

INSTRUCTIONS for INSTALLING and ADJUSTING
"GENUINE DETROIT"
CA-655 IMMERSION LIMIT CONTROL

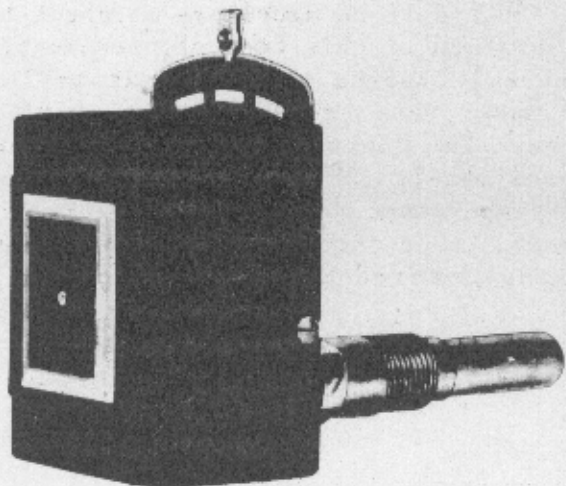


Fig. 1 - CA-655

The CA-655 Immersion Limit Control is designed to limit the boiler water temperature to the setting on the instrument in order to prevent abnormal temperatures in automatically fired hot water boilers. The instrument is also intended to automatically permit the burner to operate when temperatures are reduced to the cut-in point of the instrument.

Temperature Range: 115° to 235°.

Temperature Differential: 10° non-adjustable.

Immersion Well: (See Fig. 2) 3/4" I.P.T. Connection.

Electrical Rating: 1 H.P. 115-230 Volts A.C.

Cut-out temperature indicated on scale.
Cut-in temperature equals cut-out temperature less differential.

APPLICATION:

Since the firing rate on the boiler, the quality of combustion and other inherent characteristics of a particular heating system affect the cut-out point of the control, the instrument has been so adjusted to cut-out at the temperature indicated on the boiler thermometer when the boiler is fired at its rating.

When firing the load, particularly if the load is somewhat less than the rating of the boiler, the control will cut off at a boiler thermometer temperature slightly under that indicated by the range plate, and conversely, when the boiler is over-fired, the boiler thermometer temperature will be slightly higher than the cut-off setting of the instrument.

The CA-655 Immersion Limit Control is set when it leaves the factory to cut out at 180°. This setting will usually be satisfactory for the job. If, however, insufficient heat is experienced on a particular system the instrument can be adjusted to 235° maximum cut-off. When changing the setting a complete operating cycle should be observed to determine if steaming results before the cut-out point is reached.

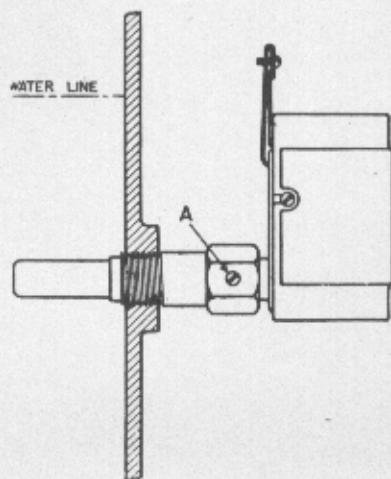


Fig. 2 - Typical Application of CA-655

INSTALLATION:

The CA-655 Immersion Limit Control is equipped with a removable well having a 3/4" I.P.T. Connection, and an extended hub to permit installation on jacketed boilers--see Fig. 2. When removing well -- DO NOT ATTEMPT TO OPERATE CONTROL BY TWISTING BI-METAL COIL.

The Bulb must be located so that it will project into the water to be controlled. The bulb must be in free circulation, usually as near the top of the boiler as possible. Do not insert the bulb in a dead end of a pipe or at any place where it will not meet the average temperature of the water. Be sure there is sufficient space for the bulb so that it will not be damaged by coming in contact with bottom or opposite side of opening. The switch will operate in any position.

WIRING

If BX is used prepare as shown (Fig. 3) by removing three inches of armor, then remove one inch of insulation from ends of wires. If Greenfield is used, allow 3 inches as indicated and use a standard adapter. Unscrew binding screws until wire connection can be made, bend end of wires around screws and tighten down.



Fig. 3

ADJUSTMENT:

The temperature scale and pointer on the outside of the box indicate the cut-out point of the switch. Changing this range adjustment does not affect the differential.

Should it be necessary to check the calibration of this control, remove from well and immerse the bi-metal coil in hot water, the temperature of which is known. The control should then cut off approximately 10° to 15° below the actual temperature of the water. This difference is to compensate for those variations covered under "Application".

Dimensions

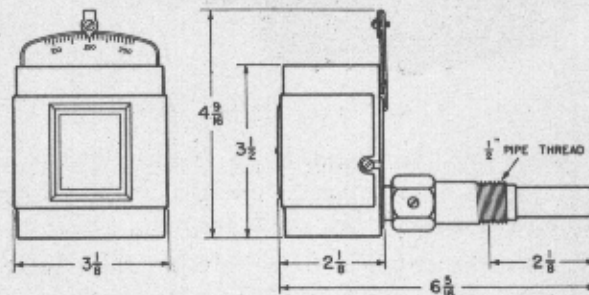


Fig. 4 - Dimensions of CA-655



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