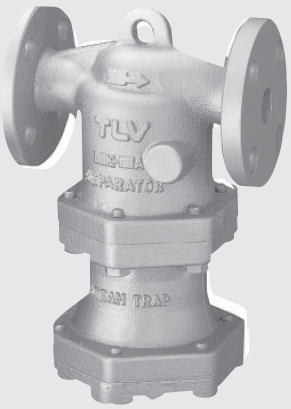
CYCLONE SEPARATOR TRAP FOR STEAM
MODEL DC3S-H

SEPARATOR WITH BUILT-IN STEAM TRAP

Features

Cyclone separator and steam trap incorporated into one unit to provide high-quality dry steam.

1. Separator achieves condensate separation efficiency as high as 98%.
2. Self-modulating free float steam trap continuously discharges condensate as it is separated.
3. Precision ground spherical float and positive three-point seating provide a complete seal, even under no-load conditions.
4. The large screen surface of the built-in strainer guarantees trouble-free service.
5. Only one moving part, the free float, prevents concentrated wear and increases service life.



DC3S shown

Specifications

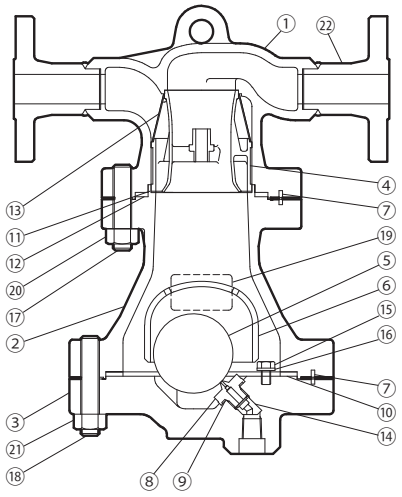
Model		DC3S-H	
Connection		Socket Welded	Flanged
Size (mm)		15, 20, 25	15, 20, 25, 40, 50, 65, 80, 100
Trap Orifice No.		21, 46	
Maximum Operating Pressure (MPaG)	PMO	2.1, 4.6	
Minimum Operating Pressure (MPaG)		0.01	
Maximum Operating Temperature (°C)	TMO	425	
Screen Mesh Size		Sizes 15 to 40 mm: 0.8 mm / 20 mesh Sizes 50 to 100 mm: 1.5 mm / 14 mesh	

PRESSURE SHELL DESIGN CONDITIONS (**NOT** OPERATING CONDITIONS): Maximum Allowable Pressure (MPaG) PMA: 4.6 1 MPa = 10.197 kg/cm²
Maximum Allowable Temperature (°C) TMA: 425

No.	Description	Material	JIS	ASTM/AISI*
①	Body	Cast Steel	—	A216 Gr.WCB
②	Separator Body	Cast Steel	—	A216 Gr.WCB
③	Trap Cover	Cast Steel	—	A216 Gr.WCB
④	Separator	Cast Stainless Steel	—	A351 Gr.CF8
⑤	Float	Stainless Steel	SUS316L	AISI316L
⑥	Float Cover	Cast Iron	FC250	A126 Cl.B
⑦	Guide Pin	Stainless Steel	SUS304	AISI304
⑧	Trap Valve Seat	—	—	—
⑨	Valve Seat Gasket	Graphite/Stainless Steel	—/SUS316	—/AISI316
⑩	Trap Cover Gasket	Graphite/Stainless Steel	—/SUS304	—/AISI304
⑪	Wave Spring	Stainless Steel	SUS301	AISI301
⑫	Body Gasket	Graphite/Stainless Steel	—/SUS304	—/AISI304
⑬	Screen	Stainless Steel	SUS304	AISI304
⑭	Bushing	Stainless Steel	SUS303	AISI303
⑮	Float Cover Bolt	Stainless Steel	SUS304	AISI304
⑯	Spring Washer	Stainless Steel	SUS304	AISI304
⑰	Body Bolt	Alloy Steel	SNB7	A193 Gr.B7
⑱	Trap Cover Bolt	Alloy Steel	SNB7	A193 Gr.B7
⑲	Nameplate	Stainless Steel	SUS304	AISI304
⑳	Body Nut	Carbon Steel	S45C	AISI1045
㉑	Trap Cover Nut	Carbon Steel	S45C	AISI1045
㉒	Flange	Carbon Steel	—	A105
㉓	Baffle**	Stainless Steel	SUS304	AISI304
㉔	Baffle Bolt**	Stainless Steel	SUS304	AISI304
㉕	Baffle Nut**	Stainless Steel	SUS304	AISI304

* Equivalent ** Sizes 65 - 100 mm, above float cover (not shown)
Contact TLV for available replacement parts.

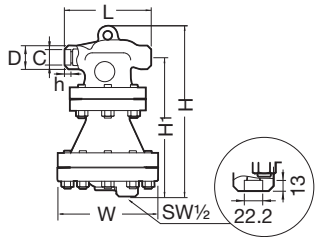
⚠ CAUTION To avoid abnormal operation, accidents or serious injury, DO NOT use this product outside of the specification range. Local regulations may restrict the use of this product to below the conditions quoted.



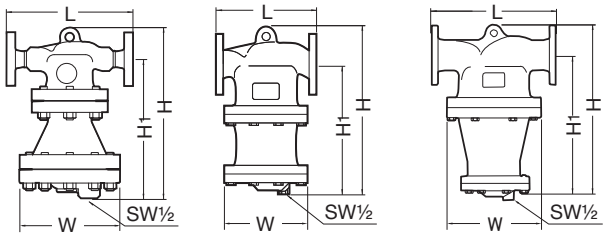
15 - 25 mm size shown, 40 - 100 mm configuration differs slightly

Dimensions

● **DC3S-H** Socket Welded



● **DC3S-H** Flanged



DC3S-H Socket Welded (mm)

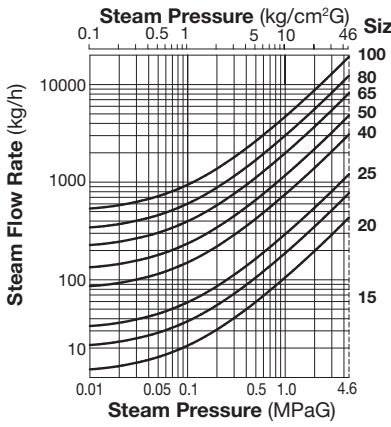
Size	L	H	H_1	ϕW	ϕD	ϕC	h	Weight (kg)
15	200	382	311	225	33	22.2	13	31
20					39.5	27.7		
25					48	34.5		

DC3S-H Flanged (mm)

Size	L ASME Class 150RF	L ASME Class 300RF	L ASME Class 600RF	H	H_1	ϕW	Weight* (kg)
15	263	263	263	382	311	225	32
20	283	283	283				33
25	320	320	320				34
40	303	309	325	427	333	210	52
50	337	343	362	476	375	250	66
65	455	461	481	520	443	310	84
80	454	464	483				90
100	526	542	568	620	545	380	150

Other standards available, but length and weight may vary
* Weight is for Class 600 RF

Steam Flow Rate

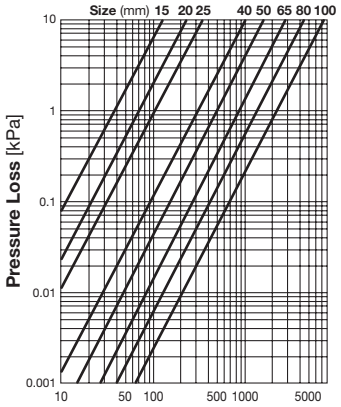


The chart on the left is used to determine the steam flow rate through the product.
It is based on a steam velocity in the piping of 30 m/s.
For other cases, use the equation below and replace "v" with your velocity:

$$\text{Effective flow rate} = \text{Flow rate}_{30\ m/s} \times \frac{v}{30}$$

It is recommended that steam velocities not exceed 30 m/s.

Pressure Loss

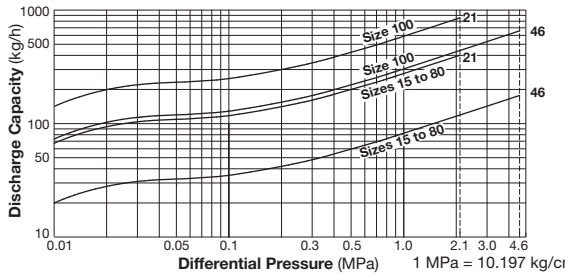


The pressure loss chart is based on a steam pressure of 1 MPaG.
For other pressures, multiply the steam flow rate by the correction factor given in the table below.
Use the result on the pressure loss chart.

1 kPa ≈ 0.01 kg/cm²

Pressure (MPaG)	0.1	0.3	0.5	0.7	1.0	1.6	2.0	2.5	3.0	4.0	4.6
Correction Factor	2.24	1.62	1.34	1.16	1.0	0.81	0.73	0.67	0.60	0.52	0.49

Condensate Discharge Capacity



1 MPa = 10.197 kg/cm²

1. Line numbers within the graph are orifice numbers.
2. Differential pressure is the difference between the inlet and outlet pressure of the trap.
3. Capacities are based on continuous discharge of condensate 6 °C below saturated steam temperature.
4. Recommended safety factor: at least 1.5.

⚠CAUTION DO NOT use this product under conditions that exceed maximum differential pressure, as condensate backup will occur!

Manufacturer
TLV CO., LTD.
Kakogawa, Japan
is approved by LRQA Ltd. to ISO 9001/14001
ISO 9001
ISO 14001

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Products for intended use only.
Specifications subject to change without notice.