

# Ambassador

WALL MOUNT COMBINATION GAS HEATER SERIES.



HIGH EFFICIENCY HYDRONIC HEATERS WITH BUILT-IN DOMESTIC HOT WATER

 EMBASSY  
INDUSTRIES  
Inc.

# AXIA COMBI

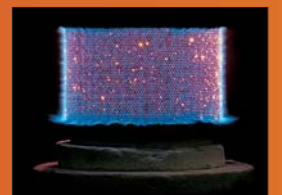
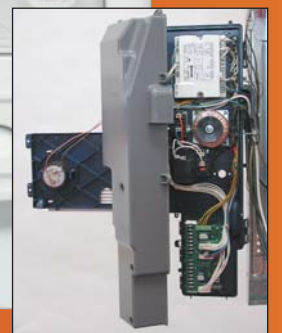
- Wall Mounted
- Direct Vent
- Sealed Combustion
- Quiet & Efficient
- On-demand Hot Water

The Axia series is the latest addition to the Ambassador line of gas fired combination heaters. These compact wall-mounted gas fired units provide over 87% efficient hydronic heat and domestic hot water. With two different sized units, the Axia can satisfy heating loads ranging anywhere from 50,000-160,000 BTU/Hr, operating with either natural gas or propane. Small and compact, the Axia features a state-of-the-art two stage firing rate – allowing the heating load to be set anywhere within its operating range while maintaining maximum BTU output for domestic hot water production. The technology incorporated in the Axia makes it one of the safest, efficient, and environmentally friendly units on the market today. This combination unit, with its flexible sizing and small footprint, makes it the ideal solution for hydronic heating and domestic hot water for single family homes, townhouses, condos or apartments.

The Axia incorporates some of the finest elements of today's heating technology. A direct vent, sealed combustion design eliminates the risk of toxic gas emissions. A negative pressure gas valve provides additional safety - prohibiting the gas valve from opening unless the exhaust blower is operating. The pre-mix burner makes sure that the Axia will have perfect combustion every time, and reduces NOx emissions and other pollutants. In fact, the Axia exceeds California's rigid South Coast Air Quality Management District rules for NOx and CO. A proprietary integrated control provides flawless operation while affording such features as built-in domestic hot water priority and low-water cut-off.

With a choice of split or concentric venting, the Axia couldn't be easier to install. The unit comes with a built-in expansion tank and circulator; in fact, the Axia is completely pre-plumbed and pre-wired. A built-in hydronic mixing valve also makes the Axia the ideal heat source for a radiant heating system.

To the homeowner or building owner, the Axia offers a myriad of benefits. The Axia's adjustable output allows the consumer to optimize their heating efficiency while maintaining a continuous supply of domestic hot water. The small footprint and its venting flexibility allow the Axia to be installed virtually anywhere. The Axia is so quiet that the unit can be installed in a bedroom without ever disturbing the occupants. The Axia's technology insures that building owners have a heating unit that has the highest standards of safety and efficiency with unparalleled quality and reliability.



The AXIA burner is constructed of special metal fiber. The gas burns on the surface without flame. The reduced superficial temperature of the burner (900° to 950° C) minimizes the CO and NOx emissions.

# Ambassador★

# BMS COMBI

- **Wall Mounted**
- **Direct Vent**
- **Sealed Combustion**
- **Quiet & Efficient**
- **On-demand Hot Water**

The Ambassador Series from Embassy offers the heating professional a choice of gas-fired wall mounted space heaters with built-in domestic hot water. These direct vented, sealed combustion units incorporate the very latest in hydronic heating technology. The Ambassador's copper tube heat exchanger is manufactured using a unique patented design and is engineered for low hydraulic resistance, generating extra heat transfer for optimum efficiency. Embassy backs the heat exchanger with a lifetime limited warranty. Compact, lightweight and sophisticated, yet uncomplicated in their design and construction, Ambassador Heaters benefit both the installer and the user by providing the ultimate in high quality performance and reliability with ease of installation and service.

The BMS wall mounted combination heaters are available in two sizes, 87,000 and 107,000 BTU/HR. Operating on either propane (LP) or natural gas, these units provide hydronic heat and domestic hot water at 86% efficiency. The units come ready to accept a concentric vent for ease of installation, however, they can be adapted to use either a split venting system or transitioned to standard stove pipe. When using the concentric vent, the Ambassador can have zero clearance from combustibles and may be installed within 15 inches of a window or door. Complete with a built-in expansion tank, circulator, air vent, low water cut-off, temperature/pressure gage and relief valve, these units come pre-plumbed and pre-wired, ready to install.

To the homeowner or building owner, the Ambassador is not only quiet, dependable and efficient, but they are more attractive and require less space than conventional boilers. With their unparalleled reliability, silent operation, safety and flexibility of installation the BMS is the ideal solution for multi family dwellings, modular houses or even housing projects.



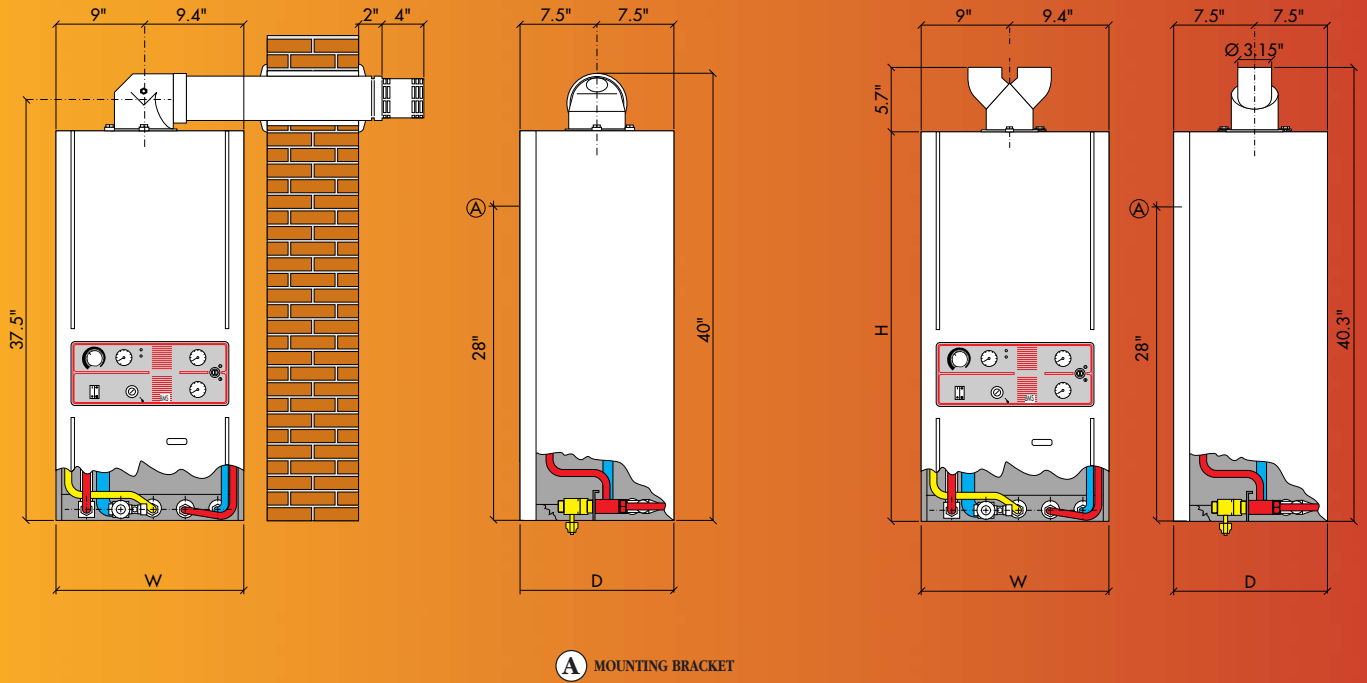
## ***THE BENEFITS OF DIRECT VENT AND SEALED COMBUSTION:***

- **Safety...**When used with the concentric vent, the sealed combustion design allows zero clearance from combustibles.
- **Flexibility...**The Ambassador may be installed within 15 inches of a door or window. Install it anywhere, even in a closet.

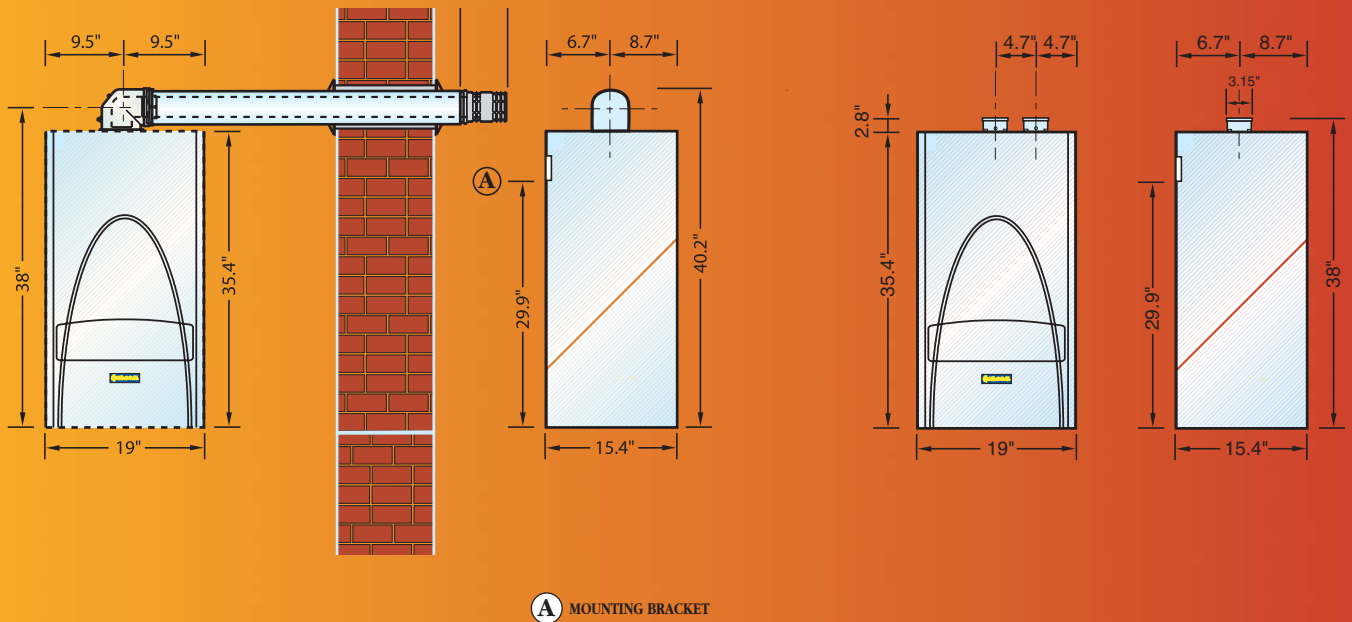
The BMS Combi burner is designed to be noiseless during operation, making the Ambassador one of the quietest units available. It is constructed entirely of stainless steel and functions with both Natural and LP (propane) gas.



## DIMENSIONS FOR WALL-MOUNTED BMS COMBI



## DIMENSIONS FOR WALL-MOUNTED AXIA COMBI



## RATINGS AND ENGINEERING DATA

MODELS	TECHNICAL FEATURES																
	INPUT		OUTPUT		A.F.U.E.	DIMENSIONS			CONNECTIONS	FLUE DIAMETERS			DHW OUTPUT				WEIGHT
	Max. Btu/hr	Min. Btu/hr	Max. Btu/hr	Min. Btu/hr		W	D	H		IN	OUT	CO-AXIAL	CONTINUOUS FLOW		INTERMITTENT FLOW		
					GAL/MIN ΔT 60°F				GAL/MIN ΔT 75°F				GAL/MIN ΔT 60°F	GAL/MIN ΔT 75°F			
BMS 10/20	87,000	87,000	73,000	73,000	86.2%	18"	15"	35"	3/4"	3.0"	3.0"	4.0"	2.5	2.0	3.3	2.6	143
BMS 15/29	107,000	107,000	89,900	89,900	84.1%	19"	16"	35"	3/4"	3.0"	3.0"	4.0"	3.0	2.4	3.8	3.1	154
AXIA 20E	90,000	50,000	76,500	42,500	86.9%	19"	16"	36"	3/4"	3.0"	3.0"	4.0"	2.6	2.1	3.4	2.7	132
AXIA 29E	160,000	90,000	136,000	76,500	85.7%	19"	16"	36"	3/4"	3.0"	3.0"	4.0"	4.6	3.7	5.4	4.3	143

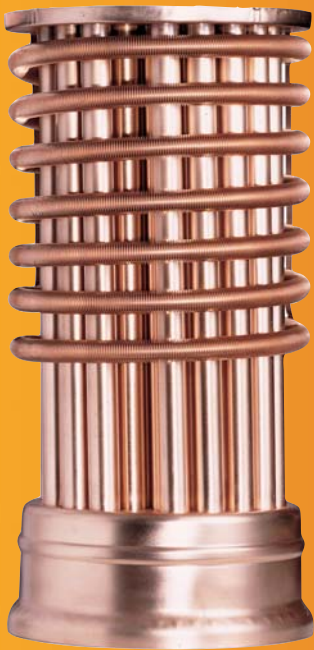
\*Intermittent flow is limited to 10 minutes. After 10 minutes a minimum recharge time of 3 minutes is required to recharge the boiler. Specifications and dimensions are subject to change without notice.

# B70 HOT WATER STORAGE TANK

Available for the AMBASSADOR boilers is the optional B70 domestic hot water storage tank. The B70 is an attractive 18.5 gallon insulated stainless steel storage tank designed to either accompany a BMS or AXIA boiler. When used in conjunction with an AMBASSADOR boiler, the B70 will produce 76 gallons of 104° water in 11 minutes. The B70 comes complete with a bronze circulator, expansion tank and setting thermostat.



## HEAT EXCHANGER



The AXIA/BMS Combi units incorporate a high efficiency heat exchanger with solid copper tubes to ensure rust-free operation for years to come. These units are backed by our exclusive limited lifetime warranty.

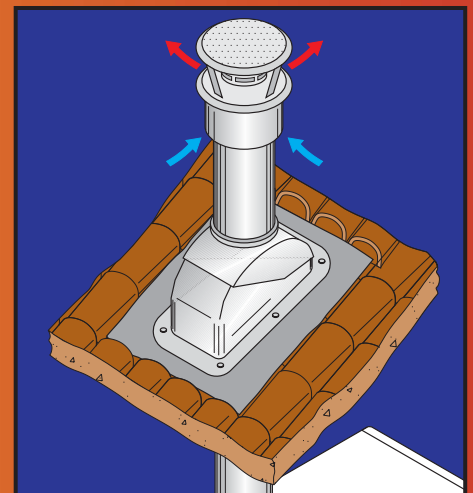
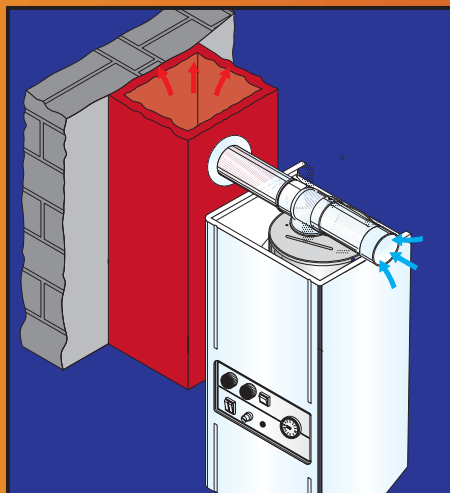
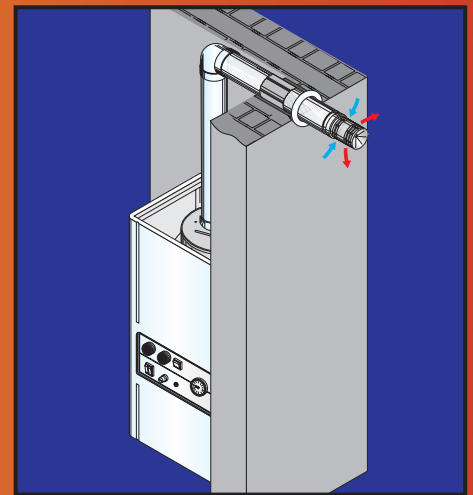
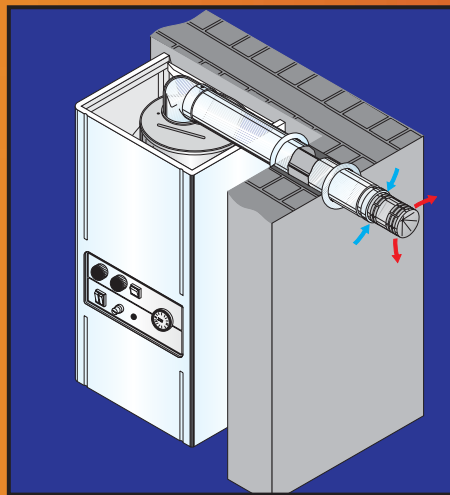


### APPROVALS

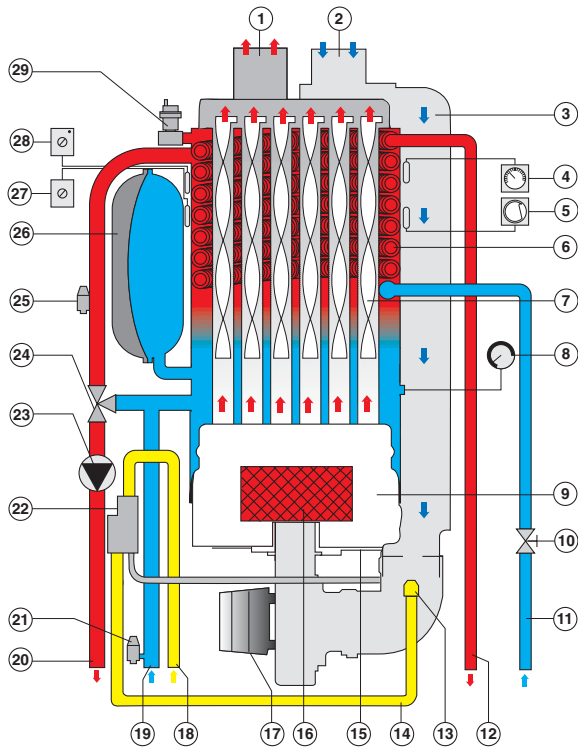


## VENTING OPTIONS

The AMBASSADOR Combi heaters can be fitted with either concentric or split-type venting systems. Both systems are designed to vent directly to the outside, either through a wall or through the roof. Using outside air for combustion will lower fuel bills by reducing air infiltration within the building. The flexibility and ease of installation assure years of trouble-free service.

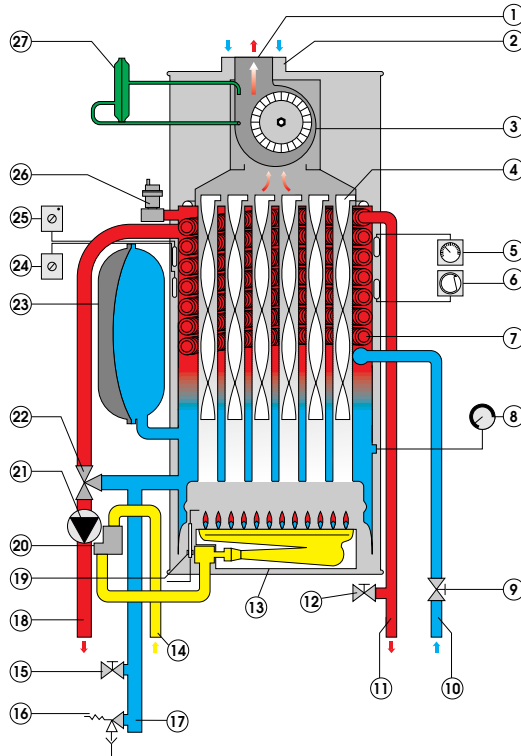


## OPERATING SCHEME AXIA COMBI



- 1 FLUE DISCHARGE
- 2 AIR INTAKE
- 3 AIR INTAKE DUCT
- 4 TEMPERATURE GAUGE
- 5 HEATER TEMPERATURE CONTROL
- 6 DOMESTIC HOT WATER HEAT EXCHANGER
- 7 TURBULATORS
- 8 PRESSURE GAUGE
- 9 COMBUSTION CHAMBER
- 10 DOMESTIC HOT WATER FLOW RESTRICTOR
- 11 COLD WATER INLET
- 12 DOMESTIC HOT WATER OUTLET
- 13 GAS INJECTOR
- 14 GAS PIPE
- 15 THERMAL INSULATION
- 16 PREMIXING BURNER
- 17 BLOWER
- 18 GAS INLET
- 19 CENTRAL HEATING RETURN
- 20 CENTRAL HEATING SUPPLY
- 21 RELIEF VALVE
- 22 GAS VALVE
- 23 CIRCULATOR PUMP
- 24 CENTRAL HEATING REGULATION VALVE
- 25 LOW WATER CUT-OFF
- 26 EXPANSION VESSEL
- 27 HIGH LIMIT THERMOSTAT
- 28 DOMESTIC HOT WATER PRIORITY THERMOSTAT
- 29 AUTOMATIC AIR VENT

## OPERATING SCHEME BMS COMBI



- 1 FLUE DISCHARGE
- 2 AIR INTAKE
- 3 FLUE GAS DISCHARGE FAN
- 4 TURBULATOR
- 5 TEMPERATURE GAUGE
- 6 HEATER TEMPERATURE CONTROL
- 7 DOMESTIC WATER HEAT EXCHANGER
- 8 PRESSURE GAUGE
- 9 FLOW RESTRICTOR
- 10 COLD WATER INLET
- 11 DOMESTIC HOT WATER OUTLET
- 12 SANITARY DRAIN COCK
- 13 BURNER
- 14 GAS INLET
- 15 HEATING DRAIN COCK
- 16 RELIEF VALVE
- 17 CENTRAL HEATING RETURN
- 18 CENTRAL HEATING SUPPLY
- 19 IGNITION AND DETECTION ELECTRODES
- 20 GAS VALVE
- 21 CIRCULATOR PUMP
- 22 CENTRAL HEATING REGULATION VALVE
- 23 EXPANSION TANK
- 24 DOMESTIC HOT WATER PRIORITY THERMOSTAT
- 25 HIGH LIMIT THERMOSTAT
- 26 AUTOMATIC AIR VENT
- 27 PRESSURE SWITCH