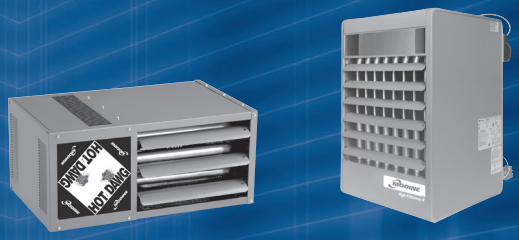
MODINE
APPLIED THERMAL INNOVATION™

6-107.13
November, 2008

Gas-Fired Unit Heaters
Residential, Commercial & Industrial



POWER VENTED
HD, HDB, PDP, BDP

SEPARATED COMBUSTION
HDS, HDC, PTS, BTS

INDOOR AIR SOLUTIONS

GAS-FIRED, POWER-EXHAUSTED

MODEL HD

MODEL HDB

MODEL PDP

MODEL BDP

For applications requiring a low profile unit, Modine offers the Hot Dawg® unit heater. The Hot Dawg may be installed in residential or commercial applications just one inch below the ceiling. The superior quality matched with the following features makes the Hot Dawg unit heater an easy choice for a variety of applications:

- 80% thermal efficiency for fuel savings.
- Uses natural or propane gas (field convertible from natural to propane gas).
- Certified for residential, commercial and industrial use.
- Lightweight, easily installs 1" from ceiling with only two angle brackets (standard on 30-75, accessory for 100-125).
- Install quickly and easily with knockouts for quick access to gas and electricity.
- The standard power exhauster allows the unit to be vented vertically or horizontally and is designed to use the smallest diameter vent pipe possible.
- Permanently-lubricated motor for trouble-free dependability.
- Full 10-year warranty on heat exchanger.
- Available in both propeller fan and centrifugal blower configurations.

HIGH EFFICIENCY II®

The PDP (propeller) and BDP (blower) High Efficiency II gas-fired unit heaters are a generation of products that are inexpensive to install, easy to use, and offer excellent in-service economy. The PDP/BDP model series expands on the size range of the HD/HDB model series providing product that is certified for commercial and industrial applications in sizes from 150 through 400MBH.

Table 2.1 - Propeller Unit Model HD and PDP General Performance Data

	Model HD Sizes						Model PDP Sizes						
	30	45	60	75	100	125	150	175	200	250	300	350	400
Btu/Hr Input ①	30,000	45,000	60,000	75,000	100,000	125,000	150,000	175,000	200,000	250,000	300,000	350,000	400,000
Btu/Hr Ouput ①	24,000	36,000	48,000	60,000	80,000	100,000	120,000	140,000	160,000	200,000	240,000	280,000	320,000
Entering Airflow (CFM) @ 70°F	505	720	990	1160	1490	1980	2180	2550	2870	3700	4460	4870	5440
Air Temp. Rise (°F)	44	46	45	48	50	47	51	51	52	50	50	53	54
Max. Mounting Height (Ft.) ②	10	10	12	14	12	16	16	17	15	19	21	20	19
Heat Throw (Ft.) @ Max Mtg Ht ②	25	27	36	38	42	56	55	59	51	67	74	70	69

Table 2.2 - Blower Unit Model HDB and BDP General Performance Data

	Model HDB Sizes				Model BDP Sizes						
	60	75	100	125	150	175	200	250	300	350	400
Btu/Hr Input ①	60,000	75,000	100,000	125,000	150,000	175,000	200,000	250,000	300,000	350,000	400,000
Btu/Hr Ouput ①	48,000	60,000	80,000	100,000	120,000	140,000	160,000	200,000	240,000	280,000	320,000
Entering Airflow Range (CFM)	635-1111	794-1389	1140-2116	1235-2058	1587-2778	1852-3241	2116-3704	2646-4630	3175-5556	3704-6481	4233-6584
Air Temp. Rise (°F)	40-70	40-70	35-65	45-75	40-70	40-70	40-70	40-70	40-70	40-70	40-70
Max. Mounting Height (Ft.) ②	7-13	7-16	8-19	8-17	14	15	13	16	18	19	19
Heat Throw (Ft.) @ Max Mtg Ht ②	20-45	24-57	27-68	27-59	49	52	47	58	64	67	68

① Ratings shown are for elevations up to2,000 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.

DO NOT LOCATE ANY GAS-FIRED UNIT IN AREAS WITH CHLORINATED, HALOGENATED OR ACIDIC VAPORS IN ATMOSPHERE.

Refer to the back page for a condensed summary of features or request Catalog 6-189 for complete technical information and specifications.

GAS-FIRED, SEPARATED COMBUSTION

MODEL HDS

MODEL HDC

MODEL PTS/BTS
(PTS PICTURED)

The separated combustion models HDS/HDC and PTS/BTS draws 100% of its combustion air from outside to ensure that the unit will always have plenty of fresh, clean air to breathe. This fresh-air supply reduces common concerns about maintenance, performance, and durability in dusty, dirty or humid applications. In addition, by drawing the combustion air from the outside, the overall heating efficiency is increased. In short, the separated combustion units give you the added advantages of:

- 80% thermal efficiency for fuel savings.
- A sealed compartment protects the combination gas valve, ignition control, manifold, and burner from the environment.
- External gas connections.
- Uses natural or propane gas (field convertible from natural to propane gas).
- Certified for residential (30-125MBH), commercial and industrial use (30-400MBH).
- Lightweight, easily installs 1" from ceiling with only two angle brackets (standard on 30-75, accessory for 100-125).
- Install quickly and easily with knockouts for quick access to gas and electricity.
- Standard power exhaust simplifies side-wall or roof venting with small-diameter vent pipe.
- Horizontal or vertical two-pipe or concentric venting options.
- Permanently-lubricated motor for trouble-free dependability.
- Full 10-year warranty on heat exchanger.
- Available in both propeller fan and centrifugal blower configurations.

Table 3.1 - Propeller Unit Model HDS and PTS General Performance Data

	Model HDS Sizes						Model PTS Sizes						
	30	45	60	75	100	125	150	175	200	250	300	350	400
Btu/Hr Input ①	30,000	45,000	60,000	75,000	100,000	125,000	150,000	175,000	200,000	250,000	300,000	350,000	400,000
Btu/Hr Ouput ①	24,000	36,000	48,000	60,000	80,000	100,000	120,000	140,000	160,000	200,000	240,000	280,000	320,000
Entering Airflow (CFM) @ 70°F	505	720	990	1160	1490	1980	2140	2725	3015	3995	4545	5280	5995
Air Temp. Rise (°F)	44	46	45	48	50	47	53	48	50	47	50	50	51
Max. Mounting Height (Ft.) ②	10	10	12	14	12	16	15	14	15	18	19	18	21
Heat Throw (Ft.) @ Max Mtg Ht ②	25	27	36	38	42	56	51	50	54	62	69	65	74

Table 3.2 - Blower Unit Model HDC and BTS General Performance Data

	Model HDC Sizes				Model BTS Sizes						
	60	75	100	125	150	175	200	250	300	350	400
Btu/Hr Input ①	60,000	75,000	100,000	125,000	150,000	175,000	200,000	250,000	300,000	350,000	400,000
Btu/Hr Ouput ①	48,000	60,000	80,000	100,000	120,000	140,000	160,000	200,000	240,000	280,000	320,000
Entering Airflow Range (CFM)	635-1111	794-1389	1140-2116	1235-2058	1587-2778	1852-3241	2116-3704	2646-4630	3175-5556	3704-6481	4233-7407
Air Temp. Rise (°F)	40-70	40-70	35-65	45-75	40-70	40-70	40-70	40-70	40-70	40-70	40-70
Max. Mounting Height (Ft.) ②	7-13	7-16	8-19	8-17	9-21	8-18	9-21	10-22	11-26	11-26	13-29
Heat Throw (Ft.) @ Max Mtg Ht ②	20-45	24-57	27-68	27-59	33-75	28-65	32-74	34-78	40-94	39-90	44-102

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.

DO NOT LOCATE ANY GAS-FIRED UNIT IN AREAS WITH CHLORINATED, HALOGENATED OR ACIDIC VAPORS IN ATMOSPHERE.

Refer to the back page for a condensed summary of features or request Catalog 6-175 for complete technical information and specifications.

The Modine brand has been the industry standard since Arthur B. Modine invented and patented the first lightweight, suspended hydronic unit heater in 1923. No other manufacturer can provide the combined application flexibility, technical expertise and fast delivery found at Modine. Consult your local Modine distributor for help in solving your indoor air problems.

Table 4.1 - Standard Features and Factory Options

	Feature	Model				Model			
		HD	HDB	PDP	BDP	HDS	HDC	PTS	BTS
Cabinet and Air Mover	Aluminized steel cabinet *(gauge indicated)*	22 ga.	22 ga.	20 ga.	20 ga.	22 ga.	22 ga.	20 ga.	20 ga.
	Low profile casing design	•	•			•	•		
	Baked-on polyester powder paint for durability and corrosion resistence	•	•	•	•	•	•	•	•
	Adjustable air-deflector blades	•	•	•	•	•	•	•	•
	Fans engineered for quiet operation	•	•	•	•	•	•	•	•
	Totally enclosed fan/blower motors	•	•	•	•	•	•	•	•
	Fingerproof fan guard	•	•	Opt		•	•	Opt	
	Two L-shaped mounting brackets *(standard on 30-75, optional on 100-125)*	•	•			•	•		
	Adjustable mounting brackets for level hanging			•	•				
	Hinged tool-less bottom pan entry			•	•				
	Multi-tap 3-speed motors, certified to 0.8" W.C. external static pressure		•				•		
	Adjustable motor sheaves, certified to 0.7" W.C. external static pressure				•				•
Heat Exchanger and Burner	80% minimum thermal efficiency	•	•	•	•	•	•	•	•
	Aluminized steel heat exchanger *(409 stainless steel optional)*	•	•	•	•	•	•	•	•
	Tubular heat exchanger	•	•			•	•	•	•
	In-shot burner on each heat exchanger tube for reliable performance, ease of serviceability, and low sound level on flame ignition/extinction	•	•			•	•	•	•
	Aluminized steel burner *(409 stainless steel optional)*			•	•				
Controls	CSA certification for commericial and industrial use in the US and Canada	•	•	•	•	•	•	•	•
	CSA certification for residential use in the US and Canada	•	•			•	•		
	Factory-installed power exhauster	•	•	•	•	•	•	•	•
	Controls for natural gas *(propane optional)*	•	•	•	•	•	•	•	•
	Single stage gas controls *(two stage and mechanical modulation optional)*	•	•	•	•	•	•	•	•
	High limit safety control	•	•	•	•	•	•	•	•
	Differential pressure switch for proof of venting	•	•	•	•	•	•	•	•
	Flame roll-out safety switch	•	•			•	•		
	Direct spark ignition with continuous retry control system	•	•			•	•	•	•
	Intermittent pilot ignition with continuous retry control system			•	•				
	Control terminal board and low voltage terminal connections	•	•	•	•	•	•	•	•
	Gas control step down transformer with 24V gas controls	•	•	•	•	•	•	•	•
	Fan delay timer	•	•	•	•	•	•	•	•

Distributed By:

MODINE
APPLIED THERMAL INNOVATION™

Commercial Products Group
Modine Manufacturing Company
1500 DeKoven Avenue
Racine, Wisconsin 53403-2552
Phone: 1.800.828.4328 (HEAT)
Fax: 1.800.204.6011
www.modine.com

© Modine Manufacturing Company 2008
Litho in USA