

BEACON/MORRIS GAS FIRED PROPELLER UNIT HEATER



BGPS-7

DESCRIPTION

The Beacon/Morris Gas-Fired Unit Heater is a complete heat generating and distributing plant, equipped with automatic safety controls all packaged in a modern streamlined, space saving attractive casing for mounting near the ceiling. Propeller units are low static pressure appliances available in 30,000 thru 400,000 (8.8 thru 117.1 kW) input sizes. At no time should ductwork or 5-way nozzles be used with propeller units.



80% THERMAL EFFICIENCY

The designs are certified by CSA International as providing a minimum of 80% thermal efficiency. Approved for use in California, when equipped with Indirect Spark Ignition.

STANDARD FEATURES

- Fan Time Delay Switch - Under direct control of thermostat.
- 20 ga. Aluminized Steel Heat Exchanger.
- Supplied with 115/1/60 motor only.
- High Limit Switch.
- 24 Volt Combination Valve with Manual Shutoff.
- Transformer, 115/24.
- Horizontal individually adjustable louvers.
- Certified for natural and propane gases.
- Burners - aluminized steel with stainless "Burner Shade Port Protector"
- 100% shut off Main and Pilot Gas.
- Units are factory tested for operation of motor, control, and flame.
- 20 ga. Steel Cabinet with Gray Enamel Finish.
- Full protection fan guard.
- Blocked Vent Safety Switch.

OPTIONAL EXTRAS

OPT. NO.	DESCRIPTION
—	Stainless Steel Heat Exchanger (409 OR 321 S.S.)
M6	OSHA Fan Guard
—	Totally Enclosed Motor
S2	409 Stainless Steel Draft Diverters
S1	409 Stainless Steel Burners
Q6	Vertical Louvers
P6	Summer - Winter Toggle Switch
—	Mech. Mod. Gas Valve 60°-100° F. Not avail. on QVF 30,45,60,75
—	Mech. Mod. Gas Valve 75°-200° F. Not avail. on QVF 30,45,60,75
—	2-stage Valve 24 Volt.
G5	Room 2-Stage Honeywell Thermostat T874F-1007 with Q674C-1009 Sub Base, 24 Volt.
—	Indirect Spark Ignition System - NAT GAS- Installed At Factory
—	Indirect Spark Ignition System - LP GAS 100% SHUT-OFF - Installed At Factory
A7	Pressure Regulator to Reduce Line Pressure from to 14 inches W. C. Consult Customer Service for field requirements.
G3	Low voltage room thermostat with integral Switch for summer fan operation with the Sterling logo.
Q1,	Y-Splitter Discharge Nozzle
Q2, Q3, Q4	30°, 60° & 90° Downward Discharge Nozzle
M7	Four to Two Point Hanger Suspension Kit, QVF 100-400 only.



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PROJECT:
LOCATION:
ARCHITECT:
ENGINEER:
CONTRACTOR:
PO NUMBER:
DATE:

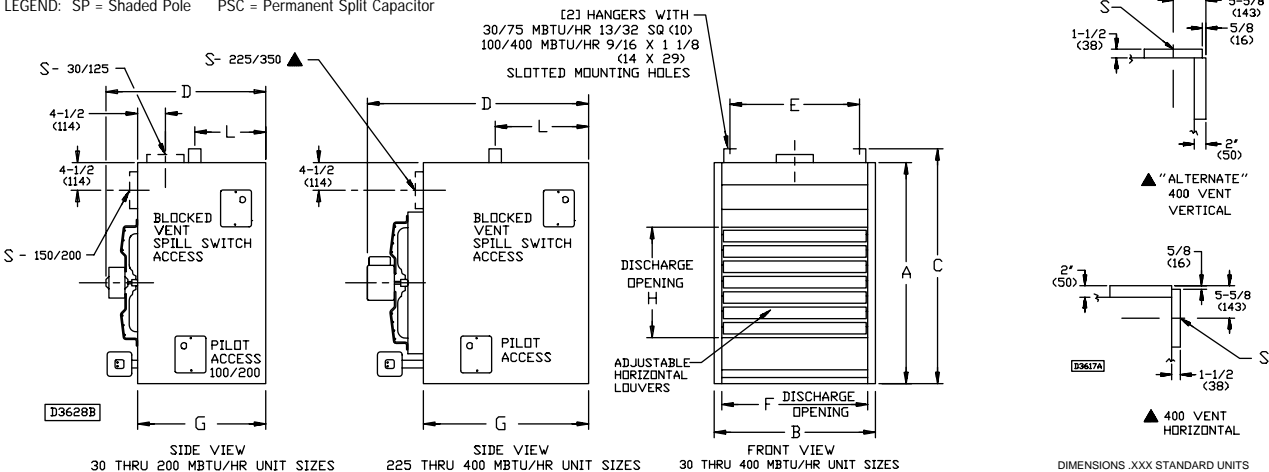
BMF – PERFORMANCE AND DIMENSIONAL DATA



Model BMF Unit Size	30	45	60	75	100	125	150	175	200	225	250	300	350	400
PERFORMANCE DATA †														
Input BTU/Hr	30,000	45,000	60,000	75,000	100,000	125,000	150,000	175,000	200,000	225,000	250,000	300,000	350,000	400,000
(kW)	(8.8)	(13.2)	(17.6)	(22.0)	(29.3)	(36.6)	(43.9)	(51.2)	(58.6)	(65.9)	(73.2)	(87.8)	(102.5)	(117.1)
Output BTU/Hr	24,300	36,450	48,600	60,750	80,000	100,000	120,000	140,000	160,000	180,000	200,000	240,000	280,000	320,000
(kW)	(7.1)	(10.7)	(14.2)	(17.8)	(23.4)	(29.3)	(35.1)	(41.0)	(46.9)	(52.7)	(58.6)	(70.3)	(82.0)	(93.7)
Thermal Efficiency %	81	81	81	81	80	80	80	80	80	80	80	80	80	80
Free Air Delivery CFM	700	800	1050	1100	1480	1650	2200	2530	2640	2700	3100	4400	5000	5300
(cu. m/s)	(0.330)	(0.378)	(0.496)	(0.519)	(0.699)	(0.779)	(1.038)	(1.194)	(1.246)	(1.274)	(1.463)	(2.077)	(2.360)	(2.502)
Air Temperature Rise Deg.F	30	42	42	50	50	56	50	51	56	61	60	50	52	56
(Deg. C)	(17)	(23)	(23)	(28)	(28)	(31)	(28)	(28)	(31)	(34)	(33)	(28)	(29)	(31)
Outlet Velocity FPM	700	750	640	672	950	900	1045	1070	1000	950	980	1100	1150	1050
(m/s)	(3.6)	(3.8)	(3.3)	(3.4)	(4.8)	(4.6)	(5.3)	(5.4)	(5.1)	(4.8)	(5.0)	(5.6)	(5.8)	(5.3)
Sound Ratings (See Page 22)	II	II	II	II	II	II	II	III	III	III	IV	IV	IV	IV
Full Load Amps at 115V **	2.1	2.1	2.1	2.1	3.4	3.6	4.8	5.8	5.8	5.8	5.8	8.8	10.8	10.8
MOTOR DATA : Motor HP														
	1/30	1/30	1/30	1/30	1/20	1/10	1/4	1/3	1/3	1/3	1/3	1/4	1/3	1/3
Motor (kW)	(0.025)	(0.025)	(0.025)	(0.025)	(0.037)	(0.075)	(0.186)	(0.249)	(0.249)	(0.249)	(0.249)	(0.186)	(0.249)	(0.249)
Motor Type	SP	SP	SP	SP	SP	SP	PSC	PSC	PSC	PSC	PSC	PSC	PSC	PSC
R.P.M.	1,050	1,050	1,050	1,050	1,050	1,050	1,140	1,140	1,140	1,140	1,140	1,140	1,140	1,140
Amps @ 115V	1.3	1.3	1.3	1.3	2.6	2.8	4.0	4.5	4.5	4.5	4.5	8.0	9.0	9.0
DIMENSIONAL DATA in. (mm)														
"A" Height to Top of Unit	25-3/4 (654)	25-3/4 (654)	25-3/4 (654)	25-3/4 (654)	31-1/4 (794)	31-1/4 (794)	36-1/4 (921)	36-1/4 (921)	36-1/4 (921)	36-1/4 (921)	36-1/4 (921)	36-1/4 (921)	36-1/4 (921)	36-1/4 (921)
"B" Width of Unit	14 (356)	14 (356)	17-1/2 (444)	17-1/2 (444)	17-7/8 (454)	20-5/8 (524)	20-5/8 (524)	23-3/8 (594)	26-1/8 (664)	28-7/8 (733)	31-5/8 (803)	37-1/8 (943)	42-5/8 (1083)	48-1/8 (1222)
"C" Height to Top of Hanger	27-1/2 (698)	27-1/2 (698)	27-1/2 (698)	27-1/2 (698)	33-1/4 (845)	33-1/4 (845)	38-1/4 (972)	38-1/4 (972)	38-1/4 (972)	38-1/4 (972)	39-1/8 (994)	39-1/8 (994)	39-1/8 (994)	39-1/8 (994)
"D" Depth to Rear of Housing	27-5/8 (702)	27-5/8 (702)	27-5/8 (702)	27-5/8 (702)	32-1/2 (826)	32-1/2 (826)	36 (914)	36 (914)	36 (914)	38-1/4 (972)	38-1/4 (972)	37-3/4 (959)	38-1/4 (972)	38-1/4 (972)
"E" Hanging Distance Width	8-5/8 (219)	8-5/8 (219)	14-1/8 (359)	14-1/8 (359)	14-3/4 (375)	17-1/2 (444)	17-1/2 (444)	20-1/4 (514)	26-3/4 (584)	25-1/2 (648)	28-1/4 (718)	33-3/4 (857)	39-1/4 (997)	44-3/4 (1137)
"F" Discharge Opening Width	10 (254)	10 (254)	15-1/2 (394)	15-1/2 (394)	15-3/8 (391)	18-1/8 (460)	18-1/8 (460)	20-7/8 (530)	23-5/8 (600)	26-3/8 (670)	29-1/8 (740)	34-5/8 (879)	40-1/8 (1019)	45-5/8 (1159)
"G" Depth to Unit Side Jacket	19-3/8 (492)	19-3/8 (492)	19-3/8 (492)	19-3/8 (492)	26-3/4 (679)	26-3/4 (679)	26-3/4 (679)	26-3/4 (679)	26-3/4 (679)	26-3/4 (679)	26-3/4 (679)	26-3/4 (679)	26-3/4 (679)	26-3/4 (679)
"H" Discharge Opening Height	16-1/4 (413)	16-1/4 (413)	16-1/4 (413)	16-1/4 (413)	18 (457)	18 (457)	18 (457)	18 (457)	18 (457)	18 (457)	18 (457)	18 (457)	18 (457)	18 (457)
"L" Hanger Location	11-7/8 (302)	11-7/8 (302)	11-1/2 (292)	11-1/2 (292)	15-1/8 (384)	15-1/8 (384)	15-1/8 (384)	15-1/8 (384)	15-1/8 (384)	16-1/4 (413)	16-1/4 (413)	16-1/4 (413)	16-1/4 (413)	16-1/4 (413)
"S" Flue Size Dia.-in.* (Dia-mm)	4 (102)	4 (102)	5 (127)	5 (127)	6 (152)	6 (152)	7 (178)	7 (178)	8 (203)	8 (203)	8 (203)	10 (254)	10 (254)	12 (305)
Flue Type *	R,V	R,V	R,V	R,V	R,V	R,V	R,H	R,H	R,H	R,H	R,H	OV,H	OV,H	OV▲
Fan Diameter-in.	12	12	14	14	14	16	16	18	18	18	18	116	118	118
Gas Inlet-Natural Gas-in.	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	3/4	3/4	3/4	3/4	3/4
Gas Inlet-LP Gas-in.	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	← 1/2 OR 3/4 →				
Approx. Shipping Wt. lb. (kg)	72 (33)	82 (37)	98 (44)	104 (47)	178 (81)	200 (91)	209 (95)	232 (105)	242 (110)	279 (127)	301 (137)	356 (161)	415 (188)	451 (205)
Net Unit Weight lb. (kg)	59 (27)	69 (31)	84 (38)	90 (41)	148 (67)	168 (76)	175 (79)	196 (89)	216 (98)	239 (108)	261 (118)	304 (138)	340 (154)	376 (171)

▲ See Special Details below for BMF-400 Venting. *R = Round; OV = Oval; H = Horizontal; V = Vertical **These amps are based on standing pilot units.
 † Ratings shown are for unit installations at elevations between 0 and 2000 ft. (610m). For unit installations in USA above 2000 ft. (610m), the unit input must be derated 4% for each 1000 ft. (305m) above sea level; refer to local codes, or in absence of local codes, refer to the National Fuel Gas Code, ANSI Standard Z223.1-1999 (N.F.P.A. No. 54), or the latest edition of. For installations in Canada, any references to deration at altitudes in excess of 2000 ft. (610m) are to be ignored. At altitudes of 2000 to 4500 ft. (610 to 1372m), the unit must be derated to 90% of the normal altitude rating, and be so marked in accordance with the CSA certification.

LEGEND: SP = Shaded Pole PSC = Permanent Split Capacitor



DIMENSIONS .XXX STANDARD UNITS
 DIMENSIONS IN PARENTHESIS (XXX) MILLIMETERS