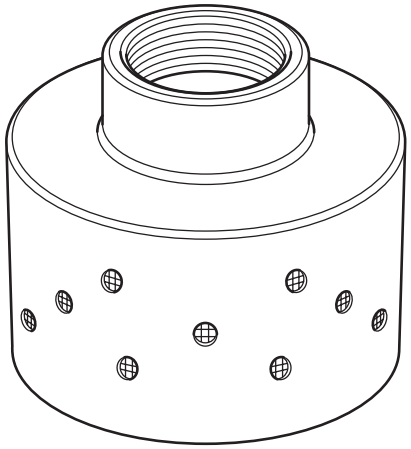
# SD
# Steam Distributor

## Description
Spirax Sarco steam distributors distribute low pressure flash steam into atmospheric water tanks. They ensure rapid condensation of the steam and efficient heating of the water. The hole configuration provides a self-regulating control feature ensuring that holes progressively come into use as the steam flowrate increases. An internal stainless steel mesh ensures quiet operation.

### Principal features:
- Simple installation - no special supports required.
- Compact, lightweight and strong.
- Stainless steel for long life.
- Eliminates waterhammer.
- Quiet operation.

### Application - Boiler blowdown heat recovery
Steam distributors are ideal for supplementing the heating of boiler feedwater tanks using flash steam. When used in conjunction with a flash vessel, as part of a boiler blowdown heat recovery system, flash steam recovery is simple, of low capital cost and is maintenance free. Additionally, the flash steam is condensed to pure water reducing the amount of make-up water and chemical treatment required. Generally for sizing purposes use a differential pressure of 0.4 bar. Steam distributors are not recommended for condensate recovery or live steam injection duties, as they may be damaged by waterhammer.



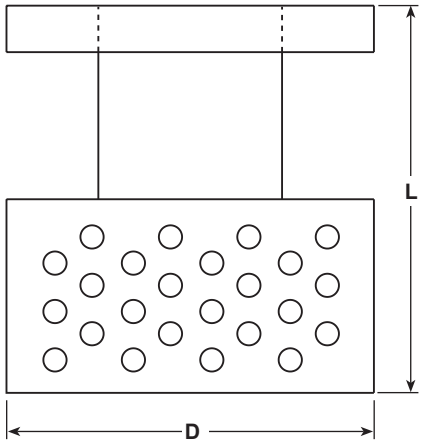
Screwed SD type steam distributor shown.
**Note**: flanged connections are available.

## Materials
Austenitic stainless steel 304.

## Available types
**SD40S, SD50S** and **SD80S** screwed BSP (BS 21 parallel) or NPT.
**SD80, SD100** and **SD150** flanged to suit EN 1092 PN16 or ASME Class 150.

## Dimensions (approximate) in millimetres

| Steam distributor | Connection | D | L |
|---|---|---|---|
| **SD40S** | Screwed 1½" BSP or NPT Female | 100 | 70 |
| **SD50S** | Screwed 2" BSP or NPT Female | 150 | 85 |
| **SD80S** | Screwed 3" BSP or NPT Female | 215 | 110 |
| **SD80** | Flanged DN80 PN16 or Class 150 | 215 | 180 |
| **SD100** | Flanged DN100 PN16 or Class 150 | 235 | 210 |
| **SD150** | Flanged DN150 PN16 or Class 150 | 305 | 220 |




## Limiting conditions

Not suitable for live steam applications.
Maximum saturated steam conditions 1 bar g @ 130 °C
Recommended maximum flash vessel operating pressure is 0.4 bar.

## Capacities

Each distributor has a number of holes. The flow of steam through the holes depends on the differential pressure available. The table below shows capacities in kg/h of distributed steam when heating tanks which are vented to atmospheric pressure.

| Steam supply pressure bar g | Steam distributor | | | | |
|---|---|---|---|---|---|
| | SD40S | SD50S | SD80S and 80 | SD100 | SD150 |
| **0.2** | 99 | 176 | 396 | 643 | 935 |
| **0.4** | 135 | 240 | 540 | 877 | 1275 |
| **0.6** | 171 | 304 | 684 | 1111 | 1615 |
| **0.8** | 198 | 352 | 792 | 1287 | 1870 |

Intermediate values may be obtained by linear interpolation. For higher capacities use 2 or more distributors in parallel.

## Safety and installation information

Steam distributors operate at temperatures which could cause severe scalding, and produce strong currents of very hot steam / water. Do not touch or lean over open tanks which are being heated, even if the water still appears to be cold. Ensure closed tanks are adequately vented and that the vent is unobstructed. Steam supply pipework must be firmly anchored to prevent vibration and stress in the tank wall. Tanks must be adequately constructed and braced / stayed as necessary to avoid vibration. Consult your local Spirax Sarco engineer if in any doubt.

### Installation note

Fit the end of a vertical downpipe in the tank so that the bottom of the distributor is at about ⅓ off the working depth of tank. The piping between the steam source and distributor should be the same nominal size as the connection on the distributor. It is recommended that the piping is less than 10 m in length in order to minimise the pressure drop.

### Disposal

This product is recyclable. No ecological hazard is anticipated with the disposal of this product, providing due care is taken.

## How to order

Example: 1 off Spirax Sarco 1½" SD40S steam distributor having a screwed BSP connection.