Dal 1932
Officine Giudici
Eiettori a misura di futuro

RESTARTING INJECTOR

The Restarting Injector is the proven device for feeding steam generators.

It is a mechanical device whose operation, characterized by being independent of electrical energy, is based on fluid dynamics principles that relate the velocity and pressure of a fluid.

It uses the steam from the generator itself as its motive fluid, transforming its kinetic energy into pressure energy capable of sending feedwater to the boiler.

The steam used to operate the injector then returns, condensed, to the generator.

It operates within very wide pressure limits, with significant hourly flow rates.

The ideal installation is vertical; for a horizontal position, the water supply inlet must face downward.

It can operate correctly both with negative or positive suction head (in this case, a regulating valve should be installed).

The feedwater must not exceed 40°C.

CONSTRUCTION

- Body in cast iron, internal nozzle in brass/bronze.
  Flanges EN 1092 PN16
- Body in ductile cast iron, internal nozzle in brass/bronze.
  Flanges EN 1092 PN25

OPERATING PRESSURE

- NP. 16 from 4 to 12 bar
- NP. 25 from 6 t 15 bar

SUCTION FLOW RATE

SIZE	4	5	6	8	10	12	15
ND	20	25	32	40	50	65	80
Flow rate l/h	1.300	2.200	3.300	5.000	8.000	12.000	18.000
Weight kgs	8	10	14	17	24	35	50

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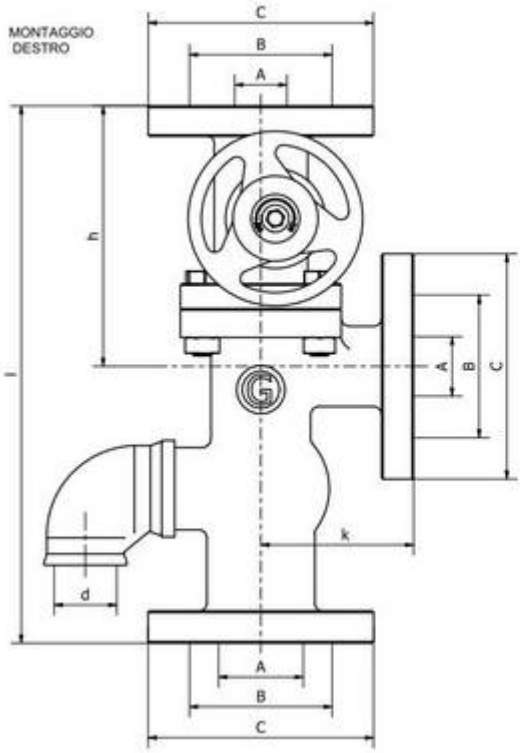
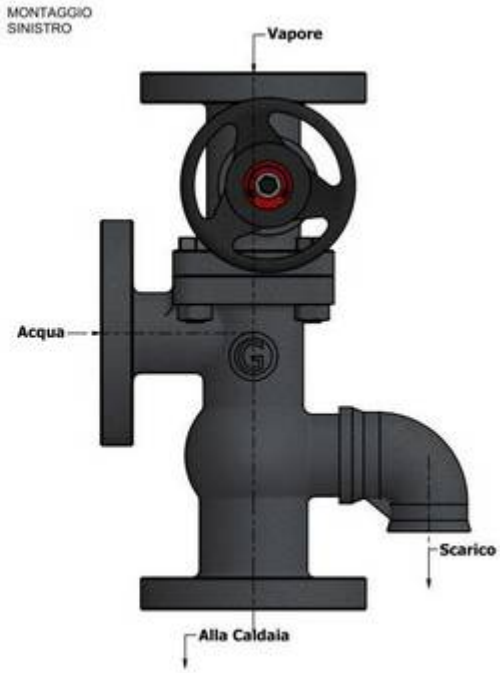
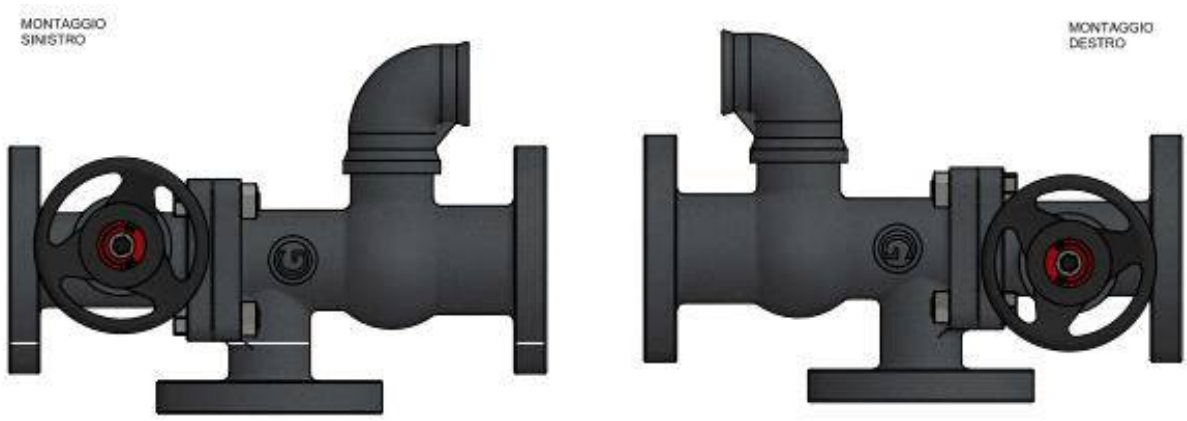
OVERALL DIMENSIONS





SIZE	A	B	C	d	h	k	l
4	20	75	105	¾	130	70	280
5	25	85	115	1”	150	80	315
6	32	100	140	1”1/4	160	90	340
8	40	110	150	1”1/2	170	105	380
10	50	125	165	2”	205	120	450
12	65	145	185	3”	235	125	510
15	80	160	200	3”	264	170	622

HORIZONTAL POSITION



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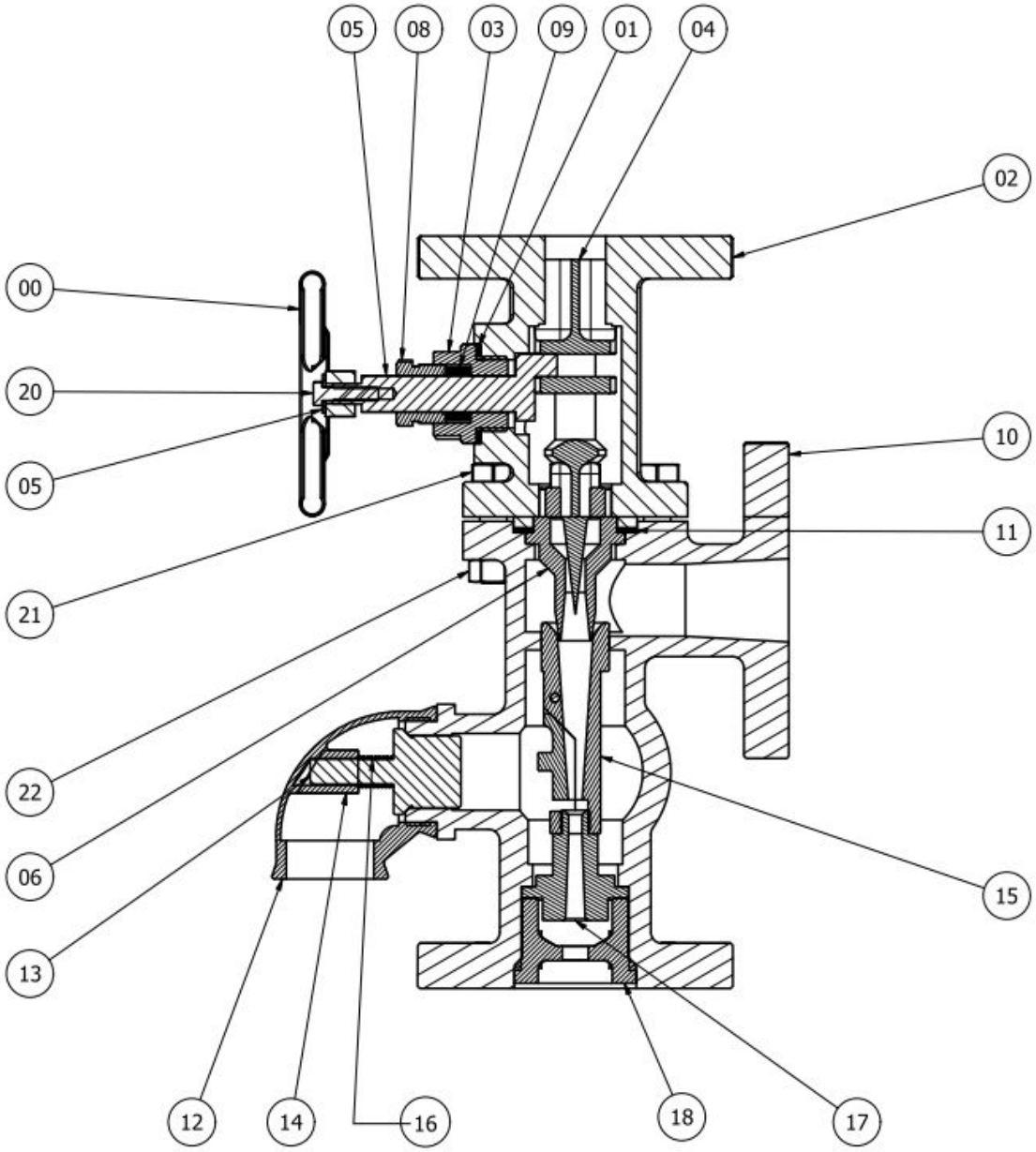
SECTIONAL DRAWING



00 - Volantino
01 - Guarnizione
02 - Cappello
03 - Vitone
04 - Asta Regolazione
05 - Rondella
06 - Diffusore
07 - Asta guida
08 - Premistoppa
09 - Guarnizione
10 - Corpo
11 - Guarnizione
12 - Gomito
13 - Valvola
14 - Distanziatore
15 - Premente
16 - Molla
17 - Sottopremente
18 - Secchiello
20 - Bullone Volantino
21 - Bullone
22 - Dado

Installation instructions:

- The pipes and valves must have a passage diameter corresponding to the diameter of the injector.
- Before installation, the pipes must be thoroughly cleaned by passing a jet of steam or other means to remove impurities and welding slag that could clog the internal nozzles.
- The gaskets must be concentric and must not reduce the pipe cross-section in any way.
- The injector steam supply connection shall be taken from a high point of the boiler and shall not be derived from other steam piping.
- The steam pipe must be thermally insulated so that the steam reaches the injector dry; the use of wet steam is not permitted, as it prevents proper operation and causes erosion of the nozzles.
- The motive steam pressure, measured at the connection flange, must be constant and equal to that prevailing in the boiler.
- The supply unit, consisting of a check valve and a shut-off valve, is installed on the boiler delivery pipe. Any unavoidable bends must be kept to a minimum and of a wide radius. It is important to minimize pressure losses as much as possible, as the head provided by the injector is minimal.
- For optimal efficiency, the water temperature must not exceed 40°C.
- For both suction and pressurized water, a shut-off valve must be installed to regulate the flow.
- The injector must be installed near the boiler, in a position that facilitates simple and immediate operation.
- For horizontal installation, the water supply inlet must face downward.

Commissioning Instructions:

- Upon start-up, the injector handwheel must be in the "off" (closed) position.
- Open the feed water and steam valves; water will flow freely from the exhaust.
- Slowly open the injector handwheel clockwise, decreasing the water flow so that mixing begins and, consequently, the boiler is fed (this will be indicated by a distinctive hissing sound).
- Continue turning the handwheel until the exhaust flow stops, achieving maximum efficiency.

Operating faults

The most likely causes of failure are mainly due to:

- Motive steam pressure outside the prescribed minimum or maximum limits
- moisture in motive steam
- Failure to regulate the pressurized water
- feed water temperature above 40°C Excessive pressure drops in the boiler delivery piping
- Excessive pressure drops in the boiler delivery piping.

Some accidental causes may include:

- Nozzles partially clogged with impurities
- Seals with insufficient or poorly positioned passage sections

Spare parts

As spare parts, it is recommended to keep in stock a regulation group consisting of a guide rod, a closing rod and a series of gaskets.

Maintenance

Before cleaning and/or maintaining the injector, make sure the system is turned off and all accessories are disconnected.

To disassemble the device, unscrew the four nuts and lift the upper part of the injector, known as the "cap", by grasping the handwheel.

Pay particular attention to the possible fall of internal accessories and nozzles.

Avoid leaving any residual liquid inside the device.

If the injector is not used for a long time, clean it without disassembling it by passing a jet of high-temperature steam through it.

If in doubt, always seek the assistance of specialized personnel.

Any tampering by the user releases the manufacturer from any liability and makes the user solely responsible to the competent authorities for accident prevention.