

Membrane Air Dryer

Series IDG

Dew point indicator visually confirms air drying

(Except IDG1)
(Optional on IDG3, IDG5, IDG3H, IDG5H)

- Compact
- Lightweight
- Space-saving

Type with fitting to purge air is also available.

When purge air discharge is undesirable in the area around the membrane air dryer, it can be discharged to atmosphere via tubing (option).

Discharged air noise reduced with built-in silencer

(Except IDG1, IDG3, IDG3H, IDG5, IDG5H, IDG30, IDG30H, IDG30L, IDG50, IDG50H, IDG50L)

IDG1

Flexible piping is possible

Low flow rate type tube configuration

Outlet air flow: 10 l/min (ANR)



Dew point indicator



Fitting to exhaust purge air for dew point checker



Purge air discharge fitting for dehumidification

Environmentally friendly (non-freon)

Power supply not required

No power supply is necessary. Wiring labor is not required and there is no need to consider electrical standards, etc.

Compatible with low dew points

Outlet air atmospheric pressure dew point: -40°C (IDG30L, IDG50L, IDG60L, IDG75L, IDG100L)

Outlet air atmospheric pressure dew point: -60°C (IDG60S, IDG75S, IDG100S)

No vibration or heat discharge

There are no mechanical moving parts as in the case of refrigeration equipment.

Unit type Integrated prefilter and regulator



Type M

Mist separator + Micro mist separator + IDG
Micro mist separator with prefilter + IDG

Type V

Mist separator + Micro mist separator + IDG + Regulator
Micro mist separator with prefilter + IDG + Regulator

Dehumidification principle



The membrane air dryer uses hollow fibers composed of a macro molecular membrane through which moisture passes easily, but is difficult for air (oxygen and nitrogen) to pass through.

When humid, compressed air is supplied to the inside of the hollow fibers, only moisture permeates the membrane and moves to the outside due to the pressure difference between the moisture inside and outside of the fibers. The compressed air becomes dry air and continues out of the dryer. Part of the dry air from the outlet side is passed through a very small orifice to reduce the pressure and purge the outside of the hollow fibers. The moisture which permeated to the outside of the hollow fibers is discharged to the atmosphere by this purge air. In this way, the partial pressure outside of the hollow fibers remains low and dehumidification is continuously performed.

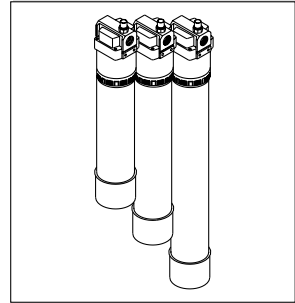
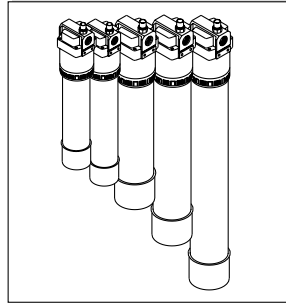
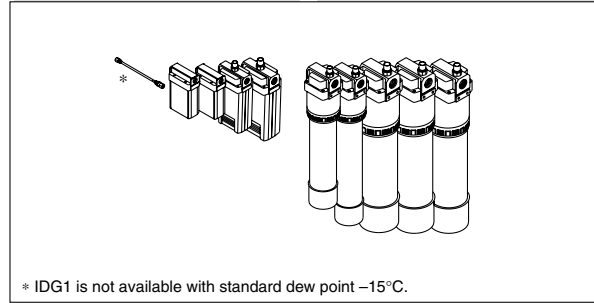
Application example

- Machine tools (air bearings, lasers, etc.)
- Precision measuring equipment (3-D measuring machines)
- Semiconductor manufacturing equipment
- Semiconductor inspection equipment
- Dental equipment
- Chemical analysis equipment
- Ozonizers, Hydrogen gas generating equipment
- Packaging machines, Paper making machines, Food processing machines
- Printed circuit board IC mounting machines
- Fine particle drying, Transfer equipment
- Electrostatic and high grade coating
- Drying and cleaning of precision parts
- Condensation prevention in control panels
- General pneumatic equipment and pneumatic tools

Series Variations

Meets a wide variety of flow rates (10 to 1000 ℓ/min (ANR)) and dew points (Atmospheric pressure dew point: -15°C to -60°C)

Standard dew point: -20°C ^{Note)}	Standard dew point: -15°C ^{Note)}	Standard dew point: -40°C ^{Note)}	Standard dew point: -60°C ^{Note)}
Standard purge	Low purge	Low dew point	Low dew point
Note) Standard purge rate: 20%	Note) Standard purge rate: 10%	Note) Standard purge rate: 25%	Note) Standard purge rate: 35%



Series	Outlet air flow rate ^{Note)} (ℓ/min (ANR))	Series	Outlet air flow rate ^{Note)} (ℓ/min (ANR))	Series	Outlet air flow rate ^{Note)} (ℓ/min (ANR))	Series	Outlet air flow rate ^{Note)} (ℓ/min (ANR))
▼	▼	▼	▼	▼	▼	▼	▼
IDG1	10	IDG3H	25				
IDG3	25	IDG5H	50				
IDG5	50	IDG10H	100				
IDG10	100	IDG20H	200				
IDG20	200	IDG30H	300	IDG30L	75		
IDG30	300	IDG50H	500	IDG50L	110		
IDG50	500	IDG60H	600	IDG60L	170	IDG60S	50
IDG60	600	IDG75H	750	IDG75L	240	IDG75S	100
IDG75	750	IDG100H	1000	IDG100L	300	IDG100S	150
IDG100	1000						

Type M A mist separator, micro mist separator, or micro mist separator with prefilter combined with a single unit							
IDG3M3	25	IDG3HM3	25				
IDG5M3	50	IDG5HM3	50				
IDG10M3	100	IDG10HM3	100				
IDG20M3	200	IDG20HM3	200				
IDG30M3	300	IDG30HM3	300	IDG30LM3	75		
IDG50M3	500	IDG50HM3	500	IDG50LM3	110		
IDG60M2	600	IDG60HM2	600	IDG60LM3	170	IDG60SM3	50
IDG75M2	750	IDG75HM2	750	IDG75LM3	240	IDG75SM3	100
IDG100M2	1000	IDG100HM2	1000	IDG100LM3	300	IDG100SM3	150

Type V A regulator combined with the type M							
IDG3V3	25	IDG3HV3	25				
IDG5V3	50	IDG5HV3	50				
IDG10V3	100	IDG10HV3	100				
IDG20V3	200	IDG20HV3	200				
IDG30V3	300	IDG30HV3	300	IDG30LV3	75		
IDG50V3	500	IDG50HV3	500	IDG50LV3	110		
IDG60V2	600	IDG60HV2	600	IDG60LV3	170	IDG60SV3	50
IDG75V2	750	IDG75HV2	750	IDG75LV3	240	IDG75SV3	100
IDG100V2	1000	IDG100HV2	1000	IDG100LV3	300	IDG100SV3	150

Note) Standard dew point : Outlet air atmospheric pressure dew point under standard performance conditions
Standard purge rate : Ratio of purge air flow rate to inlet air flow rate under standard performance conditions
Outlet air flow rate : Values under standard performance conditions

Series IDG

Model Selection

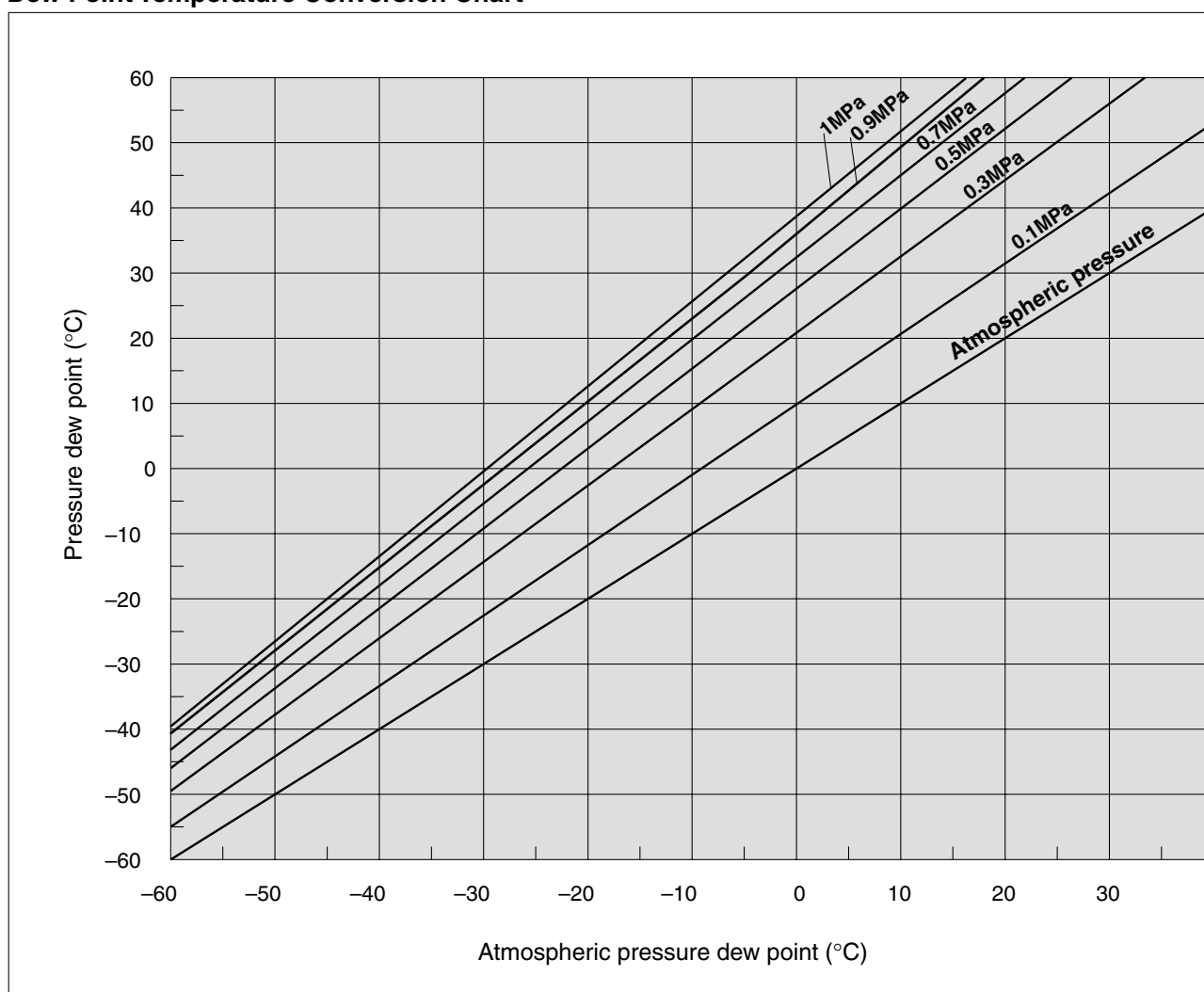
Model Selection

Step 1 Confirmation of operating conditions

Outlet air flow rate [ℓ/min (ANR)]
 Outlet air atmospheric pressure dew point [°C]
 (When it is necessary to convert from the pressurized dew point,
 refer to the conversion diagram for dew point temperature below.)
 Inlet air pressure [MPa]
 Inlet air temperature [°C]
 Allowable pressure drop ΔP [MPa]
 Compressed air supply capacity Q [ℓ/min (ANR)]

[Example]
 Outlet air flow rate 150 [ℓ/min (ANR)]
 Outlet air atmospheric pressure dew point -15 [°C]
 Inlet air pressure 0.5 [MPa]
 Inlet air temperature 35 [°C]
 Allowable pressure drop 0.03 [MPa]
 Compressed air supply capacity 300 [ℓ/min (ANR)]

Dew Point Temperature Conversion Chart



Step 2 Correction of the outlet air flow rate influenced by the inlet air temperature.

(When the inlet air temperature is 25°C, refer to Step 4)

When the inlet air temperature is not the same temperature (25°C) on the performance charts, calculate the correction factor for the outlet air flow rate from the chart below to compensate the outlet air flow rate.

Example
Inlet air temperature 35°C
Outlet air flow 150 l/min (ANR)

From table below (Inlet Air Temperature — Correction Factor for Outlet Air Flow rate)
Correction factor for outlet air flow rate is 0.40 for Type A products group
0.86 for Type B products group
Therefore, corrected outlet air flow rate can be determined.
[Type A products group] 150 ÷ 0.4 = 375 l/min (ANR)
[Type B products group] 150 ÷ 0.86 = 175 l/min (ANR)

Inlet Air Temperature — Correction Factor for Outlet Air Flow Rate

Inlet air temperature (°C)	Type A products group	Type B products group
	Standard dew point -20°C In the case of -15°C (symbol H) type (but, except IDG30/50/30H/50H)	Standard dew point -40°C (symbol L) In the case of -60°C (symbol S) type and IDG30/50/30H/50H
10	3.00	1.35
15	2.17	1.22
20	1.52	1.10
25	1.00	1.00
30	0.65	0.92
35	0.40	0.86
40	0.25	0.80
45	0.19	0.75
50	0.14	0.70

Note) Correction factors between the products A group and the products B group are different from each other, because the module characteristics are different.

Step 3 Model selection based on corrected outlet flow rate

Select a model based on the corrected outlet air flow rate calculated by Step 2 on the flow characteristics charts on pages 99, 100, 103, 104, 107, and 109.

Example
Corrected outlet air flow 375 l/min (ANR)
Corrected outlet air flow 175 l/min (ANR)
Inlet air pressure 0.5 MPa
Outlet air dew point -15°C

With the conditions of the corrected outlet air flow and the inlet air pressure mentioned to the left, the outlet air atmospheric pressure dew point is found to be -15°C or below.
When selecting a model
[Type A products group] IDG60
[Type B products group] IDG30, IDG50H

Step 4 Confirmation of purged air flow rate

Read out from the graph on the purged air flow rate (page 96).

Example
Inlet air pressure 0.5 MPa
Model selection IDG30
IDG50H
IDG60

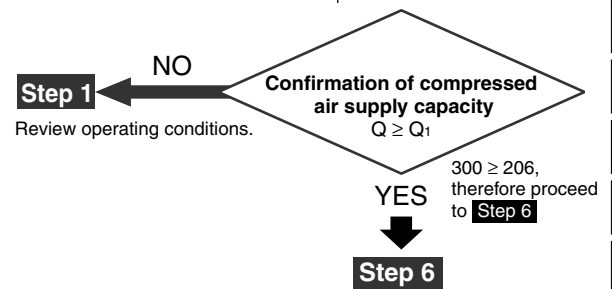
In the case of IDG30 56 l/min (ANR)
In the case of IDG50H 45 l/min (ANR)
In the case of IDG60 94 l/min (ANR)

Step 5 Calculation of inlet air flow rate Q₁, and confirmation of compressed air supply capacity.

Inlet air flow rate Q₁ [l/min (ANR)] =
Outlet air flow rate [l/min (ANR)] + Purge air flow rate [l/min (ANR)]

Example: Assuming that IDG30 is chosen by Step 4
Outlet air flow rate 150 l/min (ANR)
Purge air flow rate 56 l/min (ANR)
Compressed air supply capacity Q 300 l/min (ANR)

The inlet air flow rate Q₁ = 150 + 56 = 206 l/min (ANR)

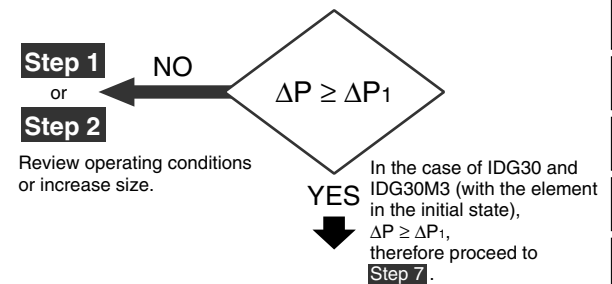


Step 6 Confirmation of pressure drop ΔP₁ [MPa]

Single unit (Refer to pages 94 and 95.)
Unit (Refer to pages 119 and 120.)

Example: Model to be selected in case of IDG30
Inlet air pressure 0.5 MPa
Inlet air flow 206 l/min (ANR)
Allowable pressure drop ΔP 0.03 MPa

Single unit IDG30 on the flow characteristics (page 94), ΔP₁ = 0.006 MPa
Unit IDG30M3 ΔP₁ = 0.01 MPa (Element initial state)
ΔP₁ = 0.055 MPa (Element saturated state)



Step 7 The way of discharging drain (in the case of unit), accessories and optional specifications

Example
In the case of IDG30
Accessories: With bracket
Option specifications: None
In the case of IDG30M3
The way of discharging drain: N.O. auto-drain
Option specifications: None

Single unit (Refer to pages 98, 102, 106, and 108.)
Unit (Refer to page 114.)

Refer to "Selection" in Specific Product Precautions 1 on page 138.

Model selected

<In the case of single unit type>
IDG30-03B
<In the case of unit type>
IDG30M3-03D

HAA
HAW

AT

IDF
IDU

IDFA

IDFB

ID

IDG

AMG

AFF

AM

AMD

AMH

AME

AMF

SF

SFD

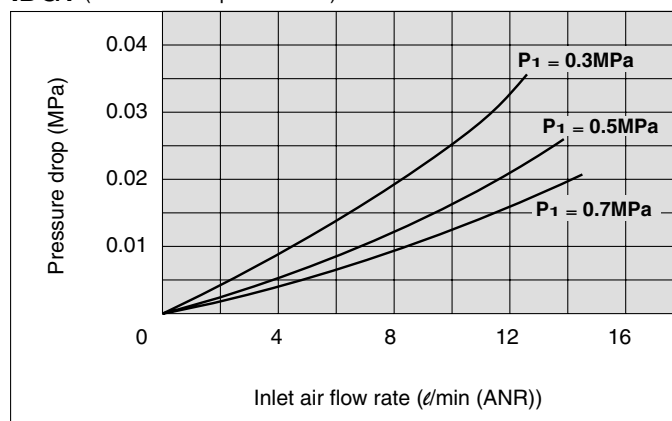
LLB

AD□

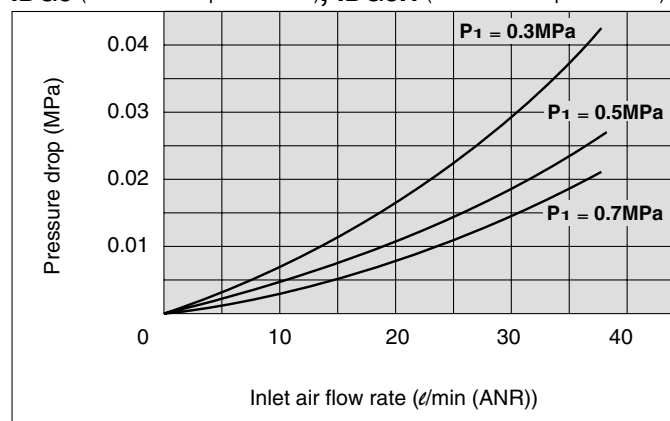
GD

Flow Characteristics

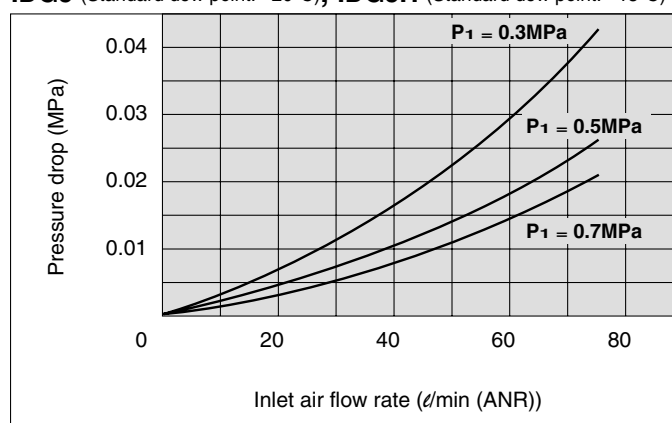
IDG1 (Standard dew point: -20°C)



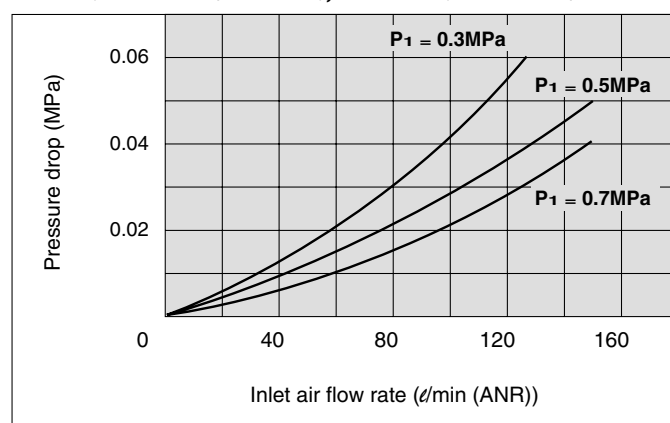
IDG3 (Standard dew point: -20°C), **IDG3H** (Standard dew point: -15°C)



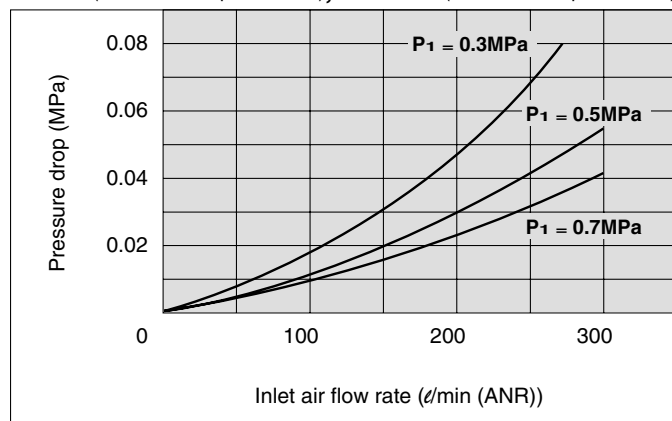
IDG5 (Standard dew point: -20°C), **IDG5H** (Standard dew point: -15°C)



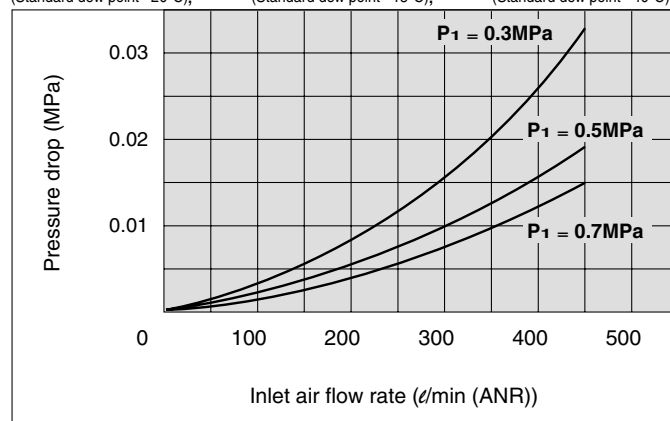
IDG10 (Standard dew point: -20°C), **IDG10H** (Standard dew point: -15°C)



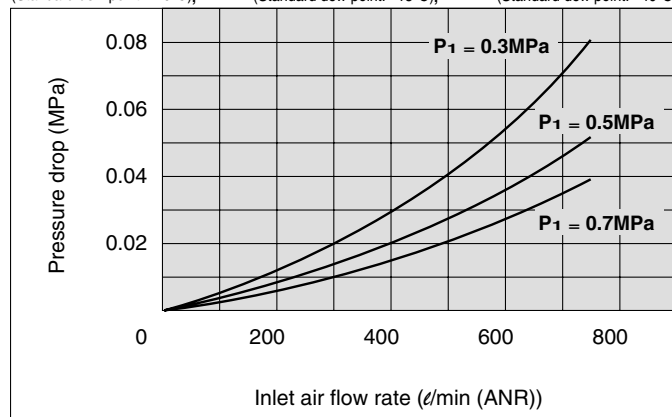
IDG20 (Standard dew point -20°C), **IDG20H** (Standard dew point -15°C)



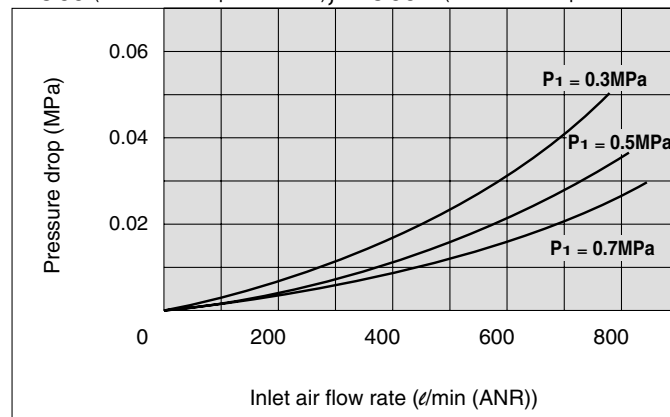
IDG30 (Standard dew point -20°C), **IDG30H** (Standard dew point -15°C), **IDG30L** (Standard dew point -40°C)



IDG50 (Standard dew point: -20°C), **IDG50H** (Standard dew point: -15°C), **IDG50L** (Standard dew point: -40°C)

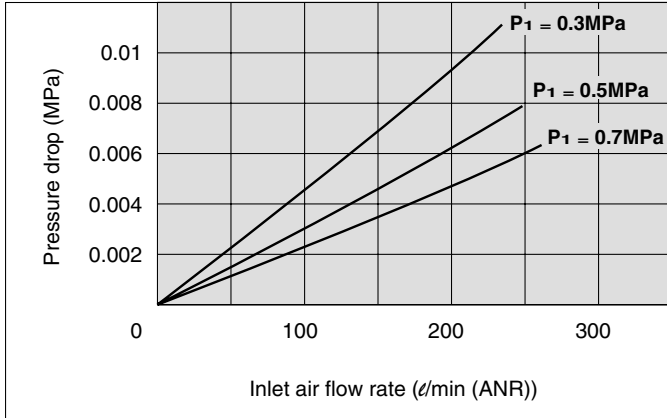


IDG60 (Standard dew point: -20°C), **IDG60H** (Standard dew point: -15°C)

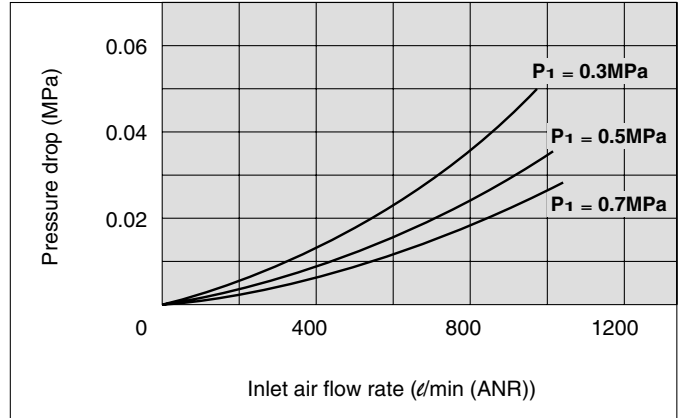


Conditions: Inlet air temperature 25°C, P₁: Inlet air pressure

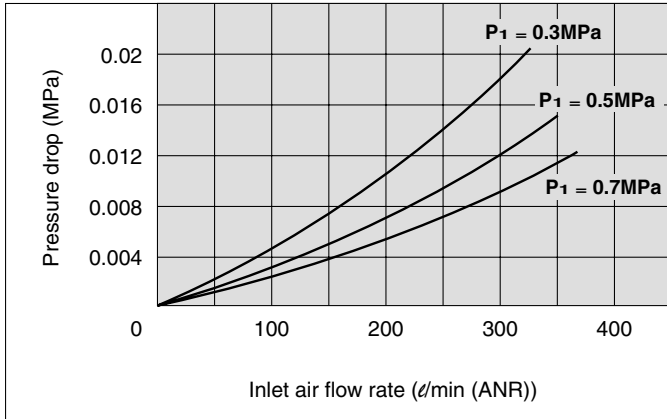
IDG60L (Standard dew point: -40°C), **IDG60S** (Standard dew point: -60°C)



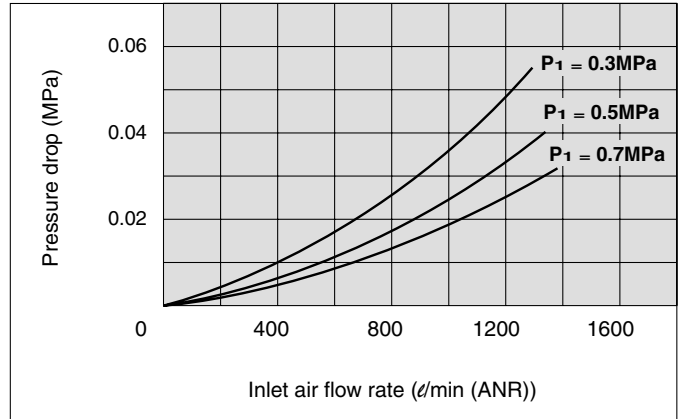
IDG75 (Standard dew point: -20°C), **IDG75H** (Standard dew point: -15°C)



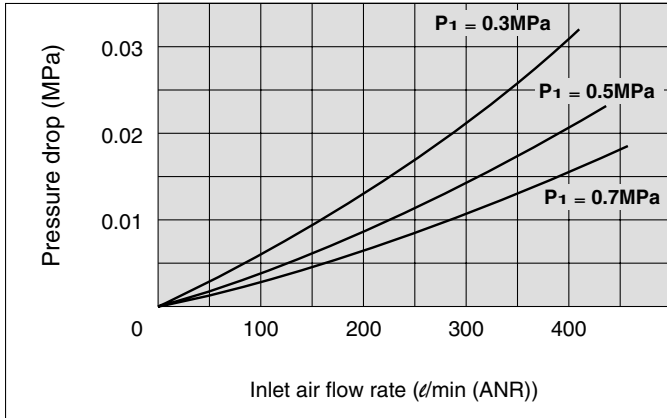
IDG75L (Standard dew point: -40°C), **IDG75S** (Standard dew point: -60°C)



IDG100 (Standard dew point: -20°C), **IDG100H** (Standard dew point: -15°C)



IDG100L (Standard dew point: -40°C), **IDG100S** (Standard dew point: -60°C)



HAA
HAW

AT

IDF
IDU

IDFA

IDFB

ID

IDG

AMG

AFF

AM

AMD

AMH

AME

AMF

SF

SFD

LLB

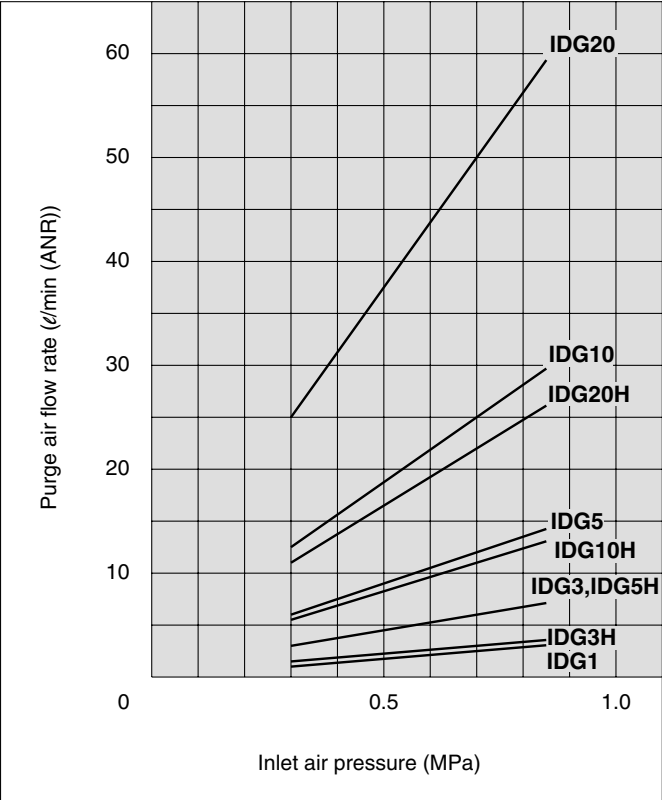
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GD

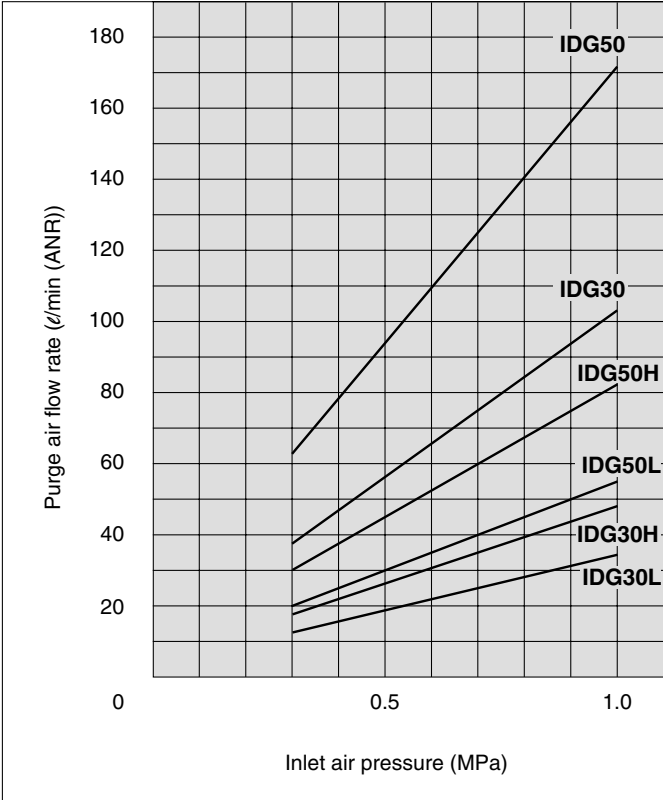
Purge Air Flow Characteristics

Conditions: Inlet air temperature 25°C

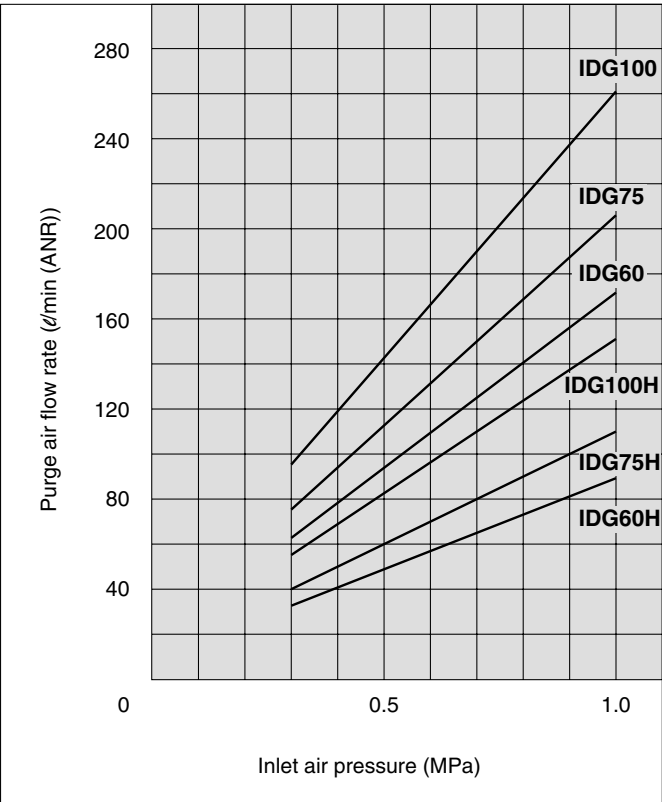
IDG1/3/5/10/20 (Standard dew point: -20°C)
IDG3H/5H/10H/20H (Standard dew point: -15°C)



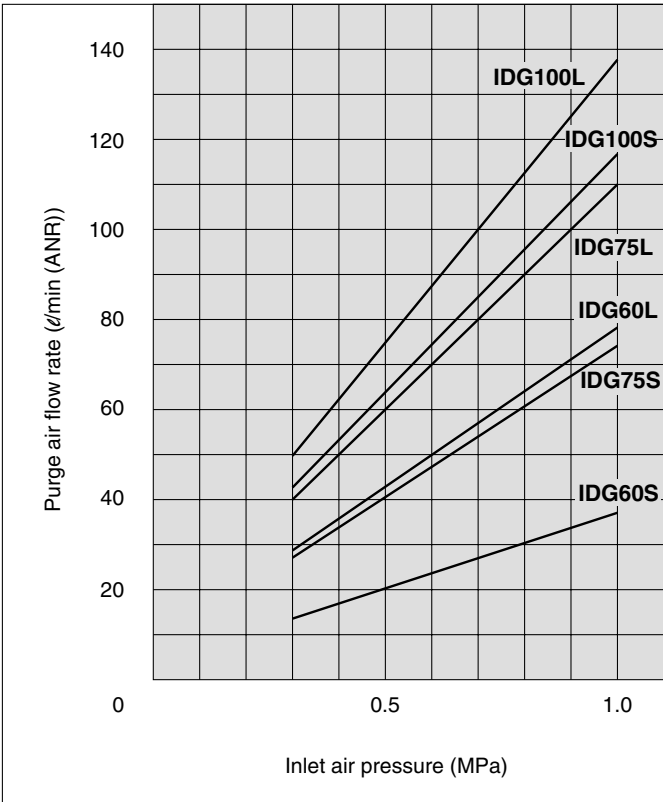
IDG30/50 (Standard dew point: -20°C)
IDG30H/50H (Standard dew point: -15°C)
IDG30L/50L (Standard dew point: -40°C)



IDG60/75/100 (Standard dew point: -20°C)
IDG60H/75H/100H (Standard dew point: -15°C)



IDG60L/75L/100L (Standard dew point: -40°C)
IDG60S/75S/100S (Standard dew point: -60°C)



Membrane Air Dryer Series *IDG*

Single Unit/Standard Dew Point -20°C Specifications

How to Order

IDG 10 - 03 -

Flow rate by size

Size	Outlet air flow rate Purge air flow rate	ℓ/min (ANR)
1	10/2.5	
3	25/6	
5	50/12	
10	100/25	
20	200/50	
30	300/75	
50	500/125	
60	600/125	
75	750/150	
100	1000/190	

Option

Symbol	Contents	Size									
		1	3	5	10	20	30	50	60	75	100
Nil	None (Standard)	●	●	●	●	●	●	●	●	●	●
P	With fitting for purge air discharge	●	●	●	●	●	●	●	●	●	●
R	Flow direction (Right → Left)	—	●	●	●	●	●	●	●	●	●
S	With dew point indicator	—	●	●	—	—	—	—	—	—	—

Note) In the case of two or more options, indicate them alphabetically.

Accessory

Symbol	Description
Nil	None (Standard)
B	With bracket (Except IDG1)

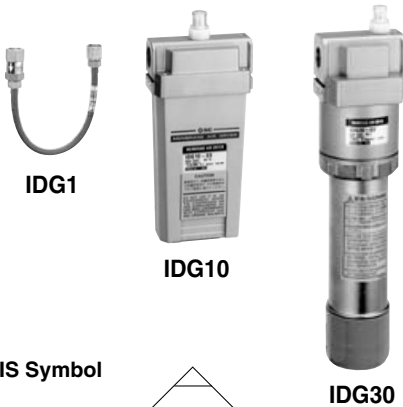
Note) When symbol B is indicated, a bracket assembly with a part number shown in the table left below is included as an accessory.

Thread type

Symbol	Type
Nil	Rc
N	NPT
F	G

Port size

Symbol	Bore	Size									
		1	3	5	10	20	30	50	60	75	100
01	1/8	—	●	●	—	—	—	—	—	—	—
02	1/4	●	●	●	●	●	●	—	—	—	—
03	3/8	—	—	—	●	●	●	●	—	—	—
04	1/2	—	—	—	—	—	—	—	●	●	●



Standard Specifications/Single Unit Type (Standard dew point: -20°C)

Model		Standard dew point: -20°C									
		IDG1	IDG3	IDG5	IDG10	IDG20	IDG30	IDG50	IDG60	IDG75	IDG100
Range of operating conditions	Fluid	Compressed air									
	Inlet air pressure (MPa)	0.3 to 0.85					0.3 to 1.0				
	Inlet air temperature (°C) ⁽¹⁾	-5 to 55					-5 to 50				
	Ambient temperature (°C) ⁽¹⁾	-5 to 55					-5 to 50				
Standard performance	Outlet air atmospheric pressure dew point (°C)	-20									
Standard performance conditions	Inlet air flow rate (ℓ/min (ANR)) ⁽²⁾	12.5	31	62	125	250	375	625	725	900	1190
	Outlet air flow rate (ℓ/min (ANR))	10	25	50	100	200	300	500	600	750	1000
	Purge air flow rate (ℓ/min (ANR)) ⁽³⁾	2.5	6	12	25	50	75	125	125	150	190
	Inlet air pressure (MPa)	0.7									
	Inlet air temperature (°C)	25									
	Inlet air saturation temperature (°C)	25									
	Ambient temperature (°C)	25									
	Dew point indicator purge air flow rate	—			1 ℓ/min (ANR) {In case of Inlet air pressure 0.7 MPa}						
Port size (Nominal size B)		1/4	1/8, 1/4		1/4, 3/8			3/8, 1/2		1/2	
Mass (kg) (With bracket)		0.11	0.25 (0.31)		0.43 (0.51)	0.66 (0.76)	0.74 (0.87)	0.77 (0.90)	1.50 (1.65)	1.50 (1.65)	1.55 (1.70)

* With cap bolts (2 pcs.) and spring washers (2 pcs.)

Note 1) No freezing.

Note 2) ANR indicates the flow rate converted to the value at 20°C under the atmospheric pressure and the state of relative humidity 65%.

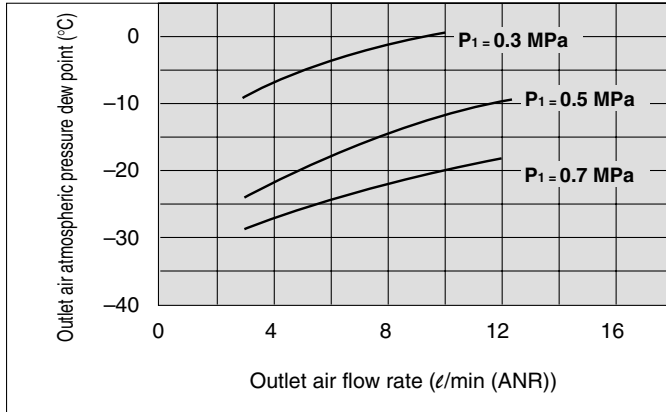
Note 3) Includes 1 ℓ/min (ANR) of purge air flow (at 0.7 MPa inlet air pressure) for the dew point indicator (except IDG1, 3, 5).

Conditions: Inlet air temperature 25°C (saturated air), Ambient temperature 25°C, P_1 : Inlet air pressure, Tube for purge air discharge (Option: P): None
 Notice: For type with fitting for purge air discharge (Option: P), the outlet air atmospheric pressure dew point may become higher depending on the tube length for purge air discharge. Refer to page 100 for IDG30 and IDG50. For other models, if the tube length is 5 m or less, a rise of the outlet air at the atmospheric pressure dew point will be 1°C or less.

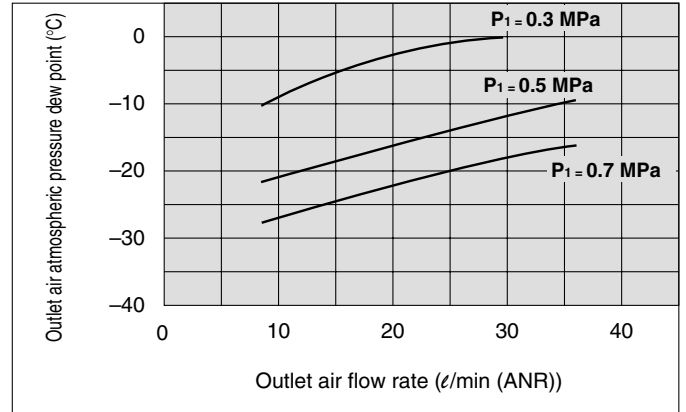
Performance Chart

Product groups inside parentheses in the graph are classification symbols for selecting a model. (Refer to page 93.)

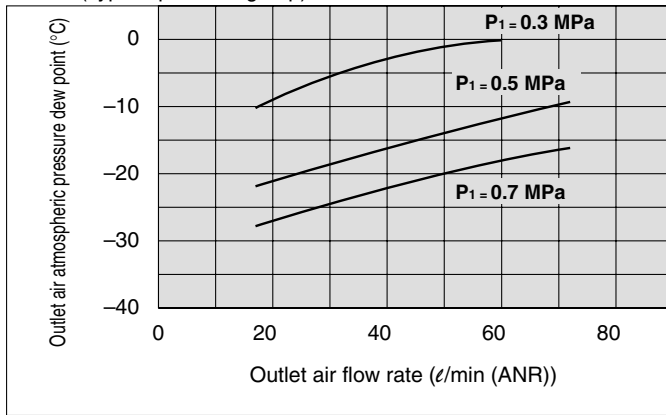
IDG1 (Type A products group)



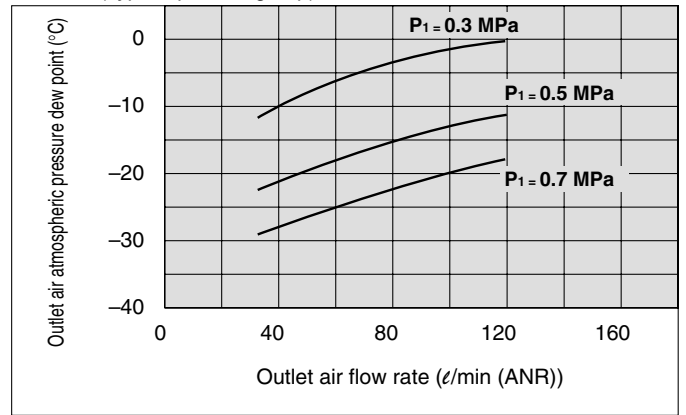
IDG3 (Type A products group)



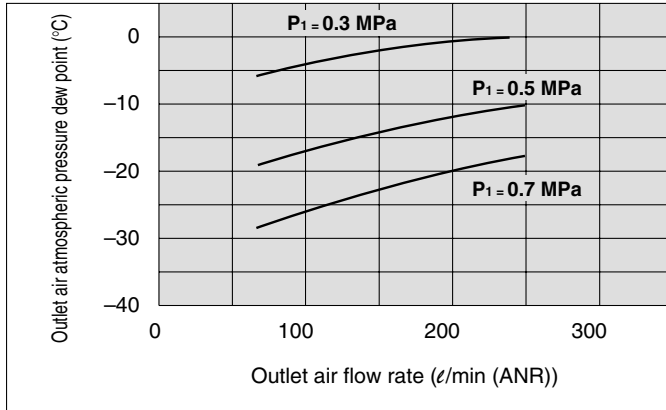
IDG5 (Type A products group)



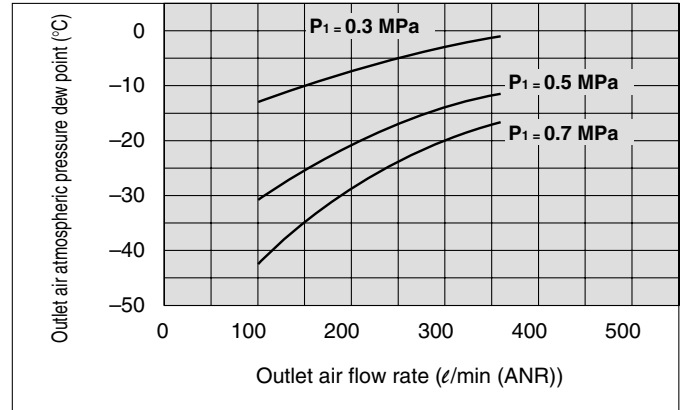
IDG10 (Type A product group)



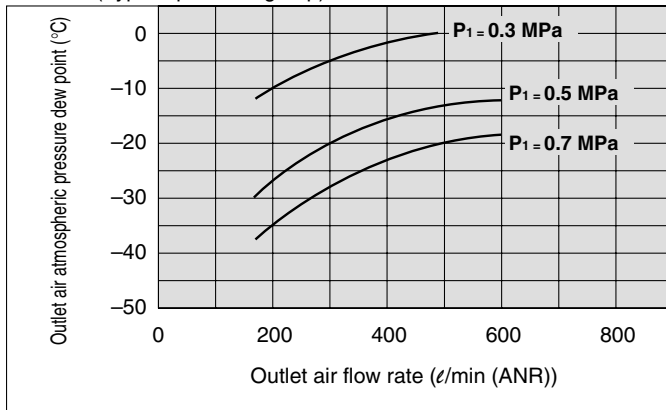
IDG20 (Type A products group)



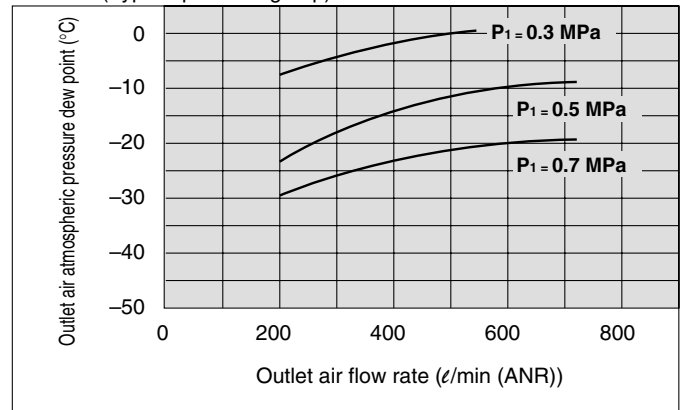
IDG30 (Type B products group)



IDG50 (Type B products group)



IDG60 (Type A products group)



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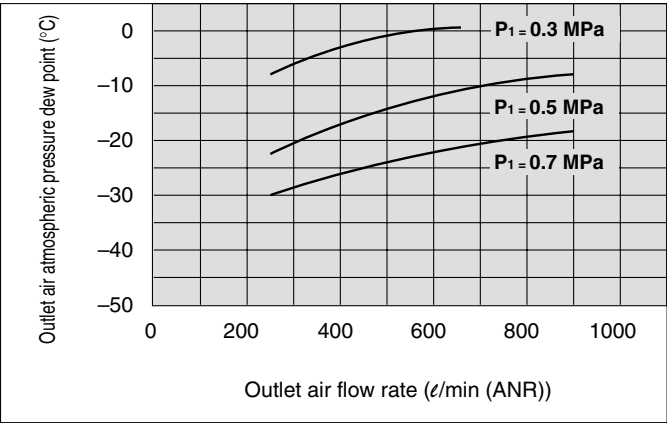
AD

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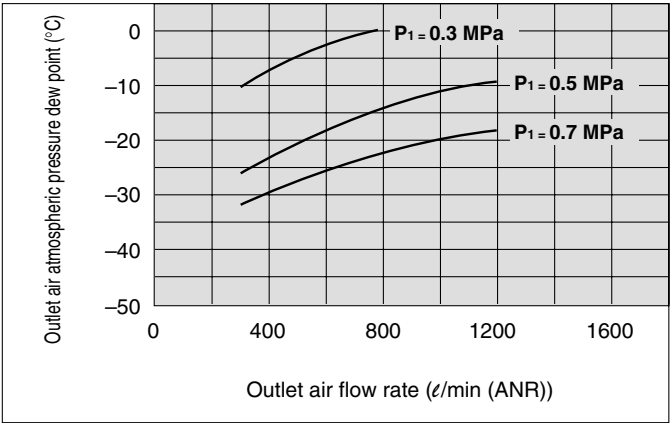
Conditions: Inlet air temperature 25°C (saturated air), Ambient temperature 25°C, P₁: Inlet air pressure Tube for purge air discharge (Option: P): None
Notice: For type with fitting for purge air discharge (Option: P) except IDG30 and IDG50, if the tube length is 5 m or less, a rise of the outlet air at the atmospheric pressure dew point will be 1°C or less.
Product groups inside parentheses in the graph are classification symbols for selecting a model. (Refer to page 93.)

Performance Chart

IDG75 (Type A products group)



IDG100 (Type A products group)



With fittings for purge air discharge (Option: P)

As the length of tubing for purge air discharge becomes longer, the outlet air atmospheric pressure dew point becomes higher. Refer to the table below.

Outlet Air at the Atmospheric Pressure Dew point in Compliance with the Tube Length for Discharging the Purged Air (°C)

Tube length	Model	IDG30	IDG50
0 m		-20	
1 m		-19	
3 m		-17	
5 m		-16	

Refer to the Precautions on page 139 when piping the tube for purge air discharge.

Conditions

- Inlet air temperature : 25°C (Saturated)
- Ambient temperature : 25°C
- Inlet air pressure : 0.7 MPa
- Outlet air flow rate : Flow gained under conditions of the standard performance. (Refer to page 98.)
- Tubing size (O.D. x I.D.) mm: ø12 x ø9

Construction

Refer to pages 110 and 111.

Dimensions

Refer to pages 112 and 113.

Single Unit/Standard Dew Point –15°C Specifications

How to Order

IDG 10 H - 03 -

Flow rate by size

Size	Outlet air flow rate ℓ /min Purge air flow rate (ANR)
3	25/3
5	50/6
10	100/11
20	200/22
30	300/35
50	500/60
60	600/65
75	750/80
100	1000/110

Standard dew point temperature

Symbol	Standard dew point (°C)
H	–15

Thread type

Symbol	Type
Nil	Rc
N	NPT
F	G

Option

Symbol	Contents	Size									
		3	5	10	20	30	50	60	75	100	
Nil	None (Standard)	●	●	●	●	●	●	●	●	●	
P	With fitting for purge air discharge	●	●	●	●	●	●	●	●	●	
R	Flow direction (Right → Left)	●	●	●	●	●	●	●	●	●	
S	With dew point indicator	●	●								Standard equipment

Note) In the case of two or more options, indicate them alphabetically.

Accessory

Symbol	Description
Nil	None (Standard)
B	With bracket

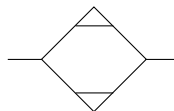
Note) When symbol B is indicated, a bracket assembly with a part number shown in the table left below is included as an accessory.

Port size

Symbol	Bore	Size									
		3	5	10	20	30	50	60	75	100	
01	1/8	●	●	—	—	—	—	—	—	—	
02	1/4	●	●	●	●	●	—	—	—	—	
03	3/8	—	—	●	●	●	●	●	—	—	
04	1/2	—	—	—	—	—	—	●	●	●	



JIS Symbol



Standard Specifications/Single Unit Type (Standard dew point: –15°C)

Model		Standard dew point –15°C								
		IDG3H	IDG5H	IDG10H	IDG20H	IDG30H	IDG50H	IDG60H	IDG75H	IDG100H
Range of operating conditions	Fluid	Compressed air								
	Inlet air pressure (MPa)	0.3 to 0.85				0.3 to 1.0				
	Inlet air temperature (°C) ⁽¹⁾	–5 to 55				–5 to 50				
	Ambient temperature (°C) ⁽¹⁾	–5 to 55				–5 to 50				
Standard performance	Outlet air atmospheric pressure dew point (°C)	–15								
Standard performance conditions	Inlet air flow rate (ℓ/min (ANR)) ⁽²⁾	28	56	111	222	335	560	665	830	1110
	Outlet air flow rate (ℓ/min (ANR))	25	50	100	200	300	500	600	750	1000
	Purge air flow rate (ℓ/min (ANR)) ⁽³⁾	3	6	11	22	35	60	65	80	110
	Inlet air pressure (MPa)	0.7								
	Inlet air temperature (°C)	25								
	Inlet air saturation temperature (°C)	25								
	Ambient temperature (°C)	25								
	Dew point indicator purge air flow rate	–		1 ℓ/min (ANR) {In the case of Inlet air pressure 0.7 MPa}						
Port size (Nominal size B)	1/8, 1/4		1/4, 3/8				3/8, 1/2		1/2	
Mass (kg) (With bracket)	0.25 (0.31)		0.43 (0.51)		0.66 (0.76)		0.74 (0.87)		0.77 (0.90)	
							1.50 (1.65)		1.50 (1.65)	
									1.55 (1.70)	

Note 1) No freezing.

Note 2) ANR indicates the flow rate converted to the value at 20°C under the atmospheric pressure and the state of relative humidity 65%.

Note 3) Includes 1 ℓ /min (ANR) of purge air flow (at 0.7 MPa inlet air pressure) for the dew point indicator (except IDG3H, 5H).

Bracket Assembly (Accessory) Part No.

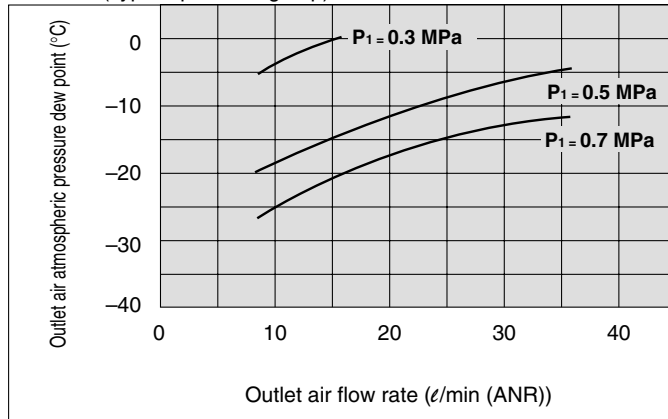
Part no.	Applicable model
BM59	IDG3H, 5H
BM61	IDG10H
BM63	IDG20H
BM64	IDG30H, 50H
BM65	IDG60H, 75H, 100H

* With cap bolts (2 pcs.) and spring washers (2 pcs.)

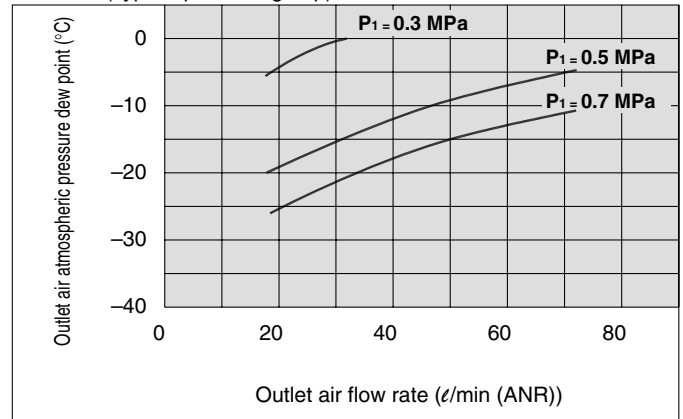
Performance Chart

Conditions: Inlet air temperature 25°C (saturated air), Ambient temperature 25°C, P_1 : Inlet air pressure, Tube for purge air discharge (Option: P): None
 Notice: When using product with fittings for purge air discharge (Option: P) and if the tube length is 5 m or less, an increase of the outlet air dew point is 1°C or less.
 Product groups inside parentheses in the graph are classification symbols for selecting a model. (Refer to page 93.)

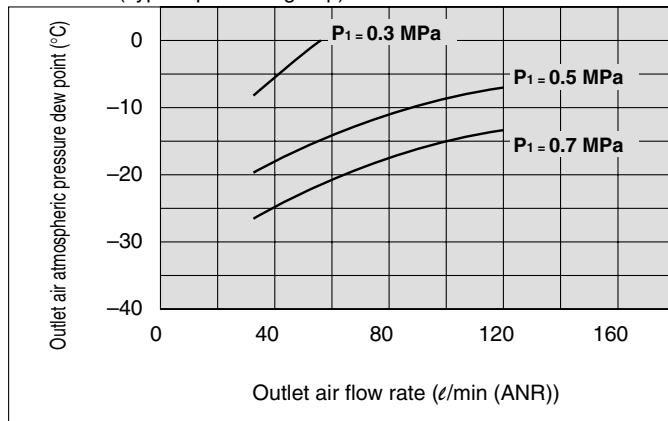
IDG3H (Type A products group)



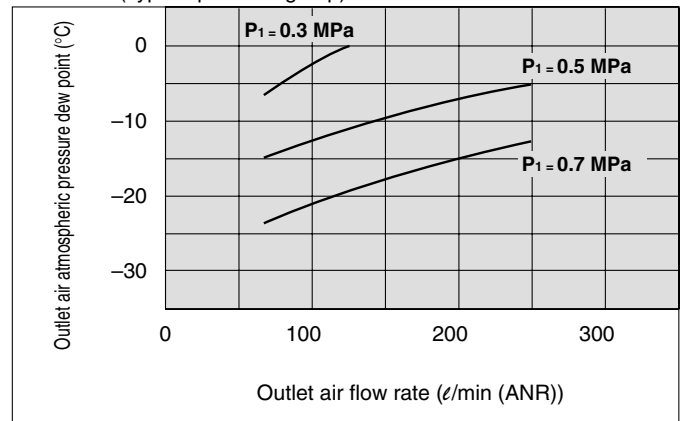
IDG5H (Type A products group)



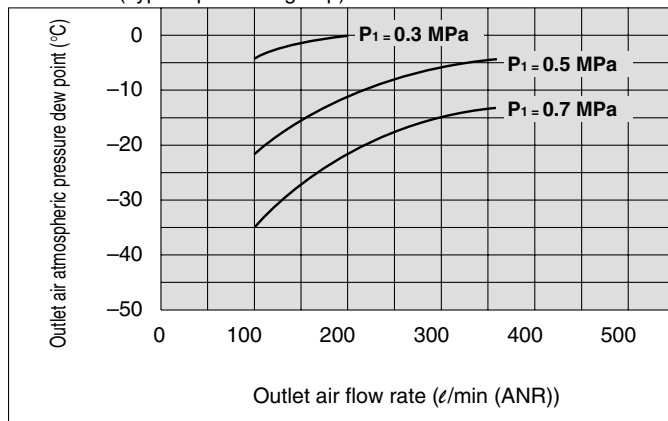
IDG10H (Type A products group)



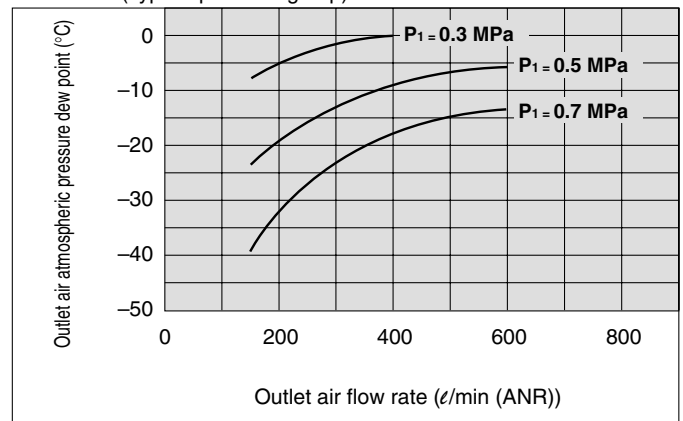
IDG20H (Type A products group)



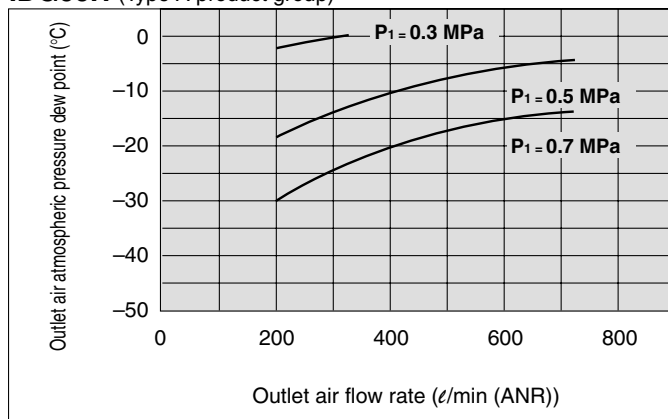
IDG30H (Type B products group)



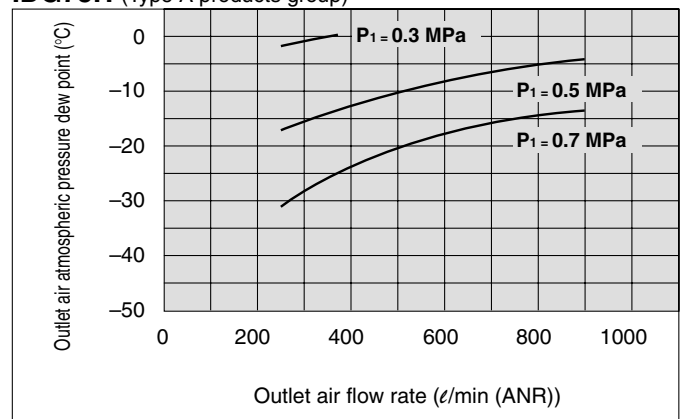
IDG50H (Type B products group)



IDG60H (Type A product group)



IDG75H (Type A products group)



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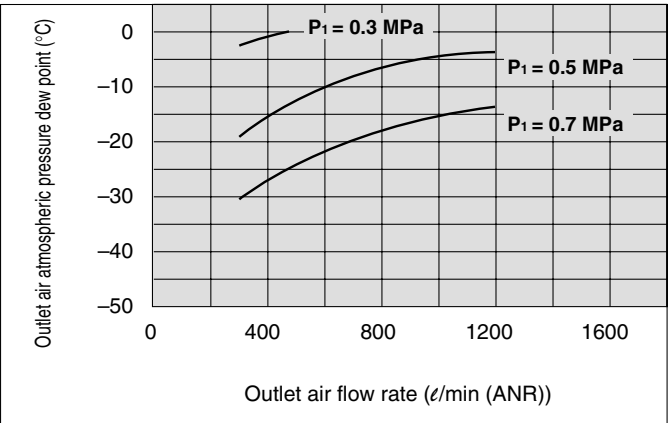
GD

Series IDG

Conditions: Inlet air temperature 25°C (saturated air), Ambient temperature 25°C, P_1 : Inlet air pressure, Tube for purge air discharge (Option: P): None
Notice: When using product with fittings for purge air discharge (Option: P) and if the tube length is 5 m or less, an increase of the outlet air dew point is 1°C or less.
Product groups inside parentheses in the graph are classification symbols for selecting a model. (Refer to page 93.)

Performance Chart

IDG100H (Type A products group)



Construction

Refer to pages 110 and 111.

Dimensions

Refer to pages 112 and 113.

Single Unit/Standard Dew Point -40°C Specifications

How to Order

IDG 50 L - 03 -

Flow rate by size

Size	Outlet air flow rate Purge air flow rate (ANR)
30	75/25
50	110/40
60	170/57
75	240/80
100	300/100

Standard dew point temperature

Symbol	Standard dew point (°C)
L	-40

Option

Symbol	Contents
Nil	None (Standard)
P	With fitting for purge air discharge
R	Flow direction (Right → Left)

Note) In the case of two or more options, indicate them alphabetically.

Accessory

Symbol	Description
Nil	None (Standard)
B	With bracket

Note) When symbol B is indicated, a bracket assembly with a part number shown in the table left below is included as an accessory.

Thread type

Symbol	Type
Nil	Rc
N	NPT
F	G

Port size

Symbol	Bore	Size				
		30	50	60	75	100
02	1/4	●	●	—	—	—
03	3/8	●	●	●	●	●
04	1/2	—	—	●	●	●

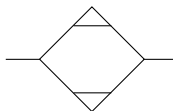


IDG30L



IDG60L

JIS Symbol



Bracket Assembly (Accessory) Part No.

Part no.	Applicable model
BM64	IDG30L, 50L
BM65	IDG60L, 75L, 100L

* With cap bolts (2 pcs.) and spring washers (2 pcs.)

Standard Specifications/Single Unit Type (Standard dew point: -40°C)

Model		Standard dew point: -40°C				
		IDG30L	IDG50L	IDG60L	IDG75L	IDG100L
Range of operating conditions	Fluid	Compressed air				
	Inlet air pressure (MPa)	0.3 to 1.0				
	Inlet air temperature (°C) ⁽¹⁾	-5 to 50				
	Ambient temperature (°C) ⁽¹⁾	-5 to 50				
Standard performance	Outlet air atmospheric pressure dew point (°C)	-40 ⁽²⁾				
Standard performance conditions	Inlet air flow rate (l/min (ANR)) ⁽³⁾	100	150	227	320	400
	Outlet air flow rate (l/min (ANR))	75	110	170	240	300
	Purge air flow rate (l/min (ANR)) ⁽⁴⁾	25	40	57	80	100
	Inlet air pressure (MPa)	0.7				
	Inlet air temperature (°C)	25				
	Inlet air saturation temperature (°C)	25				
	Ambient temperature (°C)	25				
Dew point indicator purge air flow rate		1 l/min (ANR) {In the case of Inlet air pressure 0.7 MPa}				
Port size (Nominal size B)		1/4, 3/8		3/8, 1/2		
Mass (kg) (With bracket)		0.74 (0.87)	0.77 (0.90)	1.50 (1.65)	1.65 (1.80)	1.80 (1.95)

Note 1) No freezing.

Note 2) Refer to the Piping Precautions (Piping material for low dew point air) on page 139.

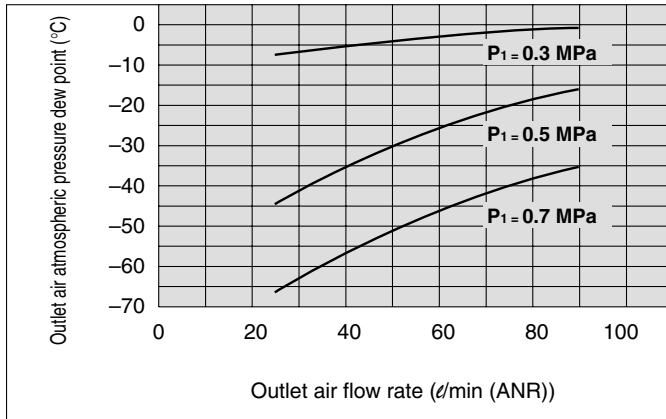
Note 3) ANR indicates the flow rate converted to the value at 20°C under the atmospheric pressure and the state of relative humidity 65%.

Note 4) Includes 1 l/min (ANR) of purge air flow (at 0.7 MPa inlet air pressure) for the dew point indicator.

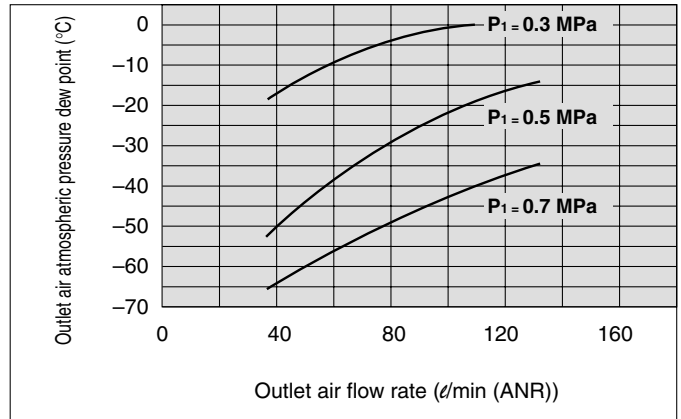
Performance Chart

Conditions: Inlet air temperature 25°C (saturated air), Ambient temperature 25°C P₁: Inlet air pressure, Tube for purge air discharge (Option: P): None
Product groups inside parentheses in the graph are classification symbols for selecting a model. (Refer to page 93.)

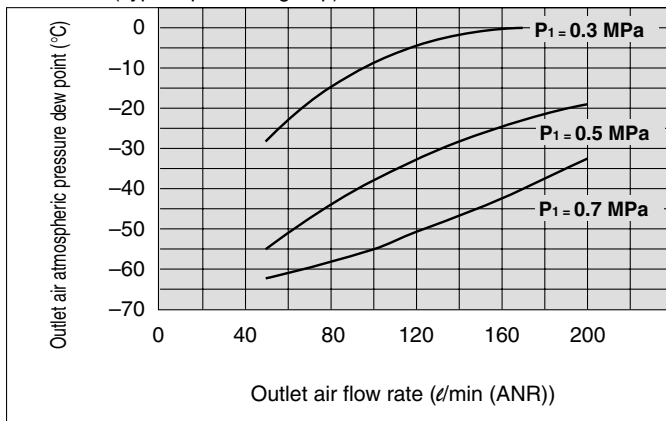
IDG30L (Type B products group)



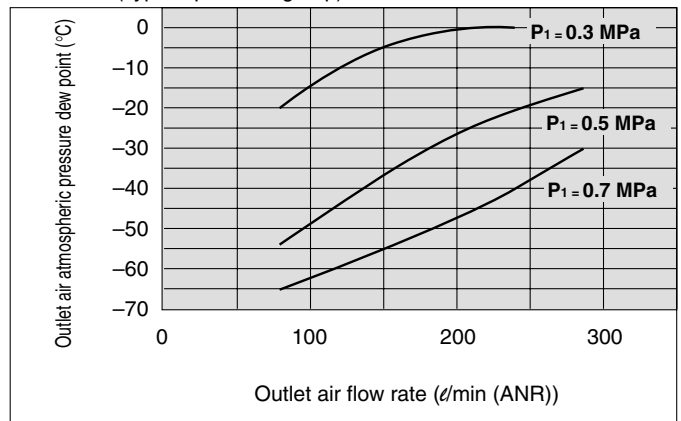
IDG50L (Type B products group)



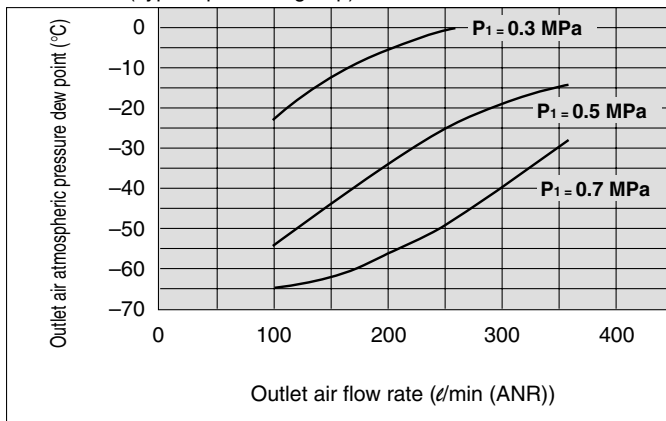
IDG60L (Type B products group)



IDG75L (Type B products group)



IDG100L (Type B products group)



With fitting for purge air discharge (Option: P)

As the length of tubing for purge air discharge becomes longer, the outlet air atmospheric pressure dew point becomes higher. Refer to the table below.

Outlet Air at the Atmospheric Pressure Dew point in Compliance with the Tube Length for Discharging the Purged Air (°C)

Tube length	Model	IDG30L	IDG50L
0 m		-40	
1 m		-39	
3 m		-38	
5 m		-38	

Note) In cases other than above model numbers, if the tube length is 5 m or less, an increase of the outlet air at the atmospheric pressure dew point will be 1°C or less. Refer to the Precautions on page 139 when piping the tube for purge air discharge.

Construction

Refer to pages 110 and 111.

Dimensions

Refer to pages 112 and 113.

■ Conditions

Inlet air temperature : 25°C (Saturated)
Ambient temperature : 25°C
Inlet air pressure : 0.7 MPa
Outlet air flow rate : Flow gained under conditions of the standard performance.(Refer to page 106.)
Tubing size (O.D. x I.D.) mm: ø12 x ø9

HAA
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AMG

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GD

Single Unit/Standard Dew Point –60°C Specifications

How to Order

IDG 60 S - 03 B -

Flow rate by size

Size	Outlet air flow rate Purge air flow rate (ANR)
60	50/27
75	100/54
100	150/85

Standard dew point temperature

Symbol	Standard dew point (°C)
S	–60

Option

Symbol	Contents
Nil	None (Standard)
P	With fitting for purge air discharge
R	Flow direction (Right → Left)

Note) In the case of two or more options, indicate them alphabetically.

Accessory

Symbol	Description
Nil	None (Standard)
B	With bracket

Note) When symbol B is indicated, a bracket assembly with a part number shown in the table left below is included as an accessory.

Thread type

Symbol	Type
Nil	Rc
N	NPT
F	G

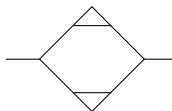
Port size

Symbol	Bore	Size		
		60	75	100
03	3/8	●	●	●
04	1/2	●	●	●



IDG60S

JIS Symbol



Bracket Assembly (Accessory) Part No.

Part no.	Applicable model
BM65	IDG60S, 75S, 100S

* With cap bolts (2 pcs.) and spring washers (2 pcs.)

Standard Specifications/Single Unit Type (Standard dew point: –60°C)

Model		Standard dew point: –60°C		
		IDG60S	IDG75S	IDG100S
Range of operating conditions	Fluid	Compressed air		
	Inlet air pressure (MPa)	0.3 to 1.0		
	Inlet air temperature (°C) ⁽¹⁾	–5 to 50		
	Ambient temperature (°C) ⁽¹⁾	–5 to 50		
Standard performance	Outlet air atmospheric pressure dew point (°C)	–60 ⁽²⁾		
Standard performance conditions	Inlet air flow rate (l/min (ANR)) ⁽³⁾	77	154	235
	Outlet air flow rate (l/min (ANR))	50	100	150
	Purge air flow rate (l/min (ANR)) ⁽⁴⁾	27	54	85
	Inlet air pressure (MPa)	0.7		
	Inlet air temperature (°C)	25		
	Inlet air saturation temperature (°C)	25		
	Ambient temperature (°C)	25		
	Dew point indicator purge air flow rate	1 l/min (ANR) {In the case of Inlet air pressure 0.7 MPa}		
Port size (Nominal size B)		3/8, 1/2		
Mass (kg) (With bracket)		1.50 (1.65)	1.65 (1.80)	1.80 (1.95)

Note 1) No freezing.

Note 2) Refer to the Piping Precautions (Piping material for low dew point air) on page 139.

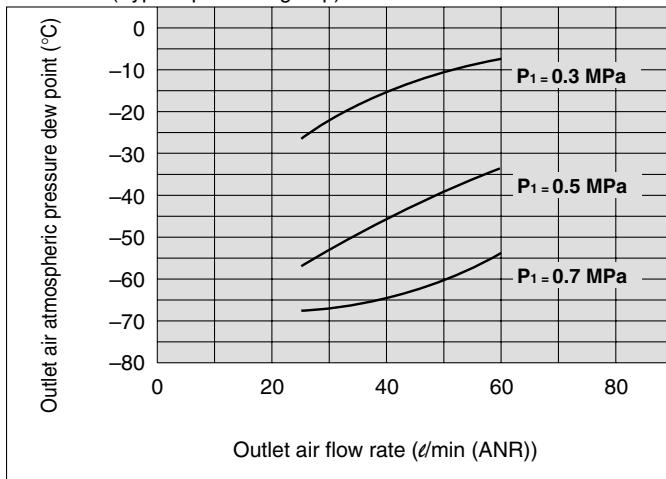
Note 3) ANR indicates the flow rate converted to the value at 20°C under the atmospheric pressure and the state of relative humidity 65%.

Note 4) Includes 1 l/min (ANR) of purge air flow (at 0.7 MPa inlet air pressure) for the dew point indicator.

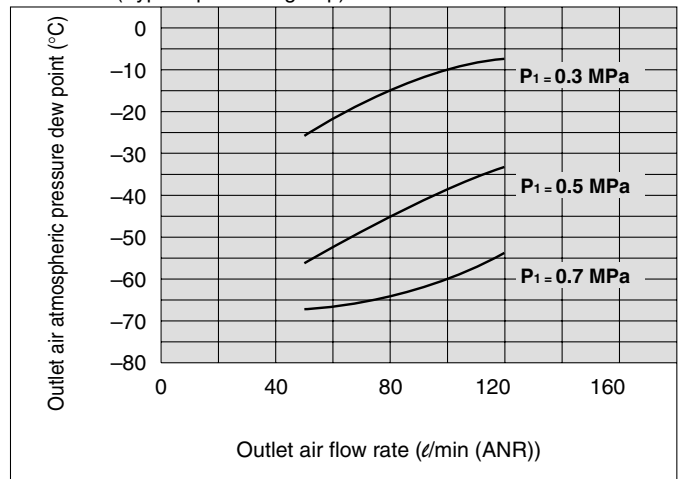
Performance Chart

Conditions: Inlet air temperature 25°C (saturated air), Ambient temperature 25°C, P_1 : Inlet air pressure, Tube for purge air discharge (Option: P): None
 Notice: When using products with fitting for purge air discharge (Option: P) and if the tube length is 5 m or less, an increase of the outlet air dew point is 1°C or less. Product groups inside parentheses in the graph are classification symbols for selecting a model. (Refer to page 93.)

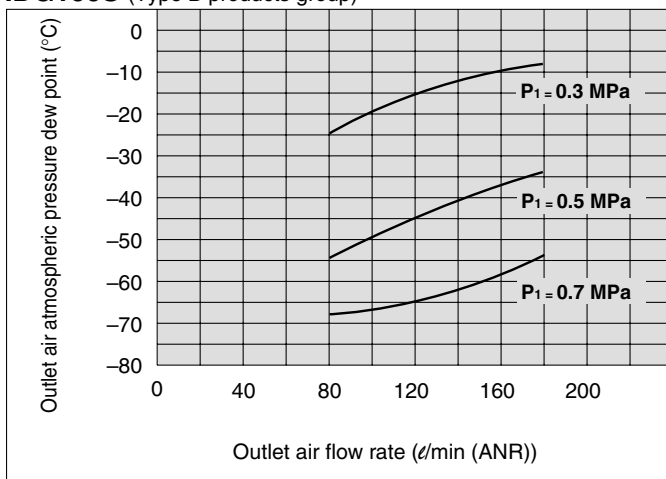
IDG60S (Type B products group)



IDG75S (Type B products group)



IDG100S (Type B products group)



HAA
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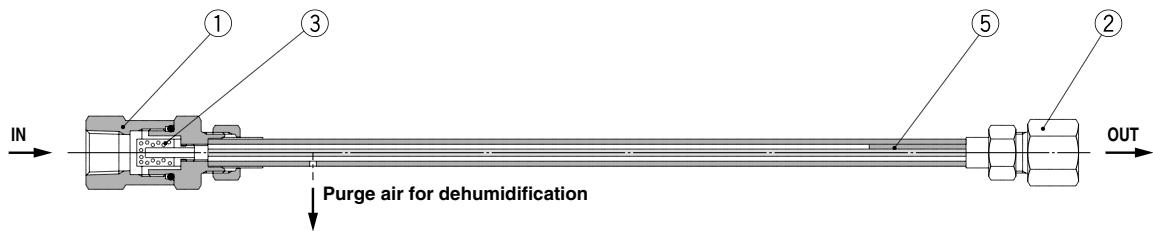
LLB

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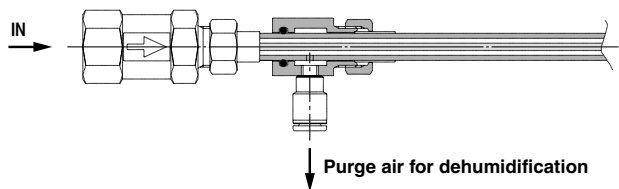
GD

Dimensions

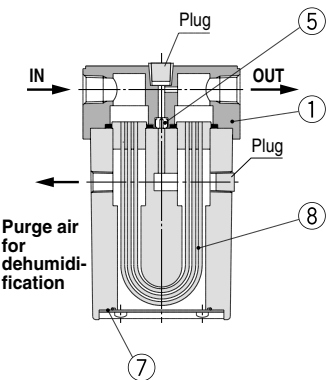
IDG1



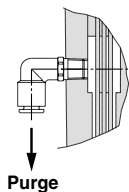
Option specifications
With fitting for purge air discharge (Option: P)



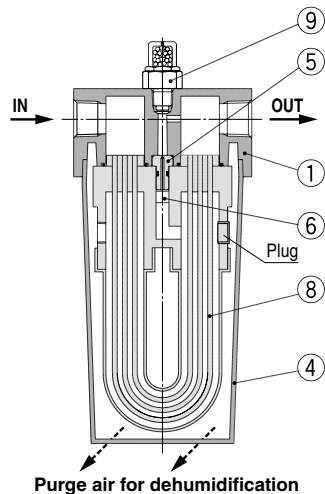
IDG3/5
IDG3H/5H



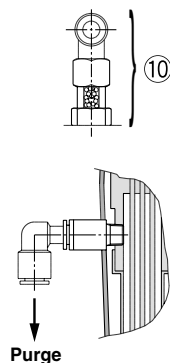
Option specifications
With fitting for purge air discharge (Option: P)



IDG10/20
IDG10H/20H



Option specifications
With fitting for purge air discharge (Option: P)



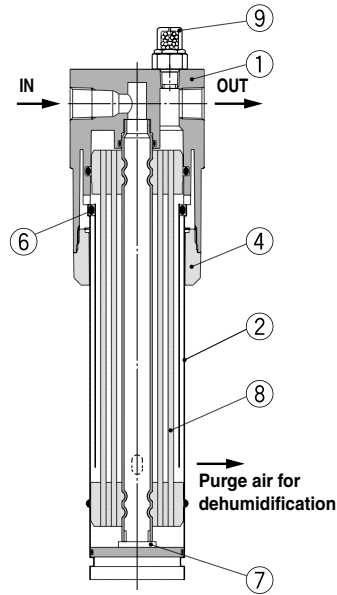
Component Parts

No.	Description	Material					Note
		IDG1	IDG3/3H	IDG5/5H	IDG10/10H	IDG20/20H	
1	Body	Copper alloy	Aluminum alloy				Platinum silver coated (IDG1 is electroless nickel plated.)
2	Female connector	Copper alloy	—				Electroless nickel plated
3	Strainer	Copper alloy	—				
4	Case	—	—	—	Resin		
5	Orifice	Resin	Stainless steel				
6	Silencer	—	—	—	Copper alloy		
7	Gasket	—	NBR		—		

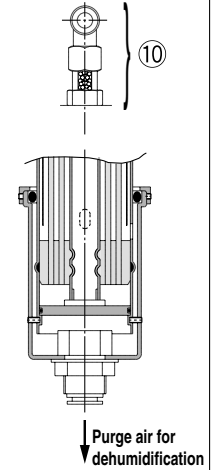
Replacement Parts

No.	Description	Part no.								
		IDG1	IDG3	IDG3H	IDG5	IDG5H	IDG10	IDG10H	IDG20	IDG20H
8	Membrane module kit	—	IDG-EL3	IDG-EL3H	IDG-EL5	IDG-EL5H	IDG-EL10	IDG-EL10H	IDG-EL20	IDG-EL20H
			With Orifice (1 pc.), O-ring (3 pcs.), Gasket (1 pc.)					With Orifice (1 pc.), Silencer (1 pc.), O-ring (4 pcs.)		
9	Dew point indicator kit	—	IDG-DP01 (Option: S)				IDG-DP01			
			With O-ring (1 pc.)							
10		—	IDG-DP01-X001 (Option: PS)				IDG-DP01-X001 (Option: P)			
			With O-ring (1 pc.)							

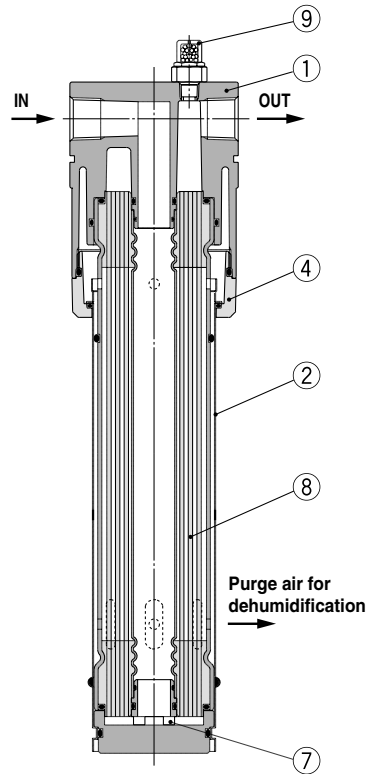
IDG30/50
IDG30H/50H
IDG30L/50L



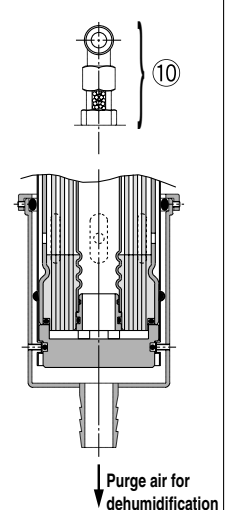
Option specifications
With fitting for purge
air discharge
(Option: P)



IDG60/75/100
IDG60H/75H/100H
IDG60L/75L/100L
IDG60S/75S/100S



Option specifications
With fitting for purge
air discharge
(Option: P)



Component Parts

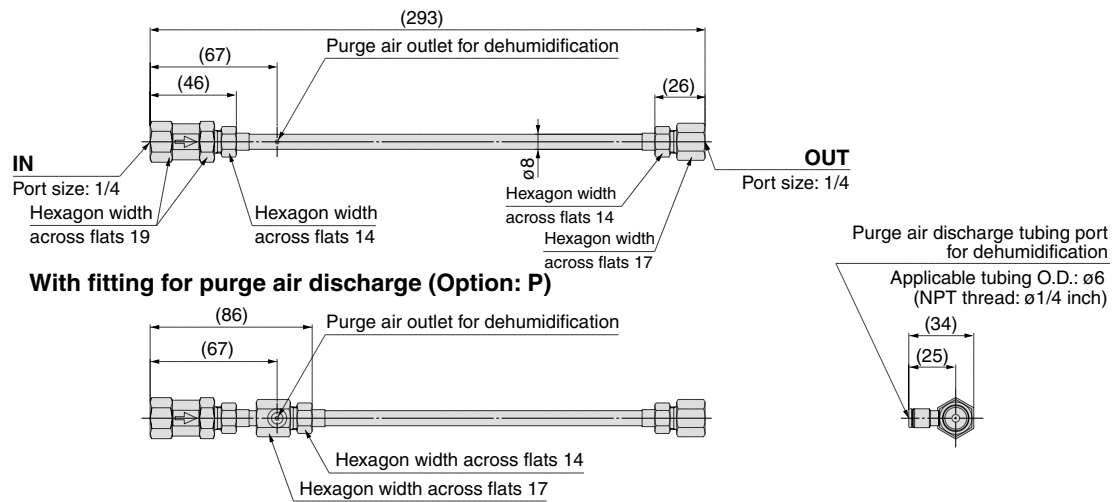
No.	Description	Material								Note
		IDG30/30H/30L	IDG50/50H/50L	IDG60/60H	IDG60L/60S	IDG75/75H	IDG75L/75S	IDG100/100H	IDG100L/100S	
1	Body	Aluminum alloy								Platinum silver coated
2	Case	Stainless steel								
3	Orifice	Stainless steel								
4	Holder	Aluminum alloy	Aluminum							
5	Silencer	—	Resin + Copper alloy							
6	Seal	NBR	—							
7	Spacer	Stainless steel	—	Aluminum alloy	—	Aluminum alloy	—	Aluminum alloy	Aluminum alloy	

Replacement Parts

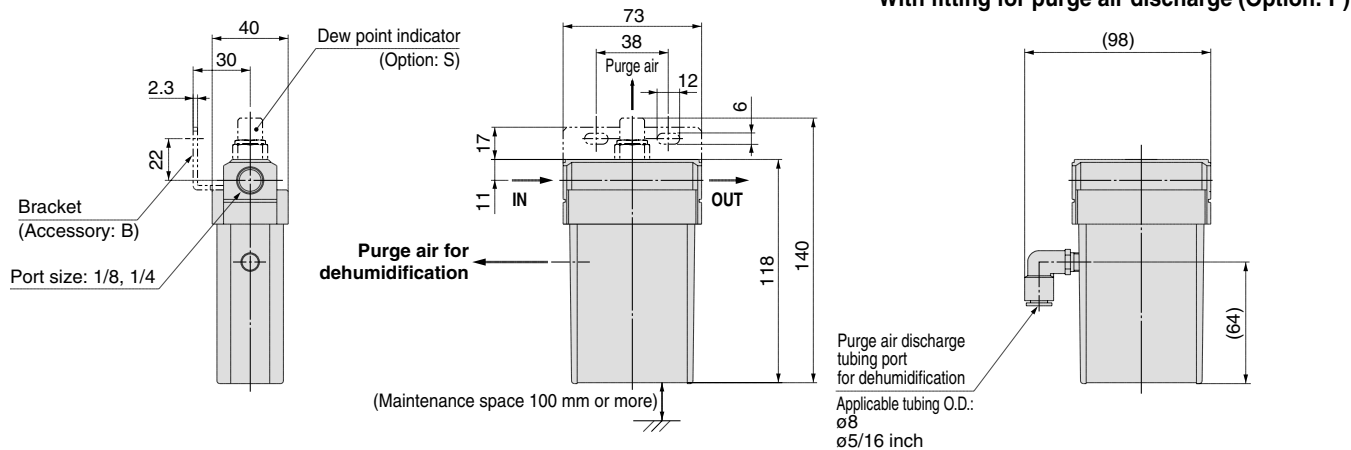
No.	Description	Part no.							
		IDG30/30H/30L	IDG50/50H/50L	IDG60/60H	IDG60L/60S	IDG75/75H	IDG75L/75S	IDG100/100H	IDG100L/100S
8	Membrane module kit	IDG-EL30	IDG-EL50	IDG-EL60	IDG-EL60L	IDG-EL75	IDG-EL75L	IDG-EL100	IDG-EL100L
		With Seal (1 pc.), Spacer (1 pc.)		With O-ring (1 pc.)	With O-ring (3 pcs.), Spacer (1 pc.)		With O-ring (1 pc.)	With O-ring (3 pcs.), Spacer (1 pc.)	With O-ring (1 pc.)
9	Dew point indicator kit	IDG-DP01							
10		IDG-DP01-X001 (Option: P)							

Dimensions

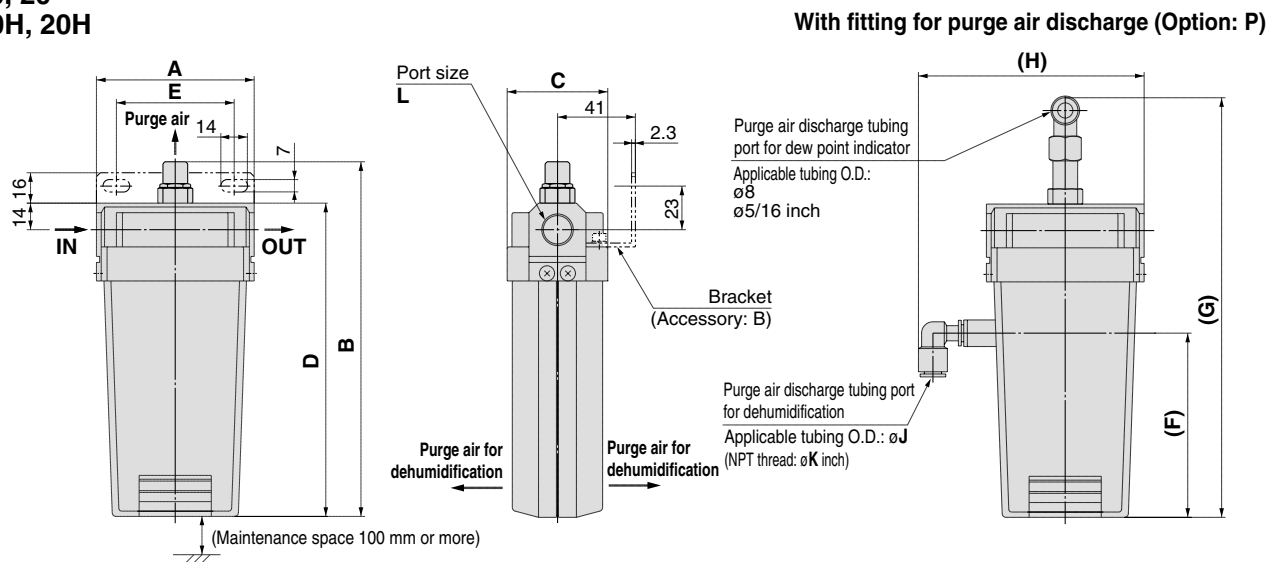
IDG1



IDG3, 5
IDG3H, 5H



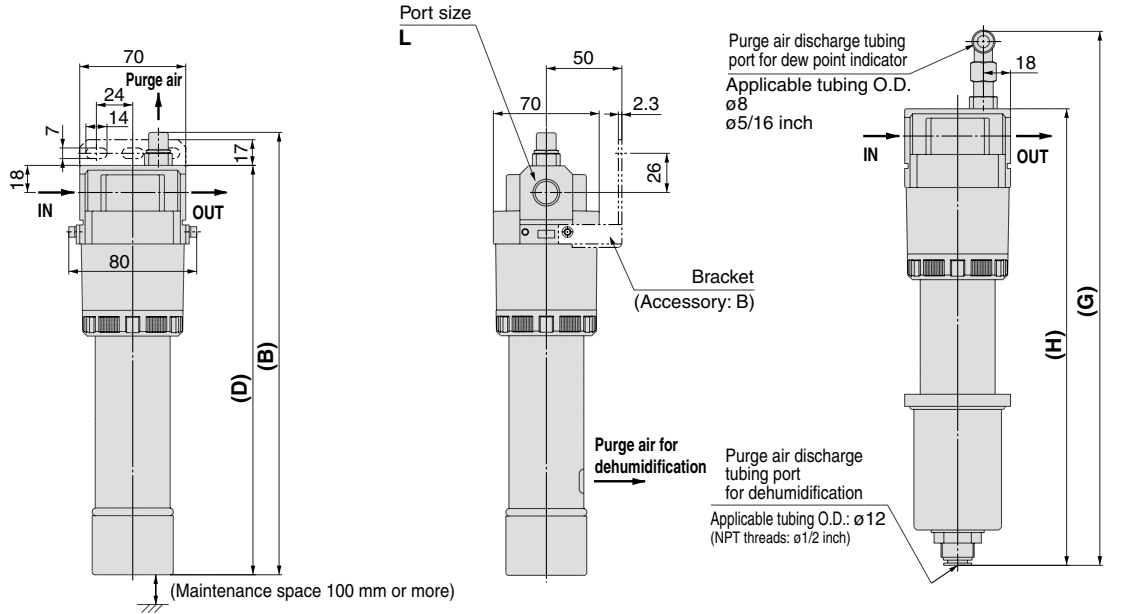
IDG10, 20
IDG10H, 20H



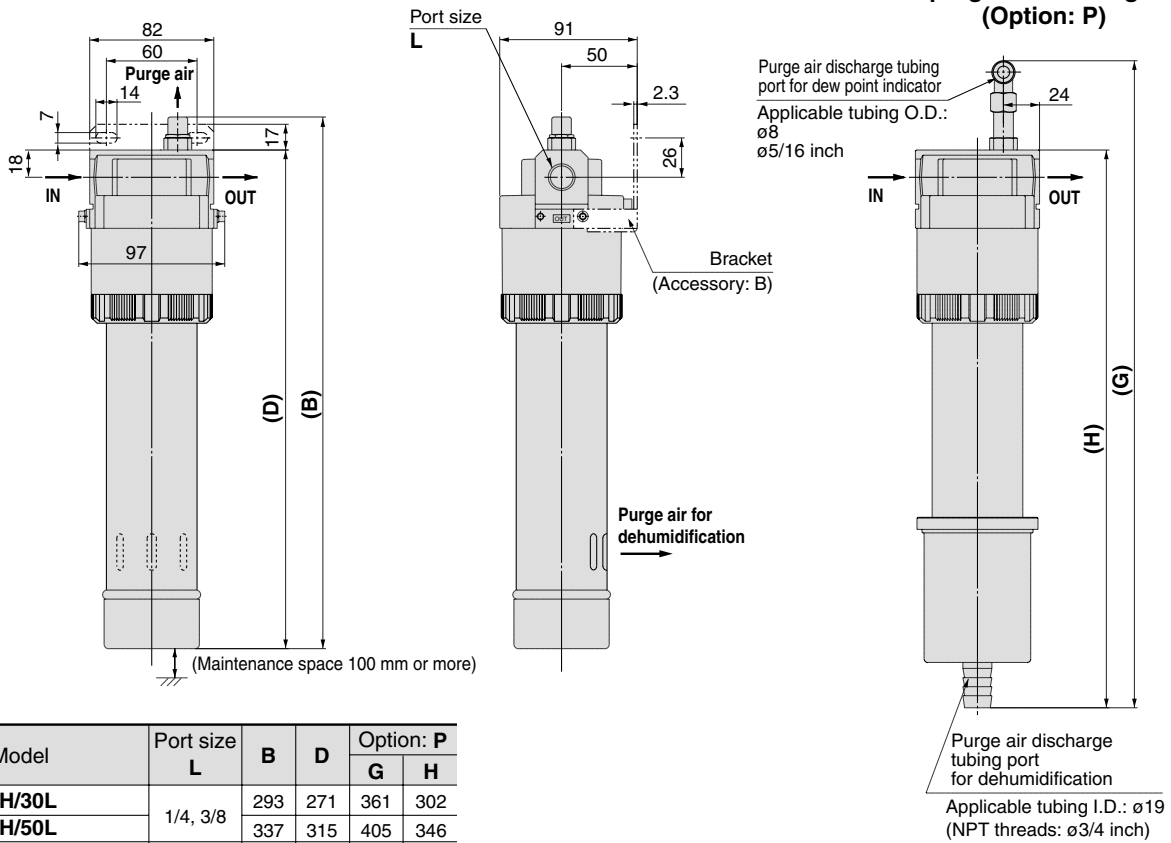
Model	Port size L	A	B	C	D	E	Option: P				
							F	G	H	J	K
IDG10/10H	1/4, 3/8	83	187	53	165	62	97	224	119 [126]	8	5/16
IDG20/20H		113	212	54	190	82	114	249	147 [154]	10	3/8

Values inside [] are for NPT threads.

IDG30/50
IDG30H/50H
IDG30L/50L



IDG60/75/100
IDG60H/75H/100H
IDG60L/75L/100L
IDG60S/75S/100S



Model	Port size L	B	D	Option: P	
				G	H
IDG30/30H/30L	1/4, 3/8	293	271	361	302
IDG50/50H/50L		337	315	405	346
IDG60/60H	3/8, 1/2	352	330	428	369
IDG75/75H/100/100H	1/2				
IDG60L/60S	3/8, 1/2	392	370	468	409
IDG75L/75S		472	450	548	489
IDG100L/100S		542	520	618	559

HAA HAW	AT
IDF IDU	IDFA
	IDFB
	ID
	IDG
	AMG
	AFF
	AM
	AMD
	AMH
	AME
	AMF
	SF
	SFD
	LLB
	AD□
	GD

Membrane Air Dryer Unit Type Series *IDG*

Units (Type M, Type V)

How to Order

IDG 30 M 3 - 03

Size

3
5
10
20
30
50
60
75
100

Standard dew point temperature and air flow rate

Symbol	Standard dew point (°C)	Flow rate by size								Outlet air flow rate Purge air flow rate (l/min(ANR))
		3	5	10	20	30	50	60	75	100
Nil	-20	25/6	50/12	100/25	200/50	300/75	500/125	600/125	750/150	1000/190
H	-15	25/3	50/6	100/11	200/22	300/35	500/60	600/65	750/80	1000/110
L	-40	—	—	—	—	75/25	110/40	170/57	240/80	300/100
S	-60	—	—	—	—	—	50/27	100/54	150/85	—

Component equipment

Symbol	Contents	Description Model	Mist separator	Micro mist separator	Micro mist separator with pre-filter	Membrane air dryer	Regulator
M	With separator	IDG3 to IDG50	●	●	—	●	—
		IDG3H to IDG50H	●	●	—	●	—
		IDG30L/IDG50L	●	●	—	●	—
		IDG60 to IDG100	—	—	●	●	—
		IDG60H to IDG100H	—	—	●	●	—
		IDG60L to IDG100L	●	●	—	●	—
V	With separator regulator	IDG60S to IDG100S	●	●	—	●	—
		IDG3 to IDG50	●	●	—	●	●
		IDG3H to IDG50H	●	●	—	●	●
		IDG30L/IDG50L	●	●	—	●	●
		IDG60 to IDG100	—	—	●	●	●
		IDG60H to IDG100H	—	—	●	●	●
		IDG60L to IDG100L	●	●	—	●	●
		IDG60S to IDG100S	●	●	—	●	●

Note 1) Element service indicator is also available. Refer to "Made to Order Specifications" on page 131.

Note 2) Specifications with micro mist separator is also available. Refer to "Made to Order Specifications" on page 134.

• **Made to Order**

Refer to page 130 for details.

Option *

Symbol	Contents	Size									Note
		3	5	10	20	30	50	60	75	100	
Nil	Standard										• Drain discharge: Combination with standard type (Nil) is not available. • Combination with V type is not available. (1)
P	With fitting for purge air discharge	(2)	(2)	(2)	(2)						
R	Flow direction (Right → Left)										
S	With dew point indicator			Standard equipment							

* In the case of two or more options, indicate them alphabetically.

Note 1) Type V is not applicable because it is equipped with a relief type regulator. (Symbol P is used when it is undesirable for the air to be discharged into the main body of IDG. Therefore, it is not possible to use it in combination with a separator with manual valve, which discharges air around it, or Type V with a relief type regulator.)

Note 2) They are not applicable in case the thread type is N or F. (Because barrel nipples are used for equipment connections.)

• Drain discharge method *

(Mist separator, Micro mist separator, Micro mist separator with prefilter)

Symbol	Drain discharge method	Size and standard dew point					Note
		3, 3H 5, 5H	10, 10H 20, 20H	30, 30H, 30L, 50, 50H, 50L	60, 60H 75, 75H 100, 100H	60L, 60S 75L, 75S 100L, 100S	
Nil	Manual valve	●	●	●	●	●	Combination with Option P is not available.
C	N.C. auto-drain	●	●	●	—	●	Auto drains listed on page 115 are attached.
D	N.O. auto-drain	—	—	●	●	●	
J	Drain guide (Bore 1/4 without valve)	—	●	●	●	●	—

* For the model selection of an auto-drain, refer to "Selection" 4 of Precautions on page 138.

• Port size

Symbol	Bore	Size									
		3	5	10	20	30	50	60	75	100	
01	1/8	●	●	—	—	—	—	—	—	—	—
02	1/4	●	●	●	●	●	●	—	—	—	—
03	3/8	—	—	●	●	●	●	●	Note)	Note)	—
04	1/2	—	—	—	—	—	—	●	●	●	—

Note) Not applicable with the cases of standard dew point -20°C (Nil), -15°C (symbol H).

• Thread type

Symbol	Type
Nil	Rc
N	NPT
F	G

• Equipment connection: Models are applicable for either a modular connection or a nipple connection.

Model Symbol		IDG3	IDG5	IDG10	IDG20	IDG30	IDG50	IDG60				IDG75				IDG100			
		Nil H				Nil H L		Nil	H	L	S	Nil	H	L	S	Nil	H	L	S
		M, V																	
3	Modular connection ⁽¹⁾				●			—		●		—		●		—		●	
2	Nipple connection ⁽²⁾			—				●		—		●		—		●		—	

Note 1) For some of optional specification models, some parts may be connected with nipples (Refer to pages 121 and 122).

Note 2) For some models, some parts may be connected with modules (Refer to page 128).

Standard Specifications/Unit (Type M, Type V) [Standard dew point: -20°C]

Model		Standard dew point: -20°C									
		IDG3M3	IDG5M3	IDG10M3	IDG20M3	IDG30M3	IDG50M3	IDG60M2	IDG75M2	IDG100M2	
		IDG3V3	IDG5V3	IDG10V3	IDG20V3	IDG30V3	IDG50V3	IDG60V2	IDG75V2	IDG100V2	
Component equipment	Mist separator	AFM20		AFM30		AFM40		—			
	Micro mist separator	AFD20		AFD30		AFD40		—			
Range of operating conditions	Micro mist separator with prefilter	—					AMH350C		AMH450C		
	Regulator (Type V only) ⁽¹⁾	AR20 ⁽²⁾		AR25 ⁽²⁾		AR40 ⁽²⁾					
	Fluid	Compressed air									
	Inlet air pressure (MPa)	0.3 to 0.85				0.3 to 1.0					
	Inlet air temperature (°C)	-5 to 55 ⁽³⁾				-5 to 50 ⁽³⁾		5 to 50			
	Ambient temperature (°C)	-5 to 55 ⁽³⁾				-5 to 50 ⁽³⁾		5 to 50			
Standard performance	Outlet air atmospheric pressure dew point (°C)	-20									
Standard performance conditions	Inlet air flow rate (ℓ/min (ANR)) ⁽⁴⁾	31	62	125	250	375	625	725	900	1190	
	Outlet air flow rate (ℓ/min (ANR))	25	50	100	200	300	500	600	750	1000	
	Purge air flow rate (ℓ/min (ANR)) ⁽⁵⁾	6	12	25	50	75	125	125	150	190	
	Inlet air pressure (MPa)	0.7									
	Inlet air temperature (°C)	25									
	Inlet air saturation temperature (°C)	25									
	Ambient temperature (°C)	25									
Dew point indicator purge air flow rate		1 ℓ/min (ANR) {In the case of Inlet air pressure 0.7 MPa}									
Regulator construction (Type V only)		Relief type									
Port size (Nominal size B)		1/8, 1/4		1/4, 3/8				3/8, 1/2		1/2	
Mass (kg) (With auto-drain)	Type M	0.83 (0.90)		1.21 (1.30)	1.44 (1.53)	2.23 (2.33)	2.26 (2.36)	2.55 (2.65)	3.10 (3.20)	3.15 (3.25)	
	Type V	1.28 (1.35)		1.67 (1.76)	1.90 (1.99)	3.34 (3.45)	3.37 (3.48)	3.74 (3.84)	4.29 (4.39)	4.34 (4.44)	

Note 1) For flow characteristics and pressure characteristics of regulator, refer to pages 349 and 350.

Note 2) It will come with Option E (With square-shaped, embedded type of a pressure regulator). Refer to pages 346 and 355 for details of regulators such as set pressure range, etc.

Note 3) No freezing.

Note 4) ANR indicates the flow rate converted to the value at 20°C under the atmospheric pressure and the state of relative humidity 65%.

Note 5) Includes 1 ℓ/min (ANR) of purge air flow (at 0.7 MPa inlet air pressure) for the dew point indicator (except IDG3M2/3V2/5M2/5V2).

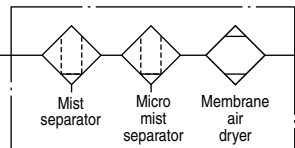
Note 6) When highly purified air is required, refer to "Caution on Design 2" on page 138.



JIS Symbol

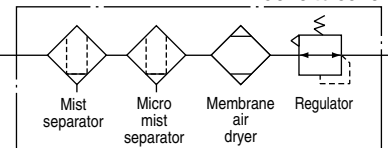
(Type M)

IDG3M3 to 50M3

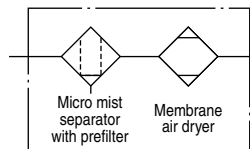


(Type V)

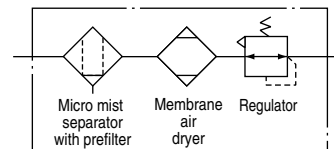
IDG3V3 to 50V3



IDG60M2 to 100M2



IDG60V2 to 100V2



Auto-drain, Bowl Assembly, Pressure Gauge Part No.

Applicable models		IDG3M3	IDG5M3	IDG10M3	IDG20M3	IDG30M3	IDG50M3	IDG60M2	IDG75M2	IDG100M2
Description		IDG3V3	IDG5V3	IDG10V3	IDG20V3	IDG30V3	IDG50V3	IDG60V2	IDG75V2	IDG100V2
Float type auto-drain	N.C.	AD27-C		AD37		AD47		—	—	—
	N.O.	—	—	—	—	AD48		—	—	—
Bowl assembly (N.O.)		—	—	—	—	—	—	AMH-CA350C-D	AMH-CA450C-D	
Pressure gauge (Type V only)		GC3-10AS								

Replacement Parts (Mist separator, Micro mist separator, Element for micro mist separator with prefilter)

Description	Model	AFM20	AFD20	AFM30	AFD30	AFM40	AFD40	AMH350C	AMH450C
Element assembly		AFM20P-060AS	AFD20P-060AS	AFM30P-060AS	AFD30P-060AS	AFM40P-060AS	AFD40P-060AS	AMH-EL350	AMH-EL450

Please refer to pages 110 and 111 for the replacement parts of a membrane air dryer.

● For flow characteristics, refer to pages 119 and 120, and for external dimensions, refer to pages 121 to 129.

Standard Specifications/Unit (Type M, Type V) [Standard dew point: -15°C]

Model		Standard dew point: −15°C								
		IDG3HM3	IDG5HM3	IDG10HM3	IDG20HM3	IDG30HM3	IDG50HM3	IDG60HM2	IDG75HM2	IDG100HM2
		IDG3HV3	IDG5HV3	IDG10HV3	IDG20HV3	IDG30HV3	IDG50HV3	IDG60HV2	IDG75HV2	IDG100HV2
Component equipment	Mist separator	AFM20		AFM30		AFM40		—		
	Micro mist separator	AFD20		AFD30		AFD40		—		
	Micro mist separator with prefilter	—					AMH350C		AMH450C	
	Regulator (Type V only) ⁽¹⁾	AR20 ⁽²⁾		AR25 ⁽²⁾		AR40 ⁽²⁾				
Range of operating conditions	Fluid	Compressed air								
	Inlet air pressure (MPa)	0.3 to 0.85				0.3 to 1.0				
	Inlet air temperature (°C)	−5 to 55 ⁽³⁾				−5 to 50 ⁽³⁾		5 to 50		
	Ambient temperature (°C)	−5 to 55 ⁽³⁾				−5 to 50 ⁽³⁾		5 to 50		
Standard performance	Outlet air atmospheric pressure dew point (°C)	−15								
Standard performance conditions	Inlet air flow rate (ℓ/min (ANR)) ⁽⁴⁾	28	56	111	222	335	560	665	830	1110
	Outlet air flow rate (ℓ/min (ANR))	25	50	100	200	300	500	600	750	1000
	Purge air flow rate (ℓ/min (ANR)) ⁽⁵⁾	3	6	11	22	35	60	65	80	110
	Inlet air pressure (MPa)	0.7								
	Inlet air temperature (°C)	25								
	Inlet air saturation temperature (°C)	25								
	Ambient temperature (°C)	25								
Dew point indicator purge air flow rate		1 ℓ/min (ANR) {In the case of Inlet air pressure 0.7 MPa}								
Regulator construction (Type V only)		Relief type								
Port size (Nominal size B)		1/8, 1/4		1/4, 3/8			3/8, 1/2		1/2	
Mass (kg) (With auto-drain)	Type M	0.83 (0.90)		1.21 (1.30)	1.44 (1.53)	2.23 (2.33)	2.26 (2.36)	2.55 (2.65)	3.10 (3.20)	3.15 (3.25)
	Type V	1.28 (1.35)		1.67 (1.76)	1.90 (1.99)	3.34 (3.45)	3.37 (3.48)	3.74 (3.84)	4.29 (4.39)	4.34 (4.44)

Note 1) For flow characteristics and pressure characteristics of regulator, refer to pages 349 and 350.

Note 2) It will come with Option E (With square-shaped, embedded type of a pressure regulator). Refer to pages 346 and 355 for details of regulators such as set pressure range, etc.

Note 3) No freezing.

Note 4) ANR indicates the flow rate converted to the value at 20°C under the atmospheric pressure and the state of relative humidity 65%.

Note 5) Includes 1 ℓ/min (ANR) of purge air flow (at 0.7 MPa inlet air pressure) for the dew point indicator (except IDG3HM2/3HV2/5HM2/5HV2).

Note 6) When highly purified air is required, refer to "Caution on Design 2" on page 138.



IDG10HV3

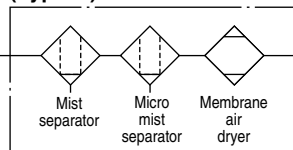
IDG30HV3



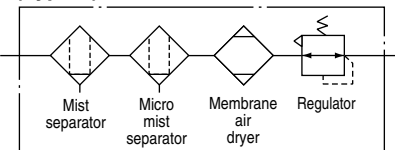
IDG60HM2

JIS Symbol

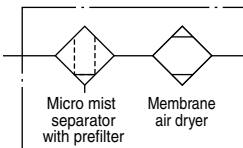
(Type M) IDG3HM3 to 50HM3



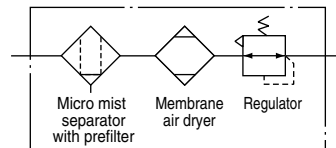
(Type V) IDG3HV3 to 50HV3



IDG60HM2 to 100HM2



IDG60HV2 to 100HV2



Auto-drain, Bowl Assembly, Pressure Gauge Part No.

Applicable model Description		IDG3HM3	IDG5HM3	IDG10HM3	IDG20HM3	IDG30HM3	IDG50HM3	IDG60HM2	IDG75HM2	IDG100HM2
		IDG3HV3	IDG5HV3	IDG10HV3	IDG20HV3	IDG30HV3	IDG50HV3	IDG60HV2	IDG75HV2	IDG100HV2
Float type auto-drain	N.C.	AD27-C		AD37		AD47		—	—	—
	N.O.	—	—	—	—	AD48		—	—	—
Bowl assembly		—	—	—	—	—	—	AMH-CA350C-D	AMH-CA450C-D	
Pressure gauge (Type V only)		GC3-10AS								

Replacement Parts (Mist separator, Micro mist separator, Element for micro mist separator with prefilter)

Description	Model	AFM20	AFD20	AFM30	AFD30	AFM40	AFD40	AMH350C	AMH450C
Element assembly		AFM20P-060AS	AFD20P-060AS	AFM30P-060AS	AFD30P-060AS	AFM40P-060AS	AFD40P-060AS	AMH-EL350	AMH-EL450

Please refer to pages 110 and 111 for the replacement parts of a membrane air dryer.

● For flow characteristics, refer to pages 119 and 120, and for external dimensions, refer to pages 121 to 129.

Standard Specifications/Unit (Type M, Type V) [Standard dew point: -40°C]

Model		Standard dew point: -40°C				
		IDG30LM3 IDG30LV3	IDG50LM3 IDG50LV3	IDG60LM3 IDG60LV3	IDG75LM3 IDG75LV3	IDG100LM3 IDG100LV3
Component equipment	Mist separator	AFM40				
	Micro mist separator	AFD40				
	Regulator (Type V only) ⁽¹⁾	AR40 ⁽²⁾				
Range of operating conditions	Fluid	Compressed air				
	Inlet air pressure (MPa)	0.3 to 1.0				
	Inlet air temperature (°C)	-5 to 50 ⁽³⁾				
	Ambient temperature (°C)	-5 to 50 ⁽³⁾				
Standard performance	Outlet air atmospheric pressure dew point (°C)	-40 ⁽⁴⁾				
Standard performance conditions	Inlet air flow rate (ℓ/min (ANR)) ⁽⁵⁾	100	150	227	320	400
	Outlet air flow rate (ℓ/min (ANR))	75	110	170	240	300
	Purge air flow rate (ℓ/min (ANR)) ⁽⁶⁾	25	40	57	80	100
	Inlet air pressure (MPa)	0.7				
	Inlet air temperature (°C)	25				
	Inlet air saturation temperature (°C)	25				
	Ambient temperature (°C)	25				
Dew point indicator purge air flow rate		1 ℓ/min (ANR) {In the case of Inlet air pressure 0.7 MPa}				
Regulator construction (Type V only)		Relief type				
Port size (Nominal size B)		1/4, 3/8		3/8, 1/2		
Mass (kg) (With auto-drain)	Type M	2.23 (2.33)	2.26 (2.36)	2.99 (3.09)	3.14 (3.24)	3.29 (3.39)
	Type V	3.34 (3.45)	3.37 (3.48)	4.10 (4.20)	4.25 (4.35)	4.40 (4.50)

Note 1) For flow characteristics and pressure characteristics of regulator, refer to pages 349 and 350.

Note 2) It will come with Option E (With square-shaped, embedded type of a pressure regulator). Refer to pages 346 and 355 for details of regulators such as set pressure range, etc.

Note 3) No freezing

Note 4) Refer to the Piping Precautions (Piping material for low dew point air) on page 139.

Note 5) ANR indicates the flow rate converted to the value at 20°C under the atmospheric pressure and the state of relative humidity 65%.

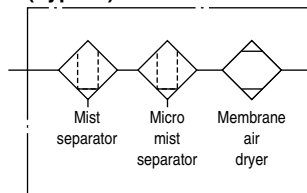
Note 6) Includes 1 ℓ/min (ANR) of purge air flow (at 0.7 MPa inlet air pressure) for the dew point indicator.

Note 7) When highly purified air is required, refer to "Caution on Design 2" on page 138.

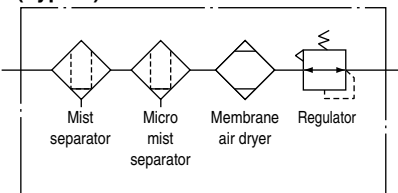


IDG30LV3

JIS Symbol
(Type M)



(Type V)



IDG60LV3



IDG60LM3

Auto-drain, Pressure Gauge Part No.

Applicable model		IDG30LM3 IDG30LV3	IDG50LM3 IDG50LV3	IDG60LM3 IDG60LV3	IDG75LM3 IDG75LV3	IDG100LM3 IDG100LV3
Description	Float type	AD47				
	auto-drain	AD48				
Pressure gauge		GC3-10AS				

Replacement Parts (Mist separator, Element for micro mist separator)

Model		AFM40	AFD40
Description			
Element assembly		AFM40P-060AS	AFD40P-060AS

Refer to pages 110 and 111 for the replacement parts of a membrane air dryer.

● For flow characteristics, refer to pages 119 and 120 for external dimensions, refer to pages 123, 125, 127, and 129.

Standard Specifications/Unit (Type M, Type V) [Standard dew point: -60°C]

Model		Standard dew point: -60°C		
		IDG60SM3 IDG60SV3	IDG75SM3 IDG75SV3	IDG100SM3 IDG100SV3
Component equipment	Mist separator	AFM40		
	Micro mist separator	AFD40		
	Regulator (Type V only) ⁽¹⁾	AR40 ⁽²⁾		
Range of operating conditions	Fluid	Compressed air		
	Inlet air pressure (MPa)	0.3 to 1.0		
	Inlet air temperature (°C)	-5 to 50 ⁽³⁾		
	Ambient temperature (°C)	-5 to 50 ⁽³⁾		
Standard performance	Outlet air atmospheric pressure dew point (°C)	-60 ⁽⁴⁾		
Standard performance conditions	Inlet air flow rate (ℓ/min (ANR)) ⁽⁵⁾	77	154	235
	Outlet air flow rate (ℓ/min (ANR))	50	100	150
	Purge air flow rate (ℓ/min (ANR)) ⁽⁶⁾	27	54	85
	Inlet air pressure (MPa)	0.7		
	Inlet air temperature (°C)	25		
	Inlet air saturation temperature (°C)	25		
	Ambient temperature (°C)	25		
Dew point indicator purge air flow rate		1 ℓ/min (ANR) {In the case of Inlet air pressure 0.7 MPa}		
Regulator construction (Type V only)		Relief type		
Port size (Nominal size B)		3/8, 1/2		
Mass (kg) (With auto-drain)	Type M	2.99 (3.09)	3.14 (3.24)	3.29 (3.39)
	Type V	4.10 (4.20)	4.25 (4.35)	4.40 (4.50)

Note 1) For flow characteristics and pressure characteristics of regulator, refer to pages 349 and 350.

Note 2) It will come with Option E (With square-shaped, embedded type of a pressure regulator). Refer to pages 346 and 355 for details of regulators such as set pressure range, etc.

Note 3) No freezing

Note 4) Refer to the Piping Precautions (Piping material for low dew point air) on page 139.

Note 5) ANR indicates the flow rate converted to the value at 20°C under the atmospheric pressure and the state of relative humidity 65%.

Note 6) Includes 1 ℓ/min (ANR) of purge air flow (at 0.7 MPa inlet air pressure) for the dew point indicator.

Note 7) When highly purified air is required, refer to "Caution on Design 2" on page 138.

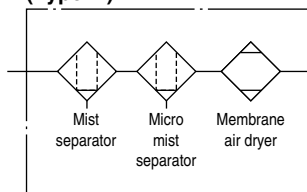


IDG60SV3

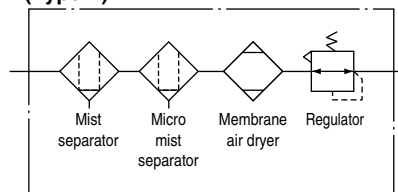


IDG60SM3

JIS Symbol
(Type M)



(Type V)



Auto-drain, Pressure Gauge Part No.

Applicable model		IDG60SM3 IDG60SV3	IDG75SM3 IDG75SV3	IDG100SM3 IDG100SV3
Description	N.C.	AD47		
	N.O.	AD48		
Pressure gauge		GC3-10AS		

Replacement Parts (Mist separator, Element for micro mist separator)

Description	Model	AFM40	AFD40
Element assembly		AFM40P-060AS	AFD40P-060AS

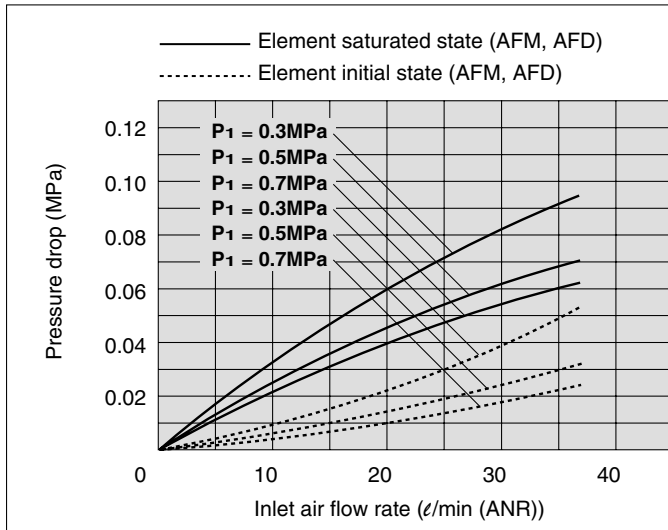
Refer to pages 110 and 111 for the replacement parts of a membrane air dryer.

Flow Characteristics

Conditions: Inlet air temperature 25°C, P_1 : Inlet air pressure

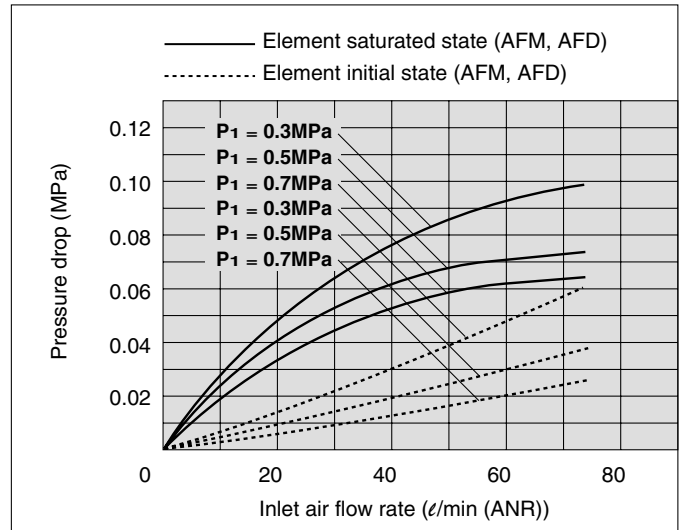
IDG3M3/3V3 (Standard dew point: -20°C)

IDG3HM3/3HV3 (Standard dew point: -15°C)



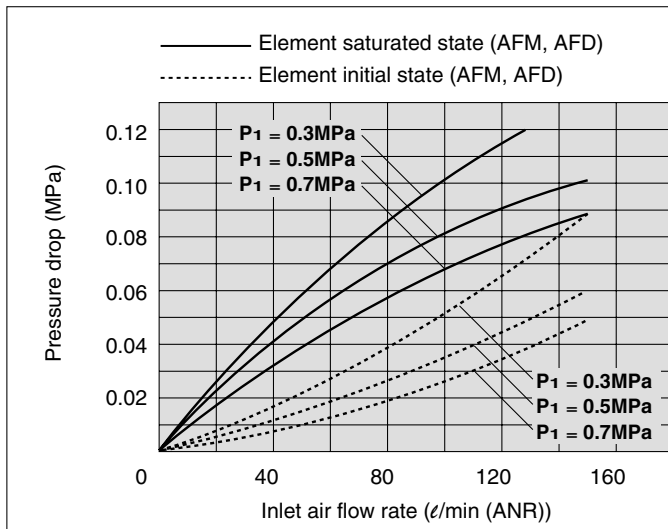
IDG5M3/5V3 (Standard dew point: -20°C)

IDG5HM3/5HV3 (Standard dew point: -15°C)



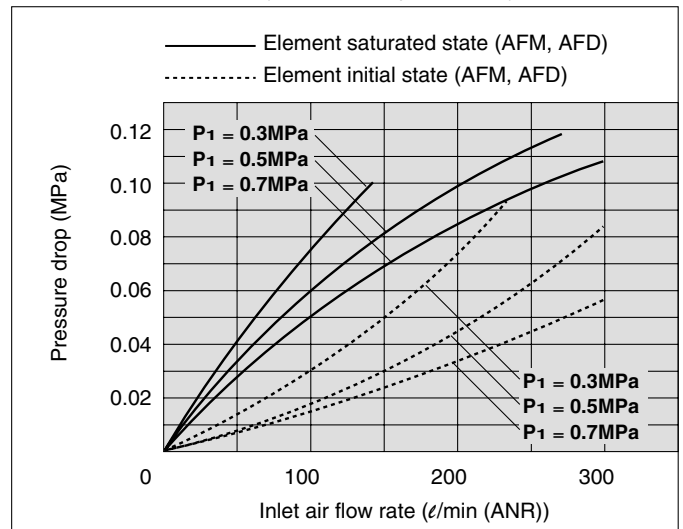
IDG10M3/10V3 (Standard dew point: -20°C)

IDG10HM3/10HV3 (Standard dew point: -15°C)



IDG20M3/20V3 (Standard dew point: -20°C)

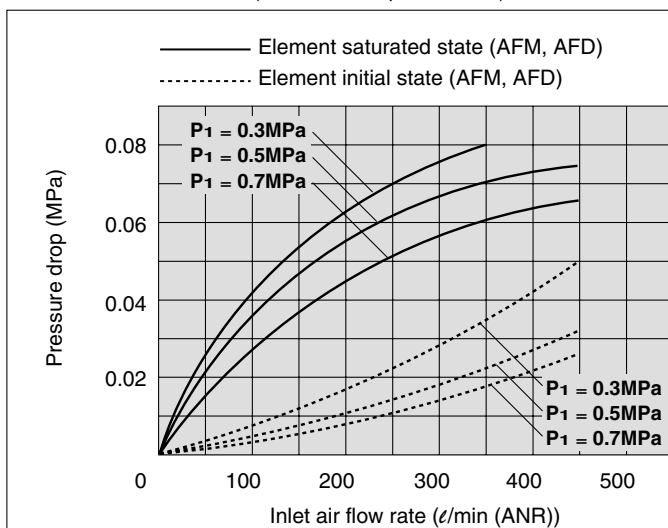
IDG20HM3/20HV3 (Standard dew point: -15°C)



IDG30M3/30V3 (Standard dew point: -20°C)

IDG30HM3/30HV3 (Standard dew point: -15°C)

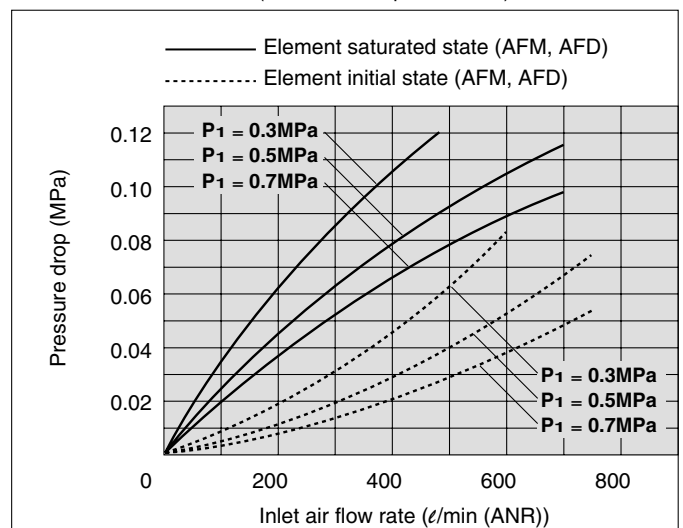
IDG30LM3/30LV3 (Standard dew point: -40°C)



IDG50M3/50V3 (Standard dew point: -20°C)

IDG50HM3/50HV3 (Standard dew point: -15°C)

IDG50LM3/50LV3 (Standard dew point: -40°C)



HAA
HAW

AT

IDF
IDU

IDFA

IDFB

ID

IDG

AMG

AFF

AM

AMD

AMH

AME

AMF

SF

SFD

LLB

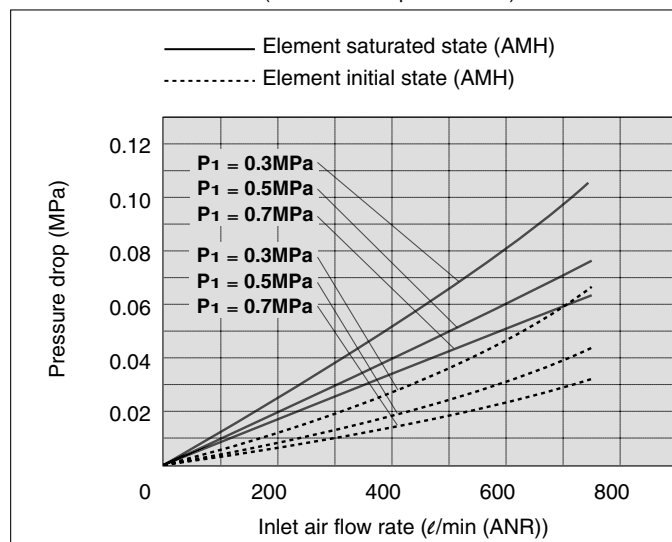
AD□

GD

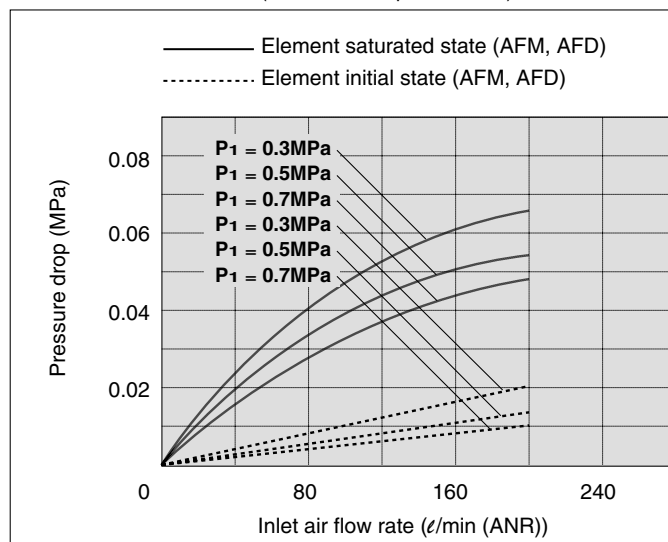
Flow Characteristics

Conditions: Inlet air temperature 25°C, P₁: Inlet air pressure

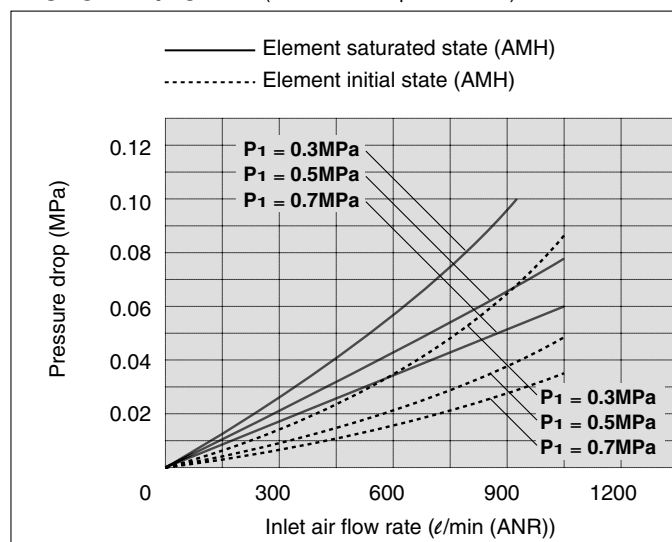
IDG60M2/60V2 (Standard dew point: -20°C)
IDG60HM2/60HV2 (Standard dew point: -15°C)



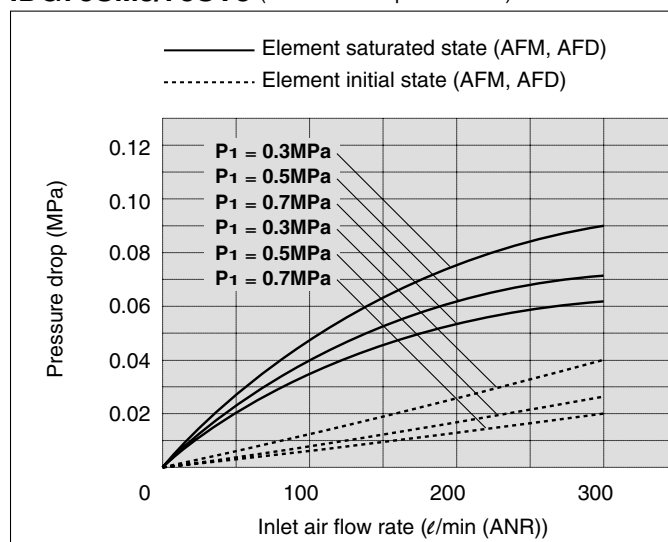
IDG60LM3/60LV3 (Standard dew point: -40°C)
IDG60SM3/60SV3 (Standard dew point: -60°C)



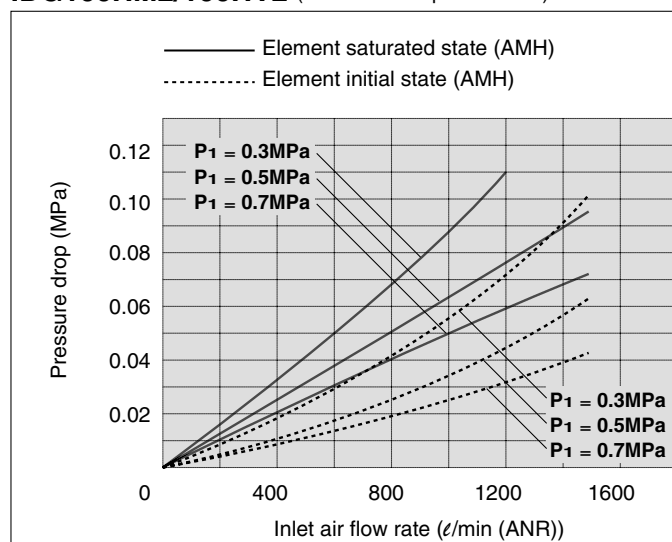
IDG75M2/75V2 (Standard dew point: -20°C)
IDG75HM2/75HV2 (Standard dew point: -15°C)



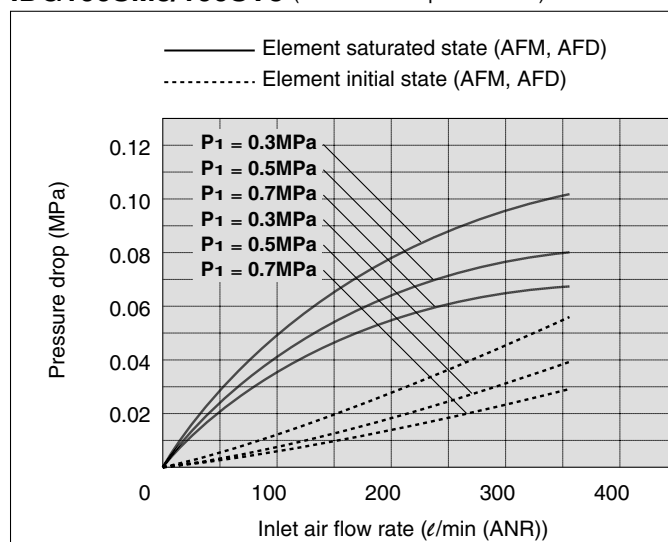
IDG75LM3/75LV3 (Standard dew point: -40°C)
IDG75SM3/75SV3 (Standard dew point: -60°C)



IDG100M2/100V2 (Standard dew point: -20°C)
IDG100HM2/100HV2 (Standard dew point: -15°C)

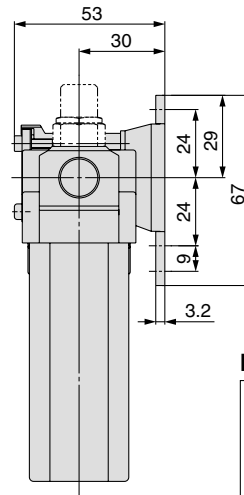
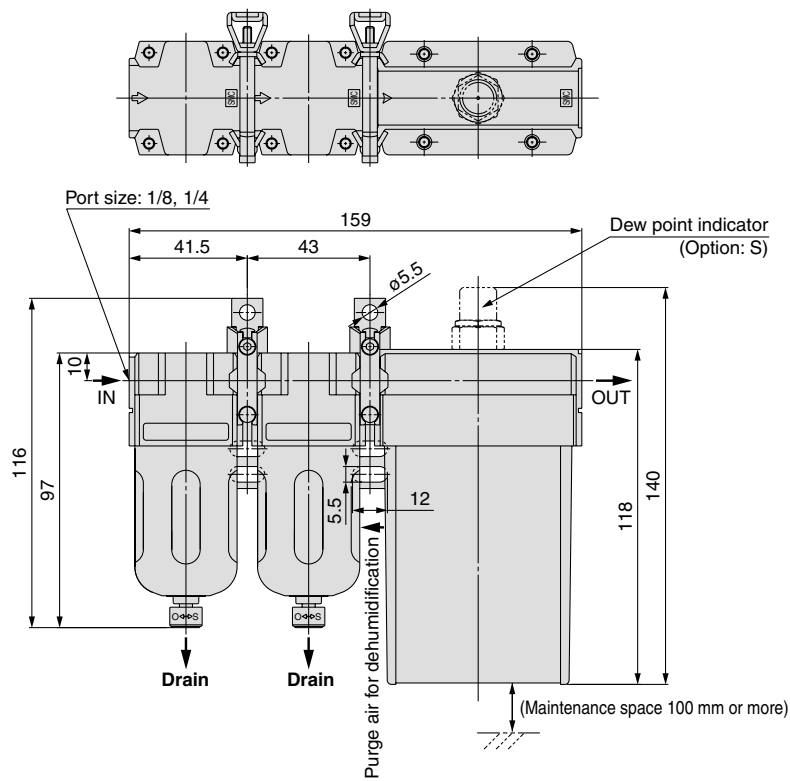


IDG100LM3/100LV3 (Standard dew point: -40°C)
IDG100SM3/100SV3 (Standard dew point: -60°C)



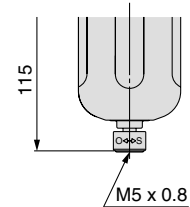
Dimensions (Type M)

IDG3M3/5M3
IDG3HM3/5HM3

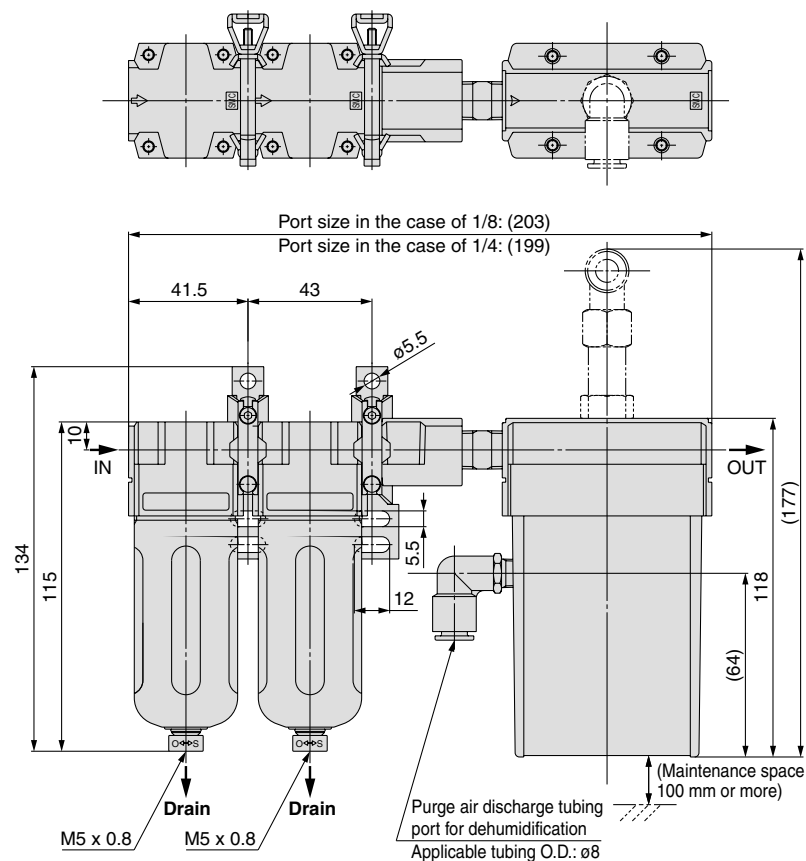


Drain Discharge

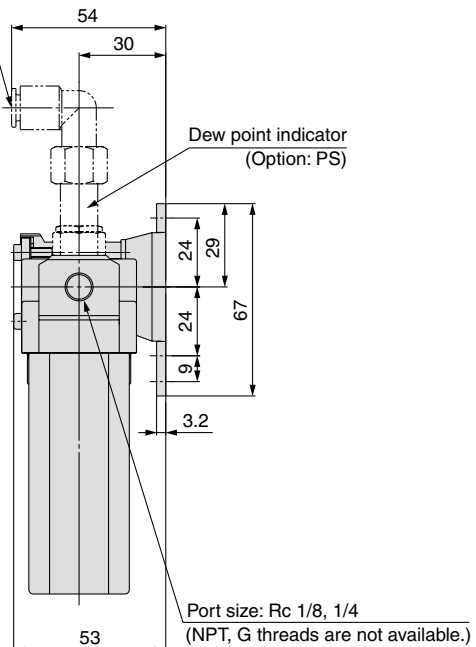
With float type auto-drain (N.C.)



With fittings for purge air discharge (Option: P)



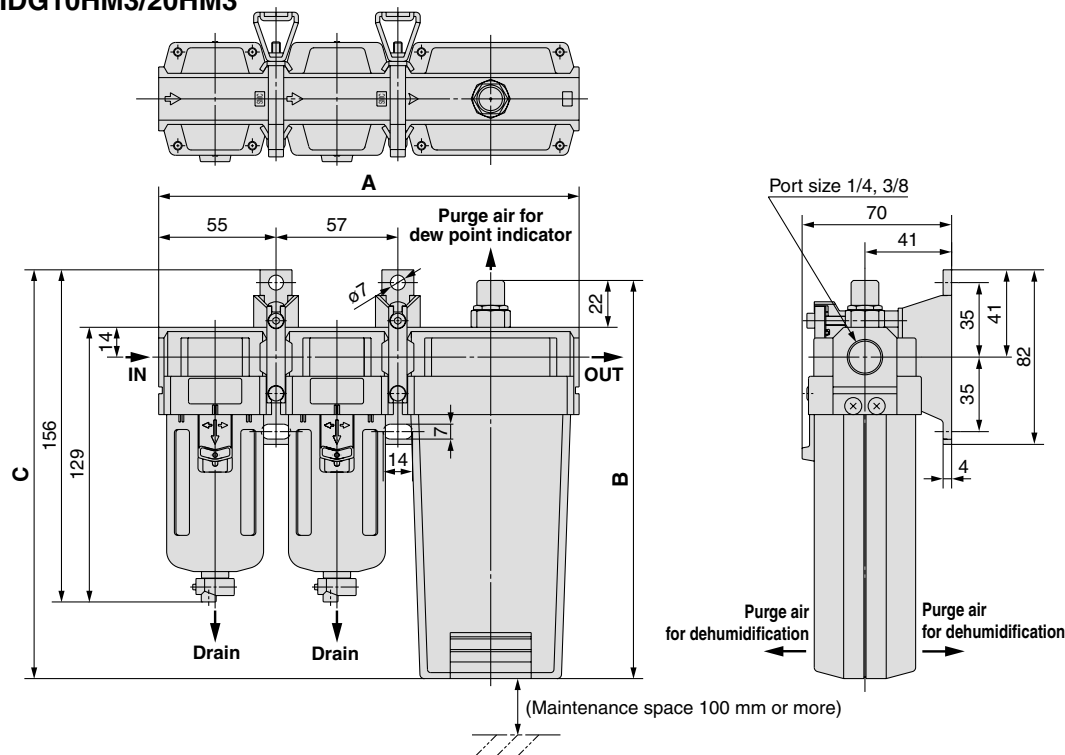
Purge air discharge tubing port
for dew point indicator
Applicable tubing O.D.: ø8



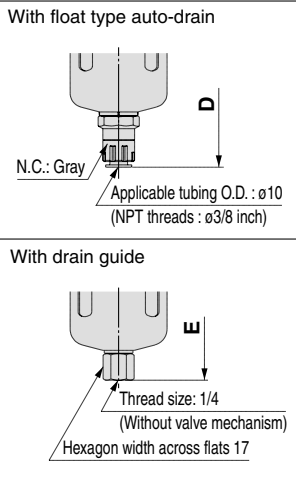
Series **IDG**

Dimensions (Type M)

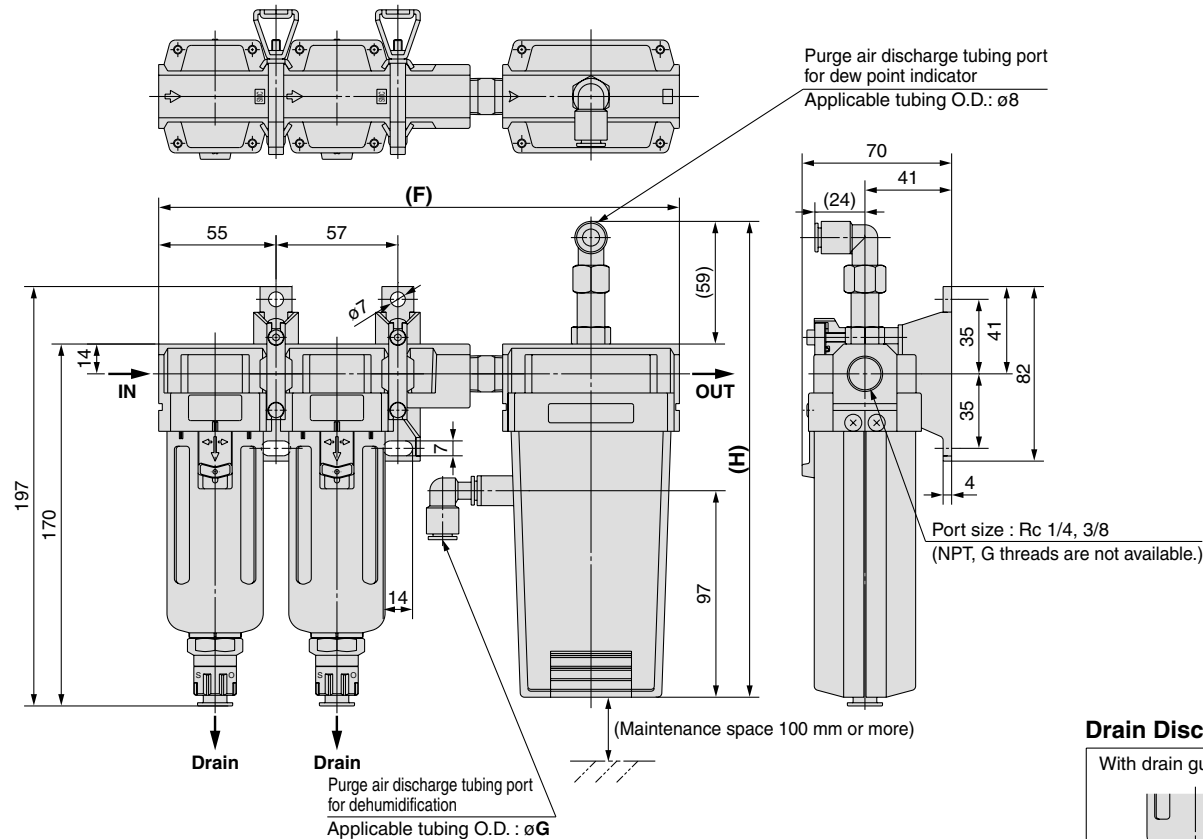
IDG10M3/20M3
IDG10HM3/20HM3



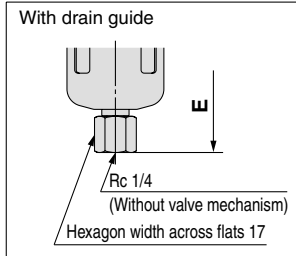
Drain Discharge



With fitting for purge air discharge (Option: P)

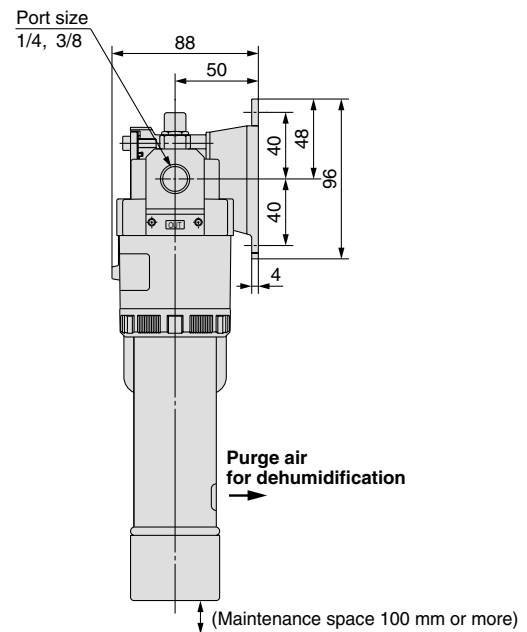
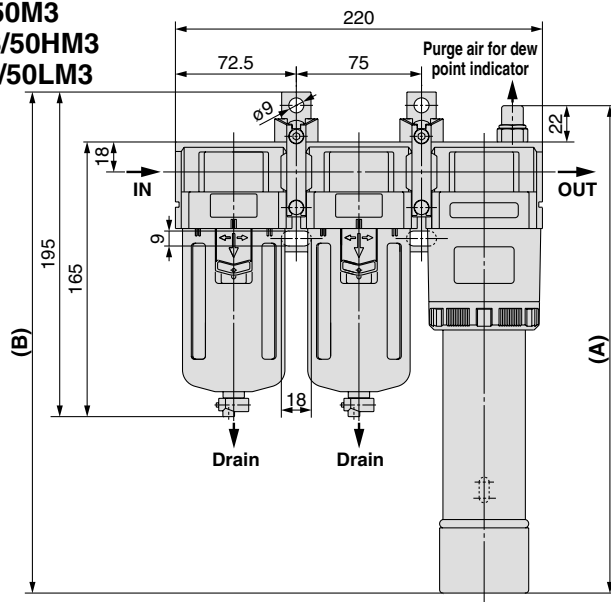


Drain Discharge

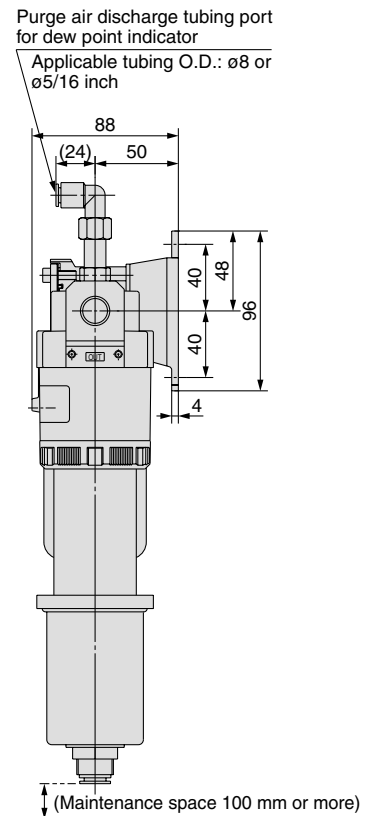
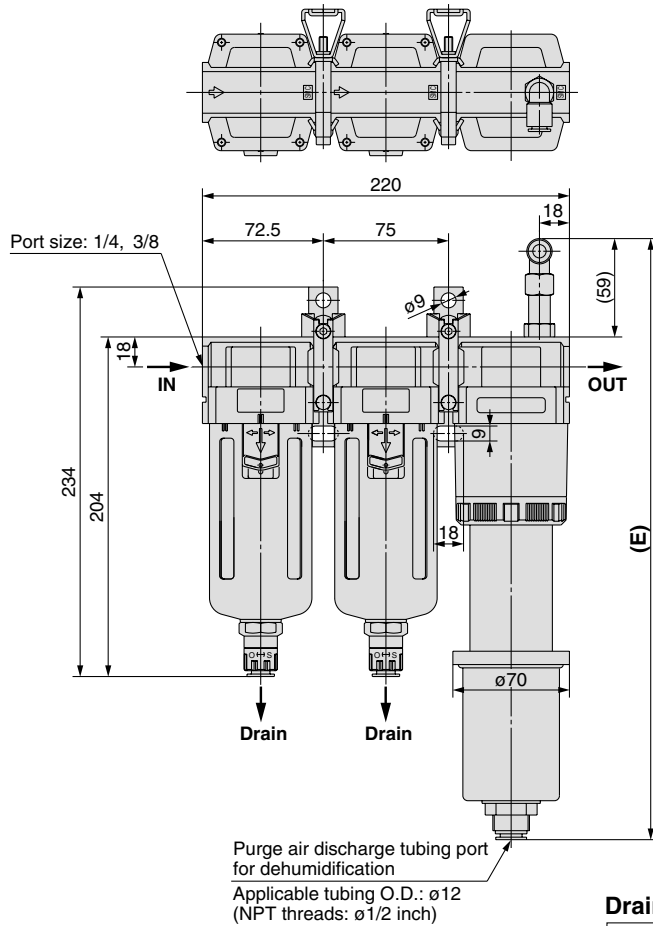


Model	A	B	C	With float type auto-drain D	With drain guide E	Option: P			
						F	G	H	
IDG10M3/10HM3	197	187	192	170	136	Port size: 1/4 239	Port size: 3/8 241	8	224
IDG20M3/20HM3	227	212	217			269	271	10	249

**IDG30M3/50M3
IDG30HM3/50HM3
IDG30LM3/50LM3**

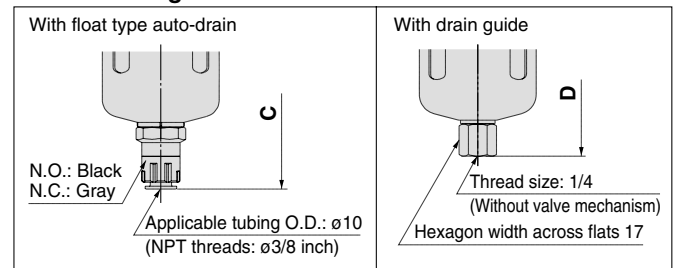


With fitting for purge air discharge (Option: P)



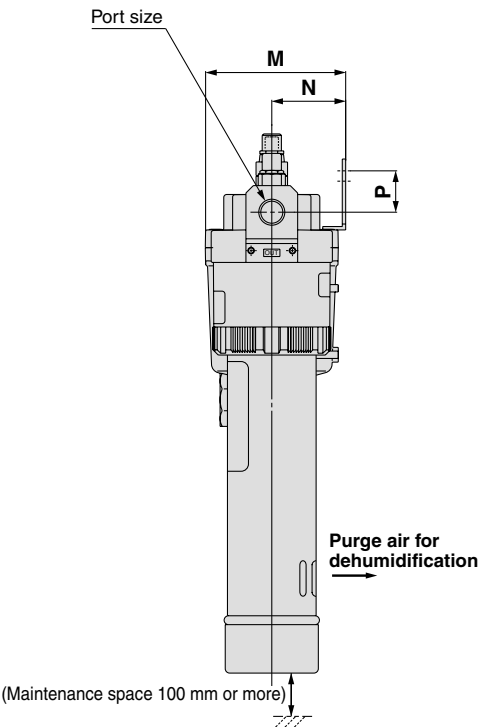
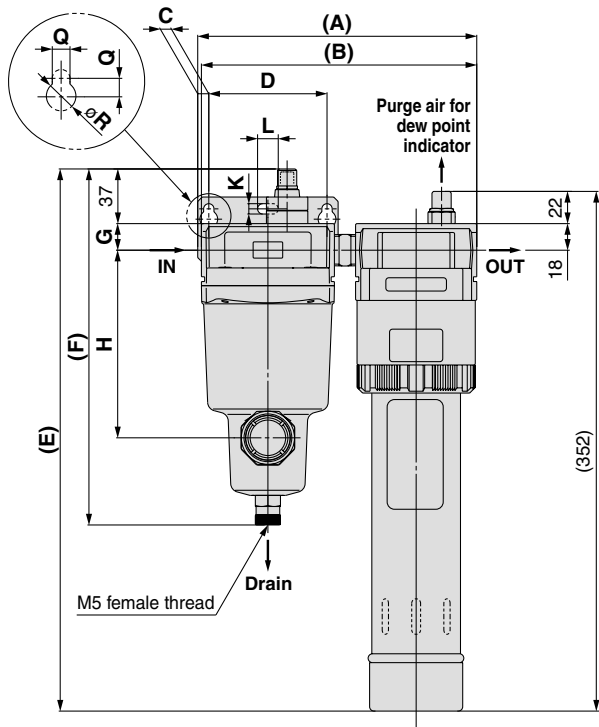
Model	A	B	With float type auto-drain	With drain guide	Option: P
IDG30M3/30HM3/30LM3	293	301	C	D	E
IDG50M3/50HM3/50LM3	337	345	204	172	405

Drain Discharge

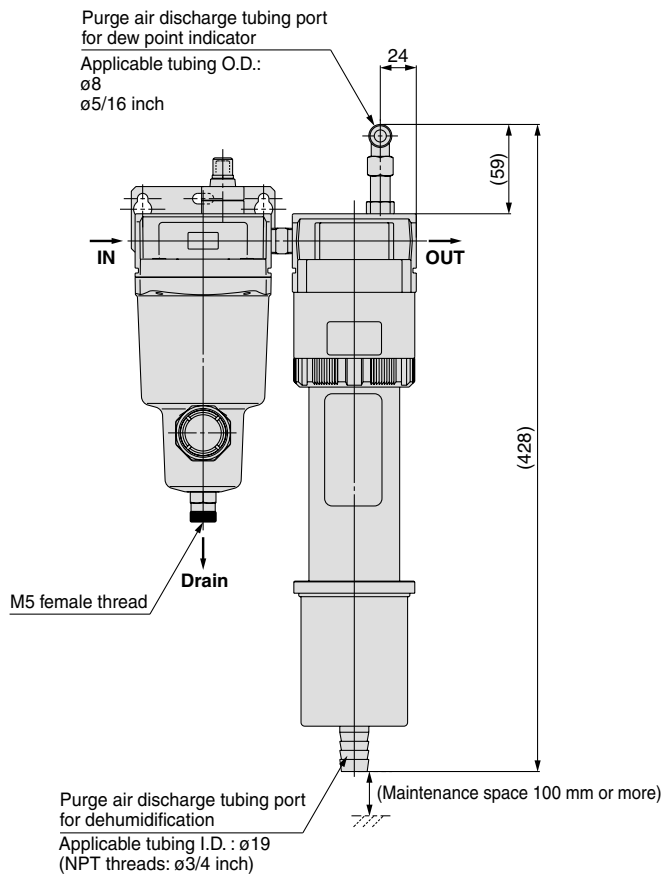


Dimensions (Type M)

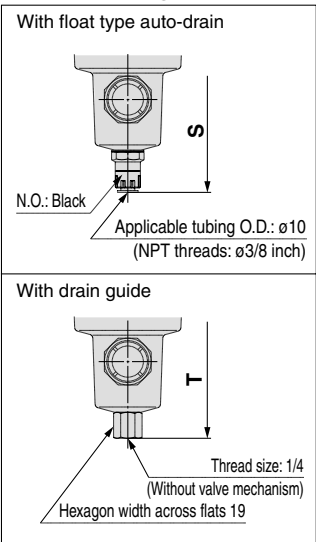
IDG60M2/75M2/100M2
IDG60HM2/75HM2/100HM2



With fitting for purge air discharge (Option: P)

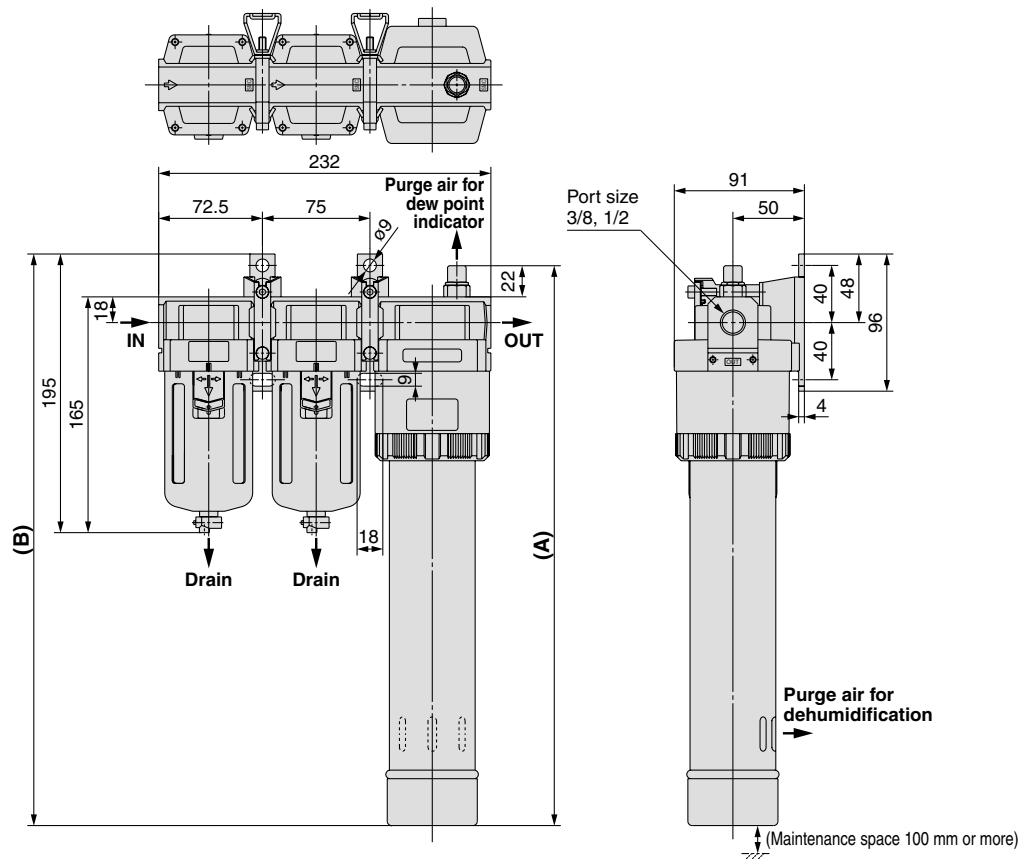


Drain Discharge

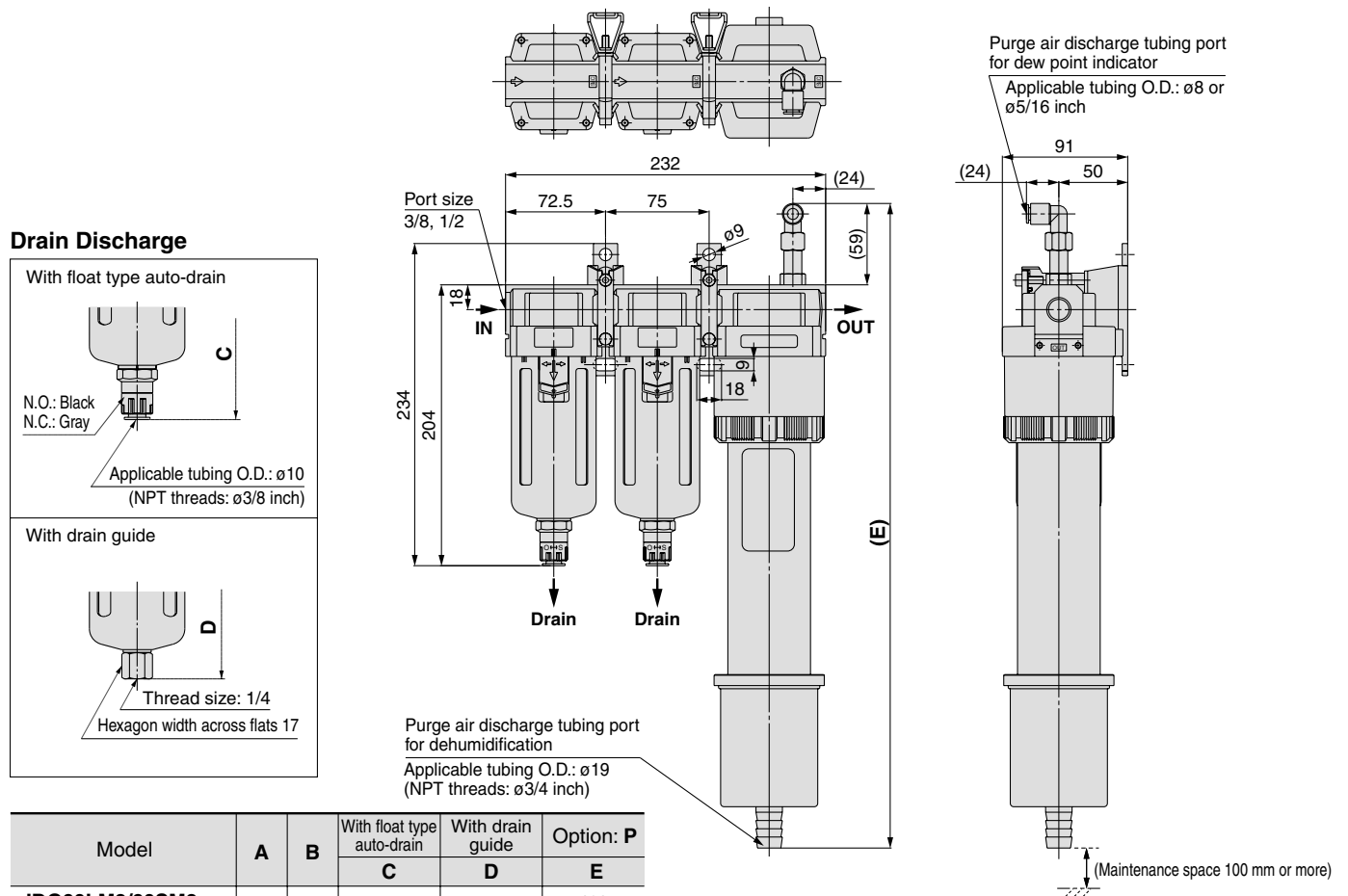


Model	Port size	A	B	C	D	E	F	G	H	K	L	M	N	P	Q	R	With float type auto-drain	With drain guide
																	S	T
IDG60M2/60HM2	3/8, 1/2	189	186	7.5	80	367	241	18	127	7	14	95	50	28	7	12	255	241
IDG75M2/75HM2/100M2/100HM2	1/2	205	202	10.5	90	369	262	20	146	9	18	108	55	31	9	15	276	262

IDG60LM3/75LM3/100LM3
IDG60SM3/75SM3/100SM3

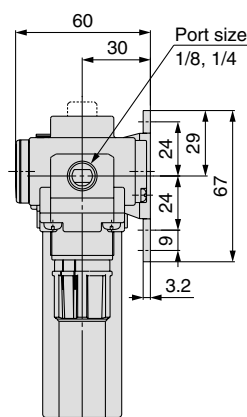


With fitting for purge air discharge (Option: P)

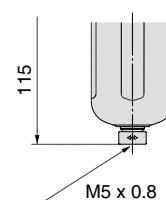


Model	A	B	With float type auto-drain	With drain guide	Option: P
			C	D	E
IDG60LM3/60SM3	392	400	204	172	468
IDG75LM3/75SM3	472	480			548
IDG100LM3/100SM3	542	550			618

Dimensions (Type V)

[illegible]

With float type auto-drain (N.C.)

[illegible]

With float type auto-drain

N.C.: Gray

Applicable tubing O.D.: ø10
(NPT thread: ø3/8 inch)

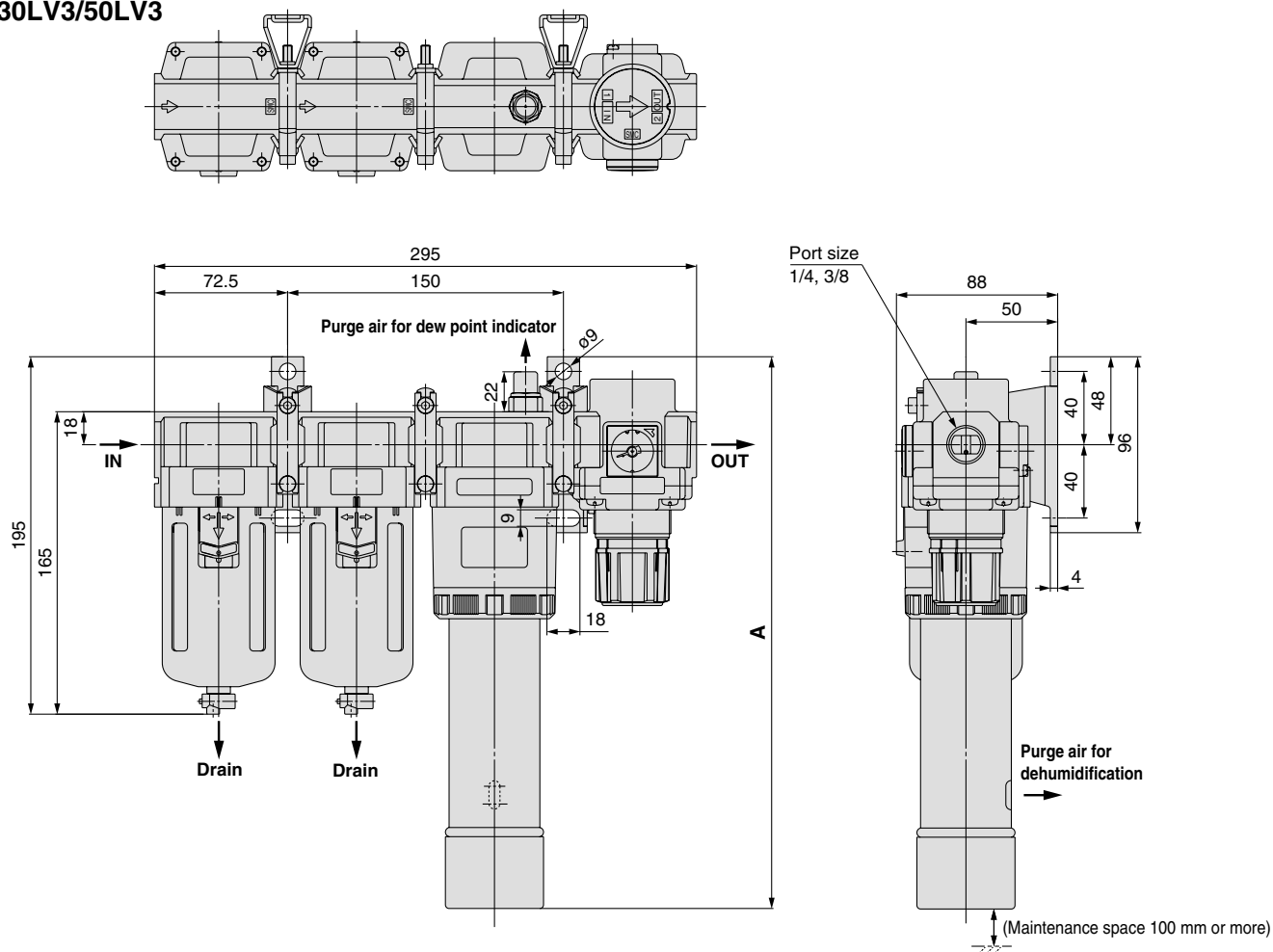
With drain guide

Thread size: 1/4
(Without valve mechanism)

Hexagon width across flats 17

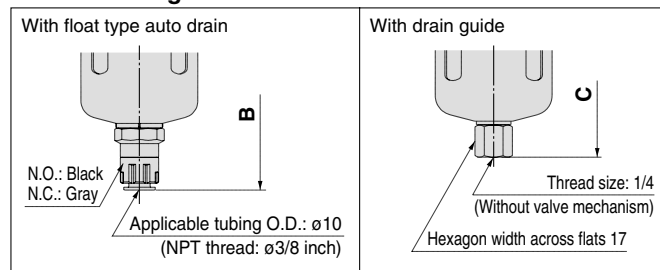
Model	A	B	C	With float type auto-drain	With drain guide
				D	E
IDG10V3/10HV3	254	192	144	170	136
IDG20V3/20HV3	284	217	174		

IDG30V3/50V3
IDG30HV3/50HV3
IDG30LV3/50LV3



Model	A	With float type auto drain	With drain guide
		B	C
IDG30V3/30HV3/30LV3	301	204	172
IDG50V3/50HV3/50LV3	345		

Drain Discharge

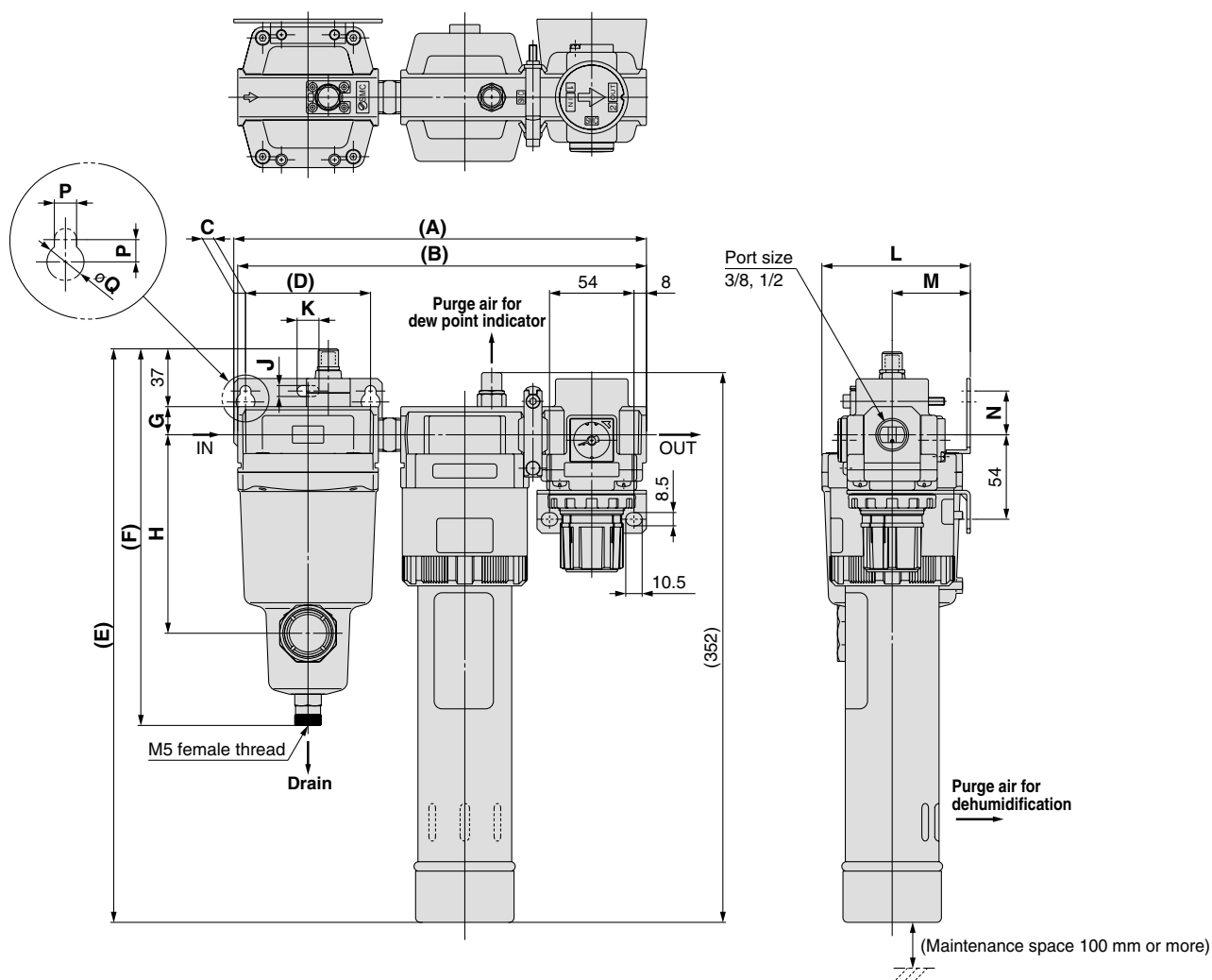


HAA
HAW
AT
IDF
IDU
IDFA
IDFB
ID
IDG
AMG
AFF
AM
AMD
AMH
AME
AMF
SF
SFD
LLB
AD□
GD

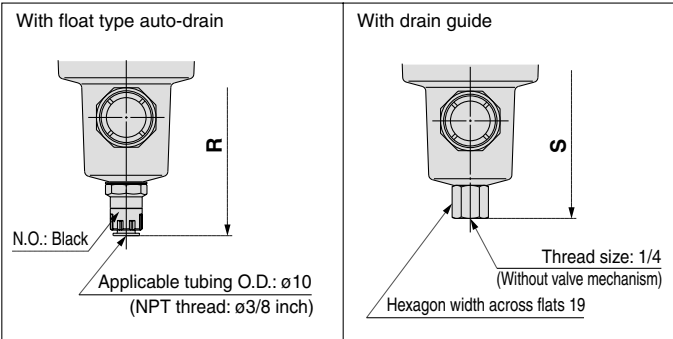
Series **IDG**

Dimensions (Type V)

IDG60V2/75V2/100V2
IDG60HV2/75HV2/100HV2

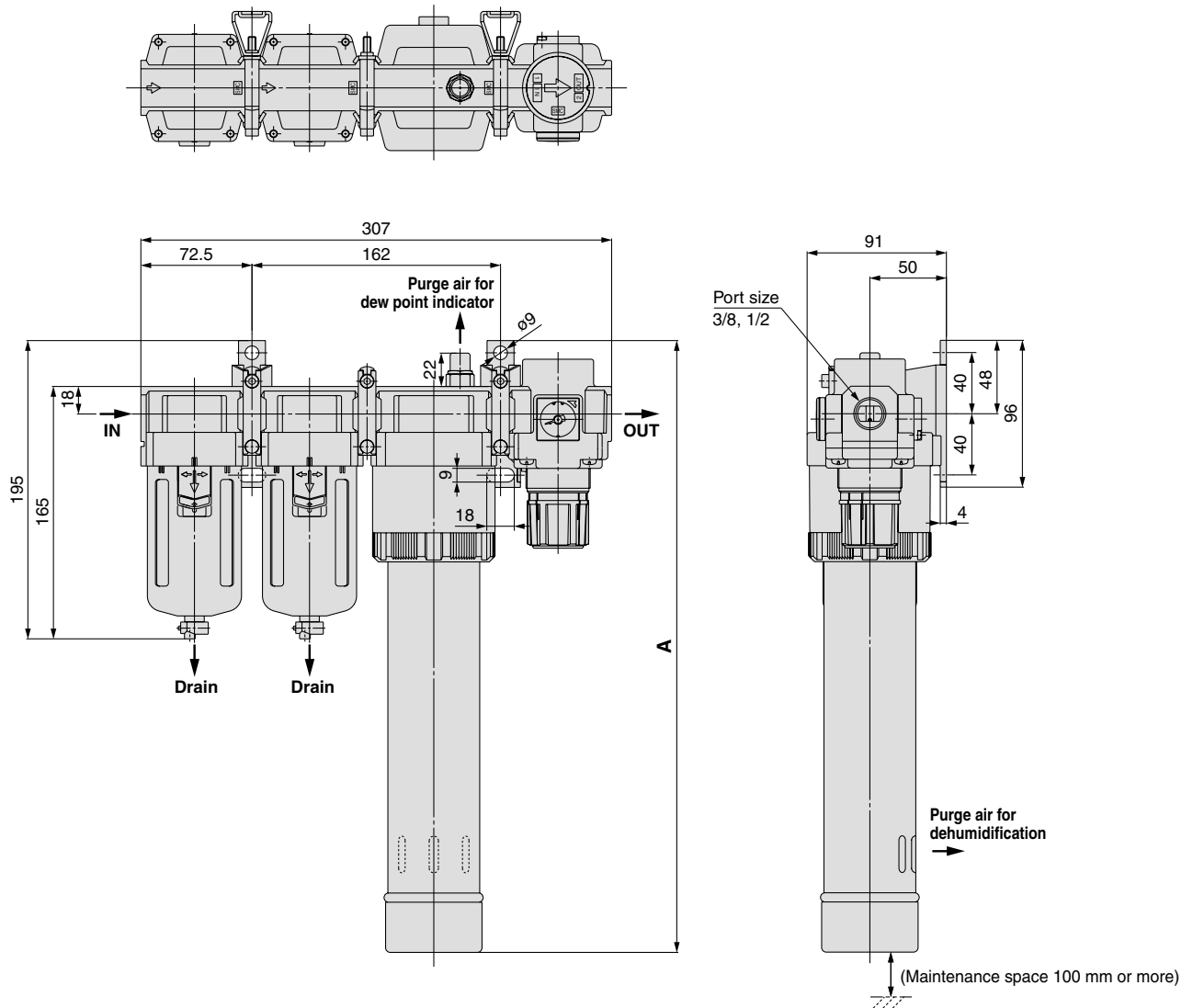


Drain Discharge

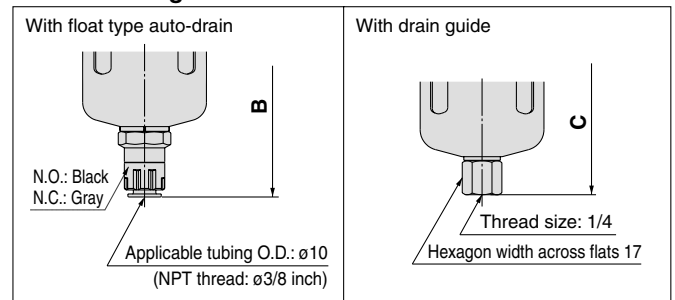


Model	Port size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	With float type auto-drain	With drain guide
																	R	S
IDG60V2/60HV2	3/8, 1/2	264	261	7.5	80	367	241	18	127	7	14	95	50	28	7	12	255	241
IDG75V2/75HV2/100V2/100HV2	1/2	280	277	10.5	90	369	262	20	146	9	18	108	55	31	9	15	276	262

IDG60LV3/75LV3/100LV3
IDG60SV3/75SV3/100SV3



Drain Discharge



Model	A	With float type auto-drain	With drain guide
		B	C
IDG60LV3/60SV3	400	204	172
IDG75LV3/75SV3	480		
IDG100LV3/100SV3	550		

Made to Order Specifications:

Please contact SMC for further details about dimensions, specifications, and delivery.



Symbol	Description	Page
X016	With micro mist separator (with element service indicator) with prefilter [Visual management of the element's clogging and service life]	P.131
X017	With micro mist separator regulator [Use when very clean air is required]	P.134
X032	With differential pressure gauge [Control with differential pressure of the element's clogging and service life]	P.136

1 Element Service Indicator

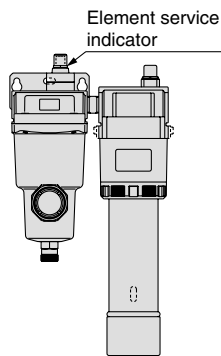
An element service indicator is mounted on the micro mist separator with prefilter (Series AMH) to allow visual management of the element's clogging life. In addition, combination with a micro mist separator with prefilter also provides a spatially compact design.

Applicable Model

Applicable model	IDG3M2 to IDG50M2 (Standard dew point: -20°C) IDG3HM2 to IDG50HM2 (Standard dew point: -15°C) IDG30LM2 to IDG100LM2 (Standard dew point: -40°C) IDG100SM2 (Standard dew point: -60°C)
------------------	--

Note) An element service indicator is included in IDG60M2, IDG60HM2, IDG75M2, IDG75HM2, IDG100M2 and IDG100HM2 as standard. Refer to page 124.

How to Order



IDG 10 M2 - 03 - X016

Size

3
5
10
20
30
50
60
75
100

Option

Symbol	Contents	Size									
		3	5	10	20	30	50	60	75	100	
Nil	Standard	●	●	●	●	●	●	●	●	●	
R	Flow direction (Right → Left)	●	●	●	●	●	●	●	●	●	
S	With dew point indicator	●	●								Standard equipment

Drain discharge method *Micro mist separator with prefilter

Symbol	Drain discharge method	Size and standard dew point					Note
		3, 3H 5, 5H	10, 10H 20, 20H	30, 30H, 30L 50, 50H, 50L	60L 75L 100L, 100S		
Nil	Manual valve	●	●	●	●		—
C	N.C. auto-drain	●	●	●	●		Auto drains listed on page 115 are attached.
D	N.O. auto-drain	—	—	●	●		
J	Drain guide (Bore 1/4 without valve)	—	●	●	●		—

* For the model selection of an auto-drain, refer to "Selection" 4 of Precautions on page 138.

Port size

Symbol	Bore	Size and standard dew point									
		3, 3H	5, 5H	10, 10H	20, 20H	30, 30H	30L	50, 50H	50L	60L 75L 100L	100S
01	1/8	●	●	—	—	—	—	—	—	—	—
02	1/4	●	●	●	●	●	●	—	●	—	—
03	3/8	—	—	—	●	●	—	●	—	●	●

Note) An element service indicator is included in IDG60, IDG75, IDG100, IDG65H, IDG75H and IDG100H as standard (M2 specification).

Standard dew point temperature and air flow rate

Symbol	Standard dew point ($^{\circ}\text{C}$)	Flow rate by size									
		3	5	10	20	30	50	60	75	100	
Nil	-20	25/6	50/12	100/25	200/50	300/75	500/125	—	—	—	
H	-15	25/3	50/6	100/11	200/22	300/35	500/60	—	—	—	
L	-40	—	—	—	—	75/25	110/40	170/57	240/80	300/100	
S	-60	—	—	—	—	—	—	—	—	150/85	

Thread type

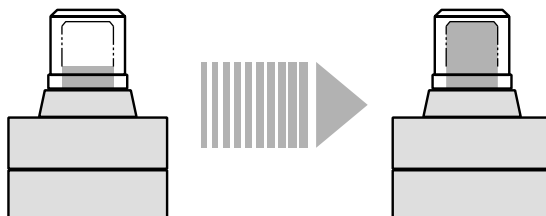
Symbol	Type
Nil	Rc
N	NPT
F	G

Component equipment

Micro mist separator with prefilter
Membrane air dryer

Component equipment	Size and standard dew point									
	3, 3H	5, 5H	10, 10H	20, 20H	30, 30H	30L	50, 50H	50L	60L, 75L, 100L	100S
Micro mist separator with prefilter	AMH150C			AMH250C		AMH150C	AMH350C	AMH150C	AMH250C	

Clogging Indication



When the differential air is 0.05 MPa or less
(The tip of the indicator is just visible.)

When the differential air is 0.1 MPa or more
(The indicator is completely up to the top.)

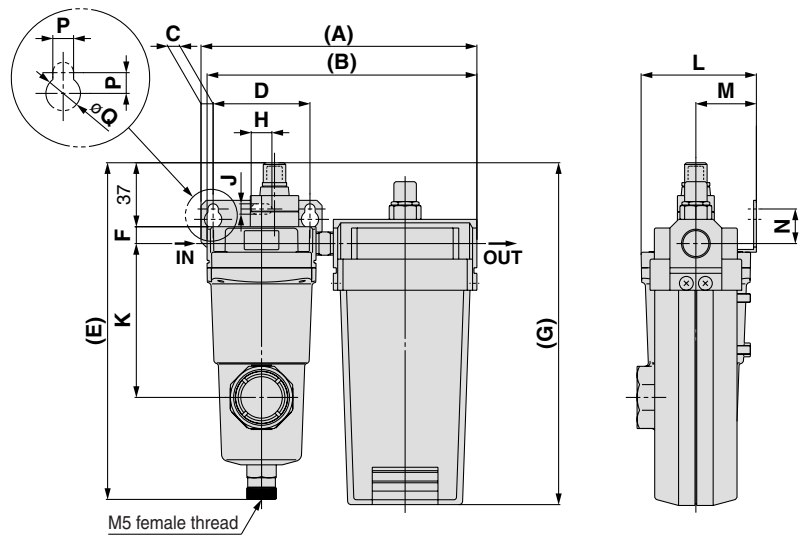
Replace the element when the element service indicator's red indication reaches completely to the top.

The top of the indication window shows differential pressure of approximately 0.1 MPa. Replace the element after two years of use, even if the element service indicator's red indication does not reach the top.

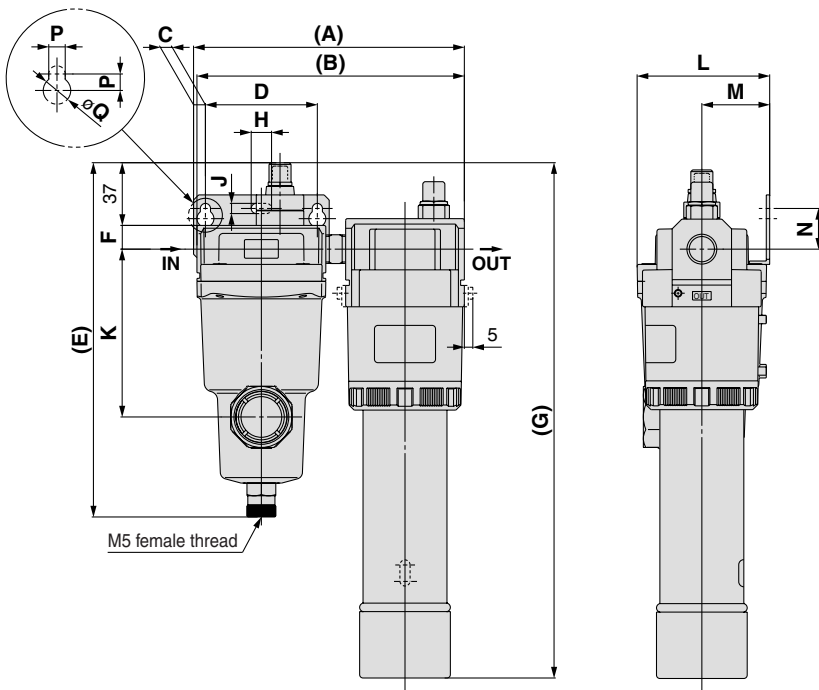
The element service indicator is shipped mounted to the micro mist separator with prefilter, and cannot be retrofitted or used with the single style.

Dimensions/With Element Service Indicator (X016)

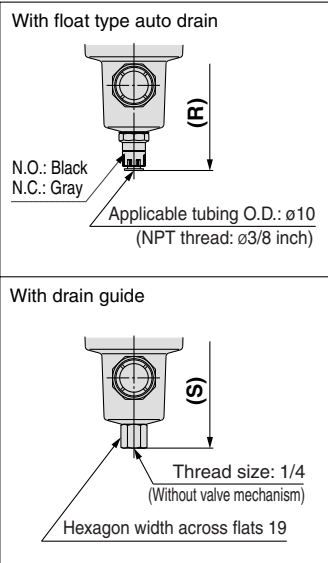
IDG3M2/5M2/10M2/20M2
IDG3HM2/5HM2/10HM2/20HM2



IDG30M2/50M2
IDG30HM2/50HM2
IDG30LM2/50LM2



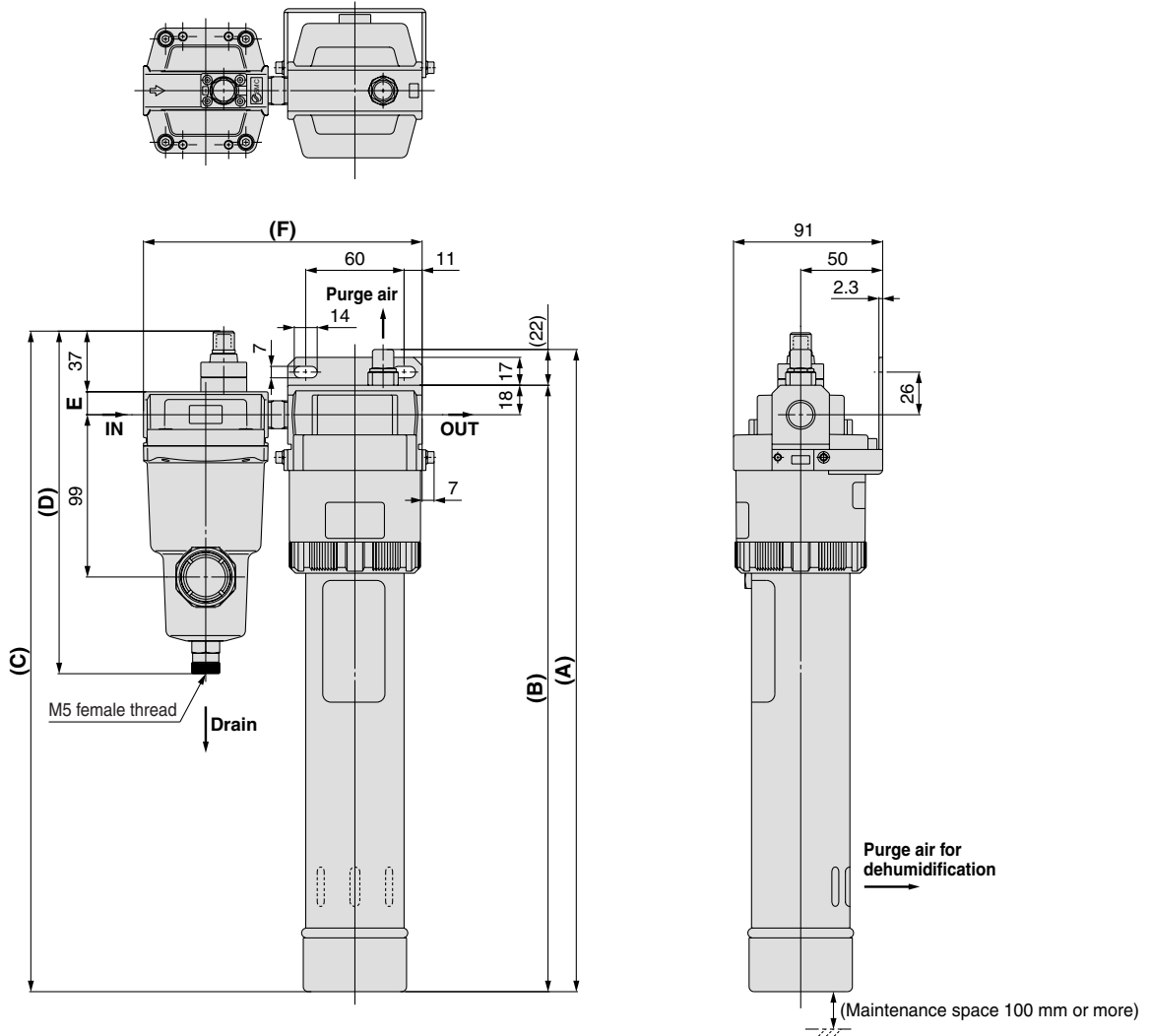
Drain Discharge



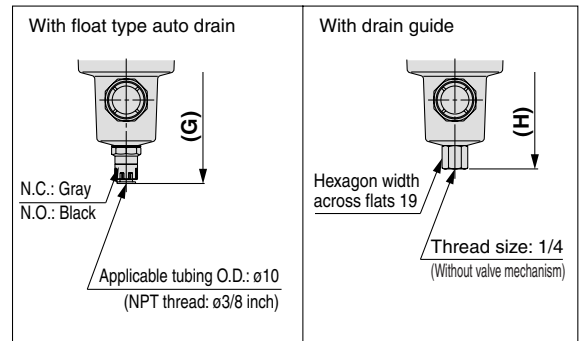
Model	Port size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	With float type auto drain	With drain guide
																	R	S
IDG3M2/3HM2/5M2/5HM2	1/8, 1/4	150	147	7	56	195	10	154	12	6	89	66.5	35	20	6	10	209	195
IDG10M2/10HM2	1/4	160	158		66	209	14	227			99	78	40	24			223	209
IDG20M2/20HM2	1/4, 3/8	203	201		66	209	14	227			99	78	40	24			223	209
IDG30M2/30HM2		160	158		66	209	14	304			99	78	40	24			223	209
IDG30LM2	1/4	147	143	7.5	56	195	10	300	14	7	127	95	50	28	7	12	209	195
IDG50M2/50HM2	3/8	175	172		80	241	18	352			127	95	50	28			255	241
IDG50LM2	1/4	147	143		56	195	10	344			89	70	35	20			209	195

Dimensions/With Element Service Indicator (X016)

IDG60LM2
IDG75LM2
IDG100LM2/IDG100SM2



Drain Discharge



Model	Port size	A	B	C	D	E	F	With float type auto drain	With drain guide
								G	H
IDG60LM2	3/8	392	370	403	209	14	170	223	209
IDG75LM2		472	450	483					
IDG100LM2, IDG100SM2		542	520	553					

2 With Micro Mist Separator Regulator (Series AWD)

This can be used when very clean air is required (supply for air bearings, semiconductor parts blow, etc.).
Type V regulator (AR) is modified to produce the micro mist separator regulator (AWD).

Specifications

Filtration of outlet air	0.01 μm (95% filtered particle diameter)
Outlet air oil mist concentration	Max. 0.1 mg/m ³ (ANR) (0.08 ppm) ^{Note)} (Prior to oil saturated 0.01 mg/m ³ (ANR) or less, (0.008 ppm or less))

Note) With inlet air oil mist concentration of 30 mg/m³ (ANR) (24 ppm)

Applicable Model

Applicable model	IDG3V3 to IDG50V3 (Standard dew point: -20°C) IDG3HV3 to IDG50HV3 (Standard dew point: -15°C) IDG30LV3 to IDG100LV3 (Standard dew point: -40°C) IDG60SV3 to IDG100SV3 (Standard dew point: -60°C)
------------------	--

How to Order

IDG 10 V3 - 03 - X017

Size

3
5
10
20
30
50
60
75
100

Option

Symbol	Contents	Size									
		3	5	10	20	30	50	60	75	100	
Nil	Standard	●	●	●	●	●	●	●	●	●	
R	Flow direction (Right → Left)	●	●	●	●	●	●	●	●	●	
S	With dew point indicator	●	●								Standard equipment

Drain discharge method *

(Mist separator, Micro mist separator, Micro mist separator regulator)

Symbol	Drain discharge method	Size and standard dew point					Note
		3, 3H 5, 5H	10, 10H 20, 20H	30, 30H, 30L 50, 50H, 50L	60L, 60S 75L, 75S 100L, 100S		
Nil	Manual valve	●	●	●	●		—
C	N.C. auto-drain	●	●	●	●		Auto drains listed on page 115 are attached.
D	N.O. auto-drain	—	—	●	●		
J	Drain guide (Bore 1/4 without valve)	—	●	●	●		—

*For the model selection of an auto-drain, refer to "Selection" 4 of Precautions on page 138.

Port size

Symbol	Bore	Size									
		3	5	10	20	30	50	60	75	100	
01	1/8	●	●	—	—	—	—	—	—	—	
02	1/4	●	●	●	●	●	●	—	—	—	
03	3/8	—	—	●	●	●	●	●	Note)	Note)	
04	1/2	—	—	—	—	—	—	●	●	●	

Note) Not applicable with the cases of standard dew point -20°C (Nil), -15°C (symbol H).

Standard dew point temperature and air flow rate

Symbol	Standard dew point (°C)	Flow rate by size				Outlet air flow rate Purge air flow rate (ℓ/min(ANR))					
		3	5	10	20	30	50	60	75	100	
Nil	-20	25/6	50/12	100/25	200/50	300/75	500/125	—	—	—	
H	-15	25/3	50/6	100/11	200/22	300/35	500/60	—	—	—	
L	-40	—	—	—	—	75/25	110/40	170/57	240/80	300/100	
S	-60	—	—	—	—	—	—	50/27	100/54	150/85	

Component equipment

Mist separator
Micro mist separator
Membrane air dryer
Micro mist separator regulator

Thread type

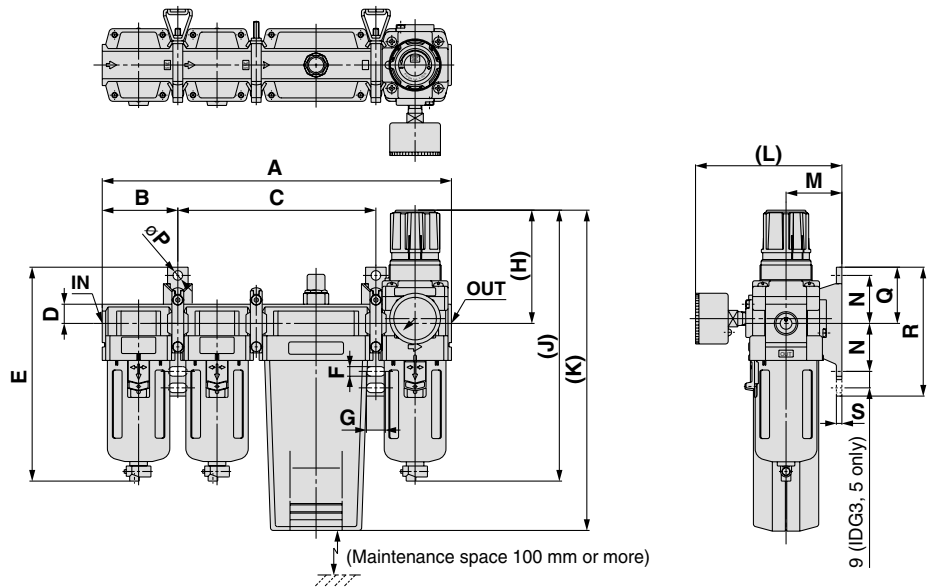
Symbol	Type
Nil	Rc
N	NPT
F	G

Component equipment	Size									
	3	5	10	20	30	50	60 Note)	75 Note)	100 Note)	
Mist separator	AFM20		AFM30				AFM40			
Micro mist separator	AFD20		AFD30				AFD40			
Micro mist separator regulator	AWD20		AWD30				AWD40			

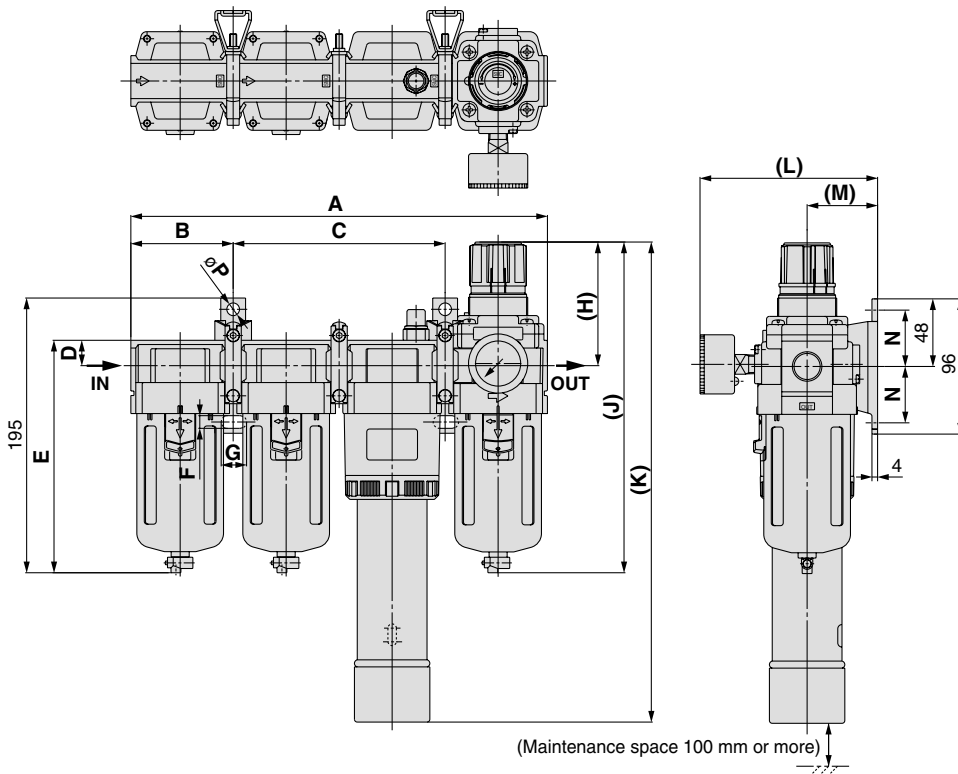
Note) Standard dew point symbols L (-40°C) and S (-60°C) only

Dimensions/With Micro Mist Separator Regulator (X017)

IDG3V3/5V3/10V3/20V3
IDG3HV3/5HV3/10HV3/20HV3

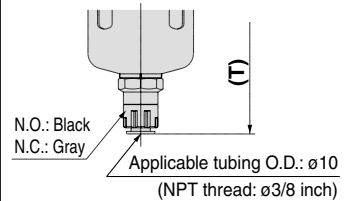


IDG30V3, 50V3
IDG30HV3, 50HV3
IDG30LV3, 50LV3, 60LV3, 75LV3, 100LV3
IDG60SV3, 75SV3, 100SV3

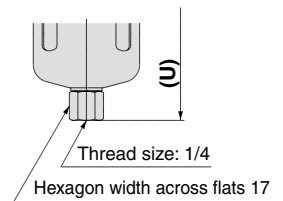


Drain Discharge

With float type auto-drain



With drain guide



Model	Port size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	With float type auto-drain	With drain guide
																			T	U
IDG3V3/3HV3/5V3/5HV3	1/8, 1/4	202	41.5	119	10	97	5.5	12	73	173	180	93	30	24	5.5	29	67	3.2	192	—
IDG10V3/10HV3	1/4, 3/8	254	55	144	14	129	7	14	86	201	237	107	41	35	7	41	82	4	242	208
IDG20V3/20HV3		284		174																
IDG30V3/30HV3		295		150																
IDG50V3/50HV3	3/8, 1/2	307	72.5	162	18	165	9	18	92	239	444	126	50	40	9	48	96	4	278	246
IDG60LV3/60SV3																				
IDG75LV3/75SV3																				
IDG100LV3/100SV3											524									
											594									

3 With Differential Pressure Gauge

The service life of the element service indicator can be controlled with differential pressure.

Applicable Model

Applicable model	IDG3V3 to IDG50V3 (Standard dew point: -20°C) IDG3HV3 to IDG50HV3 (Standard dew point: -15°C) IDG30LV3 to IDG100LV3 (Standard dew point: -40°C) IDG60SV3 to IDG100SV3 (Standard dew point: -60°C)
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How to Order

IDG **10** **V3** - **03** - **X032**

Size

3
5
10
20
30
50
60
75
100

Standard dew point temperature and air flow rate

Symbol	Standard dew point (°C)	Flow rate by size				Outlet air flow rate		Purge air flow rate			(l/min(ANR))
		3	5	10	20	30	50	60	75	100	
Nil	-20	25/6	50/12	100/25	200/50	300/75	500/125	—	—	—	
H	-15	25/3	50/6	100/11	200/22	300/35	500/60	—	—	—	
L	-40	—	—	—	—	75/25	110/40	170/57	240/80	300/100	
S	-60	—	—	—	—	—	—	50/27	100/54	150/85	

Option

Symbol	Contents	Size								
		3	5	10	20	30	50	60	75	100
Nil	Standard	●	●	●	●	●	●	●	●	●
R	Flow direction (Right → Left)	●	●	●	●	●	●	●	●	●
S	With dew point indicator	●	●	Standard equipment						

Drain discharge method *(Mist separator, Micro mist separator)

Symbol	Drain discharge method	Size and standard dew point				Note
		3, 3H 5, 5H	10, 10H 20, 20H	30, 30H, 30L 50, 50H, 50L	60L, 60S 75L, 75S 100L, 100S	
Nil	Manual valve	●	●	●	●	—
C	N.C. auto-drain	●	●	●	●	Auto drains listed on page 115 are attached.
D	N.O. auto-drain	—	—	●	●	
J	Drain guide (Bore 1/4 without valve)	—	●	●	●	—

* For the model selection of an auto-drain, refer to "Selection" 4 of Precautions on page 138.

Port size

Symbol	Bore	Size								
		3	5	10	20	30	50	60	75	100
01	1/8	●	●	—	—	—	—	—	—	—
02	1/4	●	●	●	●	●	—	—	—	—
03	3/8	—	—	●	●	●	●	●	Note)	Note)
04	1/2	—	—	—	—	—	—	●	●	●

Note) Not applicable with the cases of standard dew point -20°C (Nil), -15°C (symbol H).

Thread type

Symbol	Type
Nil	Rc
N	NPT
F	G

Component equipment

Mist separator
Micro mist separator
Differential pressure gauge (GD40-2-01)
Membrane air dryer
Regulator

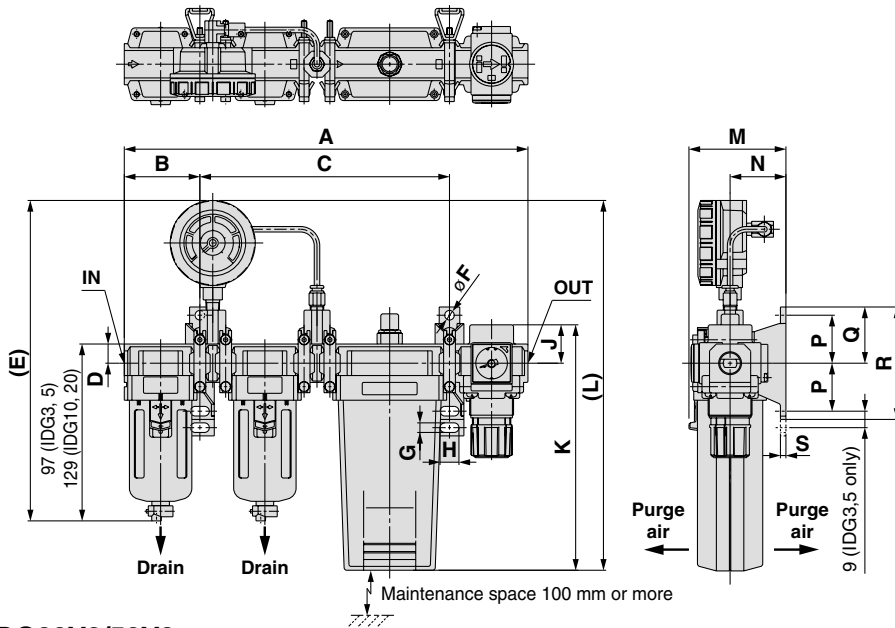
Component equipment	Size								
	3	5	10	20	30	50	60 ^(Note)	75 ^(Note)	100 ^(Note)
Mist separator	AFM20		AFM30		AFM40				
Micro mist separator	AFD20		AFD30		AFD40				
Regulator	AR20		AR25		AR40				

Note) For IDG60/75/100, standard dew point symbols L (-40°C) and S (-60°C) only.

Dimensions/With Differential Pressure Gauge (X032)

IDG3V3/5V3/10V3/20V3

IDG3HV3/5HV3/10HV3/20HV3

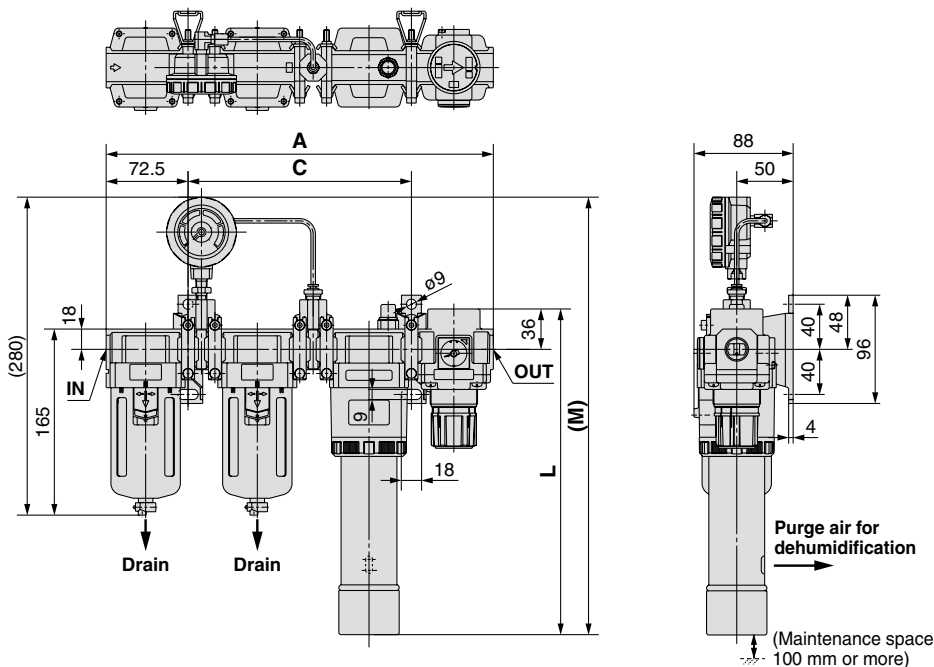


IDG30V3/50V3

IDG30HV3/50HV3

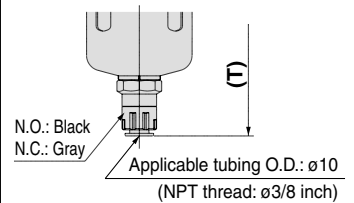
IDG30LV3/50LV3/60LV3/75LV3/100LV3

IDG60SV3/75SV3/100SV3

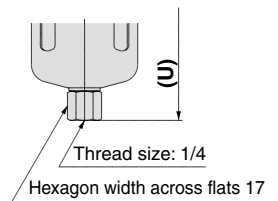


Drain Discharge

With float type auto-drain



With drain guide



Model	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U
IDG3	238	41.5	155	10	199	5.5	5.5	12	26.5	133.5	219	53	30	24	29	67	3.2	115	—
IDG5																			
IDG10	292	55	182	14	234	7	7	14	28	179	270	72	41	35	41	82	4	170	136
IDG20	322		212							204	295								

Model	A	C	L	M
IDG30	343	198	289	386
IDG50			333	430
IDG60			388	485
IDG75	355	210	468	565
IDG100			538	635



Specific Product Precautions 1

Be sure to read before handling. Refer to front matters 42 and 43 for Safety Instructions and pages 6 to 8 for Air Preparation Equipment Precautions.

Caution on Design

⚠ Warning

1. Depending on the model and operating conditions, the oxygen ratio of the outlet air may drop below the prescribed standard.

Do not use standard dew point -40°C (symbol L) type, standard dew point -60°C (symbol S) type and IDG30, 50, 30H, 50H for dehumidifying breathing air. Do not use only outlet air (dried air) in a closed room.

⚠ Caution

1. Devise a layout which considers the position of purge air discharge ports.

Purge air is humid air. Devise a layout in which purge air will not cause trouble such as corrosion or malfunction of peripheral equipment.

2. When very clean air is required

(Supply to air bearings, blowing of semiconductor parts, etc.)
Install a micro mist separator or super mist separator on the outlet side (end terminal) of the membrane air dryer (unit). Grease is applied inside a regulator used in the unit (V type). When air with high purity is required, please either mount the above separator on the outlet side or use a made-to-order product (refer to page 134), which is provided with a micro mist separator (Series AWD) instead of a regulator.

3. Time to reach the rated dew point

A certain amount of time is required to achieve the rated dew point after the air begins flowing into the membrane air dryer. Using the times below as a guide, begin operating outlet side equipment after the rated dew point is achieved.

Standard dew point -20°C , -15°C : about 10 min.

Standard dew point -40°C : about 30 min. *

Standard dew point -60°C : about 120 min. *

* This time can be shortened as described below.

- 1) Provide a valve on the outlet side of the membrane air dryer.
- 2) Supply air with the valve closed. Only purge air flows into the membrane air dryer.
- 3) After 15 minutes or more, open the valve and let air flow to the outlet side equipment.

4. Dehumidification performance when inlet air temperature changes

Drying performance shows the case at an inlet air temperature of 25°C . In other cases, please refer to "Model Selection" (page 92) for proper selection.

Selection

⚠ Caution

1. Consider the purge air flow rate.

Find the purge air flow rate from the charts and calculate the "required outlet air flow rate + purge air flow rate". The air supply capacity must be at least equal to the calculated flow or the required outlet air flow rate cannot be obtained.

2. Selection for a compressed air line in which a mist separator or micro mist separator is already installed

Verify the operating air flow rate and air pressure, and select a membrane air dryer in accordance with the "Model Selection" section (page 92). If a membrane air dryer is selected using the port size of the equipment that is already installed as a reference, it could result in the selection of a model that is too small and has an insufficient dehumidification capacity.

3. With fittings for purge air discharge (Option: P)

The dehumidification capacity decreases in proportion to the length of the tube for discharging purge air. Use a tube of the specified size and keep its length within 5 m. For the outlet air atmospheric pressure dew point in relation to the length of the tube for discharging purge air, refer to the table "Outlet Dew Point at Atmospheric Pressure to Tube for Exhaust of Purge Air" on page 107.

4. Auto-drain selection for the unit style

When the compressor in use is for 2.2 kW {300 d/min (ANR)} or less, please use an N.C. auto drain (symbol: C). If an N.O. auto drain (symbol: D) is used when the compressor is for 2.2 kW or less, pressure inside the mist separator may not increase and remain in the state of blowing off. Auto drain with differential pressure type can be used in 2.2 kW or less.

Mounting

⚠ Caution

1. Do not obstruct the purge air discharge ports.

If purge air back pressure becomes too high or purge air stops flowing, dehumidification performance will decrease or may become impossible.

2. Be sure to install a mist separator and micro mist separator or a micro mist separator with prefilter on the inlet side of the membrane air dryer.

If the inlet air contains oil or water drops, etc., performance will be reduced. (A mist separator and micro mist separator or a micro mist separator with prefilter are already installed on the unit types.)

3. Large quantities of dust (solid foreign matter) or water droplets are contained in the supply air.

- When there are large quantities of dust (solid foreign matter), install an air filter or main line filter to the inlet side of the mist separator in addition to 2 above.
- When large quantities of water droplets are contained, install a water separator to the inlet side of the mist separator in addition to 2 above.

4. Install a regulator on the outlet side of the membrane air dryer.

If it is installed on the inlet side, dehumidification performance will be reduced.

5. Take sufficient care in handling.

There is a danger of damage if dropped.



Series IDG

Specific Product Precautions 2

Be sure to read before handling. Refer to front matters 42 and 43 for Safety Instructions and pages 6 to 8 for Air Preparation Equipment Precautions.

Piping

⚠ Warning

1. Confirm locking of case and body.

When using in a unit, be sure to set the air pressure to zero before using a mist separator or micro mist separator with modular connections. Also, confirm that the body and case are locked together with a click before starting the flow of compressed air.

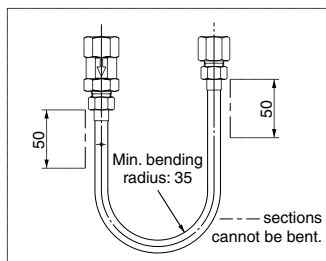
2. Confirm tightening of the holder.

(for IDG30 to IDG100, IDG30H to IDG100H, IDG30L to IDG100L and IDG60S to IDG100S)

Before starting the flow of compressed air, turn the membrane air dryer's holder in its tightening direction, confirming that it is completely tightened and that the case will not come off.

3. Minimum bending radius (for IDG1)

When installing piping for the membrane air dryer, maintain a minimum bending radius of 35 mm or more. Furthermore, do not bend the sections that are within 50 mm of the ends of the membrane module.



4. With fittings for purge air discharge (Option: P)

The piping of purge air for dehumidification and for the dew point checker can be combined, but do not combine it with compressed air lines or drain piping or merge the purge air with exhaust air from other equipment. As this can cause damage.

⚠ Caution

1. Use of tools

Hold the upper portion of the body (aluminum die-casted section) with a spanner or adjustable angle wrench. Do not turn it while holding the case section.

2. Drain piping for separators

When installing drain piping for mist separators or micro mist separators, use a tube of the prescribed size and keep the length within 5 meters or less. Also, be sure that the tube does not rise up or become folded over.

3. Piping materials for low dew point air

If air of a low dew point (-40°C or less) is required, do not use a nylon tube piping and resin fittings (except fluoropolymer) for the outlet side of the membrane air dryer. Due to the nature of the nylon tube, it could be affected by the ambient air, and it might not be possible to achieve the prescribed low dew point at the end of the tube. Therefore, for low dew point air, use a stainless steel or fluoropolymer piping.

4. With fittings for purge air discharge (Option: P) (for IDG60 to IDG100, IDG60H to IDG100H, IDG60L to IDG100L and IDG60S to IDG100S)

To install piping for dehumidification purge air discharge, attach tubing of the prescribed size to the hose nipple section and then secure it with tubing bands.

Air Supply

⚠ Caution

1. Compressed air supply capacity

An air source that has a supply capacity that is larger than the "necessary outlet air flow rate (dry air flow rate) + purge air flow rate" is required. Verify the purge air flow rate in the Purge Air Flow Characteristics. (page 96)

Operating Environment

⚠ Caution

1. Do not use at temperatures (fluid or ambient temperatures) higher than the prescribed operating conditions.

Resin is used in the membrane module, and it can be damaged by operation at high temperatures. Especially when installed immediately after a reciprocating type air compressor, confirm that the fluid temperature does not exceed the range of operating conditions during use.

2. Keep the inlet air temperature lower than the ambient temperature.

If the membrane air dryer's body is cooled by the surrounding air, water drops may accumulate inside and reduce its dehumidification capacity.

HAA
HAW

AT

IDF
IDU

IDFA

IDFB

ID

IDG

AMG

AFF

AM

AMD

AMH

AME

AMF

SF

SFD

LLB

AD□

GD



Series IDG

Specific Product Precautions 3

Be sure to read before handling. Refer to front matters 42 and 43 for Safety Instructions and pages 6 to 8 for Air Preparation Equipment Precautions.

Maintenance

Warning

1. **Do not remove the orifice (plug) when in a pressurized state.**

Never remove the orifice (plug) while under pressure, as it can fly out causing a hazard.

Caution

1. **Confirming the dehumidification function with the dew point indicator**

Observe the color of the dew point indicator to confirm whether the membrane air dryer is functioning normally.

[When dew point indicator color is blue: Functioning normally]

[When dew point indicator color is pink: Dew point temperature is high. (Outlet air is humid.) Note: Atmospheric pressure dew point approximately -10°C minimum.]

If humid air flowing in turns the color pink, and then if dry air enters, the color turns back to blue.

It takes about 1 hour from the start of air flow for the dew point indicator color to change.

2. **Dew point indicator replacement period**

The absorbent is used in the dew point indicator. It absorbs the gasified oil in the compressed air and/or the gaseous elements other than the air, and then may turn brown.

When it turned brown, replace the dew point indicator. Besides, in the event of replacing them periodically, carry out after two-year operation as a guideline. (For the part number of the dew point indicator, refer to pages 110 and 111.)

3. **Element replacement period**

Refer to the following guide when replacing the elements in the mist separator and in the micro mist separator, or micro mist separator with prefilter that are installed on the inlet side of the membrane air dryer.

- 1) When two years have passed since installation.
- 2) When the unit's pressure drop reaches 0.2 MPa, even before the two year period is reached.
- 3) When the red portion of the dew point indicator reaches the upper limit. (With micro-mist separator with prefilter) [IDG60M to IDG100M, IDG60HM to IDG100HM, IDG60V to IDG100V, IDG60HV to IDG100HV] ^{Note 1)}

Note 1) For other models as well, they are available with the dew point indicator under made-to-order. Refer to page 131.

4. **Membrane module replacement period**

Replace the membrane module when the color of the dew point indicator turns white or pink.

As a guideline, unit should be replaced after approximately 10 years of use (10 hours/day operation). Replace it when the color of the dew point indicator turns white or pink, even if it is within the period.

Caution

5. **Tightening torque for installing the membrane module and the case**

(for IDG5/10/20/5H/10H/20H)

Use caution not to tighten excessively.

It may result in a breakdown of membrane module, case and mounting screws or insufficient sealing.

(Verify the tightening torque range in the instruction manual.)

6. **Installing a pressure gauge**

A pressure gauge should be installed on the inlet and outlet sides of the membrane air dryer (unit) for the maintenance and inspection purposes.