CYCLONE SEPARATOR TRAP FOR AIR

MODEL DC3A

SEPARATOR WITH BUILT-IN AIR TRAP

Features

Cyclone separator and air trap incorporated into one unit to 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 (mm)		15, 20, 25	15, 20, 25, 40, 50, 65, 80, 100
Maximum Operating Pressure (MPaG)	PMO	1.0	
Minimum Operating Pressure (MPaG)		0.01	
Maximum Operating Temperature (℃)	TMO	100	
Applicable Fluid*		Air	

* Do not use for toxic, flammable or otherwise hazardous fluids.

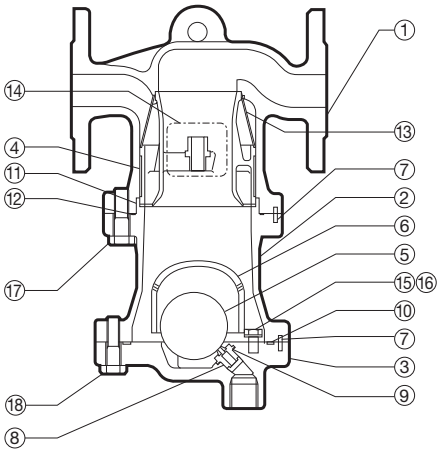
1 MPa = 10.197 kg/cm²

PRESSURE SHELL DESIGN CONDITIONS (**NOT** OPERATING CONDITIONS): Maximum Allowable Pressure (MPaG) PMA: 1.6
Maximum Allowable Temperature (℃) TMA: 220

⚠ 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.

No.	Description		Material	JIS	ASTM/AISI*
①	Body		Ductile Cast Iron	FCD450	A536
②	Separator Body		Cast Iron	FC250	A126 Cl.B
③	Trap Cover		Cast Iron	FC250	A126 Cl.B
④	Separator	15-50 mm	Cast Stainless Steel	SCS13	A351 Gr.CF8
		65-100 mm	Cast Stainless Steel	—	A351 Gr.CF8
⑤	Float		Stainless Steel	SUS316L	AISI316L
⑥	Float Cover	15-50 mm	Cast Iron	FC250	A126 Cl.B
		65-100 mm	Ductile Cast Iron	FCD450	A536
⑦	Guide Pin		Stainless Steel	SUS304	AISI304
⑧	Trap Valve Seat		Nitrile Rubber/Stainless Steel	NBR/SUS303	D2000BF/AISI303
⑨	Valve Seat Gasket		Fluorine Resin	PTFE	PTFE
⑩	Trap Cover Gasket		Fluorine Resin	PTFE	PTFE
⑪	Wave Spring		Stainless Steel	SUS301	AISI301
⑫	Body Gasket		Fluorine Resin	PTFE	PTFE
⑬	Screen		Stainless Steel	SUS304	AISI304
⑭	Nameplate		Stainless Steel	SUS304	AISI304
⑮	Float Cover Bolt		Stainless Steel	SUS304	AISI304
⑯	Spring Washer		Stainless Steel	SUS304	AISI304
⑰	Body Bolt		Carbon Steel	S45C	AISI1045
⑱	Trap Cover Bolt		Carbon Steel	S45C	AISI1045
⑲	Baffle**		Stainless Steel	SUS304	AISI304
⑳	Baffle Bolt**		Stainless Steel	SUS304	AISI304
㉑	Baffle Nut**		Stainless Steel	SUS304	AISI304

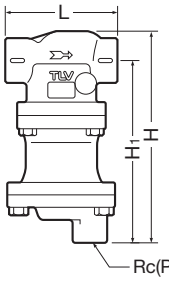
* Equivalent ** 65 - 100, above float cover (not shown)



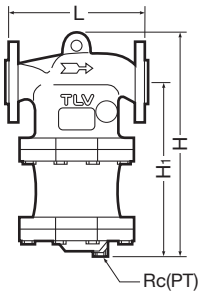
15 - 50 mm size shown, 65 - 100 mm configuration differs slightly

Dimensions

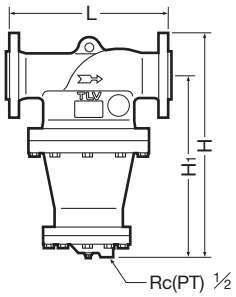
● **DC3A**
Screwed



● **DC3A**
Flanged



15-50 mm



65-100 mm

DC3A Screwed* (mm)

Size	L	H	H_1	Weight (kg)
15	170	278	241	9.6
20				
25				

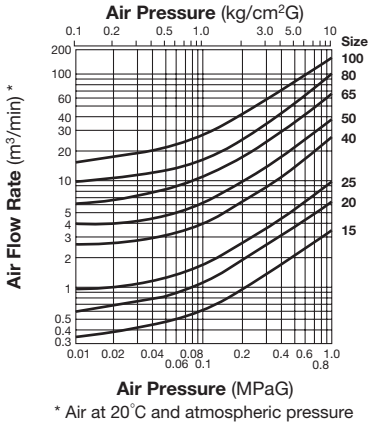
* Rc(PT), other standards available

DC3A Flanged (mm)

Size	L ASME Class 125FF	L ASME Class (150RF)	L ASME Class 250RF	L ASME Class (300RF)	H	H_1	Weight* (kg)
(15)	—	—	—	191	306	241	11
(20)	—	188	—	194			12
25	185	191	197	197			13
40	212	218	225	225	352	269	18
50	242	257	255	263	418	320	32
65	366	375	381	381	520	430	71
80	365	374	383	384			75
100	434	434	450	450	645	520	120

( ) No ASME standard for ductile or cast iron; machined to fit steel flanges.
Class 125 FF can connect to 150 RF, 250 RF can connect to 300 RF
Other standards available, but length and weight may vary
* Weight is for Class 250 RF / 300 RF

Air Flow Rate



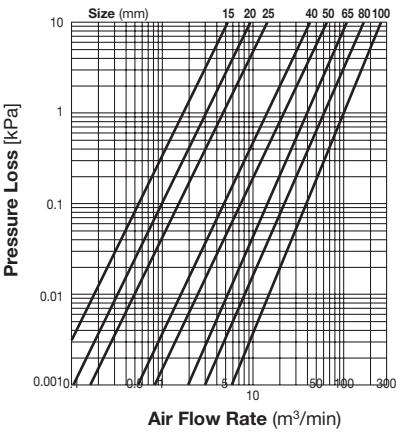
* Air at 20˚C and atmospheric pressure

The chart at the left is used to determine the air flow rate through the DC3A. It is based on an air velocity of 30 m/sec.
For other velocities, calculate the flow rate as follows:
Flow rate at v m/sec = flow rate at

$$30 \text{ m/sec} \times \frac{v}{30}$$

It is recommended that velocities not exceed 30 m/sec.

Pressure Loss

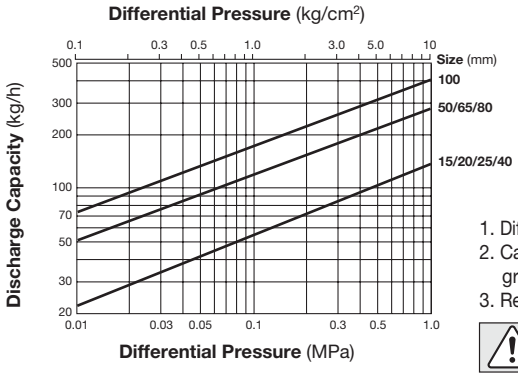


The pressure loss chart is based on an air pressure of 1 MPaG.
For other pressures, multiply the air flow rate by the correction factor given in the table below. Use the result on the pressure loss chart.

1 kPa ≈ 0.01 kg/cm²

Pressure [MPaG (kg/cm²G)]	0.1 (1)	0.3 (3)	0.5 (5)	0.7 (7)	1.0 (10)
Air Flow Rate Correction Factor	5.5	2.75	1.83	1.38	1

Condensate Discharge Capacity



1. Differential pressure is the difference between the separator inlet and its trap outlet pressure.
2. Capacities are based on continuous discharge of condensate below 100˚C with specific gravity of 1.
3. 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