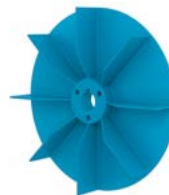
Performance

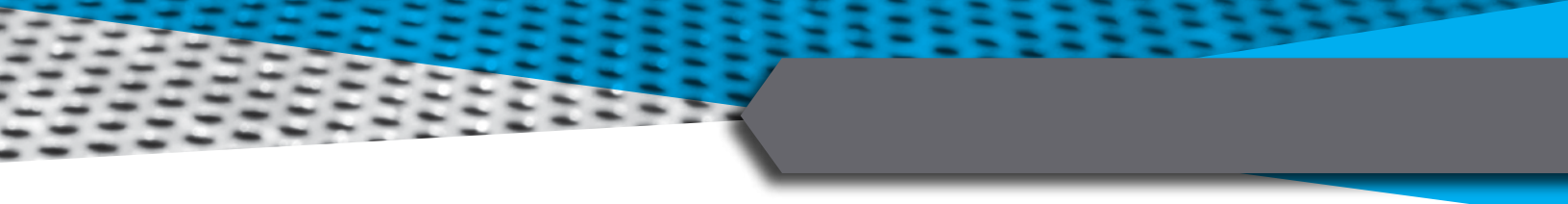
Airflow to 7,700 CFM

Static pressures to 59.3" w.g.



See Fan Selector for more information





INDUSTRIAL PROCESS AND COMMERCIAL VENTILATION SYSTEMS

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MIXED FLOW FANS | TUBEAXIAL & VANEAXIAL FANS | WALL MOUNTED FANS | ROOF VENTILATORS
CENTRIFUGAL ROOF & WALL EXHAUSTERS | CEILING VENTILATORS | GRAVITY VENTILATORS | DUCT BLOWERS
RADIAL BLADED FANS | RADIAL TIP FANS | HIGH EFFICIENCY INDUSTRIAL FANS | PRESSURE BLOWERS
LABORATORY EXHAUST FANS | FILTERED SUPPLY FANS | MANCOOLERS | FIBERGLASS FANS | CUSTOM FANS



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