



Hydronics Ltd.



CAMUS
HYDRONICS LTD.

FAMILY BROCHURE

THE CAMUS FAMILY OF GAS FIRED
RESIDENTIAL, COMMERCIAL AND INDUSTRIAL
COPPER TUBE, STAINLESS STEEL AND FIRE TUBE
BOILERS AND WATER HEATERS



Camus Hydronics is taking a leading role in the development of environmentally friendly products through innovative engineering as we incorporate the very latest technologies designed to create higher efficiency levels while lowering emissions.

CAMUS is continually setting new benchmarks of excellence through skillfully engineered and solidly constructed high-efficiency products designed to provide years of reliable service and comfort.

Additional specifications can be obtained by visiting our website or by calling your local CAMUS representative.

www.camus-hydronics.com



FORWARD



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Our Family Brochure has been designed to provide you with a convenient overview of the entire line of CAMUS Boilers and Water Heaters. For a full list of features and technical data including specifications on any of our products, please visit our website at www.camus-hydronics.com.



Every CAMUS® product is designed, tested and built to either meet or exceed the safety standards and fuel efficiency of each of these agencies.

THINKING

ADVANTUS

two-pass counter flow fire tube boilers

for hydronic heating and hot water supply

Camus Hydronics Ltd. is proud to introduce the industry's first two-pass counter-flow fire tube heat exchanger. With thermal efficiencies of up to 99% in low water temperatures and a turn down ratio of up to 25:1, the Advantus is aimed at providing you with outstanding energy saving capabilities paired with remarkable high efficiencies.

With 13 models available with inputs ranging from 450,000 to 4.0 million btu/hr, the Camus Advantus is the one to choose.



EFFICIENCIES
UP TO
99%

Inside the signature mirrored panels is the heat exchanger that separates Camus from the "rest"

The Advantus features a two-pass counter-flow fire-tube heat exchanger with 1.5" diameter oval tubes configured to optimize performance and maximize heat transfer and efficiencies. Designed with a generous heating surface to sustain efficiencies across complete firing range, the Advantus impresses with flow rates ranging from as low as 6.6 GPM* to upwards of 380 GPM**. Constructed using 304L/316L grade stainless steel, this all welded heat exchanger has been designed with a unique counter flow design so that as flue products exit the boiler, they pass by the incoming water to achieve the highest possible heat transfer and latent heat capture.

The burner is 100% stainless steel vertical mounted radial fired with stainless knitted metal fiber construction. The burner combusts a precise amount of premixed combustion air and gas to provide equal distribution of heat for heat transfer to the entire heat exchanger. Providing a turn down ratio of up to 25:1 all while sustaining combustion characteristics throughout the entire modulating range.

*Advantus model 500 at minimum firing rate, 10°F DT
**Advantus model 4000 at maximum firing rate, 20°F DT



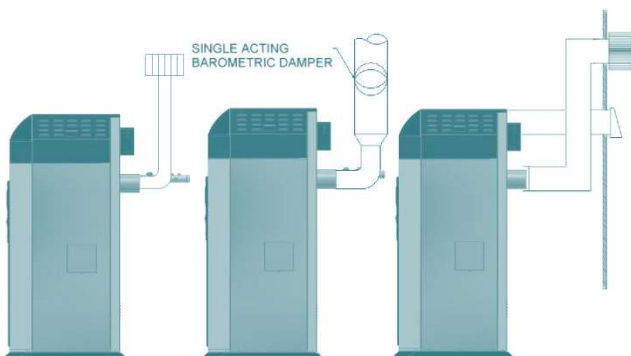
TURNDOWN
RATIO OF
UP TO
25:1

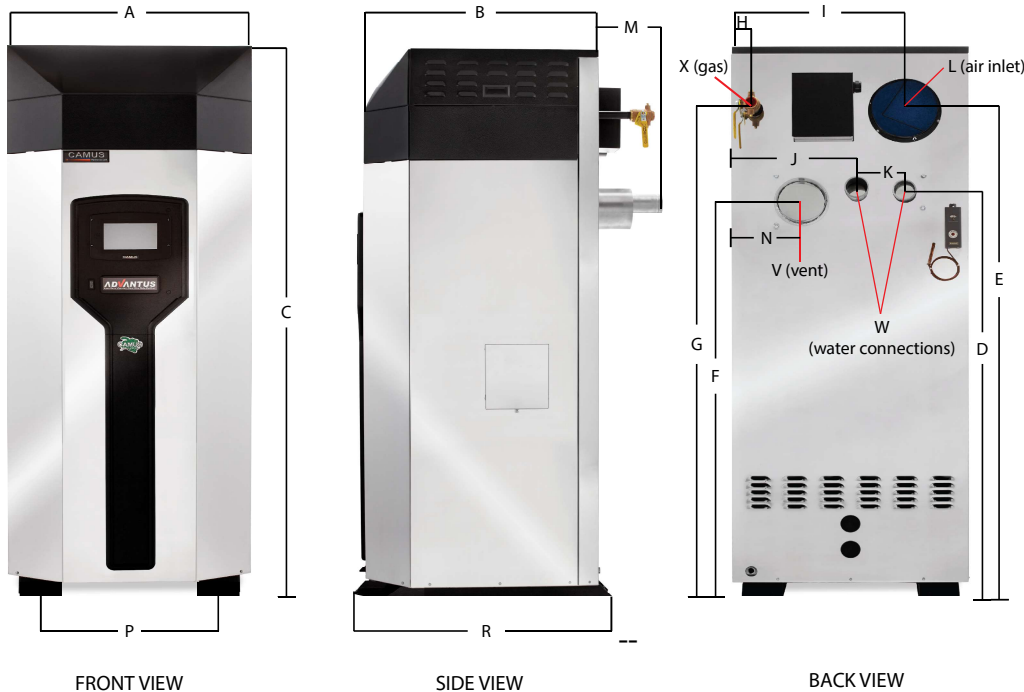
venting

For ease of installation the fully condensing Advantus can be vented individually in a Category IV positive pressure venting arrangement or they can be vented in a common chimney resulting in a Category II venting system.

With the outstanding efficiency of the Advantus it can be vented with corrosion resistant CPVC, Polypropylene, AL29-4C or 316L stainless steel material as stack temperatures are between 10-25°F (5.5 – 14°C) above incoming water temperatures. This allows a diverse range of venting materials to suit any installation and the Advantus is capable of venting up to 100 equivalent feet and up to 100 equivalent feet of combustion air can be brought directly to the boiler for direct vent installations.

The Advantus is available with an air inlet damper for cold climates which prevents outdoor air from infiltrating the heat exchanger when the Advantus is in standby.





Model	Maximum Input MBTU/hr	Maximum Output MBTU/hr
500	450	425
600	600	567
800	800	749
1000	1000	936
1200	1200	1123
1400	1400	1310
1600	1600	1498
1800	1800	1685
2000	2000	1900
2500	2500	2375
3000	3000	2850
3500	3500	3325
4000	4000	3800

Model	Up to 100 ft. Equiv. Length		Ø Dim. "V" Vent CAT. II
	Air Inlet	Cat IV	
500	5	5	6
600	5	5	6
800	6	6	6
1000	6	6	7
1200	6	7	8
1400	6	7	8
1600	8	7	9
1800	8	8	10
2000	8	8	10
2500	8	9	10
3000	10	10	10
3500	10	10	12
4000	10	10	14

Model	Dim. "A"	Dim. "B"	Dim. "C"	Dim. "D"	Dim. "E"	Dim. "F"	Dim. "G"	Dim. "H"	Dim. "I"	Dim. "J"	Dim. "K"	Dim. "L"	Dim. "M"	Dim. "N"	Dim. "P"	Dim. "R"	Dim. "V" (as shipped)	Ø Dim. "W" Water	Ø Dim. "X" Gas
500	29½"	34"	60"	39½"	54½"	37½"	50"	9½"	5"	15"	6"	6"	19 1/8"	9"	22½"	37½"	5"	2"	1"
600	29½"	34"	60"	39½"	54½"	37½"	50"	9½"	5"	15"	6"	6"	19 1/8"	9"	22½"	37½"	5"	2"	1"
800	30"	34"	83"	61"	74"	59½"	68½"	4"	21½"	15½"	6"	8"	19"	9"	22"	37½"	6"	2"	1"
1000	30"	34"	83"	61"	74"	59½"	68½"	4"	21½"	15½"	6"	8"	19"	9"	22"	37½"	6"	2"	1"
1200	30"	42"	83"	59"	75"	57"	67"	4"	21½"	15½"	6"	10"	19"	7½"	22"	45½"	7"	2½"	1"
1400	30"	42"	83"	59"	75"	57"	67"	4"	21½"	15½"	6"	10"	19"	7½"	22"	45½"	7"	2½"	1"
1600	30"	42"	83"	54½"	75"	51"	63"	4"	21½"	16½"	6"	10"	23"	7½"	22"	45½"	8"	3"	1½"
1800	30"	42"	83"	54½"	75"	51"	63"	4"	21½"	16½"	6"	10"	23"	7½"	22"	45½"	8"	3"	1½"
2000	30"	42"	93"	63½"	80"	60"	72"	4"	22"	16½"	6"	12"	23"	7½"	22"	45½"	9"	3"	1½"
2500	30"	42"	93"	63½"	80"	60"	72"	4"	22"	16½"	6"	12"	23"	7½"	22"	45½"	9"	3"	1½"
3000	35"	47"	101"	66"	90"	62"	78"	5½"	26"	5½"	24"	12"	23"	17½"	27½"	50"	10"	3"	1½"
3500	35"	47"	101"	66"	90"	62"	78"	5½"	26"	5½"	24"	12"	23"	17½"	27½"	50"	10"	4"	2"
4000	35"	47"	101"	66"	90"	62"	78"	5½"	26"	5½"	24"	12"	23"	17½"	27½"	50"	10"	4"	2"

*Natural Gas**Propane

Standard Features

- Up to 99% Thermal Efficiency
- Suitable for Category 2 and Category 4 Installation
- All welded heat exchanger, 304/316L stainless steel, counter flow, fire-tube construction
- Return water temperatures down to 40°F
- Single point input adjustment for control of air and gas
- 1 to 1 air/gas ratio control for perfect combustion across entire modulation range
- Extremely low NOx emissions (less than 9 ppm)
- Flow Switch
- Water pressure Switch
- Local/Remote switch for building management, remote modulation and set-point control
- Extremely low noise level
- Stainless steel mirror finish outer jacket
- Advanced integrated Honeywell SOLA control with touch-screen interface
- Direct ignition up to 2.5 million BTU/hr.
- Proven pilot ignition for 3 to 4 million BTU/hr.
- Low gas pressure switch
- High gas pressure switch (models 3000-4000)
- Stainless steel metal fiber burner
- Easy access to components for maximum serviceability
- Maximum allowable working pressure of 160psig
- Maximum allowable discharge temperature of 210°F for Heating, 210°F for DHW
- Minimum gas pressure requirements of 4.0" w.c.
- Main burner test firing valve
- For operation with natural gas or propane
- Flame failure alarm contacts
- Up to 25:1 turndown for seamless operation
- Boiler modulates to shut down on flue gas high temperature detection
- Suitable for venting with Stainless Steel, CPVC or PPE plastic vent material (app. dependent)
- Cascade up to 8 individual appliances in daisy-chain formation

Model	10°F Rise (Minimum Input)		20°F Rise (Maximum Input)		40°F Rise (Maximum Input)		60°F Rise (Maximum Input)	
	US GPM	ΔP-Ft.	US GPM	ΔP-Ft.	US GPM	ΔP-Ft.	US GPM	ΔP-Ft.
500	N/A	N/A	47.20	1.80	23.60	0.50	15.70	0.20
600	N/A	N/A	56.60	2.60	28.30	0.60	18.90	0.30
800	6.60	0.03	74.80	4.50	37.40	1.10	24.90	0.50
1000	8.20	0.05	93.40	7.00	46.70	1.80	31.20	0.80
1200	9.90	0.02	112.20	2.00	56.10	0.50	37.40	0.20
1400	11.50	0.02	130.80	2.70	65.40	0.70	43.60	0.30
1600	13.20	0.03	149.60	3.90	74.80	0.80	49.90	0.40
1800	14.80	0.04	168.20	4.40	84.10	1.20	56.10	0.50
2000	16.50	0.05	189.80	5.60	94.90	1.40	63.20	0.60
2500	20.60	0.07	237.20	8.80	118.60	2.20	79.10	1.00
3000	24.70	0.01	284.60	1.60	142.30	0.40	95.00	0.20
3500	28.90	0.02	332.00	2.20	166.00	0.60	110.70	0.30
4000	33.00	0.02	379.40	2.90	189.70	0.70	126.50	0.30

Heat Exchanger Head Loss and Flow

- UV Flame detection
- Staging relay to govern operation of low end or high end gas valve (models 800-4000)
- Electronic air proving switch

Optional Features

- Pump delay up to 1hp/Pilot duty over 1hp
- Air inlet damper and/or damper contacts
- Low water cut off (manual or automatic reset)
- High gas pressure switch (standard on models 3000-4000)
- Status on/off monitoring contacts
- Gateway protocol converter for Bacnet, Metasys N2, LonWorks
- Neutralization kit for condensate water
- Remote operation for set-point or fire-rate control utilizing 0-10Vdc
- Optional Power: 460/3/60, 208/1/60, 208/3/60



DYNAFORCE

gas fired stainless steel condensing boilers

for hydronic heating and hot water supply



EFFICIENCIES
UP TO
99%

heat exchanger

The Dynaforce Heat Exchanger is a vertical cylindrical counter-flow water tube design. Constructed of 439 grade stainless steel, this welded heat exchanger features a 12 pass design with a maximum working pressure of 160 psig (1100 kPa) and a vertical cylindrical counter-flow water tube design complete with integral 439 grade stainless steel finned heat transfer tubes and waterways. The heat exchanger design is capable of 40°F constant system return temperatures for fully condensing operation and comes complete with condensate trap and drains.



burner

The burner is 100% stainless steel and vertical mounted radial fired with stainless knitted metal fiber construction. The burner combusts a precise amount of premixed combustion air and gas to provide equal distribution of heat for heat transfer to the entire heat exchanger. Combustion operates with a 5:1 turn down ratio while sustaining combustion characteristics throughout the entire modulating range.



venting

For ease of installation, the fully condensing Dynaforce can be vented individually in a Category IV positive pressure venting arrangement or in a common chimney resulting in a Category II venting system.

With the outstanding efficiency of the Dynaforce, it can be vented with corrosion resistant PVC, CPVC, Polypropylene, AL29-4C or 316L stainless steel material as stack temperatures are between 10-15°F above incoming water temperatures. This allows a diverse range of venting materials to suit any installation and the Dynaforce is capable of venting up to 100 equivalent feet and up to 100 equivalent feet of combustion air can be brought directly to the boiler for direct vent installations.

The Dynaforce is available with an air inlet damper for cold climates which prevents outdoor air from infiltrating the heat exchanger when the appliance is in standby.



outdoor venting

standard venting

sidewall venting and
combustion air inlet

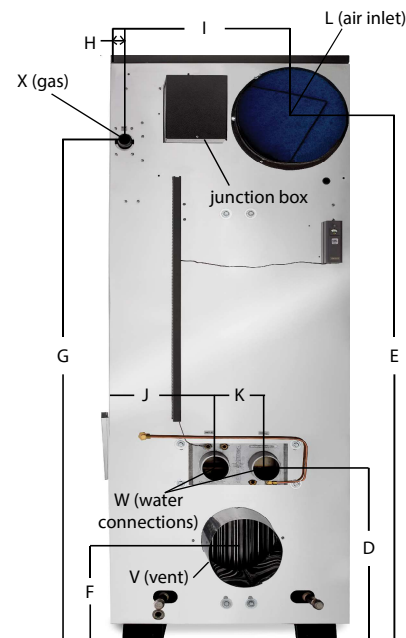
Model	Maximum Input MBTU/hr	Maximum Output MBTU/hr
300	300	282
350	350	329
400	399	375
500	500	470
600	600	564
800	800	752
1000	1000	940
1200	1200	1138
1400	1400	1327
1600	1600	1517
1800	1800	1706
2000	2000	1896
2500	2500	2370
3000	3000	2835
3500	3500	3307
4000	4000	3780
4500	4500	4253
5000	4999	4724



FRONT VIEW



SIDE VIEW



BACK VIEW

Model	Dim. "A"	Dim. "B"	Dim. "C"	Dim. "D"	Dim. "E"	Dim. "F"	Dim. "G"	Dim. "H"	Dim. "I"	Dim. "J"	Dim. "K"	Ø Dim. "L" Air Inlet*	Ø Air Inlet up to 100 Ft. Equiv. Length	Ø Dim. "V" Vent CAT. IV up to 100 Ft. Equiv. Length (as shipped)	Ø Dim. "V" Vent CAT. II	Dim. "M"	Ø Dim. "W" Water	Ø Dim. "X" Gas	Shipping Weight (lbs)
300	25"	27"	42"	15 1/2"	34 7/8"	9 3/4"	31 1/4"	6 3/4"	4 3/4"	11 7/8"	6"	6"	4"	4"	4"	5"	1 1/2"	3/4"	500
350	25"	27"	42"	15 1/2"	34 7/8"	9 3/4"	31 1/4"	6 3/4"	4 3/4"	11 7/8"	6"	6"	4"	4"	5"	5"	1 1/2"	3/4"	500
400	25"	27"	48 3/4"	16 3/8"	41 7/8"	10 1/2"	39 3/4"	9 3/4"	3 3/4"	12"	6"	6"	5"	4"	5"	5"	1 1/2"	1"	500
500	25"	27"	48 3/4"	16 3/8"	41 7/8"	10 1/2"	39 3/4"	9 3/4"	3 3/4"	12"	6"	6"	5"	5"	5"	5"	1 1/2"	1"	560
600	25"	27"	55 1/4"	18 1/2"	46"	11 1/2"	45 7/8"	10 1/2"	4 5/8"	12"	6"	8"	6"	5"	6"	5"	2"	1"	585
800	25"	27"	55 1/4"	18 1/2"	46"	11 1/2"	45 7/8"	10 1/2"	4 5/8"	12"	6"	8"	6"	6"	6"	5"	2"	1"	640
1000	25"	27"	65"	20 3/4"	57"	13"	56 5/8"	10 3/8"	4 3/8"	12"	6"	8"	8"	6"	7"	5"	2"	1"	750
1200	29 3/8"	31 3/4"	70 1/2"	20 3/4"	59 1/2"	13"	56 3/8"	1 7/8"	23 1/4"	12"	6"	10"	8"	7"	8"	5"	2 1/2"	1 1/4"	845
1400	29 3/8"	31 3/4"	73 1/2"	22 5/8"	62 1/2"	14"	59 1/4"	1 7/8"	23 1/4"	12"	6"	10"	8"	7"	8"	5"	2 1/2"	1 1/4"	845
1600	29 3/8"	31 3/4"	73 1/2"	22 5/8"	62 1/2"	14"	59 1/4"	1 7/8"	23"	12"	6"	12"	10"	7"	9"	5"	2 1/2"	1 1/4"	875
1800	29 3/8"	31 3/4"	73 1/2"	22 5/8"	62 1/2"	14"	59 1/4"	1 7/8"	23"	12"	6"	12"	10"	8"	9"	5"	2 1/2"	1 1/4"	1120
2000	29 3/8"	31 3/4"	81 1/4"	24 5/8"	72 3/8"	14 3/8"	69"	1 7/8"	22 3/4"	12 1/2"	6 1/2"	12"	10"	8"	10"	5"	3"	1 1/4"	1138
2500	29 3/8"	31 3/4"	82 5/8"	25"	74"	15 3/4"	69 1/2"	1 7/8"	22 1/2"	11 1/4"	6 1/2"	12"	12"	9"	10"	5 1/2"	3"	1 1/2"	1250
3000	35 3/4"	39 1/4"	85 1/4"	25 5/16"	75 3/16"	16"	70 1/2"	1 7/8"	27 3/4"	14"	7 3/4"	12"	12"	9"	10"	5 1/2"	3"	1 1/2"	1425
3500	35 3/4"	39 1/4"	93"	27 1/4"	82 1/4"	15 1/2"	76 1/4"	4 1/2"	27 3/4"	12"	12"	12"	12"	10"	12"	7"	4"	2"	1840
4000	35 3/4"	39 1/4"	93"	25 1/4"	82 1/4"	15 1/2"	76 1/4"	4 1/2"	27 3/4"	12"	12"	12"	12"	10"	12"	7"	4"	2"	1912
4500	35 3/4"	39 1/4"	96"	29"	81 1/4"	16 1/2"	79 1/4"	4 1/2"	28"	12"	12"	14"	14"	12"	12"	7 1/2"	4"	2 1/2"	2000
5000	35 3/4"	39 1/4"	102"	29 1/2"	87 1/2"	16 3/4"	85 1/2"	4 1/2"	27 3/4"	12"	12"	14"	14"	12"	12"	8"	4"	2 1/2"	2200

Standard Features

- 18 models available with inputs ranging from 300,000 btu/hr to 5 Mil btu/hr
- Up to 99% Thermal Efficiency
- Suitable for Category 2 and Category 4 installation
- All welded heat exchanger, 316L/439 grade stainless steel counter flow, primary/secondary construction
- Return water temperatures down to 40°F
- Single point input adjustment for control of air and gas
- 1 to 1 air/gas ratio control for perfect combustion across entire modulation range
- Extremely low NOx emissions (less than 9 ppm)
- Flow Switch
- Water pressure switch
- Local/Remote switch for building management, remote modulation and set-point control
- Extremely low noise level
- Stainless steel mirror finish outer jacket
- Advanced integrated Honeywell SOLA control with touch-screen interface
- Suitable for venting with PVC, CPVC or PPE plastic vent material (app. dependent)
- Cascade up to 8 individual appliances in daisy-chain formation
- Direct ignition up to 2.5 million BTU/hr.
- Proven pilot ignition for 3 to 5 million BTU/hr.
- Low gas pressure switch
- High Gas pressure switch (models 3000 through 5000)
- Inlet regulator for incoming gas pressures up to 14" w.c.

- Stainless steel burner with radial knitted fiber
- Easy access to components for maximum serviceability
- Maximum allowable working pressure of 160 psig
- Maximum allowable discharge temperature of 210°F
- Minimum gas pressure requirements of 4.5" w.c. for models 300-1000, 7" w.c. for models 1200-5000
- Main burner test firing valve
- For operation with natural gas or propane
- Flame failure alarm contacts
- 5:1 turndown ratio with a minimum 20% firing rate
- Flue temperature monitoring

Optional Features

- Dual Fuel for firing with natural and propane (incl. two gas trains)
- Pump delay up to 1hp/Pilot duty over 1hp
- Air inlet damper and/or damper contacts
- Low water cut off (manual or automatic reset)
- High gas pressure switch (standard on models 3000-5000)
- Status on/off monitoring contacts
- Gateway protocol converter for BACnet, Metasys N2, IP or LonWorks
- Neutralization kit for condensate water
- Remote operation for set-point or fire-rate control utilizing 0-10VDC
- Additional voltages



DYNAFLAME

gas fired copper tube and stainless steel boilers

for hydronic heating and hot water supply

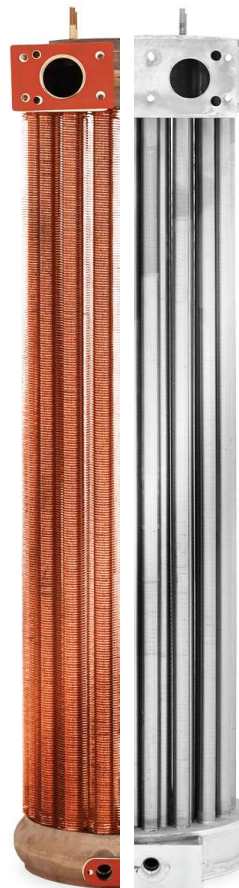


copper...

The copper heat exchanger is a four pass design with a maximum working pressure of 160 PSIG and a maximum working temperature of 250°F for heating and 210°F for domestic hot water applications. With its cast bronze headers and copper or cu-ni tubes, this gasket-less sealed design is a Camus trademark. Both the Copper and Stainless Heat Exchangers are vertically oriented which makes it easy to install and service with full access from the top and front of the appliance. Line up multiple units with minimal clearance between appliances.

...or stainless

The stainless steel heat exchanger is a six pass design with a maximum working pressure of 160 PSIG and is limited to 210°F maximum outlet temperature for heating and domestic hot water applications. It is a welded 439 grade stainless steel construction with a vertical cylindrical water tube design, complete with integral 439 stainless finned heat transfer tubes and 304/316L waterways.



The burner is 100% stainless steel and vertical mounted radial fired with stainless knitted metal fiber construction. The burner combusts a precise amount of premixed combustion air and gas to provide equal distribution of heat for heat transfer to the entire heat exchanger. Combustion operates with up to a 5:1 turn down ratio while sustaining combustion characteristics throughout the entire modulating range.



**TURNDOWN
RATIO OF
UP TO
5:1**

boiler
efficiencies up to

85% non-condensing

88% near-condensing

95% condensing

outdoor venting



For all Condensing, Near-Condensing and Non-Condensing models

thru-wall venting



For all Non-Condensing models: Vents horizontally up to 100 ft. using Cat. III approved vent. Optional 100 ft. of inlet air duct, vertical or horizontal. Optional outdoor air.

For all Condensing & Near-Condensing models: Vents up to 100 equivalent ft. using Cat. IV approved venting. Optional 100 ft. of inlet air duct, vertical or horizontal. Optional outdoor air.

conventional venting



For all Non-Condensing models: Vents into common breeching as Cat. I. Barometric damper may be used to control excess draft. Optional 100ft. of air duct, vertical or horizontal. Optional outdoor air.

vertical venting



For all Non-Condensing models: Vents vertically up to 100 ft. using Cat. III approved vent. Optional 100 ft. of inlet air duct, vertical or horizontal. Optional outdoor air.

For all Condensing and Near-Condensing models: Vents vertically using combined Cat. II approved venting system. Optional 100 ft. of air duct, vertical or horizontal. Barometric damper may be used to control excess air. Optional outdoor air.



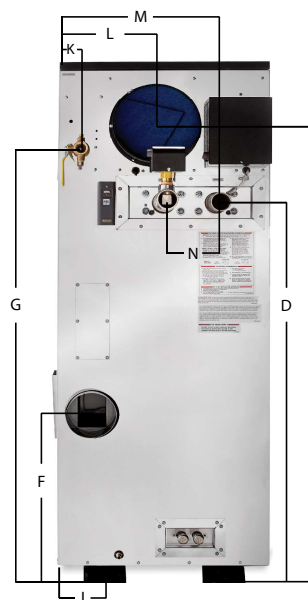
FRONT VIEW



SIDE VIEW



BACK VIEW
(condensing)



BACK VIEW
(non-condensing)

Model	Width "A"	Depth "B"	Height "C"	Water Conn. "D"	Air Inlet "E"	Flue Height "F"	Gas Height "G"	"H"	"I"	"J"	"K"	"L"	"M"	"N"	"P"	Air Inlet Dia. As shipped "W"	Water Conn. Prim. (s/s & copper) as shipped (grooved)	Water Conn. Sec. as shipped (Grooved)	Gas Conn. (NPT)
500	25"	27"	45 5/8"	27"	37 1/4"	13 1/4"	33 5/8"	17 3/4"	6"	4 1/8"	2 5/8"	11 1/2"	18 3/4"	6 1/4"	5"	10"	2"	1 1/2"	1"
750	25"	27"	55"	36 3/4"	46 5/8"	15 3/4"	43"	25"	6"	4 1/8"	2 5/8"	11 1/2"	18 3/4"	6 1/4"	5"	10"	2"	1 1/2"	1"
1100	25"	27"	68 1/4"	49 5/8"	59 7/8"	22"	56 1/4"	31 1/8"	6"	4 1/8"	2 5/8"	11 1/2"	18 3/4"	6 1/4"	5"	10"	2"	1 1/2"	1"
1200	25"	27"	68 1/4"	49 5/8"	59 7/8"	22"	56 1/4"	31 1/8"	6"	4 1/8"	2 5/8"	11 1/2"	18 3/4"	6 1/4"	5"	10"	2"	1 1/2"	1"
1500	29 3/8"	31 3/4"	58 1/8"	38 1/4"	48 5/8"	16 3/8"	45 7/8"	24 1/2"	6"	3 7/8"	1 7/8"	13 1/2"	22 3/8"	10 1/4"	5"	10"	2 1/2"	1 1/2"	1 1/4"
1750	29 3/8"	31 3/4"	62 5/8"	42 5/8"	53 1/8"	16 3/8"	50 3/8"	24 1/2"	6"	3 7/8"	1 7/8"	13 1/2"	22 3/8"	10 1/4"	5"	10"	2 1/2"	1 1/2"	1 1/4"
2000	29 3/8"	31 3/4"	66 7/8"	46 7/8"	57 3/8"	20"	53 5/8"	28 3/4"	6"	3 7/8"	1 7/8"	13 1/2"	22 3/8"	10 1/4"	5"	12"	3"	1 1/2"	1 1/4"
2500	29 3/8"	31 3/4"	73 1/2"	52 5/8"	63 5/8"	25 3/4"	60 3/8"	34 1/2"	6"	3 7/8"	1 7/8"	13 1/2"	22 3/8"	10 1/4"	5 1/2"	12"	3"	1 1/2"	1 1/2"
3000	29 3/8"	31 3/4"	79 1/2"	58 5/8"	69 5/8"	31 3/4"	66 3/8"	40 1/2"	6"	3 7/8"	1 7/8"	13 1/2"	22 3/8"	10 1/4"	5 1/2"	12"	3"	1 1/2"	1 1/2"
3500	29 3/8"	31 3/4"	86 1/2"	63 5/8"	76"	24 7/8"	72 5/8"	32 7/8"	20"	3 7/8"	1 7/8"	13 1/2"	22 3/8"	10 1/4"	6"	14"	4"	1 1/2"	2"
4000	29 3/8"	31 3/4"	91 1/2"	68 5/8"	81"	29 7/8"	77 5/8"	37 7/8"	20"	3 7/8"	1 7/8"	13 1/2"	22 3/8"	10 1/4"	6"	14"	4"	1 1/2"	2"
4500	29 3/8"	31 3/4"	96 1/2"	73 5/8"	86"	34 7/8"	82 5/8"	42 7/8"	20"	3 7/8"	1 7/8"	13 1/2"	22 3/8"	10 1/4"	31"	14"	4"	1 1/2"	2 1/2"
5000	29 3/8"	31 3/4"	101 1/2"	78 5/8"	91"	39 7/8"	87 5/8"	47 7/8"	20"	3 7/8"	1 7/8"	13 1/2"	22 3/8"	10 1/4"	31"	14"	4"	1 1/2"	2 1/2"
4504	35 3/4"	39 1/4"	83"	59 3/4"	72 1/4"	20 3/4"	67 7/8"	28 7/8"	20"	2 1/2"	3 1/2"	17 7/8"	25 5/8"	12"	31"	14"	4"	1 1/2"	2 1/2"
5004	35 3/4"	39 1/4"	88 1/4"	65"	77 1/2"	26"	72 1/4"	34 1/8"	20"	2 1/2"	3 1/2"	17 7/8"	25 5/8"	12"	31"	14"	4"	1 1/2"	2 1/2"
6004	35 3/4"	39 1/4"	102"	75 1/2"	91"	35 1/2"	85 1/2"	44 5/8"	20"	2 1/2"	2 3/4"	17 7/8"	25 5/8"	12"	31"	14"	4"	1 1/2"	3"

Dimensions & Specifications

Model	Maximum Input MBTU/hr	Max. Output MBTU/hr (Non-Condensing)	Max. Output MBTU/hr (Near-Condensing)	Max. Output MBTU/hr (Condensing)
500	500	425	440	475
750	750	638	660	713
1100	1100	935	968	1045
1200	1200	1020	1056	1140
1500	1500	1275	1320	1425
1750	1750	1488	1540	1663
2000	2000	1700	1760	1900
2500	2500	2125	2200	2375
3000	3000	2550	2640	2850
3500	3500	2975	3080	3325
4000	4000	3400	3520	3800
4500	4500	3825	3960	4275
5000	4999	4249	4399	4749
4504	4500	3825	3960	4275
5004	4999	4249	4399	4749
6004	6000	5100	5280	5700

Input and Output

Model	Non-Condensing				Condensing and Near-Condensing			
	Outdoor	Cat. III up to 50 ft.	Cat. III up to 100 ft.	Cat. I	Outdoor	Cat. IV up to 50 ft.	Cat. IV up to 100 ft.	Cat. II
500	4	4	6	8	4	4	6	5
750	6	6	8	10	6	6	8	6
1100	6	6	8	10	6	6	8	7
1200	6	6	8	10	6	6	8	7
1500	7	7	10	12	7	7	10	8
1750	7	7	10	12	7	7	10	8
2000	8	8	12	14	8	8	12	9
2500	8	8	12	14	8	8	12	9
3000	8	8	12	14	8	8	12	10
3500	9	9	14	16	9	9	14	12
4000	9	9	14	16	9	9	14	12
4500	10	10	14	16	10	10	14	12
5000	10	10	14	16	10	10	14	12
4504	10	10	14	16	10	10	14	12
5004	10	10	14	16	10	10	14	12
6004	12	12	14	16	12	12	14	12

Venting (inches)

Model	Non-Cond.	Near-Cond.	Cond.
500	520	520	593
750	600	600	678
1100	640	640	704
1200	700	700	770
1500	825	825	899
1750	900	900	963
2000	943	943	999
2500	1025	1025	1085
3000	1100	1100	1120
3500	1250	1250	1330
4000	1290	1290	1380
4500	1420	1420	1500
5000	1627	1627	1720
4504	1525	1525	1610
5004	1732	1732	1815
6004	1963	1963	2210

Aprox. Shipping Weight - lbs

Standard Features

- Single point input adjustment for controlling air and gas
- 1 to 1 air/gas ratio for perfect modulation throughout
- Extremely low NOx emissions (less than 10 PPM)
- Flow switch
- Pressure relief valve
- Extremely low noise level
- Stainless steel outer jacket & combustion chamber
- Advanced digital control system with pin point accuracy
- Proven hot surface ignition with soft start, rumble free operation

- Low gas pressure switch
- 4-20mA for setpoint or modulation control
- Local remote switch
- Proven pilot ignition 3 to 6 million
- 0-10 VDC Converter (must be specified)
- Lead lag capability up to 8 boilers standard
- DHW sensor (Domestic only) and system sensor (Htg only)
- Modbus RTU Communication
- Flame failure contacts
- Direct Ignition up to 2.5 million BTU/hr
- Very small footprint

Condensing and Near-Condensing Additional Features

- 95% Thermal Efficiency (Condensing)
- 88% Thermal Efficiency (Near-Condensing)
- Suitable for Category 2 and Category 4 installation
- Range of burner modulation 20-100% (turn down ratio 5:1)

Non-Condensing Additional Features

- 85% Thermal Efficiency
- Suitable for Category 1 and Category 3 installation
- Range of burner modulation 35-100% (turn down ratio 3:1)



CONTROLS

Advantus, Dynaforce and DynaFlame Series Boilers

The Advantus, Dynaforce and DynaFlame are controlled by an integrated Honeywell SOLA controller. The 7" color touch screen provides remote operation through the 4-20mA or 0-10Vdc for set point or fire rate control. Paired with the ability to control multiple pump operation along with daisy chain set up for up to 8 boilers, this user friendly control also provides you with a USB output for screenshot capture, as well as password access for service personnel. Up to 8 SOLA devices may be monitored and controlled with one single display.



SOLA Touchscreen Display Additional Features

- Viewable outdoor reset schedule
- Real-time digital and analog temperatures, flame signal, firing rate, remote input signal information
- Digital I/O safety annunciation
- Trend Analysis
- USB file and screenshot download
- 15-item error lockout history with time and date stamp
- 15-item alert history with time and date stamp
- Complete diagnostic report when lockout occurs
- Real-time clock to keep track of when errors occur
- Fahrenheit/Celsius temperature readout
- Infinitely adjustable firing rate for manual operation
- Internal ModBus communication

In a world where we are becoming more connected, the Advantus, Dynaforce and DynaFlame are ready to enter this revolutionary phase in building automation. All three family of boilers are equipped with standard Modbus RTU communication protocol to allow for BMS access to boiler operation. The remote monitoring of a boiler plant allows for complete overview of various boiler-related temperatures, boiler status, pump activation, boiler error codes and more. This is not just limited to read-only parameters, as a BMS is permitted to write setpoint temperatures, enable/disable and remotely send and receive firing rate requests.

To further evolve and adapt to the changing marketplace, these models are available with BacnetIP, BacnetMSTP, LonWorks and MetasysN2 protocol support. All the features available in the Modbus RTU realm are carried into these protocols with the use of a highly advanced, yet user friendly, Fieldserver Protonode. The Fieldserver Protonode is equipped with Ethernet or RS485 connectivity and is BTL (BACnet Testing Laboratory) Certified. This approval assures that we carry only the highest quality products with optimum performance and utmost ease of connectivity.



get connected





DYNAMAX

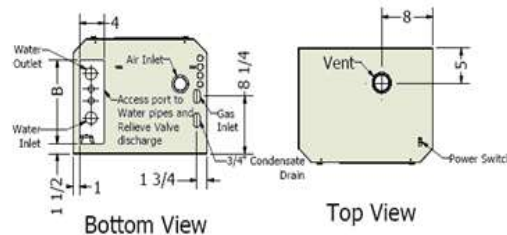
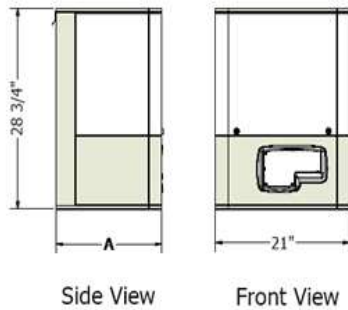
gas fired stainless steel condensing boilers

for hydronic heating, hot water supply and combination



EFFICIENCIES
UP TO
97%

Dimensions and Specifications - Wall Mount

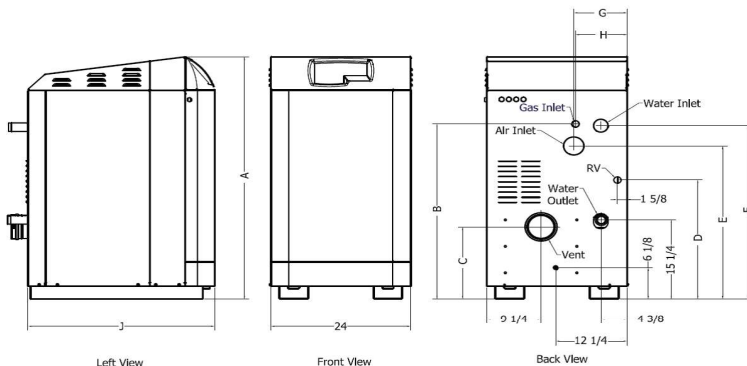


Model	Maximum Input MBTU/hr	Maximum Output MBTU/hr
80	80	74.4
100	100	93.0
150	150	139.5
200	200	186.0
250	250	232.5
210	199	186.0
260	250	232.5
290	299	278.0
399	399	371.0
500	500	465.0
600	600	558.0
700	700	651.0
800	800	744.0

Dimensions and Specifications	Model	Dim. "A"	Dim. "B"	Dim. "C"	Dim. "D"	Dim. "E"	Dim. "F"	Dim. "J"	Equivalent Length of Vent & Air Intake Pipes at Recommended Dia.				Water Conn. at Heater NPT	Gas Conn. at Boiler NPT
									Category IV			CAT. II Comb. Vents		
									Over 25' and up to 100'	Over 15' and up to 25'	Up to 15'			
Wall Mount	80	16 1/2"	12"	-	-	-	-	-	3"	3"	2"	-	1"	1/2"
	100	16 1/2"	12"	-	-	-	-	-	3"	3"	2"	-	1"	1/2"
	150	16 1/2"	12"	-	-	-	-	-	3"	3"	2"	-	1"	1/2"
	200	23 1/2"	19"	-	-	-	-	-	3"	3"	2"	-	1"	1/2"
	250	23 1/2"	19"	-	-	-	-	-	3"	3"	2"	-	1 1/4"	1/2"
Floor Mount	210	42 1/2"	25 3/4"	14 1/4"	23"	24 1/4"	34 1/4"	32"	3"	3"	2"	4"	1"	1/2"
	260	42 1/2"	25 3/4"	14 1/4"	23"	24 1/4"	34 1/4"	32"	3"	3"	2"	4"	1 1/4"	1/2"
	290	47 1/8"	34 7/8"	14"	23"	29 7/8"	33 7/8"	32"	4"	3"	3"	5"	1 1/4"	3/4"
	399	47 1/8"	34 7/8"	14"	23"	29 7/8"	33 7/8"	32"	4"	3"	3"	5"	1 1/2"	1"
	500	47 1/8"	34 7/8"	14"	23"	29 7/8"	33 7/8"	32"	4"	3"	3"	6"	1 1/2"	1"
	600	47 1/8"	36 1/4"	14"	23"	30 3/4"	38"	40 1/2"	4"	3"	3"	6"	2"	1"
	700	47 1/8"	36 1/4"	14"	23"	30 3/4"	38"	40 1/2"	4" (Air), 6" (Vent)	4"	4"	7"	2"	1"
	800	47 1/8"	36 1/4"	14"	23"	30 3/4"	38"	40 1/2"	5" (Air), 6" (Vent)	5"	5"	7"	2"	1"

Model	Shipping Weights		
	HTG	DHW	Combination
80	135	135	140
100	135	135	190
150	190	190	198
200	210	210	220
250	220	220	230
210	315	315	320
260	320	320	335
290	376	376	380
399	405	405	445
500	450	470	514
600	490	610	650
700	533	615	660
800	600	630	675

Dimensions and Specifications - Floor Mount



Standard Features

- All stainless steel water surfaces
- Gasketless heat exchanger design
- Approved plastic venting up to 100 feet (PVC, PVC, PPE)
- Up to 150 PSI relief valves
- Onboard digital operating control
- Fully modulating with 5:1 turndown
- Available in Natural Gas or LP
- Thru wall exhaust vent (vertical or horizontal) with 3 air intake options: 1) outside air sealed direct, 2) outside air, 3) Indoor air
- UL353 approved fail safe high limit @ 210°F with manual reset
- Factory mounted boiler circulating pump
- Single point input adjustment for air and gas
- 1 to 1 air/gas ratio for perfect modulation throughout
- Extremely low NOx emissions exceeding air quality standards (<10ppm)
- Cascade up to 8 individual appliances in daisy-chain formation



TH SERIES

gas fired condensing water heaters

for hot water supply



EFFICIENCIES
UP TO
97%

Dimensions and Specifications

Input and Output	Model	Maximum Input MBTU/hr	Maximum Output MBTU/hr
	TH-082	80	74.4
	TH-102	100	93.0
	TH-152	150	139.5
	TH-202	199	186.0
	TH-252	250	232.5
	TH-292	299	278.0
	TH-392	399	371.0
	TH-502	500	465.0

Approx. Shipping Weights - LBS	Model	Approx. Shipping Weight
	TH-082	250
	TH-102	250
	TH-152	375
	TH-202	525
	TH-252	525
	TH-292	600
	TH-392	650
	TH-502	710

Tank Capacity (US Gal.)	Model	Tank Capacity
	TH-082	20
	TH-102	20
	TH-152	20
	TH-202	40
	TH-252	40
	TH-292	40
	TH-392	40
	TH-502	40

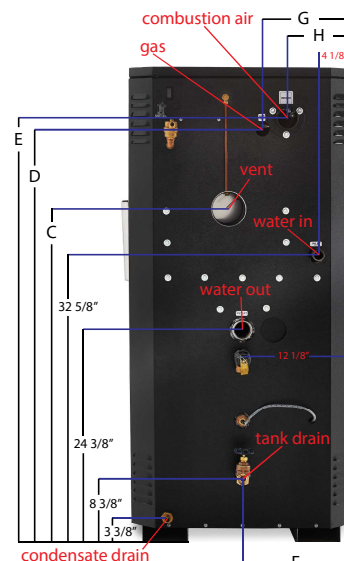
Dim. and Specifications	Model	Dim. "A"	Dim. "B"	Dim. "C"	Dim. "D"	Dim. "E"	Dim. "F"	Dim. "G"	Dim. "H"	Length of Vent & Air Intake Pipes at Recommended Dia.				Water Conn. At Heater NPT	Gas Conn. At Heater NPT
										over 25' & up to 100'	Category IV	Up to 15'	Cat. II Comb. Vent		
											over 15' & up to 25'				
	TH-082	53"	22 1/4"	46 1/4"	46 3/8"	47 1/2"	8 3/4"	9 7/8"	7 3/8"	3"	3"	2"	-	1"	1/2"
	TH-102	53"	22 1/4"	46 1/4"	46 3/8"	47 1/2"	8 3/4"	9 7/8"	7 3/8"	3"	3"	2"	-	1"	1/2"
	TH-152	53"	22 1/4"	46 1/4"	46 3/8"	47 1/2"	8 3/4"	9 7/8"	7 3/8"	3"	3"	2"	-	1"	1/2"
	TH-202	53"	31 1/4"	37 3/4"	46 3/8"	47 1/2"	12 1/8"	9 7/8"	7 3/8"	3"	3"	2"	4"	1"	1/2"
	TH-252	53"	31 1/4"	37 3/4"	46 3/8"	47 1/2"	12 1/8"	9 7/8"	7 3/8"	3"	3"	2"	4"	1 1/4"	1/2"
	TH-292	65 1/2"	31 1/4"	37 1/2"	58 3/8"	53 7/8"	12 1/8"	11 3/8"	8 7/8"	4"	3"	3"	5"	1 1/4"	3/4"
	TH-392	65 1/2"	31 1/4"	37 1/2"	58 3/8"	53 7/8"	12 1/8"	11 3/8"	8 7/8"	4"	3"	3"	5"	1 1/2"	1"
TH-502	65 1/2"	31 1/4"	37 1/2"	58 3/8"	53 7/8"	12 1/8"	11 3/8"	8 7/8"	4"	3"	3"	6"	1 1/2"	1"	



FRONT VIEW



SIDE VIEW



BACK VIEW

Standard Features

- Approved for plastic venting up to 100 feet
- 150 PSI temp. & pressure relief valve
- Onboard integrated digital operating control
- Fully modulating with 5:1 turndown
- Stainless steel heat exchanger rated at 160 PSIG maximum allowed working pressure & 210°F maximum outlet temp.
- Available in Natural Gas or LP

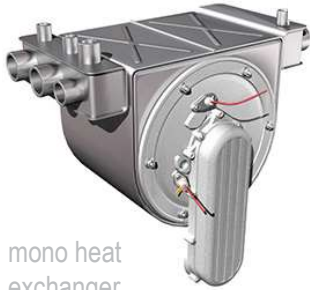
- Thru wall exhaust vent (vertical or horizontal) with 3 air intake options: 1) outside air sealed direct, 2) outside air, 3) indoor air
- Extremely low NOx
- Fail safe high limit w/ manual reset
- Water flow proving
- Direct spark ignition
- Zero clearance to combustibles

- Factory mounted bronze circulating pump
- CSA Certified stainless steel storage tank w/ 10 year warranty, rated 160 PSIG maximum allowed working pressure & 210°F maximum working temp.
- Neutralizer kit

DYNAMAX & TH SERIES

Burner

The DynaMax and TH Series burner is 100% stainless steel and vertical mounted radial fired with stainless knitted metal fiber construction. The burner combusts a precise amount of premixed combustion air and gas to provide equal distribution of heat for heat transfer to the entire heat exchanger. Combustion operates with a 5:1 turn down ratio while sustaining combustion characteristics throughout the entire modulating range.



mono heat
exchanger

The DynaMax and TH Series models 80-250 feature a MONO design heat exchanger wherein the secondary heat exchanger is separated by a divider plate from the primary heat exchanger.

Heat Exchanger

The DynaMax and TH Series features an industry leading, high efficiency stainless steel heat exchanger. The heat exchanger is formulated by multi-pass all welded construction with a maximum working pressure of 160 PSI. The heat exchanger design is capable of 40°F constant system return temperatures that enables fully condensing operation.

With either design, the water always performs the concept of counter flow whereby the coolest water meets with the coolest flue gases and water temperature is gradually increased as it exits the primary heat exchanger. Each tube wraps around the shell of the heat exchanger four times before entering the opposite header. This provides sufficient residency time for energy capture. The flue gases are discharged with a Camus supplied adapter to accommodate PVC, CPVC or Stainless Steel venting. The heat exchanger features a condensate spillway to allow condensate to be properly disposed of in a Camus supplied stainless steel condensate box.



duo heat
exchanger

DynaMax models 299-800 and TH Series models 299-500 feature a DUO design where the heat exchanger is split into two distinct chambers.



Honeywell HAPI Display

The DynaMax and TH Series are equipped with a multi-line user configurable LCD display which provides access to control system configuration and set up, readouts of various heater temperatures, accumulated runtime, enunciator diagnostics, flame signal readout and firing rates. The display can be accessed through a 5-way touchpad high resolution LCD control with shortcut key access with user and installer protected parameters. The display is capable of storing up to 15 automatic reset errors and 15 manual reset errors.



get connected



MICOFLAME SERIES

gas fired copper tube boilers

for hydronic heating and hot water supply



Standard Features

- Low NOx
- Copper Tube Heat Exchanger which meets lead-free regulations
- Durable metal fiber burner unaffected by high temps
- Suitable for use in negative pressure environments
- Complete diagnostic light package
- Easy access for inspection & cleaning of heat exchanger tubes
- Durable ceramic fibre refractory
- Simple to service with easy access to burner and fan

MicoFlame Series 1

Additional Standard Features

- For Residential/Light Commercial Installations
- Vents up to 50 feet horizontally with 50 feet of air intake duct
- Outdoor Sensor complete with SmartFlame (Staging Models 60-300 HTG applications only)
- Firing Modes: All models available in on/off and 2-stage. Models 400 and up are also available in modulating



MicoFlame Series 2 and Grande

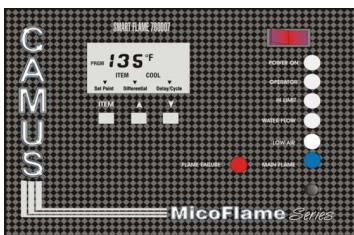
Additional Standard Features

- For Residential/Light Commercial* and Commercial/Industrial**
- Vents up to 60 feet horizontally with 60 feet of air intake duct
- Firing Modes: Models 800-1000 on/off, 2-stage and modulating. Models 1200-4000 2-stage, 3-stage, 4-stage and modulating.

*MicoFlame 2

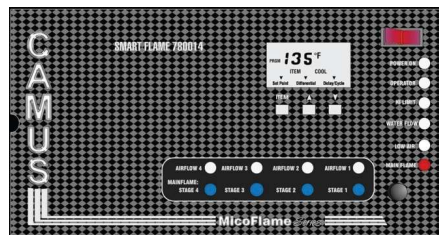
**MicoFlame Grande

Control Panel and Display



MicoFlame Series 1

- Accurate proportional control with 2-stage option
- Incorporates auto reset high limit & operator
- Three modes of operation: heating, DHW & remote
- Port for optional tank sensor
- Optional pump delay
- Flame failure feature
- Displays inlet/outlet temps & delta temp.
- Displays total run hours
- Molex harness connection for ease of service
- Weather proof enclosure
- Fusible link for over-voltage
- Proven field performance



MicoFlame Series 2 & Grande

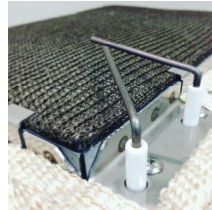
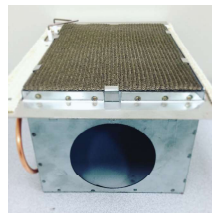
- Accurate proportional control with up to 4-stage option
- Incorporates auto reset high limit & operator
- Eight modes of operation for outdoor reset, heating, DHW and Remote
- Port for optional tank sensor
- Optional pump delay
- Flame failure feature
- Displays inlet/outlet temps & delta temp.
- Displays total run hours
- Molex harness connection for ease of service
- Weather proof enclosure
- Fusible link for over-voltage
- Proven field performance



The MicoFlame Series appliance is controlled by the Tekmar SmartFlame which is specifically designed for on/off, staging or modulating function.

This user-friendly controller accommodates up to 4-stage control along with up to 8 modes of operation in total which provides set point as well as reset control. This controller is equipped with a molex harness connection as well as a pump exercising feature which runs the pump for 10 seconds every three days of no pump operation.

These functions along with many more are designed with the user in mind providing them with ease of service and years of reliability.



Burner

The MicoFlame burner is 100% stainless steel, with a knitted metal fiber construction. Vertically fired below the heat exchanger, the burner combusts a precise amount of premixed combustion air and gas to provide equal distribution of heat to the heat exchanger at a turndown rate of 3:1. Multiple staging and modulating configurations allow for a range of operating characteristics, and combustion characteristics are maintained throughout the operating range. Full access to the burner assembly and easy removal for inspection and cleaning is provided by the access panels at the base of the unit.

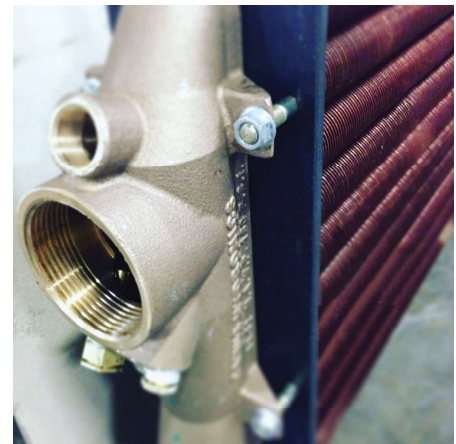
Heat Exchanger

The copper heat exchanger is a two pass design with a maximum working pressure of 160 PSIG and a maximum working temperature of 250°F for heating and 210°F for domestic hot water applications. Utilizing cast bronze headers, steel tube-sheets and copper or cu-ni tubes, they can be configured for right or left side water connections. Removable headers allow for easy access to the tube bundle for service and cleaning.



Secondary HTX

The appliance can be fitted with an economizer (secondary heat exchanger) to achieve nominal efficiency of 95%. This heat exchanger is fabricated from stainless steel and can accept inlet water temperatures as low as 40°F.



MICOFLAME MODULATING SERIES

Standard Features

Includes all the standard features of the MicoFlame Series 1, 2 and Grande plus...

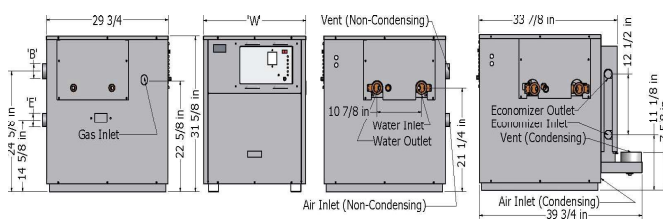
- Models 400-1000 modulate seamlessly down to 35% of input
- Models 1200-4000 modulate seamlessly down to 40% of input
- Includes a Pulse Width Modulation (PWM) blower

Input & Output	Model	Input Range [kBTU/hr x 100]	Input Range [kW]	Input [BTU/hr]	Input [kW]	Non-Condensing		Condensing	
						Output [BTU/hr]	Output [kW]	Output [BTU/hr]	Output [kW]
	Series 1 400	140 - 399	41.0 - 116.8	399,000	116.8	339,150	99.3	379,050	110.9
	Series 1 500	175 - 500	51.2 - 146.4	500,000	146.4	425,000	124.5	475,000	139.1
	Series 1 600	210 - 600	61.5 - 175.7	600,000	175.7	510,000	149.3	570,000	166.9

Input & Output	Model	Input Range [kBTU/hr x 100]	Input Range [kW]	Input [BTU/hr]	Input [kW]	Non-Condensing		Condensing	
						Output [BTU/hr]	Output [kW]	Output [BTU/hr]	Output [kW]
	Series 2 800	320 - 800	93.7 - 234.3	800,000	234.3	680,000	199.1	760,000	222.5
	Series 2 1000	400 - 1000	117.1 - 292.8	1,000,000	292.8	850,000	248.9	950,000	278.2
	Series 2 1200	480 - 1200	140.5 - 351.3	1,200,000	351.4	1,020,000	298.7	1,140,000	333.8
	Series 2 1400	560 - 1400	164.0 - 410.0	1,400,000	410.0	1,190,000	348.5	1,330,000	389.5
	Series 2 1600	640 - 1600	187.4 - 468.5	1,600,000	468.5	1,360,000	398.2	1,520,000	445.1
	Series 2 1800	720 - 1800	210.8 - 527.1	1,800,000	527.1	1,530,000	448	1,710,000	500.7
	Series 2 2000	800 - 2000	234.2 - 585.7	2,000,000	585.7	1,700,000	497.8	1,900,000	556.4

Input & Output	Model	Input Range [kBTU/hr x 100]	Input Range [kW]	Input [BTU/hr]	Input [kW]	Non-Condensing		Condensing	
						Output [BTU/hr]	Output [kW]	Output [BTU/hr]	Output [kW]
	Grande 2010	800 - 2000	234.2 - 585.6	2,000,000	585.6	1,700,000	497.8	1,900,000	556.3
	Grande 2500	1000 - 2500	292.8 - 732.0	2,500,000	732.0	2,125,000	622.2	2,375,000	695.4
	Grande 3000	1200 - 3000	351.4 - 878.4	3,000,000	878.4	2,550,000	746.6	2,850,000	834.5
	Grande 3500	1400 - 3500	409.9 - 1024.8	3,500,000	1024.8	2,975,000	871.1	3,325,000	973.6
	Grande 4000	1600 - 4000	468.5 - 1171.2	4,000,000	1171.2	3,400,000	995.5	3,800,000	1,112.6

Dimensions and Specifications Models 60-300

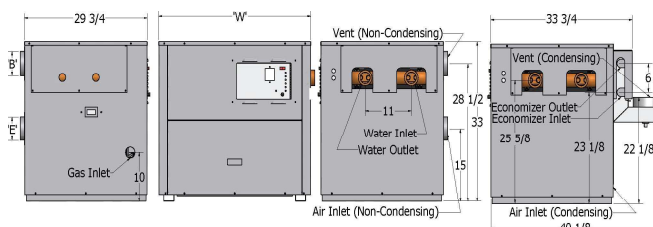


Side View (Left) Front View Side View (Right) Side View (Right) (Cond.)

Model	W"	Water Connection (NPT)	Gas Connection	B' Dia. Venting		E' Dia. Air Inlet
				Outdoor	Sidewall or Condensing	
60	18 3/4"	1 1/2"	1/2"	3"	3"	3"
100	18 3/4"	1 1/2"	1/2"	3"	3"	3"
150	18 3/4"	1 1/2"	1/2"	3"	3"	3"
200	18 3/4"	1 1/2"	1/2"	4"	4"	4"
250	25"	1 1/2"	1/2"	4"	4"	5"
300	25"	1 1/2"	1/2"	5"	5"	6"
400	31 1/2"	2"	1"	5"	5"	6"
500	31 1/2"	2"	1"	6"	6"	7"
600	36 1/2"	2"	1"	6"	6"	7"

Dimensions & Specifications

Dimensions and Specifications Models 400-600



Side View (Left) Front View Side View (Right) Side View (Right) (Cond.)

Model	Input	Output - BTUH (Non-Cond.)	Output - BTUH (Cond.)	Input - KW	Output - KW (Non-Cond.)	Output - KW (Cond.)
60	60,000	51,000	57,000	17.58	14.95	16.71
100	100,000	85,000	95,000	29.31	24.91	27.84
150	150,000	127,500	142,500	43.96	37.37	41.76
200	200,000	170,000	190,000	58.61	49.82	55.68
250	250,000	212,500	237,500	73.27	62.28	69.60
300	299,000	254,150	284,050	87.63	74.48	83.25
400	399,000	340,000	380,000	116.94	99.64	111.37
500	500,000	425,000	475,000	146.54	124.56	139.21
600	600,000	510,000	570,000	175.84	149.47	167.05

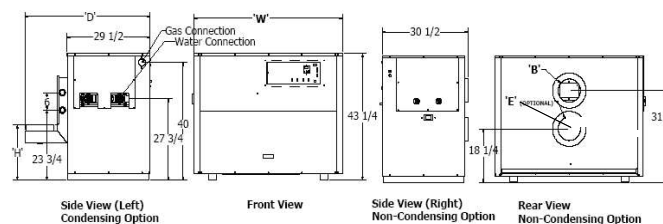
Input and Output

Model	Non-Condensing	Condensing
60	190	230
100	195	235
150	200	240
200	210	250
250	225	285
300	240	290
400	290	310
500	305	345
600	360	400

Approx. Shipping Weights (lbs)

Note: Non-Condensing models are shipped with standard vent size unless sidewall vent size is specified

Dimensions and Specifications - MicoFlame 2 Models 800-2000



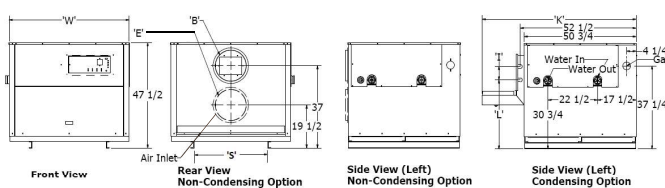
Model	W"	D"	H"	Water Connection	Gas Connection	B' Dia. Venting		E' Dia. Air Inlet
						Outdoor	Sidewall or Condensing	
800	45 3/4"	44 1/2"	18 3/4"	2 1/2"	1"	8"	8"	10"
1000	52 3/4"	44 1/2"	18 3/4"	2 1/2"	1 1/4"	8"	8"	10"
1200	62"	44 1/2"	23 1/4"	2 1/2"	1 1/4"	10"	10"	12"
1400	71 1/4"	44 1/2"	23 1/4"	2 1/2"	1 1/4"	10"	10"	12"
1600	80 3/4"	44 1/2"	23 1/4"	2 1/2"	1 1/2"	12"	12"	14"
1800	89 3/4"	44 1/2"	23 1/4"	2 1/2"	1 1/2"	12"	12"	14"
2000	99"	44 1/2"	23 1/4"	2 1/2"	1 1/2"	12"	12"	14"

*These models have two identical outdoor air inlets. When joining the two 8" inlets, use a 10" pipe. When joining the two 10" inlets, use a 12" pipe.

**Appliance may be supplied with 2 openings that can be combined into this size.

***Non-Cond. models are shipped with standard vent size unless sidewall vent size is specified.

Dimensions and Specifications - MicoFlame Grande Models 2010-4000



Model	I"	K"	L"	W"	S"	Water Conn.	Gas Conn.	B' Dia. Venting		E' Dia. Air Inlet
								Outdoor	Sidewall or Condensing	
2010	6"	68"	34 5/8"	54 5/8"	33 3/8"	3"	1 1/2"	12"	12"	14"
2500	6"	72"	34 5/8"	78 7/8"	58"	3"	2"	14"	14"	16"
3000	6"	72"	34 5/8"	78 7/8"	58"	3"	2"	14"	14"	16"
3500	6"	72"	34 5/8"	103"	81 3/4"	4"	2 1/2"	16"	16"	18"
4000	6"	72"	34 5/8"	103"	81 3/4"	4"	2 1/2"	16"	16"	18"

*Note: "E" Dia.: join (2) 10" openings into common 14" and join (2) 12" openings into common 16"

**Appliance may be supplied with 2 openings that can be combined into this size.

***Non-Cond. models are shipped with standard vent size unless sidewall vent size is specified.

****Water connections are 3" grooved at header.

THERMAL EFFICIENCIES OF UP TO

85% Non-Condensing
95% Condensing

Model	Input	Output - BTUH (Non-Cond.)	Output - BTUH (Condensing)	Model	Approx. Shipping Weights (lbs)	
					Non-Cond.	Cond.
800	800,000	680,000	760,000	800	500	580
1000	1,000,000	850,000	950,000	1000	610	690
1200	1,200,000	1,020,000	1,140,000	1200	732	828
1400	1,400,000	1,190,000	1,330,000	1400	854	966
1600	1,600,000	1,360,000	1,520,000	1600	976	1104
1800	1,800,000	1,530,000	1,710,000	1800	1098	1242
2000	2,000,000	1,700,000	1,900,000	2000	1220	1380
2010	2,000,000	1,700,000	1,900,000	2010	1,585	1,635
2500	2,500,000	2,125,000	2,375,000	2500	1,675	1,745
3000	3,000,000	2,550,000	2,850,000	3000	1,750	1,820
3500	3,500,000	2,975,000	3,325,000	3500	2,000	2,070
4000	4,000,000	3,400,000	3,800,000	4000	2,200	2,270

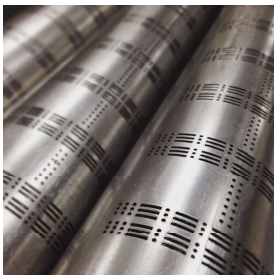
Input and Output

BLUEFLAME SERIES

gas fired commercial copper tube boilers

for hydronic heating and hot water supply

EFFICIENCIES
UP TO
83%

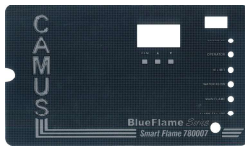


The BlueFlame atmospheric burner is 100% stainless steel construction. Vertically fired below the heat exchanger, the tubes are mounted in a burner tray in an array formation to allow for a broad range of inputs. The tray slides out for full access to the burners for easy inspection and cleaning.

The copper heat exchanger is a two pass design with a maximum working pressure of 160 PSIG and a maximum working temperature of 250°F for heating and 210°F for domestic hot water applications. Utilizing cast bronze headers, steel tube-sheets and copper or cu-ni tubes, they can be configured for right or left side water connections. Removable headers allow for easy access to the tube bundle for service & cleaning.



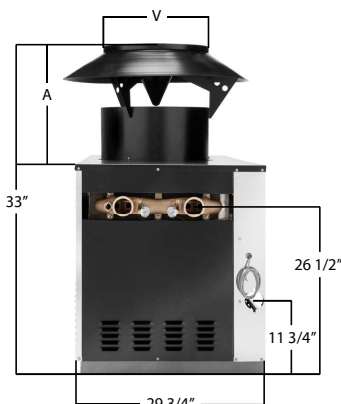
Smartflame 780007 Control Panel Highlights



- Incorporates auto reset high limit & operator
- Multiple modes of operation for domestic hot water, hydronic heating and outdoor reset
- Firing Modes available: on/off, 2-stage and modulation (modulation is optional - controlled by the Honeywell T775A2009)
- Port for optional tank sensor
- Displays inlet/outlet temps and delta temperature
- Flame failure feature
- Alarm contacts
- Displays total run hours
- Snap on Molex connection for easy service
- Fusible link for over-voltage protection

Standard Features

- Diagnostic lights help troubleshooting
- Copper Tube HTX meets lead-free regulations
- Durable stainless steel burner
- Adaptable to outdoor use
- Simple to service
- Slide out burner tray and Heat Exchanger
- Easy side access for inspection of combustion chamber
- High temp ceramic fiber tiles in combustion chamber
- Very smooth and quiet operation
- Suitable for venting in low ceiling applications with use of power venter and low profile hood
- Optional Digital Temp control is extremely accurate to minimize standby losses from temp. overshoot
- Optional modulating firing mode available



Dimensions & Specifications	STANDARD VENTING						OUTDOOR VENTING				
	Model	"A"	"B"	"V"	Nat. Gas	L.P.	"A"	"B"	"V"	Nat. Gas	L.P.
	480	16"	30 3/4"	10"	1"	3/4"	20"	30 3/4"	12"	1"	3/4"
	660	16"	39"	12"	1"	3/4"	20"	39"	14"	1"	3/4"
	840	19"	47 1/4"	14"	1"	3/4"	20"	47 1/4"	16"	1"	3/4"
	1020	21"	55 1/2"	16"	1 1/4"	1"	20"	55 1/2"	18"	1 1/4"	1"
	1200	21"	63 3/4"	16"	1 1/4"	1"	20"	63 3/4"	18"	1 1/4"	1"
	1380	21"	72"	18"	1 1/4"	1"	20"	72"	20"	1 1/4"	1"
	1560	21"	80 1/4"	18"	1 1/4"	1"	20"	80 1/4"	20"	1 1/4"	1"
	1740	21"	88 1/2"	20"	1 1/2"	1 1/4"	20"	88 1/2"	22"	1 1/2"	1 1/4"
1950	21"	96 3/4"	20"	1 1/2"	1 1/4"	20"	96 3/4"	22"	1 1/2"	1 1/4"	

Input and Output	Model	Input - BTUH		Output - BTUH		Approx. Shipping Weight (lbs)
		MBH	KW	MBH	KW	
	480	480	(140.6)	398.4	(116.7)	425
	660	660	(193.4)	547.8	(160.5)	535
	840	840	(246.1)	697.2	(204.3)	596
	1020	1020	(298.9)	846.6	(248.1)	650
	1200	1200	(351.6)	996.0	(291.8)	770
	1380	1380	(404.3)	1145.4	(335.6)	802
	1560	1560	(457.0)	1294.8	(379.4)	930
	1740	1740	(509.8)	1444.2	(423.1)	950
1950	1950	(571.3)	1618.5	(474.2)	1035	



VTECH

gas fired stainless steel water heater

for hot water supply



The VTECH is the newest dedicated hot water system on the market today and it is designed to provide you with continuous water temperatures all while lowering energy consumption. Its storage tank is available in sizes ranging from 60 to 125 gallons, and is constructed entirely of stainless steel.

With inputs ranging from 80,000 to 499,000 BTU/hr, the VTECH is the right choice for new commercial builds and retrofits. And with its sleek design and quiet operation, you can be confident that you'll never run out of hot water again.

Main Features

- Fully modulating with a 5:1 turndown
- Integrated digital operating control
- 160 PSIG M.A.W.P. stainless steel storage tank
- All stainless steel water surfaces
- Extremely low noise level of operation
- Available in natural gas or propane

Additional Features

- Left or right side water connections
- Combustion thermal switch
- Stack temperature limit
- Proven hot surface ignition
- Neutralizer kit
- Integrated UL353 approved fail safe manual reset high limit @ 195°F
- 150 PSI temperature & pressure relief valve
- Thru wall exhaust vent (vertical or horizontal) with 3 intake options
 1. Outside air sealed direct
 2. Outside air
 3. Indoor air
- PVC/CPVC/Stainless Steel/PPE vent options
- Suitable for Category II and IV installations
- Single-point adjustment for air and gas
- 1:1 air/gas ratio

EFFICIENCIES

UP TO

95%

FORWARD THINKING



Burner

The VTech burner is 100% stainless steel and vertical mounted radial fired with stainless knitted metal fiber construction. The burner combusts a precise amount of premixed combustion air and gas to provide equal distribution of heat for heat transfer to the entire heat exchanger. Combustion operates with a 5:1 turn down ratio while sustaining combustion characteristics throughout the entire modulating range.

Heat Exchanger

The VTech features a single pass fire-tube heat exchanger with 1.5" diameter oval tubes configured to optimize performance and maximize heat transfer and efficiencies. Constructed using 304L/316L grade stainless steel and multiple ports, this all welded heat exchanger has been designed to allow for reduced maintenance, longer life and greater application.

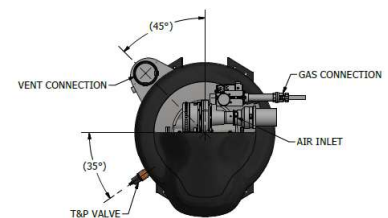
Integrated digital operating control system

- User configurable multi-line backlit LCD display (Temperature readings, status, heater response, run hours, date and time)
- Secure access for both the user and installer
- Heater shuts down on flue gas high temperature detection
- Alarm contacts
- 15 error and lockout history with time & date stamp
- Real time flame signal
- Digital safety annunciation with fault rectification
- Unique programming card allowing for simplified setup and support
- Maximum operating setpoint of 190°F



Dimensions and Specifications

Dimensions and Specifications	Model	"A" - Floor to top of boiler	"B" - Jacket Dia.	"C" - Floor to hot water conn.	"D" - Floor to cold water conn.	"E" - Floor to gas conn.	"F" - Floor to vent conn.	"G" - Floor to air intake conn.	"H" - Floor to T&P valve conn.	"J" - Floor to drain conn.	"K" - Floor to condensate drain conn.	Air Inlet conn.	Vent conn.	Gas conn. (NPT)	Drain conn. (NPT)	Tank Capacity (US Gal.)	Model	Maximum Input MBTU	Maximum Output MBTU
	80	55"	27"	41-3/8"	11-7/8"	49-1/2"	11-1/2"	48"	41-1/8"	7-1/4"	4-1/4"	2"	3"	1/2"	1/2"	60	80	80,000	76,000
	100	55"	27"	41-3/8"	11-7/8"	49-1/2"	11-1/2"	48"	41-1/8"	7-1/4"	4-1/4"	2"	3"	1/2"	1/2"	60	100	100,000	95,000
	120	68"	27"	54-3/8"	11-7/8"	62-1/2"	11-1/2"	61"	54-1/8"	7-1/4"	4-1/4"	2"	3"	1/2"	1/2"	80	120	125,000	118,750
	150	68"	27"	54-3/8"	11-7/8"	62-1/2"	11-1/2"	61"	54-1/8"	7-1/4"	4-1/4"	2"	3"	1/2"	1/2"	80	150	150,000	142,500
	199	68"	27"	54-3/8"	11-7/8"	62-1/2"	11-1/2"	61"	54-1/8"	7-1/4"	4-1/4"	2"	3"	1/2"	1/2"	80	199	199,000	189,050
	250	78"	27"	64-3/8"	11-7/8"	72-1/2"	11-1/2"	71"	64-1/8"	7-1/4"	4-1/4"	2"	3"	1/2"	1/2"	100	250	250,000	237,500
	299	78"	27"	64-3/8"	11-7/8"	71"	12"	71"	64-1/8"	7-1/4"	4-1/4"	3"	4"	3/4"	1/2"	100	299	299,000	284,050
	399	78"	27"	64-3/8"	11-7/8"	71"	12"	71"	64-1/8"	7-1/4"	4-1/4"	3"	4"	1"	1/2"	100	399	399,000	379,050
	499	87-3/4"	27"	74-1/8"	11-7/8"	80-3/4"	12"	80-3/4"	73-7/8"	7-1/4"	4-1/4"	3"	4"	1"	3/4"	125	499	499,000	474,050





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