



PTP unit heaters can use natural or propane gas, and are available in single-stage or optional two-stage controls.



BRING VALUE TO YOUR SPACE WITH THE NEW PTP HEATER.

Introducing the new power vented, PTP unit heater line with stainless steel bent tube heat exchanger standard. The PTP was specifically designed with the customer in mind to provide high value at a reasonable cost. Backed by Modine's nearly 100 years of pioneering HVAC innovation, the horizontal mounted PTP delivers reliable performance and longer life in a small-business-friendly package.

Propeller Unit Model PTP General Performance Data

	Model PTP Sizes						
	150	175	200	250	300	350	400
BTU/Hr Input ¹	150,000	175,000	200,000	250,000	300,000	350,000	400,000
BTU/Hr Output ¹	120,000	140,000	160,000	200,000	240,000	280,000	320,000
Max. Mounting Height (Ft.) ²	15	14	15	18	19	18	21
Heat Throw (Ft.) (@ Max Mtg Ht) ²	51	50	53	62	69	65	74

¹ Ratings shown are for elevations up to 2,000 ft. For elevations above 2,000 feet, ratings should be reduced at the rate of 4% for each 1,000 feet above sea level. (In Canada see rating plate.) Reduction of ratings requires use of a high altitude kit.

² Data taken at 55°F air temperature rise. At 65°F ambient and unit fired at full-rated input. Mounting height as measured from bottom of unit, and without deflector hoods.

BENEFITS OF THE PTP LINE INCLUDE:

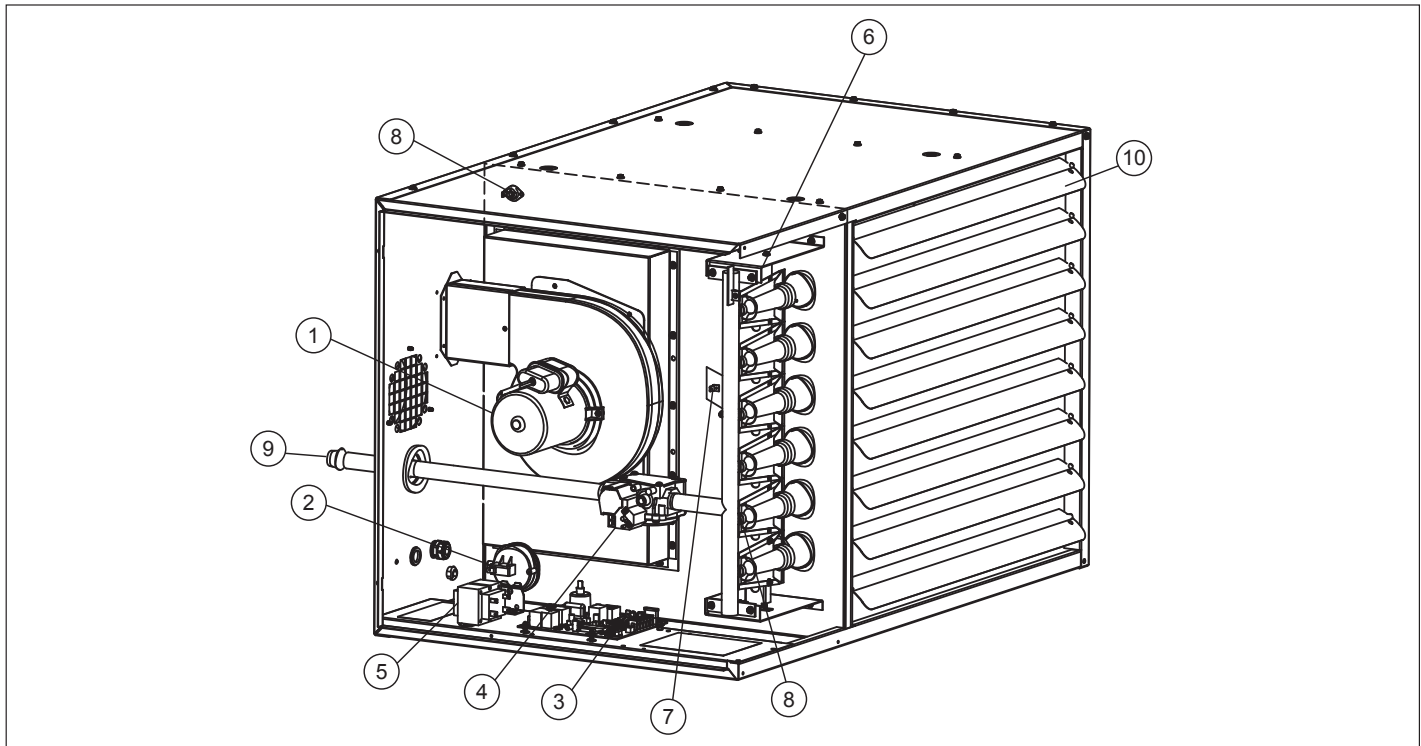
- Stainless steel heat exchanger comes STANDARD on all units, extending the life of your investment
- 10-year heat exchanger warranty is STANDARD, providing you peace of mind
- Totally enclosed, permanently-lubricated fan motor outside the cabinet is standard for trouble-free dependability
- Constructed with Modine's proven tubular heat exchangers for a low-profile design on jobs with lower mounting heights
- Optional finger-proof fan guard for low mounting height applications
- Power exhauster and controls mounted inside the cabinet for protection from airborne moisture and dust
- Installs quickly and easily with knockouts and field gas and wiring connections inside a roomy controls section for quick and easy access
- Proudly Made in the USA

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Figure 6.1 - Factory Mounted Standard and Optional Features (Model PTP)



① **Power Exhauster (STD)**

All PTP series unit heaters are supplied with a round vent pipe connection.

② **Pressure Switch (STD)**

An automatic reset vent pressure switch is supplied on all PTP series unit heaters and is designed to prevent operation of the main burner in the event there is restricted venting of flue products. This restriction may occur due to an improper vent diameter, long vent runs, unapproved vent terminal, high winds, high negative pressure within space, etc. After the cause of the restriction has been corrected, the pressure switch will reset automatically. See the trouble shooting section of the installation and service manual for more information.

③ **Integrated Direct Spark Control Board (STD)**

The integrated direct spark ignition control combines all furnace control functions. The integrated board provides digital control of the air mover, inducer, ignition, gas valve and flame sense as well as monitoring the safety circuit at all times. The board includes LED diagnostics for trouble shooting and a fused power supply.

④ **Gas Valve - (See Table 14.2)**

a) **Single Stage Gas Valve - (STD)**

The main gas valve is factory installed on the unit heater gas train. The main gas valve provides regulator, main gas, and manual shutoff functions. The valve is redundant and provides 100% shut off.

b) **Two Stage Gas Valve - (OPT)**

The two-stage gas valve is factory installed on the unit heater gas train. The two stage gas valve provides the regulator, main gas (100% and 50% fire), and manual shutoff functions. The valve is redundant and provides 100% shut off.

⑤ **Control Step Down Transformer - (STD)**

The control step down transformer is located in the electrical junction box. The transformer is used to step down the supply power (115V, 208V, 230V, 460V, 575V) to 24V for the gas controls, fan delay relay, field supplied motor starter, etc. To determine the control transformer supplied as well as any accessory/field supplied transformers required, refer to Table 14.1

⑥ **Flame Sensor - (hidden, STD)**

Remote flame sensor verifies ignition of all burners, monitors the flame signal and communicates with the integrated circuit board.

⑦ **Direct Spark Igniter - (hidden, STD)**

Provides spark for direct ignition of the burners.

⑧ **Auto High Limit Switch - (hidden, STD)**

The limit control is mounted in the air stream and will shut off the gas supply in the event of overheating.

⑨ **Gas Pipe Connection**

Easy access to factory installed gas pipe connection stubbed to outside of unit casing.

⑩ **Horizontal Air Deflector Blades**

Factory mounted on the discharge of the unit, the blades can be adjusted to provide horizontal (up and down) delivery control of the heated air. Vertical deflector blades are available as a field installed accessory.



Table 8.1 - Propeller Unit Model PTP General Performance Data

	Model PTP Sizes						
	150	175	200	250	300	350	400
Btu/Hr Input	150,000	175,000	200,000	250,000	300,000	350,000	400,000
Btu/Hr Output	120,000	140,000	160,000	200,000	240,000	280,000	320,000
Entering Airflow (CFM) @ 70°F	2140	2725	2870	3995	4545	5280	5995
Outlet Velocity (FPM)	711	607	643	721	824	748	851
Air Temp. Rise (°F)	53	48	52	47	50	50	51
Max. Mounting Height (Ft.)	15	14	15	18	19	18	21
Heat Throw (Ft.) (@ Max Mtg Ht)	51	50	53	62	69	65	74
Motor Type	PSC	PSC	PSC	PSC	PSC	PSC	PSC
Motor HP	1/6	1/6	1/3	1/3	1/2	1/2	3/4
Motor RPM	1075	1075	1075	1075	1075	1125	1125

Table 8.2 - Propeller Unit Model PTP Operating Electrical Data ①

Supply Voltage	Power Code		Model PTP Sizes						
			150	175	200	250	300	350	400
115V 1 Phase	01 (115V)	Motor Amps	2.8	2.8	5.4	5.4	7.5	7.5	8.8
		Total Amps	5.0	5.0	7.6	7.6	8.8	8.8	10.1
		Transformer kVA	n/a	n/a	n/a	n/a	n/a	n/a	n/a
208V 1 Phase	01 (115V) with Transformer	Transformer kVA	1.0	1.0	1.0	1.0	1.5	1.5	1.5
		208V Total Amps	2.76	2.76	4.20	4.20	4.87	4.87	5.58
230V 1 Phase	01 (115V) with Transformer	Transformer kVA	0.75	0.75	1.0	1.0	1.5	1.5	0.25 ②
		230V Total Amps	2.50	2.50	3.80	3.80	4.40	4.40	5.05
208V 3 Phase	01 (115V) with Transformer	Transformer kVA	1.0	1.0	1.0	1.0	1.5	1.5	1.5
		208V Total Amps	2.76	2.76	4.20	4.20	4.87	4.87	5.58
230V 3 Phase	01 (115V) with Transformer	Transformer kVA	0.75	0.75	1.0	1.0	1.5	1.5	1.5
		230V Total Amps	2.50	2.50	3.80	3.80	4.40	4.40	5.05
460V 3 Phase	01 (115V) with Transformer	Transformer kVA	0.75	0.75	1.0	1.0	1.5	1.5	1.5
		460V Total Amps	1.25	1.25	1.90	1.90	2.20	2.20	2.53
575V 3 Phase	01 (115V) with Transformer	Transformer kVA	0.75	0.75	1.0	1.0	1.5	1.5	1.5
		575V Total Amps	1.00	1.00	1.52	1.52	1.76	1.76	2.02

① Amp draw data shown is operating amp draw at incoming power. For units that use a field installed accessory step-down transformer as noted, the amp draw shown is the primary side operating amp draw. For sizing of circuit protection for equipment with National Electric Code transformers, please refer to the Amp draw data shown is operating amp draw at incoming power. For units that use a field installed accessory step-down transformer as noted, the amp draw shown is the primary side operating amp draw. For sizing of circuit protection for equipment with transformers, please refer to the National Electric Code.

② For PTP units that are used on 230V/1ph, all models are equipped with 115V motors except the PTP400 which is equipped with motors that can operate on 230V. Since the transformer does not need to be sized to include the propeller motor, the rating of the Step Down Transformer Accessory is sized smaller for the power exhauster and gas control circuit only.



Table 14.1 - Electrical/Control Code Selection Details - All Models

Model	Supply Voltage	Phase	Unit Voltage (Control & Mtr)	Accessory Transformer Required (Order Separate)	Control Codes Available	Factory Installed Transformer	Motor Starter Coil Voltage
HD/HDB/PTP	115	1 or 3	115V/1ph	none	11,12,21,22	115V to 24V	none
	208			208V to 115V			
	230			230V to 115V			
	460			460V to 115V			
	575			575V to 115V			
PDP/BDP	115	1 or 3	115V/1ph	none	30,59,63,85,87	115V to 24V	none
PDP	208			208V to 115V ②			
	230			230V to 115V ②			
	460			460V to 115V ②			
	575			575V to 115V ②			
PDP/BDP	208	1	208V/1ph	none	31,64,86,88	208V to 24V	none
	230		230V/1ph			230V to 24V	
BDP	208	3	208V/3ph			208V to 24V	208V
	230		230V/3ph			230V to 24V	230V
BDP	460	3	230V/3ph			460V to 230V ① ③	64,88	230V to 24V	230V
	575			575V to 230V ① ③			
BDP	460	3	460V/3ph	none	32,33,93,94	460V to 24V	24V
	575		575V/3ph			575V to 24V	

- ① Unit power code must match supply voltage, control voltage must match unit power.
- ② Certain 208V and 230V electrical distribution systems have connections available for supplying 115V service. This may eliminate the need for the additional field installed transformer. Please check with the job site electrician to determine applicability.
- ③ For CSA Canada certification, step down transformer may be required to be factory installed.

Table 14.2 - Gas Controls – All Models ①

Model	Model Size	Control System Description	Service Voltage	Gas Type	Control Code	Control Voltage	
HD/HDB/PTP	30-400	Single-Stage, Direct Spark Ignition Utilizes a single-stage combination gas control and an ignition control. Gas is automatically lit with the direct spark igniter on call for heat.	115V	Natural	11	24V	
				Propane	21		
	75-400	Two-Stage, Direct Spark Ignition Utilizes a two-stage combination gas control (fires at 50% or 100% of full rated input) and an ignition control. Gas is automatically lit with the direct spark igniter on call for heat.		Natural	12		
				Propane	22		
PDP/BDP	150-400	Single-Stage, Intermittent Pilot Ignition Utilizes a single-stage combination gas control and an ignition control. Pilot is automatically lit on call for heat.	115V	Natural	30	24V	
			208/230V		31		
			460V		32 ②		
			575V		33 ②		
			115V	Propane	85		
			208/230V		86		
			460V		93 ②		
			575V		94 ②		
			115V		Natural		63
			208/230V				64
115V	Propane	87					
208/230V		88					

- ① All ignition controls are 100% Shut-Off with Continuous Retry.
- ② Available on BDP models only.

Table 15.1 - Field Installed Accessories

	Feature	Model				
		HD	HDB	PDP	BDP	PTP
Cabinet and Air Mover	Vertical Deflector Blades - Allows directional discharge air control in the left and right directions.	.	.	.	.	.
	Downward Air Deflector Hoods - Available in 30°, 60°, and 90° configurations these deflector hoods enable the unit to be mounted higher while still providing heat to the building occupants. Refer to page 14 for further details.	.	.	.	.	.
	Vibration Isolation Kit - Minimizes unit vibration transmission to the building structure.	.	.			
	Pipe Hanger Adapter Kits - Allows the unit to be suspended by 3/4" pipe from the standard 3/8" holes found in the top of the unit.			.	.	.
	Discharge Transition for Polytube - Allows for the connection of polytube (not included) to the discharge of the unit.		.		.	
	Blower Enclosure with or without Filter Rack - Totally encases the motor and blower assembly. Optional filters provide filtering of the air prior to entering the heater.		.		.	
	Discharge Velocity Generating Nozzle - Four varieties of velocity generating nozzles allow for increased application flexibility. These nozzles increase mounting height while also directing the airflow to the desired locations. Refer to page 15 for further details.				.	
	Belt Guard - Provides protection for building occupants as well as service people from the drive belt and sheaves.				.	
Controls	Natural Gas to Propane Gas Conversion Kit - Provides all required parts as well as instructions to convert a natural gas unit to propane gas.	.	.	.	.	.
	Single or Two-Stage Room Thermostats - See Table 13.2 for details.	.	.	.	.	.
	Room Thermostat Guard - Clear plastic for room thermostats. Guard is locking type and comes with two keys.	.	.	.	.	.
	Summer/Winter Switch - Allows a choice of unit fan operation. In the summer position, the fan runs continuously for ventilation while allowing the gas controls to fire on a call for heat from the thermostat. In the winter position, the fan runs intermittently on a call for heat from the thermostat.	.	.	.	.	.
	Stepdown Transformers - Used to operate propeller units on 208/230/460/575V/3Ph supply voltage. Also may be required for control circuits for blower units. Refer to Table 12.1 for further selection details.	.	.	.	.	.
	Control Relays - This single pole single throw relay consists of a 24V coil with a maximum contact rating of 18 amps at 115V.	.	.	.	.	.
	Gas Pressure Regulator - Fisher Type S-100, 3/4 inch pressure regulator for 5 to 50 psi inlet pressure capacity, 30 MBH to 400 MBH.	.	.	.	.	.
	Energy Saver Kit - Used to lower total energy costs by reducing stratified air in high mounting height applications. This kit consists of a controller with a SPDT (16A @ 120V) switch and a temperature range of 30° - 100°F.	.	.	.	.	.

Table 15.2 - Field Installed Thermostats

	Type	Description
Single-Stage Thermostats	Room Thermostat	White Rodgers 1C20-101: 50° - 90°F, 1.0A @ 24VAC
		White Rodgers 1C26-101: 50° - 90°F, 1.0A @ 24VAC, Heat/Off & Fan On/Auto Switches
Two-Stage Thermostats	Room - Digital	Honeywell TH5220D1003: 40° - 90°F, 1.0A @ 24VAC, System Heat/Cool/Auto/Off, Fan On/Auto
	Duct	Johnson Controls A350 Electronic Temp Control with Sensor and S350 Stage Adder (Blower units only)
		Honeywell T678A1015: 0° - 100°F, 20' capillary tube (Blower units only)

Table 16.1 - Downtown Hood General Performance Data for HD/PDP/PTP (feet)

		Model HD Sizes				Model PDP Sizes							Model PTP Sizes							
		60	75	100	125	150	175	200	250	300	350	400	150	175	200	250	300	350	400	
Max Mtg Height (ft.)		9	11	11	12	18	18	18	22	24	24	24	16	16	15	20	22	21	23	
30° Hood	X	4	5	5	6	6	9	6	8	8	8	8	6	5.6	7	7.2	8.2	7.4	11	
	Y	11	14	14	16	20	26	18	24	26	24	24	20	17	20	22	25	23	31	
	Z	16	21	20	23	29	37	26	35	38	36	35	29	26	29	32	37	34	44	
60° Hood	X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Y	8	12	12	14	13	23	12	16	19	16	16	17	14	17	18	21	18	26	
	Z	12	17	17	19	19	32	17	23	28	24	23	24	21	24	26	30	26	37	
90° Hood		S	10	14	13	15	23	25	22	29	32	20	29	17	16	16	20	22	21	24

Figure 16.1 - 30°, 60°, and 90° Downward Deflector Hoods

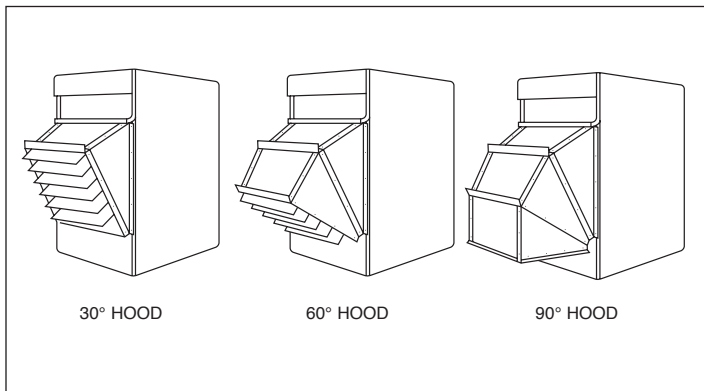


Figure 16.2 - 30° and 60° Throw/Floor Coverage

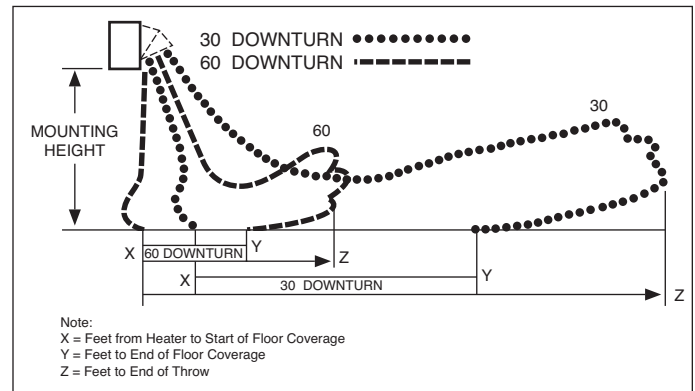
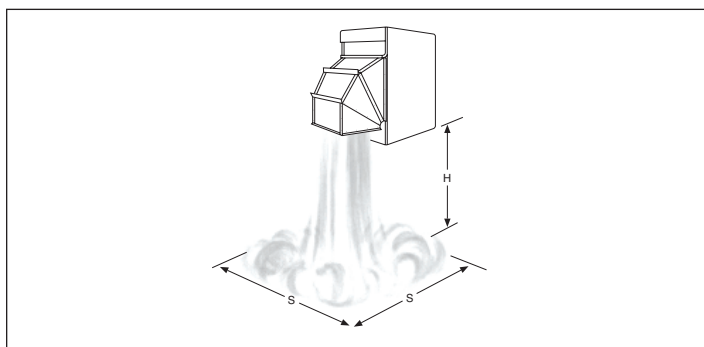


Figure 16.3 - 90° Hood Throw/Floor Coverage



Propeller Units - Model PTP

Figure 23.1 - Dimensional Drawings

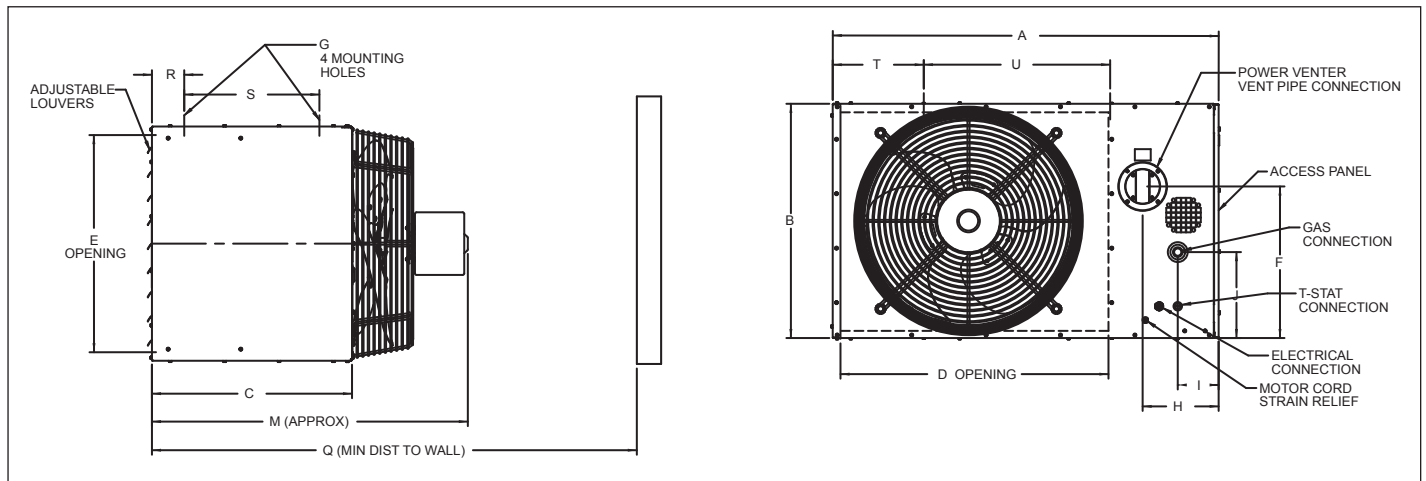


Table 23.1 - Dimensions (inches) - PTP ①

Models	PTP150	PTP175	PTP200	PTP250	PTP300	PTP350	PTP400
A	35.53	42.53	42.53	42.53	42.53	42.53	42.53
B	23.06	25.81	25.81	31.31	31.31	39.56	39.56
C	22.05	22.05	22.05	22.05	22.05	22.05	22.05
D	22.52	29.52	29.52	29.52	29.52	29.52	29.52
E	21.18	23.93	23.93	29.43	29.43	37.68	37.68
F	15.33	16.70	16.70	19.45	19.45	23.58	23.58
G (Mounting Hole) ②	3/8-16	3/8-16	3/8-16	3/8-16	3/8-16	3/8-16	3/8-16
H	8.37	8.37	8.37	8.37	8.37	8.37	8.37
I	4.50	4.50	4.50	4.50	4.50	4.50	4.50
M	31.79	32.83	34.43	33.83	33.83	34.83	34.83
Q ③	43.79	44.83	46.43	45.83	45.83	46.83	46.83
R	3.56	3.56	3.56	3.56	3.56	3.56	3.56
S	14.90	14.90	14.90	14.90	14.90	14.90	14.90
T	10.00	10.00	10.00	10.00	10.00	10.00	10.00
U	13.54	20.53	20.53	20.53	20.53	20.53	20.53
Gas Connection	1/2	1/2	1/2	3/4	3/4	3/4	3/4
Vent Connector Size	4"	4"	4"	6"	6"	6"	6"
Fan Diameter	20.00	22.00	22.00	22.00	22.00	24.00	24.00
Approx. Shipping Weight (lbs.)	165	210	220	265	270	310	320

① Do not use propeller units with duct work.
 ② Listed is the hole diameter and threads per inch to accept threaded rod.
 ③ Dimension equals overall plus 12".

Figure 26.1 - Model Number Designations

