

# Pipeline Ancillaries

## Strainers and Filters SF 1.00



Pot Strainers for High Pressures

### Technical Data

Connection DN	15 - 150
Connection G	3/8 - 2
Nominal Pressure PN	16 - 160
Temperature	200 °C
Medium	liquids, gases and steam

### Description

Strainers protect plant and equipment such as regulators, valves, measuring equipment against damage or operational failure caused by contamination. They are essential for start-up as well as continuous operation.

SF 1.00 is manufactured from cast iron and has a drain plug in its cover. The flat strainer mesh which is positioned perpendicular to the flow, and the straight-through flow result in a minimum pressure drop and a large sludge collecting chamber.

Cleaning is extremely simple and quick. Only the cover has to be removed for dismantelling.

Installation can be carried out in any position; installation with the cover at the bottom is recommended.

### Standard

- » stainless steel mesh, mesh size 0.5 mm
- » drain plug

### Options

- » special versions for up to 400 °C
- » strainer mesh sizes 0.25 mm, 1 mm or 2.5 mm
- » pressure gauges upstream and downstream of the strainer
- » various seal materials suitable for your medium
- » special versions on request

Operating instructions, know how and safety instructions must be observed. All the pressure has always been indicated as overpressure. We reserve the right to alter technical specifications without notice.



### Screen Netting

screen	light screen aperture mm	open screen area %
no. 3	0.25	41
no. 4	0.50	51
no. 5	1.0	67
no. 7	2.5	69

screen no. 4 = standard screen

# Pipeline Ancillaries

## Strainers and Filters SF 1.00

Pot Strainers for High Pressures



### Materials

Nominal Pressure	PN 16	PN 25/40	PN 63/160
Temperature	200 °C	200 °C	200 °C
Body	≤ DN25 grey cast iron > DN32 spheroidal cast iron	cast steel	cast steel
Seal	Nova Universal	Nova Universal	Nova Universal
Screen	CrNiMo-steel	CrNiMo-steel	CrNiMo-steel
Screen Frame	up to DN 80 CrNiMo-steel from DN 100 grey cast iron, optional CrNiMo-steel		

### Dimensions [mm] Flange Connection

size	nominal pressure PN	nominal diameter DN										
		15	20	25	32	40	50	65	80	100	125	150
A	16	-	150	160	180	200	230	290	310	350	400	400
	40	196	200	-	244	-	-	-	-	-	-	-
	63/160	210	230	-	-	-	-	-	-	-	-	-
B	16	-	110	125	130	135	150	170	160	190	250	275
	40	120	120	-	130	-	-	-	-	-	-	-
	63/160	120	145	-	-	-	-	-	-	-	-	-
C	16	-	160	185	215	220	255	285	275	345	410	490
	40	170	170	-	215	-	-	-	-	-	-	-
	63/160	170	200	-	-	-	-	-	-	-	-	-
ø D	16	-	110	140	140	170	170	210	220	255	320	350
	40	110	110	-	140	-	-	-	-	-	-	-
	63/160	110	150	-	-	-	-	-	-	-	-	-
E	16 - 160	-	-	-	-	-	-	G 1/2		G 1		
F	16 - 160					G 1/4				G 1/2		

### Weights [kg] Flange Connection

nominal pressure PN	nominal diameter DN											
	15	20	25	32	40	50	65	80	100	125	150	
16	-	4.5	6	8.5	12.5	16.5	25	30	46	67	90	
40	5.5	6.5	-	11	-	-	-	-	-	-	-	
63/160	8	16	-	-	-	-	-	-	-	-	-	

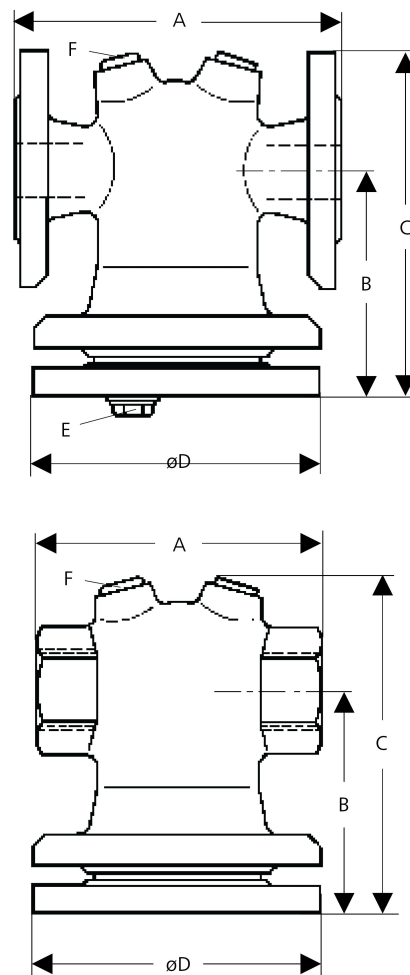
### Dimensions [mm] BSP Female Connection

size	nominal pressure	nominal diameter G						
		3/8	1/2	3/4	1	1 1/4	1 1/2	2
A	PN 16	90	90	120	140	140	170	170
	PN 40	120	120	120	-	160	-	-
	PN 63/160	120	120	120	-	-	-	-
B	PN 16	65	65	110	125	130	135	150
	PN 40	120	120	120	-	130	-	-
	PN 63/160	120	120	120	-	-	-	-
C	PN 16	120	120	165	185	215	220	255
	PN 40	170	170	170	-	215	-	-
	PN 63/160	170	170	170	-	-	-	-
ø D	PN 16	65	110	110	140	140	170	170
	PN 40	110	110	110	-	140	-	-
	PN 63/160	110	110	110	-	-	-	-
F	PN 16 - 160				G 1/4			

### Weights [kg] BSP Female Connection

nominal pressure	nominal diameter G						
	3/8	1/2	3/4	1	1 1/4	1 1/2	2
PN 16	1.5	1.5	3	4	5	7.5	10.5
PN 40	5	5	5	-	7	-	-
PN 63	6	6	6	-	-	-	-
PN 160	8	8	8	-	-	-	-

### Dimensional Drawing



Special designs on request.

The pressure has always been indicated as overpressure.

Mankenberg reserves the right to alter or improve the designs or specifications of the products described herein without notice.

# Pipeline Ancillaries

## Strainers and Filters SF 1.00



Pot Strainers for High Pressures

Flow resistance  $\Delta p$  [bar] for water, screen no. 4, clean

Mesh Sie [mm]				
screen no.	3	4	5	7
mesh size	0.25	0.5	1	2.5

Special designs on request.

The pressure has always been indicated as overpressure.

Mankenberg reserves the right to alter or improve the designs or specifications of the products described herein without notice.

Calculation of flow resistance

$$\Delta p = \zeta \cdot w^2 / 2 \cdot \rho \cdot 10^{-5} \text{ [bar]}$$

$\zeta$ : Coefficient of flow resistance (see table below). The values are based on a clean screen no. 4.

$w$  [m/s]: Flow velocity in cross-section of connection (nominal diameter). Please refer to our flow data charts.

$\rho$  [kg/m<sup>3</sup>]: Density of medium.

Coefficient of flow resistance for clean screen no. 4									
flange connection DN	15	20	25	32	40	50	65	80	100
mesh size cm <sup>2</sup>	16	26	30	40	52	68	86	106	160
coefficient $\zeta$	1.2	1.9	2.0	1.6	1.8	1.4	1.5	1.7	2.4

Coefficient of flow resistance for clean screen no. 4							
flange connection DN	125	150	200	250	300	350	400
mesh size cm <sup>2</sup>	220	330	650	1050	1500	2100	2500
coefficient $\zeta$	2.7	2.9	3.3	3.5	3.6	3.6	3.5

Coefficient of flow resistance for clean screen no. 4							
screwed connection G	3/8	1/2	3/4	1	1 1/4	1 1/2	2
mesh size cm <sup>2</sup>	16	16	26	30	40	52	68
coefficient $\zeta$	1.2	1.2	1.9	2.0	1.6	1.8	1.4

For screens other than no. 4 the resistance value is given in the tables above should be multiplied by a correction factor.

Correction factor for other mesh sizes			
screen no.	3	5	7
correction factor	1.15	0.9	0.85