

## AUTO-POSITIVE INJECTOR

This injector is an efficient combination of only five working parts. It achieves the results of the positive closed overflow injector, and yet retains the automatic features of the open overflow type. Its design provides a range of steam pressures and hot water ability beyond an injector of the automatic class. It is made in various capacities but only in one body design which has been found suitable for most installations.



### USES:

**Primary Boiler Feed Pump**, to pump feed water supply.

**Emergency Stand by Pump**, acting as a reliable back up where a mechanical feed water pump is already fitted.

**Preheating 'Make-up' Water**, where the water supply pressure exceeds the boiler steam pressure.

**Injection of Feed Water Treatment Compounds**, in suitable diluted mixtures.

### SIZES:

1/2" to 1 1/2" (15 – 40mm)

### CONSTRUCTION:

Bronze and Brass.

Capacities

Size	Pipe Connections						Horsepower Allowing 7 1/2 to 8 gals per HP per hour	Capacity Per Hour 75 – 125 lb. Steam Pressure. 3' Lift			
	Steam		Suction		Delivery			Maximum		Minimum	
	BSP	m m	BSP	m m	BSP	m m		Gal.	L.	Gal .	L.
113	1/2 "	15	1/2 "	15	1/2 "	15	7 to 25	200	910	60	273
117	1"	25	1"	25	1"	25	28 to 85	675	3070	225	1024
119	1 1/4 "	32	1 1/4 "	32	1 1/4 "	32	47 to 145	1125	5119	375	1706
121	1 1/2 "	40	1 1/2 "	40	1 1/2 "	40	87 to 265	2000	9110	700	3185

## **“BROWN” INJECTORS**

“Brown” Automatic and Auto-positive injectors are designed and built to give the purchaser a dependable and lasting service. Each individual Injector must pass an actual boiler test before leaving our factory, and is guaranteed faultless; but must be used as we recommend.

If it should be found that a newly fitted Injector is not functioning properly, it is almost certain that the trouble can be traced to the connections. The Injector derives its power through the steam pipe, and its capacity comes through the suction pipe. The suction pipe must deliver sufficient cold water to condense the steam so that they may combine and pass through the small delivery jet. Too much water will allow the Injector to work well at high pressures but stifles its performance at low pressures. Too little, or too hot water may give good results at low pressure, but fail to condense all the steam at high pressures. An indication of shortage of steam or water is often revealed by continued overflow of hot water.

### **THE SIZE INJECTOR REQUIRED**

This will depend upon the rate at which the boiler is called upon to evaporate water. The catalogue capacities are based upon 7 1/2 to 8 gallons of water per horsepower per hour, which is equivalent to 60 to 65 pounds per hour. Since the boiler H.P. is defined as the evaporation of 30 to 34 pounds of water per hour, the above allowance is ample for all ordinary conditions. In any event, the Injector should deliver at least 30% more water than is ever being evaporated, so as to provide a reserve capacity. The injector capacity can always be reduced nearly 50% by throttling the water supply line.

## **POSSIBLE CAUSES OF STOPPAGE**

1. Leak in suction pipe or around steam or water supply.
2. Sediment in the pipes.
3. Using a stock model Injector at low steam pressure for pressure water supply without substituting a special steam jet.
4. Failure to regulate water supply properly at low steam pressures.
5. Using an Injector unsuited to the conditions.
6. Water supply choked (loose hose lining, strainer fouled, foot valve stuck).
7. Discharge line choked (Pipes lined up).
8. Steam line not bringing in enough power.
9. Water supply too hot.
10. Injector overheated from leaky steam valve or discharge line checked.