

WARD HEATING PRODUCTS

2018 CATALOGUE

Hydronics



Section 1



1 HYDRONIC EQUIPMENT

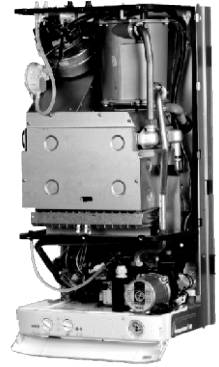
Wall Mount Modulating Condensing Gas Boilers

RIVApplus Compact MODCON Heating Boiler

The Biasi Riva Plus offers a unique condensing technology that increases the efficiency of the standard Riva to 90% AFUE. With the inclusion of a recuperator, the Riva Plus can extract the remaining heat from the boiler's exhaust gas and transfer that heat into the return water destined for the boiler's primary heat exchanger. The units come with Ten Year warranty for Primary Heat Exchanger, Two Years All Remaining Components

Advantages:

- 90% AFUE
- Utilizes Recuperators Technology
- ASME Certified Heat Exchanger
- Output Modulates from 41,600 BTU to 103,000 BTU
- PVC/CPVC Venting Approved

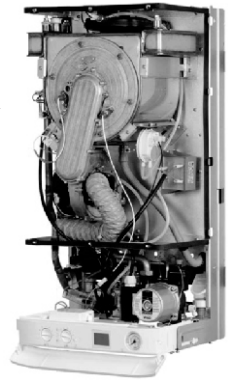


RIVAadvance Compact MODCON Heating Boiler

The Riva Advance is available in two models. The Combi model provides both heat and domestic hot water (up to 4.5 gpm) through an instantaneous, flatplate DHW heater. The SV model provides space heat and has an internal, 3 way diverter valve which can be piped and wired to an indirect DHW tank for efficient domestic water production. The unit comes with a Ten Year warranty for Primary Heat Exchanger, Two Years All Remaining Components

Advantages:

- 92.5% AFUE
- ASME Certified Heat Exchanger
- PVC/CPVC Venting Approved
- Output Modulates from 28,800 BTU to 112,500 BTU
- LCD Display for easy diagnostics



Item	Order #	Description
Riva Plus Heating Only Boiler	BZ RI-NAT Plus	Biasi Riva Plus Heating Only Boiler in Natural Gas (M135.30CR)
	BZ RI-LPG Plus	Biasi Riva Plus Heating Only Boiler in Propane (M135.30CR)
Riva Plus Combi DHW Boiler	BZ RI-NAT Plus Combi	Biasi Riva Plus Heating. DHW Boiler in Natural Gas (M135.30CM)
	BZ RI-LPG Plus Combi	Biasi Riva Plus Heating. DHW Boiler in Propane (M135.30CM)
Riva Advance Heating Only Boiler	BZ RI-NAT Advance	Biasi Riva Advance Heating Only Boiler in Natural Gas (M210.32CV)
	BZ RI-LPG Advance	Biasi Riva Advance Heating Only Boiler in Propane (M210.32CV)
Riva Advance Combi DHW Boiler	BZ RI-NAT Advance Combi	Biasi Riva Advance DHW Boiler in Natural Gas (M210.32CM)
	BZ RI-LPG Advance Combi	Biasi Riva Advance DHW Boiler in Propane (M210.32CM)

PVC & POLYPRO Venting & Accessories

Note: All PVC/CPVC pipe, fittings and cement must be approved to ULC 636 & first 8ft of exhaust must be CPVC pipe

Polypropylene Venting & Accessories	BZ RI 99909120	PVC/POLYPRO Venting Adapter for Riva Plus (REQUIRED)
	BZ RI 3PPS-HK	Horizontal Termination (includes termination, adapters & plates)
	BZ RI 3PPS-VK	Vertical Termination (includes termination & pipe adapters)
	BZ RI 3PPS-FF	Flate Roof Flashing
	BZ RI 3PPS-F12	Adjustable Angled Roof Flashing
	BZ RI 3PPS-12	12" Polypro Pipe
	BZ RI 3PPS-36	36" PolyPro Pipe
	BZ RI 3PPS-72	72" Polypro Pipe
	BZ RI 3PPS-AVL	Adjustable Length Polypro Pipe
	BZ RI 3PPS-E45	45 Degree Polypro Elbow
	BZ RI 3PPS-E90	90 Degree Polypro Elbow
	BZ RI 3PPS-TP	Polypro Test Port
	BZ RI 3PPS-WS	Polypro Wall Strap

Crown Phantom Wall Mount Condensing Gas Boiler

Meet the Phantom®! This wall-mounted condensing boiler has a stainless steel water tube heat exchanger, and is Crown's most efficient offering. The Phantom® is available in five sizes (80, 100, 120, 150, and 180 MBH) with multiple venting options. The Phantom offers "Smart Boiler" capabilities, including outdoor reset, a modulating burner with 5:1 turndown ratio, domestic priority, warm weather shutdown and freeze protection. A Honeywell SOLA control with a touchscreen user interface comes standard, as does low water cutoff, and side panel access to the circulator makes this boiler a serviceman's dream. A vent adapter allows for CPVC/PVC or single wall polypropylene venting



Item No.	Maximum Input (MBH)	Minimum Input (MBH)	Heating Capacity (MBH)	AHRI Net Rating (MBH)	AFUE (%)	Water Content (GALS)	Shipping Weight (LBS)
PHANTOM080	80	16	74	64	93.2	0.36	165
PHANTOM100	100	20	92	80	93.3	0.44	167
PHANTOM120	120	24	111	97	93	0.53	173
PHANTOM150	150	30	141	123	94	0.79	195
PHANTOM180	180	36	167	145	93.2	0.79	195



Crown Phantom-X Stackable Condensing Gas Boiler

The Phantom-X Series boiler is a stainless steel, water tube, high-efficiency, condensing, gas-fired, hot water boiler available in larger sizes than the wall mounted Phantom boiler. There are multiple venting options to suit installer preferences, and the Phantom X is stackable for floor space savings (see image below). The Phantom-X is available in natural gas, with a field conversion for LP gas.

The Phantom-X has a modulating burner with a 5:1 turndown ratio and supports multiple boiler lead/lag for up to 8 boilers. Smart boiler features, like domestic priority with priority protection, warm weather shutdown, freeze protection, and pump exercise, make the Phantom-X an excellent option for both residential and commercial applications.



Item No.	Maximum Input (MBH)	Minimum Input (MBH)	Heating Capacity (MBH)	AHRI Net Rating (MBH)	AFUE (%)	Water Content (GALS)	Shipping Weight (LBS)
PHANTOM210	210	42	194	169	95	1.7	206
PHANTOM285	285	57	262	228	95	2.4	256
PHANTOM399	399	80	377	377	94	3.4	304
PHANTOM500	500	100	475	413	95	4.2	375

Order #	Description	Input BTU/HR
PHNTM080	Crown Phantom Modulation-Condensing Gas Boiler	80,000
PHNTM100	Crown Phantom Modulation-Condensing Gas Boiler	100,000
PHNTM120	Crown Phantom Modulation-Condensing Gas Boiler	120,000
PHNTM150	Crown Phantom Modulation-Condensing Gas Boiler	150,000
PHNTM180	Crown Phantom Modulation-Condensing Gas Boiler	180,000
PHNTM210	Crown Phantom-X Modulation-Condensing Gas Boiler	210,000
PHNTM285	Crown Phantom-X Modulation-Condensing Gas Boiler	285,000
PHNTM399	Crown Phantom-X Modulation-Condensing Gas Boiler	399,000
PHNTM500	Crown Phantom-X Modulation-Condensing Gas Boiler	500,000

1 HYDRONIC EQUIPMENT

Cast Iron Oil Fired Boiler

Biasi B10 Series Cast Iron Boilers

The BIASI B-10 is a rugged, high performance oil (or gas-fired), cast iron boiler engineered to deliver systems efficiencies as high as 87.3%, much higher than that of 'single pass' domestic boilers. The BIASI B-10 has a unique triple-pass heat exchanger that extracts the maximum amount of heat from the combustion gasses, resulting in very little wasted heat.

Technical Advantages

- Lifetime Warranty on boiler block.
- Super efficient, three pass flue / heat exchanger.
- Easily Converts to Oil, Propane or Natural Gas with Burner Change.
- BIASI B-10 boiler block is ASME rated for 58 psi.
- Cold Start Boiler. GG20 flexible cast iron for superior durability.
- No Chimney required. Direct vent listed for oil or gas.
- **UL, cUL and CRN Listed for Natural Gas, Propane or Oil.**



TRUE BLUE Cast Iron Block comes with Full Lifetime Warranty.

WARRANTY

In our opinion, the BEST WARRANTY in the industry. If the boiler block EVER leaks - we will replace the block and supply a reasonable stipend for labour allowance (up to \$500.00)*
*some exceptions apply (eg. Frozen or "run dry" of water) Consequential damage not included - please see manufacturer's documentation for complete details.

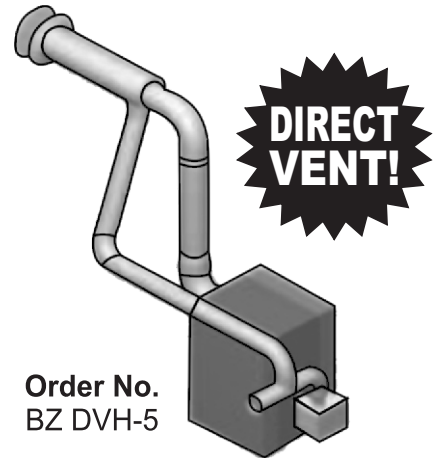
Oil Direct vent Co-axial System:

DVH-5 Contains:

- 5" Exhaust/4" Intake Hood (Concentric)
- 5" x 2 ft. Insulation Sleeve
- 5" 90 deg. Heavy Gauge Exhaust Elbow
- 5" Double Wall Flex Adapter
- 5" dia. X 8 ft. double wall flex duct
- 6" to 5" Exhaust Adapter
- 6" 90 deg. Appliance Elbow with clamp
- 4" dia. X 10 ft Aluminium Flex Duct
- 4" Galvanized Tee with 4" MG-1 Damper
- 4" 90 deg. Light Gauge Intake Elbow
- Oil Direct Vent Trim Kit
- Can be used with B-10 Series (3 to 7 section)

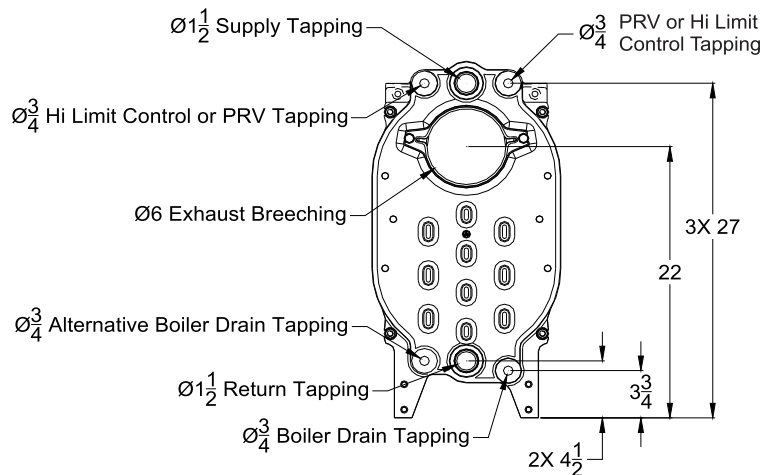
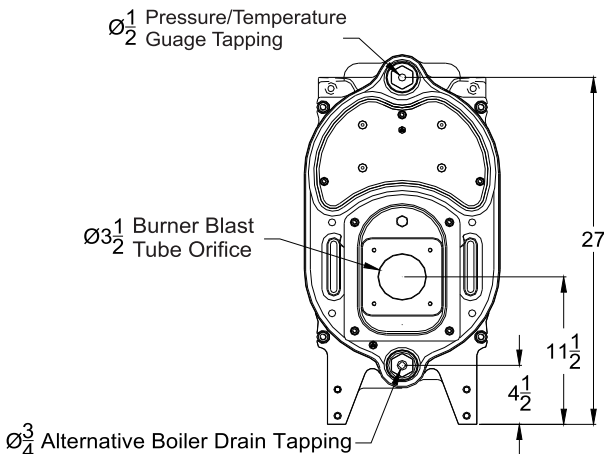
Technical Advantages:

- Low cost compared to chimney
- Easy installation
- Vent up to 200,000 BTU per hour
- Tested to UL 726
- Burner has purging controls for clean operation



Order No.
BZ DVH-5

Boiler Tapping Diagram:



See the Easy-Choice Pricing Packages on Page 9 for more options

HYDRONIC EQUIPMENT

Biasi B10 Series Oil Fired Boiler Pricing

Boiler Model	Burner Model	Venting	Description	Part Number	BTU Output
Biasi B10-3	Riello F3 Oil	Chimney Vented	3 Section Boiler Block & Jacket F3 Oil Burner and Wiring Harness 24" Stainless Steel Hose & Trim Kit	BZ B-10 3 SEC BZ F3 OIL MP131-18M	67,000
Biasi B10-4	Riello F3 Oil	Chimney Vented	4 Section Boiler Block & Jacket F3 Oil Burner and Wiring Harness 24" Stainless Steel Hose & Trim Kit	BZ B-10 4 SEC BZ F3 OIL MP131-18M	110,000
Biasi B10-5	Riello F5 Oil	Chimney Vented	5 Section Boiler Block & Jacket F5 Oil Burner and Wiring Harness 24" Stainless Steel Hose & Trim Kit	BZ B-10 5 SEC BZ F5 OIL MP131-18M	124,000
Biasi B10-6	Riello F5 Oil	Chimney Vented	6 Section Boiler Block & Jacket F5 Oil Burner and Wiring Harness 24" Stainless Steel Hose & Trim Kit	BZ B-10 6 SEC BZ F5 OIL MP131-18M	153,000
Biasi B10-7	Riello F5 Oil	Chimney Vented	7 Section Boiler Block & Jacket F5 Oil Burner and Wiring Harness 24" Stainless Steel Hose & Trim Kit	BZ B-10 7 SEC BZ F5 OIL MP131-18M	185,000
Biasi B10-8	Riello F10 Oil	Chimney Vented	8 Section Boiler Block & Jacket F10 Oil Burner and Wiring Harness 24" Stainless Steel Hose & Trim Kit	BZ B-10 8 SEC BZ F10 OIL MP131-18M	211,000
Biasi B10-9	Riello F10 Oil	Chimney Vented	9 Section Boiler Block & Jacket F10 Oil Burner and Wiring Harness 24" Stainless Steel Hose & Trim Kit	BZ B-10 9 SEC BZ F10 OIL MP131-18M	257,000
Biasi B10-3	Riello BF3 Oil	Direct Vented	3 Section Boiler Block & Jacket BF3 Oil Burner and Wiring Harness 24" Stainless Steel Hose & Trim Kit DVH5 Direct vent Kit & Controls	BZ B-10 3 SEC BZ BF3 OIL MP131-18M BZ DVH5	67,000
Biasi B10-4	Riello BF3 Oil	Direct Vented	4 Section Boiler Block & Jacket BF3 Oil Burner and Wiring Harness 24" Stainless Steel Hose & Trim Kit DVH5 Direct vent Kit & Controls	BZ B-10 4 SEC BZ BF3 OIL MP131-18M BZ DVH5	110,000
Biasi B10-5	Riello BF5 Oil	Direct Vented	5 Section Boiler Block & Jacket BF5 Oil Burner and Wiring Harness 24" Stainless Steel Hose & Trim Kit DVH5 Direct vent Kit & Controls	BZ B-10 5 SEC BZ BF5 OIL MP131-18M BZ DVH5	124,000
Biasi B10-6	Riello BF5 Oil	Direct Vented	6 Section Boiler Block & Jacket BF5 Oil Burner and Wiring Harness 24" Stainless Steel Hose & Trim Kit DVH5 Direct vent Kit & Controls	BZ B-10 5 SEC BZ BF5 OIL MP131-18M BZ DVH5	153,000
Biasi B10-7	Riello BF5 Oil	Direct Vented	7 Section Boiler Block & Jacket BF5 Oil Burner and Wiring Harness 24" Stainless Steel Hose & Trim Kit DVH5 Direct vent Kit & Controls	BZ B-10 5 SEC BZ BF5 OIL MP131-18M BZ DVH5	185,000

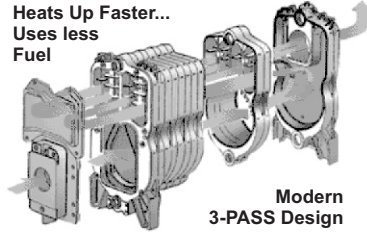
1 HYDRONIC EQUIPMENT

Cast Iron Gas Fired Boiler

- Modern, Efficient Three Pass Design
- Lifetime Warranty on Boiler Block
- Easily converts between gas, oil and propane
- UL, CUL, and CRN Listed for all fuel types
- ASME rated for 58psi
- Installation accessories available on page 1-6
- **NEW Fuel Smart Hydrostat 3250Plus included in boiler pricing**



Heats Up Faster...
Uses less
Fuel



Modern
3-PASS Design



Boiler Model	Burner Model	Venting	Description	Part Number	BTU Output
Biasi B10-3	Riello R120 Gas	Chimney Vented	3 Section Boiler Block & Jacket R120 Gas Burner Double Acting Barometric Switch Spill Switch & Trim Kit	BZ B-10 3 SEC BZ R-GAS120 BZ D-6" MGI BZ D-FTS6	67,000
Biasi B10-4	Riello R120 Gas	Chimney Vented	4 Section Boiler Block & Jacket R120 Gas Burner Double Acting Barometric Switch Spill Switch & Trim Kit	BZ B-10 4 SEC BZ R-GAS120 BZ D-6" MGI BZ D-FTS6	97,000
Biasi B10-5	Riello R200 Gas	Chimney Vented	5 Section Boiler Block & Jacket R200 Gas Burner Double Acting Barometric Switch Spill Switch & Trim Kit	BZ B-10 5 SEC BZ R-GAS200 BZ D-6" MGI BZ D-FTS6	124,000
Biasi B10-6	Riello R200 Gas	Chimney Vented	6 Section Boiler Block & Jacket R200 Gas Burner Double Acting Barometric Switch Spill Switch & Trim Kit	BZ B-10 6 SEC BZ R-GAS200 BZ D-6" MGI BZ D-FTS6	153,000
Biasi B10-7	Riello R400 Gas	Chimney Vented	7 Section Boiler Block & Jacket R400 Gas Burner Double Acting Barometric Switch Spill Switch & Trim Kit	BZ B-10 7 SEC BZ R-GAS400 BZ D-6" MGI BZ D-FTS6	185,000
Biasi B10-8	Riello R400 Gas	Chimney Vented	8 Section Boiler Block & Jacket R400 Gas Burner Double Acting Barometric Switch Spill Switch & Trim Kit	BZ B-10 8 SEC BZ R-GAS400 BZ D-6" MGI BZ D-FTS6	211,000
Biasi B10-9	Riello R400 Gas	Chimney Vented	9 Section Boiler Block & Jacket R400 Gas Burner Double Acting Barometric Switch Spill Switch & Trim Kit	BZ B-10 9 SEC BZ R-GAS400 BZ D-6" MGI BZ D-FTS6	257,000

Riello Conversion Gas Burner Only (For Converting Existing B10 Oil Boilers)

Order No.	Description
BZ R-GAS120-LP	Riello R120 LP Gas Burner for B10-3 & B10-4 (Inc: Barometric & Spill Switch)
BZ R-GAS120-NG	Riello R120 NG Gas Burner for B10-3 & B10-4 (Inc: Barometric & Spill Switch)
BZ R-GAS200-LP	Riello R200 LP Gas Burner for B10-5 & B10-6 (Inc: Barometric & Spill Switch)
BZ R-GAS200-NG	Riello R200 NG Gas Burner for B10-5 & B10-6 (Inc: Barometric & Spill Switch)
BZ R-GAS400-LP	Riello R400 LP Gas Burner for B10-7, B10-8, B10-9 (Inc: Barometric & Spill Switch)
BZ R-GAS400-NG	Riello R400 NG Gas Burner for B10-7, B10-8, B10-9 (Inc: Barometric & Spill Switch)

Item Number	Description
Biasi B10 Trim Kit (Included with all boilers)	
BZ C-BLE-07	Black Iron Elbow 90deg x 3/4"
BZ C-BLN-0730	Black Iron Nipple 3" x 3/4"
BZ C-BLP-07	Black Iron 3/4" Plug
B WATBDQT 3/4	3/4" Boiler Drain (Qtr Turn)
BZ C-PRV B10	Cash Acme PRV, 3/4" 30PSI, 501MBH
BZ C-TTD401	Boiler Tridicator 0-75PSI, 30-250F

Direct Vent Package (Oil Only)

BZ DVH-5	5" Concentric Direct Vent Kit
BZ BF3 BNR	Riello BF3 Oil Burner
BZ BF5 BNR	Riello BF5 Oil Burner

Circulators

UP S15-58FC	Grundfos Circ Pump 1/25HP
UP GPD15-6SF	Walrus Circ Pump 1/25HP
UP GDP25-10SF	Walrus Circ Pump 1/6HP

Flanges

UP 519601	3/4" Flange Set
UP 519602	1" Flange Set
UP 519603	1-1/4" Flange Set
UP 519604	1-1/4" Flange Set

Air Separators

TC VRTX100-3	Taco 1" Air Separator
TC VRTX125-3	Taco 1-1/4" Air Separator
TC VRTX150-3	Taco 1-1/2" Air Separator

Expansion Tanks

FLX HTX15	Expansion Tank (2.1 GAL)
FLX HTX30	Expansion Tank (4.4 GAL)
FLX HTX60	Expansion Tank (6 GAL)

Pressure Reducing Valves

TC 329-3	Taco Pressure Reducing Valve
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Flat Plate Domestic Heat Exchangers

FP5X12-8	Flatplate For B10-3
FP5X12-10	Flatplate For B10-4
FP5X12-12	Flatplate For B10-5
FP5X12-14	Flatplate For B10-6
FP5X12-16	Flatplate For B10-7
FP5X12-20	Flatplate For B10-8
FP5X12-24	Flatplate For B10-9
FP BKT5X12	Mounting Bracket

Indirect Water Heaters

AML CH-41Z	Amtrol 41 Gallon Indirect
AML WH-7C	Amtrol Commercial Indirect

1 HYDRONIC EQUIPMENT

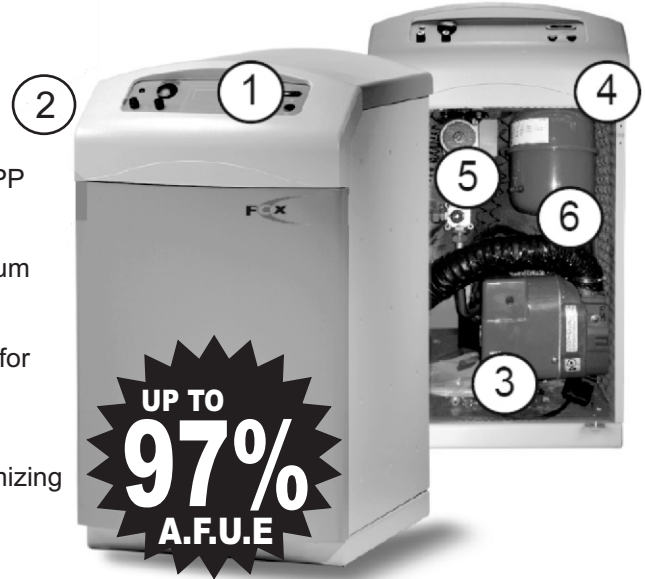
Oil Fired Condensing Boilers

FCX Oil Fired Condensing Boilers

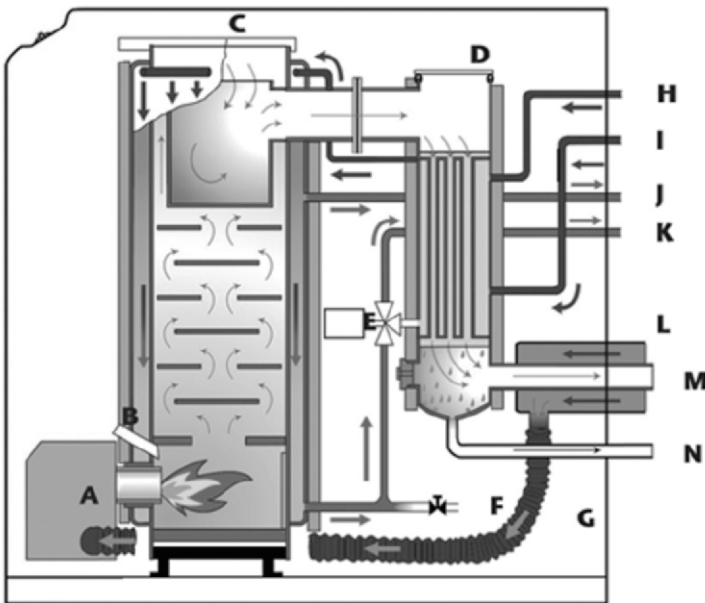
Thousands of installations worldwide have proven the FCX boiler to be reliable and efficient. The FCX features a steel, primary non-condensing heat exchanger coupled to a condensing, stainless secondary heat exchanger. A built-in three-way mixing valve permits all-season comfort at maximum efficiency. The FCX has dual-temperature circuit capability, which makes combining low & high-temperature applications in the same structure quick and easy.

Inside View of FCX Boiler

1. Built in temperature controls provide heating comfort.
2. Economical PP/PVC vent system: sealed system brings in fresh air for combustion and allows flue gas to be vented safely outdoors either vertically or horizontally. Single wall PP options available.
3. All burners equipped with fuel line heater to provide maximum efficiency.
4. Expansion tank, mixing valve and circulation pump, built in for ease of installation.
5. Stainless steel secondary heat exchanger to transfer any unused energy from the primary heat exchanger thus minimizing your fuel bills.
6. Steel primary heat exchanger for long life durability.



How it Works...



- A Riello RDB Oil Burner
- B Sight Glass
- C Primary, non-condensing heat exchanger
- D Secondary, condensing heat exchanger
- E Mixing Valve and Circulating Pump
- F System drain
- G Combustion air tube
- H Return from optional high-temp circuit
- I Return from low-temp circuit
- J High temp supply circuit
- K Low temp supply circuit
- L Combustion air inlet
- M Flue gas outlet
- N Condensation outlet

Model No.	Output BTU/hr	Burner Included	Shipping Weight	Dimensions (inches)		
				D	W	H
L FCX 22	76,000	Riello RDB	322 lbs	27.5	23.7	39.1
L FCX 30	104,000	Riello RDB	369 lbs	27.5	23.7	39.1

Venting Option #1: Concentric Through-The-Wall Kit

Order#	Description	Qty
L ICWTK	Concentric Through-The-Wall Kit	1
Kit Consists of the following:		
L ICWT352	3" / 5" x 20" Concentric Wall Termination PP	1
L IAWPPS05	Plastic Wall Plate	2

Venting Option#2: Concentric Riser Vent Kit

Order#	Description	Qty
L ICWTK33	Concentric Riser Vent Kit	1
Kit Consists of the following:		
L ICEL3545	3"/5" x 45 deg Elbow	1
L ICEL3587	3"/5" x 87deg Concentric Elbow	2
L ICVLAL353	3"/5" x 3ft Concentric Vent Length	2
L ICWT352	3"/5" x 20" Concentric Wall Termination PP	1
L IAWPPS05	Plastic Wall Plate	2

Venting Option#3: Concentric Vertical Vent

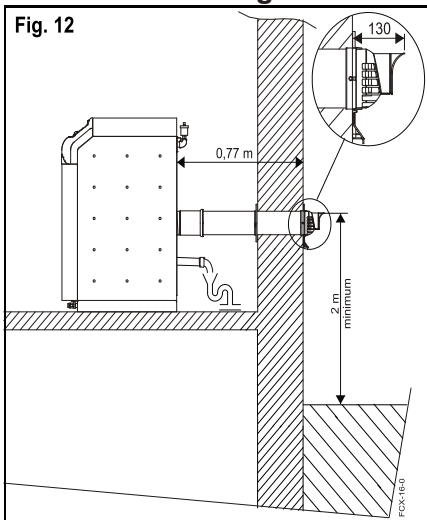
Order#	Description	Qty
L ICTP35	3"/5" Concentric PPs/ST Test Port	1
L ICEL3587	3"/5" x 87deg Concentric Elbow	1
L ICEL3545	3"/5" x 45deg Concentric PPs/Alu Elbow	1
L ICVLAL351	3"/5" x 12" Concentric PPs/ST Vent Length	Choose
L ICVLAL352	3"/5" x 24" Concentric PPs/ST Vent Length	Choose
L ICVLAL353	3"/5" x 36" Concentric PPs/ST Vent Length	Choose
L ICRT3539	3"/5" Concentric Roof Termination PPs-UV	1

Note: Length of Vertical Venting required will determine the number of 12", 24" and/or 36" lengths required.

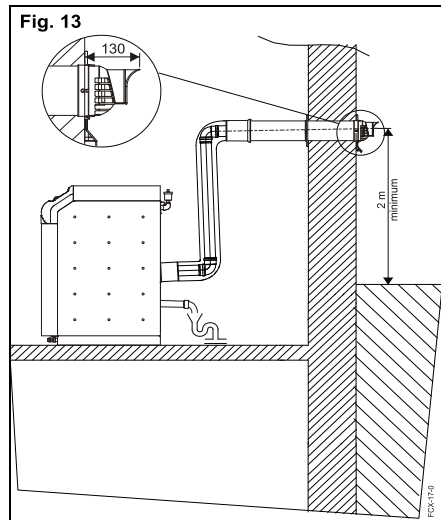
Miscellaneous Additional Parts

Order No.	Description	UPC
L ICCT3503	3"/5" Concentric to Twin Pipe Adaptor	815010010228
L ICVKH35	3"/5" Concentric Vent Kit	
L ICWS3513	3"/5" x 13" Concentric Wall Termination SS	815010010365

Concentric Through-The-Wall



Concentric Riser Vent Kit



Concentric Vertical Vent Kit

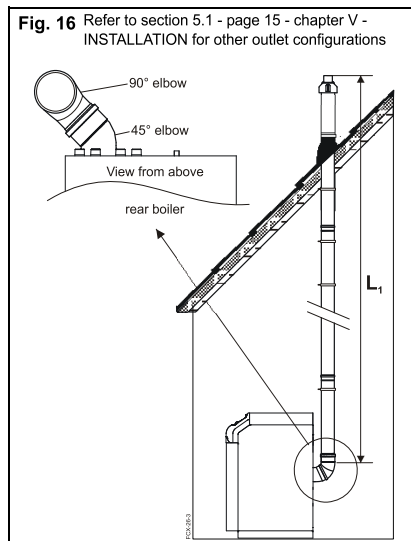


Fig. 16 Refer to section 5.1 - page 15 - chapter V - INSTALLATION for other outlet configurations

1 HYDRONIC EQUIPMENT

Commercial Oil Fired Boiler

Biasi B-40 Series Cast Iron Commercial Boilers

You owe it to yourself to warm up to our BIASI B40 boiler systems. Our economical and highly efficient 3-pass design offers superior performance and the units are paired with the always reliable Riello oil burner. There are seven models ranging from 265 to 658 MBH, which are well-suited for commercial or multi-unit buildings. We have tested our systems extensively to Hydronics Institute Standards. BIASI's foundry is ASME certified.

Biasi B40 Boilers come with a 20 Year Limited Warranty



Technical Advantages

- GG 20 Corrosion Resistant Cast Iron
- 72 psi cast-iron construction
- Easy-access swing door
- Super efficient, 3-pass flue/heat exchanger
- Low water volume
- Extra heavy insulation for low jacket & standby losses
- ASME and IBR listed

Biasi B40 Boiler Pricing Complete with Riello Oil Burner

Boiler Model	Input MBTU/h	Heating Capacity MBTU/h	AFUE Eff.%	Water Content (gal.)	Dimensions LxWxH (inches)	Weight (lbs)
BZ B40-6	308	265	86	17	35x26x47	902
BZ B40-7	406	352	86.7	20	40x26x47	1023
BZ B40-8	504	437	86.8	23	45x26x47	1144
BZ B40-9	602	524	87	16	49x26x47	1265
BZ B40-10	700	610	87.2	28	54x26x47	1386
BZ B40-11	798	696	87.2	31	59x26x47	1507
BZ B40-12	896	783	87.4	34	64x26x47	1628

Maximum Water Working Pressure 72 psi. Maximum Relief Valve is 50 psi @ 900 MBH

Boiler Price Includes:

- GG20 Cast Iron Boiler Block
- Riello Oil Burner
- Boiler Jacket with Heavy Insulation
- Honeywell L4006E Aquastat (Manual Reset)
- Boiler Drain with Miscellaneous Fittings
- Combination Temperature and Pressure Gauge
- 50 PSI ASME Relief Valve
- Control Panel with Operating Limit Controls

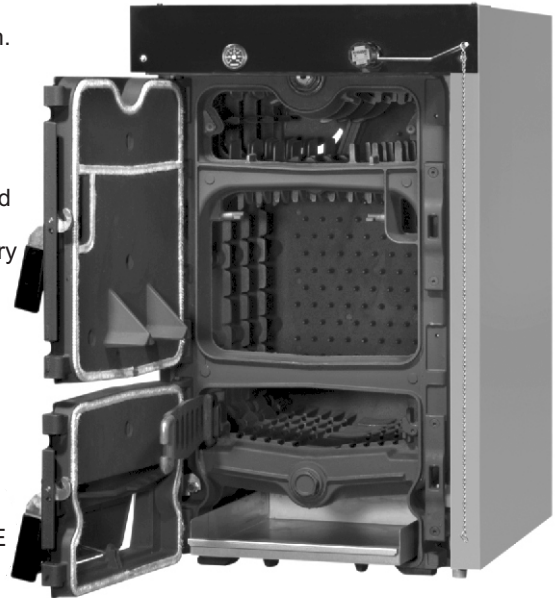
Biasi 3WOOD Series Boiler

Note: Currently not available. Please confirm availability prior to quotation. Information included for technical reference only.

The 3WOOD is a new generation of wood boiler that challenges our oil dependency. It is efficient, easy to use, and produces low emissions.

Unlike wood boilers from the past, the 3WOOD dispels the notion that wood boilers are labor intensive, inefficient and polluting. 3WOOD offers consistent high efficiency with a large heat exchange surface and secondary combustion chamber.

THE 3WOOD's water-cooled grates, large finned firebox and secondary combustion chamber maximize the burn time and minimize wood consumption. Easy adjustments to the automatic temperature control, secondary air regulator, and flue gas damper enhance fire maintenance.



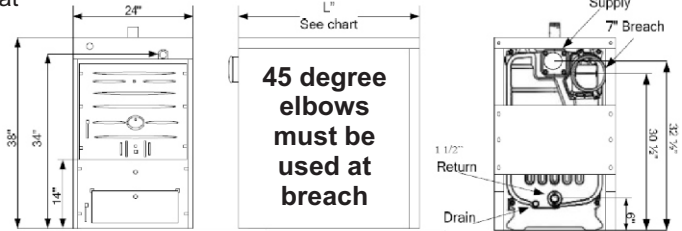
Technical Advantages

- ASME Certified Boiler Rated at 58 psi
- ETL Approved for USA and Canada
- Water-cooled Grates
- Secondary Combustion Chamber
- Heavy Insulation & Enameled Case
- Large Loading Door & Ash Tray

Safety Features

- Automatic Draft Regulator
- Pressure Relief Valve ASME
- Water-cooled Grates
- Overheat Aquastat
- Operating Aquastat
- Anti-Burn Levers

Dimensions:



Warranty:

Limited Life-time on Boiler Block, 1Year Parts

3-PASS Boiler Technology:

Provides High Efficiencies and Clean Burning

Order No.	Description	Min. Output (bth/hr)	Firebox Depth	Width (Inches)	Height (Inches)	Water Content (US Gall)	Weight (lbs)
BZ WOOD3-5	Wood Boiler – 5 Section	89,000	16.5"	24"	38"	11	695
BZ WOOD3-6	Wood Boiler – 6 Section	104,000	20"	24"	38"	12.5	804
BZ WOOD3-7	Wood Boiler – 7 Section	120,000	23.5"	24"	38"	14	903

Pressurized Buffer Tanks

Order No.	Description
BZ GEO-S80D4B	80 Gallon Tank w/ 1 1/2" Fittings
BZ GEO-S120D4B	120 Gallon Tank w/ 1 1/2" Fittings
BZ GEO-S80D4B-HX	80 Gallon Tank w/ 1 1/2" Fittings & HX Coil
BZ GEO-S120D4B-HX	120 Gallon Tank w/ 1 1/2" Fittings

Pressurized Buffer Tank Shown



Unpressurized Buffer Tanks

Order No.	Description
BZ AST550	550 Gallon Tank w/ 100 MBH 1" Coil
BZ AST820	820 Gallon Tank w/ 100 MBH 1" Coil
BZ AST100HX	Optional 100 MBH Heat Exchanger 1" Coil

Note: 3Wood 5 Requires minimum 80 Gallon Buffer Tank

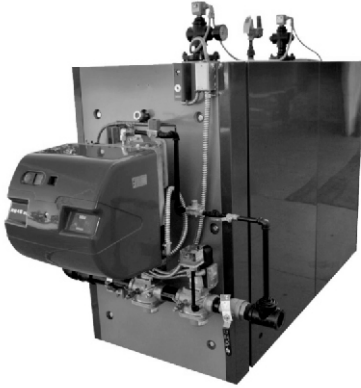
Note: 3Wood 6-7 Requires minimum 100 or 120 Gallon Buffer Tank

1 HYDRONIC EQUIPMENT

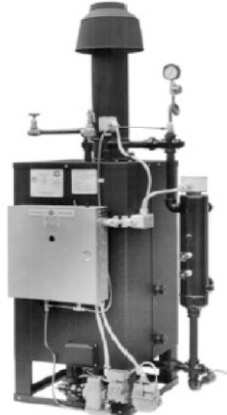
Industrial Boilers

Parker Industrial Boilers

Since 1919 throughout the United States and around the world, Parker Boilers are dependably furnishing steam and hot water for almost every type of service. To fit your unique situation, Parker also has a full line of Accessories. Available for Gas, Oil, Combination Gas/Oil firing, or Low Nox firing. (Most models are UL or ETL listed.) **Special Order Items Call for Pricing.**



Condensing Hot Water Boiler
399,000 - 5,443,000 BTUH
up to 180°F and 80PSI



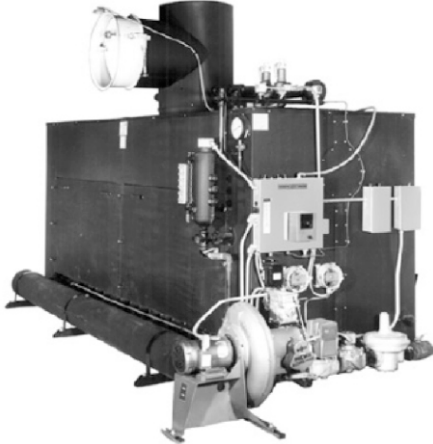
Parkerette Steam Boiler
1.5 to 3 HP
15-250 PSI



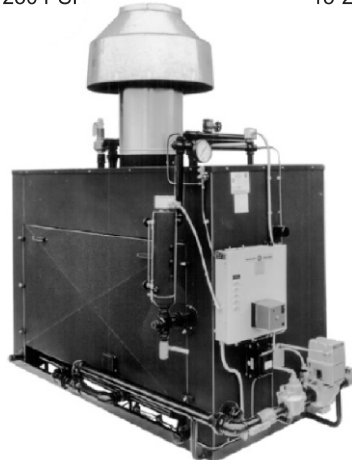
Parker Steam Boilers
7 to 25 HP
15-250 PSI



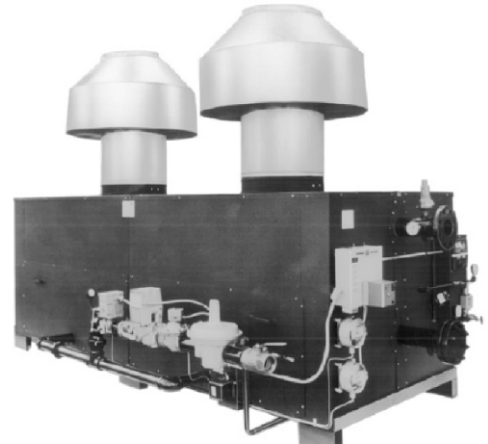
Indirect Hot Water Heaters
288 to 2878 Gallons/HR
100°F Rise



Premix Metal Fiber
Low Nox Boilers



Parker Steam Boilers
30 to 150 HP, 15 - 250 PSI



Thermal Fluid Heaters
126,000 to 6,250,000 BTU up to 650°F



Hot Water Boilers 300,000 to 6,800,000 BTU
up to 400°F & 300 PSI



Power Burners Gas, Oil or Combination Fired,
Low Nox, or Digester gas



Accessories: Storage Tanks, Blowoff Tanks
Expansion Tanks, Air Separators & Many More

Thermolec Electric Boilers

Dual-energy boilers for fossil fuel backup or stand alone installations. Cozy comfort and improved efficiency while saving you money. Feel the comfort of hot water heating controlled by advanced electronics. Standard models now include great features like a modulating electronic controller with outdoor sensor as well as integrated load management control. Modulating control with solid state relays adjusts the heat output by silently pulsing part of the boiler to keep the temperature stable. On warmer days the outdoor sensor will limit the water temperature based on the outside temperature so that your home isn't wasting energy.



1 Electronic Controller

- Allows full modulations to maximize heating efficiency and provide precise control of water temperature. Built in Aquastat is fully adjustable up to 190°F (88°C) S-15 sensor varies water temperature based on outdoor temperature

2 Load Management Control

- Automatically controls boiler based on signal from utility company

3 Insulated Stainless Steel Tank

- Corrosion-resistant for lone life

4 Solid State Control Relay(s)

- Silent, long lasting control of element switching

5 High Limit Protection

- Built-in manual reset for safety

6 Circuit Breakers - available as option

Standard Model Specifications @ 240V / 1ph (Canada)

Model No.	TH B-5	TH B-6	TH B-8	TH B-9	TH B-10	TH B-12	TH B-15
KW	5	6	8	9	10	12	15
BTU/HR	17,060	20,472	27,296	30,708	34,120	39,238	51,180
Total Amps	20.83	25	33.33	37.5	41.67	47.92	62.5
No. of Power Supplies (Amps Per breaker)	1 X 30A	1 X 30A	1 X 50A	1 X 50A	1 X 60A	1 X 60A	1 X 80A

Model No.	TH B-18	TH B-20	TH B-23	TH B-27	TH B-30	TH B-35	TH B-40
KW	18	20	23	27	30	35	40
BTU/HR	61,416	68,240	78,476	92,124	102,360	119,420	136,480
Total Amps	75	83.37	95.83	112.5	125	145.83	166.67
No. of Power Supplies (Amps Per breaker)	1 X 100A	1 X 125A	1 X 125A	2 X 80A	2 X 80A	2 X 100A	2 X 125A

Standard Model Specifications @ 3 ph (Canada)

Model No.	TH B-18	TH B-24	TH B-30	TH B-36	TH B-42
KW	18	24	30	36	42
BTU/HR	61,416	81,888	102,360	122,832	143,304
Amps @ 208V / 3ph	48	66.69	83.37	N/A	N/A
Disconnect Switch	60A	100A	100A	N/A	N/A
Amps @ 600V / 3 ph	17.34	23.12	28.9	34.68	40.46
Disconnect Switch	30A	30A	30A	60A	60A

Technical Advantages:

- Heavy-duty, fully insulated heat generator (10 years warranty)
- Low-watt density Incoloy elements (10 years warranty)

1 HYDRONIC EQUIPMENT

Ecostyle Panel Radiators and Towel Bars

Biasi Ecostyle Panel Radiators



**10 YR
WARRANTY**

Ecostyle Radiator Panels Provide exceptional radiant heat while adding style to a home. Radiant heat acts like the sun, heating objects and people, not just air. This even warmth minimizes cold spots and drafts throughout the home. Ecostyle Radiators are equipped with integrated flow-regulating valves which provide the flexibility to individually control each radiator. The feature offers a convenient and inexpensive means of sub-zoning. Ecostyle radiators are designed not only for style and efficiency, but also resiliency. The radiators are manufactured from high quality steel and finished with high gloss stove enamel, making them scratch and corrosion resistant. With clamp mounting brackets and bottom connections, the Ecostyle Radiators are easy to install and reversible.

Each Biashi radiator is guaranteed for 10 years from the date of installation against defects caused by faulty materials or manufacture. The defective product is replaced by a similar or technically corresponding radiator.

Item No.	Height (in)	Length (in)	BTU @ 180°F
BZ DBL 12.16	12	16	1,705
BZ DBL 12.24	12	24	2,562
BZ DBL 12.32	12	32	3,414
BZ DBL 12.40	12	40	4,266
BZ DBL 12.48	12	48	5,119
BZ DBL 12.56	12	56	5,971
BZ DBL 12.64	12	64	6,828
BZ DBL 16.16	16	16	2,167
BZ DBL 16.24	16	24	3,254
BZ DBL 16.32	16	32	4,337
BZ DBL 16.40	16	40	5,421
BZ DBL 16.48	16	48	6,504
BZ DBL 16.56	16	56	7,587
BZ DBL 16.64	16	64	8,675
BZ DBL 16.71	16	71	9,758
BZ DBL 20.16	20	16	2,610
BZ DBL 20.24	20	24	3,916
BZ DBL 20.32	20	32	5,221
BZ DBL 20.40	20	40	6,526
BZ DBL 20.48	20	48	7,831
BZ DBL 20.56	20	56	9,137
BZ DBL 20.64	20	64	10,442
BZ DBL 24.16	24	16	3,037
BZ DBL 24.24	24	24	4,551
BZ DBL 24.32	24	32	6,069
BZ DBL 24.40	24	40	7,587
BZ DBL 24.48	24	48	9,106
BZ DBL 24.56	24	56	10,624
BZ DBL 24.64	24	64	12,138
BZ DBL 24.71	24	71	13,656
BZ DBL 36.16	36	16	4,240
BZ DBL 36.24	36	24	6,362
BZ DBL 36.32	36	32	8,480
BZ DBL 36.40	36	40	10,602
BZ DBL 36.48	36	48	12,724

Biasi Ecostyle Towel Bar Radiators

Style Towel Bar Radiators have long been used in Europe to heat bathrooms, kitchens, hallways, etc. without wasting valuable wall space. These radiators are designed to offer comfort and elegance to all types of interiors.

Ecostyle Towel Bars Available in Straight Back or Curved Back Styles.

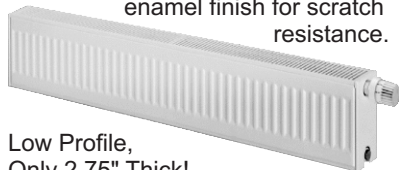
Order No.	Height (in)	Length (in)	BTU/hr
BZ TB33.24 CURVED	33	24	1,733
BZ TB48.24 CURVED	48	24	2,525
BZ TB59.24 CURVED	59	24	3,037
BZ TB70.24 CURVED	70	24	3,480
BZ TB33.24 STRAIGHT	33	24	1,733
BZ TB48.24 STRAIGHT	48	24	2,525
BZ TB59.24 STRAIGHT	59	24	3,037
BZ TB70.24 STRAIGHT	70	24	3,480

Optional Electric Heating Element

Order No.	Elec BTU/hr
BZ RV-LT95510	1365
BZ RV-LT95512	2000
BZ RV-LT95514	2730
BZ RV-LT95515	3071
BZ RV-LT95510	1365
BZ RV-LT95512	2000
BZ RV-LT95514	2730
BZ RV-LT95515	3071

Ecostyle Baseboard Radiators

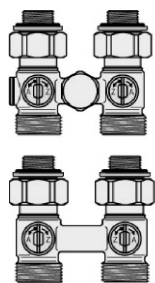
New for 2016! 8" height is ideal for low profile applications. These radiant panels provide radiant and convective heat and feature a white enamel finish for scratch resistance.



Low Profile,
Only 2.75" Thick!

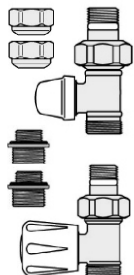
Item No.	Height (in)	Length (in)	BTU @ 180°F	BTU @ 140°F
BZ BB 8.24	8	24	1,346	781
BZ BB 8.36	8	36	2,022	1,173
BZ BB 8.48	8	48	2,698	1,565
BZ BB 8.56	8	56	3,147	1,825
BZ BB 8.72	8	72	4,046	2,347
BZ BB 8.92	8	92	5,172	3,000
BZ BB 8.120	8	120	6,742	3,910

Ecostyle Panel Radiator Valves



Order No.	Description
BZ RV 301241	½" Straight Diverter Valve
BZ RV 301341	½" Angle Diverter Valve
Recommended for radiators piped in series. These valves allow a set amount of flow to pass through the valve directly to the next radiator. Adjustable from 30-50%.	
BZ RV 301040	½" Straight Isolating Valve
BZ RV 301140	½" Angle Isolating Valve
Used for isolating radiator from heating system for service or replacement. Recommended for radiators piped with monoflow tees or reverse return.	

Towel Bar Radiator Valves



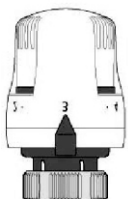
Order No.	Description
BZ RV 342452	½" Angled Shutoff
BZ RV 343452	½" Straight Shutoff
Used on return side of towel bar to provide balancing and shut-off capability	
BZ RV 338452	½" Angled Thermostatic Valve
BZ RV 339452	½" Straight Thermostatic Valve
Used on supply side of radiators to provide manual flow regulation. If used with a non-electric actuator head this valve will provide automatic flow based on room temperature.	

Panel Radiator & Towel Bar Fittings



Order No.	Description
BZ RV 681503A	3/8" Pex Compression Fitting (Pair)
BZ RV 681524A	½" Pex Compression Fitting (Pair)
BZ RV 681555A	3/4" Pex Compression Fitting (Pair)
BZ RV NA10262	½" Copper Sweat Fittings (Pair)
The adapters below are used to connect pipe directly to radiator with fittings above.	
BZ RV 940451	½" Female x 3/4" Male Adapters (Pair)
Direct Connection to the radiator is recommended for radiators connected directly to manifolds	

Panel Radiator & Towel Bar Accessories



Order No.	Description
BZ RV 200000	Non-Electric Actuator Head with Liquid Sensor
For easy adjustment of individual radiator temperature according to room temperature. Recommended for radiators piped with monoflow tees, reverse return, or manifolds.	
BZ RV 449740	2 Pipe Escutcheon Plate for Floor or Wall
BZ RV 8" Radsnap	Radsnap Pipe Cover 8" Piece
BZ RV 387127	Wrench for Installing Adapters in Radiators

1 HYDRONIC EQUIPMENT

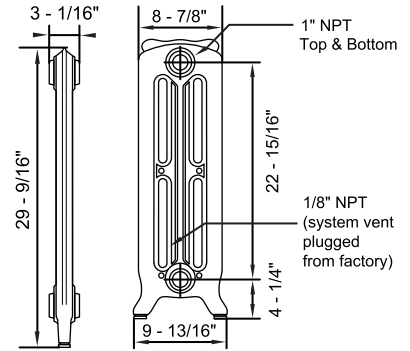
Cast Iron Radiators

Victoria Cast Iron Radiator

The design of the Victoria radiator is exceptionally functional, as well as beautiful. The timeless elegance of ornate casting makes this radiator the perfect solution for any style or time period home, whether traditional, modern or historical.

Technical Advantages

- All steam vent tappings 1/8" NPT
- All pipe tappings 1" NPT
- Maximum working pressure: 15 psi steam, 30 psi water
- Water Content - .61 gal/section



MODEL NUMBER	Number of Sections	Width in Inches 'A'	Square Ft - EDR	Water Output btu/hr (180°F EWT)	Steam Output (215°F avg temp)	Shipping Weight (lbs)
GOV VR-3-CF	3	9.2	9.2	1564	2208	77
GOV VR-5-CF	5	15.4	15.3	2618	3672	129
GOV VR-7-CF	7	21.5	21.5	3655	5136	177
GOV VR-9-CF	9	27.6	27.5	4692	6600	226
GOV VR-5-AF	5 Inner	15.4	15.3	2618	3672	129
GOV VR74011	End Sect.	3.1	3.1	524	734	26

Order Number	Description
GOV VR8054005	Isolation valve Brass
GOV VR8054006	Balancing Valve Brass
GOV VR8054001	3/4" Bushing Kit (left)
GOV VR8054002	3/4" Bushing Kit (right)
GOV VR8054014	1" Plug Kit (Left)

Order Number	Description
GOV VR8054015	1" Plug Kit (Right)
GOV VR8054003	Assembling Kit
GOV VR6054001	Assembling Tool
GOV VR8054022	Plugs & Washers (LH)
GOV VR8054023	Plugs & Washers (RH)

Gov-Free Free Standing Cast Iron Radiator

Gov-Free traditional radiators offer updated styling and trim lines.

They are available in several standard dimensions and can be assembled with any number of sections. Gov-Free is suitable for both residential and commercial applications. This radiant heat - combined with convected heat - provides a warm comfortable environment. It shields outside walls and windows to stop cold air from infiltrating.

Technical Advantages

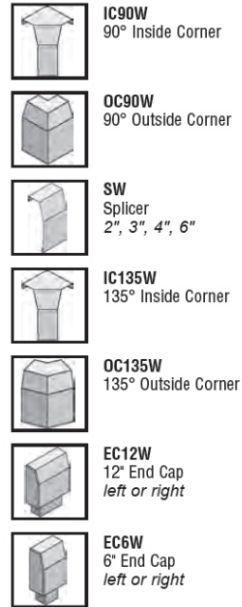
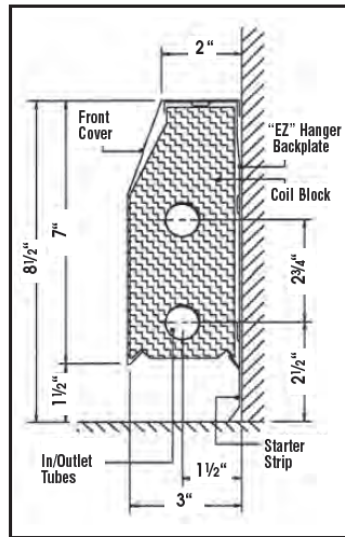
- Dimension/Tappings: Top 1" NPT, Bottom 1-1/4" NPT, All Air Vents 1/8" NPT
- Maximum Working Pressure: 15psi, 30psi water



SIZE	A	B & C	D	E	F	H	Water Content (gal/section)	Steam Output Rating / section	Hot Water Rating /section @ 180°F
GOV VR 4x19	15-7/16"	4-7/16"	2-1/2"	1-1/16"	19"	17-13/16"	0.08	384 btu/hr	272 btu/hr
GOV VR 4x25	21-7/16"	4-7/16"	2-1/2"	1-1/16"	25"	23-13/16"	0.12	480 btu/hr	340 btu/hr
GOV VR 6x25	21-7/16"	6-15/16"	2-1/2"	1-1/16"	25"	23-13/16"	0.17	720 btu/hr	510 btu/hr

High Efficiency - Low Temperature Perimeter Heating Equipment

Heating Edge HE2 High Capacity Hybrid Element is a perimeter heating (baseboard) product that consists of a unique, patented "coil block" and mounting system. The concept behind the product is to deliver very high BTU/HR capacities (output) using minimal footage compared to conventional baseboard. It's also designed with a mounting system that does away with all brackets and hangers, making for much easier installation.



Order Number	Description	Length
SMI-HE2-2075W	Complete Assembly w: Element	2'
SMI-HE2-3075W	Complete Assembly w: Element	3'
SMI-HE2-4075W	Complete Assembly w: Element	4'
SMI-HE2-5075W	Complete Assembly w: Element	5'
SMI-HE2-6075W	Complete Assembly w: Element	6'
SMI-HE2-7075W	Complete Assembly w: Element	7'
SMI-HE2-8075W	Complete Assembly w: Element	8'
Order Number	Description	Length
SMI-HE2-2075TK	Complete Assembly Less Element	2'
SMI-HE2-3075TK	Complete Assembly Less Element	3'
SMI-HE2-4075TK	Complete Assembly Less Element	4'
SMI-HE2-5075TK	Complete Assembly Less Element	5'
SMI-HE2-6075TK	Complete Assembly Less Element	6'
SMI-HE2-7075TK	Complete Assembly Less Element	7'
SMI-HE2-8075TK	Complete Assembly Less Element	8'

Heating Edge Accessories

Order Number	Description
SMI-AC-EC6WR	6" END CAP RIGHT HAND WHITE
SMI-AC-EC6WL	6" END CAP LEFT HAND WHITE
SMI-HE-EC12WR	12" END CAP RIGHT HAND WHITE
SMI-HE-EC12WL	12" END CAP LEFT HAND WHITE
SMI-HE-2SW	2" SPLICER
SMI-HE-3SW	3" SPLICER
SMI-HE-4SW	4" SPLICER
SMI-HE-6SW	6" SPLICER
SMI-HE-OC90W	OUTSIDE CORNER 90 DEG WHITE
SMI-HE-IC90W	INSIDE CORNER 90 DEG WHITE
SMI-HE-OC135W	OUTSIDE CORNER 135 DEG WHITE
SMI-HE-IC135W	INSIDE CORNER 135 DEG WHITE
SMI-TKS	TRIM KIT SPACER

1

HYDRONIC EQUIPMENT**Runtal Rads and Accessories**

A favorite among architects and interior designers, Runtal's sleek two-inch profile Euro-style flat-panel radiators are ideal replacements for fin-tube baseboard, cast iron baseboard or cast iron radiators. Runtal Radiators also may be used with low water temperatures, making them a perfect radiant alternative or complement to radiant floor heating, both electric radiant floor heating and hydronic (hot-water heating) radiant floor systems. Runtal can heat any size area, offering products that provide from a few hundred BTUH per foot to products affording over 4000 BTUH per foot.

When it comes to making a house a home, there is no substitute for the comfort and convenience of Runtal Radiators. Runtal provides a soothing blanket of radiant warmth through easy to clean panels and with the durability to last.

**COLUMN****BASEBOARD****VERTICAL****WALL PANEL****CURVED****FLAT PANEL****TOWEL BAR****COMMERCIAL**

Runtal Radiators can blend into a traditional décor, highlight an ultra modern design or accent any style in between. From baseboard style, to wallpanels, to fancy curves and dramatic vertical room dividers, Runtal manufactures the perfect welded steel radiator for every application. Since Runtal manufactures an almost unlimited selection of sizes, colors and heat outputs, Runtal is truly a homeowner, architect, designer and heating and plumbing contractor's dream. **Special Order Items, Call for Pricing!**

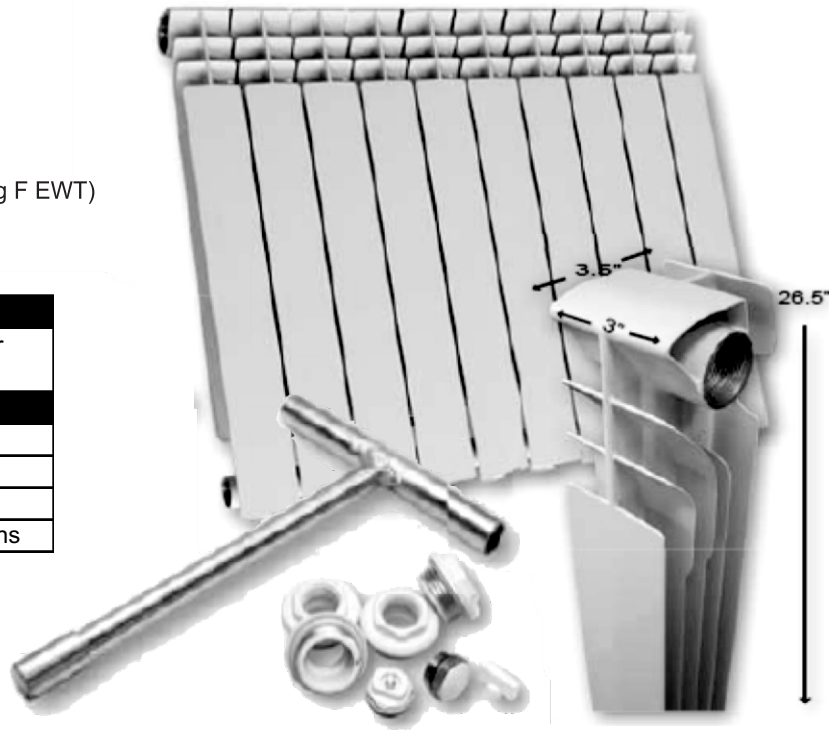
Wasser Aluminum Radiators

Features:

- Modern European Design
- Provides self-convecting radiant heat
- Lightweight and affordable
- Modular design satisfies almost any need
- Each Section delivers up to 680 btu/hr (180 deg F EWT)
- Come with 1/2" FPT water connections
- One Year Warranty

Item No.	Description
UP 389030	Wall-Mounted Radiator. 680 BTU per section (Price for each section)
Accessories:	
UP 389033	19" Radiator Wrench
UP 389031	Radiator Accessory Kit
UP 389035	Mounting Bracket (Powder Coated)
Note: Aluminum Rads come in racks of 10 sections	

Water Flow	Hot Water Ratings (BTU/hr) F= Degrees in Fahrenheit				
	140	150	160	170	180
3 GPM	400	450	590	650	710



Slant/Fin Fine/Line 30 Series - High Temp Baseboard Radiators & Fittings

Nu White Slant/Fin Baseboard

Item No.	Description
UP E7010003	2'
UP E7010008	3'
UP E7010027	4'
UP E7010029	5'
UP E7010030	6'

Nu White Baseboard Accessories

Item No.	Description
UP E7010033	4" LH End Cap
UP E7010043	4" RH End Cap
UP E7011300	Inside Corner
UP E7011305	2" LH End Cap
UP E7011306	2" RH Cap
UP E7011310	Splice Plate
UP E7011302	Outside Corner

Exceptional product quality has made Slant/Fin's Fine/Line 30 baseboard the number one choice of heating professionals. It is manufactured with contractor-friendly features for quick, trouble free installation, without annoying callbacks. Design features include a strong enclosure, high strength support brackets, no-noise expansion cradles, fully modulating damper, high performance heating element and precision accessories. Fine/Line 30 baseboard is fully assembled, packaged in easy to open zip-strip cartons, ready for box-to-wall installation.



Water Flow	Pressure Drop	Hot Water Ratings (BTU/hr) F= Degrees in Fahrenheit									
		140	150	160	170	180	190	200	210	215	
1 GPM	47	320	380	450	510	580	640	710	770	810	
4 GPM	525	640	400	480	540	610	680	750	810	860	

Copper Sweat Baseboard Tees

Item No.	Description
TC VF-100-075	1" X 1" X 3/4"
TC VF-075-050	3/4" X 3/4" X 1/2"
TC VF-100-050	1" X 1" X 1/2"
TC VF-125-050	1-1/4" X 1-1/4" X 1/2"
TC VF-125-075	1-1/4" X 1-1/4" X 3/4"



Taco Venturi Tees are designed to divert water flow from a given zone to the by-pass loop. The flow from the zone is partially diverted through the by-pass and then returned back into the zone. The Venturi Fitting creates a differential pressure that makes some of the flow divert through the by-pass and back to the zone.

Infloor Hydronic systems use a boiler to heat water, which is then pumped through a series of interwoven pipes underneath your floor. The heat radiates upwards from this network of pipes. This is the most efficient form of radiant floor heating. There are no visible heating elements in the room, but you will feel a warm, luxurious heat rising up from the floor.

Wasser PEX Pipe

Order Number	Type	Length
UP 3111094	½" RED	600 ft roll
UP 3111096	½" RED	1000 ft roll
UP 3111101	5/8" RED	400 ft roll
UP 3111097	3/4" RED	500 ft roll
UP 3111097BW	3/4" BLUE	500 ft roll
UP 3111319B	1" BLUE	500 ft roll
UP 3111318R	1" RED	500 ft roll

Wasser PEX-AL-PEX Pipe

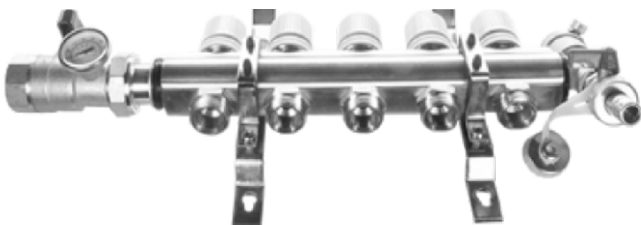
Order Number	Type	Length
UP 311174W	½"	600 ft roll
UP 311181W	5/8"	400 ft roll
UP 311190W	3/4"	500 ft roll
UP 311153W	1"	500 ft roll

Wasser Boiler Drains / Sediment Faucets

Order Number	Description
UP 204TM3	½"
UP 204TM4	3/4"

Wasser 1" Manifold Sets Less Adapters

Order Number	Description
UP 3488511	3 Loop 1" Manifold
UP 3488512	4 Loop 1" Manifold
UP 3488513	5 Loop 1" Manifold
UP 3488514	6 Loop 1" Manifold
UP 3488516	8 Loop 1" Manifold

**Manifold Actuators and Accessories**

Order Number	Description
UP 3488372	24V without End Switch
UP 3488437	24V with End Switch
UP 3488506	Coarse Threaded Plug
UP 3488505	3/4" Manifold Cap
UP 488550	½ to 2 GPM

**Wasser PEX Tubing Tools**

Order Number	Description
UP 488999	Wasser Pipe Uncoiler
UP 31885540	PEX Clamp Ring Tool
UP 188402	½" PEX Clamp Ring
UP 188404	½" PEX Clamp Ring
UP 188405	½" PEX Clamp Ring
UP 88347	5in1 Beveling Tube Tool
UP 388210	Pipe Cutter

**Manifold Adapters**

Order Number	Description
UP 3488437	5/8" PEX Adapter (Pair)
UP 3488363	½" PAP Adapter (Pair)
UP 3488364	5/8" PAP Adapter (Pair)

**Wasser IPS Standard Port Ball Valves**

Order Number	Description
UP 760T03	½"
UP 760T04	3/4"
UP 760T05	1"
UP 760T06	1-1/4"
UP 760T07	1-1/2"
UP 760T08	2"

**Wasser IPS Swing Checks**

Order Number	Description
UP 520T03	½"
UP 520T04	3/4"
UP 520T05	1"
UP 520T06	1-1/4"
UP 520T08	2"



Wasser PEX MPT Adapters

Order Number	Description
UP 3188271	1/2" H PEX x 1/2"
UP 3188275	1/2" PEX x 3/4"
UP 3188276	5/8" PEX x 3/4"
UP 3188217	3/4" PEX x 1/2"
UP 3188272	3/4" H PEX x 3/4"
UP 3188219	3/4" PEX x 1"
UP 3188273	1" H PEX x 1"



Wasser PEX 90° Elbows

Order Number	Description
UP 3188240	1/2"
UP 3188241	5/8"
UP 3188220	3/4"
UP 3188230	1"
UP 3188231	3/4" H x 1/2"



Wasser PEX Tees

Order Number	Description
UP 3188221	1/2"
UP 3188226	5/8"
UP 3188227	3/4"
UP 3188229	1"
UP 3188225	3/4" x 1/2"
UP 3188206	3/4" x 1"
UP 3188207	1" x 1/2"
UP 3188228	1" x 3/4"
UP 3188208	1" x 3/4" x 1"



Wasser PEX Couplings

Order Number	Description
UP 3188201	1/2"
UP 3188203	5/8"
UP 3188209	3/4"
UP 3188205	1"
UP 3188214	3/4" x 1/2"
UP 3188210	1" x 3/4"



Wasser Copper Port Ball Valves

Order Number	Description
UP 760C03	1/2"
UP 760C04	3/4"
UP 760C05	1"
UP 760C06	1-1/4"
UP 760C07	1-1/2"
UP 760C08	2"



Wasser PEX Copper Spigot Adapters

Order Number	Description
UP 3188211	1/2" PEX x 1/2"
UP 3188296	5/8" PEX x 3/4"
UP 3188212	3/4" PEX x 3/4"
UP 3188213	1" PEX x 1"



Wasser PEX Copper Spigot 90° Male

Order Number	Description
UP 3188235	1/2" PEX x 3/4"
UP 3188236	3/4" PEX x 3/4"



Wasser PEX Copper Socket Adapters

Order Number	Description
UP 3188280	1/2" PEX x 1/2"
UP 3188281	3/4" PEX x 3/4"
UP 3188326	1" PEX x 1"



Wasser PEX Copper 90° Female

Order Number	Description
UP 3188233	1/2" PEX x 3/4"
UP 3188234	3/4" PEX x 3/4"



Wasser PEX valve

Order Number	Description
UP 3188358	1/2" PEX x 1/2" C Straight Mini



Wasser PEX Ball Valves

Order Number	Description
UP 3188133	1/2"
UP 3188138	3/4"
UP 3188148	1"



Wasser PEX FPT Adapters

Order Number	Description
UP 3188261	1/2" PEX x 1/2"
UP 3188215	1/2" PEX x 3/4"
UP 3188262	5/8" PEX x 3/4"
UP 3188216	3/4" PEX x 3/4"
UP 3188263	1" PEX x 1"



Wasser 3-Way Ball Valve

Order Number	Description
UP E0374570	3/4", IPS L-PORT
UP E0374571	1", IPS L-PORT



1 HYDRONIC EQUIPMENT

Indirect Water Heaters & Expansion Tanks

Amtrol Indirect Water Heaters & Expansion Tanks

Features:

- Corrosion-proof Poly liner and high gloss exterior finish
- Energy efficient insulation
- Includes consumer-activated limited lifetime warranty plan
- Available in top or bottom mounted configuration (CH-41 only)
- Simplified plumbing connections
- Reliable mechanical aquastat with dry well



Model	First Hour Rating (90° Rise)	Capacity (gallons)	Dimensions	Specifications
AML CH-41Z RED	89 to 224 GPH	41	48"H x 22"Dia.	Mechanical Aquastat, Less Circulator
AML WH-41Z RED	89 to 224 GPH	41	48"H x 22"Dia.	Mechanical Aquastat, Less Circulator
AML WH-41L	89 to 224 GPH	41	48"H x 22"Dia.	Digital Control, Less Circulator
AML WH-7C	89 to 224 GPH	41	48"H x 22"Dia.	Digital Control, Less Circulator
AML WHS-60L	105 to 241 GPH	60	54"H x 26"Dia.	Digital Control, Less Circulator
AML WHS-60Z	105 to 241 GPH	60	54"H x 26"Dia.	Mechanical Aquastat, Less Circulator
AML WHS-60ZC	105 to 241 GPH	60	54"H x 26"Dia.	Commercial Coil, Mechanical Aqua
AML WHS-80L	123 to 258 GPH	80	66"H x 26"Dia.	Digital Control, Less Circulator
AML WHS-80Z	123 to 258 GPH	80	66"H x 26"Dia.	Mechanical Aquastat, Less Circulator
AML WHS-80ZC	123 to 258 GPH	80	66"H x 26"Dia.	Commercial Coil, Mechanical Aqua
AML WHS-120L	158 to 295 GPH	120	71"H x 29"Dia.	Digital Control, Less Circulator
AML WHS-120-ZC	236 to 477 GPH	120	71"H x 29"Dia.	Commercial Coil, Mechanical Aqua

First Hour Rating based on 40,000 to 140,000 BTU Input and 5gpm input to the Boilermate Continuous Flow Rating with 70°F Rise for all units listed is 69 to 242 GPH based on similar BTU & GPM inputs

Thermal & Standard Expansion Tanks



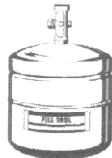
Therm-X-Trol



Therm-X-Trol ASME



Extrol



Fill-Trol

Therm-X-Trol ASME Construction

Order No.	Diameter/	PSI	Vol.
AML ST-5-C	10-10	150	2
AML ST-5-C	10-10	175	2
AML ST-5-C	10-10	250	2
AML ST-5-C	10-10	300	2
AML ST-12-C	12-12	150	5
AML ST-12-C	12-12	175	5
AML ST-12-C	12-12	250	5
AML ST-12-C	12-12	300	5
AML ST-20V-C	12-19	150	8
AML ST-20V-C	12-19	175	8
AML ST-20V-C	12-19	250	8
AML ST-20V-C	12-19	300	8
AML ST-30V-C	16-19	150	14
AML ST-30V-C	16-19	175	14
AML ST-30V-C	16-19	250	14
AML ST-30V-C	16-19	300	14

Therm-X-Trol For Use with Potable Water Heaters Only

Order No.	Description	Vol.
AML ST-5	140N43 High Gloss Tan	2
AML ST-12	141N43 High Gloss Tan	4.4
AML ST-25V	143N164 TAN	10.3
AML ST-30V	143N273 TAN	14

EXTROL For Use with Closed Hydronic Heating & Cooling Systems

Order No.	Description	Vol.
AML 101-1	EX-15 MODEL (15)	2
AML 102-1	EX-30 MODEL (30)	4.4
AML 103-1	EX-60 MODEL (60)	7.6
AML 112-1	EX-90 MODEL (90)	14
AML 118-27	SX-30V STAND MODEL	14
AML 118-78	SX-40V STAND MODEL	20

FILL-TROL Includes a built-in automatic fill valve & check valve

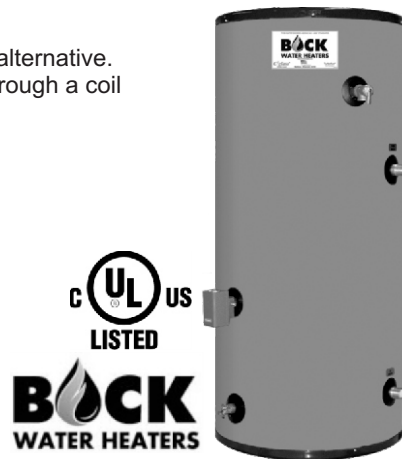
Order No.	Description	Vol.
AML 109-1	FT-109 Fill-Trol Tank & Valve	2
AML 110-1	FT-110 Fill-Trol Tank & Valve	4.4
AML 111-1	FT-111 Fill-Trol Tank & Valve	7.6
AML 112-2	FT-112 Fill-Trol Tank & Valve	14

Bock "SideKick" Indirect Coil Water Heaters

Bock's "SideKick"™ Indirect Coil Tank water heaters, offer a cost-effective water heating alternative. These units use indirect water-to-water heat transfer by circulating boiler-fed hot water through a coil inside the water tank. Ideal for applications that use boilers for space heating.

Bock "SideKick" Features:

- **Made of C-Glass.** Durable and exclusive porcelain enamel glass lines all tanks and coils. Highly resistant to aggressive water. Not damaged by chlorine in the water
- **Built to Last.** Inner tank is hand crafted from heavy gauge steel.
- **Automatic Controls.** Immersion aquastats used.
- **Large Diameter Coil Used.** Using a 1-1/2" diameter coil results in higher recovery and less pressure drop through the coil. Smooth surface resists lime build-up.
- **Decreased Standby Losses.** By the use of 2" Non-CFC foam insulation.
- **Two Magnesium Anode Rods.** Inhibits corrosion and maximizes tank life.
- **Factory Installed T&P valve.**



First Hour Rating (gal) @ Coil Output (Btu/hr)

Model	Capacity (gallons)	First Draw (gal)	Heat Source Friction Loss (ft. w.c.)	180 Deg F	180 Deg F	180 Deg F	200 Deg F	200 Deg F	200 Deg F
				8GPM**	10GPM**	14GPM**	8GPM**	10GPM**	14GPM**
BOC 30SK	30	7	2.3	115@56,000	117@57,000	119@59,000	138@71,000	144@75,000	154@81,000
BOC 40SK	38	33	3.4	173@89,000	183@96,000	198@105,000	214@115,000	226@123,000	243@134,000
BOC 50SK	45	40	3.4	180@89,000	190@96,000	205@105,000	221@115,000	233@123,000	250@134,000
BOC 80SK	75	70	3.5	233@104,000	245@111,000	259@120,000	277@132,000	292@141,000	314@155,000
BOC 119SK	110	102	3	265@104,000	277@111,000	291@120,000	309@132,000	324@141,000	346@155,000

All data obtained through testing in accordance with GAMA INDIRECT-FIRED WATER HEATER TESTING STANDARD IWH-TS-1_MARCH 2003

*At 14 GPM

**Coil Input (temperature, flow rate). Ratings based on 77°F rise with 58°F inlet potable water

Note: First Hour Rating = First Draw + Continuous Draw

Warning: Installation should be in accordance with all national and or local codes. In the absence of local codes refer to NFPA S4 or ANSI Z21.10.1.

Caution: The recommended maximum hot water temperature setting for normal residential use is 120° F. Manufacturer recommends tempering valve or anti-scald valve be installed and used according to the manufacturers directions to prevent scalding.

Pressures: (all) Working pressure, 150 psi, testing pressure, 300psi

Standard Voltage: (all) 120V, 60Hz, 1P

Bock EnviroStor™ Dual-Coil Indirect Water Heater

Dual (upper and lower) Coil-Heat Exchanger Indirect Water Heater

Two-coil indirect water heater is ideal for combination Domestic Hot Water and space-heating applications, or, use both coils in parallel to boost 1st hour performance up to 45% @ 200°F coil output.

Featuring

High Capacity 1.5" Internal Coil Heat Exchanger with Optional 4500W Supplemental Electric Heating Element and Second Coil Heat Exchanger for Auxiliary Heat Source



Model Number	Electric Element	Coils	Storage (Gallons)	Dimensions (Dia X H)	Shipping Weight
BOC 50SKE	YES	ONE	45	22" X 48-1/4"	241
BOC 80SKE	YES	ONE	75	24" X 64"	307
BOC 80SKDC	NO	TWO	73	24" X 64"	327
BOC 80SKDCE	YES	TWO	73	24" X 64"	337
BOC 119SKE	YES	ONE	110	28" X 65"	407
BOC 119SKDC	NO	TWO	108	28" X 65"	427
BOC 119SKDCE	YES	TWO	108	28" X 65"	437

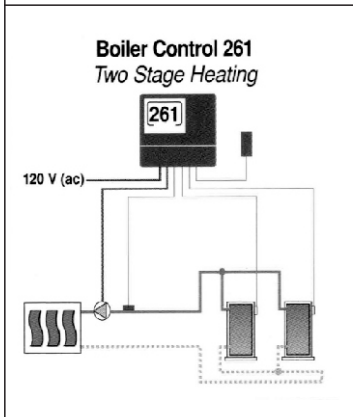
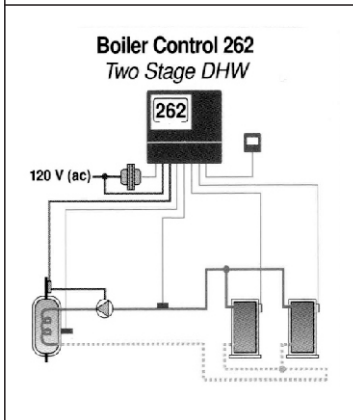
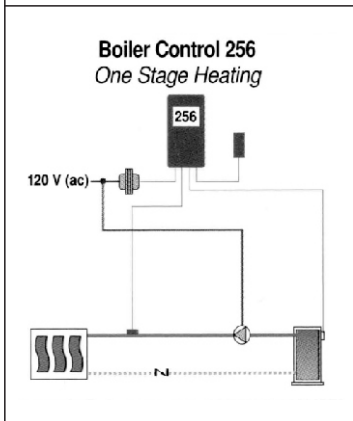
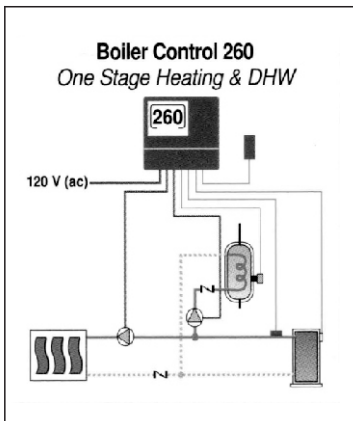
1 HYDRONIC EQUIPMENT

Hydronic Boiler Controls

Tekmar Hydronic Control Systems

Order No.	Description
Setpoint Controls	
HSC TM150	One Stage Setpoint Control, Heat / Cool
HSC TM152	Two Stage Setpoint Control, 2 Zone, Heat / Cool
HSC TM153	Mixing Setpoint Control (Floating Action)
HSC TM155	Difference Setpoint Control Dual Contact
HSC TM156	Difference Setpoint Control Single Contact On/Off
HSC TM157	Difference Setpoint Control - Variable Speed
Boiler Reset / DHW Controls	
HSC TM256	One Stage Boiler Control
HSC TM257	Two Stage DHW Setpoint Control with Rotation
HSC TM260	One Stage Boiler & DHW Control
HSC TM261	Two Stage Boiler & Setpoint Control
HSC TM263	Two Stage/Single Modulating Boiler & DHW/Two Stage DHW
HSC TM265	Three Stage Modulating Boiler & DHW / Setpoint Control
HSC TM268	Nine Stage Boiler & DHW Setpoint Control
HSC TM274	Four Stage Boiler & DHW / Setpoint Control (tN4) Repl TM264
HSC TM275	Four Stage Modulating Boiler & DHW / Setpoint Control (tN4)
HSC TM279	One Stage Steam Heat Cycle Control
Heating Controls	
HSC TM356	Mixing Control (Variable Speed)
HSC TM360	Mixing Control (Floating Action) 24 vac, 8va output
HSC TM361	Mixing Control (Variable Speed)
HSC TM374	Universal Reset Control – 2 Mixing, 2 Stage , DHW & Setpoint
Snow Melting Controls	
HSC TM665	Snow Detector & Melting Control / Pulse with Modulation
HSC TM664	Snow Detector & Melting Control / 2 Zone, 2 Stage Mixing
HSC TM667	Snow Detector & Melting Control / 1 Stage, Variable Speed
HSC TM090	Snow / Ice Sensor with 65ft (20m) cable
HSC TM091	Snow / Ice Sensor Socket for TM090
HSC TM094	Snow / Ice Sensor with 210ft (65m) of cable
2 Wire tN2 Communicating Thermostats (Level 1)	
HSC TM552	tN2 / tN4 Thermostat - One Stage Heat Floor Sensing
Accessories	
HSC TM033	Timer, Four Setback Schedules, for tN2 Thermostats
HSC TM079	Slab Sensor with 3 meter of wire
HSC TM070	Outdoor Sensor
HSC TM009	24 vac Transformer
HSC TM009K	24 vac Transformer comes with mounting box
Zoning Controls for MODCON Boilers (Level 1)	
HSC TM313	tN2 Wiring Centre - Four Zone Valves (for tN2)
HSC TM314	tN2 Wiring Centre - Four Zone Pumps (for tN2)
House Controls for On/Off & MODCON Boilers	
HSC TM400	Boiler Reset, DHW & Setpoint, Four Zone Valves
HSC TM401	Boiler Reset, DHW & Setpoint, Four Zone Pumps
HSC TM402	Boiler Reset, DHW & Setpoint, Mixing Reset, Four Zone Valves
HSC TM403	Boiler Reset, DHW & Setpoint, Mixing Reset, Four Zone Pumps
HSC TM406	Heat Pump, Boiler Backup, DHW & Setpoint, Mixing Reset

Note: We offer the complete line of TEKMAR Home and Boiler Controls.



Hydrostat 3250 Plus Aquastat & LWC

Replaces Cold Start and Triple-Action Aquastats

- Install HydroStat on existing immersion well – for full temperature and boiler reset functionality, or
- Install HydroStat on an Electro-Well™ – to add low water cut-off protection

Easy Dial Type Set-Up

- Simply dial in the Temperature Limit and Economy settings

Dynamic Temperature Display

- Clearly displays boiler temperature
- Instantly changes to show setting whenever any dial is adjusted

LED Status Lights

- Displays which functions are active and which function is not allowing the burner to fire

Test/Settings Button

- Tests the low water cut-off and displays all control settings

Easy to Wire

- Uses the same terminal designations as common Aquastat® models

Smart DHW Priority

- Closely monitors boiler temperature to prioritize domestic hot water calls when needed



Fuel Savings through Boiler Reset

Boiler Reset is the decades-old principle of governing boiler temperature in accordance with the heating demand. A boiler is sized to heat a home during the coldest days of the year. During all other times, the heating system is larger than it needs to be. Boiler Reset saves fuel by reducing the boiler temperature during periods of non-peak demand. The FuelSmart Hydrostat offers two cost effective ways to provide this fuel saving technology:

Thermal Targeting™: This on-board microprocessor based algorithm monitors thermostat activity and continually evaluates how much heat the house requires. When it is very cold outside, the demand for heat is high and the Fuel Smart HydroStat raises the boiler's Target Temperature to provide needed heat to the house. When the outside temperature is milder, the demand for heat is lower. During these periods, the Fuel Smart HydroStat lowers the boiler's Target Temperature- saving fuel- while continuing to provide comfort to the house.

Outdoor Reset & Warm Weather Shutdown: For those who prefer the more traditional outdoor reset approach, Hydrolevel offers a low cost OS-100 Outdoor Sensor Kit (sold separately). When the sensor is plugged into the control, the boiler reset methodology changes instantly from Thermal Targeting to Outdoor Reset, where the boiler temperature is governed by the temperature outside. The addition of the sensor also allows the control's Warm Weather Shutdown feature to be activated. This feature prevents the boiler from supplying space heating when the outside temperature exceeds a selected level.

Optional Features

Easily activated in HydroStat's program mode

Thermal Pre-Purge: Further enhances boiler efficiency by supplying latent heat, that may remain in the boiler from a previous run cycle, to the heating zone requiring heat. The control activates the burner only when it determines that the latent heat will not be adequate to satisfy the heating demand. During the Pre-Purge cycle, the display will indicate Pur.

Degrees Celsius: Changes the control's settings to display Celsius.

Manual Reset LWCO: Changes the low water cut-off function to manual reset, which is required for many commercial installations.

Circulator Activation: Can be set to activate the primary circulator on calls from t/t, ZC/ZR, or both.

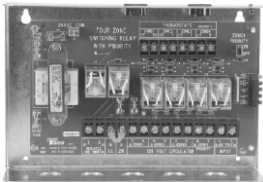
Enhanced Condensing Protection: To reduce the potential for condensing, on a call for heat, this feature allows the boiler to heat to 125°F prior to energizing the circulator. Once activated, the control continues to monitor boiler temperature and interrupts the circulator if it drops below 115°F.

Order No.	Description
BZ C-HH3250KIT	Hydrolevel 3250 Plus Control Kit Includes: Control, Immersion Well, Remote Mount Kit & Outdoor Sensor
BZ C-H3250R	Hydrolevel 3250R Fuel Smart Control Only
BZ C-H205	Hydrolevel Electro-Well 3/4" Short Immersion Well
BZ C-H102	Hydrolevel Hydrostat Remote Mount Kit with 48" Sensor
BZ C-OS-100	Outdoor Sensor Kit for Hydrostat 3250-Plus

1

HYDRONIC EQUIPMENT

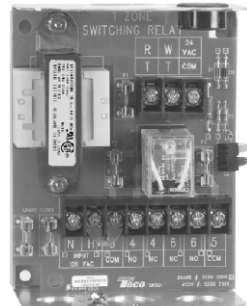
Taco Electric Controls & Aquastats



Switching Relay

Taco Switching Relays

Order Number	Description
TC SR501-4	1 Zone Switching Relay
TC SR502-4	2 Zone Switching Relay with Priority
TC SR503-4	3 Zone Switching Relay with Priority
TC SR504-4	4 Zone Switching Relay with Priority
TC SR506-4	5 Zone Switching Relay with Priority



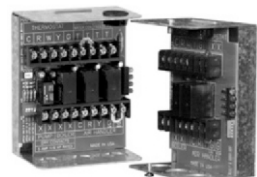
Single Zone Switching Relay

Taco Switching Relays With Power Port Option

Order Number	Description
TC SR501-EXP-4	1 Zone Switching Relay with Priority & 3 Power Ports
TC SR503-EXP-4	3 Zone Switching Relay with Priority & 3 Power Ports
TC SR504-EXP-4	4 Zone Switching Relay with Priority & 3 Power Ports
TC SR506-EXP-4	6 Zone Switching Relay with Priority & 3 Power Ports

Taco Universal Switching Relay Replacement

Order Number	Description
TC SR501-845RP	1 Zone Switching Relay replacement Board replaces Honeywell R845, RA89A, RA832 or Comparable



Hydro Air Fan Control

Taco Zone Valve Controls

Order Number	Description
TC ZVC403-4	3 Zone Valve Control
TC ZVC404-4	4 Zone Valve Control with Priority
TC ZVC405-4	5 Zone Valve Control
TC ZVC406-4	6 Zone Valve Control with Priority



Zone Valve Controls

Taco Zone Valve Controls With PowerPort Option

Order Number	Description
TC ZVC404-EXP-4	4 Zone Valve Control with Priority and 2 PowerPorts
TC ZVC406-EXP-4	6 Zone Valve Control with Priority and 2 PowerPorts

Taco Hydro Air Fan Controls

Order Number	Description
TC HAFC201-2	Hydro Air Fan Control with Time Delays

Taco Add-On Power Controls (add options to EXP type controls)

Order Number	Description
TC PC700-2	Boiler Reset Control
TC PC702-1	Boiler Reset Control 2 Stage
TC PC705-2	Variable Speed Pump Injection Mixing Control

Taco Mixing Valves & WAGS Valves

Order Number	Description
TC 5002-C3	1/2" Thermostatic Mixing Valve c/w Sweat Union Conn.
TC 5003-C3	3/4" Thermostatic Mixing Valve c/w Sweat Union Conn.
TC 5004-C3	1" Thermostatic Mixing Valve c/w Sweat Union Conn.



Add-On Power Controls



WAGS valve

Taco Hydronic Accessories include all the components you need for the precise control that is essential for top performance of your hydronic heating systems. With Taco hydronic valves and fittings you can enhance comfort control for your customers at the same time you save energy and reduce their heating costs. Taco Hydronic Accessories include zone control valves, pressure and mixing valves, WAGS valves, flow measurement and balancing components, fittings and thermostats.

Taco Low Water Cutoffs: Auto Reset

Order Number	Description
TC LTR0243T-1	24 VAC Low Water Cutoff Auto Testable - 1pc
TC LTR0243L-1	24 VAC Low Water Cutoff Auto Testable - 1pc
TC LTA1203S-2	120 VAC LWCutoff Auto Reset, Probe & Test Button



Low Water Cutoff

Taco Low Water Cutoffs: Manual Reset

Order Number	Description
TC LFM0243S-1	24 VAC 3/4" NPT Probe Foam Compensating w/ Test



Heat Motor Zone Valves

Taco Electronic Water Feeder

Order Number	Description
TC EWF024-1	24VAC Electronic Water Feeder
TC EWF120-1	120VAC Electronic Water Feeder

Taco Vortech Air Separator (Cast Iron)

Order Number	Description
TC VRTX075-3	3/4" Air Separator with high press vent - 150psi max
TC VRTX100-3	1" Air Separator with high press vent - 150psi max
TC VRTX125-3	1-1/4" Air Separator with high press vent - 150psi max
TC VRTX150-3	1-1/2" Air Separator with high press vent - 150psi max
TC VRTX200-3	2" Air Separator with high press vent - 150psi max



Automatic Air Vents

Taco 4900 Series Air Separator (Bronze)

Order Number	Description
TC 49-075T-2	3/4" Threaded 4900 Series Microbubble (Bronze)
TC 49-100T-2	1" Threaded 4900 Series Microbubble (Bronze)
TC 49-125T-2	1-1/4" Threaded 4900 Series Microbubble (Bronze)
TC 49-150T-2	1-1/2" Threaded 4900 Series Microbubble (Bronze)

Note: Copper Unit Available. Sub "C" for "T" in order number.



ESP Zone Valve

Taco Heat Motor Zone Valves & I SERIES Zone Valves

Order Number	Description
TC 555-2	1/2" Sweat, high head, 2-way, 125psi with end switch
TC 556-2	3/4" Sweat, high head, 2-way, 125psi with end switch
TC 557-2	1" Sweat, high head, 2-way, 125psi with end switch
TC 556-G3	3/4" Sweat, Geothermal, 2-way, 125psi with end switch
TC 557-G3	1" Sweat, Geothermal, 2-way, 125psi with end switch
TC 5101-G2	3/4" Threaded, Geothermal, 2-way, 125psi w end switch

Note: Many other models available. Please call for price on any Taco zone valves



Air Separators

1 HYDRONIC EQUIPMENT

Circulator Pumps & Flanges

Grundfos Circulator Pumps



Grundfos Part Number Identifiers

- F = Cast Iron
- FR = Rotated Flange (90°)
- U = Union Connection
- N = Female Thread Fitting
- T = Timer
- C = Integrated Check Valve
- S = Stainless Steel
- B = Bronze
- A = Thermostat

Order Number	Description
UP15-10B7	59896226 1/25 HP 1SPEED 3/4" SWEAT HOUSING 115V LOW
UP15-10SU7P	TLC - COMFORT PUMP -COMFORT HOT WATER RECIRCULATION
UP15-18B5	1/25 HP 1 SPEED BRZ. 1/2" SWEAT MOUNT CIRCULATOR-115
UP15-29SU	115V 60HZ SINGLE SPEED 1/12HP STAINLESS STEEL CIRC
UP15-42B5	1/25 HP; 1 SPEED; BRONZE CIRCULATOR 115 VOLT 1/2"
UP15-42F	1/25 HP 1 SPEED CAST IRON FLANGED CIRCULATOR-115V
UP15-42FR	1/25 HP 1 SPEED CAST IRON ROTATED FLANGE CIRCULATOR
UP26-64F	1/12 HP 1 SPEED CAST IRON FLANGED CIRCULATOR-115V
UP26-96BF	1/12 HP 1 SPEED BRONZE FLANGED CIRCULATOR-115V
UP26-96F	1/12 HP 1 SPEED CAST IRON FLANGED CIRCULATOR-115V
UP26-99BF	BRONZE PUMP 1/6 HP 115V SINGLE SPEED 52722347
UP26-99F	1/6 HP 1 SPEED CAST IRON FLANGED CIRCULATOR-115V
UP43-75BF	1/6 HP 1 SPEED BRONZE FLANGED CIRCULATOR 115V
UP43-75F	1/6 HP 1 SPEED CAST IRON FLANGED CIRCULATOR-115V
UP50-75F	1/6HP 1 SPEED CAST IRON 4 BOLT FLANGED HOUSING 11
UPS15-35SFC	1/15HP 3 SPEED- STAINLESS - 115V
UPS15-55SFC	1/12 HP 3 SPEED STAINLESS STEEL CIRCULATOR FLANGED
UPS15-58FC	1/25 HP 3 SPEED SUPER BRUTE CAST IRON FLANGED
UPS15-58FRC	1/25 HP 3 SPEED SUPER BRUTE REVERSE FLANGED
UPS26-99FC	3 SPEED 1/6 HP CAST IRON FLANGED CIRCULATOR-115V,
UPS43-44FC	3 SPEED 1/6 HP CAST IRON FLANGED CIRCULATOR-115V,

Walrus Circulator Pumps



Order Number	Description
UP GPD15-6SF	Walrus Circ Pump 1/25HP, 3 spd, 115V, Cast Iron, Flange Mount
UP GPD25-10SF	Walrus Circulator 1/6HP, 3spd, 115V, Cast Iron, Flange Mount
UP GPD25-12SF	Walrus Circulator 1/6HP, 1spd, 230V, Cast Iron, Flange Mount

Order with the following flange sets:



Cast Iron Flange Set

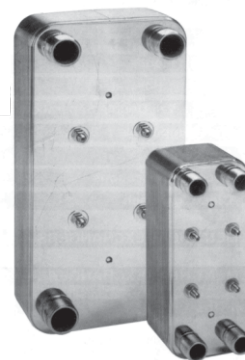


Isolation Flange Set

Order Number	Description
UP 519601	3/4" CAST IRON FLANGE SET
UP 519602	1" CAST IRON FLANGE SET
UP 519603	1-1/4" CAST IRON FLANGE SET
UP 519604	1-1/2" CAST IRON FLANGE SET
UP 519651	3/4" BRONZE FLANGE SET
UP 519652	1" BRONZE FLANGE SET
UP 519850	1/2" BRONZE UNION ISOLATION VALVE SET
UP 519852	3/4" BRONZE UNION ISOLATION VALVE SET
UP 529911	3/4" SWEAT BRONZE UNION FITTING SET
UP 529912	3/4" NPT. BRONZE HALF-UNION SET
UP 529913	1/2" SWEAT BRONZE UNION FITTING SET
UP 539605	1-1/2" IRON FLANGE SET
UP 539615	1-1/2" BRONZE FLANGE SET
UP 96806130	3/4" BRONZE ISOLATION FLANGE SET REPLACES 591203 519755
UP 96806131	1" BRONZE ISOLATION FLANGE SET REPLACES 591204 519756
UP 96806132	1-1/4" BRONZE FLANGE ISOLATION VALVE SET REPLACES 591205
UP 96806133	1-1/2" BRONZE FLANGE ISOLATION VALVE SET REPLACES 591206

Flat-Plate Hydronic Brazen Plate Heat Exchangers

A Better Solution Than Tankless Coils - The popularity of FlatPlate heat exchangers lies in their small size and highly efficient heat transfer surface. The performance of the brazen heat exchangers make them ideal for **domestic hot water heating**, radiant floor, snow melt and swimming pool heaters. By setting up the brazen plate as an on-demand zone in the boiler system, an on-demand BIASI boiler only fires when there is a call for heat. This provides huge savings in the spring and summer, as a traditional boiler with a tankless coil must remain at temperature year-round to be ready for even a small demand for domestic hot water.



Domestic Hot Water

Boiler: 180°F Supply & 150°F Return Domestic: 50°F Return & 140°F Supply

Order No.	No. of Plates	Capacity (btu/h)	Domestic Side GPM	Domestic Side PSI	Boiler Side GPM	Boiler Side PSI
FP 5X12-4 (3/4" MPT)	4	18,000	0.4	0.7	1.2	1.1
FP 5X12-4 (3/4" MPT)	4	30,000	0.6	1.4	2	2.8
FP 5X12-4 (3/4" MPT)	4	40,000	0.8	2.4	2.7	4.8
FP 5X12-6 (3/4" MPT)	6	50,000	1.1	1.1	3.4	3.4
FP 5X12-6 (3/4" MPT)	6	60,000	1.3	1.4	4	4.8
FP 5X12-8 (3/4" MPT)	8	70,000	1.5	1	4.7	3.7
FP 5X12-8 (3/4" MPT)	8	80,000	1.7	1.3	5.4	4.8
FP 5X12-10 (3/4" MPT)	10	90,000	2	1	6.1	3.9
FP 5X12-10 (3/4" MPT)	10	100,000	2.2	1.2	6.8	4.8
FP 5X12-12 (3/4" MPT)	12	125,000	2.7	1.2	8.8	5.2
FP 5X12-14 (3/4" MPT)	14	150,000	3.3	1.2	10.2	5.4
FP 5X12-16 (3/4" MPT)	16	175,000	3.9	1.2	11.9	5.7
FP 5X12-20 (1" MPT)	20	200,000	4.4	1	13.6	4.8
FP 5X12-24 (1" MPT)	24	250,000	5.5	1	17	5.2
FP 5X12-24 (1" MPT)	24	300,000	6.7	1.3	20.4	7.3
FP 5X12-24 (1" MPT)	24	350,000	7.8	1.6	23.8	9.7
FP 5X12-30 (1" MPT)	30	400,000	8.9	1.5	27.2	8.3
FP 5X12-36 (1" MPT)	36	450,000	10	1.3	30.6	7.5
FP 5X12-36 (1" MPT)	36	500,000	11.1	1.4	34.1	9.1
FP 5X12-40 (1-1/4" MPT)	40	600,000	13.4	1.6	40.9	10.6
FP 5X12-50 (1-1/4" MPT)	50	700,000	15.6	1.5	47.7	9.8
FP 5X12-60 (1-1/4" MPT)	60	800,000	17.8	1.5	54.5	9.5
FP 5X12-70 (1-1/4" MPT)	70	900,000	20.1	1.5	61.3	9.6
FP 5X12-80 (1-1/4" MPT)	80	1,000,000	22.3	1.5	68.2	10

Note: Pressure drops and GPM requirements are essential in determining the size of circulators required on each side of the heat exchanger. To convert PSI to inches WC multiply by 2.333

Note: This is just a partial list of sizes and sizing details. For a complete list, please call and ask.

To select a Heat Exchanger for boiler to pool water heating:

1. Select the Heat-up Rate Desired : 2°F/hr if only weekend & holiday use 1°F if for the entire summer season

2. Determine Pool Capacity.

Rectangular Pools:
Capacity(gallons) = Length(ft) x Width(ft) x Average Depth(ft) x 7.5 gallons/cu ft.
Circular Pools:
Capacity(gallons) = Diameter²(ft) x Average Depth(ft) x 0.785 x 7.5 gallons/cu ft

3. Select the Heat Exchanger and Boiler Output required

4. Check for Heat Loss to surroundings

Swimming Pools & Spas

(Typical Design Conditions: 180°F Boiler Water & 80°F Pool Water to the Heat Exchanger)

Order No.	Pool Capacity (Gallons)	Boiler Output Required for 1°F/hr Heat-up	Boiler Side GPM for 1°F/hr	Boiler Side PSI for 1°F/hr	Boiler Output Req'd for 2°F/hr Heatup	Boiler Side GPM for 2°F/hr	Boiler Side PSI for 2°F/hr
FP MPN5x12-6(1" MPT)	6,000	50,070	3	5.1	100,140	7	6.9
FP MPN5x12-8(1" MPT)	10,000	83,450	6	5.1	166,900	11	5.7
FP MPN5x12-10(1" MPT)	15,000	125,175	9	8	2,503,500	17	8.1
FP MPN5x12-16(1" MPT)	25,000	208,625	14	9	417,250	28	9.3
FP MPN5x12-20(1-1/4" MPT)	35,000	292,075	18	9.1	584,150	36	8.7
FP MPN5x12-24(1-1/4" MPT)	40,000	333,800	18	9.1	584,150	36	8.7
FP MPN5x12-30(1-1/4" MPT)	50,000	417,250	24	7	834,500	48	7.6

1 HYDRONIC EQUIPMENT

Hydronic Air Handlers

Hydronic warm air systems using a high efficiency boiler combined with a hydronic fan coil are fast becoming the choice of many contractors and installers because they provide the high efficiencies and adaptability that consumers are demanding. These systems can use the hot water produced by a high efficiency boiler in a variety of ways to provide creative solutions to increasingly complex comfort requirements.

MXC Series Air Handlers

MX Air Handler with Hydronic Heat 120V	
Model	Pump
AMS MXC08WNN4C	Without Pump
AMS MXC08WPN4C	With Pump
AMS MXC12WNN4C	Without Pump
AMS MXC12WPN4C	With Pump
AMS MXC16WNN4C	Without Pump
AMS MXC20WNN4B	Without Pump

Optional Cased Cooling Coil				
GPM	CFM	EWT	Capacity	Model
4	800	140 F	40600 btu's	HE31230C175B1622AP
		180 F	67500 btu's	20.5 x 17.5 x 16.5
5	1200	140 F	59200 btu's	HE32236C175B1622AP
		180 F	94000 btu's	20.5 x 17.5 x 16.5
5	1600	140 F	68300 btu's	HE36248C210B2522AP
		180 F	108600 btu's	20.5 x 21 x 25.5
5	2000	140 F	78000 btu's	HE50260C245B2922AP
		180 F	124000 btu's	20.5 x 24.5 x 29.5

BCRMW & BVRMW Series Air Handlers

MODEL	AMS BVRMW4030S001				VOLTAGE				LBS	
Cabinet Size	48" H x 18 1/2" W x 22" D.				240				140	
2 PIPE SYSTEM / SLANT WATER COIL										
COOLING	2 GPM	3 GPM	4 GPM	HEATING	2 GPM		3 GPM		4 GPM	
E.W.T.	800 CFM	800 CFM	800 CFM	E.W.T.	800 CFM	1000 CFM	800 CFM	1000 CFM	800 CFM	1000 CFM
45 F	20,981	25,057	28,697	140 F	35,510	44,998	41,028	53,773	43,618	60,282
				180 F	60,217	72,151	68,646	84,899	72,938	95,121
* 2 TO 3 TONS OF DX COOLING CAN BE FIELD INSTALLED ON TOP OF A 2 PIPE SYSTEM.										
4 PIPE SYSTEM - P/N 65614112 ADD ON 3 ROW HOT WATER COIL				HEATING	3 GPM			4 GPM		
				E.W.T.	800 CFM	1000 CFM	800 CFM	1000 CFM	800 CFM	1000 CFM
				140 F	33,970	36,982	36,180	36,180	39,801	
				180 F	54,077	58,963	57,481	63,331		

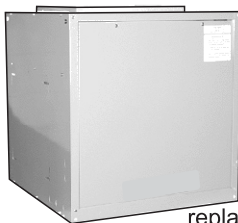
MODEL	AMS BVRMW6060S001				VOLTAGE				LBS	
Cabinet Size	53" H x 22" W x 26" D.				240				240	
2 PIPE SYSTEM / "A" WATER COIL										
COOLING	5 GPM	6 GPM	7 GPM	HEATING	3 GPM		5 GPM		7 GPM	
E.W.T.	1600 CFM	2000 CFM	2000 CFM	E.W.T.	1600 CFM	2000 CFM	1600 CFM	2000 CFM	1600 CFM	2000 CFM
45 F	60,978	74,514	79,684	140 F	81,679	86,941	103,870	118,272	112,354	132,519
60 F		35,375	37,553	180 F	129,484	137,801	163,416	186,153	176,695	208,544
* 4 to 5 TONS OF DX COOLING CAN BE FIELD INSTALLED ON TOP OF A 2 PIPE SYSTEM.										
4 PIPE SYSTEM - P/N 65614124 ADD ON 4 ROW HOT WATER COIL				HEATING	4 GPM			5 GPM		
				E.W.T.	1800 CFM	2000 CFM	1800 CFM	2000 CFM	1800 CFM	2000 CFM
				140 F	69,318	72,104	74,605	77,999		
				180 F	110,265	114,739	118,557	124,009		

MODEL	AMS BCRMW2024S00*				VOLTAGE				LBS	
Cabinet Size	44" H x 15" W x 22" D.				120/240				120	
2 PIPE SYSTEM / SLANT WATER COIL										
COOLING	2 GPM	3 GPM	4 GPM	HEATING	1 GPM		2 GPM		4 GPM	
E.W.T.	800 CFM	800 CFM	800 CFM	E.W.T.	600 CFM	800 CFM	600 CFM	800 CFM	600 CFM	800 CFM
40 F	26,139	32,421	37,762	140 F	23,535	25,215	34,409	39,515	40,043	48,731
45 F	22,923	28,290	32,421	180 F	38,605	41,366	55,070	63,489	63,122	76,910
* 1 TO 2 TONS OF DX COOLING CAN BE FIELD INSTALLED ON TOP OF A 2 PIPE SYSTEM.										
4 PIPE SYSTEM - P/N 65614106 ADD ON 3 ROW HOT WATER COIL				HEATING	2 GPM			3 GPM		
				E.W.T.	600 CFM	800 CFM	600 CFM	800 CFM	600 CFM	800 CFM
				140 F	25,194	28,524	27,701	32,004		
				180 F	40,145	45,532	44,014	50,947		

Hydronic Air Handlers

MXC Series

The MXC is a compact unit designed for easy installation and service, energy efficiency and total flexibility. The hydronic version comes available with or without a factory installed circulator. Another option is a slide-in cased cooling coil.



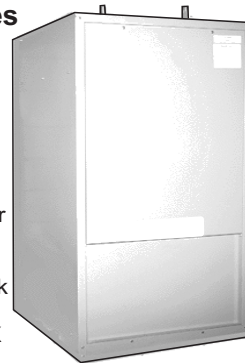
BCRMW Series

The BCRMW is a single speed hydronic fan coil that is affordably priced. It has been designed to replace standard highboy forced air furnaces with the minimum of transition ductwork required. It comes with an optional DX cooling coil.



BVRMW Series

The BCRMW is a multi-speed hydronic coil that provides greater comfort. It has been designed to replace standard high boy forced air furnaces with the minimum of transition ductwork required. It comes optional with a DX cooling coil.

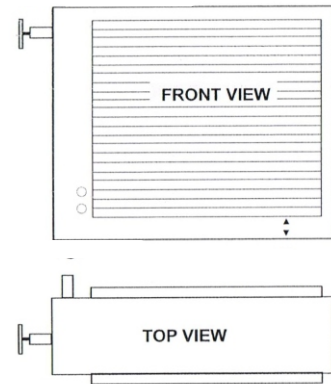


MODEL	AMS BCRMW4025S00*			BCRMW4036S00*			VOLTAGE	LBS			
CFM Range	800 - 1100			1000 - 1200			120/240	140			
Cabinet Size	48" H x 18 1/2" W x 22" D.										
2 PIPE SYSTEM / SLANT WATER COIL											
COOLING	4 GPM		6 GPM	8 GPM	HEATING	2 GPM		3 GPM		4 GPM	5 GPM
E.W.T.	1200 CFM	1200 CFM	1200 CFM	E.W.T.	1000 CFM	1200 CFM	1000 CFM	1200 CFM	1000 CFM	1200 CFM	
40 F	39,843	49,075		140 F	44,998	47,762	53,773	58,547	60,282	70,660	
45 F	34,937	42,194	45,961	180 F	72,151	76,649	84,899	92,476	95,121	111,512	
* 2 TO 3 TONS OF DX COOLING CAN BE FIELD INSTALLED ON TOP OF A 2 PIPE SYSTEM.											
4 PIPE SYSTEM - P/N 65614112 ADD ON 3 ROW HOT WATER COIL					HEATING	3 GPM			4 GPM		
					E.W.T.	1000 CFM	1200 CFM	1000 CFM	1200 CFM		
					140 F	36,982	39,809	39,801	43,208		
					180 F	58,963	63,537	63,331	68,827		

MODEL	AMS BCRMW6060S00*						VOLTAGE	LBS			
Cabinet Size	53" H x 22" W x 26" D.						120/240	240			
2 PIPE SYSTEM / "A" WATER COIL											
COOLING	5 GPM		6 GPM	7 GPM	HEATING	3 GPM		5 GPM		7 GPM	
E.W.T.	1600 CFM	2000 CFM	2000 CFM	E.W.T.	1600 CFM	2000 CFM	1600 CFM	2000 CFM	1600 CFM	2000 CFM	
45 F	60,978	74,514	79,684	140 F	81,679	86,941	103,870	118,272	112,354	132,519	
60 F		35,375	37,553	180 F	129,484	137,801	163,416	186,153	176,695	208,544	
* 4 to 5 TONS OF DX COOLING CAN BE FIELD INSTALLED ON TOP OF A 2 PIPE SYSTEM.											
4 PIPE SYSTEM - P/N 65614124 ADD ON 4 ROW HOT WATER COIL					HEATING	4 GPM			5 GPM		
					E.W.T.	1800 CFM	2000 CFM	1800 CFM	2000 CFM		
					140 F	69,318	72,104	74,605	77,999		
					180 F	110,265	114,739	118,557	124,009		
* - Voltages		1 - 240 volt, 1 phase, 60 hertz									
		3 - 120 volt, 1 phase, 60 hertz									

DC Hydronic Duct Coils

ENERZONE



Order Number	Heating	Heating	Heating	Flow Rate GPM	Air Flow in CFM	Fits Duct Size
	BTUH at 140°F EWT	BTUH at 160°F EWT	BTUH at 180°F EWT			
EZ DC-32	32,000	41,500	51,500	3	850	16" x 16"
EZ DC-47	47,000	61,000	75,000	4	1000	16" x 16"
EZ DC-55	55,000	71,500	88,000	4	1250	20" x 16"
EZ DC-68	68,000	88,000	108,000	4	1600	24" x 18"
EZ DC-88	88,000	114,000	140,000	5	2000	24" x 24"
EZ DC-99	99,000	128,000	157,000	5	2000	24" x 24"

All Data is shown with 70 degree F Entering Air Temperature

Item	Description	Pack Qty
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Circulator Couplings for B&G Circulators

M156-1M	B&G coupling for 1/4, 1/3 HP motors (118723)	1
M156-2M	B&G coupling for 1/2, 3/4 HP motors (118473)	1
M156M	B&G Coupling for 1/12, 1/16 HP motors, 118705	1

Circulator Couplings for B&G & Armstrong Circulators

M156-2AM	B&G spring coupling (118473)	1
M156AM	B&G 100 series spring coupling	1

Circulator Couplings for B&G & Armstrong Circulators

M156BM	B&G 100 series coupling	1
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Circulator Coupling & Motor Mount Kits

M155-10M	Motor mount / coupling kit for 1/12 HP B&G Circulators	1
M155-15M	Motor Mount / coupling kit for 1/6 HP B&G Circulators	1

Circulator Couplings for Taco & Thrush Circulators

M190M	Taco coupling, horizontal	1
M194M	Thrush coupling	1

Motor Mounts for B&G Circulators

MB61-1M	B&G motor mounts for 1/12 HP (118223)	2
MB61M	B&G motor mounts for 1/6, 1/4 HP (118227)	2

Impellers for B&G Circulators

MB60AM	B&G plastic impeller (189132)	1
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Seal Assemblies for B&G Circulators

MB66-12M	B&G seal assembly (186499, PD-39, Series 60A)	1
MB66-4M	B&G seal assembly (118681 and all bronze residential boosters)	1
MB66-8M	B&G seal assembly (186862, universal A and B, series 80, 1510, 1531)	1
MB66M	B&G seal assembly (118680, PZ-31118, all residential boosters, PD-37, 1522, 1535)	1

Wise-Crack Impeller Remover for B&G

MB60-30M	Impeller remover	1
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Oil Wicking for Bearing Assemblies

MB62-2M	Oil wicking	6
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Turn-A-Flange Tool

MB60-40M	Turn-A-Flange tool	1
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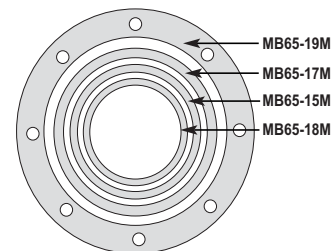
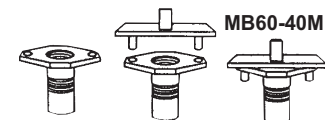
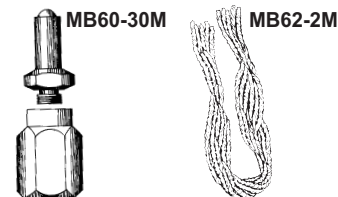
Circulator Hardware

MB63-30M	Flange bolts and nuts for Taco circulators	4
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Circulator Body gaskets for B&G Circulators

MB65-15M	B&G body gasket (189100 - 189104)	10
MB65-17M	B&G body gasket (189105, 118447)	5
MB65-18M	B&G body gasket (11844, 189034)	10
MB65-19M	B&G body gasket (86863, 186864)	5

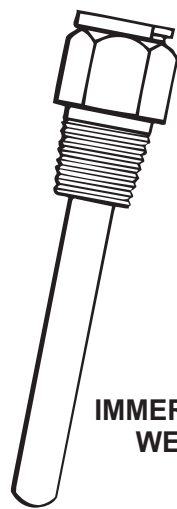
mitco^{MFG.}



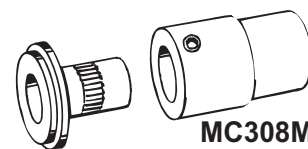
Item	Description	Pack Qty
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Immersion Wells

MC347-2M	Immersion well, 1/2" pipe conn., 3/8" insertion dia., 1-1/2" deep, replaces Honeywell 121371A, 12369A (use on L4006, L6006, L8124, L8148, R8182D, E, F)	1
MC347-3M	Immersion well, 3/4" pipe conn., 3/8" insertion dia., 1-1/2" deep, replaces Honeywell 121371B, 123870A (use on L4006, L8124, L8148, R8182D, E, F)	1
MC347-6M	Immersion well, 3/4" pipe conn., 3/8" insertion dia., 4-1/2" deep, replaces Honeywell 122555A, 123870A (use on water heaters with long insertion)	1
MC347-7M	Immersion well, 3/4" pipe conn., 3/8" to 5/8" insertion dia., 4-1/2" deep, replaces Honeywell 122555E	1
MC347-8M	Immersion well, 3/4" pipe conn., 3/8" insertion dia., 3" deep, replaces Honeywell 12137M (use on water heaters with long insertion)	1



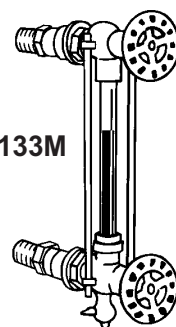
IMMERSION WELL



MC308M

Universal Well Adapter

MC308M	Permits replacement of obsolete hot water controls without draining the boiler system. Adapts modern controls to old style well with inside diameters of 1/2", 3/4" or 11/16".	1
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MB133M

Gauge Glass & Valve Set

MB133M	Gauge glass and valve set, 1/2". Allows for visual inspection of liquid levels in various vessels. Required by ASME Boiler and Pressure Code on all steam boilers. Useful in other applications such as monitoring the amount of oil in a tank.	1
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MB132-1M

Gauge Glass Washers

MB132-1M	Gauge Glass gasket, 12 pack	12
MB132-2M	Gauge glass gasket, high pressure, 12 PK	12
MB132M	Gauge glass washer, 5/8", box 100	100
MB133-2M	Gauge glass washer, 5/8", brass	1



GAUGE GLASS

Gauge Glasses

MB131-11M	Gauge Glass, high pressure, 5/8" x 10"	6
MB131-12M	Gauge Glass, high pressure, 5/8" x 12"	6
MB131-13M	Gauge Glass, high pressure, 5/8" x 14"	6
MB131-1M	Gauge Glass, 5/8" x 10"	6
MB131-2M	Gauge Glass, 5/8" x 12"	6
MB131-3M	Gauge Glass, 5/8" x 14"	6
MB131M	Gauge Glass, 5/8" x 8"	6



MB157-7M

Air Vent

MB157-7M	Hydronic heating system air vent with check valve	1
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