

# SOFT53

## Single Orifice Float Trap (with SLR / TV)

### Description

The Forbes Marshall Single Orifice Float Trap SOFT53 is a condensate drain trap of cast steel body, cover and stainless steel internals.

### Sizes and Pipe Connections

DN 15, 20, 25, 40 and 50

Screwed BSPT / NPT / BSP Socket weldable to ANSI B 16.11

Flanged ANSI B 16.5 CLASS 150, 300, 600

BS Table H, J, K, R; PN 10, 16, 25 and 40

### Note

- 1) Available with IBR certificate
- 2) DN15 Class150 / PN Flanged Versions are available only with weld on flanges.
- 3) Flange thickness is common for all Flange ratings as shown in dimensional details.

### Limiting Conditions

Body design condition : 32 bar g at 425 deg C

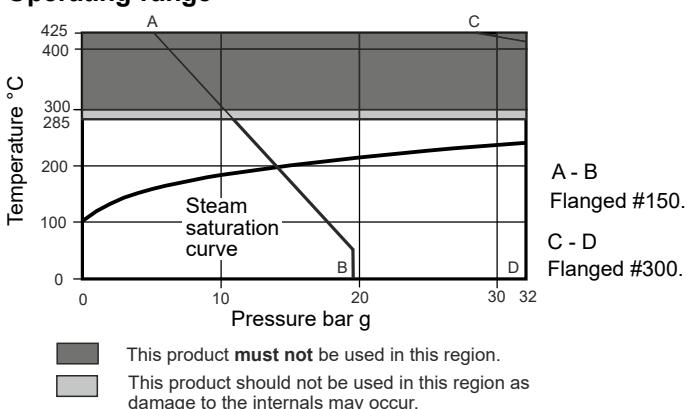
PMX bar g (Max Differential Pressures) : 4.5 , 10, 14 ,21 ,32

Cold Hydraulic Test Pressure : 1.5 times Max Operating Pressure

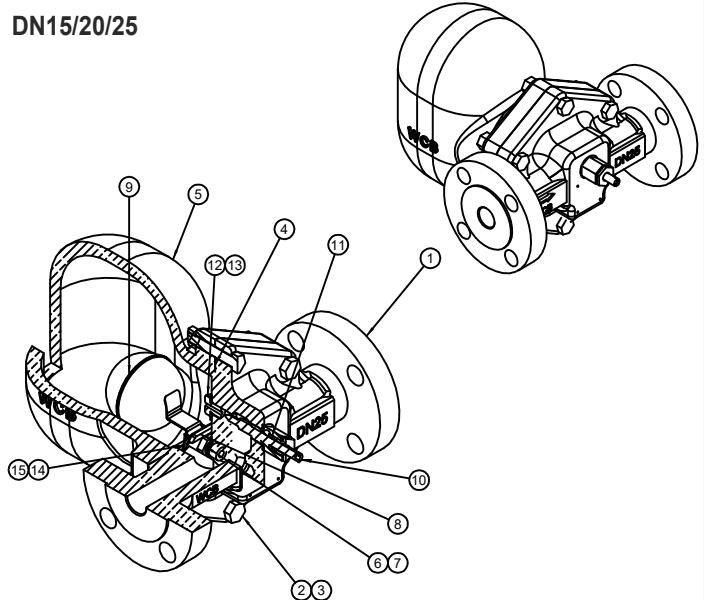
END CONNECTION	MAX OPERATING PRESSURE (PMO)	MAX OPERATING TEMPERATURE(TMO)
CLASS 150	13 bar g @ 220 deg C	220 deg C @ 13 bar g
CLASS 300	32 bar g @ 410deg C	425 deg C @ 28.8 bar g
CLASS 600	32 barg @ 425 deg C	425 deg C @ 32 barg
PN10	10 bar g @ 175 deg C	425deg C @ 5.6 bar g
PN16	16 bar g @ 200deg C	425deg C @ 9 bar g
PN25	25 bar g @ 200deg C	425 deg C @14barg
PN40	32 bar g @ 350deg C	425 deg C @23 barg
BSPT/NPT	32 bar g @ 425deg C	425 deg C @32 barg
SOCKET WELD	32 bar g @ 425deg C	425deg C @ 32 bar g
BS10 TAB H	32 bar g @ 260deg C	425deg C @ 17 bar g
BS10 TAB J	32 bar g @ 260deg C	425deg C @ 17 bar g
BS10 TAB K	32 bar g @ 425deg C	425 deg C @ 32 barg
BS10 TAB R	32 bar g @ 425deg C	425 deg C @ 32 barg

Min. Operating Temperature : 0 deg C

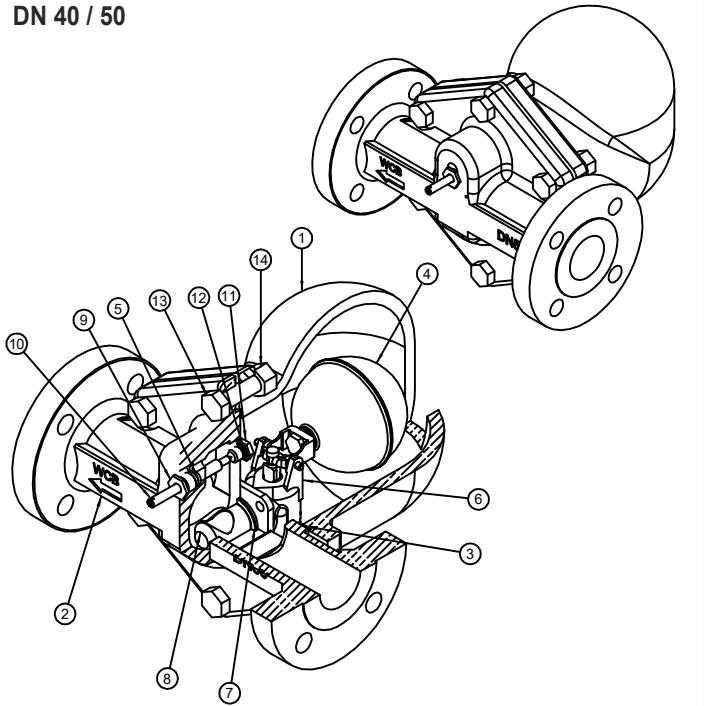
### Operating range



DN15/20/25



DN 40 / 50



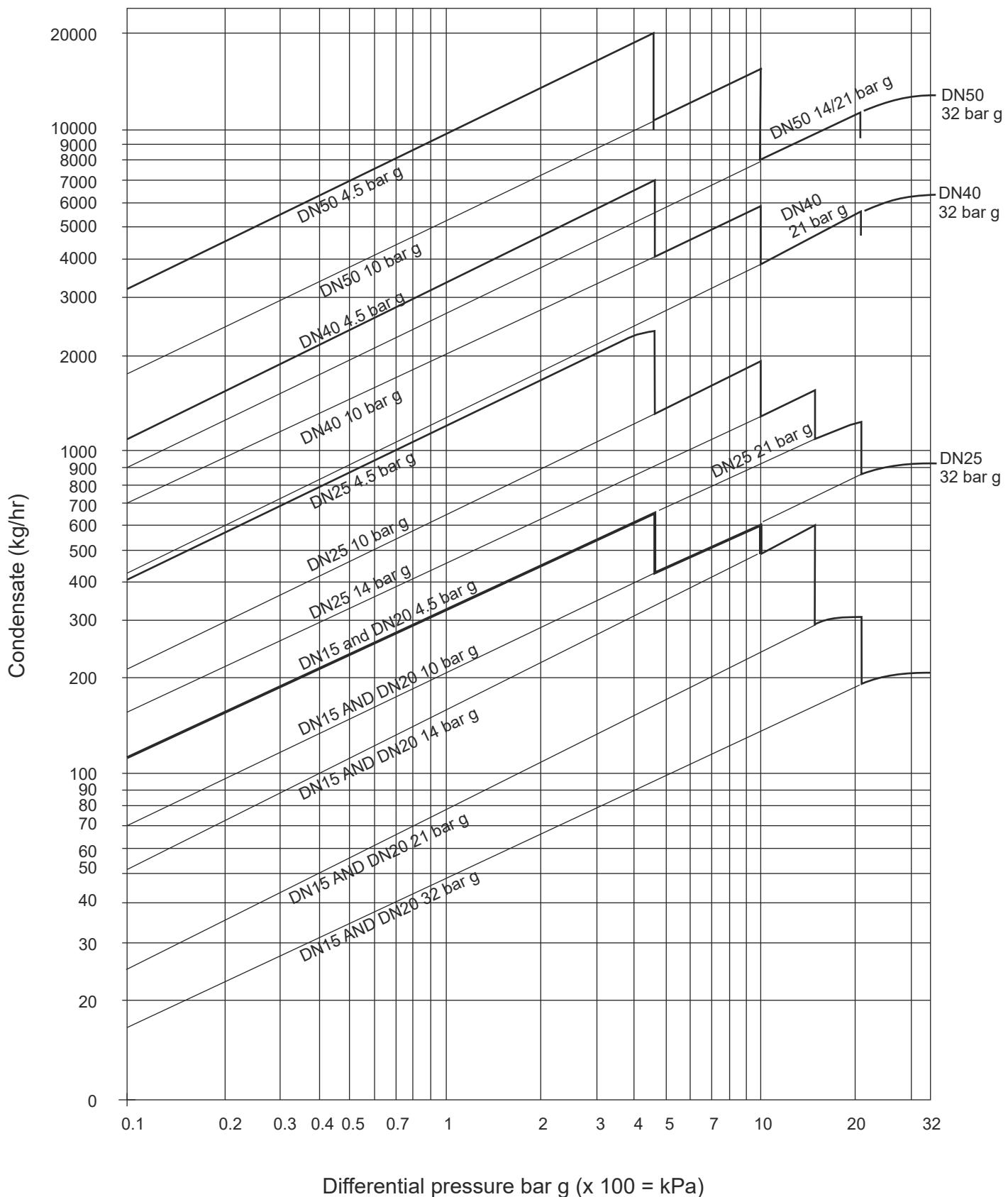
### How to Order

Example DN 25 Single Orifice Float Trap, SOFT53 - 4.5 bar g, TV, screwed BSPT

### Available Types

SOFT53 with built in Thermostatic Air Vent (TV)

## Capacity Chart



## Material (15-25)

No.	Part	Material	Standard
1a.	Base flange DN 20-50	Cast Steel	ASTM A216 Gr.WCB
1b.	Base Screwed/SWE DN 15-20	Forged Carbon Steel	ASTM A105
1c.	Base Screwed/SWE DN 25	Cast Steel	ASTM A216 Gr.WCB
2.	Bolts	Alloy Steel	ASTM A193 B7
3.	Nuts	Carbon Steel	ASTM A194 2H
4.	Cover Gasket	SS Reinforced Exfoliated graphite	
5.	Cover	Cast Steel	ASTM A216 Gr. WCB
6.	Valve Seat	Stainless Steel	ASTM A276 SS 410
7.	Valve Seat Gasket	Stainless Steel	ASTM A240 SS 410
8.	Pivot Frame Assy. Set Screws	Stainless Steel	IS-1364 SS304
9.	Ball Float & Lever	Stainless Steel	ASTM A240 SS304
10.	SLR Stem	Stainless Steel	ASTM A276 SS316
11.	Gland Packing	Graphite	
12.	SLR Seat	Stainless Steel	ASTM A743 CA40
13.	SLR Seat Gasket	Stainless Steel	ASTM A240 SS410
14.	Support Frame	Stainless Steel	ASTM A240 SS304
15.	Pivot Frame	Stainless Steel	ASTM A240 SS304

## Installation

The arrow on the nameplate must point downwards. The arrow on casting indicates the flow direction.

## Servicing

- For DN 15, 20 and 25 main valve assembly : Unscrew cover bolts and lift off the cover. Remove complete float assembly by undoing the two screws on the pivot frame, main valve seat and gasket and if damaged replace with a new one. Fit support frame and pivot frame by using two set screws but do not fully tighten. Place the float arm and complete the assembly by placing the pin. Now tighten the set screws. Refit the cover.
- For DN 40 and 50 main valve assembly : Unscrew cover bolts and lift off the cover. Unscrew the assembly set screws. Remove the main assembly, if damaged replace with a new one. Refit the cover by using the cover bolts and nuts.

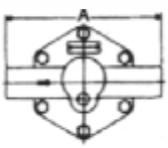
## Dimensions (approx) in mm.

### For Screwed / Socket Weld End and CLASS 600 FLG

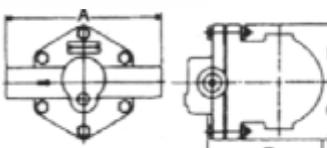
Size (DN)	A	B	C	D	E	T*	W (kg)
15/20	230	84	84	172	120	23	10
25	220	119	88	225	160	24	13
40	297	131	111	250	200	26	20
40 (# 600)	350	131	121	250	200	29	25
50	320	134	123	250	200	26	27
50 (# 600)	335	134	127	250	200	32	31

\* For screwed/socket weldable ends: T = 0      Gen Tol. ± 3

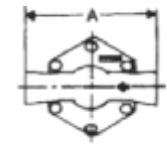
(SOFT53 DN15/20)



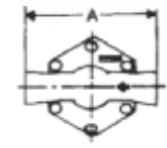
(SOFT53 DN25)



(SOFT53 DN40)



(SOFT53 DN50)



## Dimensions - (approx) in mm.

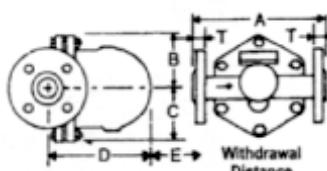
### All Flanged – (Except CLASS 600)

Size (DN)	A	B	C	D	E	T*	W (kg)
15/20	230	84	84	172	120	23	11
25	240	119	88	225	160	24	14
40	297	131	111	250	200	26	26
50	320	134	123	250	200	26	32

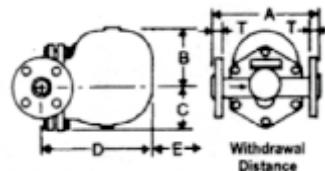
Gen.Tol. 3

\* DN15 Class150 / PN Flanged Versions are available only with weld on flanges.

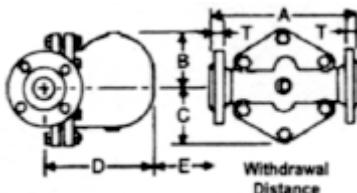
(SOFT53 DN 15/20)



(SOFT53 DN 25)



(SOFT53 DN 25)



## Material (DN 40-50)

No.	Part	Material	Standard
1.	Cover	Cast Steel	ASTM A216 Gr.WCB
2.	Base	Cast Steel	ASTM A216 Gr.WCB
3.	Gasket for Base and Cover	SS Reinforced Graphite	
4.	Float Unit Assembly	Stainless Steel	ASTM A240 SS304
5.	Gland Packing	Graphite	
6.	Valve Housing Assembly	Stainless Steel	BS 3146 ANC2
7.	Gasket for Valve Housing	SS Reinforced Graphite	
8.	Erosion Deflector	Stainless Steel	ASTM A276 SS 410
9.	Gland Nut	Stainless Steel	ASTM A743 GR. CA40
10.	SLR Stem	Stainless Steel	ASTM A276 SS316
11.	SLR Seat	Stainless Steel	ASTM A743 GR. CA40
12.	Gasket for SLR Seat	Stainless Steel	ASTM A240 SS 410
13.	Hex Bolt	Alloy Steel	ASTM A193 B7
14.	Hex Nut	Carbon Steel	ASTM A194 2H

## Available Spares

Main Valve Assembly with Float (DN15, 20 & 25)	A
Main Valve Assembly (DN 40, 50)	A+D
Air Vent Assembly	B
Steam Lock Release Unit	C
Sets of Gaskets (Pkt of 3)	E
Float	D

## How to Order Spares

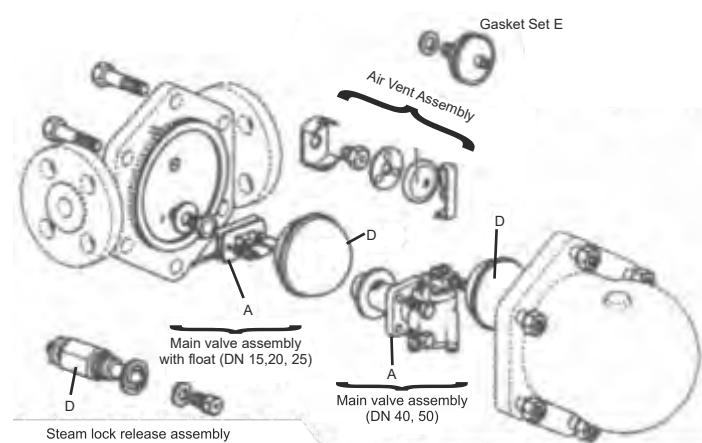
Always order spares using the description given in the column above, headed "Available Spares", and stating the size and type and differential pressure of the trap. For codes refer the user manual.

## Recommended Tightening Torques

Sr.No.	Part	Torque (Nm)
1.	TV seat	45 - 55
2.	SLR seat	45 - 55
3.	SLR body	60 - 70
4.	Valve housing (studs)	15 - 20
5.	Cover bolts	70-80

## Spare Parts

The available spare parts are shown in heavy outline in the figure below. Parts drawn in broken line are not available as spares.



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