

SAN series desuperheating nozzles

SAN NOZZLES are **variable area** spring-assisted nozzles for desuperheating service.

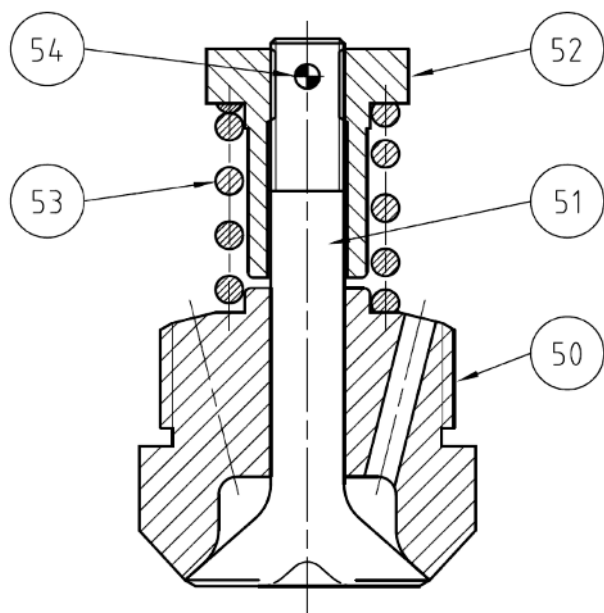
The closed position of the plug (51) is assured by the action of a calibrated spring (53) loaded by a threaded nut (52) locked in position by a pin (54). When the water pressure inside the nozzle rises, the Δp between steam and water increases till the water action on the plug exceeds the spring load and the plug starts opening.

The water starts to come out from the nozzle flowing through several holes that, due to their special design, whirl the flow before it gets in contact with the inside surface of the plug.

The plug **perfectly atomizes the water** performing a 90 degrees-shaped conical blade.

The special plug profile on the external surface which is in contact with steam flow improves plug stability in open position.

Spring load can be adjusted to obtain the desired opening pressure. 1,3 and 5 bar are our standard settings. Other set pressure values can be provided for special requirements.



POS.	PART NAME
50	NOZZLE
51	PLUG
52	CLAMPING NUT
53	SPRING
54	PIN

Materials:

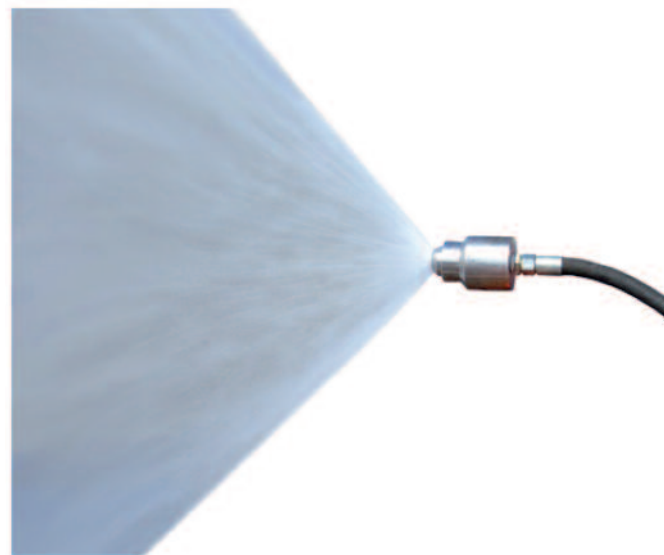
SAN body materials are carbon steel or Cr-Mo steel according to operating temperature.

INCONEL X-750 has been selected for springs to ensure maximum stability at highest temperatures.

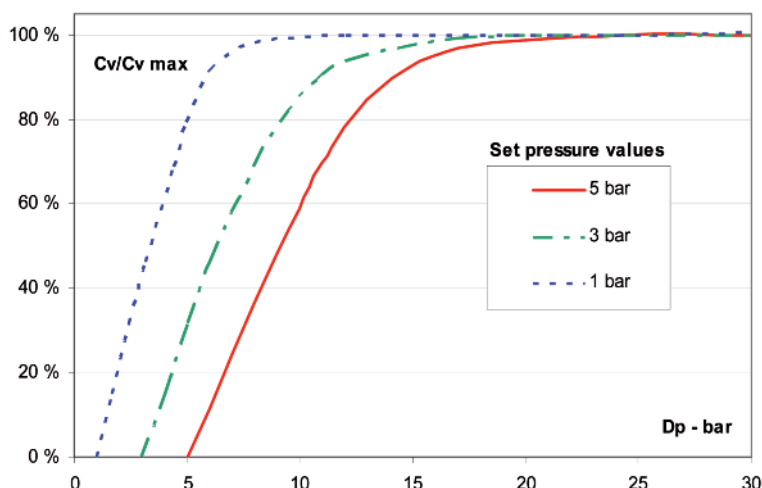
Injection chamber is normally manufactured with the same pipe material.



SAN 5 nozzle



SAN nozzle spray pattern



Spring settings for SAN nozzles

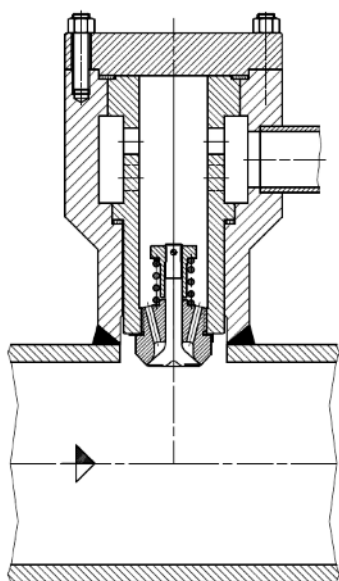


SAN nozzle rear view

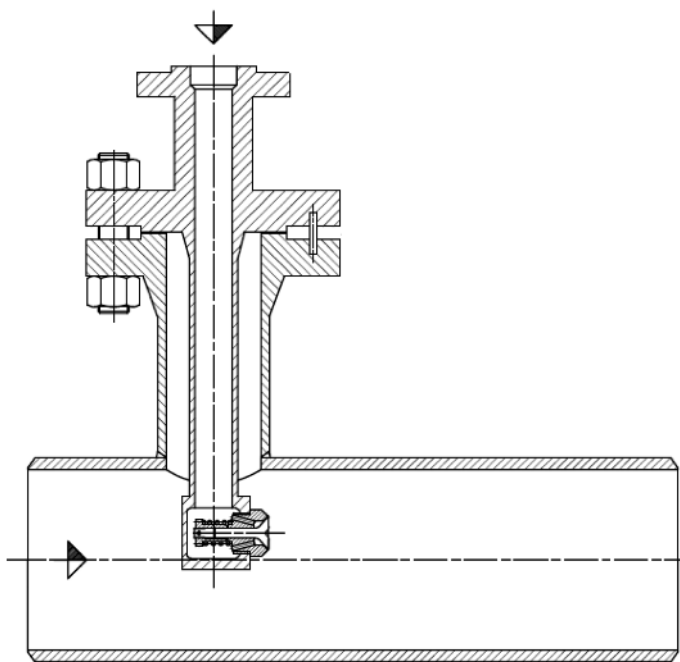
SAN series

Nozzle	Plug diameter	Cv max	Travel	Std. set pressures
SAN1	15,0 mm	1,11	0,8	1 – 3 – 5 bar
SAN2	21,0 mm	2,04	1,1	1 – 3 – 5 bar
SAN4	30,0 mm	4,04	1,4	1 – 3 – 5 bar
SAN6	40,0 mm	6,07	1,7	1 – 3 – 5 bar
SAN10	50,0 mm	10,21	2,0	1 – 3 – 5 bar

SAN Desuperheater Mounting



Side-pipe mounting



Probe mounting

One or more SAN desuperheater can be fastened at the end on a tubular element flanged or welded to the pipe. The spray is performed close to the pipeaxis by selecting the probe length. A reference pin located on the desuperheater flange ensures the correct orientation of the nozzle inside the piping.