

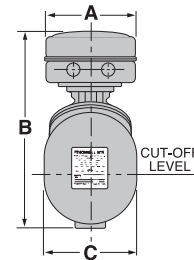
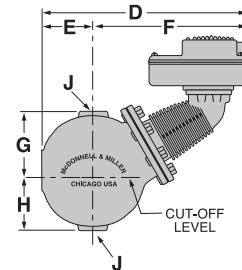
Low Water Cut-Offs – Mechanical For Steam Boilers

Series 150S Low Water Cut-Off/Pump Controllers

- For commercial and industrial low or high pressure boiler applications
- For boilers of any steaming capacity
- Monel bellows provides corrosion resistance
- Snap action switches for high temperature service
 - 1 Single pole, single throw switch for pump control
 - 1 Single pole, double throw switch for low water cut-off and alarm actuation
- Optional features
 - Manual reset
 - 2 Single pole, single throw switches
 - 2 Single pole, double throw switches
 - Float block
 - BSPT threads
- Maximum pressure 150 psi (10.5 kg/cm²)



Series 150S



Model 150S-MD

Maximum differential operation

- Prevents nuisance burner shutdowns in **low pressure** applications operating less than 50 psi (3.5 kg/cm²)
- For additional information see page 46

Electrical Ratings

Voltage	Pump Circuit Rating (Amperes)		Pilot Duty
	Full Load	Locked Rotor	
120 VAC	7.4	44.4	345 VA at 120 or 240 VAC
240 VAC	3.7	22.2	

Alarm Circuit Rating (Amperes)	
Voltage	Amps
120 VAC	1
240 VAC	1/2

Ordering Information

Model Number	Part Number	Description	Weight lbs. (kg)
150S	171702	Combination low water cut-off/pump controller	24.7 (11.2)
150S-B	171903	150S w/float block	24.7 (11.2)
150S-B-M	172803	150S-B w/manual reset	24.7 (11.2)
150S-BMD	172002	150S w/float block and max. dif.	24.7 (11.2)
150S-BM-MD	172805	150S-BMD w/manual reset	24.7 (11.2)
150S-MD	171802	150S w/maximum differential	24.7 (11.2)
150S-M	172806	150S w/manual reset	24.7 (11.2)
150S-M-MD	172807	150S-M w/maximum differential	24.7 (11.2)
158S	178402	150S w/2 SPDT switches	26.3 (11.9)
158S-M	172819	158S w/manual reset	27.3 (12.4)
159S	178802	150S w/2 SPST switches	26.0 (11.8)

Dimensions, in. (mm)

A	B	C	D	
5 ⁷ / ₈ (149)	12 ⁷ / ₁₆ (316)	6 (152)	13 ¹ / ₄ (337)	
E	F	G	H	J
3 ⁵ / ₁₆ (84)	9 ¹⁵ / ₁₆ (252)	4 ¹ / ₈ (107.5)	3 ⁷ / ₁₆ (91.5)	1 NPT

MD Model Setpoints

The bellows on the 150 units are sensitive to pressure. At higher pressures the bellows is stiffer requiring more force to move it. At lower pressures the bellows is more pliable (less stiff) requiring less force to move it. Consequently, the on/off points tend to narrow at lower pressures. (Less distance between on and off).

Early versions of the 150 units with mercury bulb switches were able to be adjusted. These units had knurled adjustment screws that could be used to raise, lower or widen the setpoints. Although the available adjustment was small (usually $\frac{1}{16}$ " to $\frac{1}{8}$ " total), it was enough to compensate in the field for lower pressure systems.

Later versions of the 150 with mercury bulb switches and all snap switch units are not adjustable in the field. The 'MD' models were created to provide a 150 control with factory settings to compensate for the narrowing of setpoints on new and existing installations.

On 'MD' models the distance between pump off and burner off is increased by approximately $\frac{7}{16}$ ". Note that the pump on/off differential on both standard and 'MD' models is set at $\frac{3}{4}$ "

This larger differential is accomplished by lowering the burner off setpoint $\frac{3}{8}$ " below the casting line on 'MD' models when setting the burner on/off points at 150 psi. This compensates for the narrowing of the setpoints at lower operating pressures because the burner off point will move upward (closer to the casting line) at lower pressures.

Operating Levels
Series 150/157 & Series 150S/157S

