

## Automatic Injectors Standard, High & Low-Pressure



Ever since 1886, Penberthy Automatic Injectors have been key to building the company's reputation. Defined as a boiler feeding pump, the basic, time-tested design has changed little over the years. Using the velocity and condensation of a jet of steam from the boiler to lift and force into the same boiler a stream of water, these units are a testament to both operating simplicity and efficiency. Penberthy Automatic Injectors offer many benefits over more expensive mechanical pumps, where cold water make-up is used. These benefits include: durable construction, compact design with no mechanical parts, no foundation or floor space required, no external power source needed, low initial cost, easy to operate and virtually maintenance-free. Plus, the unique design allows warm water to feed the boiler without preheating.

These units are available in **Standard, High-Pressure and Low-Pressure Models** in a wide range of sizes and specifications. Typical applications include: primary boiler feed service, stand-by boiler feed service, preheating make-up water, injection of feedwater treatment compounds and high pressure/high temperature water supply. Over the years, Penberthy Automatic Injectors have performed flawlessly in unforgiving boiler room settings all around the globe. They can do the same for you!

## Models Available

Standard, High-Pressure, Low-Pressure

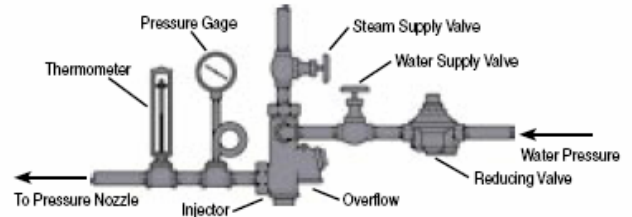


## Selection Guide

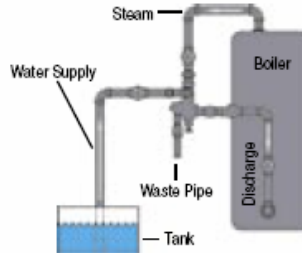
Automatic injectors can be properly selected by focusing on information relating to the operating conditions of the application under which the injectors will be working. Once that information has been collected, your Penberthy sales representative can help select the proper automatic injector for the situation.

## Typical Applications

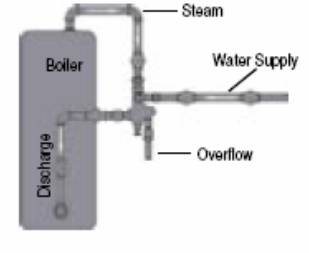
For Pressure Washing



Installation For Suction Lift



Installation For Water Pressure Supply



### Standard Models Available

Size No.	*Boiler Horsepower Rating	Pipe Size Conn. In.
11-21	12	3/8
AA-21	25	1/2
BB-21	50	3/4
CC-21	85	1
DD-21	150	1 1/4
EE-23	250	1 1/2
FF-23	425	2
GG-21	600	2 1/2

### Standard Injectors: Operating Specifications

Suction Lift Applications	
Minimum Operating Pressure	25 psi (172.5) steam pressure with 3ft. (0.9 m) lift and 74° F (23° C) water
Maximum Operating Pressure	up to 140 psi (965 kPa) steam pressure with 3ft. (0.9 m) lift and 74° F (23° C) water
Lift Water	20 ft. (6.1 m) @ 60-80 psi (414-552 kPa) steam pressure with 74° F (23° C) water
Maximum Temperature of Suction Water	3ft. (0.9 m) lift and steam pressure as follows: 120° F (49° C) @ 60-80 psi (414-552 kPa) 115° F (46° C) @ 100 psi (689 kPa) 105° F (40.5° C) @ 120 psi (830 kPa) 90° F (29° C) @ 140 psi (1380 kPa)

### High-Pressure Models Available

Size No.	*Boiler Horsepower Rating	Pipe Size Conn. In.
00-326	12	3/8
AA-328	27	1/2
BB-330	50	3/4
CC-332	90	1
DD-334	140	1 1/4
EE-336	275	1 1/2
FF-338	450	2
GG-340	650	2 1/2

### High-Pressure Injectors: Operating Specifications

Suction Lift Applications	
Minimum Operating Pressure	50 psi (345 kPa) steam pressure with 3ft. (0.9 m) lift and 74° F (23° C) water
Maximum Operating Pressure	up to 200 psi (1380 kPa) steam pressure with 3ft. (0.9 m) lift and 74° F (23° C) water
Lift Water	20 ft. (6.1 m) @ 80-120 psi (552-830 kPa) steam pressure with 74° F (23° C) water
Maximum Temperature of Suction Water	3ft. (0.9 m) lift and steam pressure as follows: 120° F (49° C) @ 120 psi (830 kPa) 115° F (46° C) @ 140 psi (689 kPa) 105° F (40.5° C) @ 170 psi (830 kPa) 85° F (29° C) @ 200 psi (1380 kPa)

### Low-Pressure Models Available

Size No.	*Boiler Horsepower Rating	Pipe Size Conn. In.
00-526	12	3/8
AA-528	25	1/2
BB-530	50	3/4
CC-532	85	1
DD-534	125	1 1/4
EE-536	240	1 1/2
FF-538	400	2

### Low-Pressure Injectors: Operating Specifications

Suction Lift or Water Supply Applications	
Minimum Operating Pressure	15 psi (100 kPa) steam pressure with 3ft. (0.9 m) lift and cold water
Maximum Operating Pressure	up to 100 psi (689 kPa) steam pressure with 3ft. (0.9 m) lift and cold water
Lift Water	3 ft. (0.9 m) lift max @ 20-100 psig steam (138-689 kPa) pressure

\*Boiler horsepower rating based on supplying approximately 7 gallons of water per horsepower per hour with 3 ft suction lift and 140 psi steam pressure.

Each injector is supplied with all bronze pipe strainer one size larger than injector connection for installation at end of suction pipe.

Size 00-325 through DD-334 are provided with relief valve to facilitate starting at the lower steam pressures.

Size 00-325 injector is supplied with two small strainers for insertion in the steam and water supply union connections.