Certificate

Registration Number:

Q2509

Registration Date

29 October 2004

Recertification Date :

09 September 2019

Expiry Date

28 October 2022

(ASR Transfer date:

07 May 2013)



ALP Co., Ltd.

3-3-10 Midorigaoka Hamura-shi, Tokyo Japan

This is to certify that the Quality Manegement System of this organization has been assessed and registered as meeting the requirements of

JIS Q 9001:2015 (ISO 9001:2015)

<Registered Scope>

Design, Development and Manufacture of Scientific Instruments such as Incubator, Sterilizer and Oven

This certificate is valid for the above registered scope.

This certificate is valid on the condition that the Quality Management System is maintained in compliance with the certification requirements.





ASR Co.,Ltd.

2-7 Nihonbashi Odenmacho Chuo-ku, Tokyo Japan

Hiroyuki Katayama

Hiroyuki Katayama Chief Operating Officer







EC Certificate

Full Quality Assurance System according to Medical Devices Directive 93/42/EEC Annex-II Section 3

Certificate Number: 1984-MDD-10-075

We hereby declare that an examination of the under mentioned full quality assurance system has been carried out following the requirements of the national legislation to which the undersigned is subjected, transposing annex II (with the exemption of section 4) of the Directive 93/42/EEC on medical devices. We certify that the full quality assurance system conforms with the relevant provisions of the aforementioned directive.

Organization:

METKO MEDİKAL VE TIBBİ CİHAZLAR DIŞ TİCARET LİMİTED ŞİRKETİ

İvedik OSB Ağaç İşleri San. Sitesi 1354. Cadde 1358. Sokak No:9 06378 Yenimahalle, Ankara, Turkey

Products: Sterile and Non-Sterile Pulse Oximetry (SpO2) Sensors and Medical Temperature Probes, Sterile Disposable Pressure Transducer

The certificate is valid till expiration date, subject to successful completion of periodical surveillance audits. Please contact Kiwa for details.

Report Number:

M.3393.10

Date of first issue:

23 December 2010

Date of last issue:

16 April 2019

Revision Number:

09

Expiry Date:

20 November 2020

Kiwa Certification Services Inc. is Notified Body under Council Directive 93/42/EEC concerning medical devices with identification number: 1984

16 April 2019, Istanbul, Turkey

Head of Notified Body







EC Certificate - Full Quality Assurance System

Directive 93/42/EEC on Medical Devices, Annex II excluding Section 4

No. CE 02000

Issued To: Teledyne Analytical Instruments

A business unit of Teledyne

Instruments, Inc

16830 Chestnut Street

City of Industry

California 91748 USA

In respect of:

The design and manufacture of oxygen monitors and sensors

on the basis of our examination of the quality assurance system under the requirements of Council Directive 93/42/EEC, Annex II excluding section 4. The quality assurance system meets the requirements of the directive. For the placing on the market of class III products an Annex II section 4 certificate is required.

For and on behalf of BSI, a Notified Body for the above Directive (Notified Body Number 2797):

Albert Roossien, Regulatory Lead

First Issued: **1998-07-09** Date: **2019-03-25** Expiry Date: **2023-07-08**

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Page 1 of 1

Validity of this certificate is conditional on the quality system being maintained to the requirements of the Directive as demonstrated through the required surveillance activities of the Notified Body. This approval excludes all products designed and/or manufactured by a third party on behalf of the company named on this certificate, unless specifically agreed with BSI.

This certificate was issued electronically and is bound by the conditions of the contract.





EC Certificate - Full Quality Assurance System

Directive 93/42/EEC on Medical Devices, Annex II excluding Section 4

List of Significant Subcontractors

Recognised as being involved in services relating to the product covered by:

Certificate No: **CE 02000**Date: **2019-03-25**

Issued To: Teledyne Analytical Instruments

A business unit of Teledyne

Instruments, Inc 16830 Chestnut Street City of Industry

California 91748 USA

Subcontractor:

Service(s) supplied

EU Representative

Viamed Ltd 15 Station Road Cross Hills Keighley West Yorkshire BD20 7DT United Kingdom

...making excellence a habit."





EC Certificate - Full Quality Assurance System Certificate History

Certificate No: **CE 02000**

Date: 2019-03-25

Issued To: **Teledyne Analytical Instruments**

A business unit of Teledyne

Instruments, Inc 16830 Chestnut Street

City of Industry California

91748 USA

Certificate History

Date	Reference Number	Action
09 July 1998		First Issue.
03 March 2000		Addition of Ensambles de Precision, S.A de C.V as manufacturing subcontractor of oxygen sensors and printed wiring assemblies.
11 June 2002		Change of company name.
29 April 2004		Certificate renewal.
		New certificate format.
07 July 2008	7230667	Certificate renewal.
26 April 2012	7817544	Name change from Teledyne Electronic Technologies to Teledyne Analytical Instruments, A business unit of Teledyne Instruments, Inc.
18 June 2013	7945519	Certificate renewal.
		Addition of Viamed Ltd as EU representative and removal of Ensambles de Precision, S.A de C.V as a significant subcontractor.

...making excellence a habit."

Page 1 of 2

Validity of this certificate is conditional on the quality system being maintained to the requirements of the Directive as demonstrated through the required surveillance activities of the Notified Body. This approval excludes all products designed and/or manufactured by a third party on behalf of the company named on this certificate, unless specifically agreed with BSI.

This certificate was issued electronically and is bound by the conditions of the contract.





EC Certificate - Full Quality Assurance System Certificate History

Certificate No: **CE 02000**Date: **2019-03-25**

Issued To: **Teledyne Analytical Instruments**

A business unit of Teledyne

Instruments, Inc 16830 Chestnut Street City of Industry

California 91748 USA

Date	Reference Number	Action
11 May 2018	8896461	Certificate renewal.
Current	7781684	Traceable to NB 0086.

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Page 2 of 2

Validity of this certificate is conditional on the quality system being maintained to the requirements of the Directive as demonstrated through the required surveillance activities of the Notified Body. This approval excludes all products designed and/or manufactured by a third party on behalf of the company named on this certificate, unless specifically agreed with BSI.

This certificate was issued electronically and is bound by the conditions of the contract.



CERTIFICAT D'ENREGISTREMENT

Le Système de Management de :

GROUPE AMORGOS - VLAD et Batteries 4Pro.com

Site principal: 400 Rue Emille Dewoitine, 37210 Parcay-Meslay, France.

a été enregistré par Intertek comme étant conforme aux exigences de la norme :

ISO 14001:2015 ISO 9001:2015

Le Système de Management est applicable à :

VLAD : Études de conception, d'adaptation, assemblage et fourniture de batteries, d'accumulateurs et de piles pour les applications industrielles et médicales.

B4P : Vente en ligne de piles, d'accumulateurs, batteries et autres articles connexes.

Certificat n°: 0085241

Date de certification initiale :

03 décembre 2018

Date de certification :

03 décembre 2018

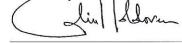
Date d'émission du certificat :

17 décembre 2018

Date d'expiration :

02 décembre 2021





Calin Moldovean

Président, Business Assurance

Intertek Certification France Tour PB5, 1 Avenue du Général De Gaulle 92800 Puteaux – France







CERTIFICATD'ENREGISTREMENT

Ce document confirme que le système de management de :

V.L.A.D.

Adresse principale:

400 Rue Emile Dewoitine 37210 PARÇAY-MESLAY France

a été enregistré par Intertek comme satisfaisant aux exigences de la norme :

ISO 13485:2016

Le système de management est applicable à :

Études de conception, d'adaptation, assemblage et fourniture de batteries d'accumulateurs et de piles pour les applications médicales

Numéro de certificat :

0086983

Date de certification initiale:

2019-02-01

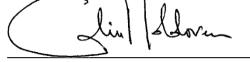
Date d'entrée en vigueur de la certification:

2019-02-01

Date d'expiration du certificat:

2022-01-31





Calin Moldovean

President, Business Assurance

Intertek Testing Services NA Ltd., 1829, 32nd Avenue, Lachine, QC, H8T 3J1, Canada





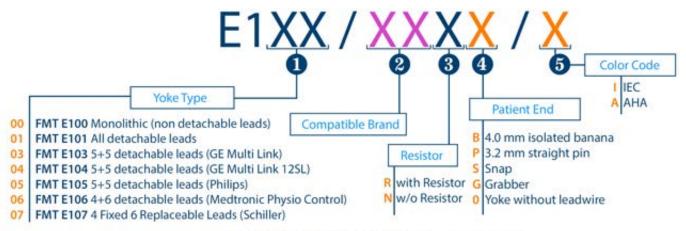




DIAGNOSTIC EKG

Cables & Accessories





To determine the part code enter specified parameter values instead of X.

FMT Diagnostic EKG cables are monolithic or with replaceable leads compatible with various yoke cable types for different EKG devices. Available options may be determined from "Cable Yokes" section.

Full part number is valid for yoke and grouped leads. If you would like to buy yoke without leads, just write "0" value for patient end -field 4-, after filling other sections.

You can find cables for various brands and models, resistor values in "EKG device side connectors and compatible brands" section.

Patient end connections can be selected from banana, straight pin, grabber or snap options. You can choose Patient End code and IEC or AHA color code from "Leadwires Patient Ends" section.

EKG Cables have 1.80 m yoke cable length (Ø6.0 mm), 80 cm chest and 100 cm extremity lead lengths (Ø3.0 mm). Other lengths are available upon request.



10 lead (4+6 detachable leads),

Schiller type yoke.

EKG device side connectors and compatible brands



EKG device side connectors and compatible brands





E100/MRX/X E101/MRX/X

10 kΩ

Mortara ELI 50, ELI 100, ELI 200.

15 pin D-sub connector with locking plastic latches





E100/LNX/X E101/LNX/X

PETAŞ Kardiopet 300, 500.





E100/BNX/X E101/BNX/X E104/BNX/X GE Solar 7000/8000/9500, DASH 2500, 3000, 4000, 5000, Eagle 500, 1000, 3000, 5000, BP30, Dinamap PRO 1000, MAC-Lab, Tram Modules.

11 pin rectangular connector





E100/TRX/X E101/TRX/X

1kΩ

Spacelabs Ultraview 90496.

17 pin circular connector





E100/YRX/X E101/YRX/X

10 kΩ

Fukuda Denshi DS7300.



12 pin circular connector



E100/ZRX/X

10 kΩ

TEPA All Stress Modules.

Only Grabber and Snap options are available.

15 pin DB15 female connector with screws





E100/JRX/X E101/JRX/X

10 kΩ

Burdick Eclise, 4, 8, 400, 800, LE11, 850, 8501, Eclipse Plus, ATRIA, ATRIA PLUS, ATRIA 3000.

15 pin D-sub connector





E100/ARX/X E101/ARX/X

4.7 kΩ

Trismed All Models.

15 pin D-sub connector with screws





E100/ONX/X E101/ONX/X

Carewell ECG1101, 1103, 1106, 1112, T10, T12.

15 pin D-sub connector with screws

EKG device side connectors and compatible brands





E100/RRX/X E106/RRX/X

10 kΩ

Medtronic Physio Control Lifepak 12/20. Only Grabber and Snap options are available.





E100/PRX/X E105/PRX/X

1-3.2 kΩ

Philips / HP M1949A.

Only Grabber and Snap options are available.





E100/IRX/X

10 kΩ

Progetti Rescue Life Defibrilator.

Only Grabber and Snap options are available.





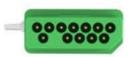


E100/WRX/X E107/WRX/X

10 kΩ

Zoll M Series.

Only Grabber and Snap options are available.





E100/QNX/X

Nihon Kohden TEC-8300K Series Defibrilator.

Only Grabber and Snap options are available.





E100/VRX/X 1kΩ Metrax Primedic Defimonitor EVO, Mediana D500.

Only Grabber and Snap options are available.





E107/URG/X

1 kΩ

Schiller Argus Pro Lifecare 2, Defigard Touch 7, Physiogard Touch 7

Only Grabber option is available.

13 pin circular connector

eadwires

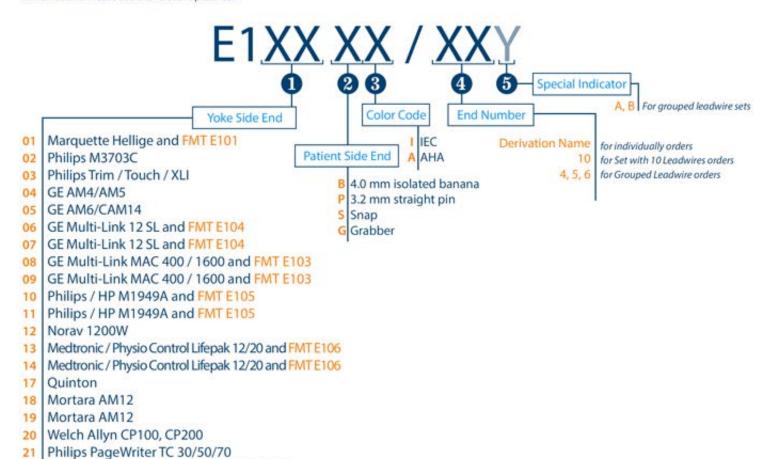


"B" for 4.0 mm isolated banana, "P" for 3.2 mm straight pin, "S" for snap, "G" for grabber, "I" for IEC color coding, "A" for AHA color coding.

Replacement Leadwires

Schiller Argus Pro Lifecare 2 and FMT E107

Replacement Leadwires are available for purchase separately. You can determine the part number using the below table to order individually or as a set. For individual order for Leadwires, enter derivation name instead of XX at field 4 (Example: E101BI/C6). If you're going to order Leadwires for replacement 10 pcs as a set, enter 10 instead of XX at field 4 (Example: E101BI/10). Some Leadwire sets are grouped as 3, 4, 5 or 6 pcs. For ordering grouped leadwires enter number of grouped leadwires instead of XX at field 4 (Example: E110GI/5). A Special Indicator is use to distinguish some grouped leadwire sets consisting of different leadwire combinations. Please see the relevant pictures.



Leadwires

E101XX/X Leadwire for Marquette Hellige and FMT E101 cable yokes. (R/N/F/L 110 cm, C1/C2/C3/C4/C5/C6 80 cm)



Example: E101BI/R leadwire with banana end, IEC color code, R

E102XX/X Leadwire for Philips M3703C EKG Module. (R/N/F/L 110 cm, C1/C2/C3/C4/C5/C6 80 cm)



Example: E102BI/R leadwire with banana end, IEC color code, R

E103XX/X
 Leadwire "or Philips PageWriter Trim/Touch/XLI EKG Module. (R/N/F/L 110 cm, C1/C2/C3/C4/C5/C6 80 cm)



Example: E103BI/R leadwire with banana end, IEC color code, R

E104XX/X Leadwire for GE AM4/AM5 EKG Module. (R/N/F/L 110 cm, C1/C2/C3/C4/C5/C6 80 cm)



Example: E104BI/R leadwire with banana end, IEC color code, R

E105XX/X Leadwire for GE AM6/CAM14 Module and FMT E103 cable yoke. (R/N/F/L 110 cm, C1/C2/C3/C4/C5/C6 80 cm)



Example: E105BI/R leadwire with banana end, IEC color code, R

E106XX/5 Grouped Leadwire for GE Multi-Link 12 SL and FMT E104 cable yokes. (R/N/F/L/C 100 cm)



Example: E106SI/S Leadwire set with 5 snap end, IEC color code, (N,R,L,F,C)

E107XX/5 Grouped Leadwire for GE Multi-Link 12 SL and FMT E104 cable yokes. (C2/C3/C4/C5/C6 100 cm)



Example: E107SI/5 Leadwire set with 5 snap end, IEC color code, (C2,C3,C4,C5,C6)

E108XX/5 Grouped Leadwire for GE Multi-Link MAC 400 / 1600 and FMT E103 cable yokes.(N/R 110cm, C1/C2/C3 80cm)



Example: E1085I/5 leadwire set with 5 snap end, IEC color code, (N,R,C1,C2,C3)

E109XX/5 Grouped Leadwire for GE Multi-Link MAC 400 / 1600 and FMT E103 cable yokes. (L/F 110cm, C4/C5/C6 80cm)



Example: E109SI/5 leadwire set with 5 snap end, IEC color code, (C4, C5, C6, L, F)

eadwires

E110GX/5-OR Grouped Leadwire with ESU protection for Philips/HP M1668A, M1669A, M1663A, M1949A and FMT E105 cable yokes.



Example: E110GI/5-OR leadwire with 5 grabber end, IEC Color Code (N, L, F, R, C/C1)

E111GX/5-OR Grouped Leadwire with ESU protection for Philips/HP M1663A, M1949A and FMT E105 cable yokes. (C6/C5/C4/C3/C2 100cm)
 Only Grabber option is available.



Example: E111Gl/5-OR leadwire with, 5 grabber end, IEC Color Code, (C6, C5, C4, C3, C2)

E110XX/5 Grouped Leadwire for Philips/HP M1663A, M1949A and FMT E105 cable yokes. (C1/R/F/L/N 100cm)



Example: E110SI/5 leadwire with 5 snap end, IEC color code, (C1, R, F, L, N)

E111XX/5 Grouped Leadwire for Philips/HP M1663A, M1949A and FMT E105 cable yokes. (C6/C5/C4/C3/C2 100cm)



Example: E111SI/5 leadwire with 5 snap end, IEC color code, (C6, C5, C4, C3, C2)

E112XX/X Leadwire for Norav 1200W Module. (R/L/N/F 110cm, C1/C2/C3/C4/C5/C6 80cm)



Example: E112BI/R leadwire with banana end, IEC color code, R

E113XX/4 Grouped Leadwire for Meditronic / Physio Control Lifepak 12/20 and FMT E106 cable yokes. (F/L/R/N 100cm)



Example: E113GI/4 leadwire with 4 grabber end, IEC color code, (EL,RN)

E114XX/6 Grouped Leadwire for Meditronic / Physio Control Lifepak 12/20 and FMT E106 cable yokes. (C1/C2/C3/C4/C5/C6 100cm)



Example: E114GI/6 leadwire with 6 grabber end, IEC color code, (C1, C2, C3, C4, C5, C6)

E117XX/X Leadwire for Quinton stress test module. (R/L/N/F 110cm, C1/C2/C3/C4/C5/C6 80cm)
 Only Grabber and Snap options are available.



Example: E117GI/R leadwire with grabber end, IEC color code, R

Leadwires

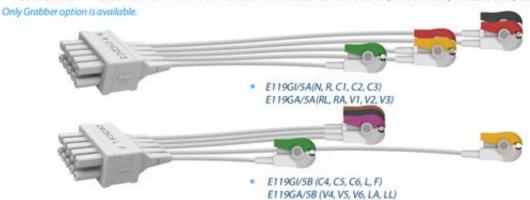
E118XX/10 Leadwire for Mortara AM12 and WAM EKG module. (N/R/L/F 120cm, C1/C2/C3/C4/C5/C6 90cm)

Only Banana and Grabber options are available.



Example: E1188I/10 leadwire with banana end, IEC color code, (N, R, C1, C2, C3, C4, C5, C6, L, F)

E119GX/10 Leadwire for Mortara AM12 and WAM Stress EKG module. (N/R/L 75cm, C1/C2 70cm, C3/C4/C5/C6 60cm, F 43cm)



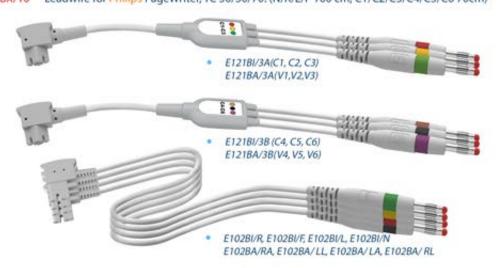
Example: E119GI/10 leadwire with grabber end, IEC color code, (N, R, C1, C2, C3, C4, C5, C6, L, F)

E120XX/X Leadwire for Welch Allyn CP100, CP200 patient cable. (R/L/N/F 110cm, C1/C2/C3/C4/C5/C6 80cm)



Example: E120BI/R leadwire with banana end, IEC color code, R

E1218X/10 Leadwire for Philips PageWriter, TC 30/50/70. (N/R/L/F 100 cm, C1/C2/C3/C4/C5/C6 70cm)



Example: E121BI/10 leadwire with banana end, IEC color code

E122GX/6 Leadwire for Schiller Argus Pro Lifecare 2 and FMT E107 (C1/C2/C3/C4/C5/C6 40cm)
 Only Grabber option is available.



Example: E122GI/6 leadwire with grabber end. IEC color code

Clamp Electrodes

Universal connection is suitable for use with 3.2 mm straight pin, 4.0 mm banana or snap lead termination leadwires.

All of the metallic surfaces are Silver –Silver Chloride (Ag/AgCl) plated to provide maximum signal quality.

Color coded IEC or AHA protocols.

The lengths of clamp electrodes are 140 mm for adult size, 89 mm for pediatric size.

Supplied in package of 4 pieces set.

CEAI1 Adult AHA CEAA1 Pediatric IFC CEAI2 Pediatric AHA CEAA2

Package 4 pcs./set, Red, Green, Yellow, Black Package 4 pcs./set, Red, Green, White, Black Package 4 pcs./set, Red, Green, Yellow, Black Package 4 pcs./set, Red, Green, White, Black





Suction Chest Electrode

- Suction chest electrodes with universal connection, are suitable for use with 3.2 mm straight pin, 4.0 mm banana or snap lead termination leadwires.
- All of the metallic surfaces are Silver-Silver Chloride (Ag/AgCl) plated to provide maximum signal quality.
- The outer diameter of adult suction bowl is 24.0 mm. The diameter of the silicone bulb is 30.0 mm. The diameter of pediatric suction bowl is 17.0 mm. The diameter of the silicone bulb is 21.4 mm.
- Supplied in package of 6 pieces set.

SE1 Package 6 pcs./set Adult Pediatric SE2 Package 6 pcs./set

Banana to Snap Adaptor

- Banana to Snap Adaptors allows you to easily connect 3.2 mm straight pin and 4.0 mm banana plug leadwires to disposable ECG electrodes with 4.0 mm snap studs.
- Banana to Snap Adaptors supplied in package of 10 pieces set.





BS3 3.2 mm straight pin to snap adaptor, Grey, Package 10 pcs./set
 BS4 4.0 mm banana to snap adaptor, White, Package 10 pcs./set

Banana to Alligator Clip Adaptor

- Allows you to easily connect 4.0 mm banana plug leadwires to disposable ECG electrodes with tab connectors.
- Supplied in package of 10 pieces set.

BA4 4.0 mm banana to alligator adaptor, 10 pcs./set





Banana to Grabber Adaptor

- Converts 3.2 mm straight pin and 4.0 mm banana plug leadwires to disposable ECG electrodes with 4.0 mm snap studs.
 - Supplied in package of 10 pieces set.

BG31/10 3.2 mm straight pin to grabber adaptor, Grey, IEC color code, Package 10 pcs./set 3.2 mm straight pin to grabber adaptor, Grey, AHA color code, Package 4.0 mm banana to grabber adaptor, White, IEC color code, Package BG3A/10 10 pcs./set BG4 I/10 10 pcs./set

BG4A/10 4.0 mm banana to grabber adaptor, White, AHA color code, Package



Your solution provider for Medical Cables, Sensors & Accessories

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HEADQUARTER & FACTORY ————

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http://www.metkoltd.com metko@metkoltd.com

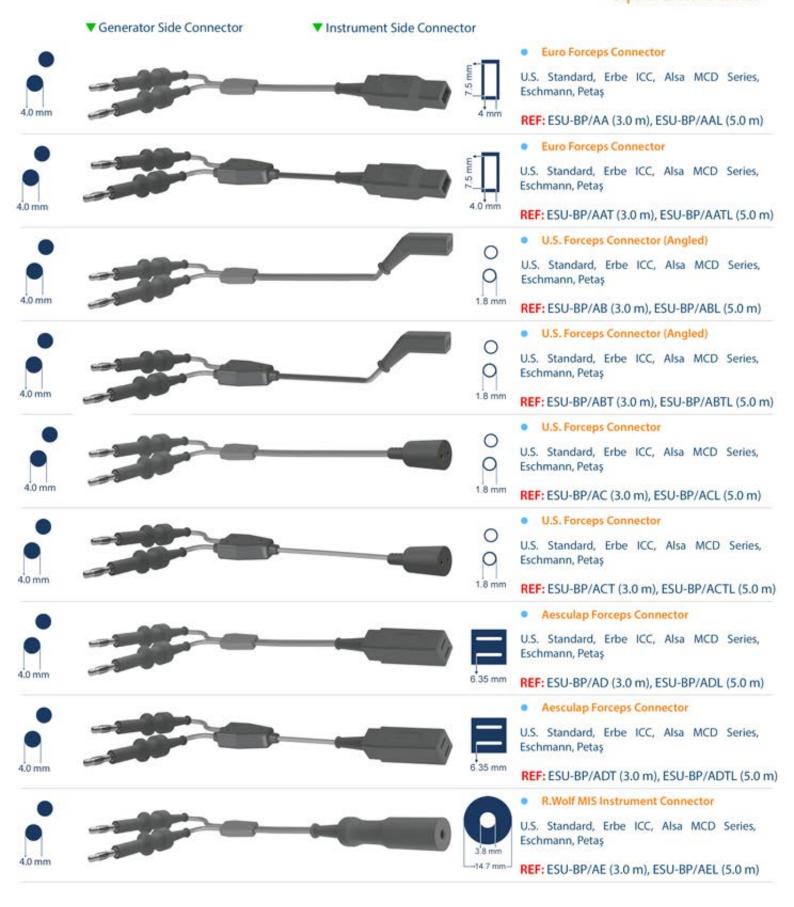


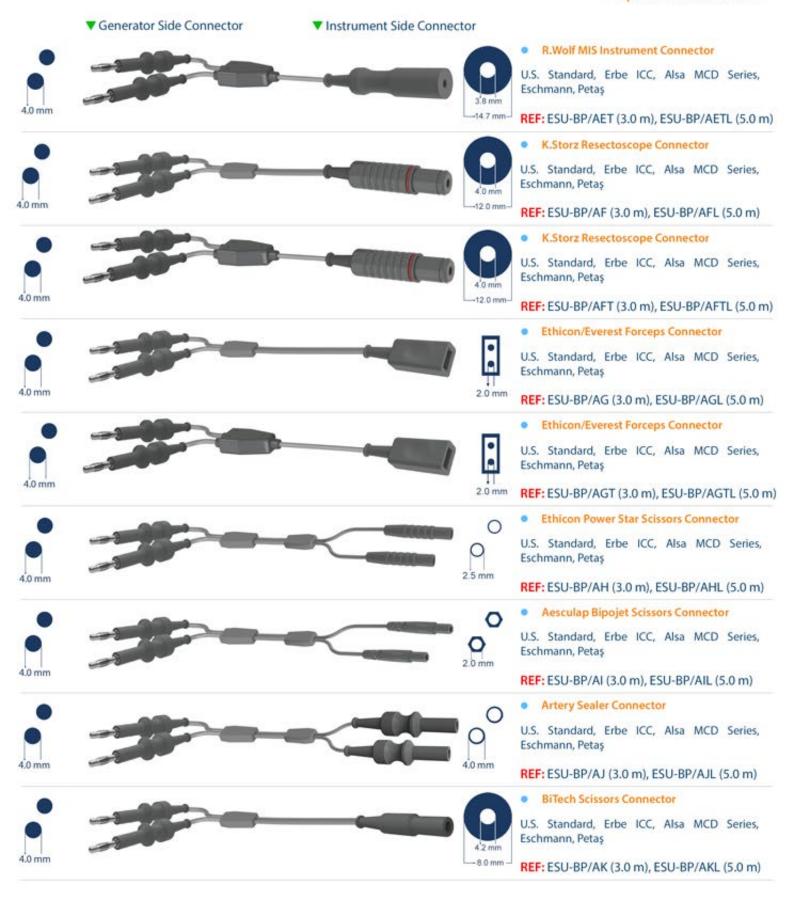


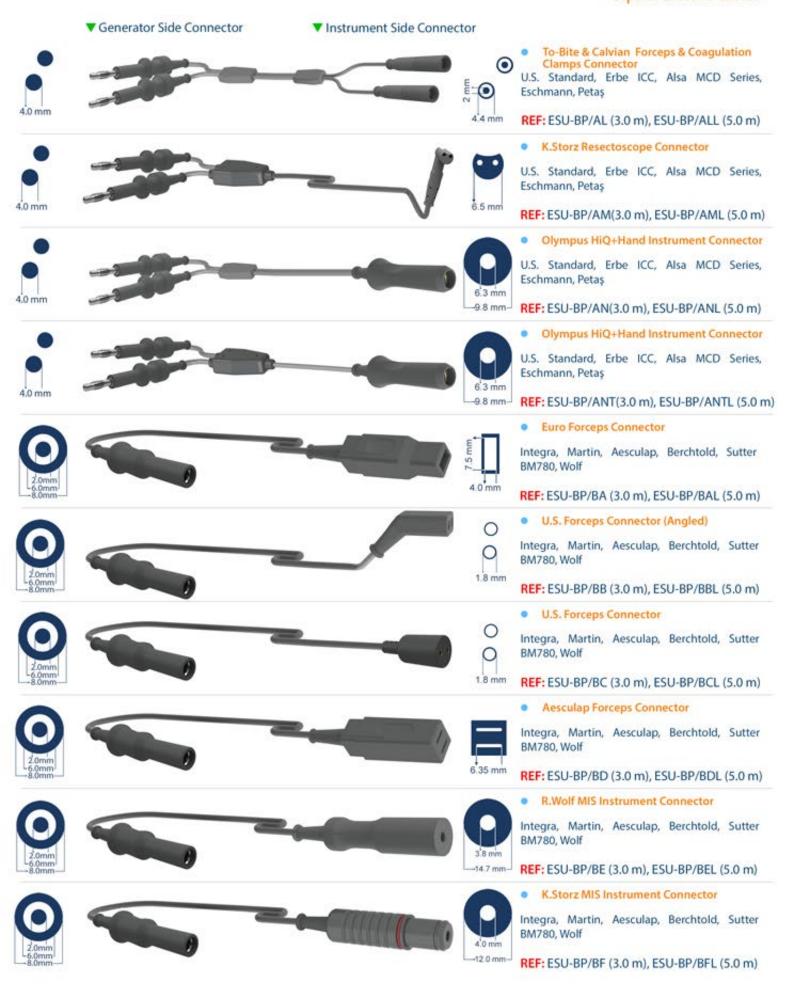
ELECTROSURGERY

Cables & Accessories



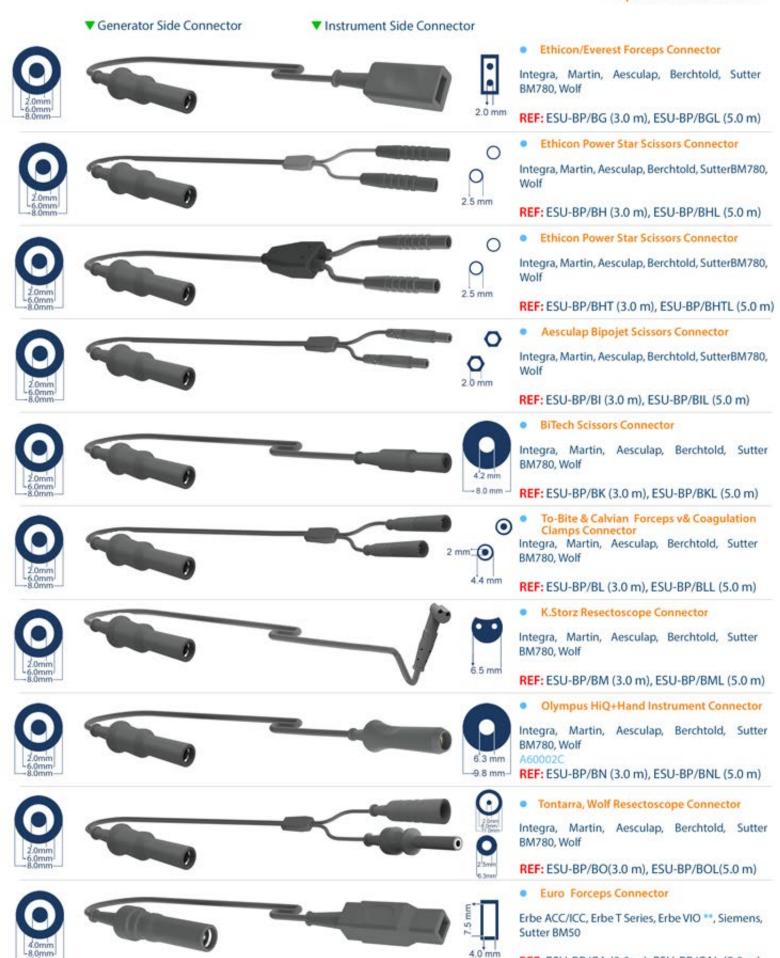


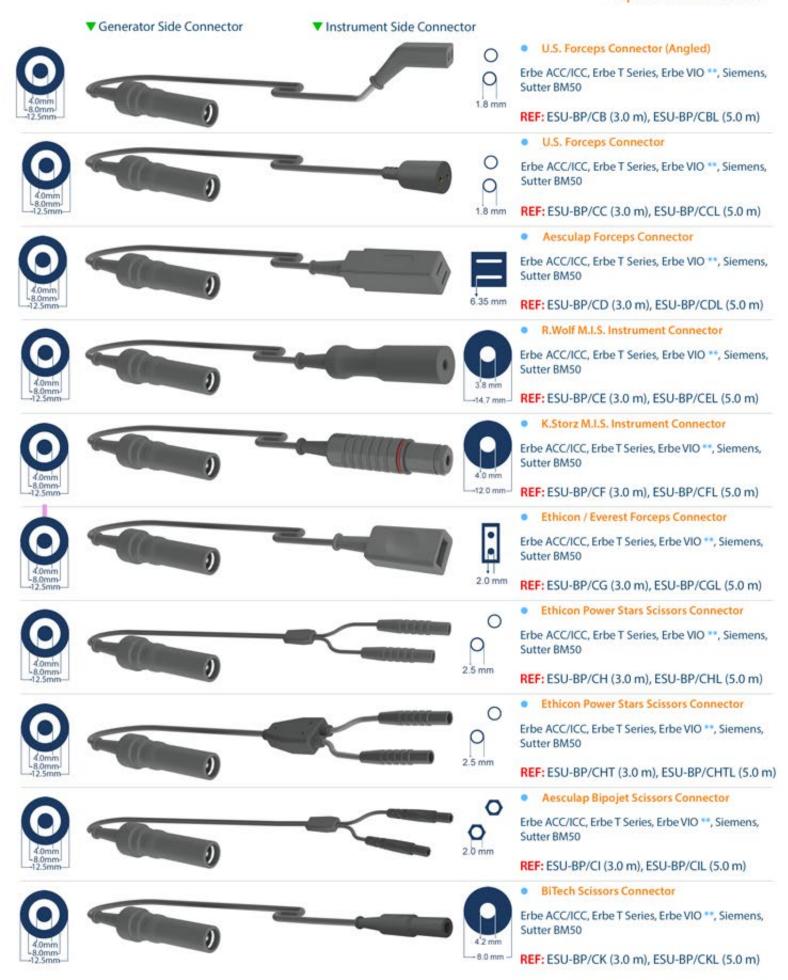




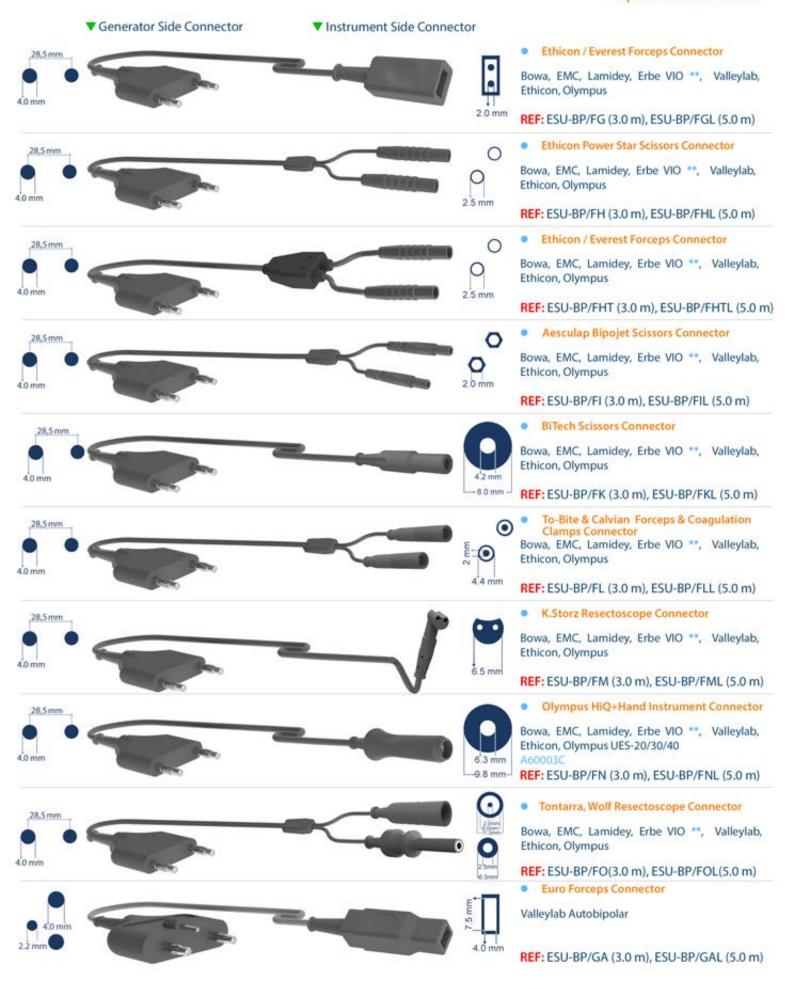
Bipolar Silicone Cables

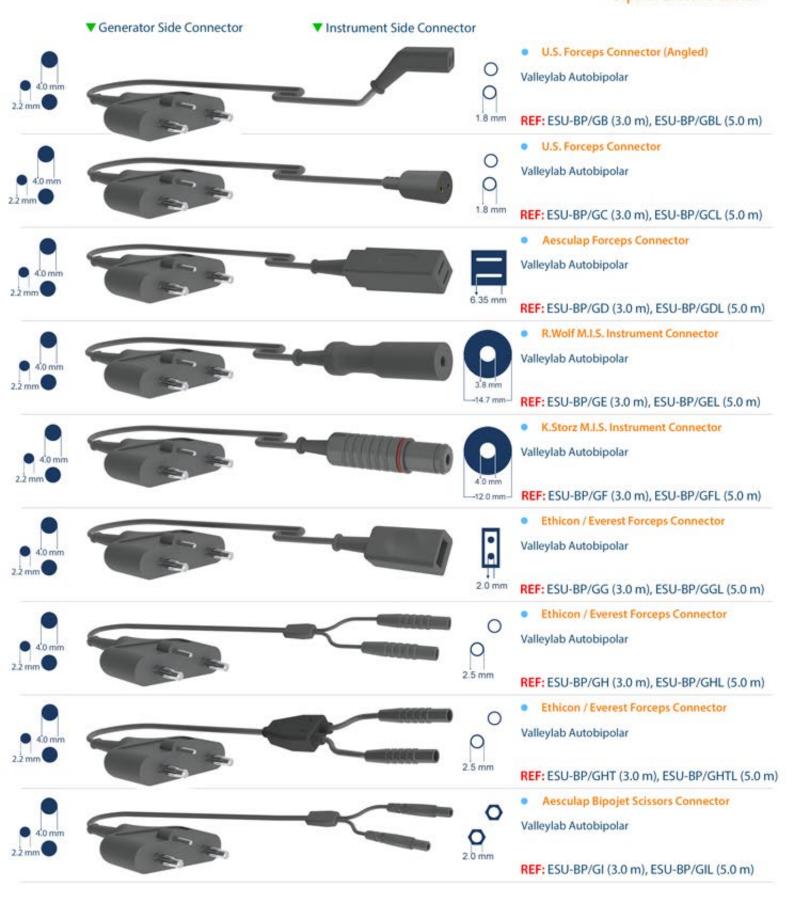
REF: ESU-BP/CA (3.0 m), ESU-BP/CAL (5.0 m)





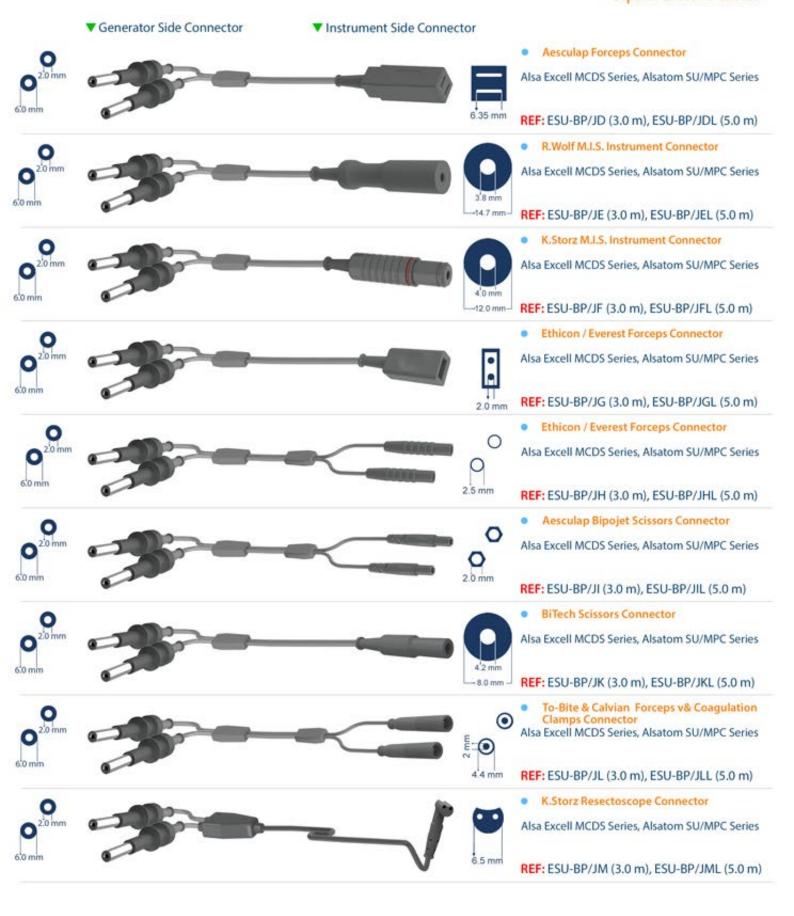


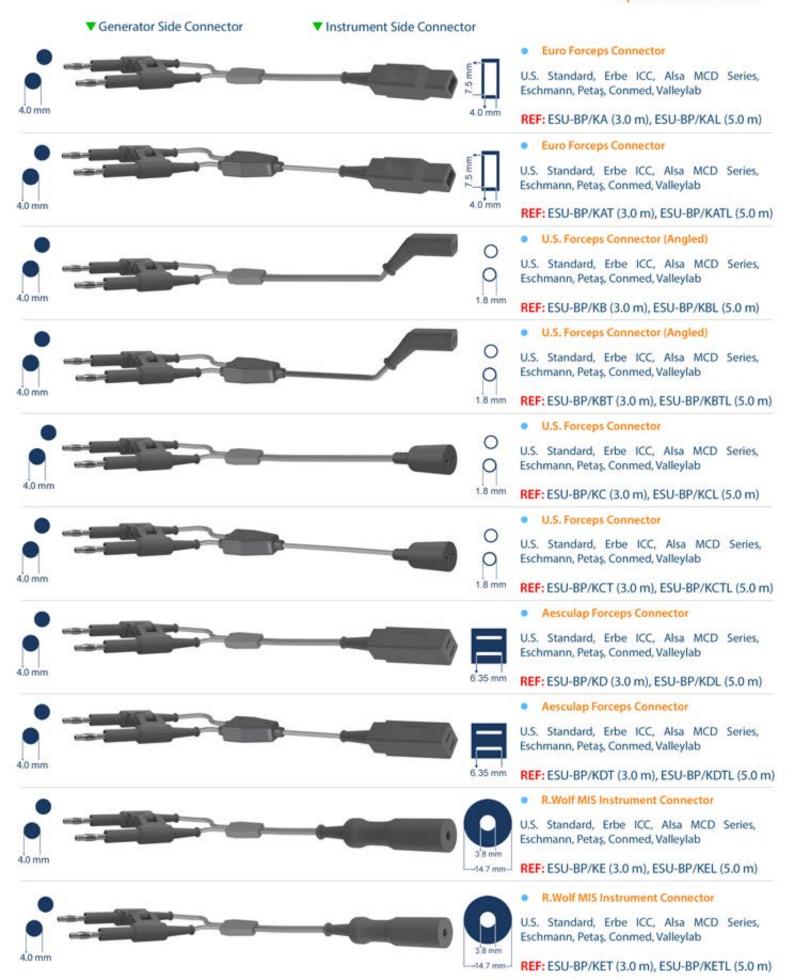




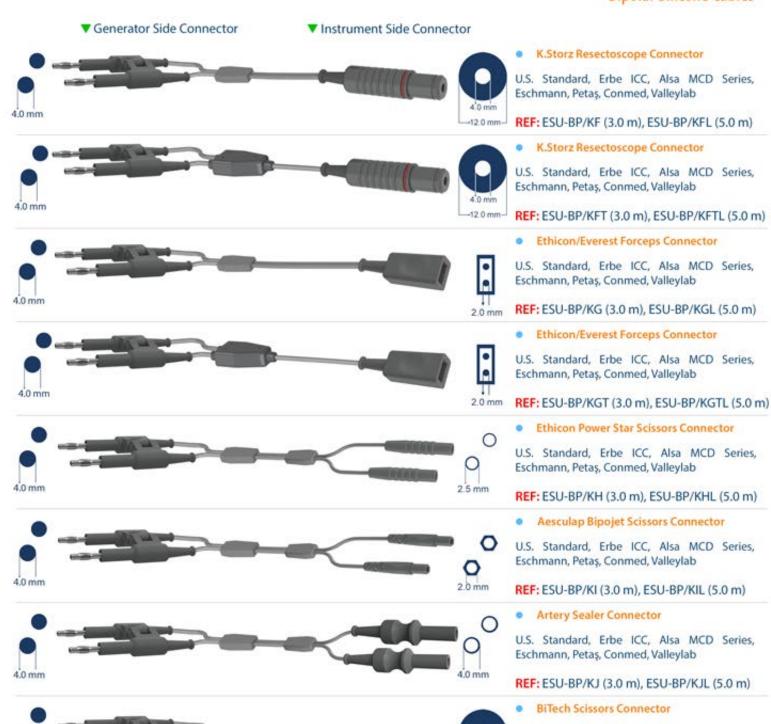








Bipolar Silicone Cables



U.S. Standard, Erbe ICC, Alsa MCD Series, Eschmann, Petaş, Conmed, Valleylab

REF: ESU-BP/KJ (3.0 m), ESU-BP/KJL (5.0 m)



U.S. Standard, Erbe ICC, Alsa MCD Series, Eschmann, Petaş, Conmed, Valleylab

REF: ESU-BP/KK (3.0 m), ESU-BP/KKL (5.0 m)



To-Bite & Calvian Forceps & Coagulation Clamps Connector

U.S. Standard, Erbe ICC, Alsa MCD Series, Eschmann, Petaş, Conmed, Valleylab

REF: ESU-BP/KL (3.0 m), ESU-BP/KLL (5.0 m)



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K.Storz Resectoscope Connector

U.S. Standard, Erbe ICC, Alsa MCD Series, Eschmann, Petaş, Conmed, Valleylab

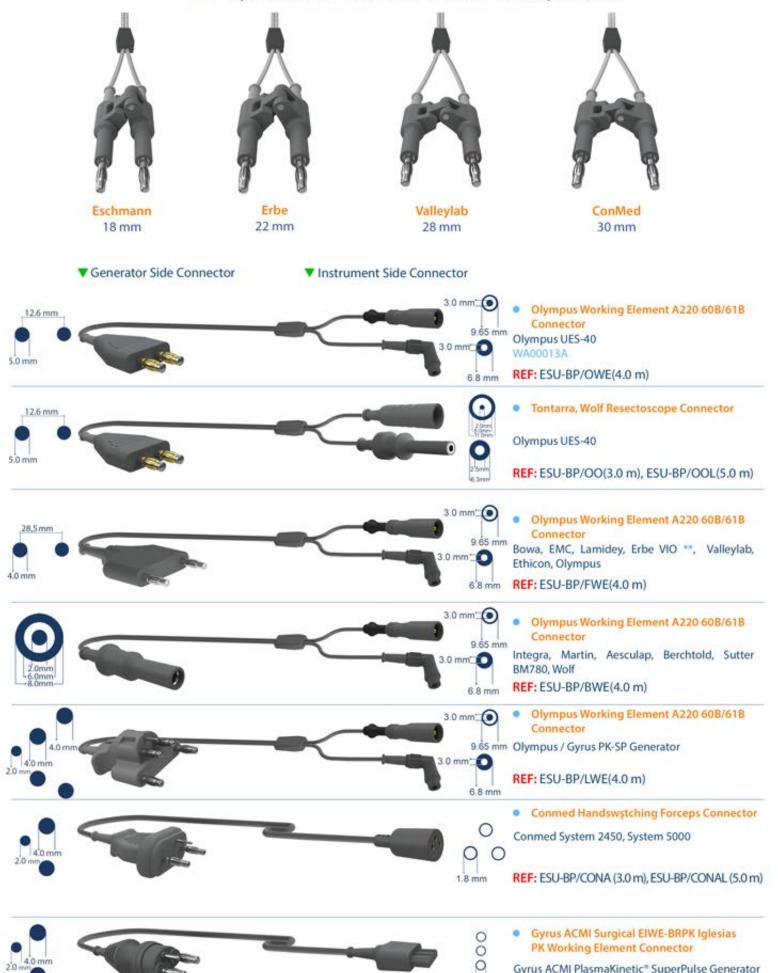
REF: ESU-BP/KM(3.0 m), ESU-BP/KML (5.0 m)

Bipolar Silicone Cables

Gyrus ACMI PlasmaKinetic® SuperPulse Generator

REF: ESU-BP/GYR (3.0 m), ESU-BP/GYRL (5.0 m)

4 mm adjustable connector with double banana for K series bipolar cables



1.0 mm

Bipolar Adapters











Connecting finger switch handles with 3 pin plugs, for Erbe T Series generators.

REF: ESU-ADP/01









Connecting finger switch handles with 3 pin plugs, for Erbe ACC / ICC, Erbe VIO generators.

REF: ESU-ADP/02









Connecting finger switch handles with 3 pin plugs for Martin, Integra generators.

REF: ESU-ADP/03



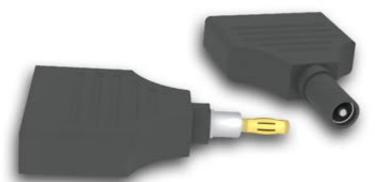




4 mm banana to 6 mm Alsa Excel connector adapter for Alsa Excel generator

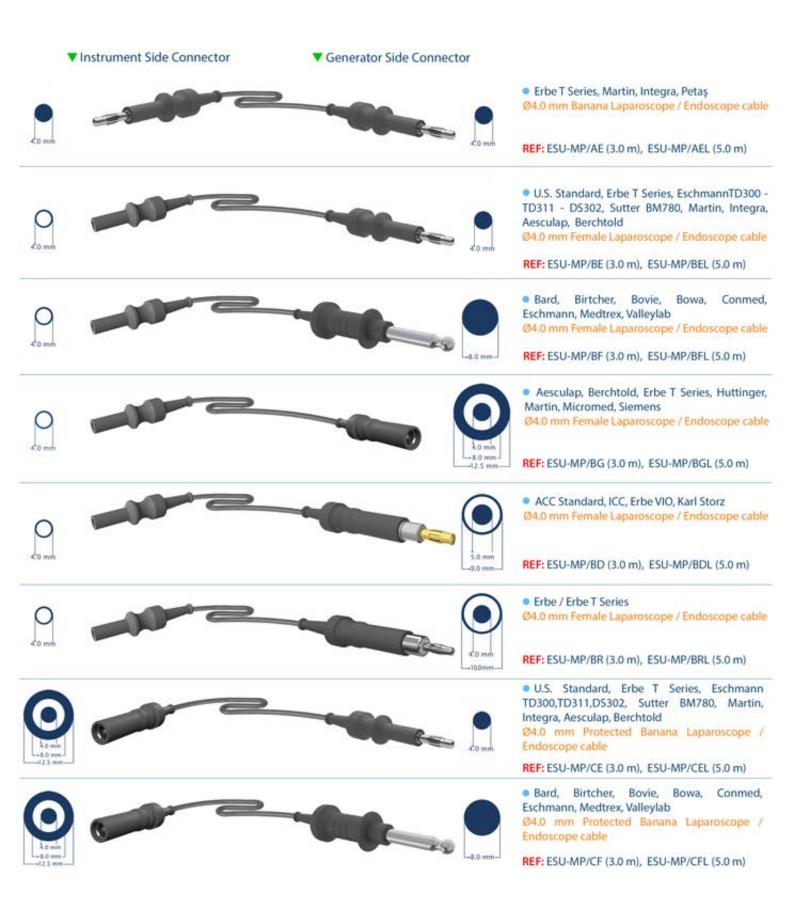
REF: ESU-ADP/04 (0.2 m)







Monopolar Silicone Cables



Monopolar Silicone Cables





Aesculap, Berchtold, Erbe T Series, Huttinger,

Ø2.0 mm Comeg / Wolf / Storz Resectoscope cable

REF: ESU-MP/JG (3.0 m), ESU-MP/JGL (5.0 m)

 ACC Standard, ICC, Erbe VIO, Karl Storz Ø2.0 mm Comeg / Wolf / Storz Resectoscope cable

REF: ESU-MP/JD (3.0 m), ESU-MP/JDL (5.0 m)

Erbe / Erbe T Series Ø2.0 mm Comeg / Wolf / Storz Resectoscope cable

REF: ESU-MP/JR (3.0 m), ESU-MP/JRL (5.0 m)

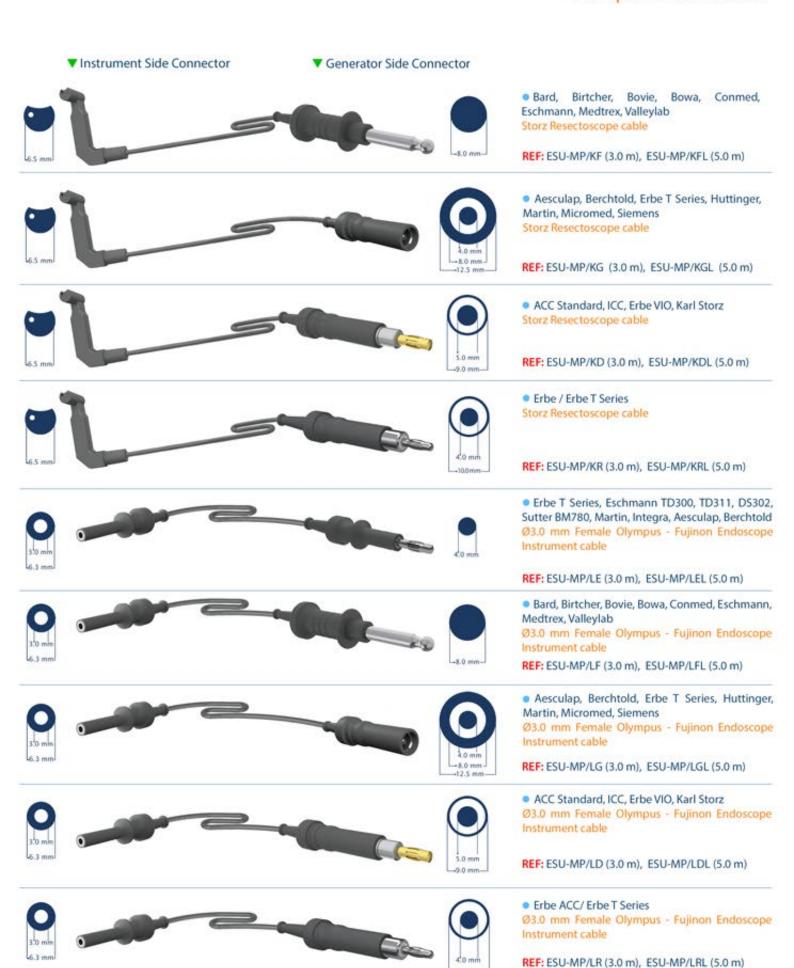


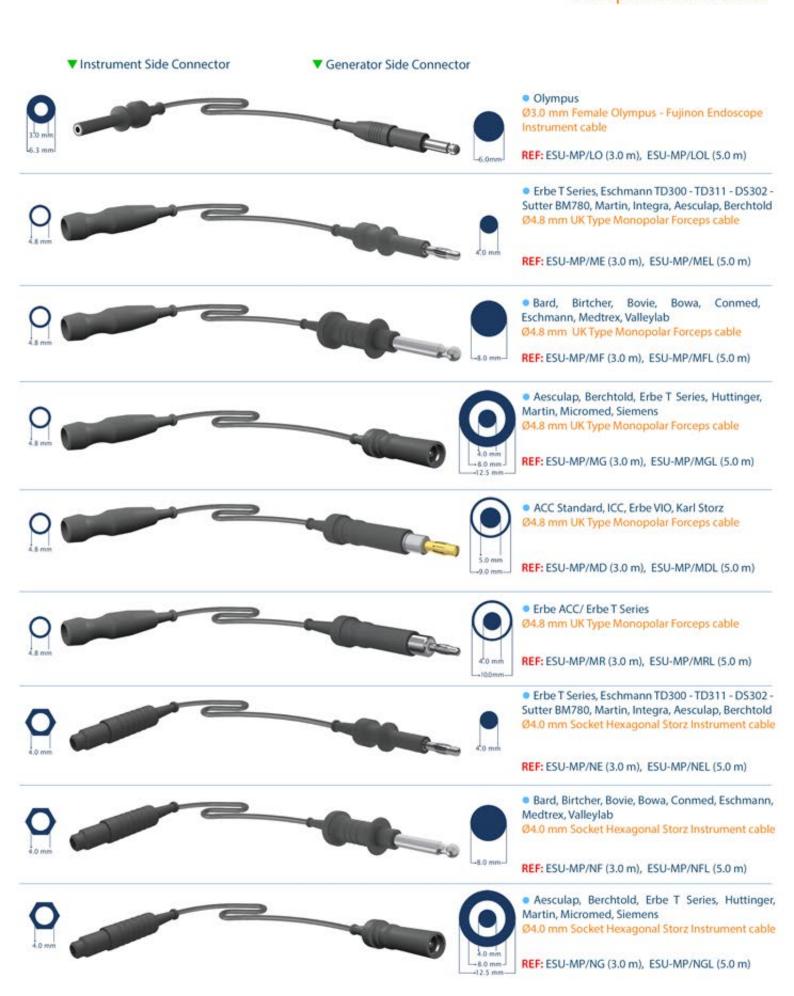


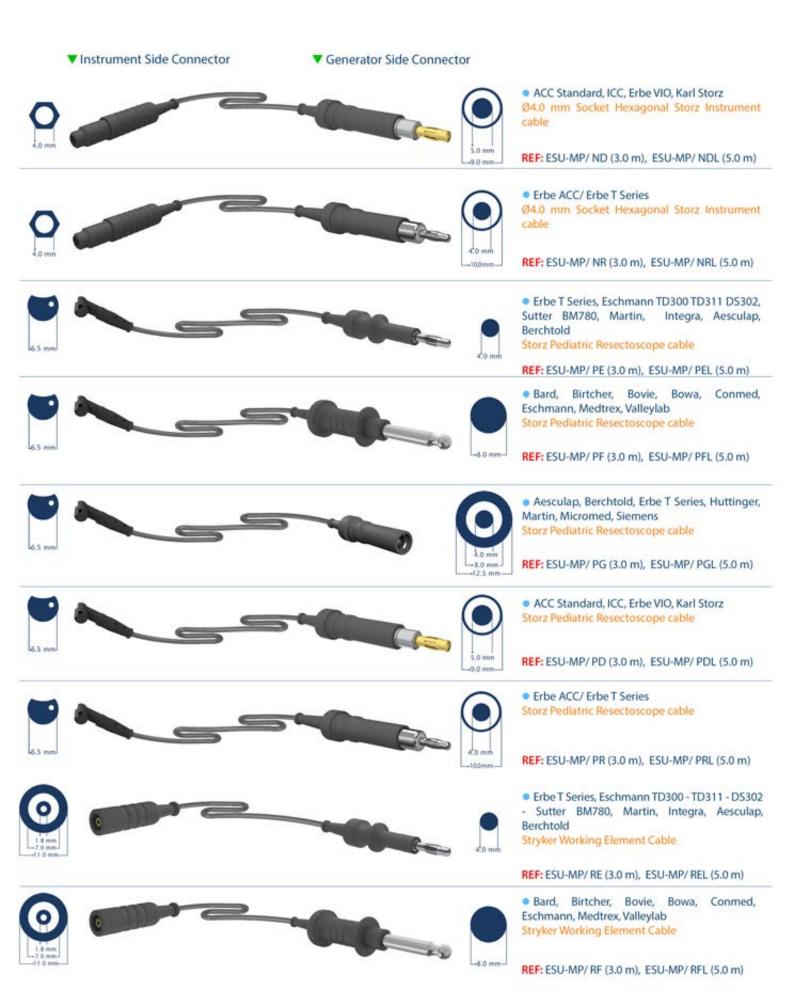
 Erbe T Series, Eschmann TD300 TD311 DS302, Sutter BM780, Martin, Integra, Aesculap, Berchtold

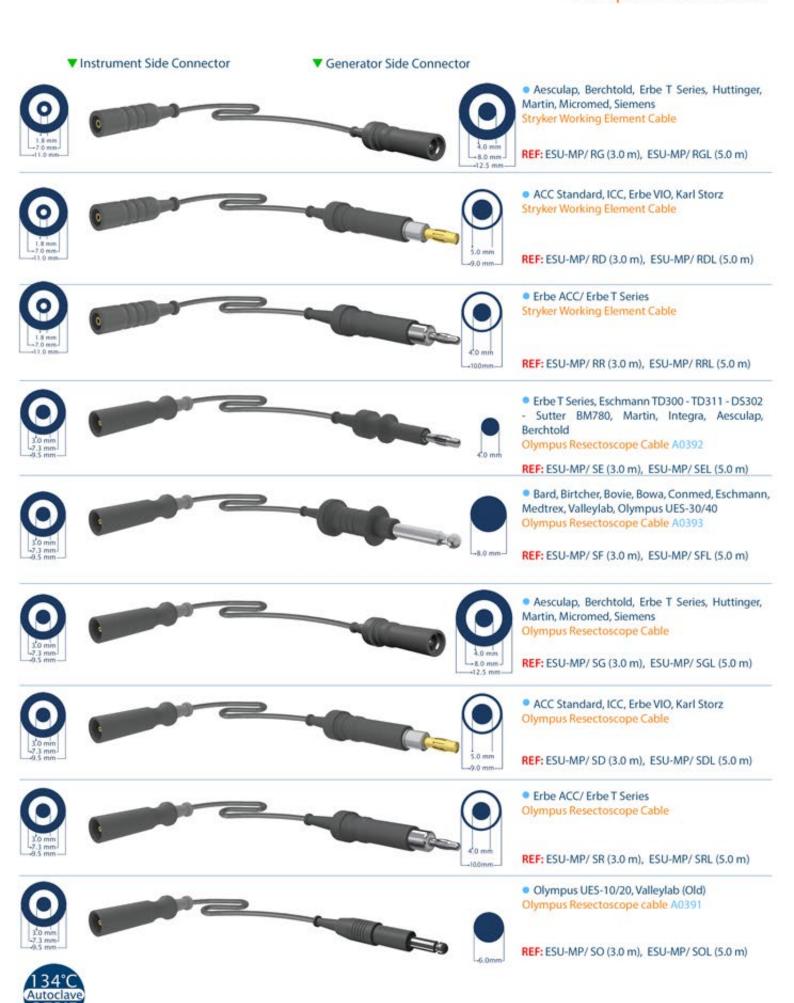
Storz Resectoscope cable

REF: ESU-MP/KE (3.0 m), ESU-MP/KEL (5.0 m)









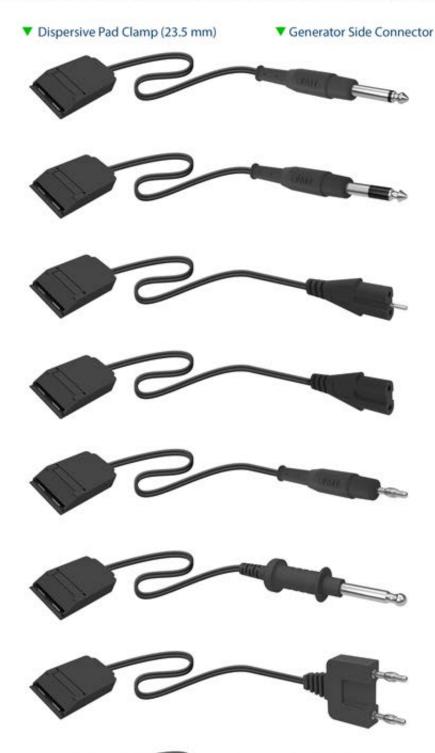
Reusable Dispersive Cables

Electrosurgical Reusable Dispersive Cables, Blue Series (Non-Autoclavable)



Reusable Dispersive Cables

Electrosurgical Reusable Dispersive Cables, Black Series (Autoclavable)





Alsa, Bard, Berchtold, Bovie-Aaron 950 / 1200, Eschmann TD400 / TD800, Martin, Meditom

REF: RDC-A3A (3.0 m), RDC-A5A (5.0 m)

Erbe ACC/ICC, Erbe T Series, Erbe VIO

REF: RDC-B3A (3.0 m), RDC-B5A (5.0 m)

Aspen, Bovie-Aaron 1250 / 2250 / 3250, Bowa, Conmed, Petaş 500 / 600, Valleylab

REF: RDC-C3A (3.0 m), RDC-C5A (5.0 m)

Bowa, Conmed, Valleylab

REF: RDC-D3A (3.0 m), RDC-D5A (5.0 m)

Valleylab (Old Generation)

REF: RDC-E3A (3.0 m), RDC-E5A (5.0 m)

Bovie

REF: RDC-F3A (3.0 m), RDC-F5A (5.0 m)

Actoll, Diadon, Downs 450P2, Eschmann TD300 / TD311/ DS302

REF: RDC-G3A (3.0 m), RDC-G5A (5.0 m)

Petaş 400/ 450 (Old Generation), Eschmann (Adjustable)

REF: RDC-H3A (3.0 m), RDC-H5A (5.0 m)

Bovie-Aaron 1250 / 2250 / 3250

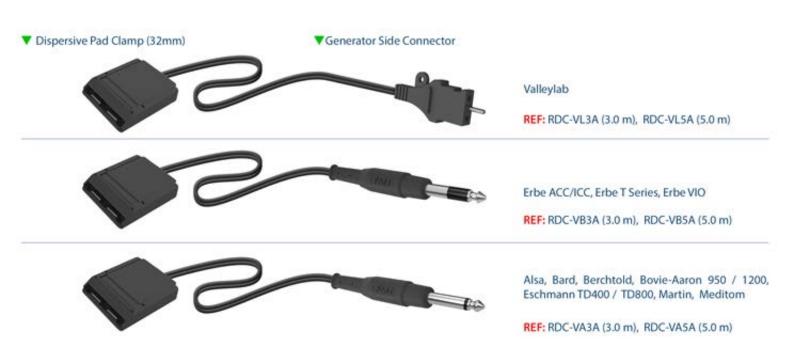
REF: RDC-I3A (3.0 m), RDC-I5A (5.0 m)

Reusable Dispersive Cables

Valleylab Style Electrosurgical Reusable Dispersive Cables, Blue Series (Non-Autoclavable)



Valleylab Style Electrosurgical Reusable Dispersive Cables, Black Series (Autoclavable)





Disposable Grounding Pads

FMT Electrosurgical Disposable Grounding Pads provide safety of the highest degree. They are compatible with all makes of generators in the market. FMT Electrosurgical Disposable Grounding Pads have a soft, gel-like, conductive adhesive surrounded by an isolation on foam backing. Product benefits include,

Soft hydrogel maintains complete contact over entire pad area, which conforms perfectly to the body contours providing maximum safety.

Low skin contact impedance ensures the plate stays as cool as possible during use.

Flexible low profile foam, easy to mould provides excellent security.

Flexible foam backing prevents creasing and maintains integrity for easy removal.

FMT Electrosurgical Disposable Grounding Pads are solvent and latex free for optimum skin compatibility.

Available in a comprehensive range of sizes, adult or pediatric, split or solid styles, and with or without pre-attached cable.



REF Number	Size	Туре	Conductive Area	Connection
FMT - MA	Adult	Mono / Solid Style	134cm ²	Tab connector, without cable
FMT - BA	Adult	Dual / Split Style	125cm ²	Tab connector, without cable
MT - MP	Pediatric	Mono / Solid Style	79cm²	Tab connector, without cable
MT - BP	Pediatric	Dual / Split Style	72cm²	Tab connector, without cable
MT - CMA •	Adult	Mono / Solid Style	134cm ²	2.8 m cable and Valleylab type connector
MT - CBA *	Adult	Dual / Split Style	125cm ²	2.8 m cable and Valleylab type connector
MT - CMP *	Pediatric	Mono / Solid Style	79cm²	2.8 m cable and Valleylab type connector
MT - CBP *	Pediatric	Dual / Split Style	72cm²	2.8 m cable and Valleylab type connector

^{*} Manufactured upon order

Reusable Grounding Pads & Cables

FMT - RGPB Dual Reusable Grounding Pads (Split Type)

Adult Size, Silicone, 20.0x15.0 cm, active surface (18.7 cm x 6.7 cm) x 2 (250 cm2), silicone, with 4 mm socket connection

FMT - RGPM Mono Reusable Grounding Pads (Solid Type)

Adult Size, Silicone, 20.0x15.0 cm, active surface 18.7 cm x 13.8 cm (258 cm2), with 4 mm socket connection





▼ Instrument Side Connector

Generator Side Connector

Valleylab

REF: RGPC-01 Silicone Cable, (3.0 m)

Erbe ACC/ICC, Erbe T Series, Erbe VIO

REF: RGPC-02 Silicone Cable, (3.0 m)

Alsa, Bard, Berchtold, Bovie-Aaron 950/ 1200, Eschmann TD400/TD800, Martin, Meditom

REF: RGPC-03 Silicone Cable, (3.0 m) Aspen, Bovie-Aaron 1250/ 2250/ 3250, Bowa, Conmed, Petaş 500/600, Valleylab

REF: RGPC-04 Silicone Cable, (3.0 m)

Bowa, Conmed, Valleylab

REF: RGPC-05 Silicone Cable, (3.0 m)

Valleylab (Old Type)

REF: RGPC-06 Silicone Cable, (3.0 m)

Bovie

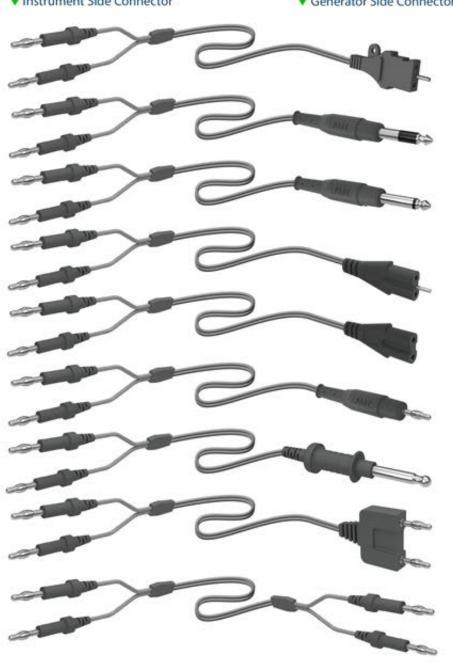
REF: RGPC-07 Silicone Cable, (3.0 m)

Actoll, Diadon, Downs 450P2, Eschmann TD300/TD311/DS302

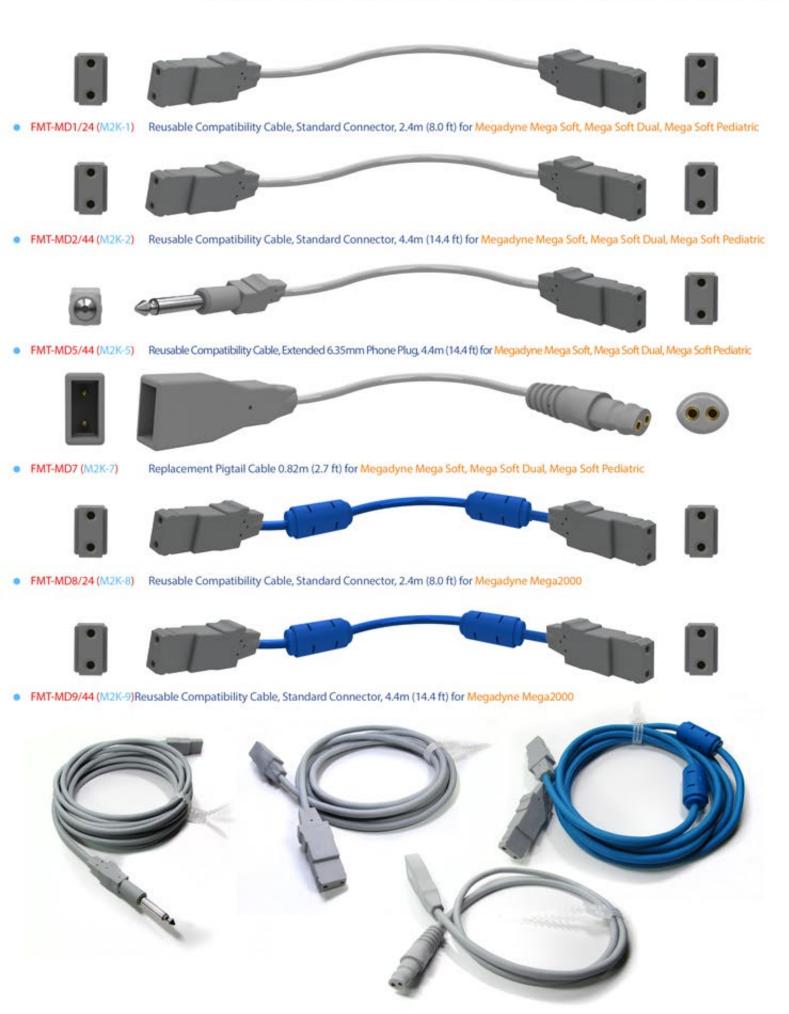
REF: RGPC-08 Silicone Cable, (3.0 m)

Petas 400/ 450 (Old Generation), Eschmann (Adjustable)

REF: RGPC-09 Silicone Cable, (3.0 m)



Reusable Connection Cable for MEGADYNE Universal Patient Return Electrodes



Foot Control ESU Pencil

FMT foot control ESU pencil without cable



Disposable Tip Clean Sponge

FMT electrosurgery tip clean sponges are single use products designed to allow safe, effective cleaning of electrosurgical pencil tips.

REF: TSC 01



- Allows quick and easy instrument cleaning.
- Polyurethane foam and pad with SiO2 powder impregnated textile abrasive layer.
- Coated scratch pad eliminates disruptive scraping of electrodes or instruments for quick and easy cleaning of instrument tips.
- Adhesive backed for universal placement. Adhesive backing provides secure placement on the mayo or patient drape.
- Extended adhesive peel-off backing enables easy removal for gloved personnel.
- Radiopaque barium strip allows X-Ray detectability.
- Single use only.
- Measures 5 cm x 5 cm (2" x 2").
- Latex free.
- Sterile packaged. Sterilized by EtO gas.
- Packing: 40 tip cleaner sponges per case.



Your solution provider for Medical Cables, Sensors & Accessories

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HEADQUARTER & FACTORY ————

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Certificate

No. Q5 013277 0505 Rev. 00

Holder of Certificate: Festo AG & Co. KG

Ruiter Str. 82 73734 Esslingen GERMANY

Facility(ies): Festo AG & Co. KG

Ruiter Str. 82, 73734 Esslingen, GERMANY

Festo Microtechnology AG

Büttenbergweg 19, 2542 Pieterlen, SWITZERLAND

Certification Mark:



Scope of Certificate: Design and development, production

and sale of components to control pressure and flow as well as handling systems for the use in medical device applications

Applied Standard(s): EN ISO 13485:2016

Medical devices - Quality management systems -

Requirements for regulatory purposes

(ISO 13485:2016) DIN EN ISO 13485:2016

The Certification Body of TÜV SÜD Product Service GmbH certifies that the company mentioned above has established and is maintaining a quality management system, which meets the requirements of the listed standard(s). See also notes overleaf.

Report No.: 713134150

Valid from: 2018-09-28 **Valid until:** 2021-09-27

Stefan Preiß

1. Punil

Date,

2018-08-30



Membrane Air Dryer

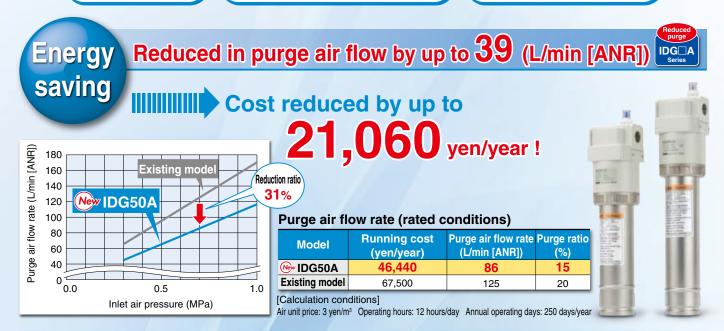


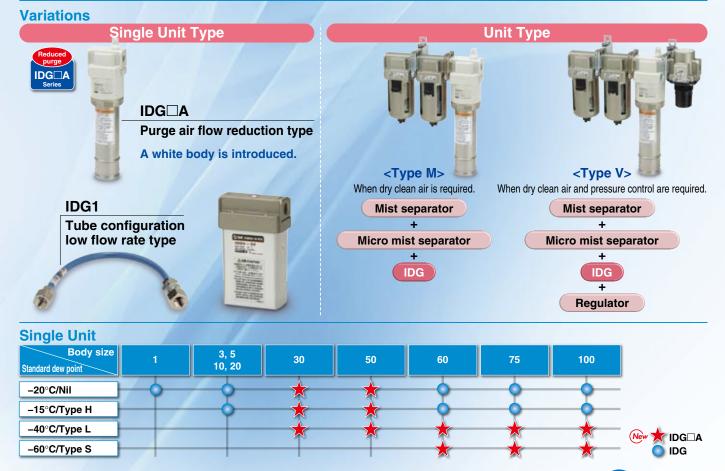


Possible to easily supply dry air using the hollow fiber membrane!



(Non-fluorocarbon) (Compatible with low dew point (-60°C)) (No vibration or heat discharge)











Total length is shortened. **Max. 59** mm

High

Time to reach the rated dew point performance Shortened by 40 minutes performance

Under SMC test condition

Size Series	30	50	60	75	100
New IDG□A	269	308	348	418	483
Existing model	271	315	392	472	542

* Standard dew point: -40°C/L, -60°C/H



Time to reach the rated dew point (minutes) Model New IDG100SA **Existing model**

59 mm **IDG100LA, 100SA Existing model**

> **Dew point indicator** visually confirms air

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

- O Color of the dew point indicator
- Normal operating: Blue

drying.

• Initial state: White/Pink





Fitting for exhausting purge air for dew point indicator

Fitting for exhausting purge air for dehumidification



Model with fitting for purge air discharge 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).

Dew point indicator

Reduced in purge air discharge noise with built-in silencer

Except IDG1, IDG3, IDG3H, IDG5, IDG5H, IDG30A, IDG30HA, IDG30LA, IDG50A, IDG50HA, IDG50LA

Dehumidification Principle

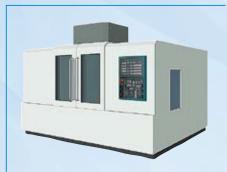
The membrane air dryer uses hollow fibers composed of a macro molecular membrane through which moisture passes easily, but is difficult for air (oxygen and nitrogen) to pass through.

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 Examples

Machine tool



Powder coating



Dental equipment

Others

 Chemical analysis equipment

Measuring machine



Food machinery



- Ozonizers, Hydrogen gas generating equipment
- Printed circuit board IC mounting machines



Semiconductor-related

manufacturing equipment

Packaging machine (sealing of film and paper package)



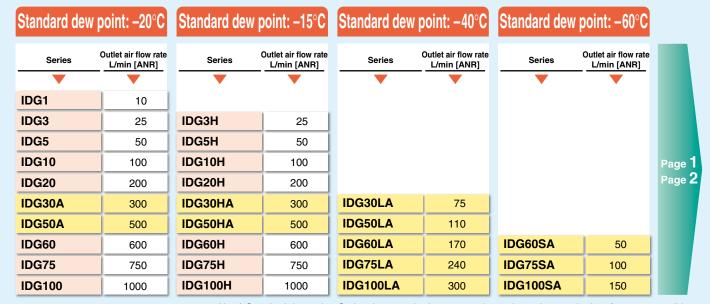
- Fine particle drying, Transfer equipment
- Drying and cleaning of precision parts
- Condensation prevention in control panels
- General pneumatic equipment and pneumatic tools



(New

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).

Single Unit Type



Note) Standard dew point: Outlet air atmospheric pressure dew point under standard performance conditions Outlet air flow rate: Values under standard performance conditions



Unit Type

<Type M>

A mist separator, micro mist separator, or micro mist separator with pre-filter combined with a single unit

Chandayal alayy maint.		00
Standard dew point: -	740	ľ

Standard dew point: -15°C

Standard dew point: -40°C

Standard dew point: -60°C

Series	Outlet air flow rate L/min [ANR]	Series	Outlet air flow rate L/min [ANR]
_	V	_	
IDG3M3	25	IDG3HM3	25
IDG5M3	50	IDG5HM3	50
IDG10M3	100	IDG10HM3	100
IDG20M3	200	IDG20HM3	200
IDG30AM3	300	IDG30HAM3	300
IDG50AM3	500	IDG50HAM3	500
IDG60M2	600	IDG60HM2	600
IDG75M2	750	IDG75HM2	750
IDG100M2	1000	IDG100HM2	1000
	0 = 110 (1		

_	Series	Outlet air flow rate L/min [ANR]
II	DG30LAM3	75
II	OG50LAM3	110
II	DG60LAM3	170
II	OG75LAM3	240
II	DG100LAM3	300
ir ter	nperature.	_

	Series	Outlet air flow rate L/min [ANR]	
	_		
ı			
ĺ			
	IDG60SAM3	50	
	IDG75SAM3	100	
	IDG100SAM3	150	

^{*} Rated conditions are 0.7 MPa of inlet air pressure and 25°C of inlet air





<Type V>

A regulator combined with the type M

Standard dew point: -20°C

Standard	dew poin	t: -15°C

Standard dew point: -40°C

0.1	ndard				CU	0.0
Star	ndard	MAN	noin	t•	n I	9
J UGI	Iuaiu	UCW	DOLL		vu	_

Series

Outlet air flow rate L/min [ANR]

Series	Outlet air flow rate L/min [ANR]
IDG3V3	25
IDG5V3	50
IDG10V3	100
IDG20V3	200
IDG30AV3	300
IDG50AV3	500
IDG60V2	600
IDG75V2	750
IDG100V2	1000

Series	Outlet air flow rate _L/min [ANR]_	
_	_	
IDG3HV3	25	
IDG5HV3	50	
IDG10HV3	100	
IDG20HV3	200	
IDG30HAV3	300	
IDG50HAV3	500	
IDG60HV2	600	
IDG75HV2	750	
IDG100HV2	1000	
let air pressure and 25°C of inlet a		

Series	Outlet air flow rate L/min [ANR]
IDG30LAV3	75
IDG50LAV3	110
IDG60LAV3	170
IDG75LAV3	240
IDG100LAV3	300
omporaturo	

IDG60SAV3	50
IDG75SAV3	100
IDG100SAV3	150

Made to Order

wade to Order	
Symbol	Contents
-X016	With element service indicator
-X017	With micro mist separator regulator
-X032	With differential pressure gauge





Page 15 Page 16

^{*} Rated conditions are 0.7 MPa of in ir temperature.



Membrane Air Dryer/Single Unit Type



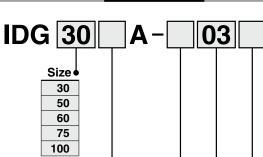




Standard dew point -20°C, -15°C, -40°C, -60°C









Standard dew point temperature and air flow rate

Symbol	Symbol Standard		Flow rate by size Outlet air flow rate (L/min [ANR])							
Cymbol	(°C)	30 50		60	75	100				
Nil	-20	300	500	0-1	et from Series IDG					
Н	-15	300	500	Select	irom Series	ibG				
L	-40	75	110	170 240 300						
S	-60	_	_	50 100 150						

Option

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

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

Thread type

Symbol	Type
Nil	Rc
N	NPT
F	G

Accessory

Symbol	Type
Nil	None (Standard)
В	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.



Bracket Assembly (Accessory) Part No.

Part no.	Applicable model
BM64	IDG30□A, IDG50□A
BM65	IDG60□A, IDG75□A, IDG100□A

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

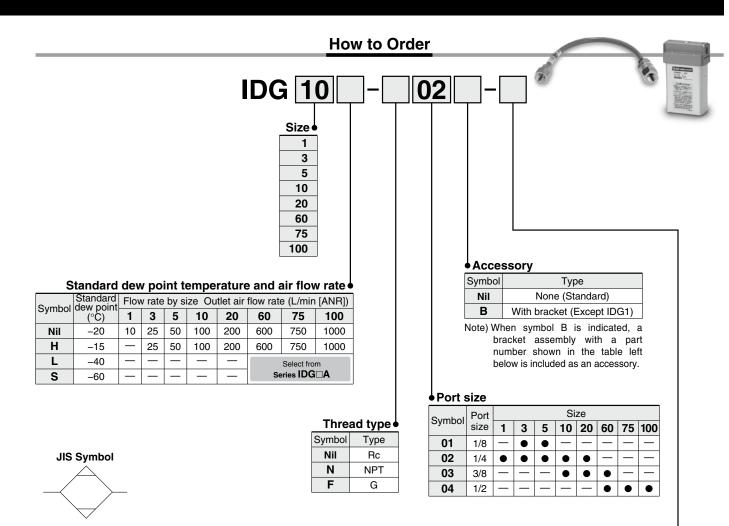
Port size

• 1 011	J.E.C								
Cumbal	Port size	Size							
Symbol		30	50	60	75	100			
02	1/4	•	•	_	_	_			
03	3/8	•	•	•	•	•			
04	1/2	_	_	•	•	•			





Membrane Air Dryer/Single Unit Type Series IDG



Bracket Assembly (Accessory) Part No.

	Bracket / tocombity (/ tococcity) rait it								
Part no.	Applicable model								
BM59	IDG3, 5								
BM61	IDG10								
BM63	IDG20								
BM65	IDG60, 75, 100								

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

								Opti	OII	
Symbol	Contents		Size							
			3	5	10	20	60	75	100	
Nil	None (Standard)	•	•	•	•	•	•	•	•	
Р	With fitting for purge air discharge	•	•	•	•	•	•	•	•	
R	Flow direction (Right \rightarrow Left)	_	•	•	•	•	•	•	•	
S	With dew point indicator	_	•	•	St	Standard equipment				

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



Standard Specifications/Single Unit Type (Standard dew point -20°C, -15°C)

Standard dew point----20°C

	Model	IDG1	IDG3	IDG5	IDG10	IDG20	IDG30A	IDG50A	IDG60	IDG75	IDG100
dijons	Fluid		Compressed air								
l in in	Inlet air pressure (MPa)		0.3 to 0.85						0.3 to 1.0		
Range of operating conditions	Inlet air temperature (°C) Note 1)			-5 to 55					-5 to 50		
Buse	Ambient temperature (°C) Note 1)			-5 to 55					-5 to 50		
Standard perfor- mance	Outlet air atmospheric pressure dew point (°C)	-20									
ons	Inlet air flow rate (L/min [ANR]) Note 2)	12.5	31	62	125	250	360	586	725	900	1190
conditions	Outlet air flow rate (L/min [ANR])	10	25	50	100	200	300	500	600	750	1000
2	Purge air flow rate (L/min [ANR]) Note 3)	2.5	6	12	25	50	60	86	125	150	190
Standard performance	Inlet air pressure (MPa)					0	.7				
bet	Inlet air temperature (°C)					2	25				
dard	Inlet air saturation temperature (°C)					2	25				
Star	Ambient temperature (°C)					2	25				
Dew	point indicator purge air flow rate		— 1 L/min					n [ANR] {In case of Inlet air pressure 0.7 MPa}			
Por	t size (Nominal size B)	1/4	4 1/8, 1/4 1/4,				4, 3/8 3/8, 1/2 1/2				/2
	ight (kg) th bracket)	0.11		25 31)	0.43 (0.51)	0.66 (0.76)	0.78 0.81 1.50 1.50 1.55 (0.91) (0.94) (1.65) (1.65) (1.70)				

Note 1) When using the product in the temperature range between -5° C and 5° C, prevent water droplets from entering the inlet port. (No freezing of the fluid) 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%.

Standard dew point----15°C/Type H

	Model	IDG3H	IDG5H	IDG10H	IDG20H	IDG30HA	IDG50HA	IDG60H	IDG75H	IDG100H		
difons	Fluid		Compressed air									
Range of operating conditions	Inlet air pressure (MPa)		0.3 to	0.85				0.3 to 1.0				
ajobea	Inlet air temperature (°C) Note 1)		–5 t	o 55				-5 to 50				
	Ambient temperature (°C) Note 1)		−5 t	o 55				-5 to 50				
Standard perfor pressure dew point (°C) —15												
ons	Inlet air flow rate (L/min [ANR]) Note 2)	28	56	111	222	329	550	665	830	1110		
튵	Outlet air flow rate (L/min [ANR])	25	50	100	200	300	500	600	750	1000		
8	Purge air flow rate (L/min [ANR]) Note 3)	3	6	11	22	29	50	65	80	110		
performance conditions	Inlet air pressure (MPa)					0.7						
ber 1	Inlet air temperature (°C)					25						
Standard	Inlet air saturation temperature (°C)	25										
Star	Ambient temperature (°C)					25						
Dew	point indicator purge air flow rate	_	— 1 L/min [ANR] {In case of Inlet air pressure 0.7 MPa}									
Por	t size (Nominal size B)	1/8,	1/4		1/4,	3/8		3/8, 1/2	1,	/2		
	ight (kg) th bracket)	0.: (0.:		0.43 (0.51)	0.66 (0.76)							

Note 1) When using the product in the temperature range between -5° C and 5° C, prevent water droplets from entering the inlet port. (No freezing of the fluid) 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).



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).

Membrane Air Dryer/Single Unit Type Series

Standard Specifications/Single Unit Type (Standard dew point -40°C, -60°C)

Standard dew point----40°C/Type L

	Model	IDG30LA	IDG50LA	IDG60LA	IDG75LA	IDG100LA					
dijons	Fluid		С	ompressed a	air						
inger	Inlet air pressure (MPa)	0.3 to 1.0									
Range of operating conditions	Inlet air temperature (°C) Note 1)	–5 to 50									
Range	Ambient temperature (°C) Note 1)			-5 to 50							
Standard perfor- mance	Outlet air atmospheric pressure dew point (°C)		-40								
ons	Inlet air flow rate (L/min [ANR]) Note 2)	93	135	224	308	400					
Standard performance conditions	Outlet air flow rate (L/min [ANR])	75	110	170	240	300					
8	Purge air flow rate (L/min [ANR]) Note 3)	18	18 25 54 68								
l la	Inlet air pressure (MPa)	0.7									
be Le	Inlet air temperature (°C)	25									
ㅁ	Inlet air saturation temperature (°C)			25							
Stan	Ambient temperature (°C)			25							
Dew	point indicator purge air flow rate	1 L/min	[ANR] {In ca	se of Inlet a	ir pressure 0	.7 MPa}					
Por	t size (Nominal size B)	1/4,	3/8	3/8, 1/2							
	ight (kg) th bracket)	0.78 (0.91)	0.81 (0.94)	1.56 (1.71)	1.69 (1.84)	1.82 (1.97)					

Note 1) When using the product in the temperature range between -5°C and 5°C, prevent water droplets from entering the inlet port. (No freezing of the fluid) 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.

Standard dew point...-60°C/Type S

	Model	IDG60SA	IDG75SA	IDG100SA				
SE SE	Fluid	C	ompressed a	air				
Range of operating conditions	Inlet air pressure (MPa)	0.3 to 1.0						
o do do	Inlet air temperature (°C) Note 1)		-5 to 50					
Bage	Ambient temperature (°C) Note 1)		-5 to 50					
Standard perfor- mance	Outlet air atmospheric pressure dew point (°C)		-60					
ons	Inlet air flow rate (L/min [ANR]) Note 2)	75	230					
Standard performance conditions	Outlet air flow rate (L/min [ANR])	50	100	150				
8	Purge air flow rate (L/min [ANR]) Note 3)	25 40 80						
l iii	Inlet air pressure (MPa)		0.7					
berf	Inlet air temperature (°C)		25					
gard	Inlet air saturation temperature (°C)		25					
Stan	Ambient temperature (°C)		25					
Dew	point indicator purge air flow rate	1 L/min [ANR] {In	case of Inlet air p	ressure 0.7 MPa}				
Por	t size (Nominal size B)		3/8, 1/2					
	ght (kg)	1.56	1.82					
(Wi	th bracket)	(1.71)	(1.84)	(1.97)				

Note 1) When using the product in the temperature range between -5° C and 5° C, prevent water droplets from entering the inlet port. (No freezing of the fluid) 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.



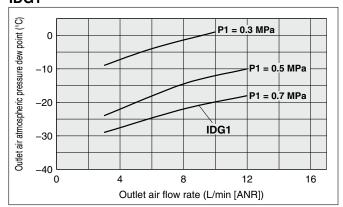


Conditions: Inlet air temperature 25°C (saturated air), Ambient temperature 25°C, P1: Inlet air pressure, Tube for purge air discharge (Option: P): None Note: Correcting outlet air flow rate is required depending on inlet air temperature. Refer to page 31 or after for details. For model with fitting 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. 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.

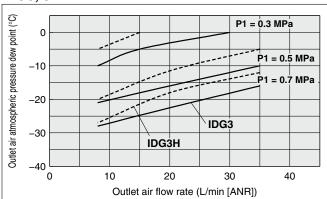
Performance Chart

Standard dew point···-20°C [Symbol: Nil], -15°C [Symbol: H]

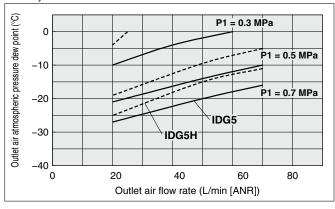
IDG₁



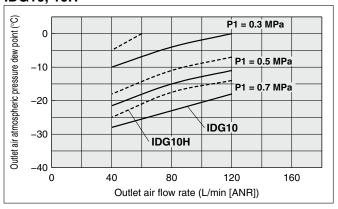
IDG3, 3H



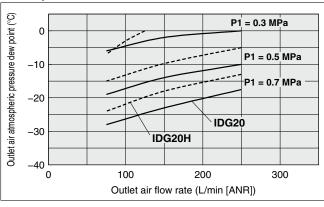
IDG5, 5H



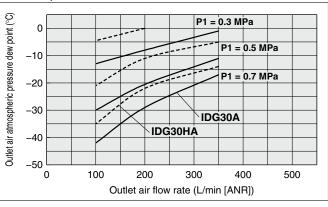
IDG10, 10H



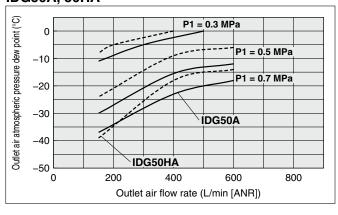
IDG20, 20H



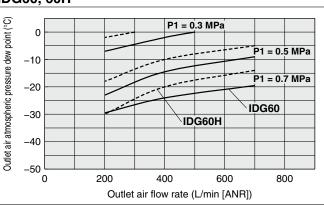
IDG30A, 30HA



IDG50A, 50HA

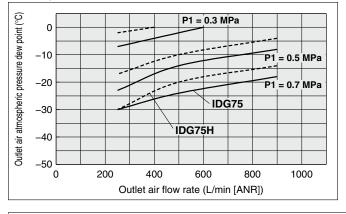


IDG60, 60H

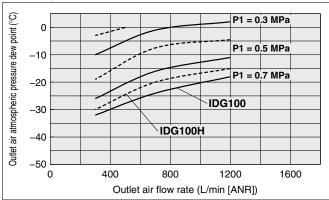


Performance Chart

IDG75, 75H

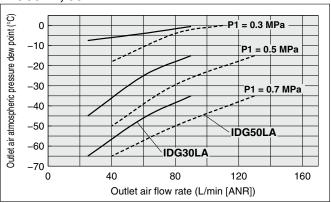


IDG100, 100H

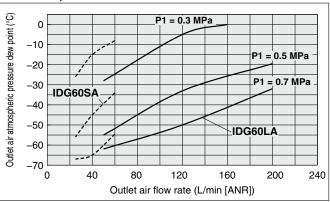


Standard dew point···-40°C [Symbol: L], -60°C [Symbol: S]

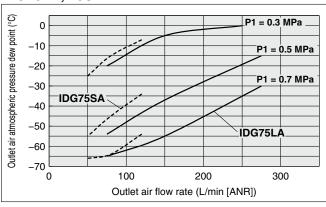
IDG30LA, 50LA



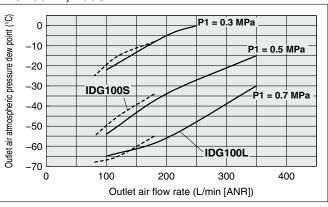
IDG60LA, 60SA



IDG75LA, 75SA



IDG100LA, 100SA



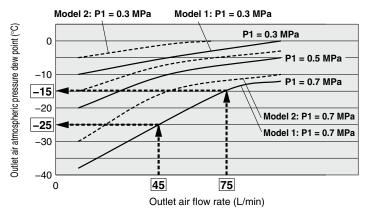
How to read the Performance Chart and to select the model

Solid lines and dashed lines beginning at the top indicate the performance at 25° C of inlet air temperature and P1 = 0.3 MPa, 0.5 MPa, and 0.7 MPa of inlet air pressure, respectively.

- In the case of 25°C of inlet air temperature and 45 [L/min] of outlet air flow rate
- Model 1: The atmosphere pressure dew point at P1 = 0.7 MPa: -25°C.
- In the case of 40°C of inlet air temperature and 45 [L/min] of outlet air flow rate

Example) Outlet air flow rate correction factor: 0.6 (The correction factor differs depending on the model. Refer to page 31 and after for details.)

Corrected outlet air flow rate: $45 \div 0.6 = 75$ [L/min] Model 1: Performing corresponding to -15° C of outlet atmosphere pressure dew point at P1 = 0.7 MPa.





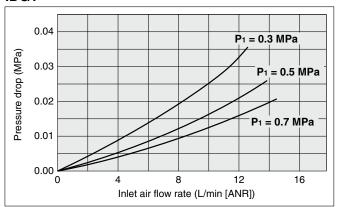


Single Unit Type/Flow-rate Characteristics

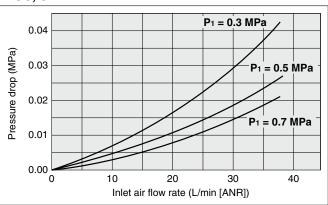
Conditions: Inlet air temperature 25°C, P1: Inlet air pressure

Standard dew point···-20°C [Symbol: Nil], -15°C [Symbol: H]

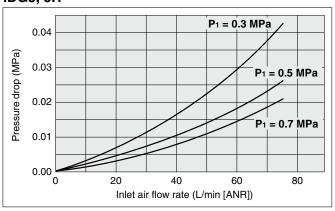
IDG1



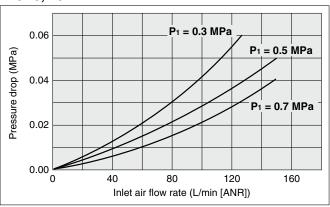
IDG3, 3H



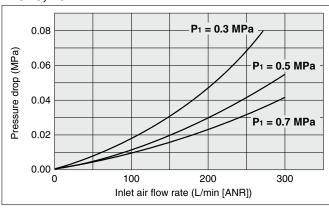
IDG5, 5H



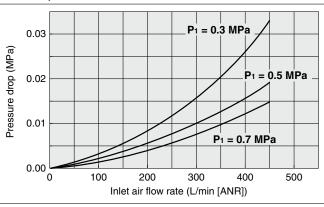
IDG10, 10H



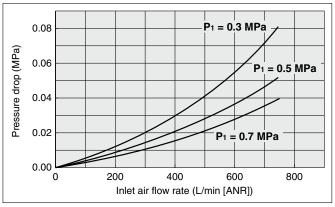
IDG20, 20H



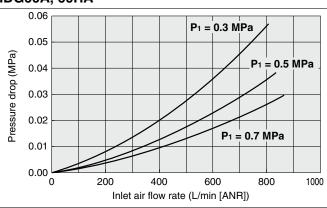
IDG30A, 30HA



IDG50A, 50HA



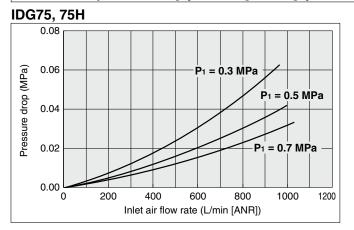
IDG60A, 60HA

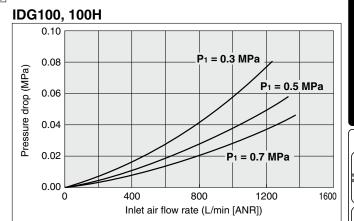


Single Unit Type/Flow-rate Characteristics

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

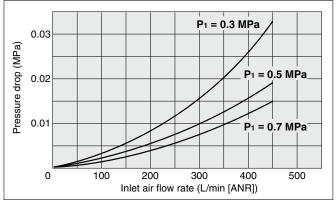
Standard dew point···-20°C [Symbol: Nil], -15°C [Symbol: H]

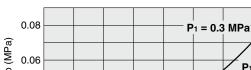


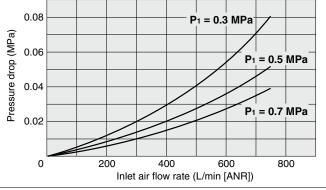


Standard dew point···-40°C [Symbol: L], -60°C [Symbol: S]

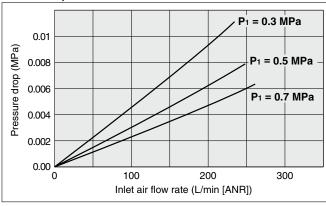
IDG30LA





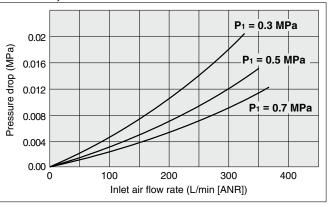


IDG60LA, 60SA

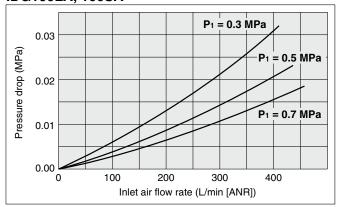




IDG50LA



IDG100LA, 100SA



With fitting for purge air discharge (Option: P)

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

Tube length	IDG30A	IDG30LA
0 m	-20	-40
1 m	-19	-39
3 m	-17	-38
5 m	-16	-36

■Conditions

Tube size

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 pages 3 and 4.)

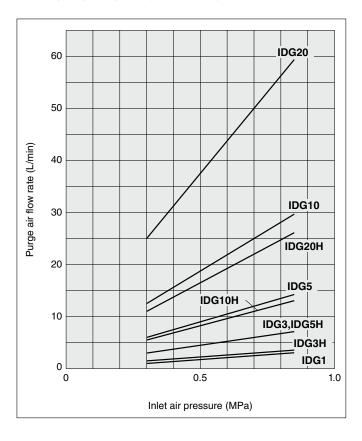
: O.D. ø12 x I.D. ø9



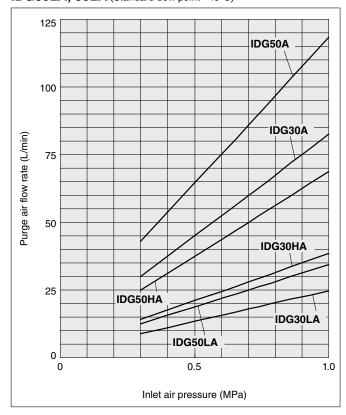


Purge Air Flow-rate Characteristics

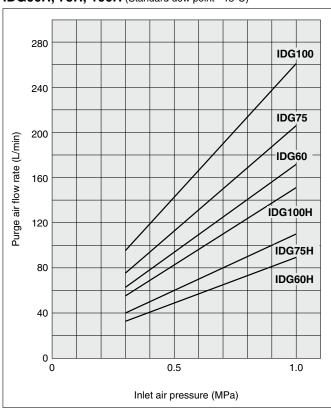
IDG1, 3, 5, 10, 20 (Standard dew point -20°C) **IDG3H, 5H, 10H, 20H** (Standard dew point -15°C)



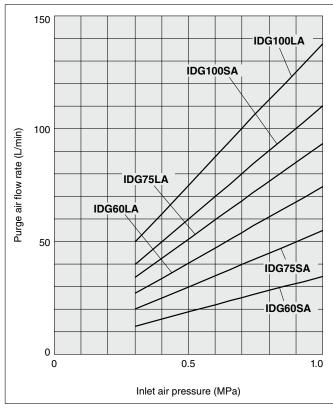
IDG30A, 50A (Standard dew point -20°C)
IDG30HA, 50HA (Standard dew point -15°C)
IDG30LA, 50LA (Standard dew point -40°C)



IDG60, 75, 100 (Standard dew point –20°C) **IDG60H, 75H, 100H** (Standard dew point –15°C)



IDG60LA, 75LA, 100LA (Standard dew point -40°C) IDG60SA, 75SA, 100SA (Standard dew point -60°C)

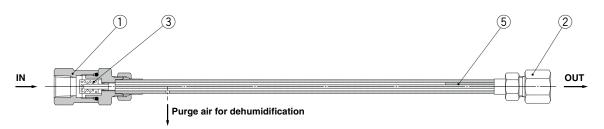


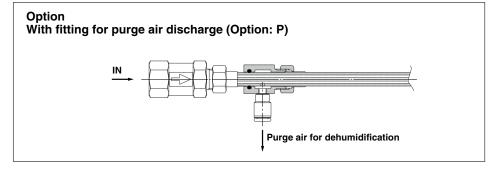
9

Membrane Air Dryer/Single Unit Type Series IDG A/IDG

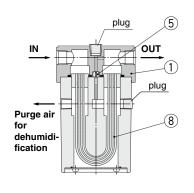
Dimensions

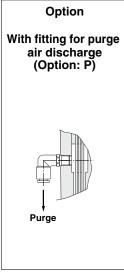
IDG1

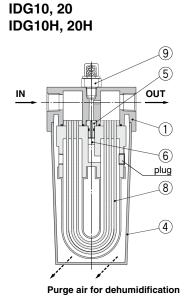


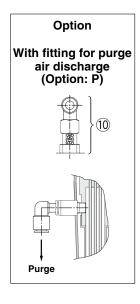


IDG3, 5 IDG3H, 5H









Component Parts

	Description			Material			
No.	Description	IDG1	IDG3, 3H	IDG5, 5H	IDG10, 10H	IDG20, 20H	Note
1	Body	Brass		Alumini	um alloy		Platinum silver coated (IDG1 is electroless nickel plated.)
2	Female connector	Brass		-	_		Electroless nickel plated
3	Strainer	Brass		-	_		
4	Case	_	_	•	Re	sin	
5	Orifice	Resin		Stainle	ss steel		
6	Silencer	_	_		Bra	ass	

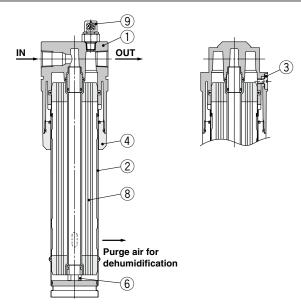
Replacement Parts

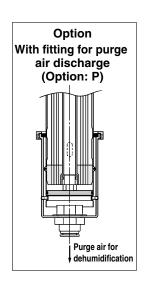
NI-	Danadation					Part no.						
No.	Description	IDG1	IDG3	IDG3H	IDG5	IDG5H	IDG10	IDG10H	IDG20	IDG20H		
_	Membrane module kit		IDG-EL3	IDG-EL3H	IDG-EL5	IDG-EL5H	IDG-EL10	IDG-EL10H	IDG-EL20	IDG-EL20H		
8	viembrane module kit	_	With Orific	ce (1 pc.), O-rin	g (3 pcs.), Gas	ket (1 pc.)	With Orifice (1 pc.), Silencer (1 pc.), O-ring (4 pcs.)					
_			IDG-DP01 (Option: S) IDG-DP01									
9	Danis malina in altra dan dala	_	With O-ring (1 pc.)									
	Dew point indicator kit			IDG-DP01-X00	1 (Option: PS)		IDG-DP01-X001 (Option: P)					
10		_			With O-ring (1 pc.)							

Series IDG A/IDG

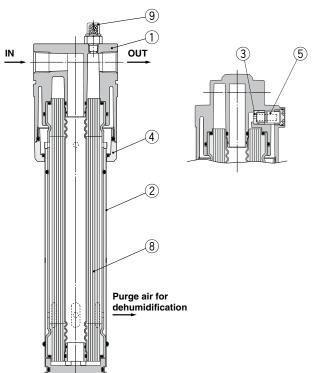
Dimensions

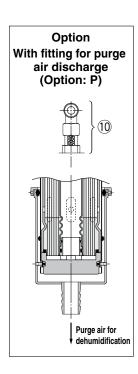
IDG30□A IDG50□A





IDG60□, 75□, 100□ IDG60□A, 75□A, 100□A





Component Parts

00.	iipoiioiit i aito											
	Description			Ma	terial							
No.	Description	IDG30□A IDG50□A	IDG60, 60H*	IDG60LA, 60SA	IDG75, 75H* I	IDG75LA, 75S/	A IDG100, 100H*	IDG100LA, 100SA	Note			
1	Body		Aluminum alloy/White									
2	Case			Stainle	ss steel							
3	Orifice			Stainle	ss steel							
4	Holder	Aluminum alloy			Aluminu	m alloy						
5	Silencer	_	— Resin + Brass Resin Resin + Brass Resin Resin + Brass Resin									
6	Adapter	Resin				_	-					

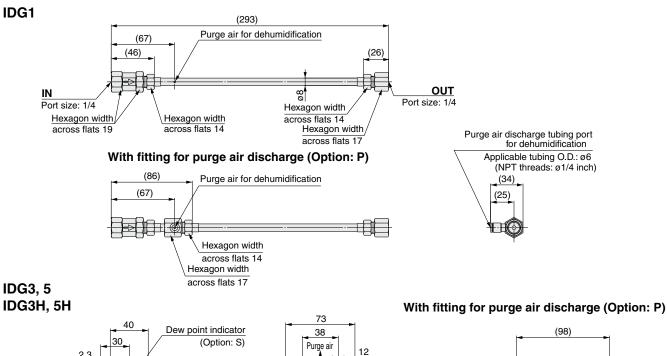
Replacement Parts

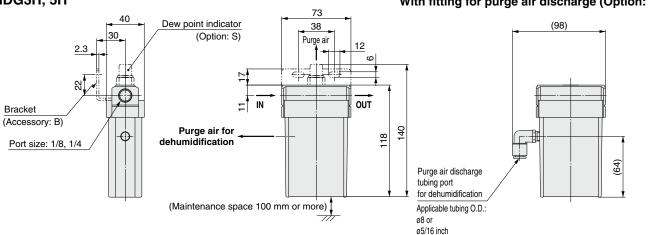
No.	Description	Part no.											
INO.	Description	IDG30□A	IDG50□A	IDG60, 60H	IDG60LA, 60SA	IDG75, 75H	IDG75LA, 75SA	IDG100, 100H	IDG100LA, 100SA				
_	Manaharana maadada lak	IDG-EL30A	IDG-EL30A IDG-EL50A		IDG-EL60LA	IDG-EL75	IDG-EL75LA	IDG-EL100	IDG-EL100LA				
8	Membrane module kit	With Nozzle (1 pc.), Adapter (1 pc.), O-ring (1 pc.)											
9	Dew point indicator kit		IDG-DP01										
10	Dew point indicator kit				IDG-DP01-X0	01 (Option: P)			_				



Membrane Air Dryer/Single Unit Type Series IDG A/IDG

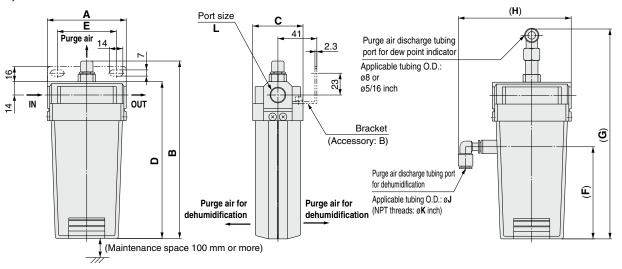
Dimensions/Single Unit Type





IDG10, 20 IDG10H, 20H

With fitting for purge air discharge (Option: P)



	Model	Port size		ь	_	_	E	Option: P					
	Model	L	A	٥		_ U		F	G	Н	J	K	
	IDG10, 10H IDG20, 20H	1/4, 3/8	83	187	53	165	62	97	224	119 [126]	8	5/16	
		1/4, 3/8	113	212	54	190	82	114	249	147 [154]	10	3/8	

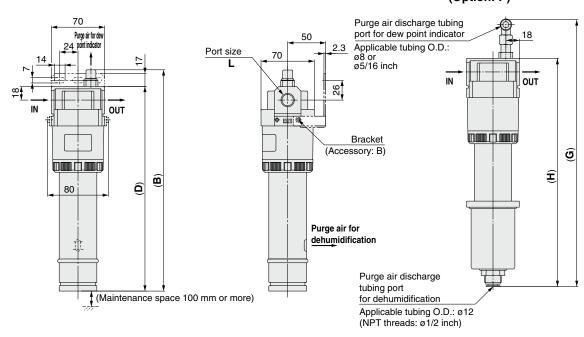
Values inside [] are for NPT threads.



Series IDG A/IDG

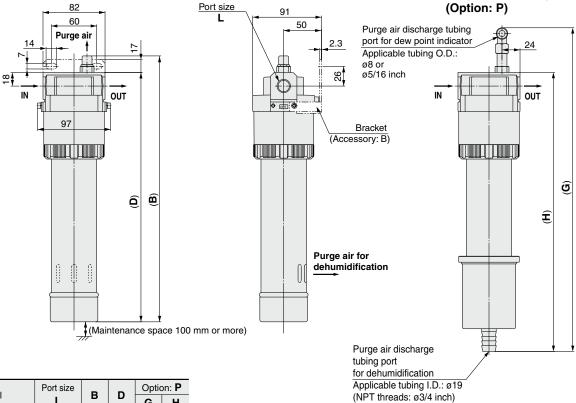
Dimensions/Single Unit Type

IDG30□A IDG50□A With fitting for purge air discharge (Option: P)



IDG60□, 75□, 100□ IDG60□A, 75□A, 100□A

With fitting for purge air discharge



Model	Port size	В	D	Optio	n: P
Model	L	В	ט	G	Н
IDG30□A	1/4, 3/8	291	269	361	302
IDG50□A	1/4, 3/6	330	308	400	341
IDG60□	3/8, 1/2	050	000	400	369
IDG75□, 100□	1/2	352	330	428	369
IDG60□A		348	326	426	367
IDG75□A	3/8, 1/2	418	396	495	436
IDG100□A		483	461	361 400 428 426	501



Membrane Air Dryer/Unit Type





Type M, Type V

How to Order



IDG 30 **A M** 3 Made to Order Size Refer to page 33 to 44 30 for details. 50 60 Option 75 100

Standard dew point temperature/Outlet air flow rate

Symbol	Standard dew	Flow rate	by size Οι	ıtlet air flov	w rate (L/n	nin [ANR])			
Symbol	point (°C)	30	50	60	75	100			
Nil	-20	300	500	Select from Series IDG					
Н	-15	300	500	Seleci	. IIOIII Serie	s IDG			
L	-40	75	110	170 240 300					
S	-60	_	_	50	150				

Components •

Symbol	Contents	Size	Mist separator	Micro mist separator	Membrane air dryer	Regulator
	ō	30	•	•	•	_
	With separator	50	•	•	•	_
M) Sep	60	•	•	•	_
	th s	75	•	•	•	_
	Š	100	•	•	•	_
	or or	30	•	•	•	•
	ıratı Ilatc	50	•	•	•	•
V	ebe	60	•	•	•	•
	With separator and regulator	75	•	•	•	•
	Wi ar	100	•	•	•	•

Equipment connection

					-4	uip	,,,,,	· · · ·		<i>,</i> ,,,		LIO	
			30		30 50		60		75		100		
Symbol	Contents	Nil	Н	L	Nil	Н	L	L	s	L	s	L	s
							М,	٧					
3	Modular connection			(•								

Note
P Drain discharge: Combination with standard type (Nil) is not available. Combination with Type V is not available. Note)
_

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

Note) Type V is not applicable because it is equipped with a relief type regulator.

Drain discharge method

Symbol	Drain discharge method	Note
Nil	Manual valve	Combination with Option P is not available.
С	N.C. auto-drain	Auto-drains
D	N.O. auto-drain	listed on page 17 are attached.
J	Drain guide (Port size 1/4 without valve)	_

* For model selection of an auto-drain, refer to the Selection Precautions on page 45.

Port size

Symbol	Port	Size								
Symbol	size	30	50	60	75	100				
02	1/4	•	•	_		_				
03	3/8	•	•	•	•	•				
04	1/2	_	_	•	•	•				

Thread type

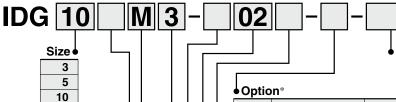
	71
Symbol	Type
Nil	Rc
N	NPT
F	G





Membrane Air Dryer/Unit Type Series IDG

How to Order



Standard dew point temperature/Outlet air flow rate

Symbol	Standard dew	Flow r	ate by s	size Ou	tlet air f	low rate	e (L/mii	n [ANR])	
	point (°C)		5	10	20	60	75	100	
Nil	-20	25	50	100	200	600	750	1000	
Н	-15	25	50	100	200	600	750	1000	
L	-40	_	_	_	_	Select from			
S	-60	_	_	_	_	Series IDG□A			

Components •

Symbol	Contents	Size	Mist separator	Micro mist separator	Micro mist separator with pre-filter	Membrane air dryer	Regulator																								
		3	•	•	_	•	_																								
	With separator	5	•	•	_	•	_																								
		With separa	10	•	•	_	•	_																							
M			20	•	•	_	•	_																							
			With	With	With	With	With	60	_	_	•	•	_																		
								≥	≥	≥	≥	≥	≥	≥	75	_	_	•	•	_											
		100	_	_	•	•	_																								
		3	•	•	_	•	•																								
	ב כ	5	•	•	_	•	•																								
	arat Ilato	10	•	•	_	•	•																								
V	epa	eba	epa	eba	epa egu	eba	epai	eba	epa	eba	epa	egal	With separator and regulator	eba	sepa egu	sepa	sepa	sepa	sepa	sepa	ega	sepa	sepa	ega	sepa regu	20	•	•	_	•	•
	th s	60	_	_	•	•	•																								
	a Ki	75		_	•	•	•																								
		100	_	_	•	•	•																								

Made to Order Refer to page 33 to 44 for details.

Optio	'II	
Symbol	Contents	Note
Nil	None (Standard)	
P	Note 2) With fitting for purge air discharge	Drain discharge: Combination with standard type (Nil) is not available. Combination with Type V is not available. Note 1)
R	Flow direction (Right \rightarrow Left)	_
S	With dew point indicatorNote 3)	

* 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 if the thread size is 3, 5, 10, and 20. (Because barrel nipples are used for equipment connections.)

Note 3) Select the option if the size is 3 or 5. The option is the standard equipment for other sizes.

Drain discharge method*

(Mist separator, Micro mist separator, Micro mist separator with pre-filter)

			Size		
Symbol	Drain discharge method	° 0 10 00		Note	
Nil	Manual valve	•	•	•	Combination with Option P is not available.
С	N.C. auto-drain	•	•	_	Auto-drains listed on page 17
D	N.O. auto-drain	_	_	•	are attached.
J	Drain guide (Port size 1/4 without valve)	_	•	•	_

* For model selection of an auto-drain, refer to the Selection Precautions on page 45.

Port size

Sy

Thread type								Size			
		Symbol	size	3	5	10	20	60	75	100	
/mbol	Туре		01	1/8	•	•		_	-	_	_
Nil	Rc		02	1/4	•	•	•	•	_	_	_
N	NPT		03	3/8	_	_	•	•	•	_	_
F	G		04	1/2	_	-		_	•	•	•

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

-	=qarbinont oo mootion models are applicable for clarer a modelar commenter of a										
		IDG3	IDG5	IDG10	IDG20	IDC	360	IDO	375	IDG	100
Symbol	Contents		Nil	н		Nil	н	Nil	H	Nil	н
					M, V						
3	Modular connection Note 1)		•			-	_	-	_	_	_
2	Nipple connection Note 2)	_						•	•		•

- Note 1) For some models of option P, some parts are connected with nipples (Refer to pages 23 and 24).
- Note 2) For some models, some parts are connected with modules (Refer to page



Series IDG A/IDG

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

Description		IDG3M3	IDG5M3	IDG10M3	IDG20M3	IDG30AM3	IDG30HAM3	IDG50AM3	IDG50HAM3
		IDG3V3	IDG5V3	IDG10V3	IDG20V3	IDG30AV3	IDG30HAV3	IDG50AV3	IDG50HAV3
Float type	N.C.	AD2	27-C	AD37		AD47			
auto-drain	N.O.	_	_	_	_		AC)48	
Bowl assembly (N.O)	_	_	_	_				_
Pressure gauge (Type V only) GC3-10AS									

Decement		IDG60M2	IDG60M2 IDG60HM2 IDG75M2 IDG75HM2				
Description		IDG60V2	IDG60HV2	IDG75V2	IDG75HV2	IDG100V2	
Float type N.C.		_	_	_	_	_	
auto-drain	N.O.	_	_	_	_	_	
Bowl assembly (N.O)	AMH-CA	A350C-D	AMH-CA450C-D			
Pressure gauge (T	ype V only)			GC3-10AS			

Description		IDG30LAM3	IDG50LAM3	IDG60LAM3	IDG60SAM3	IDG75LAM2	IDG75SAM2	IDG100LAM3	IDG100SAM3	
		IDG30LAV3	IDG50LAV3	IDG60LAV3	IDG60SAV3	IDG75LAV2	IDG75SAV2	IDG100LAV3	IDG100SAV3	
Float type	N.C.	AD47								
auto-drain	N.O.	AD48								
Pressure gauge (Type V only)		GC3-10AS								

Replacement Parts (Element for mist separator, micro mist separator, micro mist separator with pre-filter)

Description	AFM40	AFD40	AMH350	AMH450	
Element assembly	AFM40P-060AS	AFD40P-060AS	AMH-EL350	AMH-EL450	

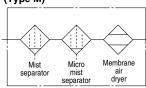


Type M



Type V

JIS Symbol (Type M)

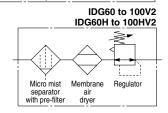


IDG60 to 100M2
IDG60H to 100HM2

Micro mist separator with pre-filter

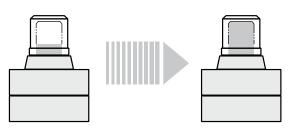
Membrane air dryer

(Type V) Mist Micro Membrane air separator separator dryer Regulator



Membrane Air Dryer/Unit Type Series IDG AIDG

Clogging Indication



(The tip of the indicator is just visible.)

When the differential air is 0.05 MPa or less 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 pre-filter, and cannot be retrofitted or used individually.





Standard Specifications/Unit [Type M, Type V] (Standard dew point: -20°C, -15°C)

						Standa	ard dew point:	–20°C							
	Model		IDG3M3	IDG5M3	IDG10M3	IDG20M3	IDG30AM3	IDG50AM3	IDG60M2	IDG75M2	IDG100M2				
			IDG3V3	IDG5V3	IDG10V3	IDG20V3	IDG30AV3	IDG50AV3	IDG60V2	IDG75V2	IDG100V2				
ent	Mist separator	r	AFI	M20	AFN	<i>I</i> /30	AFI	M40		_					
Component equipment	Micro mist sepa	arator	AFI	D20	AFI	030	AFI	D40							
F	Micro mist separator	r with pre-filter			_	_			AMH350C AMH450C						
ပ္ပ မွ	Regulator (Type V	only) Note 1)	AR20	Note 2)	AR25	Note 2)		AR	40 Note 2)						
Range of operating conditions	Fluid					(Compressed air								
opera	Inlet air press	ure (MPa)		0.3 to	0.85		0.3 to 1.0								
ye of	Inlet air tempe	rature (°C)													
Ranç	Ambient tempe	erature (°C)													
Standard							-20								
performance	pressure dew										,				
	Inlet air flow ra		31	62	125	250	360	586	720	888	1185				
9	(L/min [ANR])			-	_										
rman	Outlet air flow (L/min [ANR])	rate	25	50	100	200	300	500	600	750	1000				
Standard performance conditions	Purge air flow (L/min [ANR])		6	12	25	50	60	120	138	185					
ard	Inlet air press	ure (MPa)					0.7								
pu	Inlet air tempe	rature (°C)					25								
St	Inlet air saturation te	mperature (°C)					25								
	Ambient tempe	erature (°C)					25								
Dew p	ooint indicator purge	e air flow rate			1 L/min	[ANR] {In the	case of Inlet	air pressure 0	.7 MPa}						
Regul	lator 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				
Weig	ulator construction (Type V on rt size (Nominal size B) ight (kg)			83 90)	1.21 (1.30)	1.44 (1.53)	2.27 (2.37)	2.30 (2.40)	2.61 (2.71)	3.29 (3.39)	3.42 (3.52)				
	h auto-drain)	Type V		28 35)	1.67 (1.76)	1.90 (1.99)	3.38 3.41 (3.49) (3.52)		3.80 (3.90)	4.48 (4.58)	4.61 (4.71)				

						Standa	ard dew point:	−15°C					
	Model		IDG3HM3	IDG5HM3	IDG10HM3	IDG20HM3	IDG30HAM3	IDG50HAM3	IDG60HM2	IDG75HM2	IDG100HM2		
			IDG3HV3	IDG5HV3	IDG10HV3	IDG20HV3	IDG30HAV3	IDG50HAV3	IDG60HV2	IDG75HV2	IDG100HV2		
ar t	Mist separato	r	AFN	Л20	AFN	//30	AFN	//40					
o E	Micro mist sep	arator	AFI	D20	AFI	D30	AFI	D40		_			
Component equipment	Micro mist separato	•			_	_			AMH350C	AMH	450C		
	Regulator (Type V	only) Note 1)	AR20	Note 2)	AR25	Note 2)			AR40 Note 2)				
Range of operating conditions	Fluid					(Compressed a	ir					
opera	Inlet air press	ure (MPa)		0.3 to	0.85				0.3 to 1.0				
ge of	Inlet air tempe	rature (°C)	-5 to 55 Note 3) -5 to 50 Note 3) -5 to 55 Note 3) -5 to 50 Note 3)										
Ran	Ambient tempe	erature (°C))									
Standard performance	Outlet air atm pressure dew	•					-15						
o o	Inlet air flow r (L/min [ANR])		28	56	111	222	329	550	665	818	1100		
Standard performance conditions	Outlet air flow (L/min [ANR])		25	50	100	200	300	500	600	750	1000		
ird perforn conditions	Purge air flow (L/min [ANR])		3	6	11	22	29	50	65	68	100		
ard	Inlet air press	ure (MPa)					0.7						
ng gu	Inlet air tempe	rature (°C)					25						
St	Inlet air saturation to	emperature (°C)					25						
	Ambient tempe	erature (°C)					25						
Dew p	oint indicator purg	e air flow rate			1 L/min	[ANR] {In the	case of Inlet	air pressure 0.	7 MPa}				
Regu	lator 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		
Weig	ght (kg)	Туре М	0.0 2.0)		1.21 (1.30)	1.44 (1.53)	2.27 (2.37)	2.30 (2.40)	2.61 (2.71)	3.29 (3.39)	3.42 (3.52)		
(Wit	h auto-drain)	Type V	1. <i>:</i> (1.:		1.67 (1.76)	1.90 (1.99)	3.38 (3.49)	3.41 (3.52)	3.80 (3.90)	4.48 (4.58)	4.61 (4.71)		



Membrane Air Dryer/Unit Type Series IDG A/IDG

Standard Specifications/Unit [Type M, Type V] (Standard dew point: -40°C, -60°C)

				Stand	ard dew point:	-40°C		Stand	lard dew point: -	-60°C			
	Model		IDG30LAM3	IDG50LAM3	IDG60LAM3	IDG75LAM3	IDG100LAM3	IDG60SAM3	IDG75SAM3	IDG100SAM3			
			IDG30LAV3	IDG50LAV3	IDG60LAV3	IDG75LAV3	IDG100LAV3	IDG60SAV3	IDG75SAV3	IDG100SAV3			
Component equipment	Mist separator	r			AFM40				AFM40				
ᅙᅙ	Micro mist sepa	arator			AFD40				AFD40				
오함	Regulator (Type V	only) Note 1)			AR40 Note 2)			AR40 Note 2)					
ating.	Fluid				Compressed air		Compressed air	r					
Range of operating C	Inlet air press	ure (MPa)			0.3 to 1.0	0.3 to 1.0							
ge of	Inlet air tempe	rature (°C)			-5 to 50 Note 3)		-5 to 50 Note 3)						
æ	Ambient tempe	erature (°C)			-5 to 50 Note 3)		-5 to 50 Note 3)						
	Outlet air atmo pressure dew				-40 Note 4)				-60 Note 4)				
a	Inlet air flow ra		93	135	224	308	400	75	140	230			
rmanc	Outlet air flow (L/min [ANR])	rate	75	110	170	240	300	50	100	150			
Standard performance conditions	Purge air flow (L/min [ANR])		18	25	54	68	100	25	40	80			
S	Inlet air press	ure (MPa)			0.7			0.7					
auc	Inlet air tempe	rature (°C)			25				25				
ŭ	Inlet air saturation te	mperature (°C)			25				25				
	Ambient tempe	erature (°C)			25				25				
Dew p	oint indicator purg	e air flow rate	1 L/m	nin [ANR] {In the	e case of Inlet a	ir pressure 0.7	MPa}	1 L/min [ANR] {In t	the case of Inlet air	pressure 0.7 MPa}			
Regul	ator construction (Type V only)			Relief type				Relief type				
Port	size (Nominal	size B)	1/4,	3/8		3/8, 1/2			3/8, 1/2				
Weig	jht (kg)	Type M	2.27 (2.37)	2.30 (2.40)	3.05 (3.15)	3.18 (3.28)	3.31 (3.41)	3.05 (3.15)	3.18 (3.28)	3.31 (3.41)			
(With	n auto-drain)	Type V	3.38 (3.49)	3.41 (3.52)	4.16 (4.26)	4.29 (4.39)	4.42 (4.52)	4.16 (4.26)					

Note 1) For flow-rate characteristics and pressure characteristics of regulator, refer to Best Pneumatics No. 5.

Note 2) It will come with Option E (With square-shaped, embedded type of a pressure regulator). Refer to Best Pneumatics No. 5 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 46.

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 the Design 3. on page 45.

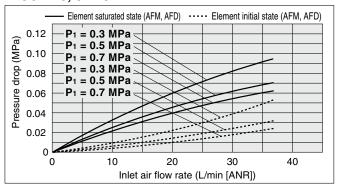


Unit Type/Flow-rate Characteristics

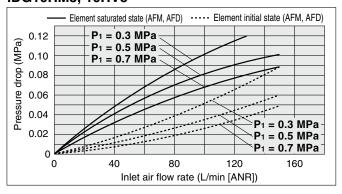
Conditions: Inlet air temperature 25°C, P1: Inlet air pressure

Standard dew point···-20°C [Symbol: Nil], -15°C [Symbol: H]

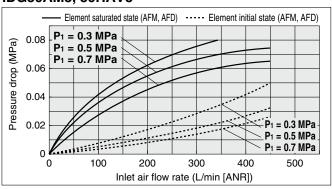
IDG3M3, 3V3 IDG3HM3, 3HV3



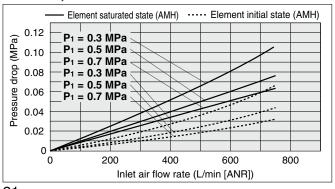
IDG10M3, 10V3 IDG10HM3, 10HV3



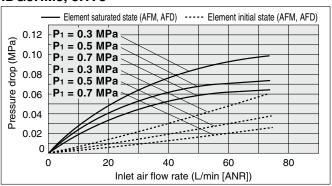
IDG30AM3, 30HAV3



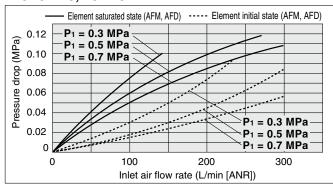
IDG60M2, 60HM2 IDG60V2, 60HV2



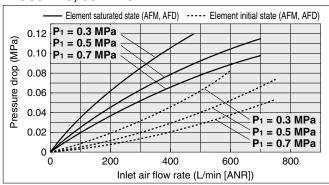
IDG5M3, 5V3 IDG5HM3, 5HV3



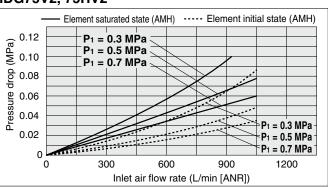
IDG20M3, 20V3 IDG20HM3, 20HV3



IDG50AM3, 50HAV3



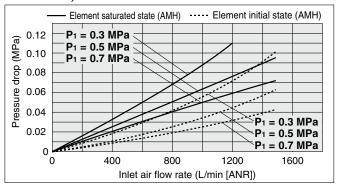
IDG75M2, 75HM2 IDG75V2, 75HV2



Unit Type/Flow-rate Characteristics

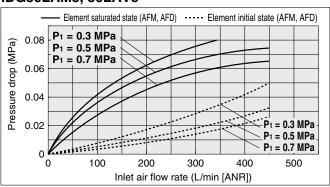
Conditions: Inlet air temperature 25°C, P1: Inlet air pressure

IDG100M2, 100HM2 IDG100V2, 100HV2

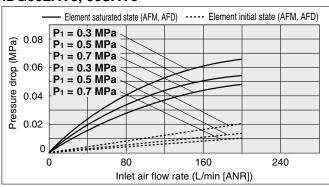


Standard dew point···-40°C [Symbol: L], -60°C [Symbol: S]

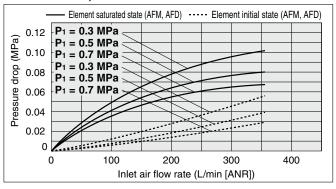
IDG30LAM3, 30LAV3



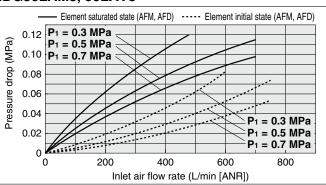
IDG60LAM3, 60SAM3 IDG60LAV3, 60SAV3



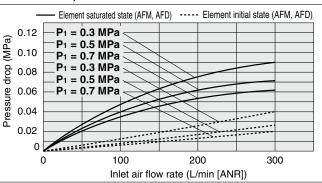
IDG100LAM3, 100SAM3 IDG100LAV3, 100SAV3



IDG50LAM3, 50LAV3

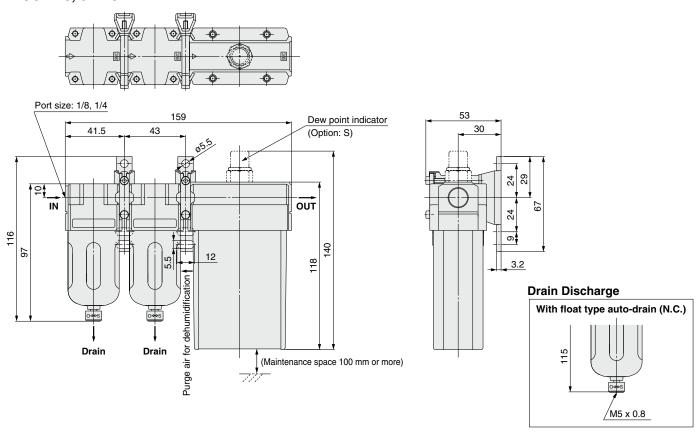


IDG75LAM3, 75SAM3 IDG75LAV3, 75SAV3

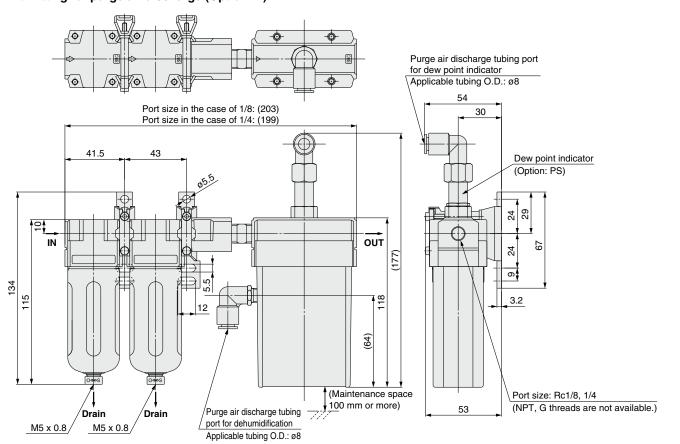


Dimensions (Type M)

IDG3M3, 5M3 IDG3HM3, 5HM3

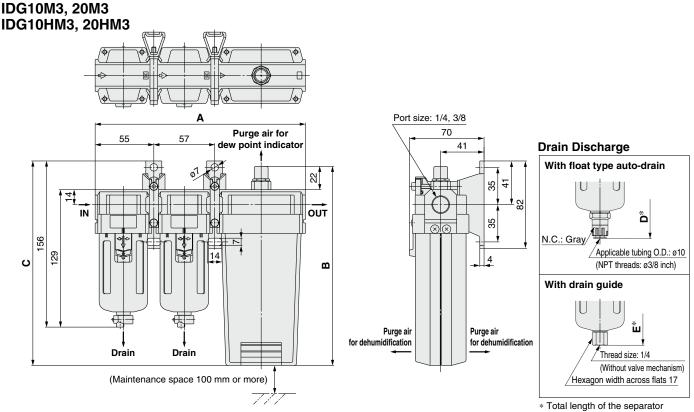


With fitting for purge air discharge (Option: P)



Membrane Air Dryer/Unit Type Series IDG A/IDG

Dimensions (Type M)



With fitting for purge air discharge (Option: P)

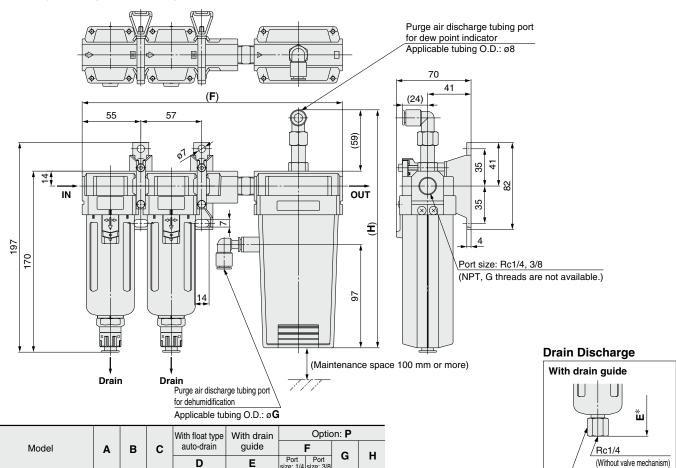
IDG10M3,10HM3

IDG20M3,20HM3

187

192

170



10 249

224

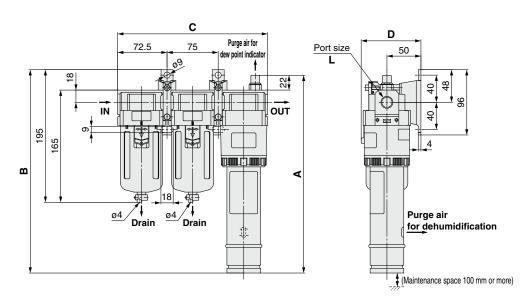
239 241

136

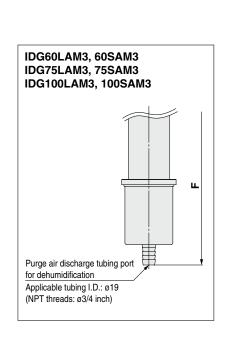
Hexagon width across flats 17

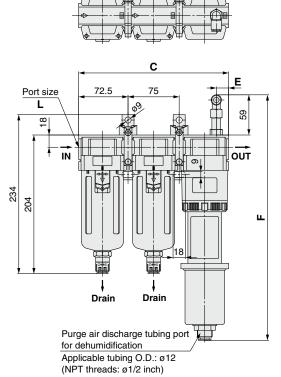
Dimensions (Type M)

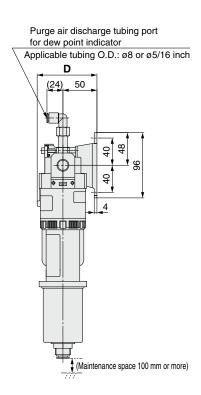
IDG30□AM3 IDG50□AM3 IDG60□AM3 IDG75□AM3 IDG100□AM3



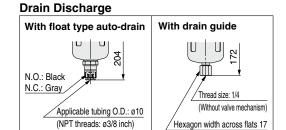
With fitting for purge air discharge (Option: P)







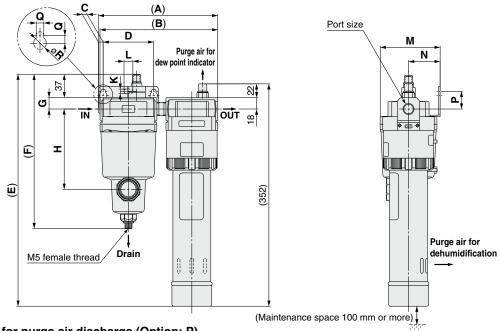
Model	Port size		В		D	Е	F
Model	L	Α		C	U	_	F
IDG30□AM3	1/4	291	299	220	88	18	361
IDG50□AM3	3/8	330	338	220	00	10	405
IDG60LAM3, 60SAM3	3/8	348	356				426
IDG75LAM3, 75SAM3	1/2	418	426	232	91	24	495
IDG100LAM3, 100SAM3	1/2	483	491				560



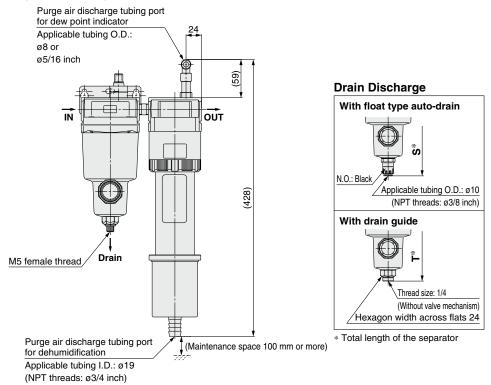
Membrane Air Dryer/Unit Type Series $\square DG \square A/IDG$

Dimensions (Type M)

IDG60□M2 IDG75□M2 IDG100□M2



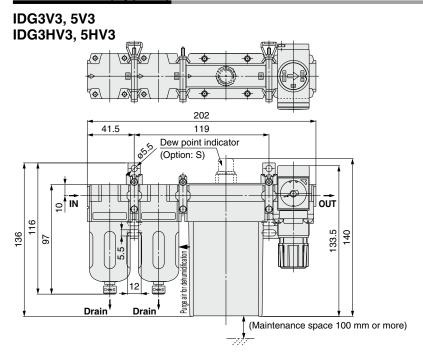
With fitting for purge air discharge (Option: P)

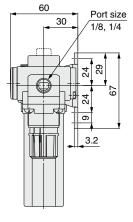


Model	Port size		_		_	_	_		ш	7				ь		Б	With float type auto-drain	With drain guide
Model	Port Size	A	•	· ·	ש	_	-	G	п		_	M	N		u	H	S	T
IDG60□M2	3/8, 1/2	189	186	7.5	80	363	241	18	127	7	14	95	50	28	7	12	255	241
IDG75□M2	1/0	005	000	11		433	000	00	140	٥	10	100		0.1		4.5	070	000
IDG100□M2	1/2	205	202	''	90	498	262	20	146	9	18	108	55	31	9	15	276	262

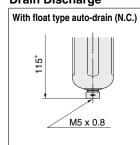


Dimensions (Type V)



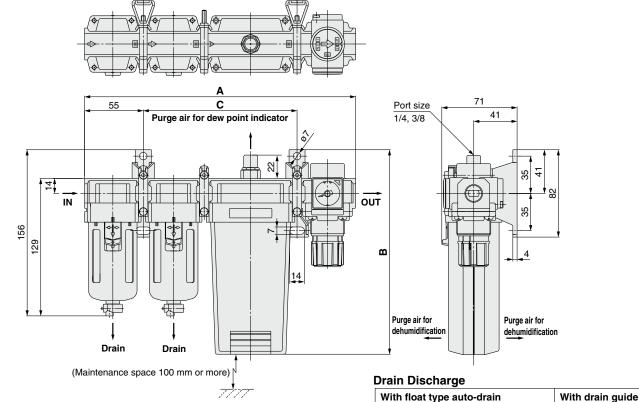


Drain Discharge

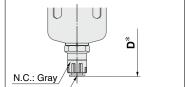


IDG10V3, 20V3 **IDG10HV3, 20HV3**

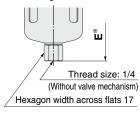
* Total length of the separator



Model	Α	В	С	With float type auto-drain	With drain guide
				D	E
IDG10V3, 10HV3	254	192	144	170	100
IDG20V3, 20HV3	284	217	174	170	136





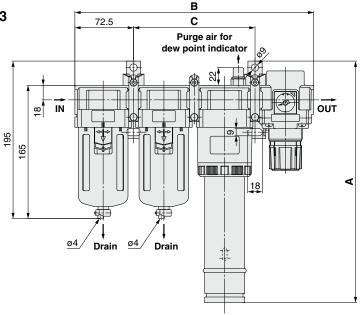


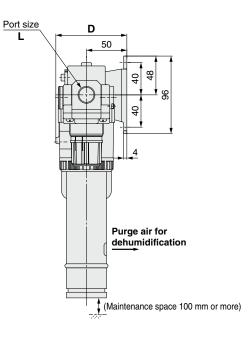
^{*} Total length of the separator

Membrane Air Dryer/Unit Type Series $\square IDG \square A/IDG$

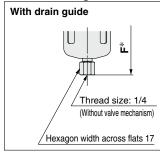
Dimensions (Type V)

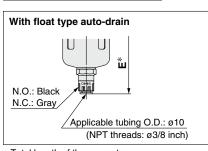






Drain Discharge



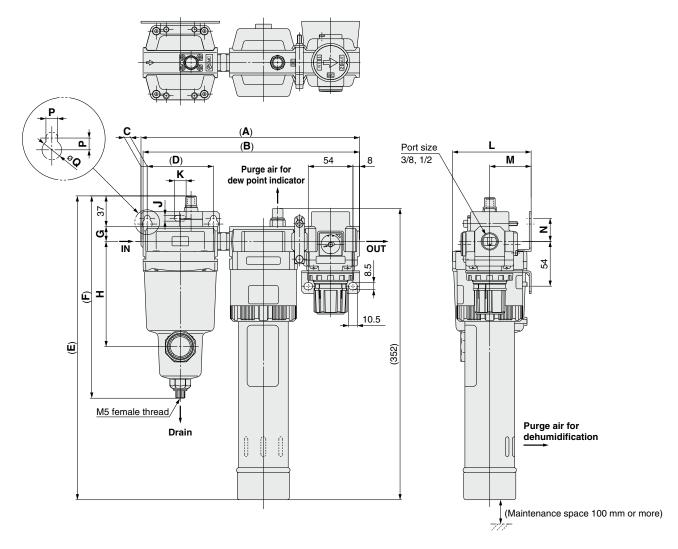


^{*} Total length of the separator

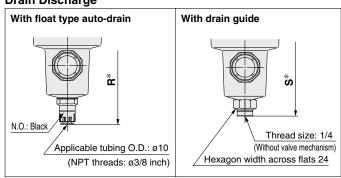
Model	Port size	Α	В	С	D	With float type auto-drain	With drain guide	
Wiodei	L	_ ^		C		E	F	
IDG30□AV3	1/4	269	005	150	00			
IDG50□AV3	3/8	308	295	150	88			
IDG60□AV3	0/0	356				204	172	
IDG75□AV3	3/8 1/2	426	307	162	91			
IDG100□AV3	1/2	491						

Dimensions (Type V)

IDG60□V2 IDG75□V2 IDG100□V2



Drain Discharge



^{*} Total length of the separator

Model	Dowt size		ь		_	_	_				v		В.4	N	Р		With float type auto-drain	With drain guide
Model	Port size	A	В	· ·	D	=	-	G	п	J	_	-	M	IN	P	u	R	S
IDG60□V2	3/8, 1/2	264	261	7.5	80	363	241	18	127	7	14	84	50	28	7	12	255	241
IDG75□V2	1/0	000	077	4.4		433	000	00	140		40	100		0.1		4.5	070	000
IDG100□V2	1/2	280	277	''	90	498	262	20	146	9	18	108	55	31	9	15	276	262

Series IDG A/IDG 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 chart for dew point temperature below.)

Inlet air pressure (MPa)

Inlet air temperature (°C)

Allowable pressure drop $\Delta \mathbf{P}$ (MPa)

Compressed air supply capacity **Q** (L/min [ANR])

[Example]

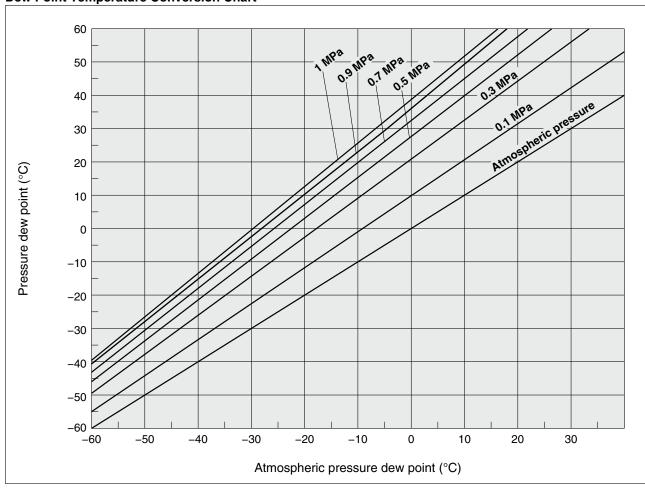
Outlet air flow rate 150 (L/min[ANR])

Outlet air atmospheric pressure dew point $$\rm -15~(^{\circ}C)$$ Inlet air pressure $$\rm 0.5~(MPa)$$

Inlet air temperature 35 (°C)
Allowable pressure drop 0.03 (MPa)

Compressed air supply capacity 300 (L/min [ANR])

Dew Point Temperature Conversion Chart



Model Selection Series IDG A/IDG

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.

From table below (Inlet Air Temperature Example: Correction Factor for Outlet Air Flow Rate) Inlet air temperature 35°C Correction factor for outlet air flow rate is 0.40 for Series IDG A 0.86 for Series IDG Therefore corrected outlet air flow rate can be determined. Outlet air flow rate 150 L/min [ANR] [Series IDG \square A] 150 ÷ 0.4 = 375 L/min [ANR] 150 ÷ 0.86 = 175 L/min [ANR] [Series IDG]

Inlet Air Temperature — Correction Factor for Outlet Air Flow Rate

Inlet air temperature (°C)	Series IDG□A	Series IDG
10	1.35	3.00
15	1.22	2.17
20	1.10	1.52
25	1.00	1.00
30	0.92	0.65
35	0.86	0.40
40	0.80	0.25
45	0.75	0.19
50	0.70	0.14

Note) Correction factors between Series IDG□A and Series IDG 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-rate characteristics charts on pages 5 and 6.

Example: Corrected outlet air flow rate 375 L/min [ANR] [Series IDG□A] Corrected outlet air flow rate 175 L/min [ANR] [Series IDG] 0.5 MPa Inlet air pressure

Outlet air atmospheric pressure dew point

With the conditions of the corrected outlet air flow rate 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

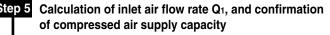
[Series IDG□A] IDG60 [Series IDG] IDG30A, IDG50HA

Confirmation of purged air flow rate Step 4

Read out from the graph on the purged air flow rate (page 9).

Example: 0.5 MPa Inlet air pressure IDG30A Model selection IDG50HA I IDG60

In the case of IDG30A 56 L/min[ANR] In the case of IDG50HA 45 L/min[ANR] In the case of IDG60 94 L/min[ANR]



Inlet air flow rate \mathbf{Q}_1 (L/min [ANR]) = Outlet air flow rate (L/min [ANR]) + Purge air flow rate (L/min [ANR])

Example: Assuming that IDG30A is chosen The inlet air flow rate $\mathbf{Q}_1 = 150 + 56 = 206 \text{ L/min}[ANR]$ by Step 4 Outlet air flow rate 150 L/min [ANR] Purge air flow rate 56 L/min [ANR] Compressed air supply capacity Q

> NO Confirmation of compressed

> > $\mathbf{Q} \geq \mathbf{Q} \mathbf{1}$ **YES** 300 ≥ 206, therefore

> > > proceed to Step 6

Step 6

air supply capacity

Step 6 Confirmation of pressure drop ΔP_1 [MPa]

Single unit (Refer to pages 7 and 8.) Unit (Refer to pages 21 and 22.)

300 L/min [ANR]

Example: Model to be selected in the case of IDG30A • Single unit IDG30A Inlet air pressure 0.5 MPa on the flow-rate characteristics (page 7), 206 L/min [ANR] Δ **P**₁ = 0.006 MPa Inlet air flow Allowable pressure drop ΔP Unit IDG30AM3 0.03 MPa $\Delta P_1 = 0.01 \text{ MPa}$ (Element initial state) Δ **P**₁ = 0.055 MPa (Element saturated state)

Step 1 NO $\Delta P \ge \Delta P_1$ Step 2 Review operating

conditions or increase size

Step 7

Step 1

Review operating conditions.

YES In the case of IDG30A and IDG30AM3 (with the element in the initial state), $\Delta P \ge \Delta P_1$, therefore proceed to

Step 7

Drain discharge method (in the case of unit), accessories and optional specifications

Example: In the case of IDG30A Accessories: With bracket Option specifications: None In the case of IDG30AM3

Drain discharge method: N.O. auto-drain Option specifications: None

Single unit (Refer to pages 1 and 2.) Unit (Refer to pages 15 and 16.)

Refer to "Selection"

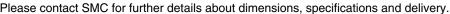
in Specific Product Precautions 1 on page 45.



<In the case of single unit type> IDG30A-03B <In the case of unit type> IDG30AM3-03D



Series IDG A/IDG Made to Order

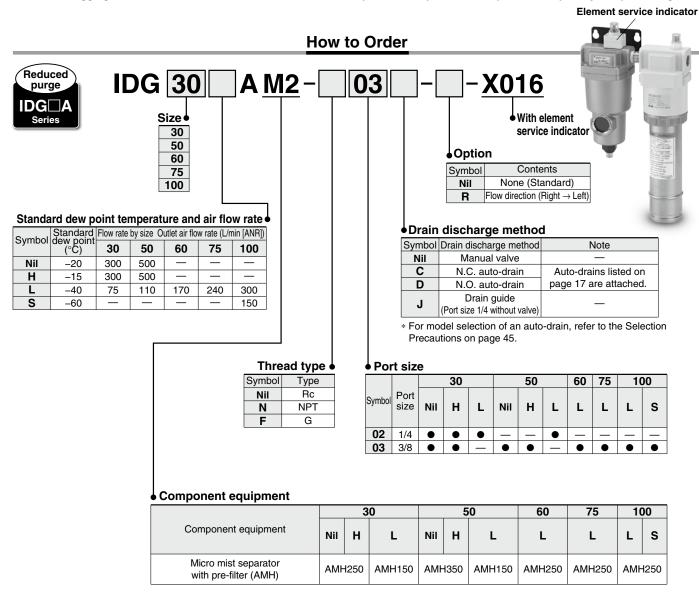




1 With Element Service Indicator

Symbol -X016

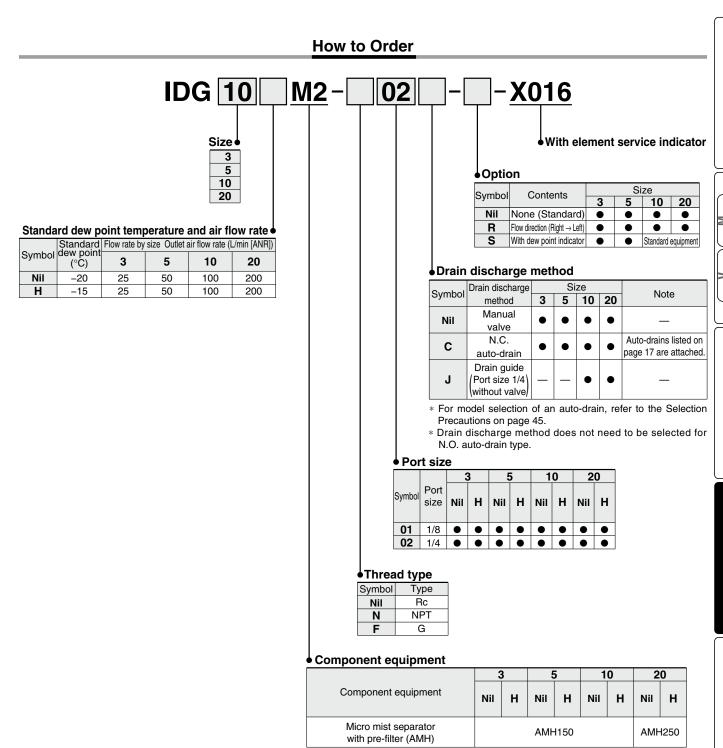
An element service indicator is mounted on the micro mist separator with pre-filter (Series AMH) to allow visual management of the element's clogging life. In addition, combination with a micro mist separator with pre-filter also provides a spatially compact design.



Replacement Parts (Element for micro mist separator with pre-filter)

Description	AMH150	AMH250	AMH350
Element assembly	AMH-EL150	AMH-EL250	AMH-EL350

Made to Order Series IDG A/IDG



Replacement Parts (Element for micro mist separator with pre-filter)

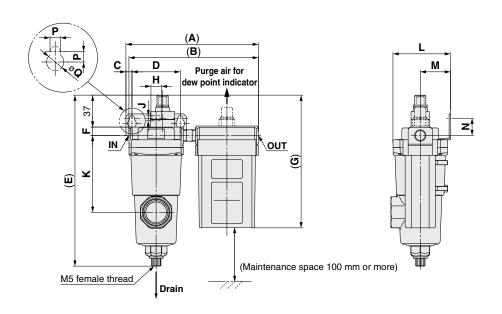
	•		•	•
ſ	Description	AMH150		AMH250
	Element assembly	AMH-EL150		AMH-EL250

Refer to page 18 for the clogging indication of the element service indicator.



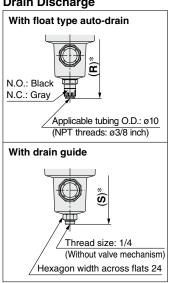
Dimensions

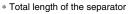
IDG3M2, 5M2, 10M2, 20M2 IDG3HM2, 5HM2, 10HM2, 20HM2

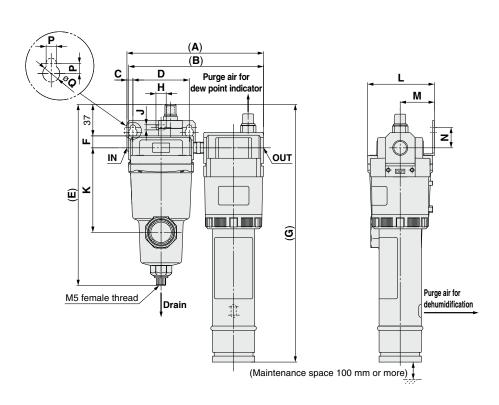


IDG30AM2, 50AM2 IDG30HAM2, 50HAM2 IDG30LAM2, 50LAM2

Drain Discharge





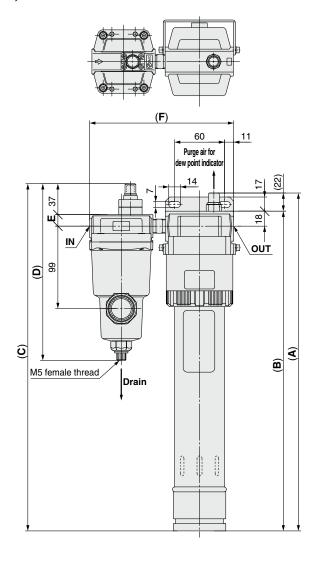


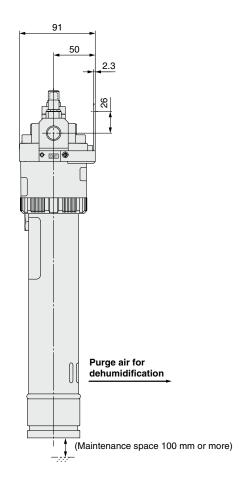
Model	Port size	Α	В	С	D	E	F	G	н	J	к	L	М	N	Р	Q	With float type auto-drain	With drain guide
																	R	S
IDG3M2, 3HM2, 5M2, 5HM2	1/8, 1/4	150	147		56	105	10	154			00	CC F	35	20			209	105
IDG10M2, 10HM2	1/4	160	158		56	195	10	198			89	66.5	33	20			209	195
IDG20M2, 20HM2	1/4. 3/8	203	201	7	66	200	4.4	227	12	6	99	78	40	24	6	10	223	200
IDG30AM2, 30HAM2	1/4, 3/6	160	158		66	209	209 14	302			99	78	40	24			223	209
IDG30LAM2	1/4	147	143		56	195	10	298			89	70	35	20			209	195
IDG50AM2, 50HAM2	3/8	175	172	7.5	80	241	18	345	14	7	127	95	50	28	7	12	255	241
IDG50LAM2	1/4	147	143	7	56	195	10	337	12	6	89	70	35	20	6	10	209	195

Made to Order Series IDG A/IDG

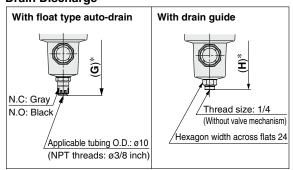
Dimensions

IDG60LAM2 IDG75LAM2 IDG100LAM2, 100SAM2





Drain Discharge

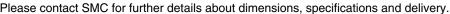


^{*} Total length of the separator

Model	Port size	Α	В	С	D	E	F	With float type auto-drain	With drain guide
IDG60LAM2		348	326	363					
IDG75LMA2	3/8	418	396	433	212	14	170	223	209
IDG100LAM2, 100SAM2]	483	461	498					



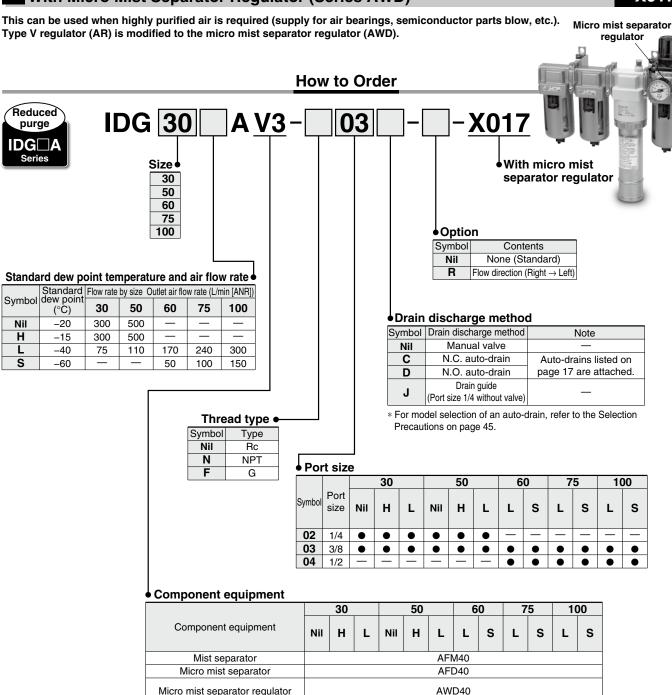
Series IDG A/IDG Made to Order





2 With Micro Mist Separator Regulator (Series AWD)

Symbol -X017

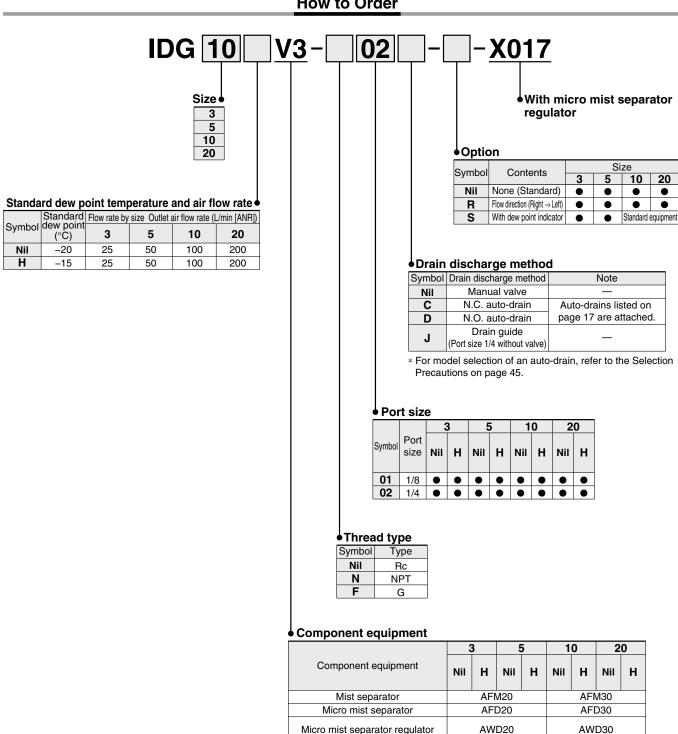


Replacement Parts (Element for mist separator, micro mist separator, micro mist separator regulator)

Description	AFM40	AFD40	AWD40
Element assembly	AFM40P-060AS	AFD40P-060AS	AFD40P-060AS

How to Order

Made to Order Series IDG A/IDG



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

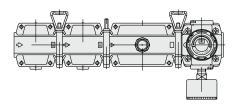
Description	AFM20	AFM30	AFD20	AFD30	AWD20	AWD30
Element assembly	AFM20P-060AS	AFM30P-060AS	AFD20P-060AS	AFD30P-060AS	AFD20P-060AS	AFD30P-060AS

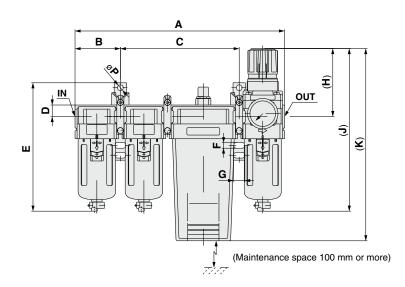


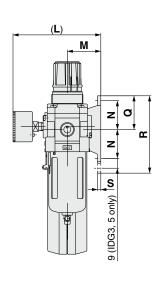


Dimensions

IDG3V3, 5V3, 10V3, 20V3 IDG3HV3, 5HV3, 10HV3, 20HV3





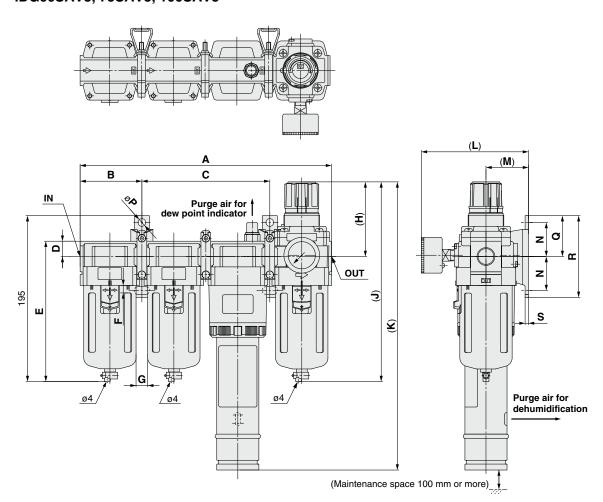


Model	Port size	A	В	С	D	Е	F	G	н	J	K	L	М	N	Р	Q	R	s	With float type auto-drain	With drain guide
																			Т	U
IDG3V3, 3HV3, 5V3, 5HV3	1/8, 1/4	202	41.5	119	10	97	5.5	12	73	173	180	93	30	24	5.5	29	67	3.2	192	_
IDG10V3, 10HV3	1/4, 3/8	254		144	1.1	100	7	4.4	06	201	237	107	44	25	7	41	00		0.40	208
IDG20V3, 20HV3	1/4, 3/6	284	55	174	14	129		14	86	201	262	107	41	35	_ ′	41	82	4	242	200

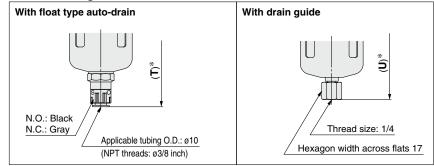
Made to Order $Series \square IDG \square A/IDG$

Dimensions

IDG30AV3, 50AV3 IDG30HAV3, 50HAV3 IDG30LAV3, 50LAV3, 60LAV3, 75LAV3, 100LAV3 IDG60SAV3, 75SAV3, 100SAV3



Drain Discharge



^{*} Total length of the separator

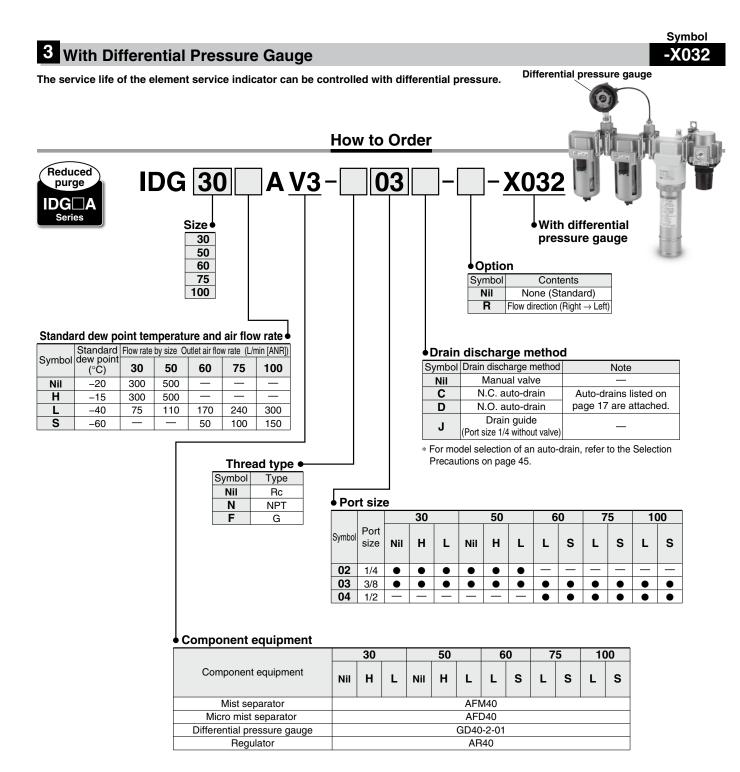
	Model	Port size	Α	В	С	D	Е	F	G	н	J	К	L	М	N	Р	Q	R	s	With float type auto-drain	With drain guide
																				Т	U
	0AV3, 30HAV3		005		150							343									
IDG5	0AV3, 50HAV3	1/4, 3/8	295		150							382									
IDG6	0LAV3, 60SAV3			72.5		18	165	9	18	92	239	400	126	50	40	9	48	96	4	278	246
IDG7	5LAV3, 75SAV3	3/8, 1/2	307		162							470									
IDG10	00LAV3, 100SAV3											535									



Series ■IDG□A/IDG Made to Order



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

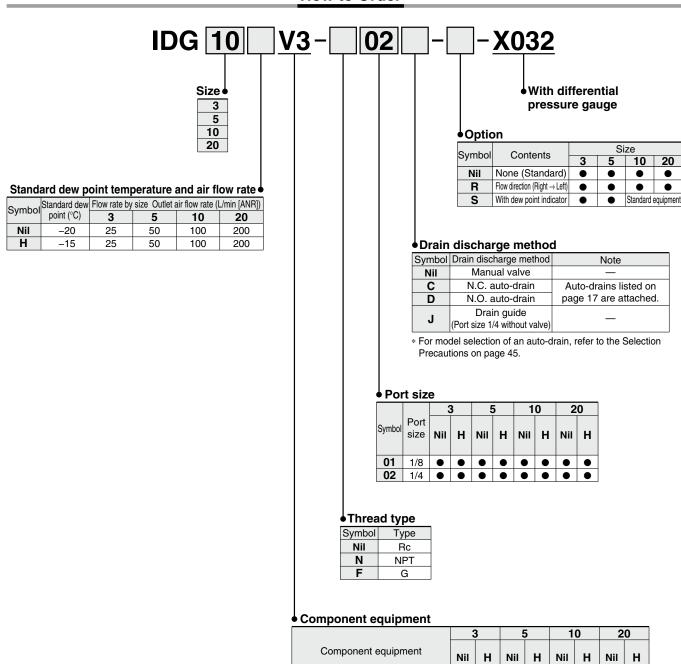


Replacement Parts (Element for mist separator, micro mist separator)

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

How to Order

Made to Order Series IDG A/IDG



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

			-		_
Description	AFM20	AFM30	AFD20	AFD30	1
Element assembly	AFM20P-060AS	AFM30P-060AS	AFD20P-060AS	AFD30P-060AS	1



Mist separator

Micro mist separator

Differential pressure gauge

Regulator

AFM20

AFD20

AR20

GD40-2-01

AFM30

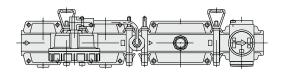
AFD30

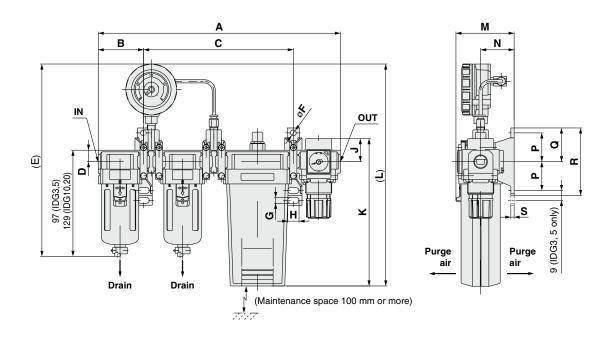
AR25



Dimensions

IDG3V3, 5V3, 10V3, 20V3 IDG3HV3, 5HV3, 10HV3, 20HV3





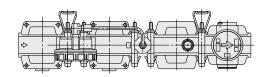
Model	Α	В	С	D	Е	F	G	Н	J	K	L	М	N	Р	Q	R	S	Т	U
IDG3V3, 3HV3 IDG5V3, 5HV3	238	41.5	155	10	199	5.5	5.5	12	26.5	133.5	219	53	30	24	29	67	3.2	115	_
IDG10V3, 10HV3	292		182	4.4	004	7	7	1.1	00	179	270	72	44	25	44	00	4	170	100
IDG20V3, 20HV3	322	55	212	14	234	/	′	14	28	204	295		72 41	35	41	82	4	170	136

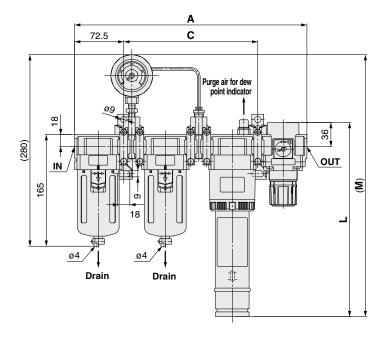


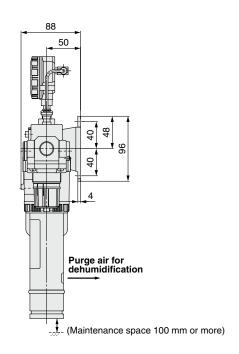
Made to Order Series IDG A/IDG

Dimensions

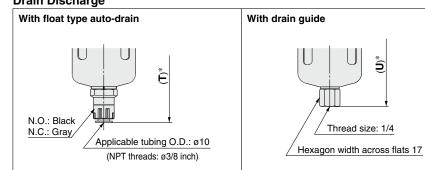
IDG30AV3, 50AV3 IDG30HAV3, 50HAV3 IDG30LAV3, 50LAV3, 60LAV3, 75LAV3, 100LAV3 IDG60SAV3, 75SAV3, 100SAV3







Drain Discharge



* Total length of the separator

Model	Α	С	L	M	Т	U
IDG30AV3, 30HAV3, 30LAV3	0.40	100	287	384		
IDG50AV3, 50HAV3, 50LAV3	343	198	326	423		246
IDG60LAV3, 60SAV3			344	441	278	
IDG75LAV3, 75SAV3	355	210	414	511		
IDG100LAV3, 100SAV3			479	576		





Specific Product Precautions 1

Be sure to read before handling. Refer to back cover for Safety Instructions, "Handling Precautions for SMC Products" (M-E03-3) for Air Preparation Equipment Precautions.

Design

⚠ Warning

 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 IDG30A, 50A, 30HA, 50HA for dehumidifying breathing air. Do not use only outlet air (dry air) in a closed room.

2. Do not exert intermittent pressure on this product.

(Example: Frequently operating solenoid valves installed on the primary side) Intermittent pressure damages the product.

⚠ Caution

1. 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.

2. 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.

3. When highly purified 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 (Type V). When highly purified air is required, please either mount the above separator on the outlet side or use a made-to-order product (refer to pages 37 and 38), which is provided with a micro mist separator (Series AWD) instead of a regulator.

4. 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 60 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.

5. Dehumidification performance when inlet air temperature changes

Performance chart shows the case at an inlet air temperature of 25°C. In other cases, refer to "Model Selection" (page 31) 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 "Model Selection" (page 31). 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 fitting 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 "regarding the outlet air atmospheric dew point in relation to the tube length for purge air discharge" on page 8.

4. Auto-drain selection for the unit type

When the compressor in use is for 2.2 kW {300 L/min [ANR]} or less, 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.

The product may be damaged. And 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 pre-filter on the inlet side of the membrane air dryer.

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

3. Remove water droplets from the inlet air.

Water droplets in the air can lower performance and cause malfunction

4. Large quantities of dust (solid foreign matter) 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.

5. Take sufficient care in handling.

There is a danger of damage if dropped.





Specific Product Precautions 2

Be sure to read before handling. Refer to back cover for Safety Instructions, "Handling Precautions for SMC Products" (M-E03-3) for Air Preparation Equipment Precautions.

Piping

⚠ Warning

1. Confirm locking of case and body.

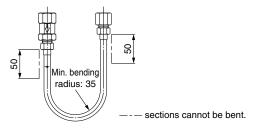
When using in a unit, be sure to set the air pressure to zero before using a mist separator or micro mist separator with modular connections. Also, confirm that the body and case are locked together with a click before starting the flow of compressed air.

2. Confirm tightening of the holder. (for IDG30A to IDG100, IDG30HA to IDG100H, IDG30LA to IDG100LA, IDG60SA to IDG100SA)

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 fitting for purge air discharge (Option: P)

The piping of purge air for dehumidification and for the dew point indicator 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. 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 $(-40^{\circ}\text{C}\text{ or less})$ 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.

⚠ Caution

4. With fitting for purge air discharge (Option: P) (for IDG60 to IDG100, IDG60H to IDG100H, IDG60LA to IDG100LA, IDG60SA to IDG100SA)

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 "required outlet air flow rate (dry air flow rate) + purge air flow rate" is required. Verify the purge air flow rate in "Purge Air Flow-rate Characteristics." (page 9)

2. Chemicals with a negative effect on this product

Chemicals listed in the table below in the compressed air can lower performance and damage the element. Do not use the product in environments including these chemicals.

Category	Chemicals not to be included
Solvents	Acetone, benzene, phenol, toluene, trichloroethylene, xylene, cresol, thinner, aniline, chloroform, chlorobenzene, trichloroethane, ethylbenzene, ethyl alcohol, methyl alcohol, isopropyl alcohol, dioxin, tetrahydrofuran, methylene chloride, cyclohexane, carbon tetrachloride, methyl ketone, ethyl ketone, and others
Acids	Sulfuric acid, nitric acid, hydrochloric acid, acetic acid, lactic acid, chromic acid, and others
Gases	Chlorine gas, sulfurous acid gas, hydrogen chloride, bromine, ozone, ammonia, and others
Oils	Phosphoric-ester hydraulic oil, fuel oil, water soluble cutting oil (alkaline), kerosene, and others
Strong bases	Lithium hydroxide, sodium hydroxide, potassium hydroxide, calcium hydroxide, and others
Others	Anaerobic adhesive, anaerobic sealant, and others

Operating Environment

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 body is cooled by the surrounding air, water drops may accumulate inside and reduce its dehumidification capacity.





Specific Product Precautions 3

Be sure to read before handling. Refer to back cover for Safety Instructions, "Handling Precautions for SMC Products" (M-E03-3) 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. Check 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]

Performance state	Color of the dew point indicator	Note
Initial state	White, Pink	There are both white and pink grains.
Normal operating	Blue	
Decrease in	White, Pink	Air flow, etc, rate can be outside of the specification.
performance	Brown, Black	Contained oils can lower the performance.

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 10 and 11.)

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.
- 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 element service indicator reaches the upper limit. (With micro mist separator with pre-filter) [IDG60M to IDG100M, IDG60HM to IDG100HM, IDG60V to IDG100V, IDG60HV to IDG100HV] Note)
 - Note) For other models as well, they are available with the element service indicator under made-to-order. Refer to pages 33 and 34.

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.

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 operation 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.



⚠ Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of "Caution," "Warning" or "Danger." They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)*1), and other safety regulations.

Caution indicates a hazard with a low level of risk Caution: which, if not avoided, could result in minor or moderate injury.

Warning indicates a hazard with a medium level of ** Warning: risk which, if not avoided, could result in death or serious injury.

⚠ Danger :

Danger indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

*1) ISO 4414: Pneumatic fluid power – General rules relating to systems. ISO 4413: Hydraulic fluid power – General rules relating to systems. IEC 60204-1: Safety of machinery - Electrical equipment of machines. (Part 1: General requirements)

ISO 10218-1: Manipulating industrial robots - Safety.

⚠ Warning

1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications. Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the

2. Only personnel with appropriate training should operate machinery and equipment.

The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

- 3. Do not service or attempt to remove product and machinery/ equipment until safety is confirmed.
 - 1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
 - 2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
 - 3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.
- 4. Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following
 - 1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
 - 2. Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalog.
 - 3. An application which could have negative effects on people, property, or animals requiring special safety analysis.
 - 4. Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.

⚠ Caution

1. The product is provided for use in manufacturing industries.

The product herein described is basically provided for peaceful use in manufacturing industries.

If considering using the product in other industries, consult SMC beforehand and exchange specifications or a contract if necessary.

If anything is unclear, contact your nearest sales branch.

Limited warranty and Disclaimer/ **Compliance Requirements**

The product used is subject to the following "Limited warranty and Disclaimer" and "Compliance Requirements".

Read and accept them before using the product.

Limited warranty and Disclaimer

- 1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered, whichever is first.*2)
 - Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.
- 2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided. This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
- 3. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalog for the particular products.
 - 2) Vacuum pads are excluded from this 1 year warranty. A vacuum pad is a consumable part, so it is warranted for a year after it is delivered. Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.

Compliance Requirements

- 1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
- 2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

Revision history

- Edition B Added Product Liability Act Precautions.
 - Added for 50, 200, 300, 500 L/min [ANR].
 - Added Unit Type (Type V).
 - Number of pages from 6 to 32.

- Edition C Added for 10, 600, 750, 1000 L/min [ANR].
 - Number of pages from 32 to 40.

- Edition D Added IDG3, 3H for 25 L/min [ANR].
 - Added standard dew point -60°C (IDG60S, 70S, 100S).
 - Added models with Element Service Indicator, with Micro Mist Separator Regulator (Series AWD) to Made to Order.
 - Number of pages from 40 to 52.

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Edition E • Added IDG□A.

• Number of pages from 52 to 56.

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↑ Safety Instructions Be sure to read "Handling Precautions for SMC Products" (M-E03-3) before using.

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