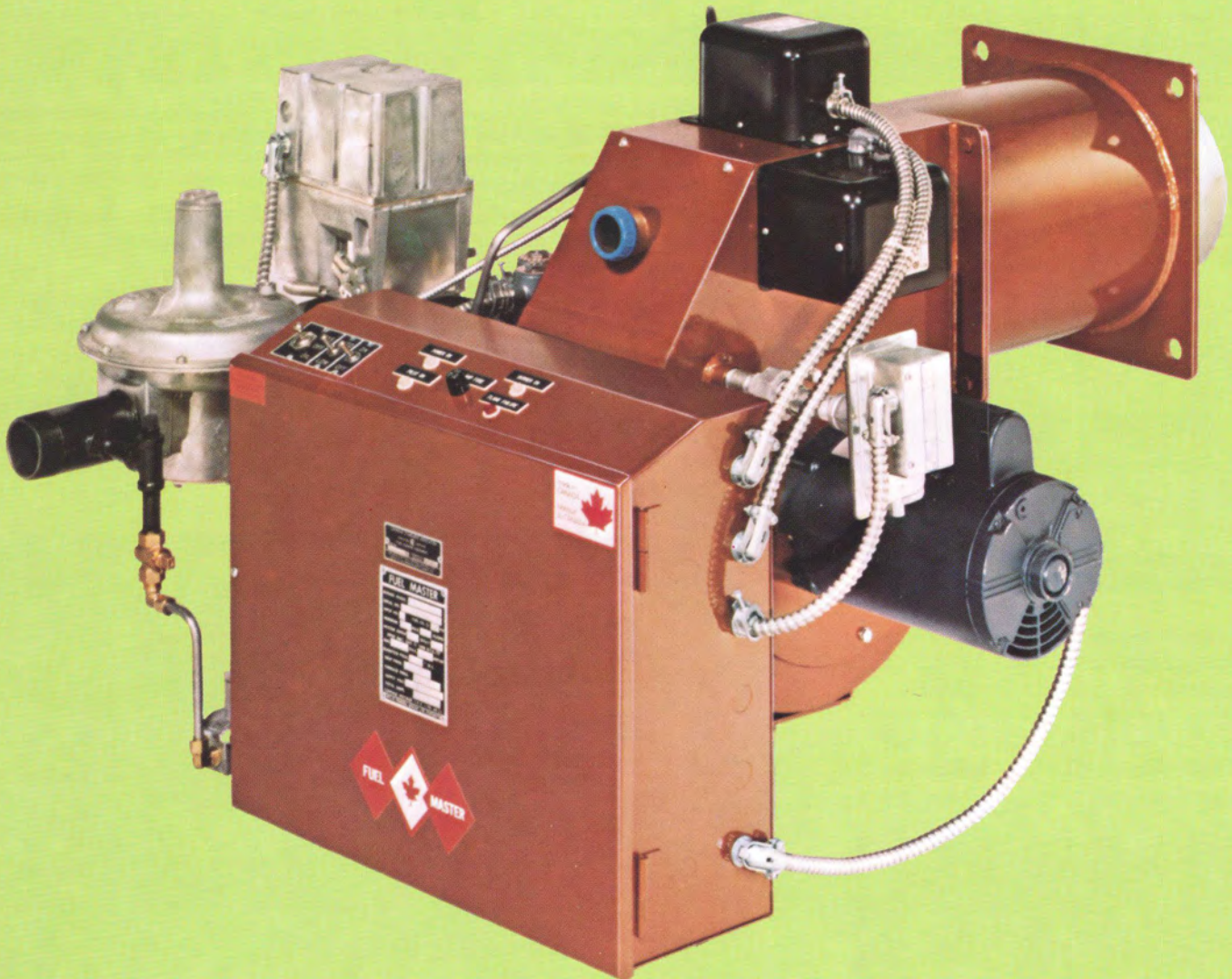


Fuel Master forced draft dual fuel gas-oil burners series C



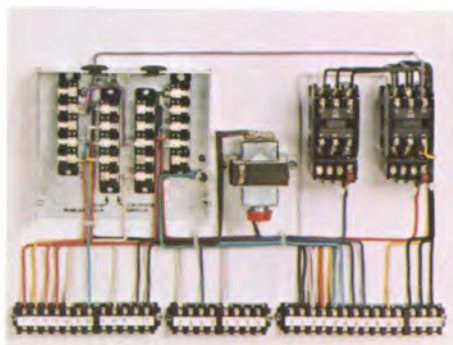
CGO-100
Standard Model

The dependable burner
by Pendell Boiler Limited

Fuel Master burners are designed and built to keep going through long Canadian winters.

We've been making and improving our boilers and burners since 1911 and we haven't stopped seeking better ways to burn fuel more efficiently and increase dependability, all of which begins and ends with a dedication to quality and craftsmanship.

Our burners start with heavy gauge cut steel each fully welded precisely, an improvement on 'hold-together' light gauge spot welding. It also means flexibility, to adapt to custom requirements without fuss and have the various units fit together with custom made excellence.



Our electric circuitry is never a mixed up nest of tangled mystery, it's diagrammatically assembled, colour coded; it's a picture of wiring precision. That's part of our pride - to know that any future circuit tracing or maintenance will be visually clear and time saving.



Each step of the way, in assembly, our high standards of quality control mean testing and approval before the next step is assumed. At the final stage all burners are tested for firing reliability then finely tuned for maximum heat efficiency to capture every available

thermal unit of energy so that, on installation, only selective adjustment is required.

This final stamp of approval means easy reliable installation and immediate function.

Ecologically Proven

There is no special combustion chamber required with a Fuel Master. We have unique firing heads, exclusive to us, designed to produce clean stable combustion and to meet the various pollution control standards required across North America.

Versatile

Fuel Master is versatile, easily adapted to all types of fire box, scotch marine, cast iron, water tube and packaged boilers, indirect fired air heaters, incinerator ovens and other commercial and industrial applications.

Efficient

The air-fuel damper control is automatic, it maintains a proper air / fuel ratio producing clean starts with proportioned air in both low-high-low and full modulation firing ranges. This clean combustion is equally efficient in firing chambers which have negative or positive pressure.

Capacity

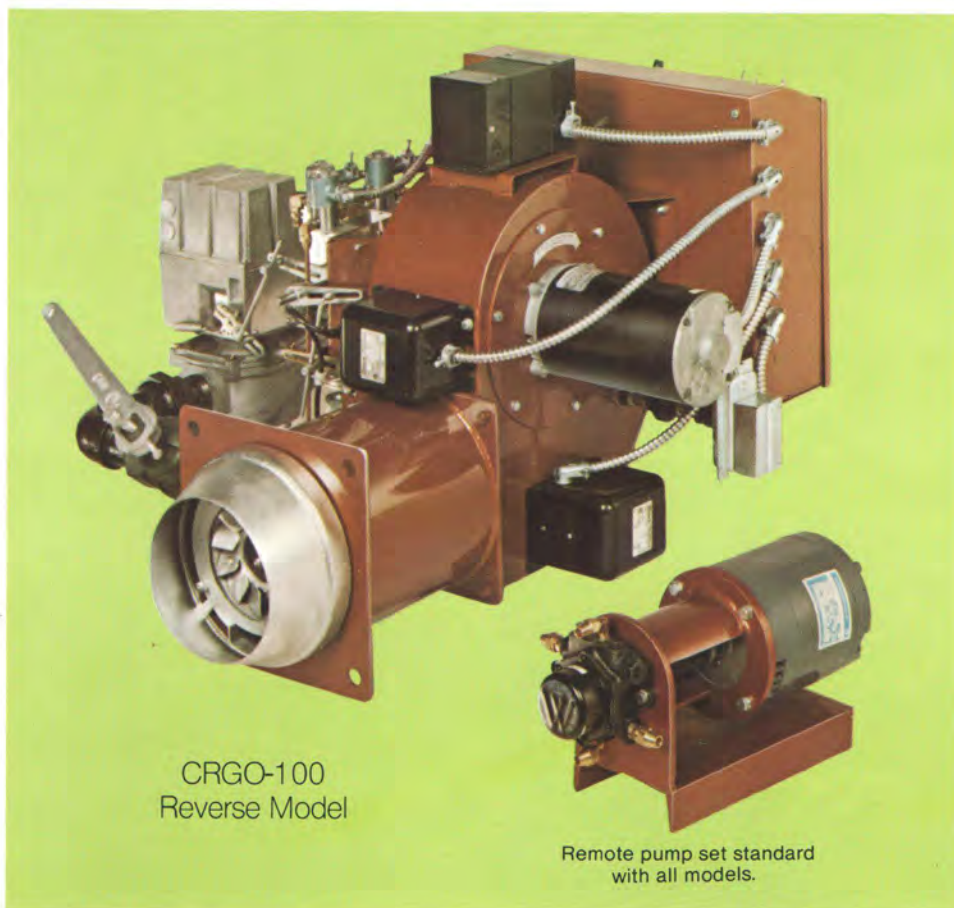
From 10 to 400 H.P.

Approved

Fuel Master burners are approved by C.S.A. testing laboratories.

Tested and proven

Pendell quality and craftsmanship ensures easy installation and maintenance. The design and application of standard parts and precise assembly have set the Fuel Master apart, providing years of dependability even through long demanding Canadian winters.



CRGO-100
Reverse Model

Remote pump set standard
with all models.

Dimensions

Model	Dimensions in Inches (mm) Standard Models											
	A	B	C	D ††	E	F	G min†	G max**	H *	J	K	L
CGO-20 } CGO-25 }	34 (864)	31 (787)	12 (305)	4½ (114)	19 (483)	12 (305)	¾ (82)	¾ (82)	7⅞ (187)	12⅜ (314)	9 (229)	7½ (190)
CGO-45 } CGO-60 }	35 (889)	35 (889)	14¼ (362)	5½ (140)	21 (533)	14 (356)	¾ (89)	¾ (89)	9 (229)	12¾ (324)	11 (279)	9 (229)
CGO-100 } CGO-125 }	39½ (1003)	38 (965)	15 (381)	6 (152)	23 (584)	15 (381)	4½ (114)	5 (127)	10⅜ (264)	15½ (394)	12 (305)	10 (254)
CGO-165 } CGO-230 }	45 (1143)	45 (1143)	18 (457)	8 (203)	29 (737)	15 (381)	6 (152)	8½ (216)	12⅜ (314)	19 (483)	16 (406)	13 (330)
CGO-300 } CGO-350 }	56 (1422)	50½ (1283)	18 (457)	9 (229)	28 (711)	22½ (571)	7 (178)	9 (229)	14¼ (362)	30 (762)	18 (457)	15 (381)

* Add ¼" (6.4 mm) to H dimension for size of opening in boiler front.

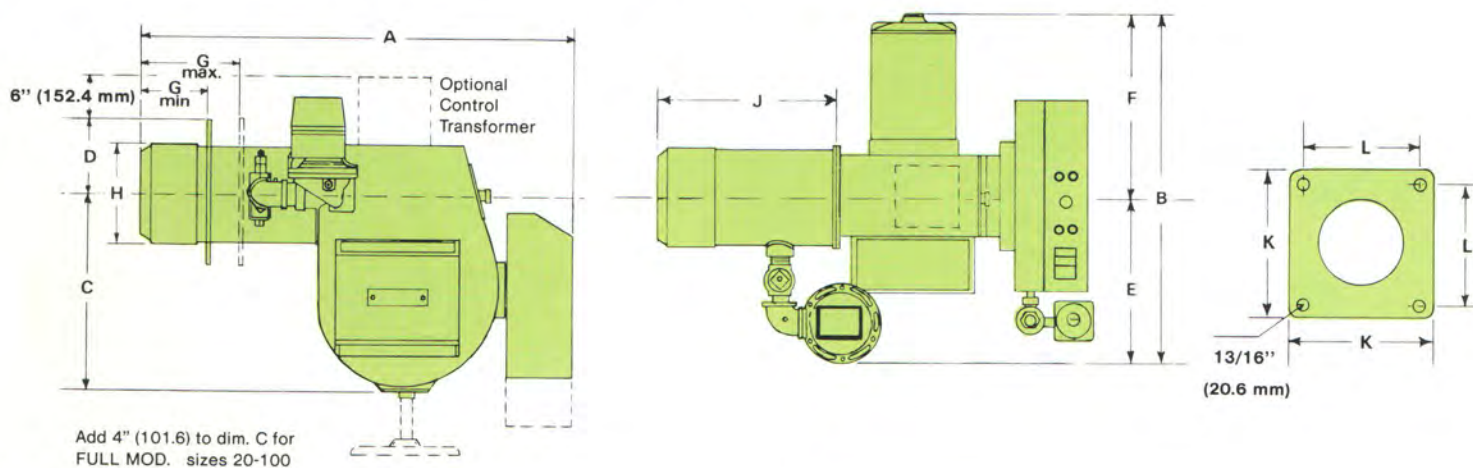
** Max. G dimension is shown with standard blast tube (Consult factory for longer insert lengths).

† Unless otherwise specified, flange will be set at minimum dimension.

†† Inverted model CR – Minimum height from ashpit floor to blast tube centre line is dimension D.

() Indicates metric.

Note: Dimensions and appearance may vary depending on components used.



Model	Dimensions in Inches (mm) -2 Standard Models											
	A	B	C	D ††	E	F	G min†	G max**	H *	J	K	L
CGO-20-2 } CGO-25-2 }	35 (889)	32 (813)	14¼ (362)	4½ (114)	19 (483)	13 (330)	¾ (82)	¾ (82)	7⅞ (187)	12⅜ (314)	9 (229)	7½ (190)
CGO-45-2 } CGO-60-2 }	36 (914)	37 (940)	15 (381)	5½ (140)	22¾ (578)	14¼ (362)	¾ (89)	¾ (89)	9 (229)	12¾ (324)	11 (279)	9 (229)
CGO-100-2 } CGO-125-2 }	42 (1067)	39 (991)	18 (457)	6 (152)	23 (584)	16 (406)	4½ (114)	5 (127)	10⅜ (264)	15½ (394)	12 (305)	10 (254)
CGO-165-2 } CGO-230-2 }	45 (1143)	44 (1118)	18 (457)	8 (203)	29 (737)	15 (381)	6 (152)	8½ (216)	12⅜ (314)	19 (483)	16 (406)	13 (330)
CGO-300-2 } CGO-350-2 }	56 (1422)	56½ (1435)	22 (559)	9 (229)	30 (762)	26½ (673)	7 (178)	9 (229)	14¼ (362)	30 (762)	18 (457)	15 (381)

* Add ¼" (6.4 mm) to H dimension for size of opening in boiler front.

** Max. G dimension is shown with standard blast tube (Consult factory for longer insert lengths).

† Unless otherwise specified, flange will be set at minimum dimension.

†† Inverted model CR – Minimum height from ashpit floor to blast tube centre line is dimension D.

() Indicates metric.

Note: Dimensions and appearance may vary depending on components used.

When Ordering Specify

- ☐ Standard model CGO or inverted model CRGO
 ☐ Intended fuel input
 ☐ Control system
 ☐ Gas type and pressure available
☐ Firing sequence
☐ Flange setting
☐ Electrical supply
☐ Description of equipment to be fired
☐ Special details

Specifications and Capacities Series "C" dual fuel gas-oil burners

Burner Model Number	*Ratings at 0.5" W.C. (.124 kPa) Ratings at 2.0" W.C. (.498 kPa) Furnace Pressure					Ratings at 0.06" W.C. (-.015 kPa) Furnace Draft					Gas Train Size at Press. Listed Inches (mm)	Listed Gas Press at Regul. Inches (kPa)	Blower Motor H.P.	Approx. Crated Weight Lbs. (kg)
	M.B.H. (kW) Gas Input		U.S. G.P.H. (lph) Oil Input		Max. Boiler Output H.P. (kW)	M.B.H. (kW) Gas Input		U.S. G.P.H. (lph) Oil Input		Max. Boiler Output H.P. (kW)				
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.					
*CGO-20 } CGO-20-2 }	350 (102.6)	980 (287.2)	2.5 (9.5)	7 (26.5)	23.5 (230)	350 (102.6)	980 (287.2)	3 (11.4)	7 (26.5)	23.5 (230)	1" (25.4)	6" (1.49)	*1/3 1/2	240 (109)
*CGO-25 } CGO-25-2 }	350 (102.6)	1120 (328.2)	2.5 (9.5)	8 (30.3)	26.8 (263)	350 (102.6)	1260 (369.3)	3 (11.4)	9 (34.1)	30.0 (294.3)	1 1/4" (31.8)	6" (1.49)	*1/3 3/4	245 (111)
*CGO-45 } CGO-45-2 }	364 (106.7)	1820 (533.4)	7 (26.5)	13 (49.2)	43.6 (428)	420 (123.1)	2100 (615.4)	7.5 (28.4)	15 (56.8)	50.0 (490.5)	1 1/2" (38.1)	6" (1.49)	*1/2 1 1/2	280 (127)
*CGO-60 } CGO-60-2 }	504 (147.7)	2800 (820.6)	12 (45.4)	20 (75.7)	66.6 (653)	580 (170.0)	3080 (902.7)	13 (49.2)	22 (83.3)	73.3 (719)	2" (50.8)	6" (1.49)	*3/4 2	300 (136)
*CGO-100 } CGO-100-2 }	840 (246.2)	4200 (1230.9)	17 (64.3)	30 (113.6)	100.0 (981)	924 (270.8)	4620 (1354.0)	18 (68.1)	33 (124.9)	110.0 (1079)	2 1/2" (63.5)	6" (1.49)	*2 3	400 (181)
*CGO-125 } CGO-125-2 }	1050 (308.2)	5250 (1538.6)	18 (68.1)	37.5 (141.8)	125.0 (1226)	1200 (351.7)	5460 (1600)	18 (68.1)	39 (147.5)	130.0 (1275)	2 1/2" (63.5)	6" (1.49)	*3 3	430 (195)
*CGO-165 } CGO-165-2 }	1400 (410.3)	7000 (2051.4)	20 (75.7)	50 (189.3)	167.0 (1638)	1568 (459.5)	7840 (2297.7)	20 (75.7)	56 (212.0)	186.7 (1831)	3" (76.2)	7" (1.74)	*3 5	600 (272)
*CGO-230 } CGO-230-2 }	1700 (498.2)	8500 (2491.1)	20 (75.7)	60 (227.1)	200.0 (1962)	1960 (574.4)	9800 (2872.1)	20 (75.7)	70 (265)	230 (2255)	3" (76.2)	8" (1.99)	*5 7 1/2	610 (277)
*CGO-300 } CGO-300-2 }	2500 (732)	12600 (3692)	20 (75.7)	90 (340.6)	300 (2943)	3000 (879.0)	13600 (3984)	20 (75.7)	97.5 (369.1)	325 (3188)	3" (76.2)	2PSI (13.7)	*7 1/2 10	745 (338)
*CGO-350 } CGO-350-2 }	2800 (819)	16800 (4923)	20 (76)	120 (454)	400 (3924)	3000 (880)	17,500 (5129)	20 (76)	127 (480)	425 (4169)	3" (76.2)	5 PSI (34)	*10 15	798 (362)

Ratings based on 2000 ft. (609.6 m) above sea level, Natural Gas @ 1000 BTU (.293 kWh) and #2 oil.

De-rate burner 4% for each additional 1000 ft. (304.8 m) altitude.

H.P. Ratings based on 80% combustion efficiency and Maximum burner capacity.

*Indicates H.P. related to * models.

() Indicates metric.

All -2 models weight approx. 15% more.

Equipment

	S - Standard A - Available NA - Not available					Burner Model (includes -2 models)				
	CGO-20 CGO-25	CGO-45 CGO-60	CGO-100 CGO-125	CGO-165 CGO-230	CGO-300 CGO-350					
3450 rpm motor, squirrel cage blower, air switch, remote 2 stage oil pump set, interrupted direct spark ignition on oil, oil valve, nozzle, interrupted spark ignited pilot, pilot pressure regulator and solenoid valve, lubricated firing cock, main gas input control valve, auxiliary main gas valve (if required by local codes), main gas pressure regulator	S	S	S	S	S					
Step down transformer for control circuits when supply is 3 phase	S	S	S	S	S					
On/Off sequence -	S	A	NA	NA	NA					
Low/High/Low/Off sequence - high fire oil valves, oil air damper control and linkage, gas air damper and linkage, Low/High main gas valve in lieu of On/Off type, Low/Auto switch on panel	A	S	S	S	NA					
Full Modulation sequence - modulating oil valve, modutrol motor, air damper and linkage, butterfly gas valve, Low/Auto switch on panel, control system "W"	A	A	A	A	S					
Control System "X" - pre-purge only - UVM-6 or R7795A, ultra-violet scanner, motor starters, Power On, Pilot On, Burner On & Flame Failure lites, On/Off and Gas/Oil switches, terminal strip, panel box	S	S	S	A	NA					
Control System "W" - pre- & post-purge - 70D20 or R4140, ultra-violet scanner, motor starters, Power On, Pilot On, Burner On & Flame Failure lites, On/Off and Gas/Oil switches, terminal strip, Panel box. (BC7000 or E100 - Consult Factory)	A	A	A	S	S					
Gas train for high pressure gas	A	A	A	A	S					



Fuel Master Burners

DESIGNED AND BUILT BY

Pendell Boiler Limited



Office and Plant, 50 Bartlett Avenue, Toronto, Ontario
P.O. Box 219, Station E M6H 4E2

Telephone: (416) 536-2191 or 536-3232



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