



# CYCLONE SEPARATOR TRAP

MODEL **DC3A** DUCTILE CAST IRON  
CAST IRON

## Features

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

1. Separator achieves condensate separation efficiency as high as 98%.
2. Self-modulating free float air 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 surface area of the built-in screen guarantees trouble-free service.
5. Only one moving part, the free float, reduces valve wear and increases service life.



## Specifications

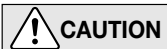
Model		DC3A	
Connection		Screwed	Flanged
Size		1/2", 3/4", 1"	DN 15, 20, 25, 40, 50, 65, 80, 100
Maximum Operating Pressure (barg)	PMO	10	
Minimum Operating Pressure (barg)		0.1	
Maximum Operating Temperature (°C)	TMO	100	

PRESSURE SHELL DESIGN CONDITIONS (**NOT** OPERATING CONDITIONS):

Maximum Allowable Pressure (barg) PMA: 16 (Flanged), 13 (Screwed)

Maximum Allowable Temperature (°C) 220 (Flanged), 200 (Screwed)

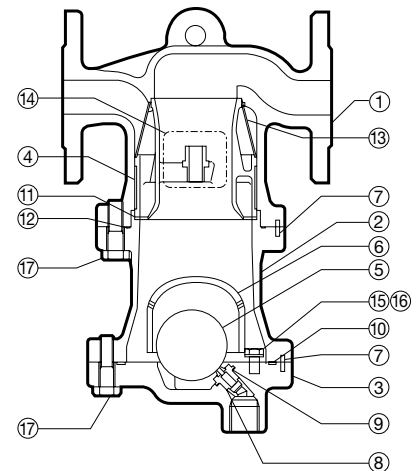
1 bar = 0.1 MPa



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.

No.	Description	Material	DIN*	ASTM/AISI*
①	Body (Screwed)	Ductile Cast Iron FCD450	0.6025	A536
	Body (Flanged)	Ductile Cast Iron GGG40.3	0.7043	A395
②	Separator Body (Screwed)	Cast Iron FC250	0.6025	A126 Cl. B
	Separator Body (Flanged)	Ductile Cast Iron GGG40.3	0.7043	A395
③	Trap Cover (Screwed)	Cast Iron FC250	0.6025	A126 Cl. B
	Trap Cover (Flanged)	Ductile Cast Iron GGG40.3	0.7043	A395
④	Separator (15 - 50)	Stainless Steel SCS13	1.4308	A351 Gr. CF-8
	Separator (65 - 100)	Ductile Cast Iron FCD450	0.7040	A536
⑤	Float	Stainless Steel SUS316L	1.4404	AISI316L
⑥	Float Cover (15 - 50)	Cast Iron FC250	0.6025	A48 Gr. 35
⑦	Float Cover (65 - 100)	Ductile Cast Iron FCD450	0.7040	A536
⑧	Guide Pin	Stainless Steel SUS304	1.4031	AISI304
⑨	Trap Valve Seat	Cast Stainless Steel SUS303/NBR	1.4301/ NBR	AISI303/ D2000BF
⑩	Valve Seat Gasket	Fluorine Resin PTFE	PTFE	PTFE
⑪	Trap Cover Gasket	Fluorine Resin PTFE	PTFE	PTFE
⑫	Wave Spring	Stainless Steel SUS301	1.4310	AISI301
⑬	Body Gasket	Fluorine Resin PTFE	PTFE	PTFE
⑭	Screen	Stainless Steel SUS304	1.4301	AISI304
⑮	Nameplate	Stainless Steel SUS304	1.4301	AISI304
⑯	Hexagon Bolt	Stainless Steel SUS304	1.4301	AISI304
⑰	Spring Washer	Stainless Steel SUS304	1.4301	AISI304
⑱	Body Bolt	Alloy Steel S45C	1.0503	AISI1045
⑲	Baffle**	Stainless Steel SUS304	1.4301	AISI304
⑲	Baffle Bolt and Nut**	Stainless Steel SUS304	1.4301	AISI304

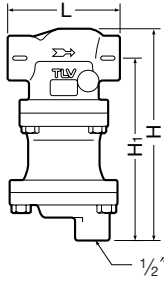
\* Equivalent materials \*\* 65 - 100, above float cover (not shown)



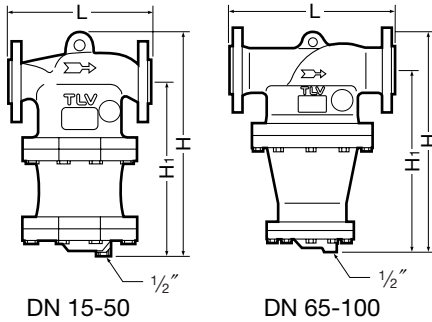
DN 15 - 50 shown. Configuration of larger sizes differs slightly.

**Dimensions**

● **DC3A**  
Screwed



● **DC3A**  
Flanged



**DC3A** Screwed\* (mm)

Size	L	H	H <sub>1</sub>	Weight (kg)
1/2"	170	278	241	9.6
3/4"				
1"				

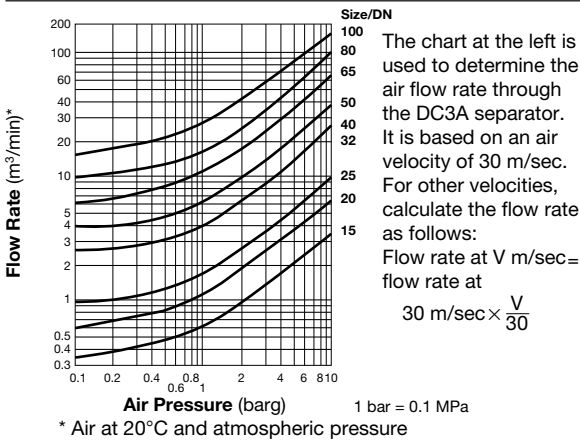
\* BSP, DIN 2999, other standards available

**DC3A** Flanged\* (mm)

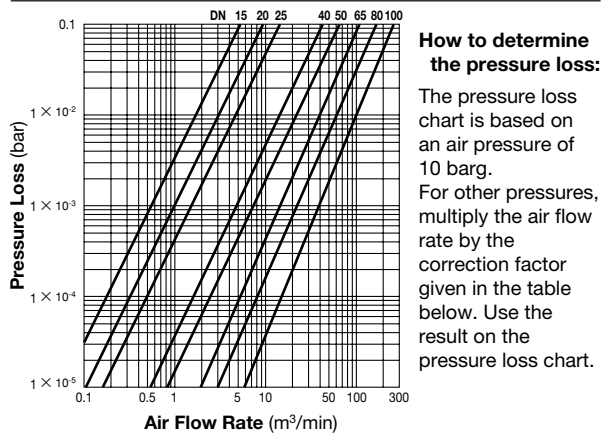
DN	L	H	H <sub>1</sub>	Weight (kg)
	DIN 2501 PN25/40			
15	190	306	241	12
20				13
25	194			
40	215	352	269	18
50	250	418	320	31
65	374	523	430	71
80		530		75
100	430	638	520	120

\* Other standards available, but length and weight may vary

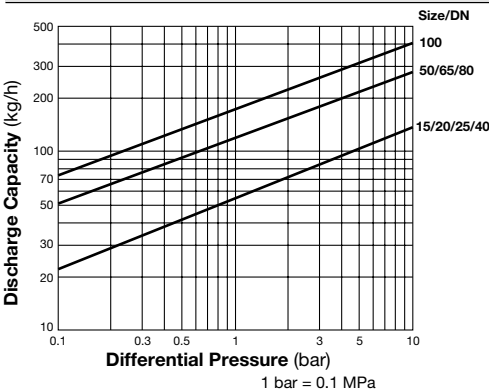
**Air Flow Rate**



**Pressure Loss**



**Condensate Discharge Capacity**



1 bar = 0.1 MPa

Pressure (barg)	1	3	5	7	10	16
Flow Rate Correction Factor	5.5	2.75	1.83	1.38	1	0.65

1. Line numbers within the graph to the left refer to orifice numbers.
2. Differential pressure is the difference between the separator inlet and its trap outlet pressure.
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 traps 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

