



DOMEX

Model: DX
Centrifugal Roof Exhausters
Direct Drive and Belt Drive

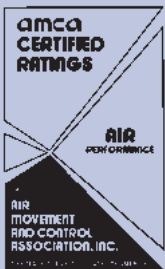
CERTIFIED RATINGS

Domex Direct & Belt Drive Fans



PennBarry certifies that the Domex direct drive and belt drive models shown herein are licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA publication 211 and AMCA publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

Domex High Capacity Belt Drive Fans



PennBarry certifies that the Domex high capacity models shown on pages 27 - 29 are licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

UL and CSA Certification

Domex fans carry the UL label, UL 705, (ZACT), File #E28413.



Domex exhausters are also certified by the Canadian Standard Association (File #LR13309).



FANSIZER® Product Selection Software

FanSizer software allows you to select the best centrifugal or axial unit for your application. Input CFM, static pressure and a sound level limit, and FanSizer will make the optimum selection. It allows you to complete job schedules which you can store, modify and print in seconds. Features include: on-line help, on-screen product drawings and dimensions, and

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complete text specifications. In addition, you can convert job schedules to ASCII code for use with other programs like word processing.

FANCAD® Library of CAD Drawings

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General Information

Domex Fans



Direct Drive



Belt Drive

Domex centrifugal fans are designed for roof-mounted installations in low to medium pressure applications. They are available in a range of capacities:

Direct Drive

Direct drive models with performance to above 4500 CFM

Standard Duty Belt Drive

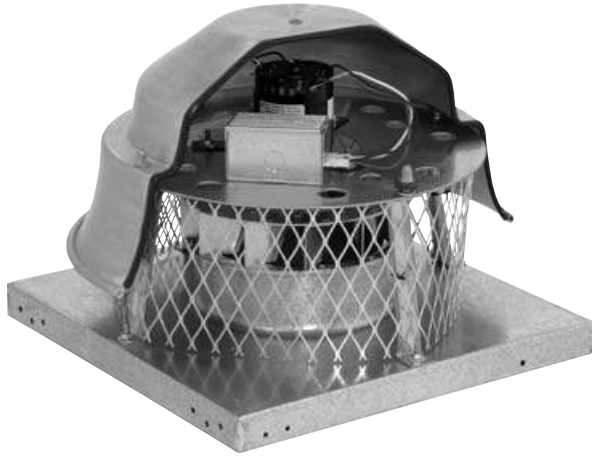
Belt drive models with performance to above 20,000 CFM

High Capacity Belt Drive

Belt drive models with performance to above 46,000 CFM

Domex fans are ideal for general purpose exhaust applications including: bathrooms, garages, general kitchen areas, offices, churches, dormitories, factories, large warehouses and other relatively clean air applications.

They feature a weather-resistant seamless spun aluminum housing which works in conjunction with a patented wheel design and deeply spun inlets to provide smooth quiet air flow through the ventilator. The centrifugal wheels are aluminum, non-overloading, backward inclined, robotically welded, and dynamically balanced.



Motor Selection

Both direct drive and belt drive models are available with a wide range of voltages and enclosures (see Motor Selection for a complete listing). Standard belt drive Open Drip Proof (ODP) ball bearing motors are selected using a conservative portion of the NEMA service factor. Standard direct drive ODP motors have Class B insulation and internal thermal overload protection. Each size is carefully engineered to match the motor to the wheel capacity.

Internal Wiring

All direct drive models with ODP motors feature a polarized disconnect plug between the motor and junction box. This provides a positive method of electric shut-off. Belt drive units with ODP motors are factory-wired between the motor and junction box. For either direct drive or belt drive models, an electric disconnect is available.

Sound Performance

Units deliver outstanding air performance with minimal noise.

Curb Caps (Base)

Curb caps for direct drive and standard duty belt drive models are available in galvanized steel (standard) or aluminum (optional). Curb caps for high capacity belt drive models are available only in aluminum. All curb caps have fully welded corners and are pre-punched to ensure both a leak-tight and easy installation.

Forced Motor Cooling

Breather slots between the motor dome and discharge apron enable fresh air to be drawn into the motor housing during fan operation. This positive cooling promotes longer life for motor and drive components.

Structural Integrity

Durable housings of spun aluminum have a high strength-to-weight ratio and incorporate a rolled bead for additional strength. There are no welds to break or seams to leak. The heavy-gauge motor mounting platform provides positive rigidity between all components of the power train assembly.

Internal Bracing

Tri-Strut™ supports transfer the weight of the motor mounting platform directly to the curb mounting surface. The aluminum spun housing, therefore, is not used to support any weight.

Easy Maintenance Access

By removing the fasteners, the motor dome lifts off for complete access to all the drive train components.

Solid Steel Shafts

Sized so the first critical speed is a minimum of 130% of maximum cataloged operating speed, shafts are precision ground, polished and treated for rust resistance.

Features and Benefits

Domex Fans

Self-Aligning Bearings

Heavy-duty bearings are sized for a minimum L50 life in excess of 200,000 hours of operation. 100% factory tested, they are designed for air handling applications.

Drives and Belts

Pulleys are pre-set to the specified RPM. Cast iron variable pitch pulleys are adjustable, allowing for field balancing based on actual field conditions. All pulleys are sized for at least 150% of the driven horsepower.

Vibration Isolators

Multidirectional, rubber-in-shear vibration isolators mitigate residual vibration transmission from the unit to the building.

Aluminum Bird Screen

Standard on all direct drive and belt drive models.

Conduit

Both direct and belt drive units include a large 1" nominal conduit chase for easy installation of wiring from the motor dome to below the curb cap.

Aluminum Wheels

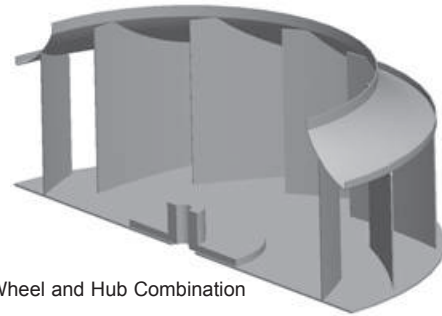
Domex fans offer patented wheel designs. Carefully matched highly-tooled venturis enhance the performance of these backward inclined and non-overloading centrifugal wheels. Made of advanced alloys, the various wheel components provide superior strength and durability.

Silent Wheel (DX06B, DX08B & DX11B)

- Blades' highly curved leading edge provide unsurpassed low sound numbers with excellent air performance.
- Backplate and inlet are stamped for consistency, plus dynamic balancing assure smooth vibration-free operation.
- Riveted or riveted and welded construction ensure superior dependability over other wheel designs.

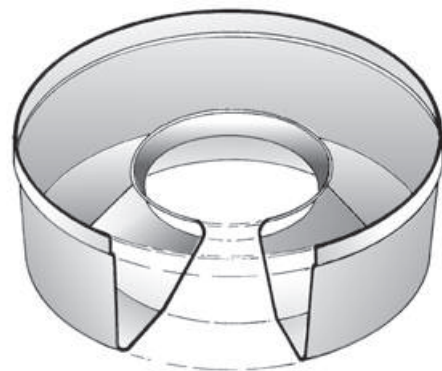
Standard Duty, All Welded Wheel (Standard Duty Belt Drive)

- Blades are curved for improved air performance while increasing their strength and rigidity.



Wheel and Hub Combination

- Backplate and inlet are stamped for consistency. They include a perimeter rim which enhances strength and improves balancing.
- Wheel assembly is robotically welded to provide extremely durable and consistent performance.
- Wheel is dynamically balanced. Balancing weights are mechanically attached to the inside of the rims of both the backplate and wheel inlet. This allows a precise placement of the weights anywhere within a full 360° range on two separate planes, without the possibility of detachment.



Reverse Venturi

Reverse venturi reduces turbulence and improves distribution of the air as it enters the wheel inlet and is "captured" by the blades.

Mounting Pedestal

The mounting pedestal, available in aluminum or galvanized steel, incorporates a removable 12" high access panel for easy inspection and service of motor operated backdraft dampers.

Hinged Sub-Base ①

Hinged sub-bases provide access to curb mounted dampers without significant increase (3 1/2") in the overall installed height. A rust proof hinge arrangement permits full access to the curb well for damper service. This accessory is available for use with most size exhausters on factory-built curbs or with an adapter for most field-built curbs.

Aluminum Bird Screen ②

An aluminum bird screen is standard.

Optional Finishes

Special coatings such as Epoxy, Aluma-Glass™, and Heresite, are available for applications involving corrosive conditions and/or other damaging influences.

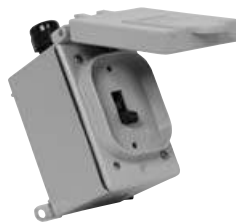
Backdraft Dampers ③

Backdraft dampers are available for either gravity or motorized operation (motor kit optional). Dampers feature square galvanized steel frame, multi-leaf, roll formed aluminum blades with nylon bearings.

Safety Disconnect Switch ④

Standard safety disconnect switches include a wiring harness connected to the motor and terminating at a junction box under the motor dome. Final wiring to the switch is by field electrician. This on/off type switch is available for all ODP single and three phase motors.

Outdoor and explosion proof DS are generally too large to install under the motor dome, and will be shipped loose for field mounting and wiring.



Firestat Switch

Firestat switch automatically disconnects the unit when the temperature of the air being exhausted exceeds a preset rating.



Time-Delay Switch

(Selected direct drive models only)

The Airminder Model AM12 switch is a UL recognized and CSA certified time-delay relay that operates both the fan and room light to ventilate an area even after the occupants depart. In the "On" position, the Airminder turns the light and fan on immediately. In the "Off" position, the light goes off immediately and the fan is in operation for a period of time as preset from 1 to 60 minutes. Suitable only for 1/3 HP maximum @ 120/1/60.



Speed Controls

(Selected direct drive models only)

The Lek-Trol™ unit allows adjustment of airflow. It can be installed under the motor dome which permits system balancing and eliminates unauthorized tampering of the setting. If wired to the unit from the building, the airflow may be adjusted easily by the occupants. See chart on page 8 for availability.



Internal Wiring

NEMA 3R wiring is available for both direct and belt drive models.

Automatic Belt Tensioner

The factory mounted Automatic Belt Tensioner accessory eliminates the need for re-tensioning the belt after start-up. It is constructed from 10 gage galvanized steel and incorporates five torsion springs to automatically position the motor and maintain proper belt tension. Additional benefits include reduced belt and pulley wear and simplified belt replacement without tools. The Automatic Belt Tensioner is available for Domex models DX11B, DX12B, and DX14B with 1/4, 1/2, 3/4 and 1 HP ODP motors. It can also be used with 1.5 HP, 3-phase ODP motors.

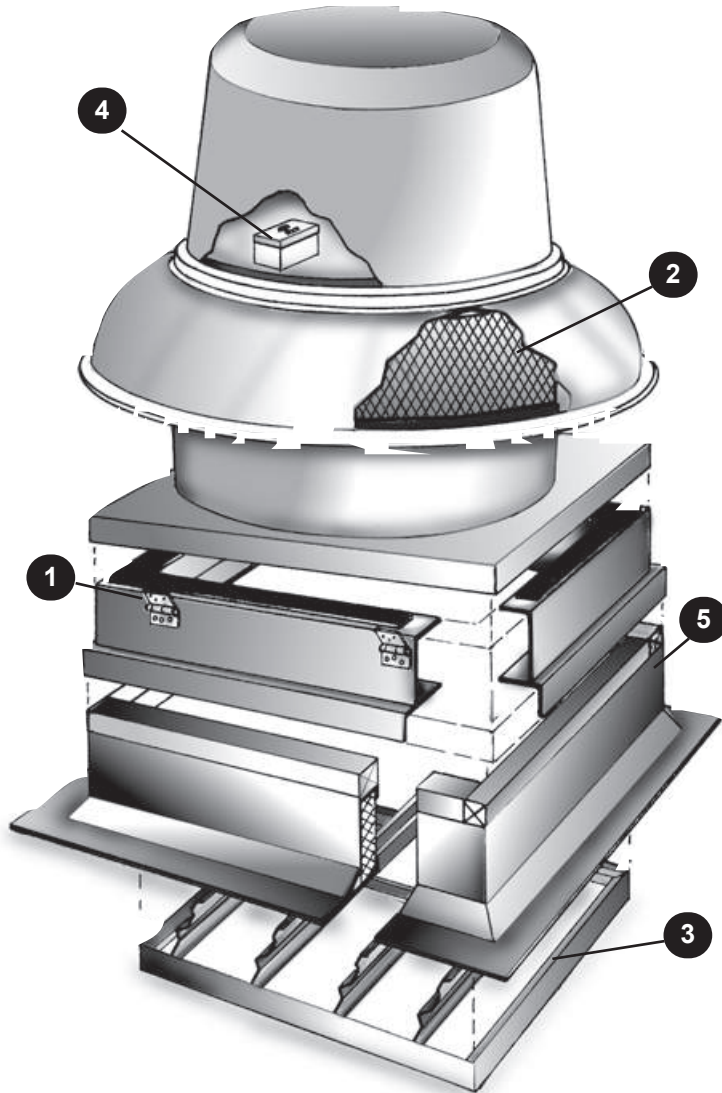


Spark Resistant Construction

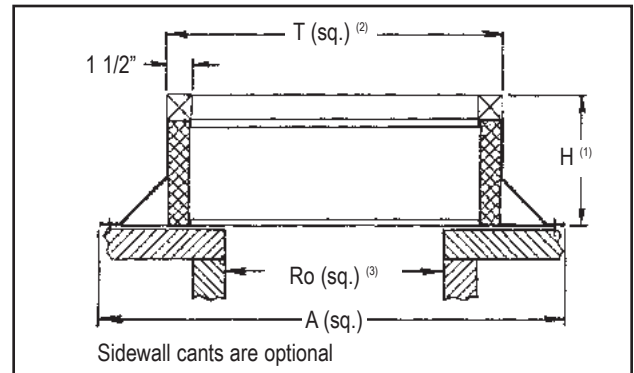
AMCA "B" construction is available for belt drive, (standard on direct drive models). Please refer to detailed information regarding AMCA Standards in the Engineering Notes section of this catalog. Select specific explosion proof motor as required for application.

Options and Accessories

Domex Fans



DOMEX Unibeam Curb



DOMEX Curb Dimensions

MODEL	E ⁽⁴⁾ SQ.	T ⁽²⁾ SQ.	A SQ.	Ro ⁽³⁾ SQ.	Damper Size SQ.	Galv. Steel Gauge
DX06R	18.5	17	25	9	8.75	18
DX08S/R	18.5	17	25	9	8.75	18
DX10S/R	18.5	17	25	11.5	11.25	18
DX11V/S/R/Q	18.5	17	25	11.5	11.25	18
DX13V/S/R/Q	18.5	17	25	11.5	11.25	18
DX16V/S/R/Q1/Q2	20.5	19	27	16	15.75	18
DX18V	28.5	27	35	20	19.75	18
DX06B/DX08B	18.5	17	25	11.5	11.25	18
DX11B	20.5	19	27	16	15.75	18
DX12B/DX14B	24.75	23.25	31.25	16	15.75	18
DX16B/DX18B	28.5	27	35	20	19.75	18
DX24B	33.5	32	40	25	24.75	18
DX27B/DX30B	36.5	35	43	28	27.75	18
DX36B	44.5	43	51	36	35.5	18
KB420	52.5	51	59	44	43.5	18
JB48	59	57.5	65.5	50	49.5	18
MB542	63.5	62	70	55	54.5	18

Notes:

- Standard heights (H) are 8", 12", and 18" including wood nailer.
- "T" dimension of curb is 1 1/2" less than the dimension of the inside base of the fan ("E").
- "Ro" refers to the Roof Opening.
- "E" dimension is the inside base of fan.

Prefabricated Curbs

A variety of sizes of prefabricated roof curbs are available. Galvanized steel unibeam curbs are the most popular. For a complete listing of all curb types and sizes available, please consult the latest PennBarry Curb brochure.

After choosing a fan model from the Direct Drive or Belt Drive Performance Data sections, it is important to review the motor availability charts in this section before specifying electric motors for your particular needs. Factors which influence the selection process are discussed below.

Electric Power Considerations

First, determine the nature of the electric power feeding the motor. Is it single phase or three phase power? Next, determine the required line voltage. Is it 115V, 230V, 460V? Then determine the frequency. Is it 60 Hz or 50 Hz?

Environmental Considerations

Standard motors supplied with fans are called Open Drip Proof (ODP) motors. Other types of motors may be required to meet specific field conditions; high temperature (50°C) or Totally Enclosed (TE) are two examples. Hazardous environments require Explosion Proof motors. Standard Explosion Proof motors are rated for UL and CSA Class 1, Group D, Div. 1 and Class II, Groups F and G, Div. 1 applications. Motors for other classes and groups are also available. Please consult your local PennBarry representative for information.

Caution: Hazardous environments require that fans be built for such service.

Fixed Speed Motor Control

Two-speed motors, used in conjunction with external switches or sensors (gas concentration, odor, temperature), are used to quickly adjust the airflow through the ventilator by changing from one fixed speed to another. Normally, 2-speed motors operate at 1800 and 1200 RPM (2-speed, 2-windings). However, 1800/900 RPM (2-speed, 1 winding) motors are available for 3-phase power only. A single operating voltage must be specified because dual-voltage versions are not available in a 2-speed motor.

Variable Speed Motor Control

PennBarry offers Lek-Trol™ solid state controllers to alter the high speed of most direct drive motors by as much as 50%. If variable speed is required, check the Lek-Trol™ availability table on the following page to verify that controllers exist for the fan model selected. Remember, Lek-Trol™ controllers are currently only available for direct drive motors. Inverter rated motors suitable for use with variable frequency drives can be supplied for belt drive models. Contact your local PennBarry representative for availability.

High-Efficiency Motors

Motors that comply with the requirements of the Energy Policy Act of 1992 are provided when appropriate voltage, speed, and enclosure are applicable.

Direct Drive Motor Availability

The following chart lists the various motor options available for each of the direct drive fan models. Once a fan model is selected, this chart can be used to determine if a suitable motor is available. (If not, another selection may have to be made from the fan performance charts). Look under the nominal RPM heading to determine which fans have 2-speed and 3-speed motors.

Model	Nominal RPM				1 PHASE									3 PHASE				
					115 VOLTS			200 - 240 VOLTS						200 - 460 VOLTS (2)				
	1050 V	1300 S	1550 R	1725 Q	Open Drip Proof	Totally Enclosed	Explosion Proof (4)	Open Drip Proof	Totally Enclosed	50 hz	50 C Ambient	Explosion Proof (4)	Open Drip Proof	Totally Enclosed	50 hz	50 C Ambient	Explosion Proof (4)	
DX06R			x		yes	na	na	< - Use TE Motors - >	na	na	na	na	< - Use TE Motors - >	na	na	na	na	
DX08S/R		x	x		yes	yes (1)	na		yes (1)	yes (1)	yes (1)	yes (5)		na	na	na	na	na
DX10S/R		x	x		yes	yes (1)	na		yes (1)	yes (1)	yes (1)	yes (5)		na	na	na	na	na
DX11V/S/R	x	x	x		yes	yes (1)	na		yes (1)	yes (1)	yes (1)	na		na	na	na	na	na
DX11Q				x	yes	yes	yes		yes	yes	yes	yes (5)		na	na	na	na	yes (6)
DX13V/S/R	x	x	x		yes	yes (1)	na		yes (1)	yes (1)	yes (1)	na		na	na	na	na	na
DX13Q				x	yes	yes	yes		yes	yes	yes	yes (5)		na	yes	yes	yes	yes (6)
DX16V/S/R	x	x	x		yes	yes (1)	na		yes (1)	yes (1)	yes (1)	na		na	na	na	na	na
DX16Q1				x (3)	yes	na	na		na	na	na	na		na	na	na	na	na
DX16Q2				x	yes	yes	yes		yes	yes	yes	yes (5)		na	yes	yes	yes	yes (6)
DX18V	x				yes	na	na	na	na	na	na	na	na	na	na	na		

Notes: (1) High speed only. (2) 200 - 240, 380, 415, 460 V (3) Nominal 1650 RPM (4) Cls. I, Grp. D, Div. I / Cls. II, Grp. F & G, Div. I. Not available with 50 Hz. (5) 230 V only. Not available in 200 or 208 V (6) 230 V and 460 V only.

Motor Selection

Domex Fans

Lek-Trol™ Speed Controller Availability

The table below shows the availability of Lek-Trol™ controllers for direct drive models. There is a controller available for all standard ODP 60 Hz motors. Not all totally enclosed motors are currently available with variable speed control. Some multi-speed motors may not be suitable for use with a Lek-Trol™ at low or medium speed. See chart below for availability.

Model	60 Hz.					50 Hz.		
	Open Drip Proof	Totally Enclosed				Totally Enclosed		
		115V	115V	200V	208V	230V	110V	220V
DX08R	LT25	na	na	na	na	na	na	na
DX10R	LT30	LT30	LT35	LT35	LT35	LT30	LT35	LT35
DX11R	LT30	na	na	na	na	na	na	na
DX11Q	LT50	na	na	na	na	na	na	na
DX13V	LT55	na	na	na	na	na	na	na
DX13S/R	LT30	LT30	LT35	LT35	LT35	LT50	LT35	LT35
DX13Q	LT45	LT50	LT35	LT35	LT35	LT50	LT35	LT35
DX16V	LT55	na	na	na	na	na	na	na
DX16S/R	LT50	na	na	na	na	na	na	na
DX16Q1	LT40	na	na	na	na	na	na	na
DX16Q2	LT75	na	na	na	na	na	na	na
DX18V	LT60	na	na	na	na	na	na	na

Belt Drive Motor Availability

The chart below lists horsepower, voltages, and enclosure types. After selecting a model and horsepower that meets performance requirements, an engineer should verify that the desired voltage and enclosure are the same (or smaller) as the maximum NEMA motor frame shown for each model (see NEMA Motor Frame Size chart).

HP	SINGLE PHASE					200V, 230V, 460V OR 575V THREE PHASE				
	OPEN DRIP PROOF		TE	EXPL	2 SPEED	OPEN DRIP PRF	TE	EXPL PROOF	2 SPEED	2 SPEED
	115 V	230 V	115/230 V	PROOF	2 WDG				1 WDG	2 WDG
1/4	48	48	48	48/56	48	48	48	48	56	-
1/3	48/56	48/56	56	56	56	56	56	56	56	-
1/2	48/56	48/56	56	56	56	56	56	56	143T	56
3/4	56	56	56	56	56	56	56	56	143T	56
1	56	56	56	56	56	56	56	56	143T	145T
1 1/2	56	56	145T	184T	-	56	56	56	145T	182T
2	145T	145T	182T	182T	-	56/145T	145T	145T	145T	182T
3	184T	184T	184T	215T	-	145T	182T	182T	184T	184T
5	-	-	-	-	-	184T	184T	184T	184T	215T
7 1/2	-	-	-	-	-	213T	213T	213T	-	215T
10	-	-	-	-	-	215T	215T	215T	-	256T
15	-	-	-	-	-	254T	254T	254T	-	284T

NEMA Motor Frame Size

This chart summarizes the largest allowable NEMA frame sizes for motors used on belt drive models.

MODEL	MAX FRAME SIZE
DX06B	42*
DX08B	42*
DX11B	56
DX12B	56
DX14B	56
DX16B	145T
DX18B	145T
DX24B	184T
DX27B/DX30B	184T
DX36B	213T
KB420	213T
JB48	215T
MB542	254T

* Only available as 1/4 ODP, 115V

On horsepower less than 1 1/2, motor frame sizes may change due to variations in voltage, special features and motor manufacturer. Motors shown are ball bearing, continuous duty and 1750 RPM or 1750/1140 RPM for two speed - two winding motors.

At PennBarry's option, large frame motors may be removed after testing and shipped separately.

Contact the factory for special application motor availability.

Nominal Ampere Ratings

Domex Fans

Single Phase

HP	115V	208V	230V
1/6	4.4	2.4	2.2
1/4	5.8	3.2	2.9
1/3	7.2	4	3.6
1/2	9.8	5.4	4.9
3/4	13.8	7.6	6.9
1	16	8.8	8
1 1/2	20	11	10
2	24	13.2	12

The full-load current values shown at left are for motors running at usual speeds and motors with normal torque characteristics. Motors built for especially low speeds or high torques may have higher full-load currents, and multi-speed motors will have full-load current varying with speed, in which case the nameplate current ratings shall be used.

The voltages listed are rated motor voltages. The currents listed shall be permitted for system voltage ranges of 110 to 120 and 230 to 240 volts.

The table data shown is from the NEC 1996 edition, table 430-148.

Three Phase

HP	208V	230V	460V
1/2	2.4	2.2	1.1
3/4	3.5	3.2	1.6
1	4.6	4.2	2.1
1-1/2	6.6	6	3
2	7.5	6.8	3.4
3	10.6	9.6	4.8
5	16.7	15.2	7.6
7-1/2	24.2	22	11
10	30.8	28	14
15	46.2	42	21
20	59.4	54	27
25	74.8	68	34

The full-load current values shown at left are typical for motors running at speeds usual for belted motors and motors with normal torque characteristics. Motors built for low speeds (1200 RPM or less) or high torques may require more running current, and multi-speed motors will have full-load current varying with speed, in which case the nameplate current ratings shall be used.

The voltages listed are rated motor voltages. The currents listed shall be permitted for system voltage ranges of 230 to 240 and 440 to 480 volts.

The table data shown is from the NEC 1996 edition, table 430-150.

The amperages given here are approximate values only and represent averages compiled from the tables of leading motor manufacturers. Overload relay heaters should not be selected on the basis of these tables only. Heaters must be selected in accordance with the actual motor current as shown on the nameplate. It is also important that ambient temperatures of the area in which the motor control is located be taken into consideration when making heater selections.

Note: On most belt drive PennBarry roof exhausters the motor synchronous speed is 1800 RPM.

Direct Drive Fan Data

Domex Fans

KEY DIMENSIONS

The following tables provide dimensional data for Domex direct drive fans as well as material gauges and approximate shipping weights.

Dimensions

Model No.	L (Dia)	H	E*	Roof Opening
DX06R	18 ⁷ / ₈	12 ⁵ / ₈	18 ¹ / ₂ x 18 ¹ / ₂	9 x 9
DX08S/R	20 ⁷ / ₈	13 ³ / ₈	18 ¹ / ₂ x 18 ¹ / ₂	9 x 9
DX10S/R	20 ⁷ / ₈	13 ³ / ₈	18 ¹ / ₂ x 18 ¹ / ₂	11 ¹ / ₂ x 11 ¹ / ₂
DX11V/S/R & Q	20 ⁷ / ₈	13 ³ / ₈	18 ¹ / ₂ x 18 ¹ / ₂	11 ¹ / ₂ x 11 ¹ / ₂
DX13V/S/R & Q	21 ⁷ / ₁₆	14 ³ / ₄	18 ¹ / ₂ x 18 ¹ / ₂	11 ¹ / ₂ x 11 ¹ / ₂
DX16V/S/R, Q1 & Q2	28 ¹ / ₂	22 ¹ / ₂	20 ¹ / ₂ x 20 ¹ / ₂	16 x 16
DX18V	39	31	28 ¹ / ₂	20

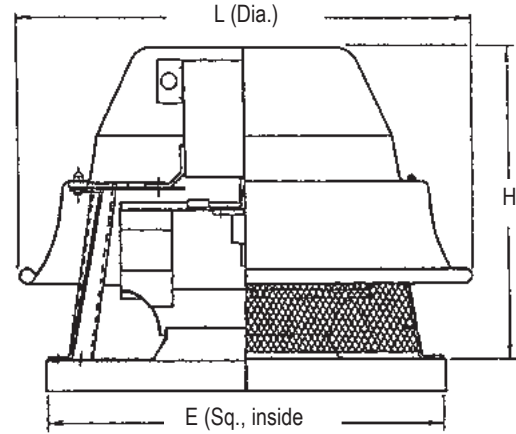
All dimensions are in inches.

* Outside dimension of curb should be 1 1/2" less than "E" dimension.

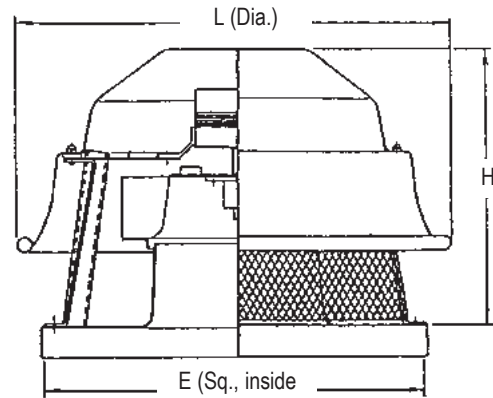
Material Gauges

Model No.	Alum. Base	Galv. Base	Apron	Est. Ship Weight
DX06R	0.050 in	16 ga	0.050 in	22 lbs
DX08S/R	0.050 in	16 ga	0.050 in	26 lbs
DX10S/R	0.050 in	16 ga	0.050 in	29 lbs
DX11V/S/R	0.050 in	16 ga	0.050 in	38 lbs
DX11Q	0.050 in	16 ga	0.050 in	40 lbs
DX13V/S/R	0.050 in	16 ga	0.050 in	36 lbs
DX13Q	0.064 in	16 ga	0.050 in	43 lbs
DX16V/S/R, Q1 & Q2	0.064 in	16 ga	0.064 in	56 lbs
DX18V	0.080 in	14 ga	0.064 in	78 lbs

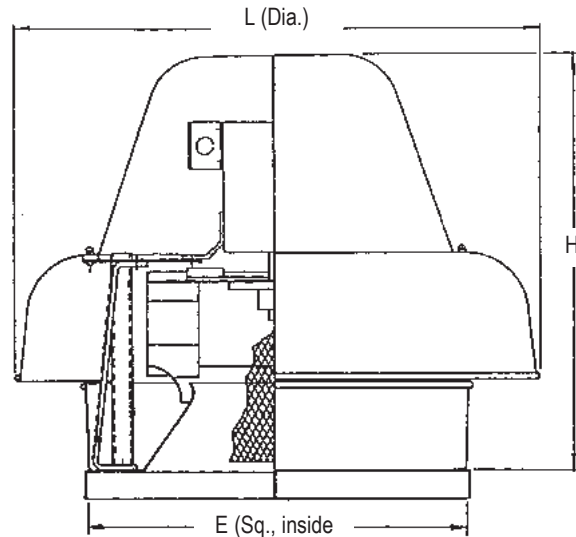
Model: DX13



Models: DX06, DX08, DX10, & DX11



Model: DX16, DX18



PERFORMANCE DATA

Introduction

Domex direct drive models (except size 06) are available with single and multi-speed motors. Multi-speed motors are designated **V (1050 RPM)**, **S (1300 RPM)**, and **R (1550 RPM)**. DX06R and DX18V are exceptions being single speed motors. **Q, Q1, Q2 (1725/1760 RPM)** are single speed motors. A single Domex fan may be suitable for several requirements by a simple wiring change. This feature provides flexibility for a variety of reasons, including energy savings, off-hours requirements, future expansion, or unexpected field variations.

Domex direct drive models are available in seven sizes (6, 8, 10, 11, 13, 16 and 18). Capacities range from below 150 CFM to above 4500 CFM, with static pressures beyond 1 1/4".

By using Lek-Trol™ variable speed controllers, the high speed flow rate of most models can be reduced by as much as 50%. Do not use Lek-Trol™ on medium or low speed for multi-speed models, unless a specific Lek-trol™ is shown to be available (see Lek-Trol™ Speed Controller Availability).

When compared to belt drive models, Domex direct drive fans require less maintenance, have a simpler construction, cost less, and are lighter in weight.

Performances in 50 Hz applications will be less than shown below; consult with local PennBarry representative.

Fan Capacity – Cubic Feet Per Minute (CFM)

Fan Model	Nominal			Tip Speed FPM	0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		0.875" SP		1.000" SP		1.250" SP	
	HP	Max Watts	RPM		CFM	SONES	CFM	SONES	CFM	SONES	CFM	SONES	CFM	SONES	CFM	SONES	CFM	SONES	CFM	SONES	CFM	SONES	CFM	SONES
DX06R	1/100	52	1550	2841	146	4.3	100	3.6	69	3.4														
DX08S	1/50	44	1300	3361	237	1.5	161	2.2	114	3.0	69	3.8												
DX08R	1/30	55	1550	4007	290	2.4	223	2.8	171	3.5	129	4.1	84	4.9										
DX10S	1/25	82	1300	3361	385	3.9	316	3.5	257	4.8	207	5.1	168	5.2	129	5.6	82	6.1						
DX10R	1/12	121	1550	4007	559	6.1	501	5.9	446	6.1	394	6.5	338	6.8	267	7.0	187	7.2	100	7.4				
DX11V	1/25	111	1050	3058	388	1.8	223	2.2	148	3.1	112	3.7	80	4.5	49	5.3								
DX11S	1/11	142	1300	3786	503	3.4	397	3.6	320	4.3	262	5.0	201	5.5	149	6.0	104	6.5						
DX11R	1/7	201	1550	4514	736	6.7	659	6.4	577	6.6	502	6.9	432	7.6	356	7.9	274	7.9	188	7.9	100	7.9		
DX11Q	1/5	268	1725	5024	997	10.2	921	9.7	850	9.5	768	9.5	685	9.4	598	9.2	511	9.0	409	8.7	294	8.6		
DX13V	1/20	92	1050	3221	661	4.4	479	3.1	341	2.8	262	3.6	207	4.3	161	5.1	115	5.9	79	6.6	44	7.4		
DX13S	1/12	120	1300	3988	869	8.0	749	6.4	632	5.3	510	5.4	418	6.0	349	6.4	290	6.7	226	7.0	158	7.4		
DX13R	1/6	201	1550	4755	1054	10.5	988	9.9	917	9.2	839	8.9	736	8.5	651	8.2	579	7.9	510	7.9	428	8.0	191	8.5
DX13Q	1/4	314	1725	5292	1280	16.0	1226	15.3	1170	14.6	1112	14.0	1053	13.4	995	13.0	936	12.5	868	12.0	796	11.5	630	11.0
DX16V	1/6	453	1050	3788	1738	9.9	1489	8.0	1256	6.6	1032	6.1	884	6.6	772	7.1	682	7.9	598	9.9	529	10.1	392	10.2
DX16S	1/3	510	1300	4690	2021	12.0	1822	10.6	1637	9.5	1428	8.7	1256	8.4	1094	8.5	943	9.3	850	10.2	775	11.0	606	12.3
DX16R	1/2	574	1550	5592	2346	13.8	2176	12.8	2014	12.0	1853	11.3	1685	10.7	1532	10.4	1384	10.1	1247	10.0	1115	10.4	881	12.4
DX16Q1	1/2	688	1650	5953	2701	16.9	2576	16.4	2465	15.9	2352	15.5	2228	15.0	2096	14.4	1966	14.0	1839	13.6	1700	13.5	1401	13.5
DX16Q2	3/4	866	1725	6223	3016	17.7	2921	17.1	2829	16.7	2747	16.3	2665	15.9	2575	15.5	2484	15.0	2371	14.6	2256	14.2	2005	13.3
DX18V	3/4	964	1075	6029	4561	21.0	4395	19.8	4230	19.1	4053	18.5	3865	17.9	3671	16.9	3454	16.4	3237	16.4	2995	16.4	2405	16.4

Performance shown is for installation Type A: Free Inlet, Free Outlet. Speed (RPM) shown is nominal. Performance is based on actual speed of test. The sound ratings shown are for loudness values in fan sones at 5'0" (1.5m) in a hemispherical free field per AMCA Standard 301. Values shown are for Installation Type A: free inlet fan sone levels.

Direct Drive Fan Data

Domex Fans

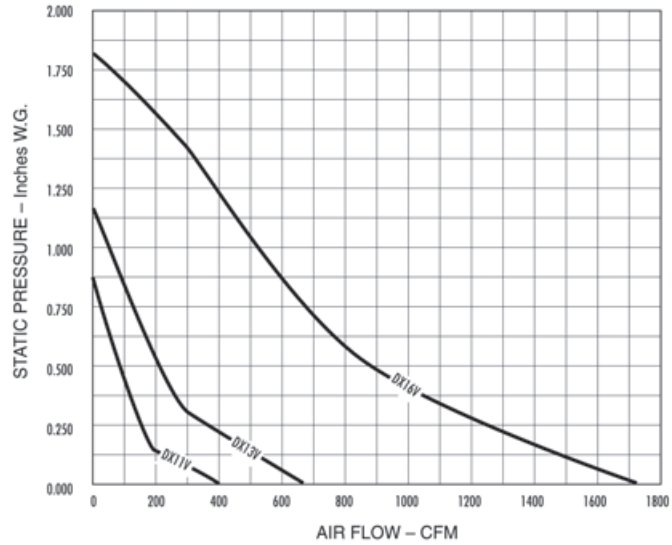
FAN CURVES

The fan curves illustrated here show the range of capacities available for direct drive units. Each graph shows the performance of several models at one particular nominal speed. Fan curves provide a quick method for selecting a fan unit based on design point requirements.

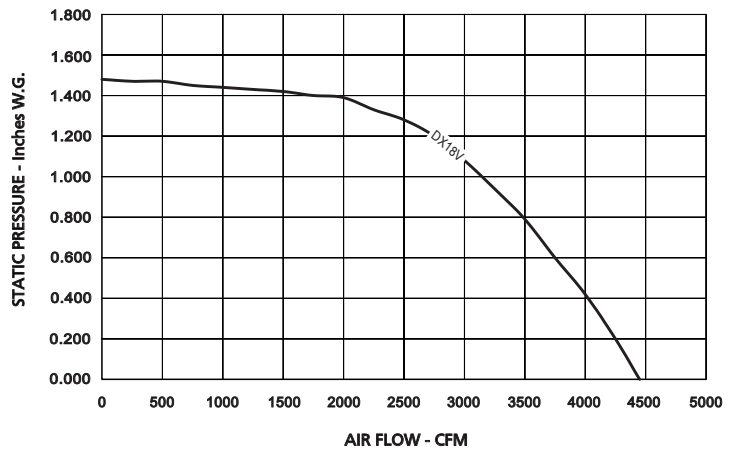
The direct drive performance chart on the previous page provides the tabular data (CFM and static pressure) used to plot the fan curves. In addition, horsepower, tip speed and sones are tabulated. Since sound is normally an important factor in the selection of a fan, an engineer will usually want to select the “slowest” unit which meets CFM and SP requirements.

Please refer to the Motor Selection section to make sure the motor you select meets your electrical requirements.

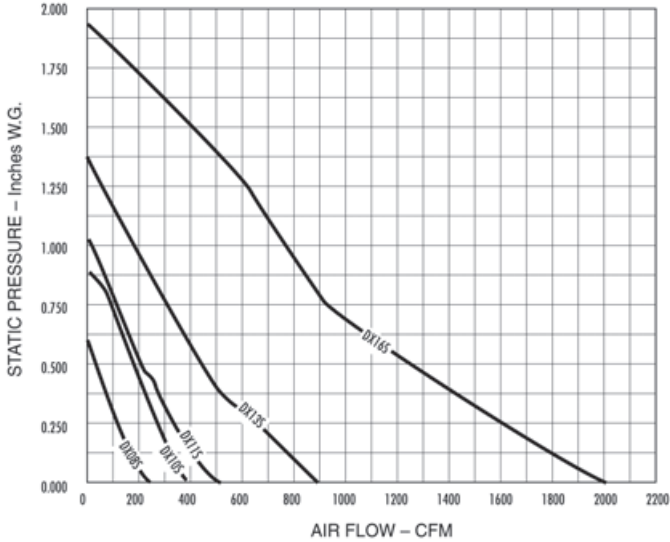
Nominal 1050 RPM



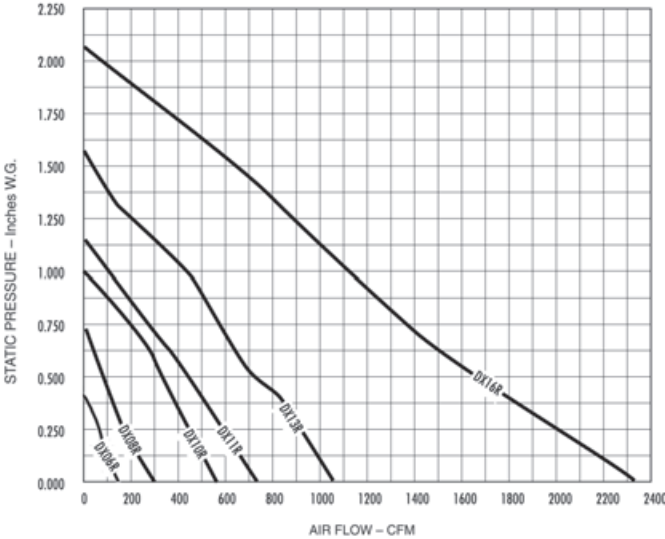
Nominal 1075 RPM



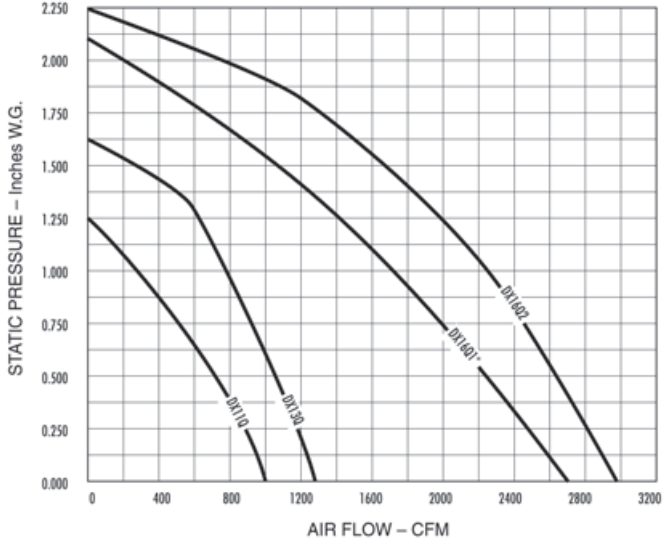
Nominal 1300 RPM



Nominal 1550 RPM



Nominal 1725 RPM



* DX16Q1 nominal 1650 RPM

Note: Domex fans are only one component of a total system. As such, fan performance is directly affected by the system. It is critical that system designers determine the actual system loss to ensure that the actual flow is specified in the system design.

Belt Drive Fan Data

Domex Fans

KEY DIMENSIONS

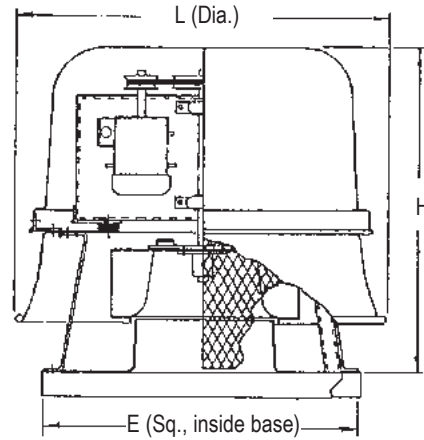
The following table provides dimensional information for Domex belt drive fans.

Model No.	L (Dia)	H	E*	Roof Opening
DX06B	21 ¹¹ / ₁₆	18 ¹³ / ₁₆	18 1/2 x 18 1/2	11 1/2 x 11 1/2
DX08B	21 ¹¹ / ₁₆	18 ¹³ / ₁₆	18 1/2 x 18 1/2	11 1/2 x 11 1/2
DX11B	28 1/2	25 ⁷ / ₁₆	20 1/2 x 20 1/2	16 x 16
DX12B	33 1/2	29	24 3/4 x 24 3/4	16 x 16
DX14B	33 1/2	29	24 3/4 x 24 3/4	16 x 16
DX16B	39	31	28 1/2 x 28 1/2	20 x 20
DX18B	39	31	28 1/2 x 28 1/2	20 x 20
DX24B	46	33 1/2	33 1/2 x 33 1/2	25 x 25
DX27B/DX30B	53 1/2	35 1/2	36 1/2 x 36 1/2	28 x 28
DX36B	66	41	44 1/2 x 44 1/2	36 x 36
KB420	63	38	52 1/2 x 52 1/2	44 x 44
JB48	73	45 1/2	59 x 59	50 x 50
MB542	98	50	63 1/2 x 63 1/2	55 x 55

All dimensions are in inches.

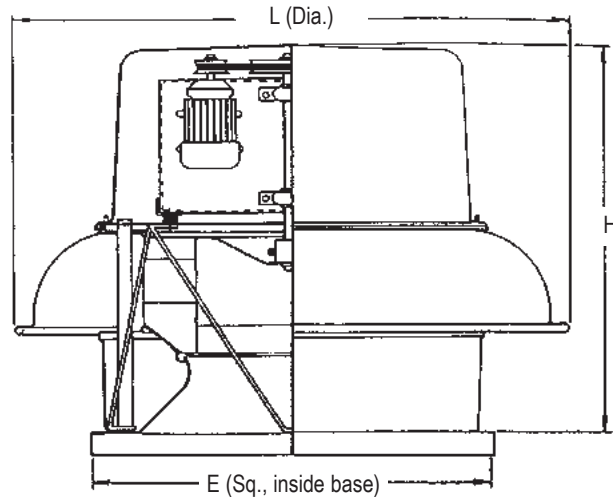
* Outside dimension of curb should be 1 1/2" less than "E" dimension.

Models: DX06B & DX08B

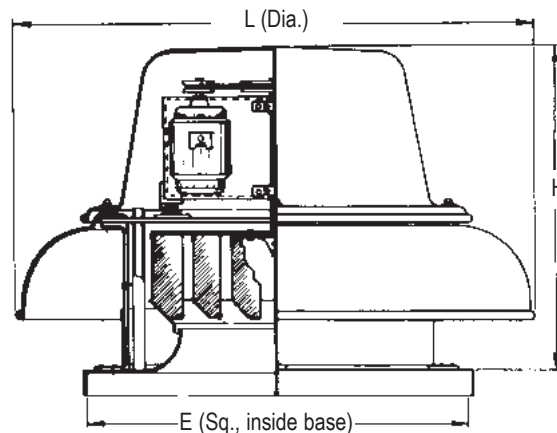


Models: DX11B*, DX12B, DX14B, DX16B, DX18B, DX24B, DX27B, DX30B, & DX36B

* DX11B is one piece hood and apron (not shown).



Models: KB420, JB48, & MB542



PERFORMANCE DATA

The belt drive models shown on the following pages have sizes and capacities ranging from below 300 CFM to above 46,000 CFM, with static pressures from 0" to above 1 1/2". All models, except the very smallest, are available in up to seven different horsepower sizes with a wide range of RPM. Two-speed motors are commonly used to increase this flexibility.

The data provided for each belt drive model includes:

- Performance chart
- Fan curve graph
- Elevation drawing showing overall dimensions

Each curve graphically displays the range of capacities available for each model, in most cases beyond the specifics shown in the tabular data. The maximum performance afforded by each horsepower is indicated by dashed lines and the RPM is indicated by solid lines.

Some models have graphs that show both shaded and unshaded areas. Selection should be made from the unshaded area only. Shaded areas reflect unstable performance ("surge"), a characteristic typical of backward inclined wheels, and should be avoided. These unstable regions are not shown in the tabular data.

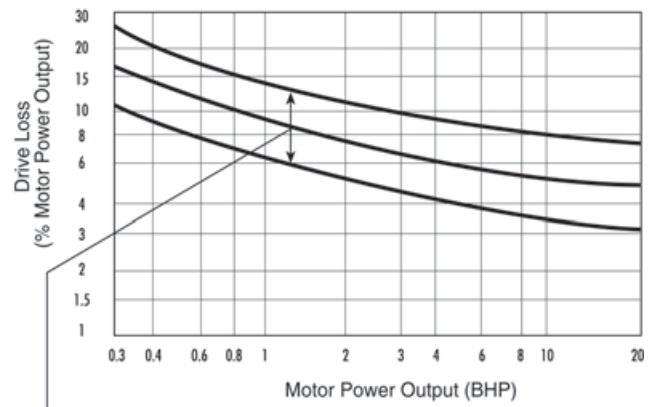
The highest RPM shown for a specific horsepower in the tabular data is the maximum speed that for any point along the performance curve, the BHP will not exceed the available horsepower.

It is important to note that while it is common industry-wide practice to exceed a "nominal" horsepower by using a motor's service factor, PennBarry uses a conservative portion of the service factor, allowing half to remain a true "safety" factor. PennBarry's software also factors an additional allowance for belt drive losses into the BHP calculations to ensure proper motor selection. This allowance is currently the most conservative in the industry.

Use the Motor Availability chart (see Motor Selection section) to select motor enclosures and voltages which can be installed in the fans.

Belt Drive Losses

The AMCA Review Committee has developed the chart shown below for the purpose of estimating belt drive losses. To calculate total BHP (including drive losses): Find the BHP of your operating point on the x-axis on the graph below. Follow the vertical line to the lines indicating the range of drive losses. Look at the y-axis on the left and find the drive loss percentage. Calculate the total BHP by adding the drive loss to the operating point BHP. For BHP's below 0.3, use 30%.



Range of drive loss for standard belts. Higher fan speeds tend to have higher losses than lower fan speeds at the same horsepower.

Caution: For totally enclosed, explosion proof, multi-speed and all 1.0 Service Factor motors, fan BHP plus drive losses should not exceed motor rated HP.

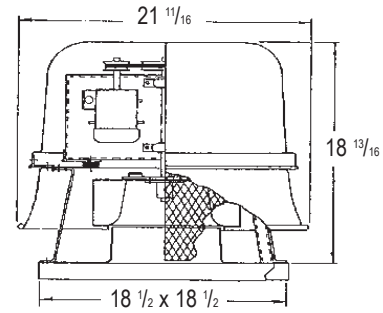
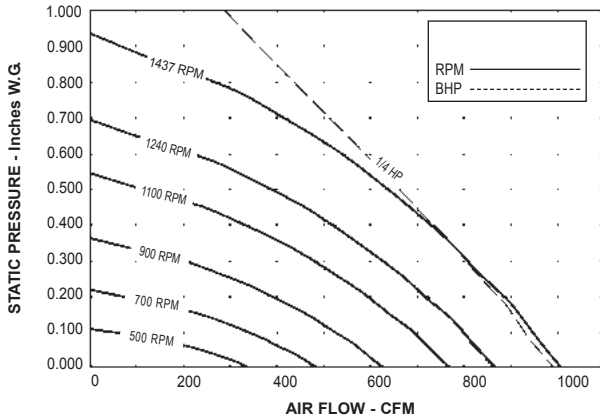
Note: FanSizer software incorporates a drive loss allowance when selecting a required nominal horsepower.

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Note: Domex fans are only one component of a total system. As such, performance is directly affected by the system. It is critical that system designers determine actual system losses to ensure that the actual flow is specified in the system range.

DX06B - Belt Drive Fan Data

Domex Fans



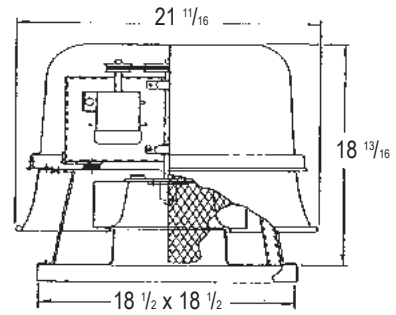
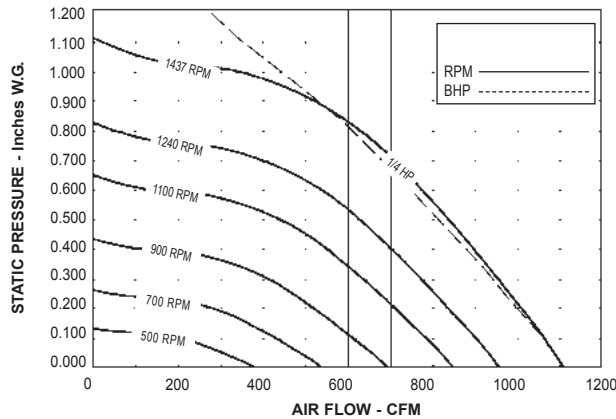
Galv. Steel Base = 16 gauge	Roof Opening = 11 1/2 in (sq)	Peak BHP = (RPM/2232) ³
Alum. Base = 0.064 in	Damper Size = 11 1/4 in (sq)	Max. RPM = 1437 (1/4 HP)
Discharge Apron = 0.050 in	Max. Motor Frame Size = 42	Est. Shipping Weight = 35 lbs

HP	RPM	TIP SPEED (FPM)	FAN CAPACITY - CUBIC FEET PER MINUTE (CFM)																						
			0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP												
			Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP											
1/4	375	1092	264																						
			1.6	0.01																					
	430	1252	302																						
			1.8	0.01																					
	475	1383	334																						
			2.1	0.01																					
	520	1515	366																						
			2.2	0.01																					
	565	1646	397																						
			2.4	0.02																					
	610	1777	429		179																				
			2.9	0.02	2.5	0.02																			
	655	1908	461		244																				
			3.1	0.02	2.6	0.02																			
	700	2039	492		298																				
			3.4	0.03	2.9	0.03																			
	745	2170	524		347																				
			3.7	0.04	3.2	0.03																			
	790	2301	556		394		114																		
			4.0	0.04	3.5	0.04	3.1	0.03																	
835	2432	587		438		209																			
		4.4	0.05	3.8	0.05	3.5	0.04																		
880	2563	619		480		279																			
		4.8	0.06	4.3	0.06	3.7	0.05																		
925	2694	651		519		344																			
		5.2	0.07	4.7	0.07	4.1	0.06																		
970	2825	683		558		398		146																	
		5.9	0.08	5.3	0.08	4.6	0.07	4.4	0.05																
1015	2956	714		597		450		243																	
		6.4	0.09	5.8	0.09	5.2	0.08	4.8	0.07																
1060	3087	746		635		498		315																	
		6.5	0.11	6.0	0.10	5.3	0.10	4.9	0.08																
1105	3218	778		674		544		382		131															
		6.8	0.12	6.3	0.12	5.7	0.11	5.1	0.10	4.9	0.07														
1150	3349	809		712		590		442		241															
		7.2	0.13	6.7	0.13	6.1	0.13	5.5	0.12	5.1	0.10														
1195	3480	841		749		634		496		318															
		7.7	0.15	7.2	0.15	6.5	0.14	5.9	0.13	5.4	0.12														
1240	3612	873		783		675		547		389		158													
		8.2	0.17	7.6	0.17	6.9	0.16	6.4	0.15	5.8	0.14	5.3	0.11												
1280	3728	901		814		710		590		447		256													
		8.4	0.19	7.9	0.18	7.3	0.18	6.7	0.17	6.3	0.16	5.9	0.13												
1320	3845	929		845		745		633		501		330													
		8.8	0.20	8.2	0.20	7.6	0.20	7.1	0.19	6.7	0.18	6.4	0.15												
1350	3932	950		868		771		664		537		378													
		9.1	0.22	8.5	0.22	8.0	0.21	7.4	0.20	7.0	0.19	6.8	0.17												
1390	4048	978		898		805		704		585		440													
		9.5	0.24	9.1	0.24	8.4	0.23	7.9	0.22	7.5	0.21	7.3	0.19												
1420	4136	999		921		830		734		619		484													
		9.9	0.25	9.4	0.25	8.8	0.25	8.3	0.24	7.8	0.23	7.8	0.21												
1437	4185	1011		933		845		750		638		509													
		10.1	0.26	9.5	0.26	9.1	0.25	8.5	0.25	8.0	0.24	7.9	0.22												

Performance shown is for installation type A: Free Inlet, Free Outlet. Power rating (BHP) does not include drive losses. For further information on estimating belt drive losses and motor service factors see page 15. FanSizer software automatically calculates drive losses when selecting equipment. The sound ratings shown are for loudness values in fan sones at 5'0" (1.5m) in a hemispherical free field per AMCA Standard 301. Values shown are for installation Type A: free inlet fan sone levels. Performance ratings do not include the effects of appurtenances in the airstream. For further information on sound classification, see page 30. For accessories see pages 5 and 6.

Belt Drive Fan Data - DX08B

Domex Fans



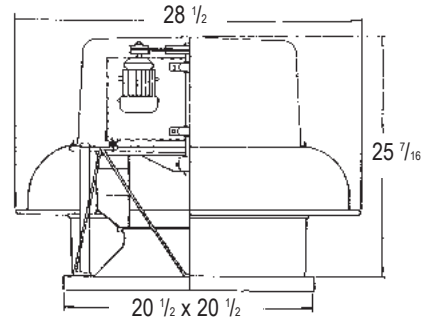
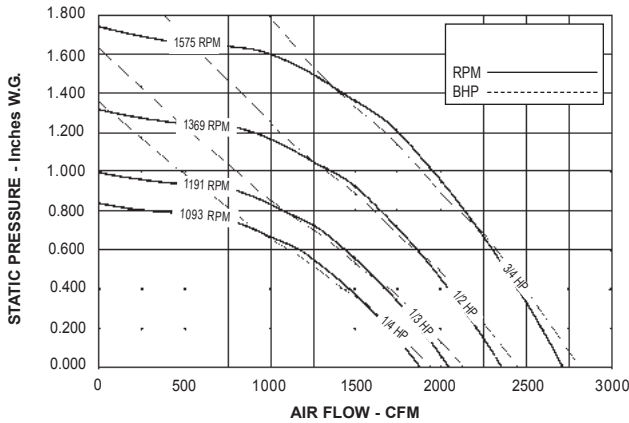
Galv. Steel Base = 16 gauge	Roof Opening = 11 1/2 in (sq)	Peak BHP = (RPM/2232) ³
Alum. Base = 0.064 in	Damper Size = 11 1/4 in (sq)	Max. RPM = 1437 (1/4 HP)
Discharge Apron = 0.050 in	Max. Motor Frame Size = 42	Est. Shipping Weight = 35 lbs

HP	RPM	TIP SPEED (FPM)	FAN CAPACITY - CUBIC FEET PER MINUTE (CFM)																			
			0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP							
			Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP						
1/4	375	1150	289																			
			1.4	0.01																		
	430	1319	331																			
			1.7	0.01																		
	475	1457	366																			
			2.0	0.01																		
	520	1595	401		155																	
			2.2	0.01	1.7	0.01																
	565	1733	435		242																	
			2.5	0.02	1.9	0.02																
	610	1871	470		301																	
			3.1	0.02	2.4	0.02																
	655	2009	505		351																	
			3.4	0.02	2.7	0.02																
	700	2147	540		399																	
			3.8	0.03	3.1	0.03																
	745	2285	574		444		247															
			4.3	0.03	3.5	0.04	3.0	0.03														
	790	2424	609		487		330															
			4.6	0.04	3.9	0.04	3.3	0.04														
835	2562	644		530		393																
		5.0	0.05	4.2	0.05	3.6	0.05															
880	2700	678		571		446		207														
		5.5	0.06	4.7	0.06	4.0	0.06	3.6	0.05													
925	2838	713		611		496		329														
		6.0	0.07	5.2	0.07	4.5	0.07	4.0	0.07													
970	2976	748		651		543		408														
		6.7	0.08	5.9	0.08	5.2	0.08	4.5	0.08													
1015	3114	783		691		590		471		236												
		7.2	0.09	6.5	0.09	5.8	0.09	5.1	0.09	4.8	0.08											
1060	3252	817		730		635		526		364												
		7.5	0.10	6.8	0.10	6.2	0.11	5.6	0.11	5.2	0.10											
1105	3390	852		769		678		577		449												
		8.0	0.11	7.2	0.12	6.6	0.12	6.0	0.12	5.5	0.12											
1150	3528	887		808		720		626		514		309										
		8.8	0.13	7.9	0.13	7.3	0.13	6.7	0.13	6.2	0.13	5.8	0.12									
1195	3666	921		846		762		673		575		426										
		9.8	0.14	8.8	0.15	8.1	0.15	7.6	0.15	7.1	0.15	6.7	0.14									
1240	3804	956		885		803		719		626		509		279								
		10.4	0.16	9.4	0.16	8.6	0.17	8.1	0.17	7.7	0.17	7.4	0.16	6.8	0.14							
1280	3927	987		918		840		760		670		566		398								
		10.5	0.17	9.6	0.18	8.9	0.18	8.3	0.19	7.9	0.19	7.6	0.18	7.3	0.17							
1320	4049	1018		952		875		798		714		622		488								
		10.8	0.19	10.0	0.20	9.3	0.20	8.7	0.20	8.3	0.20	8.0	0.20	7.9	0.19							
1350	4141	1041		977		902		827		746		658		544								
		11.1	0.21	10.4	0.21	9.7	0.21	9.0	0.22	8.7	0.22	8.5	0.22	8.3	0.21							
1390	4264	1072		1010		937		865		787		704		603								
		11.7	0.22	11.1	0.23	10.3	0.23	9.7	0.23	9.1	0.24	9.1	0.24	9.0	0.23							
1420	4356	1095		1035		964		893		818		737		645								
		12.3	0.24	11.6	0.24	10.9	0.25	10.3	0.25	9.6	0.25	9.6	0.25	9.6	0.25							
1437	4408	1108		1049		979		909		836		756		669								
		12.5	0.25	11.8	0.25	11.1	0.26	10.5	0.26	9.9	0.26	9.8	0.26	9.8	0.26							

Performance shown is for installation type A: Free Inlet, Free Outlet. Power rating (BHP) does not include drive losses. For further information on estimating belt drive losses and motor service factors see page 15. FanSizer software automatically calculates drive losses when selecting equipment. The sound ratings shown are for loudness values in fan sones at 5'0" (1.5m) in a hemispherical free field per AMCA Standard 301. Values shown are for installation Type A: free inlet fan sone levels. Performance ratings do not include the effects of appurtenances in the airstream. For further information on sound classification, see page 30. For accessories see pages 5 and 6.

DX11B - Belt Drive Fan Data

Domex Fans



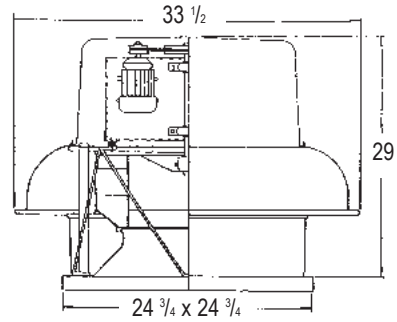
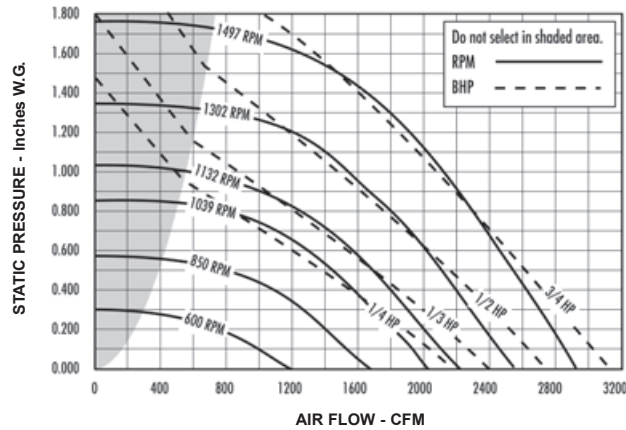
Galv. Steel Base = 16 gauge	Roof Opening = 16 in (sq)	Peak BHP = (RPM/1700) ³
Alum. Base = 0.064 in	Damper Size = 15 3/4 in (sq)	Max. RPM = 1810 (3/4 HP)
Discharge Apron = 0.050 in	Max. Motor Frame Size = 56	Est. Shipping Weight = 55 lbs

HP	RPM	TIP SPEED (FPM)	FAN CAPACITY - CUBIC FEET PER MINUTE (CFM)																				
			0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		0.875" SP		1.000" SP		1.125" SP		
			Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	
1/4	650	2345	1120		905		535																
			4.7	0.05	4.1	0.05	3.4	0.05															
	675	2435	1164		959		638																
			4.9	0.05	4.3	0.06	3.6	0.06															
	700	2526	1207		1011		737																
			5.1	0.06	4.6	0.07	3.9	0.07															
	725	2616	1250		1062		813																
			5.5	0.07	4.9	0.07	4.3	0.08															
	750	2706	1293		1113		880	252															
			5.8	0.07	5.3	0.08	4.7	0.09	4.1	0.05													
	800	2886	1379		1213		1007	672															
			6.6	0.09	6.1	0.10	5.5	0.10	5.0	0.10													
825	2976	1422		1263		1067	775																
		6.8	0.10	6.3	0.10	5.7	0.11	5.2	0.11														
850	3067	1465		1312		1126	874																
		7.0	0.11	6.5	0.11	5.9	0.12	5.4	0.12														
900	3247	1552		1407		1238	1028	665															
		7.8	0.13	7.2	0.13	6.5	0.14	6.0	0.15	5.7	0.13												
950	3427	1638		1502		1347	1159	884															
		8.5	0.15	7.9	0.16	7.3	0.16	6.7	0.17	6.3	0.17												
1000	3608	1724		1596		1451	1282	1080	706														
		9.2	0.17	8.7	0.18	8.0	0.19	7.3	0.20	7.0	0.20	6.8	0.18										
1050	3788	1810		1689		1553	1400	1217	939														
		9.7	0.20	9.2	0.21	8.5	0.22	7.8	0.23	7.4	0.23	7.1	0.22										
1075	3878	1853		1735		1603	1456	1284	1040	647													
		10.0	0.21	9.4	0.23	8.8	0.23	8.1	0.24	7.7	0.25	7.4	0.25	7.5	0.21								
1093	3943	1884		1768		1639	1496	1329	1111	758													
		10.2	0.23	9.6	0.24	9.1	0.24	8.3	0.26	7.9	0.26	7.7	0.26	7.7	0.23								
1/3	1125	4059	1940		1827		1703	1566	1408	1227	924												
			10.6	0.25	10.0	0.26	9.5	0.27	8.8	0.27	8.2	0.29	8.0	0.29	8.1	0.27							
	1150	4149	1983		1873		1753	1621	1469	1296	1028	489											
11.0			0.26	10.4	0.27	9.8	0.28	9.1	0.29	8.5	0.31	8.3	0.31	8.3	0.29	8.4	0.21						
1191	4297	2053		1948		1834	1708	1568	1406	1193	883												
		11.5	0.29	11.0	0.30	10.5	0.31	9.8	0.32	9.0	0.34	8.8	0.34	8.6	0.34	8.6	0.31						
1/2	1220	4402	2103		2001		1889	1767	1634	1481	1306	1019											
			11.9	0.31	11.4	0.33	10.9	0.34	10.2	0.34	9.6	0.36	9.2	0.37	9.0	0.37	8.9	0.34					
	1250	4510	2155		2056		1947	1829	1700	1555	1393	1142	801										
			12.4	0.34	11.9	0.35	11.4	0.36	10.8	0.37	10.0	0.38	9.6	0.39	9.4	0.39	9.3	0.38	9.3	0.33			
1300	4690	2241		2147		2042	1930	1811	1677	1528	1342	1071											
		13.0	0.38	12.6	0.39	12.2	0.40	11.6	0.41	10.9	0.42	10.2	0.44	10.1	0.44	9.9	0.44	9.9	0.42				
1369	4939	2360		2271		2172	2069	1959	1838	1703	1556	1352	1095										
		14.0	0.44	13.6	0.46	13.2	0.47	12.8	0.48	12.1	0.49	11.4	0.51	11.0	0.52	10.8	0.52	10.9	0.51	10.9	0.48		
3/4	1380	4979	2379		2290		2193	2091	1982	1862	1730	1585	1396	1141									
			14.1	0.45	13.8	0.47	13.4	0.48	13.0	0.49	12.3	0.50	11.6	0.52	11.1	0.53	10.9	0.53	11.0	0.52	11.1	0.50	
	1410	5087	2431		2344		2249	2150	2044	1929	1803	1666	1513	1265									
			14.6	0.48	14.2	0.50	13.8	0.51	13.5	0.52	12.8	0.53	12.1	0.55	11.5	0.56	11.4	0.56	11.4	0.57	11.5	0.54	
	1470	5304	2535		2451		2361	2268	2166	2061	1946	1818	1681	1505									
			15.6	0.55	15.2	0.56	14.8	0.58	14.5	0.59	13.9	0.60	13.2	0.61	12.6	0.64	12.3	0.64	12.2	0.64	12.3	0.63	
	1500	5412	2586		2504		2416	2325	2227	2126	2014	1892	1761	1620									
16.1			0.58	15.8	0.60	15.4	0.61	15.1	0.62	14.5	0.63	13.9	0.64	13.2	0.67	12.8	0.68	12.7	0.68	12.8	0.68		
1575	5682	2716		2638		2555	2468	2377	2282	2180	2073	1952	1825										
		17.4	0.67	17.2	0.69	16.9	0.71	16.6	0.72	16.3	0.73	15.6	0.74	15.0	0.76	14.4	0.78	14.3	0.79	14.3	0.79		

Performance shown is for installation type A: Free Inlet, Free Outlet. Power rating (BHP) does not include drive losses. For further information on estimating belt drive losses and motor service factors see page 15. FanSizer software automatically calculates drive losses when selecting equipment. The sound ratings shown are for loudness values in fan sones at 5' (1.5m) in a hemispherical free field per AMCA Standard 301. Values shown are for installation Type A: free inlet fan sone levels. Performance ratings do not include the effects of appurtenances in the airstream. For further information on sound classification, see page 30. For accessories see pages 5 and 6.

Belt Drive Fan Data - DX12B

Domex Fans



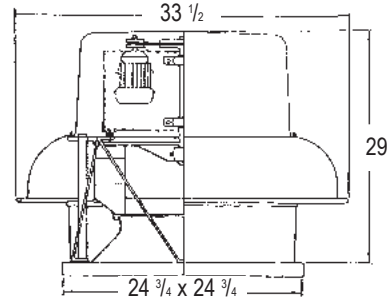
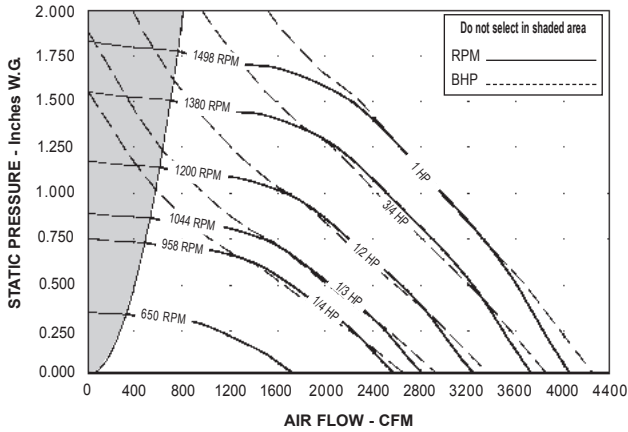
Galv. Steel Base = 16 gauge	Roof Opening = 16 in (sq)	Peak BHP = $(RPM/1617)^3$
Alum. Base = 0.064 in	Damper Size = 15 3/4 in (sq)	Max. RPM = 2007 (1 1/2 HP)
Discharge Apron = 0.064 in	Max. Motor Frame Size = 56	Est. Shipping Weight = 98 lbs

HP	RPM	TIP SPEED (FPM)	FAN CAPACITY - CUBIC FEET PER MINUTE (CFM)																			
			0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		0.875" SP		1.000" SP		1.250" SP	
			Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP
1/4	400	1662	780																			
			2.9	0.01																		
	500	2078	975		654																	
			4.9	0.02	4.2	0.03																
	600	2494	1170		922		538															
			7.1	0.04	6.6	0.05	6.1	0.05														
	700	2909	1365		1151		903															
			9.4	0.06	8.7	0.07	8.5	0.08														
	800	3325	1561		1375		1182		929													
			11.0	0.09	10.2	0.11	10.0	0.12	9.6	0.12												
850	3533	1658		1485		1308		1084		769												
		11.5	0.11	10.8	0.13	10.4	0.14	10.2	0.14	9.4	0.14											
900	3740	1756		1595		1425		1232		985												
		12.2	0.13	11.5	0.15	11.0	0.16	10.8	0.17	10.3	0.17											
950	3948	1853		1703		1538		1371		1155		858										
		12.9	0.16	12.3	0.17	11.6	0.18	11.4	0.19	11.0	0.20	10.4	0.19									
1000	4156	1951		1811		1650		1499		1308		1076		553								
		13.3	0.18	12.8	0.20	12.1	0.21	11.7	0.22	11.4	0.23	11.1	0.23	10.1	0.19							
1039	4318	2027		1894		1737		1597		1422		1219		930								
		13.7	0.21	13.2	0.22	12.6	0.24	12.2	0.25	11.7	0.26	11.6	0.26	11.2	0.25							
1/3	1055	4385	2058		1928		1774		1636		1468		1269		1011							
			13.8	0.21	13.4	0.23	12.8	0.25	12.4	0.26	11.9	0.27	11.7	0.28	11.5	0.27						
	1075	4468	2097		1970		1819		1683		1525		1331		1094		524					
			14.1	0.23	13.6	0.24	13.1	0.26	12.6	0.27	12.2	0.28	12.0	0.29	11.8	0.29	10.8	0.23				
1100	4572	2146		2023		1875		1740		1591		1408		1197		855						
		14.5	0.24	13.9	0.26	13.4	0.28	12.9	0.29	12.5	0.30	12.3	0.31	12.2	0.31	11.7	0.29					
1132	4705	2208		2091		1946		1813		1673		1503		1316		1058						
		15.0	0.27	14.4	0.28	13.9	0.30	13.4	0.31	13.0	0.33	12.7	0.34	12.6	0.34	12.5	0.33					
1/2	1150	4779	2244		2128		1986		1854		1719		1556		1373		1136		572			
			15.3	0.28	14.7	0.29	14.2	0.31	13.7	0.33	13.3	0.34	12.9	0.35	12.9	0.36	12.9	0.35	12.0	0.28		
	1175	4883	2292		2180		2041		1910		1782		1629		1451		1239		906			
			15.7	0.30	15.2	0.31	14.6	0.33	14.2	0.35	13.7	0.36	13.3	0.37	13.2	0.38	13.3	0.38	12.9	0.35		
	1200	4987	2341		2231		2096		1966		1844		1700		1527		1341		1076			
			16.3	0.32	15.8	0.33	15.2	0.35	14.7	0.37	14.3	0.38	13.8	0.39	13.7	0.40	13.7	0.41	13.6	0.39		
	1250	5195	2439		2333		2206		2077		1963		1831		1676		1507		1300			
			17.2	0.36	16.8	0.37	16.2	0.40	15.7	0.42	15.1	0.43	14.7	0.44	14.4	0.45	14.4	0.46	14.5	0.45		
1275	5299	2488		2384		2260		2134		2021		1895		1749		1585		1402				
		17.7	0.38	17.2	0.39	16.7	0.42	16.1	0.44	15.5	0.45	14.9	0.47	14.5	0.48	14.6	0.48	14.7	0.48			
1302	5411	2540		2439		2319		2195		2082		1963		1827		1668		1503		869		
		18.1	0.40	17.6	0.42	17.1	0.44	16.6	0.46	16.0	0.48	15.4	0.49	14.7	0.51	14.7	0.52	14.9	0.52	14.5	0.45	
3/4	1325	5507	2585		2486		2369		2247		2134		2021		1891		1736		1576		1106	
			18.5	0.43	18.0	0.44	17.5	0.46	17.0	0.49	16.4	0.50	15.8	0.52	15.2	0.53	14.8	0.54	15.0	0.55	15.1	0.51
	1350	5611	2634		2536		2423		2303		2190		2083		1956		1810		1654		1248	
			18.9	0.45	18.4	0.47	17.9	0.49	17.4	0.51	16.8	0.53	16.3	0.54	15.7	0.56	15.2	0.57	15.1	0.58	15.6	0.56
	1400	5818	2731		2637		2530		2414		2302		2201		2084		1955		1807		1463	
			19.9	0.50	19.4	0.52	18.8	0.54	18.3	0.57	17.7	0.59	17.2	0.60	16.7	0.62	16.1	0.63	15.9	0.64	16.2	0.64
	1425	5922	2780		2688		2584		2469		2357		2258		2147		2026		1882		1566	
			20	0.53	19.9	0.55	19.3	0.57	18.7	0.60	18.2	0.62	17.7	0.63	17.2	0.65	16.6	0.66	16.2	0.67	16.3	0.68
	1450	6026	2829		2738		2637		2524		2413		2315		2210		2092		1955		1663	
			21	0.56	20	0.58	19.9	0.60	19.3	0.62	18.7	0.65	18.2	0.66	17.6	0.68	17.1	0.69	16.6	0.70	16.6	0.72
1497	6222	2921		2833		2737		2627		2520		2421		2327		2212		2091		1811		
		22	0.61	21	0.63	21	0.65	20	0.68	19.7	0.71	19.2	0.72	18.7	0.74	18.1	0.75	17.5	0.77	17.3	0.79	

Performance shown is for installation type A: Free Inlet, Free Outlet. Power rating (BHP) does not include drive losses. For further information on estimating belt drive losses and motor service factors see page 15. FanSizer software automatically calculates drive losses when selecting equipment. The sound ratings shown are for loudness values in fan sones at 5'0" (1.5m) in a hemispherical free field per AMCA Standard 301. Values shown are for installation Type A: free inlet fan sone levels. Performance ratings do not include the effects of appurtenances in the airstream. For further information on sound classification, see page 30. For accessories see pages 5 and 6.

DX14B - Belt Drive Fan Data

Domex Fans



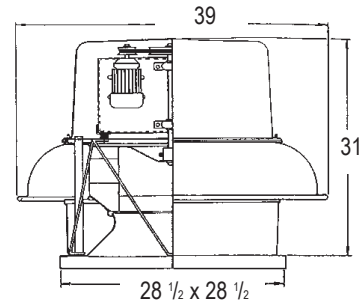
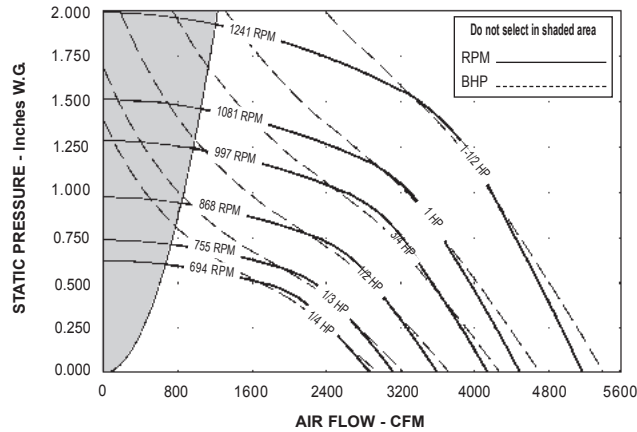
Galv. Steel Base = 16 gauge	Roof Opening = 16 in (sq)	Peak BHP = (RPM/1493) ³
Alum. Base = 0.064 in	Damper Size = 15 3/4 in (sq)	Max. RPM = 1793 (1 1/2 HP)
Discharge Apron = 0.064 in	Max. Motor Frame Size = 56	Est. Shipping Weight = 98 lbs

HP	RPM	TIP SPEED (FPM)	FAN CAPACITY - CUBIC FEET PER MINUTE (CFM)																			
			0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		1.000" SP		1.250" SP		1.500" SP	
			Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP
1/4	350	1455	952																			
			1.6	0.01																		
	400	1662	1088		221																	
			2.5	0.02	3.0	0.01																
	515	2140	1401		994																	
			4.8	0.04	4.5	0.04																
	680	2826	1849		1582		1212															
			7.3	0.08	6.7	0.09	6.0	0.09														
842	3499	2290		2077		1835		1522		1104												
		9.7	0.15	9.0	0.17	8.3	0.18	7.4	0.18	6.3	0.17											
910	3782	2475		2276		2070		1793		1495		831										
		10.7	0.19	10.1	0.21	9.5	0.22	8.8	0.23	7.6	0.22	6.9	0.18									
958	3982	2606		2415		2226		1977		1699		1355										
		11.8	0.23	11.2	0.24	10.6	0.26	10.0	0.26	8.8	0.26	7.6	0.25									
1/3	1000	4156	2720		2536		2360		2135		1870		1588		1033							
			12.6	0.26	12.0	0.27	11.4	0.29	10.8	0.30	9.8	0.30	8.5	0.29	7.9	0.25						
	1020	4239	2774		2593		2424		2208		1949		1684		1250							
			12.9	0.27	12.3	0.29	11.8	0.30	11.1	0.32	10.2	0.32	8.9	0.31	8.1	0.29						
1044	4339	2840		2662		2499		2292		2044		1788		1445								
		13.1	0.29	12.6	0.31	12.1	0.33	11.4	0.34	10.7	0.34	9.4	0.34	8.4	0.32							
1/2	1060	4405	2883		2708		2549		2348		2106		1854		1561							
			13.4	0.31	12.8	0.32	12.4	0.34	11.7	0.35	11.0	0.36	9.8	0.35	8.7	0.34						
	1095	4551	2978		2809		2654		2469		2240		1998		1738							
			14.2	0.34	13.7	0.35	13.2	0.37	12.6	0.39	11.9	0.39	10.7	0.39	9.5	0.38						
	1130	4696	3074		2909		2758		2586		2373		2138		1901		610					
			15.2	0.37	14.6	0.39	14.1	0.41	13.6	0.42	12.8	0.43	11.9	0.43	10.5	0.43	9.3	0.25				
1160	4821	3155		2995		2847		2683		2484		2257		2027		1251						
		16.0	0.40	15.5	0.42	15.1	0.44	14.5	0.46	13.8	0.47	12.9	0.47	11.5	0.46	9.8	0.40					
1190	4946	3237		3081		2936		2780		2592		2373		2150		1556						
		17.0	0.44	16.4	0.45	16.0	0.47	15.5	0.49	14.8	0.50	14.0	0.51	12.6	0.50	10.4	0.47					
1200	4987	3264		3109		2965		2812		2627		2412		2191		1629						
		17.3	0.45	16.8	0.46	16.3	0.48	15.8	0.50	15.1	0.52	14.4	0.52	12.9	0.52	10.6	0.49					
3/4	1218	5062	3313		3160		3018		2869		2690		2481		2263		1759					
			17.7	0.47	17.2	0.48	16.7	0.50	16.2	0.52	15.6	0.54	14.8	0.54	13.5	0.54	11.0	0.52				
	1285	5341	3495		3351		3213		3081		2921		2733		2528		2105		1072			
			18.5	0.55	18.0	0.56	17.5	0.58	17.1	0.61	16.5	0.63	15.8	0.64	15.1	0.4	12.6	0.62	11.8	0.47		
	1315	5465	3577		3435		3300		3173		3019		2844		2644		2238		1594			
			18.7	0.59	18.2	0.60	17.7	0.62	17.3	0.65	16.8	0.67	16.2	0.68	15.5	0.68	13.3	0.67	12.2	0.62		
1345	5590	3659		3520		3387		3262		3116		2949		2759		2363		1845				
		19.0	0.63	18.5	0.65	18.1	0.67	17.7	0.69	17.2	0.71	16.6	0.73	16.0	0.73	14.0	0.72	12.5	0.69			
1380	5735	3754		3619		3488		3367		3229		3071		2891		2507		2080		699		
		19.5	0.68	19.1	0.70	18.6	0.72	18.2	0.74	17.8	0.76	17.2	0.78	16.6	0.79	14.9	0.79	13.1	0.76	12.9	0.45	
1	1400	5818	3808		3675		3546		3426		3293		3140		2966		2587		2178		939	
			19.9	0.71	19.4	0.73	19.0	0.75	18.6	0.77	18.2	0.79	17.6	0.81	17.0	0.82	15.5	0.82	13.6	0.80	13.2	0.53
	1425	5922	3876		3746		3617		3500		3372		3226		3059		2687		2298		1579	
			20.0	0.75	20.0	0.77	19.5	0.79	19.2	0.81	18.8	0.83	18.2	0.86	17.6	0.87	16.2	0.87	14.3	0.85	13.6	0.76
	1450	6026	3944		3816		3689		3574		3451		3309		3149		2786		2417		1848	
			21.0	0.79	21.0	0.81	20.0	0.83	19.7	0.85	19.3	0.87	18.8	0.90	18.2	0.91	16.8	0.91	15.0	0.90	14.0	0.85
1475	6130	4012		3886		3761		3647		3530		3391		3236		2885		2523		2033		
		22.0	0.83	21.0	0.85	21.0	0.87	20.0	0.89	19.8	0.92	19.3	0.94	18.8	0.96	17.5	0.96	15.7	0.95	14.2	0.91	
1498	6226	4075		3951		3826		3714		3602		3465		3317		2974		2618		2200		
		22.0	0.87	22.0	0.89	21.0	0.91	21.0	0.93	20.0	0.96	19.8	0.98	19.3	1.00	18.1	1.01	16.3	1.00	14.6	0.97	

Performance shown is for installation type A: Free Inlet, Free Outlet. Power rating (BHP) does not include drive losses. For further information on estimating belt drive losses and motor service factors see page 15. FanSizer software automatically calculates drive losses when selecting equipment. The sound ratings shown are for loudness values in fan sones at 5'0" (1.5m) in a hemispherical free field per AMCA Standard 301. Values shown are for installation Type A: free inlet fan sone levels. Performance ratings do not include the effects of appurtenances in the airstream. For further information on sound classification, see page 30. For accessories see pages 5 and 6.

Belt Drive Fan Data - DX16B

Domex Fans



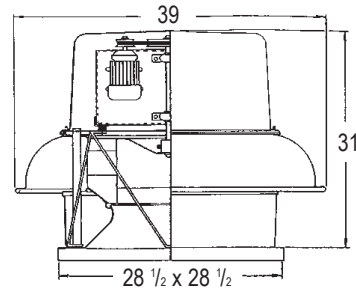
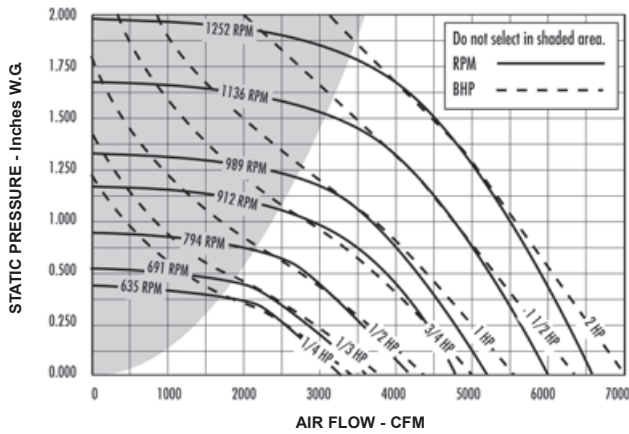
Galv. Steel Base = 14 gauge	Roof Opening = 20 in (sq)	Peak BHP = $(RPM/1078)^3$
Alum. Base = 0.080 in	Damper Size = 19 3/4 in (sq)	Max. RPM = 1631 (3 HP)
Discharge Apron = 0.064 in	Max. Motor Frame Size = 145T	Est. Shipping Weight = 131 lbs

HP	RPM	TIP SPEED (FPM)	FAN CAPACITY - CUBIC FEET PER MINUTE (CFM)																			
			0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		1.000" SP		1.250" SP		1.500" SP	
			Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP
1/4	300	1468	1248																			
			3.1	0.02																		
	450	2202	1873		1531		511															
			5.2	0.06	4.5	0.07	4.4	0.05														
	600	2936	2497		2250		1980		1465													
1/3	650	3180	2705		2478		2233		1935		1029											
			9.7	0.19	9.1	0.20	8.8	0.21	8.5	0.22	7.8	0.17										
	694	3395	2889		2677		2450		2212		1707											
			10.4	0.23	10.0	0.24	9.7	0.26	9.3	0.27	8.8	0.25										
	715	3498	2976		2772		2552		2323		1948		901									
1/2	735	3596	3059		2861		2648		2426		2120		1302									
			11.5	0.27	11.0	0.29	10.6	0.30	10.2	0.31	9.7	0.32	9.2	0.26								
	755	3694	3142		2950		2744		2528		2266		1620									
			11.9	0.30	11.6	0.31	11.1	0.33	10.7	0.34	10.3	0.34	9.7	0.31								
	775	3792	3226		3039		2839		2629		2397		1897		766							
3/4	800	3914	3330		3150		2957		2755		2546		2183		1334							
			12.8	0.35	12.4	0.37	12.0	0.38	11.7	0.40	11.3	0.41	10.6	0.40	10.3	0.32						
	825	4036	3434		3259		3073		2878		2679		2396		1744							
			13.3	0.39	12.9	0.40	12.5	0.42	12.2	0.43	11.8	0.45	11.2	0.45	10.7	0.40						
	850	4159	3538		3368		3188		3001		2808		2575		2091							
1	868	4247	3613		3447		3271		3088		2900		2690		2314							
			14.3	0.45	13.9	0.47	13.5	0.49	13.2	0.50	12.8	0.51	12.3	0.52	11.6	0.51						
	895	4379	3725		3564		3395		3218		3037		2850		2556		887					
			15.0	0.49	14.6	0.51	14.2	0.53	13.9	0.55	13.5	0.56	13.0	0.57	12.4	0.57	11.9	0.35				
	925	4526	3850		3694		3531		3362		3187		3009		2778		1563					
1 1/2	950	4648	3954		3803		3644		3481		3311		3138		2941		1974					
			16.5	0.59	16.1	0.61	15.8	0.63	15.4	0.65	15.0	0.66	15.0	0.68	14.2	0.69	13.1	0.60				
	975	4770	4058		3911		3757		3599		3433		3266		3090		2331					
			17.1	0.64	16.7	0.66	16.4	0.68	16.0	0.70	15.7	0.71	15.3	0.73	14.8	0.74	13.6	0.69				
	1025	5015	4266		4126		3982		3831		3676		3518		3357		2880		1573			
1 1/2	1055	5162	4391		4255		4116		3969		3820		3667		3511		3115		2100			
			18.5	0.81	18.1	0.83	17.8	0.85	17.4	0.87	17.1	0.89	16.7	0.91	16.3	0.93	15.4	0.94	14.4	0.81		
	1081	5289	4500		4366		4231		4088		3943		3794		3643		3299		2484			
			18.9	0.87	18.6	0.89	18.3	0.92	17.9	0.94	17.6	0.96	17.2	0.97	16.8	0.99	15.9	1.01	14.7	0.93		
	1115	5455	4641		4512		4382		4244		4104		3960		3814		3504		2920		1562	
1 1/2	1150	5626	4787		4662		4536		4403		4268		4129		3989		3703		3256		2209	
			21.0	1.04	20.0	1.07	20.0	1.10	19.7	1.12	19.3	1.14	19.0	1.16	18.6	1.18	17.7	1.21	16.5	1.21	15.6	1.03
	1180	5773	4912		4790		4668		4538		4407		4273		4136		3858		3486		2664	
			22.0	1.13	21.0	1.16	21.0	1.18	21.0	1.21	20.0	1.23	19.8	1.25	19.4	1.27	18.6	1.30	17.5	1.32	16.2	1.19
	1210	5920	5037		4918		4798		4673		4546		4416		4282		4012		3698		3056	
1 1/2	1241	6072	5166		5050		4933		4812		4688		4563		4432		4170		3884		3398	
			23.0	1.31	23.0	1.34	22.0	1.37	22.0	1.39	22.0	1.42	21.0	1.44	21.0	1.46	20.0	1.50	19.1	1.53	17.8	1.51

Performance shown is for installation type A: Free Inlet, Free Outlet. Power rating (BHP) does not include drive losses. For further information on estimating belt drive losses and motor service factors see page 15. FanSizer software automatically calculates drive losses when selecting equipment. The sound ratings shown are for loudness values in fan sones at 50' (1.5m) in a hemispherical free field per AMCA Standard 301. Values shown are for installation Type A: free inlet fan sone levels. Performance ratings do not include the effects of appurtenances in the airstream. For further information on sound classification, see page 30. For accessories see pages 5 and 6.

DX18B - Belt Drive Fan Data

Domex Fans



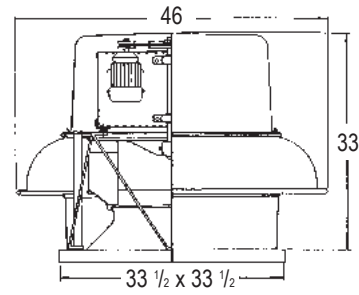
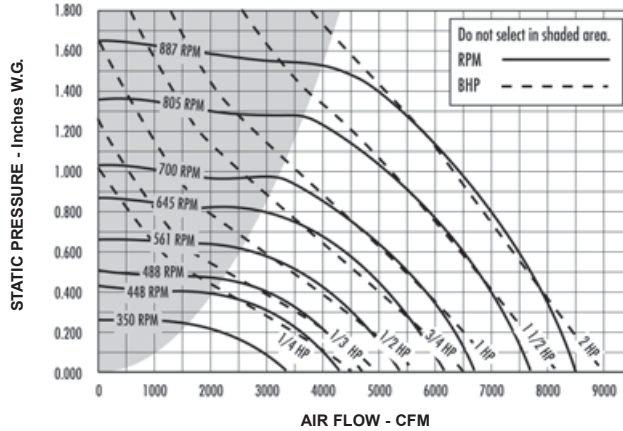
Galv. Steel Base = 14 gauge	Roof Opening = 20 in (sq)	Peak BHP = (RPM/986) ³
Alum. Base = 0.080 in	Damper Size = 19 3/4 in (sq)	Max. RPM = 1326 (2 HP)
Discharge Apron = 0.064 in	Max. Motor Frame Size = 145T	Est. Shipping Weight = 132 lbs

HP	RPM	TIP SPEED (FPM)	FAN CAPACITY - CUBIC FEET PER MINUTE (CFM)																			
			0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		1.000" SP		1.250" SP		1.500" SP	
			Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP
1/4	375	1988	1975	1402																		
			3.9	0.04	3.6	0.05																
	549	2910	2892	2531	2138																	
			8.0	0.14	7.7	0.16	7.1	0.17														
1/3	590	3128	3108	2774	2417	1746																
			8.9	0.18	8.5	0.20	7.9	0.21	7.4	0.20												
	635	3366	3345	3037	2711	2291																
			10.1	0.22	9.7	0.24	9.1	0.26	8.3	0.26												
1/2	655	3472	3450	3153	2838	2478	1493															
			10.4	0.24	10.0	0.26	9.4	0.28	8.7	0.29	8.2	0.24										
	675	3578	3555	3268	2963	2638	1913															
			10.7	0.26	10.3	0.29	9.8	0.31	9.1	0.32	8.4	0.30										
3/4	691	3663	3640	3360	3062	2751	2162															
			10.9	0.28	10.5	0.31	10.1	0.33	9.3	0.34	8.5	0.34										
	715	3791	3766	3497	3209	2911	2456															
			11.4	0.31	11.0	0.34	10.5	0.36	9.8	0.38	9.0	0.37										
1	740	3923	3898	3639	3361	3075	2712	1852														
			12.1	0.35	11.7	0.37	11.2	0.39	10.4	0.41	9.7	0.42	9.1	0.37								
	770	4082	4056	3808	3542	3271	2974	2383														
			13.1	0.39	12.7	0.42	12.2	0.44	11.5	0.46	10.6	0.48	9.7	0.46								
1 1/2	794	4209	4182	3943	3685	3424	3150	2684	1604													
			14.2	0.43	13.7	0.46	13.2	0.48	12.5	0.50	11.6	0.52	10.6	0.51	10.3	0.41						
	825	4374	4345	4115	3868	3618	3357	3010	2313													
			15.2	0.48	14.8	0.51	14.2	0.53	13.7	0.56	12.6	0.58	11.6	0.58	10.8	0.54						
2	855	4533	4503	4281	4045	3804	3555	3278	2763													
			15.5	0.53	15.1	0.57	14.6	0.59	14.1	0.62	13.2	0.64	12.2	0.65	11.2	0.64						
	885	4692	4662	4447	4220	3987	3750	3504	3107													
			16.3	0.59	15.9	0.63	15.4	0.65	14.9	0.68	14.1	0.70	13.3	0.72	12.3	0.71						
2 1/2	912	4835	4804	4595	4376	4151	3923	3684	3376	1675												
			17.1	0.65	16.8	0.68	16.3	0.71	15.8	0.74	15.1	0.76	14.3	0.78	13.4	0.78	12.3	0.59				
	930	4930	4899	4694	4480	4259	4036	3803	3536	2206												
			17.8	0.69	17.4	0.72	17.0	0.75	16.5	0.78	15.9	0.81	15.0	0.83	14.1	0.84	12.8	0.72				
3	965	5116	5083	4886	4682	4469	4255	4034	3806	2875												
			18.9	0.77	18.7	0.81	18.3	0.84	17.8	0.86	17.3	0.89	16.5	0.92	15.7	0.94	13.8	0.90				
	989	5243	5209	5017	4819	4612	4403	4190	3969	3213												
			19.9	0.82	19.6	0.87	19.2	0.90	18.7	0.92	18.2	0.95	17.5	0.98	16.7	1.00	14.9	0.99				
4	1030	5460	5425	5241	5053	4853	4653	4451	4240	3671	2215											
			21.0	0.93	21.0	0.97	20.0	1.01	19.9	1.04	19.5	1.07	18.9	1.10	18.0	1.12	16.5	1.12	15.5	0.92		
	1065	5646	5610	5431	5251	5058	4865	4671	4470	4006	2984											
			22.0	1.03	21.0	1.07	21.0	1.12	21.0	1.14	20.0	1.17	19.5	1.20	18.7	1.23	17.3	1.25	15.9	1.17		
5	1100	5832	5794	5621	5448	5262	5075	4887	4697	4291	3517											
			22.0	1.13	22.0	1.18	22.0	1.23	21.0	1.25	21.0	1.28	20.0	1.31	19.5	1.34	18.1	1.39	16.5	1.36		
	1136	6022	5984	5816	5649	5470	5289	5108	4925	4543	3945	2625										
			23.0	1.25	23.0	1.30	22.0	1.34	22.0	1.34	22.0	1.37	21.0	1.44	21.0	1.47	19.2	1.52	17.7	1.49	16.8	1.29
6	1175	6229	6189	6027	5865	5694	5520	5345	5169	4802	4336	3414										
			24.0	1.38	24.0	1.43	24.0	1.48	23.0	1.51	23.0	1.54	22.0	1.57	22.0	1.61	20.0	1.67	19.1	1.67	17.6	1.60
	1200	6362	6321	6162	6004	5838	5667	5495	5323	4967	4560	3786										
			25.0	1.47	25.0	1.52	24.0	1.57	24.0	1.61	23.0	1.64	23.0	1.67	23.0	1.71	21.0	1.77	20.0	1.80	18.3	1.77
7	1225	6494	6453	6297	6142	5980	5813	5645	5477	5153	4763	4100										
			25.0	1.57	25.0	1.62	25.0	1.67	25.0	1.71	24.0	1.74	24.0	1.77	23.0	1.81	22.0	1.87	21.0	1.93	19.6	1.88
	1252	6637	6595	6443	6291	6134	5970	5806	5641	5307	4958	4399										
			26.0	1.67	26.0	1.73	26.0	1.78	26.0	1.82	25.0	1.85	25.0	1.88	24.0	1.92	23.0	1.99	22.0	2.05	21.0	2.00

Performance shown is for installation type A: Free Inlet, Free Outlet. Power rating (BHP) does not include drive losses. For further information on estimating belt drive losses and motor service factors see page 15. FanSizer software automatically calculates drive losses when selecting equipment. The sound ratings shown are for loudness values in fan sones at 5'0" (1.5m) in a hemispherical free field per AMCA Standard 301. Values shown are for installation Type A: free inlet fan sone levels. Performance ratings do not include the effects of appurtenances in the airstream. For further information on sound classification, see page 30. For accessories see pages 5 and 6.

Belt Drive Fan Data - DX24B

Domex Fans



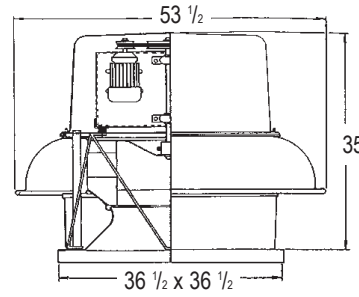
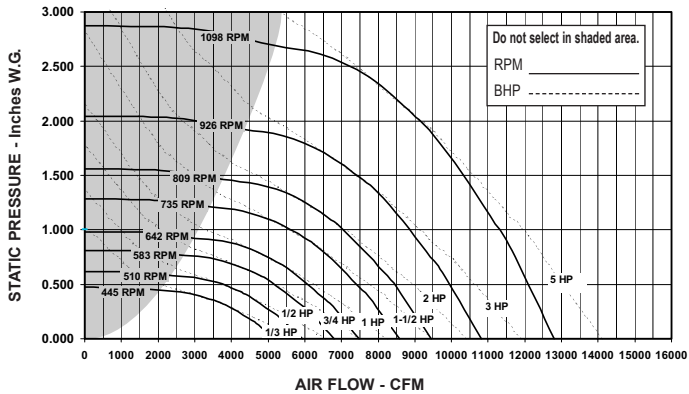
Galv. Steel Base = 14 gauge	Roof Opening = 25 in (sq)	Peak BHP = (RPM/700) ³
Alum. Base = 0.080 in	Damper Size = 24 3/4 in (sq)	Max. RPM = 1275 (5 HP)
Discharge Apron = 0.064 in	Max. Motor Frame Size = 184T	Est. Shipping Weight = 183 lbs

HP	RPM	TIP SPEED (FPM)	FAN CAPACITY - CUBIC FEET PER MINUTE (CFM)																			
			0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		1.000" SP		1.250" SP		1.500" SP	
			Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP
1/4	265	1719	2547		1450																	
			3.1	0.05	1.4	0.05																
	399	2589	3835		3315		2531															
			7.6	0.15	7.0	0.18	5.5	0.18														
1/3	430	2790	4133		3675		2998															
			8.2	0.19	7.6	0.22	6.9	0.23														
	448	2906	4306		3873		3251		2278													
			8.6	0.22	7.9	0.25	7.3	0.26	4.7	0.24												
1/2	460	2984	4421		4003		3407		2534													
			8.9	0.24	8.2	0.27	7.6	0.28	5.2	0.27												
	475	3082	4565		4164		3600		2837													
			9.3	0.26	8.7	0.29	8.0	0.31	6.1	0.30												
3/4	488	3166	4690		4303		3766		3087													
			9.7	0.28	9.1	0.32	8.4	0.34	6.9	0.33												
	520	3374	4998		4643		4163		3575		2688											
			10.6	0.34	10.0	0.38	9.3	0.40	8.4	0.41	5.9	0.38										
1	530	3438	5094		4749		4283		3721		2901											
			10.8	0.36	10.2	0.40	9.5	0.42	8.8	0.43	6.5	0.41										
	540	3503	5190		4854		4402		3865		3107											
			11.0	0.38	10.5	0.42	9.7	0.45	9.0	0.46	7.0	0.43										
1 1/2	561	3640	5392		5075		4650		4142		3517											
			11.6	0.43	11.0	0.47	10.4	0.49	9.6	0.51	8.2	0.50										
	600	3893	5767		5473		5104		4642		4122		3399									
			13.1	0.52	12.6	0.57	11.9	0.59	11.2	0.62	10.3	0.62	8.2	0.59								
2	625	4055	6007		5726		5384		4955		4484		3890		2988							
			14.3	0.59	13.7	0.64	13.0	0.67	12.3	0.70	11.6	0.71	9.9	0.69	8.2	0.64						
	645	4185	6200		5926		5601		5196		4747		4226		3466							
			14.5	0.65	14.0	0.71	13.4	0.73	12.6	0.76	11.9	0.78	10.8	0.76	8.8	0.73						
3	663	4301	6373		6107		5795		5411		4980		4493		3838							
			14.7	0.71	14.2	0.76	13.7	0.79	13.0	0.82	12.3	0.85	11.4	0.84	9.7	0.80						
	675	4379	6488		6227		5924		5553		5134		4669		4075							
			15.0	0.75	14.5	0.80	13.9	0.84	13.1	0.86	12.6	0.89	11.8	0.89	10.3	0.86						
4	685	4444	6584		6327		6031		5671		5261		4815		4268							
			15.2	0.78	14.7	0.84	14.1	0.87	13.5	0.90	12.8	0.93	12.1	0.93	10.8	0.90						
	700	4541	6728		6477		6191		5847		5450		5031		4531							
			15.5	0.83	15.0	0.89	14.5	0.93	13.9	0.96	13.3	0.99	12.6	1.00	11.5	0.97						
5	750	4866	7209		6974		6721		6425		6063		5680		5269		4113					
			17.0	1.02	16.6	1.09	16.1	1.14	15.5	1.16	14.9	1.20	14.3	1.22	13.7	1.22	11.1	1.15				
	775	5028	7449		7222		6984		6697		6360		5998		5619		4619					
			17.9	1.13	17.5	1.19	17.1	1.25	16.5	1.27	16.0	1.31	15.4	1.34	14.8	1.36	12.4	1.30				
6	790	5125	7593		7370		7141		6860		6537		6186		5815		4910					
			18.6	1.20	18.2	1.26	17.7	1.32	17.2	1.34	16.6	1.38	16.0	1.42	15.5	1.43	13.4	1.39				
	805	5223	7738		7519		7298		7022		6713		6374		6009		5182		3788			
			19.1	1.27	18.6	1.33	18.1	1.40	17.6	1.42	17.0	1.45	16.5	1.50	15.9	1.51	14.1	1.48	12.0	1.35		
7	820	5320	7882		7667		7452		7183		6888		6556		6202		5407		4203			
			19.2	1.34	18.8	1.41	18.3	1.48	17.8	1.50	17.3	1.53	16.7	1.58	16.1	1.60	14.6	1.57	12.3	1.48		
	850	5515	8170		7963		7756		7505		7235		6915		6583		5851		4836			
			19.6	1.49	19.2	1.56	18.8	1.63	18.3	1.66	17.8	1.69	17.2	1.74	16.7	1.77	15.5	1.77	13.5	1.69		
8	870	5644	8362		8160		7957		7718		7462		7152		6834		6142		5234			
			20.0	1.60	20.0	1.67	19.5	1.74	19.0	1.78	18.5	1.80	17.9	1.85	17.4	1.89	16.3	1.91	14.3	1.84		
	887	5755	8526		8327		8129		7898		7648		7352		7046		6384		5561		4317	
			21.0	1.69	21.0	1.77	20.0	1.84	19.7	1.89	19.2	1.91	18.6	1.95	18.1	2.00	17.0	2.04	15.3	1.97	13.9	1.83

Performance shown is for installation type A: Free Inlet, Free Outlet. Power rating (BHP) does not include drive losses. For further information on estimating belt drive losses and motor service factors see page 15. FanSizer software automatically calculates drive losses when selecting equipment. The sound ratings shown are for loudness values in fan sones at 50' (1.5m) in a hemispherical free field per AMCA Standard 301. Values shown are for installation Type A: free inlet fan sone levels. Performance ratings do not include the effects of appurtenances in the airstream. For further information on sound classification, see page 30. For accessories see pages 5 and 6.

DX27B - Belt Drive Fan Data

Domex Fans



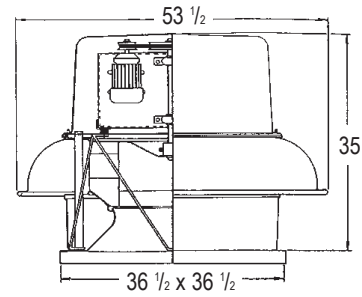
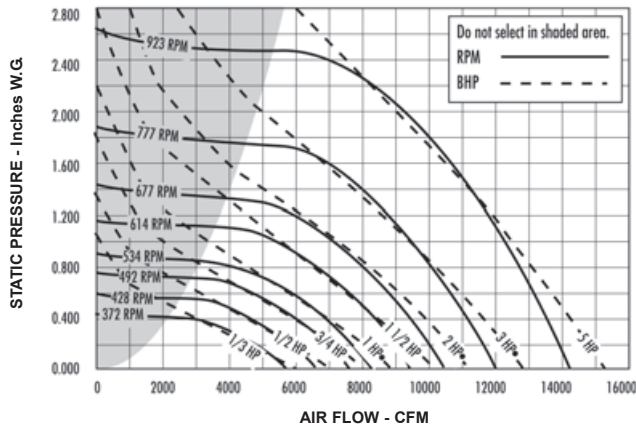
Galv. Steel Base = 14 gauge	Roof Opening = 28 in (sq)	Peak BHP = (RPM/534) ³
Alum. Base = 0.080 in	Damper Size = 27 3/4 in (sq)	Max. RPM = 988 (5 HP)
Discharge Apron = 0.080 in	Max. Motor Frame Size = 184T	Est. Shipping Weight = 210 lbs

HP	RPM	TIP SPEED (FPM)	FAN CAPACITY - CUBIC FEET PER MINUTE (CFM)																	
			0.125		0.250		0.375		0.500		0.750		1.000		1.250		1.500		2.000	
			Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP
1/3	445	3234	4748		4165		3314													
			8.1	0.29	7.3	0.32	6.8	0.33												
1/2	475	3451	5124		4604		3947													
			9.2	0.34	8.4	0.38	7.7	0.40												
			5557	5102	4545	3731														
1/2	510	3703	10.3 0.42		9.5 0.46		8.8 0.46		8.4 0.50											
			5808	5386	4866	4180														
			10.9 0.47	10.2 0.51	9.5 0.54	9 0.56														
3/4	530	3850	6178		5801		5321		4773											
			12.1 0.55	11.4 0.59	10.6 0.63	10 0.66														
			6466	6121	5664	5166														
3/4	583	4239	13.3 0.62		12.5 0.66		11.6 0.70		10.9 0.73											
			6670	6345	5915	5430	3890													
			13.8 0.67	13.1 0.71	12.2 0.76	11.4 0.79	10.8 0.79													
1	620	4504	6912		6593		6188		5744		4473									
			14.4 0.73	13.9 0.78	13 0.83	12.1 0.87	11.3 0.90													
			7182	6875	6501	6079	4967													
1	642	4666	15 0.81		14.5 0.86		13.8 0.91		12.9 0.95		11.9 1.00									
			7398	7099	6748	6340	5356													
			15.4 0.87	15 0.93	14.3 0.98	13.5 1.02	12.4 1.09													
1 1/2	660	4795	7701		7412		7093		6702		5830		4186							
			16.2 0.97	15.9 1.03	15.3 1.08	14.5 1.13	13.1 1.20	13.1 1.15												
			8003	7724	7434	7061	6253	5029												
1 1/2	710	5158	17.2 1.08		16.9 1.14		16.4 1.19		15.7 1.24		14.2 1.33		13.7 1.21							
			8306	8036	7775	7417	6654	5594												
			18.3 1.19	18.1 1.25	17.7 1.31	17.0 1.37	15.6 1.46	14.7 1.50												
2	750	5449	8484		8220		7975		7624		6888		5921							
			18.9 1.26	18.7 1.33	18.4 1.38	17.7 1.44	16.3 1.54	15.2 1.637												
			8724	8467	8210	7901	7201	6339	4824											
2	770	5594	19.7 1.36		19.5 1.43		19.0 1.49		18.5 1.55		17.2 1.65		15.9 1.72		15.8 1.65					
			8964	8713	8463	8177	7497	6714	5514											
			20 1.47	20 1.54	19.9 1.60	19.4 1.66	18.0 1.77	16.7 1.85	16.3 1.85											
2	809	5877	9192		8947		8702		8437		7775		7046		5967					
			21 1.57	21 1.64	20 1.71	20 1.77	18.7 1.88	17.4 1.97	16.9 1.99											
			9562	9326	9091	8856	8224	7543	6652	5163										
3	840	6102	22 1.75		22 1.83		22 1.90		21 1.96		20 2.08		18.9 2.18		17.9 2.24		18.1 2.133			
			9920	9692	9465	9238	8654	8016	7259	6171										
			24 1.94	23 2.02	23 2.09	23 2.16	22 2.29	21 2.40	19 2.47	19 2.485										
3	900	6538	10278		10057		9838		9618		9078		8476		7805		6843			
			25 2.15	25 2.23	25 2.30	24 2.37	24 2.51	22 2.63	21 2.72	20 2.747										
			10587	10373	10159	9946	9441	8858	8224	7414										
3	926	6727	27 2.33		27 2.42		26 2.49		26 2.56		25 2.71		24 2.84		23 2.93		21 2.996			
			10992	10785	10579	10373	9910	9353	8763	8082	5611									
			29 2.59	29 2.68	28 2.76	28 2.84	27 2.98	26 3.12	25 3.24	23 3.27	23 3.14									
5	1000	7265	31 2.92		30 3.02		30 3.10		30 3.18		29 3.33		28 3.48		27 3.62		25 3.71		24 3.75	
			11467	11268	11078	10872	10458	9927	9385	8778	7000									
			11941	11750	11559	11369	10989	10493	9973	9416	7919									
5	1040	7555	32 3.28		31 3.38		31 3.47		31 3.55		30 3.71		29 3.87		28 4.01		27 4.13		25 4.24	
			12627	12447	12266	12086	11726	11299	10812	10318	9135									
			34 3.84	34 3.95	34 4.05	33 4.14	33 4.31	32 4.48	31 4.63	30 4.78	27 4.98									

Performance shown is for installation type A: Free Inlet, Free Outlet. Power rating (BHP) does not include drive losses. For further information on estimating belt drive losses and motor service factors see page 15. FanSizer software automatically calculates drive losses when selecting equipment. The sound ratings shown are for loudness values in fan sones at 5'0" (1.5m) in a hemispherical free field per AMCA Standard 301. Values shown are for installation Type A: free inlet fan sone levels. Performance ratings do not include the effects of appurtenances in the airstream. For further information on sound classification, see page 30. For accessories see pages 5 and 6.

Belt Drive Fan Data - DX30B

Domex Fans



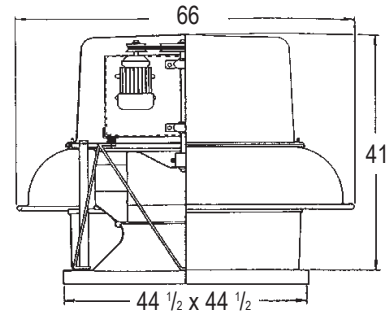
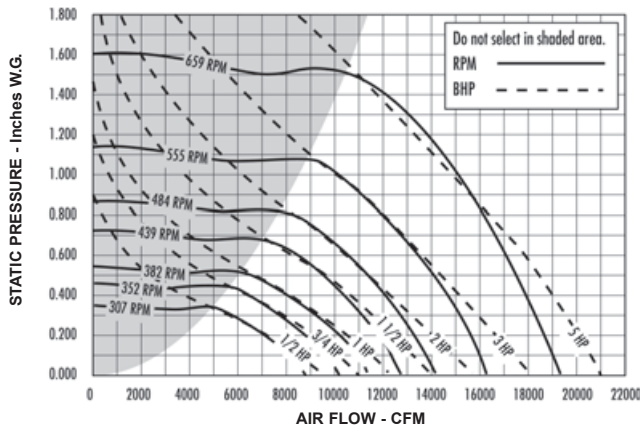
Galv. Steel Base = 14 gauge	Roof Opening = 28 in (sq)	Peak BHP = (RPM/534) ³
Alum. Base = 0.080 in	Damper Size = 27 3/4 in (sq)	Max. RPM = 988 (5 HP)
Discharge Apron = 0.080 in	Max. Motor Frame Size = 184T	Est. Shipping Weight = 210 lbs

HP	RPM	TIP SPEED (FPM)	FAN CAPACITY - CUBIC FEET PER MINUTE (CFM)																			
			0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		1.000" SP		1.250" SP		1.500" SP	
			Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP
1/3	225	1804	3480	2165																		
			2.9	0.06	2.0	0.07																
	300	2405	4640	3849	2423																	
			5.8	0.14	5.1	0.17	4.3	0.17														
	372	2983	5753	5164	4386	3184																
			8.7	0.27	8.0	0.30	7.4	0.33	6.6	0.32												
1/2	405	3247	6264	5732	5073	4186																
			9.7	0.35	8.9	0.38	8.2	0.42	7.5	0.43												
	428	3432	6619	6120	5514	4747	3627															
			10.4	0.41	9.7	0.45	9.0	0.49	8.3	0.51	7.4	0.49										
3/4	460	3688	7114	6653	6114	5468	4618															
			11.7	0.51	10.8	0.55	10.0	0.59	9.3	0.63	8.5	0.63										
	480	3848	7424	6985	6478	5897	5147	4103														
			12.6	0.57	11.5	0.62	10.5	0.66	9.9	0.71	9.0	0.72	8.4	0.70								
	492	3945	7609	7183	6695	6136	5430	4490														
			13.1	0.62	12.1	0.67	11.0	0.71	10.3	0.76	9.4	0.78	8.7	0.76								
1	520	4169	8042	7642	7195	6674	6071	5324	4225													
			14.1	0.73	13.3	0.79	12.4	0.83	11.6	0.87	10.8	0.91	9.9	0.92	8.9	0.87						
	534	4281	8259	7871	7443	6939	6375	5691	4760													
			14.7	0.79	13.9	0.85	13.2	0.89	12.4	0.94	11.6	0.98	10.6	1.00	9.5	0.97						
1 1/2	560	4490	8661	8295	7890	7427	6927	6303	5559													
			15.4	0.91	14.8	0.98	14.2	1.02	13.4	1.06	12.7	1.12	11.8	1.14	10.7	1.14						
	580	4650	8971	8617	8229	7792	7315	6757	6115													
			16.1	1.01	15.5	1.08	14.9	1.13	14.2	1.17	13.5	1.23	12.7	1.26	11.7	1.28						
	600	4811	9280	8938	8566	8153	7698	7192	6590	4847												
			16.8	1.12	16.2	1.19	15.6	1.24	15.0	1.29	14.3	1.34	13.5	1.39	12.5	1.41	10.4	1.33				
	614	4923	9496	9162	8801	8405	7964	7493	6917	5412												
			17.4	1.20	16.9	1.27	16.2	1.32	15.6	1.37	14.9	1.43	14.2	1.49	13.2	1.50	10.9	1.47				
2	640	5131	9899	9578	9234	8868	8452	8015	7504	6230												
			18.4	1.36	17.9	1.44	17.3	1.49	16.8	1.54	16.1	1.59	15.3	1.66	14.5	1.69	12.3	1.69				
	660	5292	10208	9897	9567	9222	8820	8400	7937	6798	4544											
			19.1	1.49	18.6	1.57	18.1	1.63	17.6	1.68	17.0	1.73	16.2	1.80	15.4	1.85	13.4	1.88	11.5	1.62		
	677	5428	10471	10168	9848	9513	9129	8724	8302	7235	5744											
			19.5	1.61	19.0	1.69	18.6	1.75	18.2	1.80	17.7	1.86	16.9	1.92	16.1	1.99	14.2	2.03	12.5	1.96		
3	710	5693	10981	10692	10392	10073	9723	9346	8952	8011	6801											
			20.0	1.86	19.9	1.94	19.5	2.01	19.1	2.06	18.7	2.12	18.1	2.18	17.3	2.26	15.6	2.32	14.0	2.30		
	735	5893	11368	11089	10802	10494	10169	9808	9431	8577	7519	5947										
			21.0	2.06	21.0	2.15	20.0	2.22	20.0	2.28	19.6	2.33	19.1	2.39	18.3	2.47	16.8	2.56	15.0	2.59	13.8	2.45
	760	6093	11755	11485	11210	10912	10611	10263	9905	9120	8163	6886										
			22.0	2.28	22.0	2.37	21.0	2.45	21.0	2.51	21.0	2.56	20.0	2.63	19.4	2.70	17.9	2.83	16.3	2.87	14.8	2.79
	777	6230	12018	11754	11488	11196	10905	10569	10224	9485	8564	7426										
			23.0	2.44	22.0	2.53	22.0	2.61	22.0	2.67	21.0	2.73	21.0	2.79	20.0	2.86	18.7	3.01	17.1	3.06	15.5	3.01
5	815	6534	12605	12354	12102	11827	11549	11249	10924	10244	9441	8513										
			24.0	2.81	24.0	2.91	23.0	3.00	23.0	3.06	23.0	3.12	23.0	3.19	22.0	3.25	21.0	3.42	18.8	3.50	17.2	3.55
	845	6775	13069	12827	12584	12323	12055	11781	11467	10819	10095	9237										
			25.0	3.14	25.0	3.23	25.0	3.33	25.0	3.40	25.0	3.46	24.0	3.53	24.0	3.60	23.0	3.76	21.0	3.89	18.5	3.94
	875	7015	13533	13299	13065	12817	12558	12299	12006	11389	10739	9937										
			26.0	3.48	26.0	3.58	26.0	3.68	26.0	3.76	26.0	3.83	26.0	3.89	26.0	3.96	24.0	4.12	23.0	4.30	20.0	4.34
	905	7256	13997	13771	13544	13308	13058	12808	12540	11952	11333	10610										
			28.0	3.85	28.0	3.96	28.0	4.06	27.0	4.15	27.0	4.22	27.0	4.28	27.0	4.35	26.0	4.50	24.0	4.70	22.0	4.79
	923	7400	14276	14054	13831	13603	13357	13112	12859	12284	11680	11001										
			29.0	4.09	29.0	4.19	29.0	4.30	28.0	4.39	28.0	4.46	28.0	4.53	28.0	4.60	27.0	4.75	25.0	4.95	23.0	5.07

Performance shown is for installation type A: Free Inlet, Free Outlet. Power rating (BHP) does not include drive losses. For further information on estimating belt drive losses and motor service factors see page 15. FanSizer software automatically calculates drive losses when selecting equipment. The sound ratings shown are for loudness values in fan sones at 5'0" (1.5m) in a hemispherical free field per AMCA Standard 301. Values shown are for installation Type A: free inlet fan sone levels. Performance ratings do not include the effects of appurtenances in the airstream. For further information on sound classification, see page 30. For accessories see pages 5 and 6.

DX36B - Belt Drive Fan Data

Domex Fans



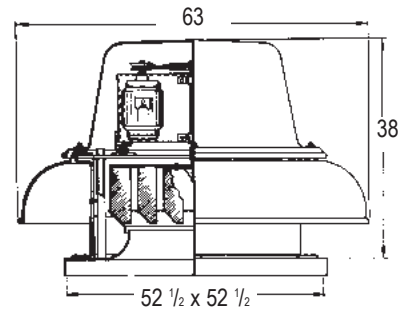
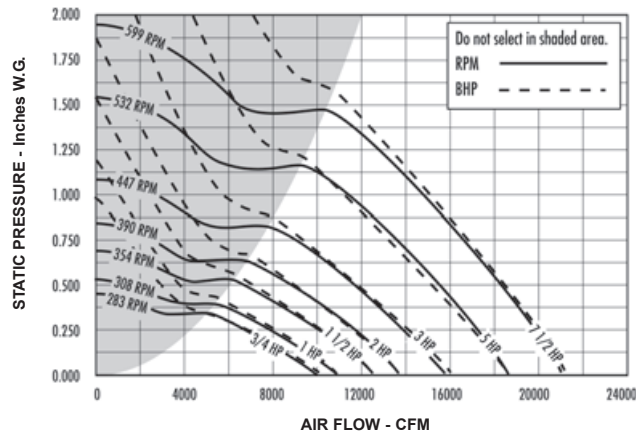
Galv. Steel Base = 12 gauge	Roof Opening = 36 in (sq)	Peak BHP = $(RPM/381)^3$
Alum. Base = 0.102 in	Damper Size = 35 1/2 in (sq)	Max. RPM = 810 (7 1/2 HP)
Discharge Apron = 0.080 in	Max. Motor Frame Size = 213T	Est. Shipping Weight = 420 lbs

HP	RPM	TIP SPEED (FPM)	FAN CAPACITY - CUBIC FEET PER MINUTE (CFM)																			
			0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		1.000" SP		1.250" SP		1.500" SP	
			Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP
1/2	215	2093	6343		4855																	
			3.9	0.13	3.7	0.18	4707															
	261	2541	7700		6555		4707															
3/4	325	3164	9588		8714		7701		6101													
			9.0	0.46	8.6	0.53	8.3	0.60	7.9	0.61												
	340	3310	10031		9216		8248		6922													
1	365	3553	10768		10037		9130		8086		6338											
			11.4	0.65	11.1	0.72	10.2	0.82	9.7	0.87	9.3	0.85										
	375	3651	11063		10362		9469		8523		7027											
1 1/2	400	3894	11801		11169		10314		9503		8351											
			13.5	0.86	13.3	0.93	12.5	1.04	11.7	1.11	10.9	1.16										
	415	4040	12243		11643		10821		10050		9052		7592									
2	455	4430	12686		12115		11324		10586		9711		8478									
			15.5	1.06	15.4	1.15	14.8	1.26	14.0	1.35	13.2	1.42	12.3	1.42								
	470	4576	12951		12397		11627		10904		10089		8939									
3	505	4916	13423		12896		12168		11453		10719		9706		8341							
			17.0	1.26	17.0	1.36	16.5	1.46	15.7	1.57	15.0	1.65	14.3	1.71	13.2	1.66						
	525	5111	13866		13364		12671		11959		11271		10386		9229							
5	575	5598	14279		13798		13139		12432		11778		10998		9945							
			18.8	1.52	18.8	1.63	18.6	1.71	18.0	1.85	17.2	1.95	16.5	2.02	15.8	2.06						
	595	5793	14899		14449		13830		13143		12523		11839		10942							
5	615	5987	15489		15061		14481		13814		13212		12584		11822		9607					
			22.0	1.94	22.0	2.07	22.0	2.14	21.0	2.29	20.0	2.42	19.6	2.51	19.0	2.58	17.1	2.55				
	630	6133	15931		15515		14968		14319		13718		13128		12449		10507					
5	645	6279	16374		15969		15452		14826		14223		13662		13039		11292					
			23.0	2.29	23.0	2.43	23.0	2.50	22.0	2.65	22.0	2.80	21.0	2.91	20.0	3.00	18.9	3.09				
	659	6416	16964		16573		16091		15498		14902		14364		13781		12252		9844			
5	659	6416	17554		17177		16721		16166		15575		15043		14505		13160		11240			
			25.0	2.82	25.0	2.97	25.0	3.06	25.0	3.17	24.0	3.36	24.0	3.36	24.0	3.62	22.0	3.79	19.8	3.74		
	659	6416	18144		17779		17349		16824		16245		15715		15214		14033		12346			
5	659	6416	18586		18230		17818		17314		16753		16225		15740		14630		13087		10793	
			28.0	3.35	28.0	3.51	28.0	3.62	28.0	3.72	27.0	3.90	27.0	4.07	26.0	4.21	24.0	4.41	23.0	4.53	21.0	4.34
	659	6416	19029		18681		18286		17801		17260		16733		16249		15218		13799		11892	
5	659	6416	19442		19101		18722		18255		17730		17205		16722		15732		14438		12737	
			29.0	3.59	29.0	3.75	29.0	3.87	28.0	3.97	28.0	4.14	27.0	4.32	27.0	4.48	25.0	4.69	24.0	4.87	22.0	4.74
	659	6416	19942		19442		18942		18442		17942		17442		16942		16442		15942		15442	

Performance shown is for installation type A: Free Inlet, Free Outlet. Power rating (BHP) does not include drive losses. For further information on estimating belt drive losses and motor service factors see page 15. FanSizer software automatically calculates drive losses when selecting equipment. The sound ratings shown are for loudness values in fan sones at 5' (1.5m) in a hemispherical free field per AMCA Standard 301. Values shown are for installation Type A: free inlet fan sone levels. Performance ratings do not include the effects of appurtenances in the airstream. For further information on sound classification, see page 30. For accessories see pages 5 and 6.

Belt Drive Fan Data - KB420

High Capacity Domex Fans



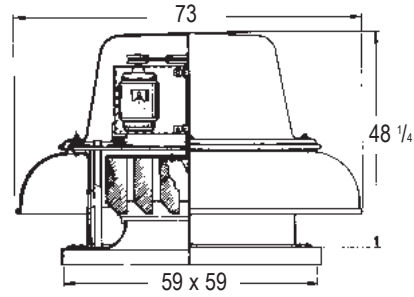
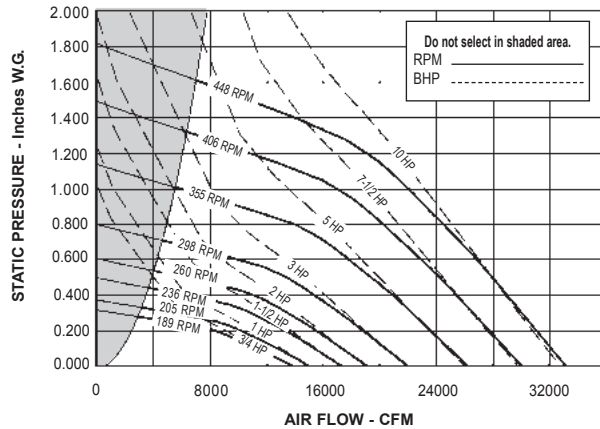
Galv. Steel Base = NA	Roof Opening = 44 in (sq)	Peak BHP = (RPM/315) ³
Alum. Base = 0.125 in	Damper Size = 43 1/2 in (sq)	Max. RPM = 600 (7 1/2 HP)
Discharge Apron = 0.090 in	Max. Motor Frame Size = 213T	Est. Shipping Weight = 600 lbs

HP	RPM	TIP SPEED (FPM)	FAN CAPACITY - CUBIC FEET PER MINUTE (CFM)																			
			0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		1.000" SP		1.250" SP		1.500" SP	
			Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP
3/4	240	2733	8452	6624																		
	260	2961	9157	7503	5322																	
	283	3223	9967	8479	6607																	
1	295	3360	10389	8970	7252																	
	300	3416	10566	9173	7514																	
	308	3508	10847	9497	7905	5889																
1 1/2	330	3758	11622	10376	8942	7177																
	345	3929	12150	10959	9619	8005																
	354	4031	12467	11307	10017	8492	6700															
2	365	4157	12855	11729	10495	9078	7365															
	380	4328	13383	12302	11139	9817	8229															
	390	4441	13735	12682	11565	10299	8785	7013														
3	420	4783	14792	13813	12800	11667	10405	8927														
	430	4897	15144	14188	13205	12112	10908	9488	7987													
	440	5011	15496	14562	13609	12549	11394	10040	8597													
	447	5091	15743	14824	13889	12852	11732	10422	9019													
5	460	5239	16201	15307	14409	13412	12342	11123	9775													
	480	5466	16905	16049	15193	14263	13249	12158	10889													
	500	5694	17610	16788	15966	15089	14138	13128	11976	9436												
	520	5922	18314	17524	16733	15904	15007	14059	13033	10644												
	532	6059	18737	17964	17192	16390	15523	14603	13621	11334												
	555	6320	19547	18806	18066	17313	16501	15631	14730	12614	10301											
7 1/2	570	6491	20075	19354	18633	17910	17122	16286	15417	13432	11218											
	585	6662	20603	19901	19198	18496	17737	16935	16097	14238	12116											
	599	6822	21096	20410	19724	19038	18306	17535	16725	14978	12909											
			18.5	7.08	17.9	7.12	17.3	7.16	16.7	7.19	16.1	7.19	15.7	7.18	15.7	7.17	15.7	7.13	15.7	6.95		

Performance shown is for installation type A: Free Inlet, Free Outlet. Power rating (BHP) does not include drive losses. For further information on estimating belt drive losses and motor service factors see page 15. FanSizer software automatically calculates drive losses when selecting equipment. The sound ratings shown are for loudness values in fan sones at 5'0" (1.5m) in a hemispherical free field per AMCA Standard 301. Values shown are for installation Type A: free inlet fan sone levels. Performance ratings do not include the effects of appurtenances in the airstream. For further information on sound classification, see page 30. For accessories see pages 5 and 6.

JB48 - Belt Drive Fan Data

High Capacity Domex Fans



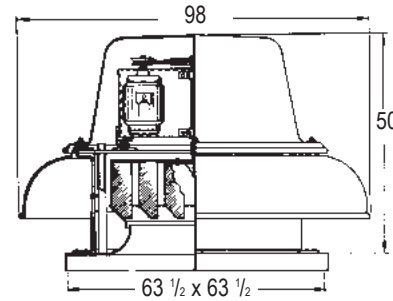
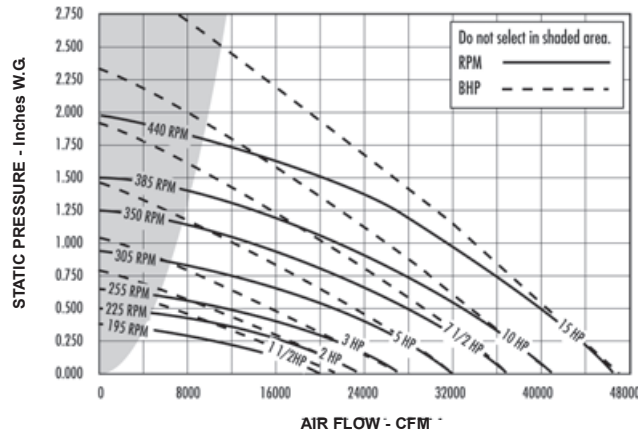
Galv. Steel Base = NA	Roof Opening = 50 in (sq)	Peak BHP = (RPM/206) ³
Alum. Base = 0.125 in	Damper Size = 49 1/2 in (sq)	Max. RPM = 480 (10 HP)
Discharge Apron = 0.102 in	Max. Motor Frame Size = 215T	Est. Shipping Weight = 775 lbs

HP	RPM	TIP SPEED (FPM)	FAN CAPACITY - CUBIC FEET PER MINUTE (CFM)																							
			0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		1.000" SP		1.250" SP		1.500" SP					
		Sones		BHP		Sones		BHP		Sones		BHP		Sones		BHP		Sones		BHP		Sones		BHP		
3/4	160	2105	11842		7937																					
	175	2302	4.6 0.47		4.4 0.42																					
			12953		9473																					
189	2486	13989		10828		5936																				
		6.0 0.78		5.7 0.73		5.7 0.55																				
1	195	2565	14433		11397		7183																			
	200	2631	6.3 0.85		6.0 0.81		5.9 0.66																			
			14803		11865		8089																			
205	2697	15173		12308		8799																				
		6.8 0.99		6.4 0.95		6.2 0.83																				
1-1/2	215	2828	15913		13183		9999																			
	225	2960	7.2 1.14		6.8 1.10		6.6 0.99																			
			16654		14046		11088		5724																	
236	3105	7.6 1.31		7.2 1.26		6.9 1.16		6.8 0.80																		
		17468		14983		12267		8231																		
2	245	3223	18134		15742		13155		9914																	
	255	3355	8.5 1.69		8.0 1.65		7.7 1.56		7.3 1.38																	
			18874		16577		14131		11319		5416															
260	3420	8.9 1.90		8.4 1.86		8.0 1.78		7.6 1.63		7.6 1.01																
		19244		16992		14615		11878		6656																
3	270	3552	19984		17817		15572		12978		8983															
	280	3684	9.5 2.26		9.0 2.22		8.6 2.14		8.1 1.99		7.9 1.66															
			20725		18637		16515		14055		11032		4757													
290	3815	9.9 2.52		9.5 2.48		9.0 2.40		8.5 2.26		8.1 2.04		8.1 1.10														
		21465		19457		17414		15124		12455		7271														
298	3920	10.5 2.80		10.0 2.77		9.6 2.68		9.2 2.55		8.6 2.36		8.6 1.70														
		22057		20091		18116		15911		13468		9191														
5	315	4144	11.0 3.04		10.4 3.00		9.9 2.92		9.5 2.79		9.0 2.61		8.9 2.13													
	330	4341	23315		21458		19589		17568		15336		12614		7315											
			11.8 3.59		11.3 3.55		10.8 3.47		10.2 3.36		9.8 3.18		9.5 2.93		9.5 2.06											
345	4539	24425		22655		20871		19007		16935		14702		10848												
		12.6 4.13		12.0 4.09		11.4 4.00		10.9 3.90		10.5 3.73		10.1 3.53		10.0 3.00												
355	4670	25536		23842		22138		20420		18461		16365		13809												
		13.4 4.72		12.7 4.68		12.1 4.59		11.6 4.49		11.1 4.33		10.8 4.13		10.6 3.84												
7-1/2	370	4868	26276		24629		22975		21312		19437		17450		15230		6228									
	385	5065	13.9 5.14		13.3 5.10		12.6 5.01		12.0 4.91		11.4 4.78		11.2 4.57		11.0 4.32		11.0 2.31									
			27386		25805		24222		22626		20891		19045		17054		9969									
395	5196	14.7 5.82		14.0 5.77		13.3 5.70		12.7 5.59		12.0 5.46		11.7 5.26		11.6 5.04		11.5 3.71										
		28496		26976		25458		23923		22322		20569		18696		13361										
406	5341	15.3 6.56		14.7 6.51		14.0 6.44		13.4 6.33		12.7 6.20		12.2 6.01		12.1 5.80		11.9 4.94										
		29237		27756		26276		24781		23263		21544		19772		15418		6502								
425	5591	15.8 7.08		15.1 7.03		14.5 6.96		13.8 6.85		13.1 6.73		12.5 6.57		12.4 6.34		12.3 5.70		12.3 3.00								
		30051		28611		27181		25718		24263		22617		20941		17033		9283								
448	5894	16.3 7.69		15.6 7.64		14.9 7.59		14.3 7.46		13.6 7.34		12.9 7.18		12.8 6.95		12.6 6.39		12.6 4.36								
		31457		30084		28700		27320		25931		24440		22849		19444		13785								
10	5894	17.3 8.82		16.5 8.76		15.8 8.71		15.1 8.59		14.4 8.47		13.8 8.32		13.3 8.12		13.2 7.61		13.2 6.37								
		33160		31860		30548		29239		27920		26602		25090		21961		18201		10947						
		18.5 10.33		17.8 10.27		17.2 10.22		16.7 10.10		16.1 9.98		15.6 9.85		15.1 9.67		14.9 9.17		14.9 8.47		14.9 6.18						

Performance shown is for installation type A: Free Inlet, Free Outlet. Power rating (BHP) does not include drive losses. For further information on estimating belt drive losses and motor service factors see page 15. FanSizer software automatically calculates drive losses when selecting equipment. The sound ratings shown are for loudness values in fan sones at 5'0" (1.5m) in a hemispherical free field per AMCA Standard 301. Values shown are for installation Type A: free inlet fan sone levels. Performance ratings do not include the effects of appurtenances in the airstream. For further information on sound classification, see page 30. For accessories see pages 5 and 6.

Belt Drive Fan Data - MB542

High Capacity Domex Fans



Galv. Steel Base = NA	Roof Opening = 55 in (sq)	Peak BHP = (RPM/182) ³
Alum. Base = 0.125 in	Damper Size = 54 1/2 in (sq)	Max. RPM = 440 (10 HP)
Discharge Apron = 0.188 in	Max. Motor Frame Size = 254T	Est. Shipping Weight = 1500 lbs

HP	RPM	TIP SPEED (FPM)	FAN CAPACITY - CUBIC FEET PER MINUTE (CFM)																			
			0.000" SP		0.125" SP		0.250" SP		0.375" SP		0.500" SP		0.625" SP		0.750" SP		1.000" SP		1.250" SP		1.500" SP	
			Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP	Sones	BHP
1 1/2	165	2505	17490	12624	3878																	
			6.0	0.77	5.8	0.72	5.4	0.49														
	175	2657	18550	14026	6748																	
			6.6	0.92	6.3	0.89	5.9	0.68														
185	2809	19610	15355	9323																		
		7.1	1.08	6.8	1.07	6.4	0.87															
195	2961	20670	16635	11589																		
		7.6	1.27	7.3	1.26	6.9	1.11															
2	215	3265	22790	19135	15017	8447																
			8.6	1.70	8.2	1.71	7.8	1.54	7.5	1.23												
	220	3341	23320	19749	15820	9760																
			8.9	1.82	8.5	1.84	8.1	1.67	7.6	1.38												
225	3416	23849	20359	16614	11025																	
		9.1	1.95	8.7	1.97	8.3	1.80	7.8	1.55													
3	235	3568	24909	21569	18094	13452	6014															
			9.6	2.22	9.2	2.25	8.8	2.10	8.2	1.92	8.1	1.44										
	240	3644	25440	22170	18810	14419	7452															
			9.8	2.36	9.4	2.40	9.0	2.26	8.5	2.07	8.2	1.60										
	245	3720	25970	22768	19496	15357	8861															
10.1			2.51	9.6	2.55	9.2	2.43	8.7	2.23	8.4	1.77											
255	3872	27030	23958	20852	17032	11516																
		10.6	2.83	10.1	2.89	9.7	2.79	9.2	2.53	8.7	2.17											
5	265	4024	28090	25139	22150	18663	14018	7387														
			11.3	3.18	10.8	3.25	10.3	3.15	9.8	2.89	9.2	2.63	9.2	2.10								
	275	4176	29150	26311	23428	20259	16240	10205														
			11.8	3.55	11.3	3.63	10.8	3.54	10.3	3.29	9.8	3.10	9.6	2.52								
	295	4479	31270	28630	25940	23184	19758	15358	9427													
13.0			4.39	12.4	4.49	11.8	4.40	11.3	4.21	10.9	3.92	10.4	3.60	10.4	2.98							
305	4631	32330	29777	27177	24551	21390	17681	12202														
		13.6	4.85	13.0	4.96	12.3	4.88	11.7	4.72	11.4	4.40	11.1	4.20	10.9	3.53							
7 1/2	320	4859	33920	31488	29011	26541	23780	20452	16042													
			14.6	5.60	13.8	5.72	13.1	5.66	12.5	5.54	12.1	5.21	11.8	4.98	11.5	4.51						
	330	5011	34980	32623	30222	27827	25249	22120	18478	7756												
			15.2	6.14	14.4	6.26	13.7	6.22	13.0	6.10	12.6	5.80	12.3	5.49	12.0	5.24	11.9	3.92				
	340	5163	36040	33753	31423	29099	26683	23753	20505	10704												
15.7			6.72	15.0	6.85	14.2	6.82	13.5	6.69	13.0	6.43	12.8	6.09	12.6	5.89	12.4	4.55					
350	5315	37100	34879	32620	30360	28052	25357	22313	13496													
		16.3	7.33	15.6	7.46	14.8	7.45	14.0	7.33	13.4	7.12	13.3	6.74	13.1	6.51	12.8	5.27					
10	365	5542	38690	36561	34400	32230	30063	27653	24807	17395												
			17.2	8.31	16.4	8.46	15.5	8.47	14.8	8.35	14.0	8.20	13.8	7.80	13.7	7.46	13.4	6.53				
	375	5694	39750	37679	35579	33464	31355	29105	26431	19883	10514											
			17.8	9.01	16.9	9.16	16.0	9.20	15.3	9.08	14.5	8.93	14.2	8.58	14.1	8.20	13.8	7.47	13.8	5.95		
385	5846	40810	38793	36752	34689	32636	30501	28031	22210	13344												
		18.4	9.75	17.5	9.91	16.6	9.96	15.7	9.84	15.0	9.69	14.5	9.40	14.4	8.99	14.2	8.44	14.1	6.79			
15	410	6226	43460	41568	39661	37716	35789	33860	31769	26747	19931	11292										
			19.8	11.78	18.9	11.95	17.9	12.06	17.0	11.95	16.1	11.80	15.3	11.63	15.1	11.20	15.1	10.50	15.0	9.34	15.0	7.75
	420	6377	44520	42674	40812	38916	37034	35151	33173	28405	22408	14126										
			20	12.66	19.4	12.85	18.5	12.96	17.5	12.86	16.6	12.72	15.7	12.55	15.4	12.18	15.4	11.34	15.4	10.53	15.4	8.74
	430	6529	45580	43778	41959	40110	38270	36431	34539	30034	24745	16894										
21.0			13.58	20.0	13.78	19.2	13.90	18.3	13.82	17.4	13.68	16.5	13.51	15.9	13.22	15.9	12.32	15.9	11.76	15.9	9.84	
440	6681	46640	44879	43102	41299	39498	37701	35893	31641	26675	19521											
		22.0	14.55	21.0	14.75	20.0	14.88	19.1	14.82	18.2	14.68	17.3	14.51	16.5	14.31	16.5	13.35	16.5	12.80	16.5	11.05	

Performance shown is for installation type A: Free Inlet, Free Outlet. Power rating (BHP) does not include drive losses. For further information on estimating belt drive losses and motor service factors see page 15. FanSizer software automatically calculates drive losses when selecting equipment. The sound ratings shown are for loudness values in fan sones at 50' (1.5m) in a hemispherical free field per AMCA Standard 301. Values shown are for installation Type A: free inlet fan sone levels. Performance ratings do not include the effects of appurtenances in the airstream. For further information on sound classification, see page 30. For accessories see pages 5 and 6.

Sound Data Notes

Domex Fans

SOUND POWER LEVELS

Since any mechanical device generates some sound energy into the air, fans will create some noise. Because of the great number of factors influencing sound output it is invalid to compare fans based on RPM, tip speed or outlet velocity. The only accurate basis of comparison is the sound power level generated by the fan at the required point of operation.

Having sound power levels for a specific fan at a specific operating point allows the system designer to determine the theoretical sound pressure level at any point in the occupied space. AMCA Publication 303 and the ASHRAE Guides provide more information on this process. Another typical application of sound power levels is to compare similar fans. Generally differences of 6 dB in the 63 Hz band and 3 dB in all other bands are considered insignificant.

System designers use many methods to predict acoustic acceptability of an occupied space.

The A-weighted sound pressure level provides a single number that corresponds well to the human judgement of relative loudness. OSHA bases their requirements regarding exposure to noise on A-weighted sound pressure levels. The disadvantage of this method is that A-weighted sound pressure levels do not provide information as to the quality of the sound. Noise Criteria (NC) curves are also widely used. To determine the NC level, the sound power spectrum is compared to defined limits. Other methods include RC curves, Sones, SIL and Noise Rating Curves.

Each method relies on sound pressure level information because the human ear “hears” sound pressure fluctuations, not sound power (watts). Sound pressure is a function of the

attenuation of the space and the distance from the source. Consider a 100 watt light bulb. It provides adequate light for a closet, but not for a classroom, and in a stadium it would be imperceptible. While the light source was the same power (100 watts), the brightness level changed dramatically. Similarly, the same sound power level (acoustical energy) produces greatly different sound pressure levels (noise).

Sone Ratings

PennBarry has provided sone ratings to allow designers to make an educated judgment as to the noise level a fan will develop in a space. Sone ratings are a loudness index developed from sound power level data. The calculation is at 5' from the fan inlet and in front of a reflecting plane (hard wall). Sones are weighted similarly to the A-weighting scale in that more weight is given to frequencies that people can hear “well” and less weight to frequencies that people do not hear “well”. A significant feature of the sone scale is that it is linear rather than logarithmic. This means that 40 sones is 33% louder than 30 sones, as opposed to 40 dB being twice as loud as 30 dB.

Since the sone rating is determined from well defined assumptions and is linear in nature, it is ideal for comparing different fans moving air at the same CFM and SP. When using sones for this purpose, differences of 3 sones are considered negligible. The suggested loudness level chart below is a practical guideline for acceptable installed performance.

The sone values shown in this catalog are based on the sound power levels determined above, and calculated in accordance with AMCA Standard 301 “Methods for Calculating Fan Sound Ratings from Laboratory Test Data.”

Sound Classification Guide

SUGGESTED LOUDNESS LEVEL			TYPES OF AREAS
AREA SONE LEVEL	NOISE CRITERIA NC	dBA (1)	
Up to 9	32 to 54	35 to 60	Bingo Hall, Auction Room, Hotel Ballroom, Social Club, Reception Room, Apartment House, Professional Office, Supervisor Office, Courtroom, School and Classroom, Hospital Ward, Operating Room, Correction Facility. Moderately Quiet Sound
9.1 to 13	55 to 59	61 to 65	Lobby/Corridor, Spectator Area, Chicken House, Greenhouse, General Open Office, Restaurant, Night Club, Department Store, Ticket Sales Office, Casino, Spa, Control Room, Rail, Bus, Plane, Bowling Alley, Print Shop, Drafting Office, Convention Hall. Average
13.1 to 18	60 to 64	66 to 70	Washroom & Toilet, Retail Shop, Bus Terminal Lounge, Foreman's Office, Cocktail Lounge, Office Hall & Corridor, Tabulation & Computation Office, Kitchen Cafeteria, Hotel Garage, Computer Room, Warehouse, Battery Charging Room. Commercial
18.1 to 50	65 to 78	71 to 84	General Storage Area, Restaurant Banquet Room, Swimming Pool, Supermarket, Hotel Kitchen and Laundry, Welding Booth, Department Store Main Floor, Paint Booth, Heat Treating Plant, Tool Maintenance Area. High Sound
50.1 Plus	78.1 to 85+	84.1 to 90+ (2)	Manufacturing Area, Heavy Machine Foundry, Assembly Line, Machine Shops, Punch Press Shop, Light Machine Area, Boiler Room, Emergency Generator Room, Pump House, Power Plant, Transformer, Steel Mill, Engine Test Room, Compressor Room, Steel Stamping. Ext. Heavy Industrial

Notes: (1) dBA range of A-weighted sound levels, in decibels.

(2) Sound levels this high are subject to OSHA Standards for safety, as well as state and local ordinances. Sound attenuation provisions should be considered.

Source: ASHRAE, AMCA Publications.

Application

Domex fans are downblast, roof mounted exhaust fans ideal for general purpose exhaust in relatively clean air applications.

Domex fans are designed for easy maintenance accessibility and service. They are made of spun aluminum which is durable when exposed to weather conditions.

Fan Laws

The following section includes engineering and technical data, guidelines and system explanations related to air moving and control devices. Fan laws and system descriptions are consistent with industry standards, definitions and accepted practices. This information is provided to assist system designers in sizing, selecting and defining their air moving and control systems as well as explaining variables inherent in system design.

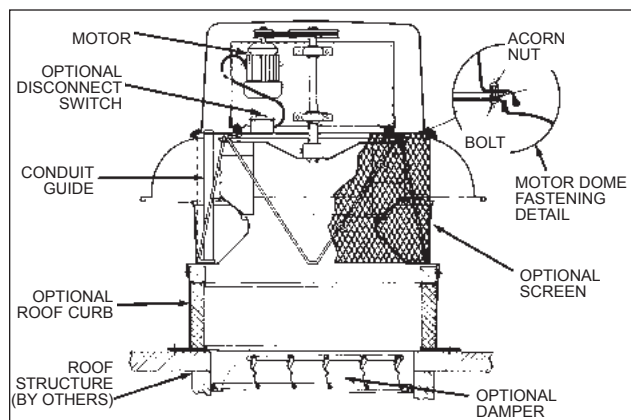
There are nine fan laws, three are of prime importance to the understanding of ventilation systems. These, together with an appreciation of fan types, should help avoid most problems with poor airflow performance. These three laws assume the same fan operating with air at a constant density.

1. Airflow and fan speed are directly proportional.

$$\frac{CFM_2}{CFM_1} = \frac{RPM_2}{RPM_1}$$

CFM₁ is the original flow rate in cu. ft. per minute.
 CFM₂ is the desired flow rate in cu. ft. per minute.
 RPM₁ is the original rotational speed of the fan.
 RPM₂ is the desired rotational speed of the fan.

Typical Field Installation



2. Pressure varies as the square of the fan speed or airflow.

$$\frac{P_2}{P_1} = \left[\frac{RPM_2}{RPM_1} \right]^2 \quad \frac{P_2}{P_1} = \left[\frac{CFM_2}{CFM_1} \right]^2$$

P₁ is the original static pressure.
 P₂ is the desired static pressure.

3. Power varies as the cube of fan speed.

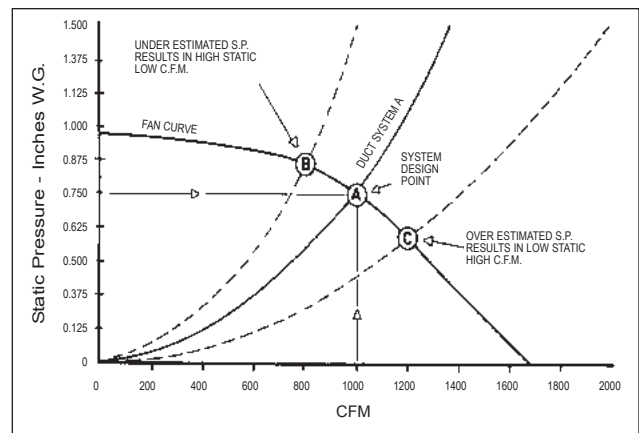
$$\frac{BHP_2}{BHP_1} = \left[\frac{RPM_2}{RPM_1} \right]^3$$

BHP₁ is the original brake horsepower
 BHP₂ is the desired brake horsepower

Interaction of Fan Curves & System Curves

A ventilation system using a Domex may consist of a fan with duct connected to the inlet side. Control dampers, grilles, registers and duct fittings may also be part of the system. The fan is the component in the system which provides energy to the airstream to overcome the resistance to flow off the other components. The determination of the "pressure loss" or "resistance to flow", for the individual components can be obtained from the component manufacturers. The determination of pressure losses for ductwork and branch ductwork design is well documented in standard handbooks, such as the ASHRAE Handbook of Fundamentals. The fan curve shown in Figure 1 is a typical fan performance curve, developed through the actual testing of a fan in an air tunnel. The fan is run at constant speed and constant air density. When the fan is installed in the field, then it becomes part of the system. System curves are developed by using field tested data and applying fan laws. The point of intersection of the system curve and the fan performance curve determines the actual flow volume. If the system resistance has been accurately determined, and the fan properly selected, the performance curves will intersect at the system design point (point A).

Figure 1: Interaction of System Curves and Fan Curves



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Engineering Notes

Domex Fans

If the system resistance has been underestimated, then fan curves and system curves will not intersect at the system design point. They will intersect at lower CFM (point B). If the system resistance has been overestimated, then the fan curve system curve will intersect at a higher CFM than the system design point (point C) (see Figure 1).

Effect of Change in Density, Altitude and Temperature Correction Factors

The resistance of a duct system is dependent upon the density of the gas flowing through the system. A gas density of 0.075 lb/ft³ is standard in the fan industry.

Pressure and horsepower vary directly as the ratio of the gas density at the fan inlet to standard density. This density ratio must always be considered when selecting fans. To select a fan, pressure should be corrected to standard air density, 0.075 lb/ft³, 70° F. at sea level. Static pressure at operating condition x correction factor=static pressure at standard. Refer to Table 1.

Table 1 Correction Factors

Unity Basis = Standard Air Density of 0.075 lb/ft³
At sea level (29.92 in. Hg barometric pressure) this is equivalent to dry air at 70°F.

TEMP °F	ALTITUDE (FEET) WITH BAROMETRIC PRESSURE (Inches Hg)										
	0'	500'	1000'	1500'	2000'	2500'	3000'	3500'	4000'	4500'	5000'
29.92	29.38	28.86	28.33	27.82	27.31	26.82	26.32	25.84	25.36	24.9	
-40	0.79	0.81	0.82	0.84	0.85	0.87	0.88	0.9	0.92	0.93	0.95
0	0.87	0.88	0.9	0.92	0.93	0.95	0.97	0.99	1	1.02	1.04
40	0.94	0.96	0.98	1	1.01	1.03	1.05	1.07	1.09	1.11	1.13
70	1	1.02	1.04	1.06	1.08	1.1	1.12	1.14	1.16	1.18	1.2
80	1.02	1.04	1.06	1.08	1.1	1.12	1.14	1.16	1.18	1.2	1.22
100	1.06	1.08	1.1	1.12	1.14	1.16	1.18	1.2	1.22	1.25	1.27

Horsepower at standard ÷ correction factor = horsepower at operating condition. Motors should be sized for highest density conditions at which it is expected to operate.

Inlet System Effect

For roof mounted exhaust fans, the most common installation problem is ductwork connection to the inlet side of the fan. Here are several design criteria for connecting ductwork to the fan. Keep a straight duct run twice the diameter of the inlet size immediately before the inlet of the fan. This will give the air a chance to straighten out before entering the fan. Fan inlet swirl and non-uniform inlet flow can often be corrected by inlet straightening vanes or guide vanes. Restricted fan inlets located too close to walls, obstructions or restrictions caused by a plenum or cabinet, will decrease the useable performance of a fan. Cabinet clearance effect or plenum effect must be considered a component part of the entire system; the pressure losses through the cabinet or plenum effect is considered as a System Effect when determining system characteristics. The backdraft damper is part of external static pressure, and should be accounted for when

estimating system static pressure. Use a motorized backdraft damper when the fan has a variable speed controller.

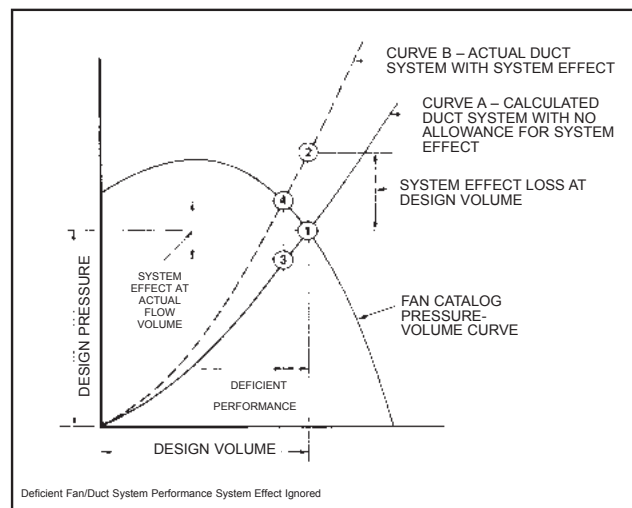
System Effect

A System Effect Factor is a pressure loss which recognizes the effect of fan inlet restrictions, fan outlet restrictions or other conditions influencing fan performance when installed in the system. Figure 2 illustrates deficient fan/system performance resulting from one or more undesirable flow conditions. It is assumed that the system pressure losses, shown in system curve A, have been accurately determined, and a suitable fan selected for operation at Point 1. However, no allowance has been made for the effect of the system connections on the fan's performance. To compensate for this System Effect, it will be necessary to add a System Effect Factor (SEF) to the calculated system pressure losses to determine the actual system curve. The SEF for any given configuration is velocity dependent and will, therefore, vary across the range of flow volumes for the fan.

In Figure 2, the point of intersection between the fan performance curve and the actual system curve B is Point 4. The actual flow volume will, therefore, be deficient by the difference from 1-4. To achieve design flow volume, an SEF equal to the pressure difference between Point 1 and 2 should have been added to the calculated system pressure losses and the fan selected to operate at Point 2. Note that because the System Effect is velocity related, the difference represented between Points 1 and 2 is greater than the difference between Points 3 and 4.

The SEF includes only the effect of the system configuration on the fan's performance.

Figure 2

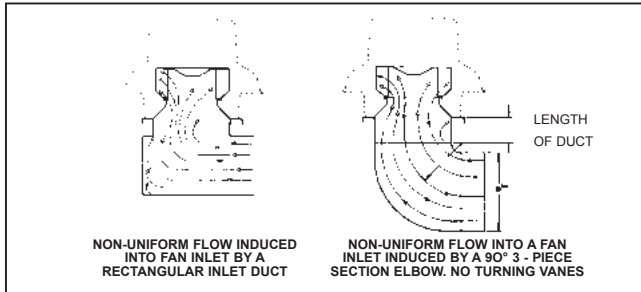


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Inlet Duct Elbows

Non-uniform flow into a fan inlet is the most common cause of deficient fan performance. An elbow located at, or in close proximity to the fan inlet will not allow the air to enter the impeller uniformly. The result is less than cataloged air performance. (See Figure 3).

Figure 3



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Inlet Vortex (Spin or Swirl)

Another major cause of reduced performance is an inlet duct condition that produces a vortex or spin in the airstream entering a fan inlet.

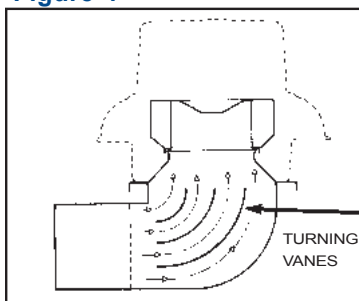
The ideal inlet condition is one which allows the air to enter axially and uniformly without spin in either direction. A spin in the same direction as the impeller rotation (pre-rotation) reduces the pressure volume curve by an amount dependent upon the intensity of the vortex. The effect is similar to the change in the pressure volume curve achieved by inlet vanes installed in a fan inlet; the vanes induce a controlled spin in the direction of impeller rotation reducing the volume flow rate.

A counter-rotating vortex at the inlet may result in a slight increase in the pressure-volume curve but the horsepower will increase substantially.

Inlet Turning Vanes

Where space limitations prevent the use of optimum fan inlet connections, more uniform flow can be achieved by the use of turning vanes in the inlet elbow (see Figure 4).

Figure 4



Numerous variations of turning vanes are available from a single curved sheet metal vane to multi-bladed "airfoil" vanes. The pressure drop through these devices must be added to the system pressure losses.

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Spark Resistant Construction

AMCA standards offer the following definitions and notes concerning spark resistant construction:

- C - The fan shall be so constructed that a shift in the impeller or shaft will not permit two ferrous parts of the fan to rub or strike.
- B - The fan shall have a non-ferrous impeller and non-ferrous ring about the opening through which the shaft passes. Ferrous hubs, shafts and hardware are allowed, provided construction is such that a shift in impeller or shaft will not permit two ferrous parts of the fan to rub or strike. Steps must also be taken to insure that the impeller, bearings, and shaft are adequately attached and/or restrained to prevent a lateral or axial shift in these components.

Domex units are available with AMCA "B" construction as an option.

Notes:

1. No bearings, drive components or electrical components shall be placed in the air or gas stream unless they are constructed or enclosed in such a manner that failure of the component cannot ignite the surrounding gas stream.
2. The user shall electrically ground on all fan parts.
3. For this standard, non-ferrous shall be any material with less than 5% iron or any other material with demonstrated ability to be spark resistant.
4. The use of aluminum or aluminum alloys in the presence of steel which has been allowed to rust requires special consideration. Research by the U.S. Bureau of Mines and others has shown that aluminum impellers rubbing on rusty steel may cause high-intensity sparking.

The use of the above standard in no way implies a guarantee of safety for any level of spark resistance. Spark resistant construction does not protect against ignition of explosive gases caused by catastrophic failure or from any airstream material that may be present in a system.

Metric Equivalents

For your convenience, the table below provides conversion factors from English to Metric.

CATEGORY	AMCA STANDARD / ENGLISH UNIT	x CONVERSION FACTOR	= METRIC (SI) UNIT
VOLUME FLOW	CFM	0.00047195	cu. meter per sec. (m ³ /s)
PRESSURE	Inches (wg)	248.36	pascal (Pa or N/m ²)
POWER	H.P.	745.7	watt (W or J/s)
TEMPERATURE	Fahrenheit (°F)	(°F + 459.67)/1.8	kelvin
HEAT	Btu	1.055	kilojoules (kJ)
TIP SPEED	ft/M	0.00508	meter per second (m/s)
SPEED	RPM	0.016	rev. per second (rps)
VELOCITY	Ft/M	0.00508	meter per second (m/s)
DIMENSIONS	Inches	25.4	millimeter (mm)
	Feet	0.3048	meter (m)
	Square Feet	0.0929	square meter (m ²)
	Cubic Feet	0.0283	cubic meter (m ³)

Sample Specifications

Domex Fans

Direct Drive Fans

Direct drive Centrifugal Roof exhaust fan shall be Domex DX, manufactured by PennBarry, Richardson, TX 75081. The housing shall be weatherproof, utilize heavy-gauge spun aluminum construction with a large rolled bead for strength, with galvanized (aluminum optional) base, and with rigid galvanized steel internal support structures. Housing shall not provide any of the internal structural support. Units shall be equipped with an oversized electrical conduit chase through the curb cap and into the motor compartment for ease of wiring (except Explosion Proof). Units shall be pre-wired to a junction box mounted in the motor compartment & equipped with an electrical disconnect device (except Explosion Proof).

Statically and dynamically balanced backward inclined, centrifugal wheels shall be aluminum, spark-resistant, non-overloading, and matched to deeply spun venturis. Motors shall be continuous duty, permanently lubricated, multi-speed (for applicable models), have thermal overload protection, mounted out of the main airstream, be easily accessible for service, and furnished at the specified voltage, phase. Each fan shall bear the AMCA Licensed Ratings Seal for Air and Sound Performance, and shall be UL and CSA listed.

Belt Drive Fans

Belt driven Centrifugal Roof exhaust fan shall be Domex DX, KB, JB, MB manufactured by PennBarry, Richardson, TX 75081. The housing shall be weatherproof, utilize heavy-gauge spun aluminum construction with a large rolled bead for strength, with galvanized (aluminum optional DX) base, and with rigid galvanized steel internal support structures. Housing shall not provide any of the internal structural support. Units shall be equipped with an oversized electrical conduit chase through the curb cap and into the motor compartment for ease of wiring (except Explosion Proof). Units shall be pre-wired to a junction box mounted in the motor compartment & equipped with an electrical disconnect device (except Explosion Proof).

Statically and dynamically balanced backward inclined, centrifugal wheels shall be aluminum, spark-resistant, non-overloading, and matched to deeply spun venturis. Motors shall be continuous duty, ball bearing design, permanently lubricated, mounted out of the main airstream, and furnished at the specified voltage, phase, and enclosure. Shafts shall be turned, ground, polished, and rust protected. Heavy duty ball bearings are rated for a minimum L50 life exceeding 200,000 hours. Pulleys shall be adjustable, cast iron, machined, keyed, securely attached, and sized for 150% of the horsepower at its rated maximum speed. Each fan shall bear the AMCA Licensed Ratings Seal for Air and Sound Performance (DX) or for Air performance (KB, JB, MB), and shall be UL and CSA listed.

One Year Limited Warranty

Domex Fans

What Products Are Covered

PennBarry Fans and Ventilators (each, a "PennBarry Product")

One Year Limited Warranty For PennBarry Products

PennBarry warrants to the original commercial purchaser that the PennBarry Products will be free from defects in material and workmanship for a period of one (1) year from the date of shipment.

Exclusive Remedy

PennBarry will, at its option, repair or replace (without removal or installation) the affected components of any defective PennBarry Product; repair or replace (without removal or installation) the entire defective PennBarry Product; or refund the invoice price of the PennBarry Product. In all cases, a reasonable time period must be allowed for warranty repairs to be completed.

What You Must Do

In order to make a claim under these warranties:

1. You must be the original commercial purchaser of the PennBarry Product.
2. You must promptly notify us, within the warranty period, of any defect and provide us with any substantiation that we may reasonably request.
3. The PennBarry Product must have been installed and maintained in accordance with good industry practice and any specific PennBarry recommendations.

Exclusions

These warranties do not cover defects caused by:

1. Improper design or operation of the system into which the PennBarry Product is incorporated.
2. Improper installation.
3. Accident, abuse or misuse.
4. Unreasonable use (including any use for non-commercial purposes, failure to provide reasonable and necessary maintenance as specified by PennBarry, misapplication and operation in excess of stated performance characteristics).
5. Components not manufactured by PennBarry.

Limitations

1. In all cases, PennBarry reserves the right to fully satisfy its obligations under the Limited Warranties by refunding the invoice price of the defective PennBarry Product (or, if the PennBarry Product has been discontinued, of the most nearly comparable current product).
2. PennBarry reserves the right to furnish a substitute or replacement component or product in the event a PennBarry Product or any component of the product is discontinued or otherwise unavailable.
3. PennBarry's only obligation with respect to components not manufactured by PennBarry shall be to pass through the warranty made by the manufacturer of the defective component.

General

The foregoing warranties are exclusive and in lieu of all other warranties except that of title, whether written, oral or implied, in fact or in law (including any warranty of merchantability or fitness for a particular purpose).

PennBarry hereby disclaims any liability for special, punitive, indirect, incidental or consequential damages, including without limitation lost profits or revenues, loss of use of equipment, cost of capital, cost of substitute products, facilities or services, downtime, shutdown or slowdown costs.

The remedies of the original commercial purchaser set forth herein are exclusive and the liability of PennBarry with respect to the PennBarry Products, whether in contract, tort, warranty, strict liability or other legal theory shall not exceed the invoice price charged by PennBarry to its customer for the affected PennBarry Product at the time the claim is made.

Inquiries regarding these warranties should be sent to: PennBarry, 1401 North Plano Road, Richardson, TX 75081

OTHER PENNBARRY PRODUCTS

CENTRIFUGAL PRODUCTS



Domex
Centrifugal
Roof Exhausters



Fumex Fatrap
Kitchen Hood Centrifugal
Roof Exhausters



Zephyr
Ceiling and Inline Fans



Dynamo
Centrifugal Blowers



Centrex Inliner
Centrifugal Inline Fans



LC Dynafan
Low Contour Centrifugal
Roof Exhausters

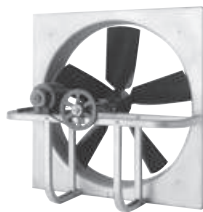


ESI
Efficient Silent
Inline Fan



Fume Exhaust
Curb Mounted
Centrifugal Fans

AXIAL / GRAVITY PRODUCTS



Breezeway
Propeller Wall Fans



HI-EX
Power Roof Ventilator



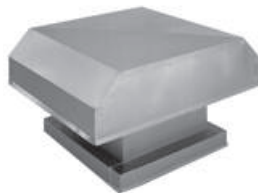
Tubeaxial
Inline Fans



Vaneaxial
Inline Fans



Powered Airette
Axial Roof Ventilators



Airette
Gravity Intake/Relief Hood



Domex Axial
Axial Roof Ventilators



Axcentrix
Bifurcator Fan

For more information contact your local PennBarry Sales
Manufacturer Representative or visit us at www.PennBarry.com

