

Section 4: Enhanced Air Separator Selection

At the heart of the Hydro-Flo Heating Module is the Bell & Gossett Enhanced Air Separator or EAS. Its unique external design, consisting of a side or bottom inlet and a side outlet (see Figure 9) provides the foundation for the compact design of the Hydro-Flo. The superior air elimination effectiveness of the EAS can be found in its stainless steel internal components. These internals consist of a large coalescing medium with thousands of tiny fingers (or micro-bubble catchers), surrounded by a diffuser. The diffuser nearly doubles the efficiency of the coalescing medium as compared to competitive units.

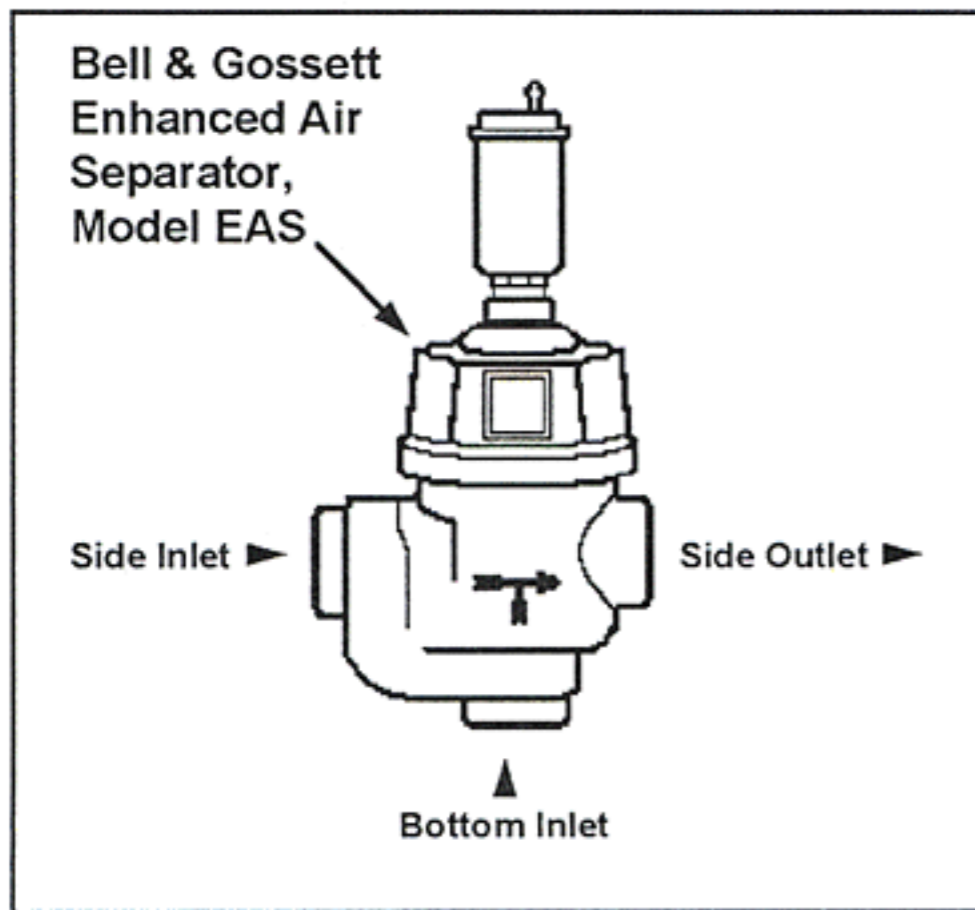


Figure 9

A) Select your EAS to match the pipe header size or by total flow required: (see Table 3)

B&G has made selecting an air separator both easy and cost effective. Most competing air separators have to be selected based on the size of the pipe. The EAS can be sized in the same manner or it can be selected based on the required flow rate, regardless of the pipe size. For example, if a system's pipe header is 1½", and the selected pump will provide 30 GPM, an EAS-1¼" model can be used with two reducing bushings. The high capacity, low pressure drop characteristics of the EAS may save you a few dollars by sizing it smaller than the pipe header.

Table 3 EAS Sizing Guide

EAS Model	Size	Max. Flow GPM	Net BTUH	Normal Pipe Size
EAS-1	1"	35	350,000	¾" - 1¼"
EAS-1¼	1¼"	35	350,000	1¼" or 1½"
EAS-1½	1½"	45	450,000	1½" or 2"
EAS-2	2"	70	700,000	2" or 2½"

Besides being an extremely effective air separator, it is also easy to install. The EAS is a one-of-a-kind air separator that can be used with either a steel compression tank or diaphragm expansion tank. The top of the EAS includes a ¾" tapping for connecting to a steel compression tank. If the EAS is used with a pressurized expansion tank, a ¾" high capacity air vent is conveniently supplied with each unit for air elimination.

Section 5: Pressure Reducing Valve Selection

A) B&G pressure reducing valves are not "fill valves":

Bell & Gossett Pressure reducing valves are a convenience device designed to make the installer's job easier while filling the system. A common misconception is to refer to these valves as "fill valves." If the city water isolation valve is allowed to remain open after the system has been filled and pressurized, a "fill valve" will function automatically to periodically allow water into the system to maintain proper system pressure. "By doing this the fill valve will prevent the boiler from developing a low water condition." This last statement is not always true! The only device that will always prevent a boiler from dry firing, as a result of a low water condition, is a low water cut-off. It is also possible that a reducing valve could mask system problems if the cold water supply valve is allowed to remain open. A small leak caused by a cracked pipe or even a loose fitting could lead to big problems! Closing the cold water supply valve might reduce the potential of a flooded basement or boiler room. And if there is only a small leak, and the water level drops, a properly installed low water cut-off will shut down the boiler until the leak is repaired. This type of preventative maintenance could make the installer smarter and the homeowner safer!

B) Why pressure reducing valves are necessary:

Pressure reducing valves reduce the water fill pressure down to the required system pressure and then stops the system from filling any further. The valve accomplishes this function in an automatic, time saving and convenient manner. Manually filling a hydronic heating system without a pressure reducing valve can be very time consuming. Pressure reducing valves allow the installer to perform other needed installation procedures while the system is filling.

C) B&G pressure reducing valves are pressure pre-set from the factory:

All B&G reducing valves come preset from the factory for the most common pressure setting used in residential or commercial applications. Sometimes the setting may not be adequate for the application. All B&G reducing valves have a limited pressure adjustment range to fine tune the pressure requirements.

D) B&G offers a complete line of pressure reducing valves:

B&G offers a full line of high quality reducing valves to meet your specific system pressure requirements. However most residential systems will require either the FB-38 or FB-38TU model for the Hydro-Flo Enhanced Heating Module. Both models are easy to install and the FB-38TU comes with a handy 1/2" NPT/sweat union tail piece. Both models have large fast fill levers which make it easy to determine when they're in either the fast fill or automatic positions.