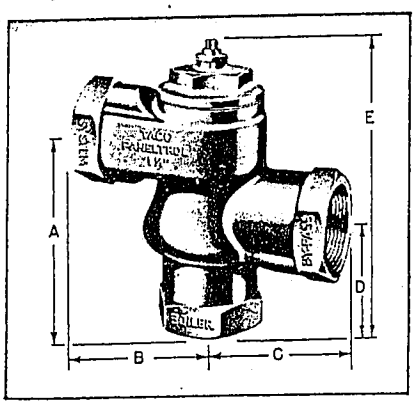
TECHNICAL DATA SHEET No. 503103B TACO PANELTROL

PURPOSE

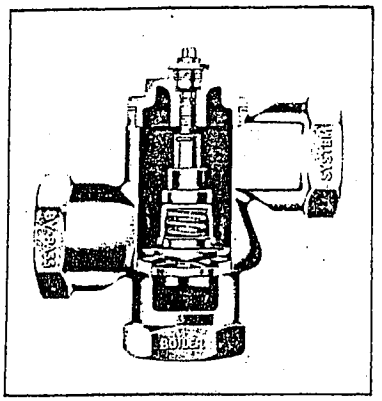


The TACO PANELTROL is just what the name implies—a control for Panel Heating Systems.

It is designed to serve a dual function. First—It can be adjusted to deliver water to Radiant Heating Panels at any temperature between 110° F. and 150° F., provided the boiler water temperature is higher than these settings.

Second—It permits obtaining Domestic Hot Water from the same boiler by carrying the boiler water temperature at 180° F. or higher if necessary.

Size	Dimensions					Approx. Shipping Wt. Lbs.
	"A"	"B"	"C"	"D"	"E"	
1½"	4 1/16"	3"	3"	2⅜"	6"	7½



WHAT IT DOES

THE VALVE ITSELF

In addition to exhaustive laboratory tests, the TACO PANELTROL has also been thoroughly field tested. Its present design is simple and fool-proof, yet positive in action and performance.

The "Heart" of the TACO PANELTROL is a time tested, field proven thermostatic element made of the same material as is used in the Taco Tempering Valve, which is the largest selling tempering valve today. The actuating substance is hermetically sealed, will not tire or fatigue and cannot corrode.

Body is cast iron and all working parts are bronze, brass or stainless steel.

Connections are 1½" but may be bushed for smaller size piping.

ZONE CONTROL

Because of its low cost, the TACO PANELTROL is particularly suitable for zoned control panel heating systems. By the use of two or more valves, various panel water temperatures may be obtained such as would be required in a combination floor and ceiling installation, large industrial plants, garages, etc.

DOMESTIC HOT WATER

As is explained in the text under "HOW IT WORKS," the floating action of the thermostatic element meters the quantity of hot boiler water entering the valve. (Some means to prevent the circulator from pumping the entire contents of hot boiler water into the system should be provided. A Taco-Matic Valve is recommended for this purpose.) The loss in temperature of the small quantity of hot water which is pumped to the system is easily recovered by the burner, which starts simultaneously with the circulator upon a call for heat from the thermostat.

Since high boiler water temperatures can be maintained, regardless of the temperatures required for the panels, satisfactory domestic heater performance is assured.

LOW COST OPERATION

The TACO PANELTROL provides a low cost method of blending hot boiler water with return panel water. Operation of the system is controlled by an ordinary room thermostat and the Circulator runs only when heat is required. Thus it can be seen that power savings will result.

HOW IT WORKS

(When Heat Is Required)

When the thermostat calls for heat the burner and the circulator start simultaneously and the flow check immediately opens. Hot boiler water and relatively cool system return water (from bypass) are pumped into the TACO PANELTROL. This mixed water flows around and over the thermostatic element and then to the system.

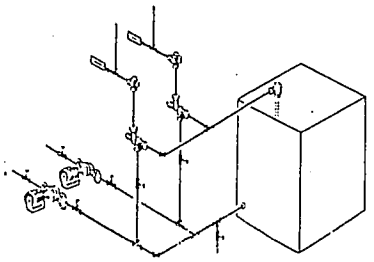
Should this mixed water temperature be above the setting desired the thermostatic element will instantly start to expand moving the valve plate towards the hot boiler water inlet. The amount of travel will depend to a large extent upon the temperature of the return water. If this temperature is only a few degrees lower than the setting desired, the valve will be practically closed against the hot boiler water inlet port. If on the other hand the return temperature is ten to twenty degrees lower the opening will be somewhat greater.

Thus it can be seen that the valve will be floating back and forth adjusting itself to the requirements of the system.

(When No Heat Is Required)

When no heat is required a low limit control wired to burner maintains minimum boiler water temperature for satisfactory domestic heater performance. (Approximately 180° F.)

Since no heat is required, the thermostat is satisfied, the circulator is stopped and the flow check is closed. Therefore no water can flow to panels.



Taco Paneltrols on a 2 Zone Installation

Taco heater can safely be used to provide year 'round domestic hot water without fear of overheating the panels.