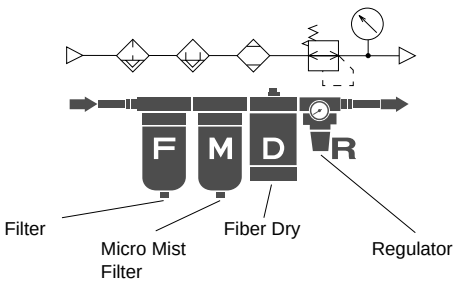
Dry Unit

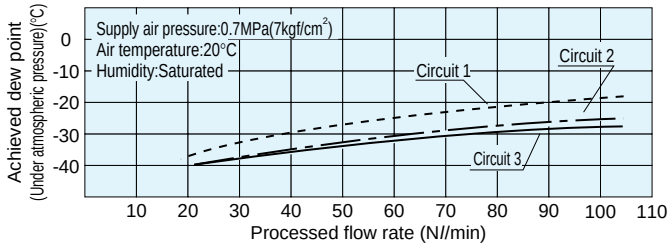
Features

■The Dry Unit is a combination of Fiber Dry Filter, Micro Mist Filter and Regulator.
■The Dry Unit can be connected directly to the air source.
■The Dry Unit economizes space for installation.

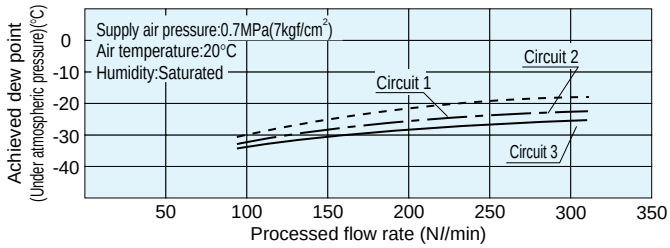


Dehumidification performance curve

100 type

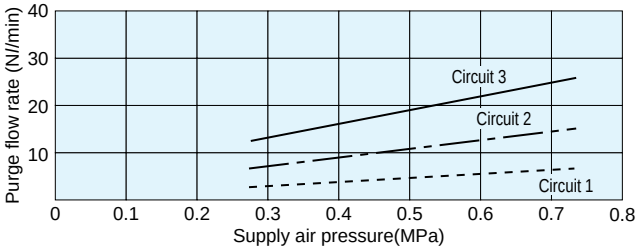


300 Type

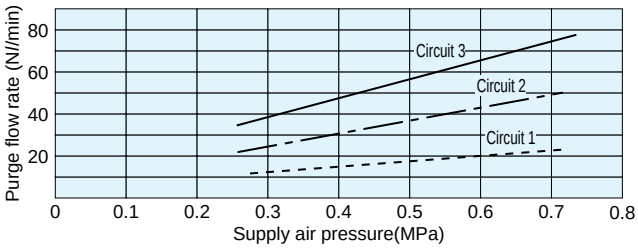


Purge Flow Rate Curve

100 Type



300 Type



Model Designation (Example)

FMDR (1) - 300 (2) - C10 (3) - L8 (4)

(1)Unit type

Type	Filter	Micromist filter	Fiber dry	Regulator
FD	○	-	○	-
FDR	○	-	○	○
FMD	○	○	○	-
FMDR	○	○	○	○

(2)Dry air flow rtate

Code	100	300
Flow rate	3.52SCFM(100N/ /min)	10.6SCFM(300N/ /min)

(3)Supply-side quick-fitting joint

Not required Code : 00

*When joint is not required 100 series : Female thread Rc 1/4

*When joint is not required 300 series : Female thread Rc 3/8

(4)Output-side quick -fitting joint

Not required Code : 00

*When joint is not required 100 series : Female thread Rc 1/4

*When joint is not required 300 series : Female thread Rc 3/8

Code	Size	Code	Size	Code	Size
C4	ϕ4mm	L4	ϕ4mm	W4	ϕ4mm
C6	ϕ6mm	L6	ϕ6mm	W6	ϕ6mm
C8	ϕ8mm	L8	ϕ8mm	W8	ϕ8mm
C10	ϕ10mm	L10	ϕ10mm	W10	ϕ10mm
C12	ϕ12mm	L12	ϕ12mm	W12	ϕ12mm
C16	ϕ16mm	L16	ϕ16mm		

Handling

Auto-drain type MMF150, F300, MMF300

●Drain is anfomaticly activated when specified amount of moisture is accumulated or pressure inside the ball falls under 0.02MPa (0.2kgf/cm²). Drain is manually done by turning drain screw counterclockwise, too.

Detailed Safety Instruction

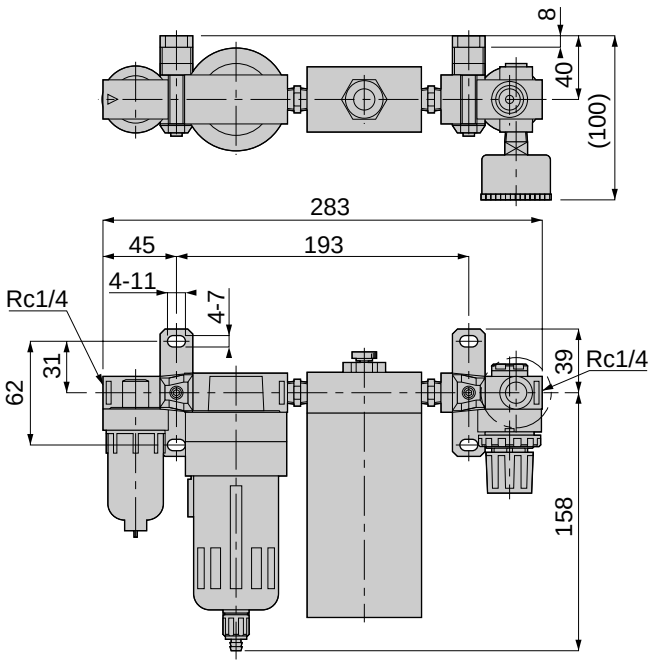
Before using the PISCO device, be sure to read the "Safety Instructions", "Common Safety Instructions for Products Listed in This Manual" on pages 23~24 and "Common Safety Instructions for Controllers" on page 255.

⚠ Caution

1. Be sure to adjust the pressure of the regulator in the increasing direction and lock it by pressing the lock button after adjustment.
2. The auto drain exhausts air from the drain port until the supply pressure rises to 0.15MPa (21.8psi). During this time, the air will not stop coming out even if the drain knob is operated. [Contact PISCO for instructions if the time is too long before the supply pressure rises to 0.15MPa (21.8psi).]
3. Operate the drain knob with your fingers.
4. Use a nylon tube of ID 6mm to connect to the joint. Also make sure that the tube is not bent near the joint.
5. The joint rotates freely, so that it is not nesessary to remove the tube when performing manual draining.

FMDR 100

Filter, Micro Mist Filter, Fiber Dry, Regulator



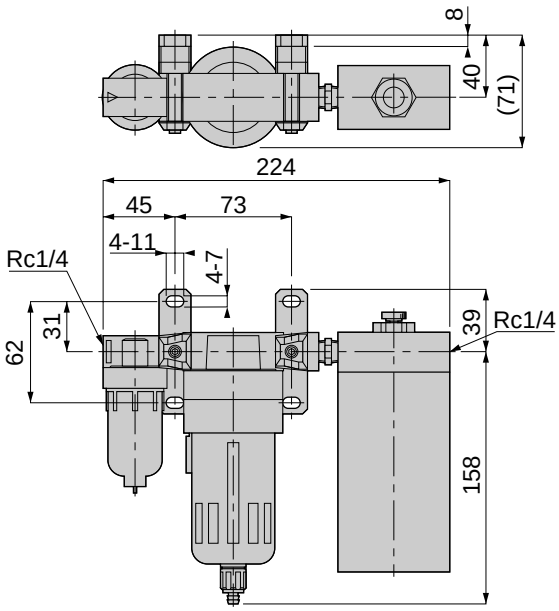
unit:mm

Model	Mass (g)
FMDR 100	1,850

1

FMD 100

Filter, Micro Mist Filter, Fiber Dry



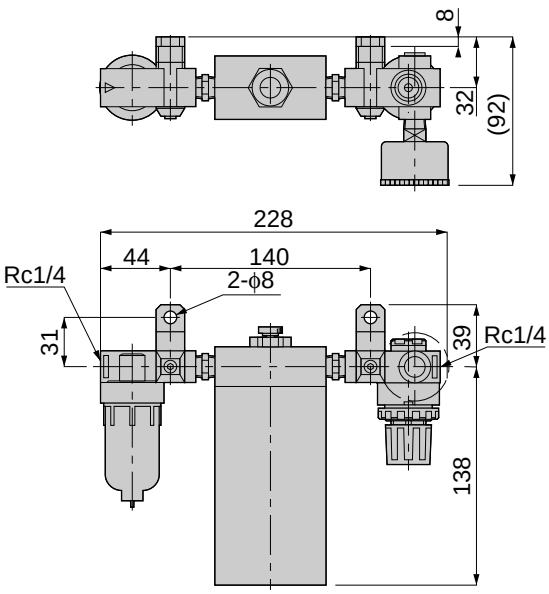
unit:mm

Model	Mass (g)
FMD 100	1,650

1

FDR 100

Filter, Fiber Dry, Regulator



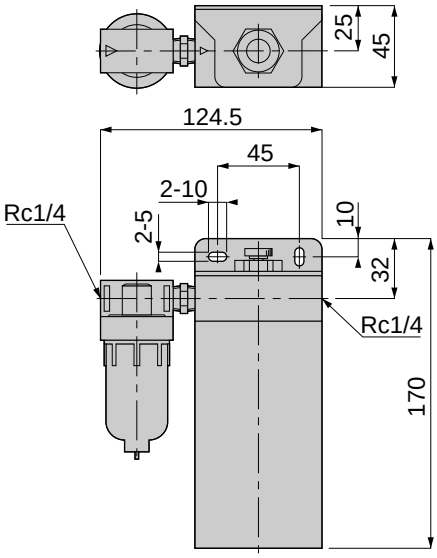
unit:mm

Model	Mass (g)
FDR 100	1,050

1

Control Series Dry Unit

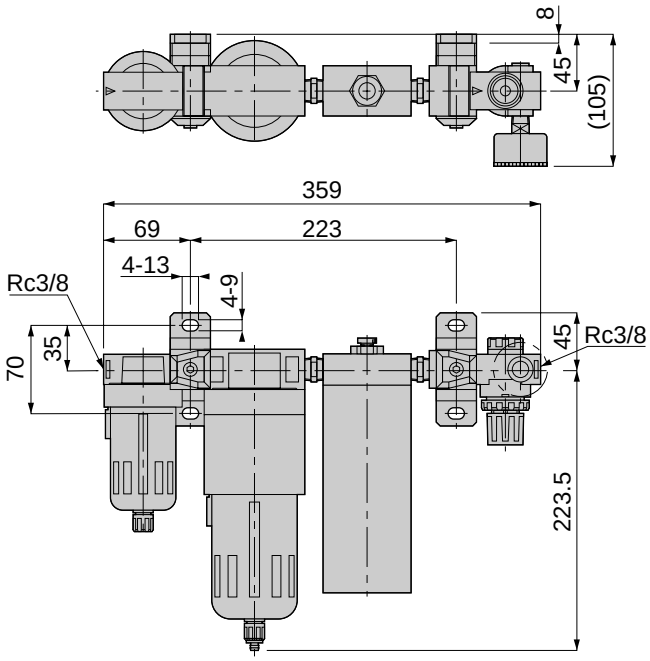
FD 100
Filter, Fiber Dry



unit:mm

Model	Mass (g)	1
FD 100	565	

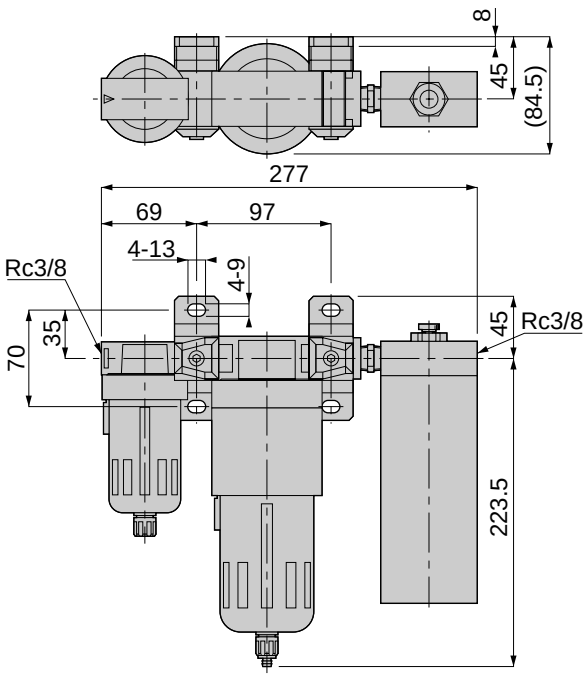
FMDR 300
Filter, Micro Mist Filter, Fiber Dry, Regulator



unit:mm

Model	Mass (g)	1
FMDR 300	3,150	

FMD 300
Filter, Micro Mist Filter, Fiber Dry

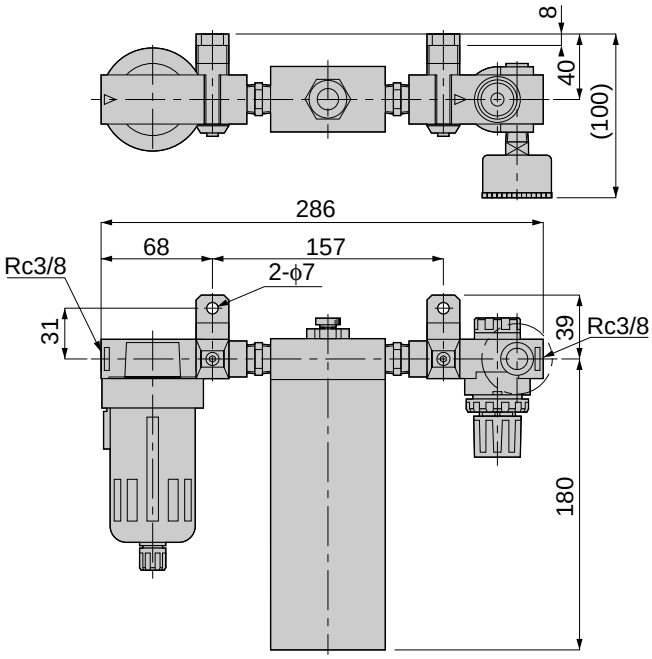


unit:mm

Model	Mass (g)	1
FMD 300	2,900	

FDR 300

Filter, Fiber Dry, Regulator



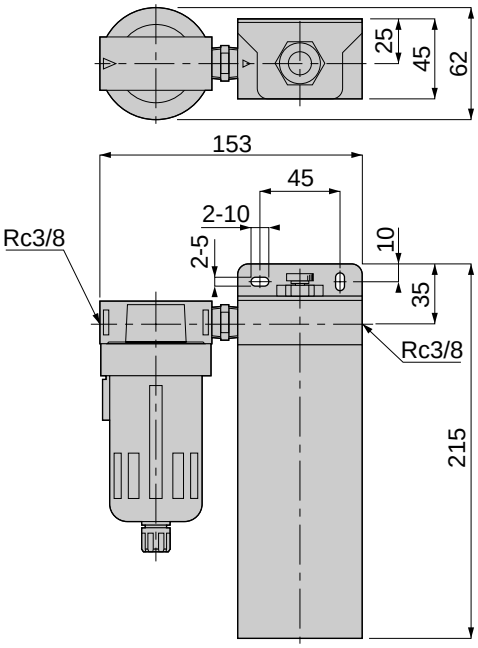
unit:mm

Model	Mass (g)
FDR 300	1,650

1

FD 300

Filter, Fiber Dry



unit:mm

Model	Mass (g)
FD 300	830

1

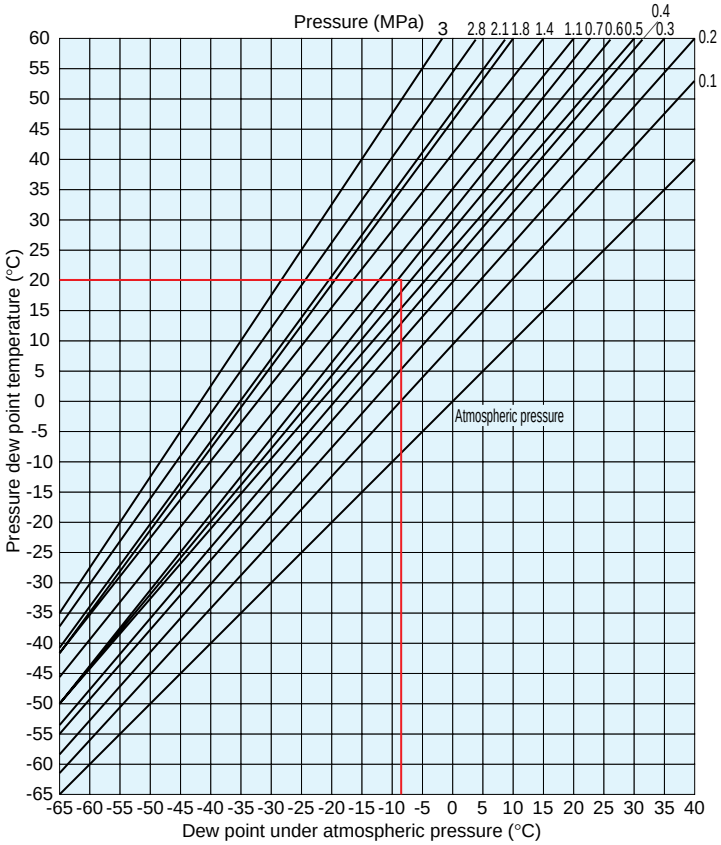
How to Determine Dehumidification Amount

– Example –

Determine the dehumidified amount when the compressed air of 20°C temperature, 100% humidity and 7kgf/cm² pressure has been dehumidified to a dew point of -25°C under atmospferic pressure.

Atmospheric Dew Point Conversion Table

[Fig·1]



Find the dew point under atmospheric pressure for a temperature of 20°C, humidity of 100% and pressure of 7kgf/cm².

[See Fig. 1.]

Dew point under atmospheric pressure ····· -8°C

Find the saturated vapor levels for -8°C and -25°C, respectively.

[See Fig. 2.]

Saturated vapor at -8°C ····· 2.74gf/m³

Saturated vapor at -25°C ····· 0.705gf/m³

Hence

2.74-0.705=2.035

Dehumidified amount ····· 2.035gf/m³

Dew Point-Vapor Content-Relative Humidity Conversion Table

Dew point (°C)	Vapor content (g/m³)	Relative Humidity (%)		
		Air temperature 20°C	Air temperature 25°C	Air temperature 30°C
30	30.3	-	-	100
25	23.0	-	100	76
20	17.3	100	75	57
15	12.8	74	55	42
10	9.40	54	41	31
5	6.79	39	30	22
0	4.85	28	21	16
-5	3.41	18	14	11
-10	2.36	12	9.3	7.1
-15	1.01	8.2	6.0	4.6
-20	1.07	5.1	3.8	2.9
-25	0.705	3.2	2.4	1.8
-30	0.453	2.0	1.5	1.1
-35	0.286	1.2	0.88	0.67
-40	0.176	0.89	0.52	0.39
-45	0.106	0.40	0.30	0.22
-50	0.0617	0.22	0.17	0.13

Saturated Vapor Table

[Fig·2]

(Saturated absolute humidity table)

Temperature (°C)	Vapor content (g/m³)	Temperature (°C)	Vapor content (g/m³)
-50	0.0617	0	4.85
-49	0.0689	1	5.19
-48	0.0767	2	5.56
-47	0.0853	3	5.95
-46	0.095	4	6.36
-45	0.106	5	6.79
-44	0.117	6	7.26
-43	0.13	7	7.75
-42	0.144	8	8.27
-41	0.159	9	8.82
-40	0.176	10	9.4
-39	0.194	11	10
-38	0.214	12	10.7
-37	0.236	13	11.3
-36	0.26	14	12.1
-35	0.286	15	12.8
-34	0.314	16	13.6
-33	0.345	17	14.5
-32	0.378	18	15.4
-31	0.414	19	16.3
-30	0.453	20	17.3
-29	0.496	21	18.3
-28	0.542	22	19.4
-27	0.592	23	20.6
-26	0.646	24	21.8
-25	0.705	25	23
-24	0.768	26	24.4
-23	0.863	27	25.8
-22	0.909	28	27.2
-21	0.989	29	28.7
-20	1.07	30	30.3
-19	1.17	31	32.3
-18	1.26	32	33.8
-17	1.37	33	35.6
-16	1.48	34	37.5
-15	1.61	35	39.6
-14	1.74	36	41.7
-13	1.88	37	43.9
-12	2.03	38	46.2
-11	2.19	39	43.6
-10	2.36	40	51.5
-9	2.54	41	53.7
-8	2.74	42	56.4
-7	2.95	43	59.3
-6	3.17	44	62.2
-5	3.41	45	65.3
-4	3.66	46	68.5
-3	3.93	47	71.9
-2	4.22	48	75.4
-1	4.52	49	79.0
		50	82.8