

Stainless Steel Speed Controller with One-touch Fittings In-line Type

New

RoHS

Improved corrosion/heat resistance with the all stainless steel exterior

Possible for use in environments such as

high temperature, water splashing, and

where copper and zinc cannot be used

Material:
Stainless steel 316 (External metal parts)*
FKM (Seal)

Refer to page 3 for details.

* Stainless steel 304 is used as the material for parts other than body A.

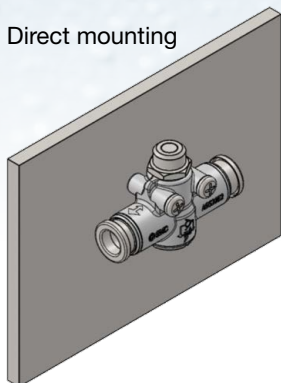
Max. operating temperature: 150°C

NSF H1 grease

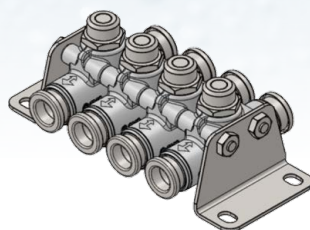


Mounting variations

Direct mounting



L-bracket mounting



Applicable tubing O.D.

Metric $\varnothing 4, \varnothing 6, \varnothing 8, \varnothing 10, \varnothing 12$

Inch $\varnothing 5/32", \varnothing 1/4", \varnothing 5/16", \varnothing 3/8", \varnothing 1/2"$

ASG Series



CAT.ES20-307A

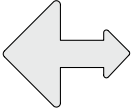
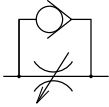
Stainless Steel Speed Controller with One-touch Fittings In-line Type **ASG Series**

RoHS

Model

Model	Applicable tubing O.D.									
	Metric size					Inch size				
	ø4	ø6	ø8	ø10	ø12	ø5/32"	ø1/4"	ø5/16"	ø3/8"	ø1/2"
ASG1002-□	●					●				
ASG2002-□		●					●			
ASG2052-□			●					●		
ASG3002-□				●					●	
ASG4002-□					●					●

Flow Direction Symbols on Body

Indication symbol	
Symbol	

Specifications

Fluid	Air
Proof pressure	1.5 MPa
Max. operating pressure	1 MPa*1
Min. operating pressure	0.1 MPa*1
Ambient and fluid temperatures*2	0 to 150°C (No freezing)
Applicable tubing material*1	FEP, PFA, Nylon, Soft nylon, Polyurethane, Polyolefin

*1 Check the max. operating pressure of the tubing. (Please refer to the **Web Catalog** for details.)

*2 It is recommended that you use the inner sleeve in the following conditions.

- When using in an environment where the fluid temperature changes drastically.
- When using at a high temperature.

* Temperature Condition of Mounting the Inner Sleeve

Tubing	Temperature
FEP tubing/TH Series	80°C or more
Super PFA tubing/TL Series	120°C or more

Metric Size Cross Reference Table of the Inner Sleeve

Tubing O.D.	Tubing material			Applicable inner sleeve	
	TUS (Soft polyurethane)	TH/TIH (FEP)	TL/TIL (Super PFA)	Part no.	Length
ø4	—	TH0402	—	TJ-0402	18
	TUS0425	TH0425	—	TJ-0425	18
	—	—	TL0403	TJ-0403	18
ø6	TUS0604	TH0604	TL0604	TJ-0604	19
	TUS0805	—	—	TJ-0805	20.5
ø8	—	TH0806	TL0806	TJ-0806	20.5
	TUS1065	—	—	TJ-1065	23
ø10	—	TH1075	—	TJ-1075	23
	—	TH1008	TL1008	TJ-1008	24
	TUS1208	—	—	TJ-1208	24
ø12	—	TH1209	—	TJ-1209	24
	—	TH1210	TL1210	TJ-1210	24

* C2700 + Electroless nickel plated is used for the TJ series.

Inch Size Cross Reference Table of the Inner Sleeve

Tubing O.D.	Tubing material		Applicable inner sleeve	
	TH/TIH (FEP)	TL/TIL (Super PFA)	Part no.	Length
ø5/32"	TH0402	—	TJ-0402	18
	TH0425	—	TJ-0425	18
	—	TL0403	TJ-0403	18
ø1/4"	TIHB07	TIL07	TJ-0604	19
	TIHA07	—	TJ-0746	19
ø5/16"	TH0806	TL0806	TJ-0806	20.5
ø3/8"	TIHB11	TIL11	TJ-1065	23
	TIHA11	—	TJ-1107	23
ø1/2"	TIH13	TIL13	TJ-1395	24

* C2700 + Electroless nickel plated is used for the TJ series.

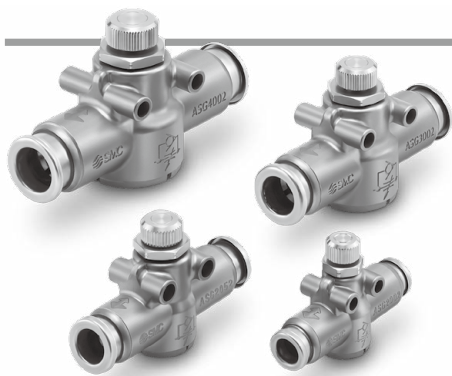
Flow Rate and Sonic Conductance

Model		ASG1002-□	ASG2002-□	ASG2052-□	ASG3002-□	ASG4002-□
Tubing O.D.	Metric size	ø4	ø6	ø8	ø10	ø12
	Inch size	ø5/32"	ø1/4"	ø5/16"	ø3/8"	ø1/2"
C values: Sonic conductance	Free flow	0.3	0.7	1.3	2.7	3.5
	Controlled flow	0.3	0.65	1.2	2.6	4.0
b values: Critical pressure ratio	Free flow	0.3	0.3	0.3	0.3	0.25
	Controlled flow	0.25	0.25	0.2	0.25	0.20

* C and b values are for controlled flow with the needle fully open and free flow with the needle fully closed.



How to Order



ASG 200 2-06

Body size ●

100	M5 standard
200	1/8 standard
205	1/4 standard
300	3/8 standard
400	1/2 standard

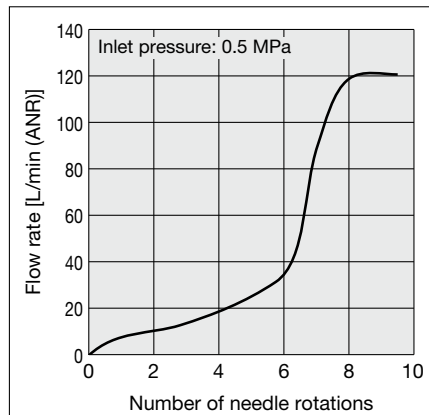
●Applicable tubing O.D.

Metric size		Inch size	
04	ø4	03	ø5/32"
06	ø6	07	ø1/4"
08	ø8	09	ø5/16"
10	ø10	11	ø3/8"
12	ø12	13	ø1/2"

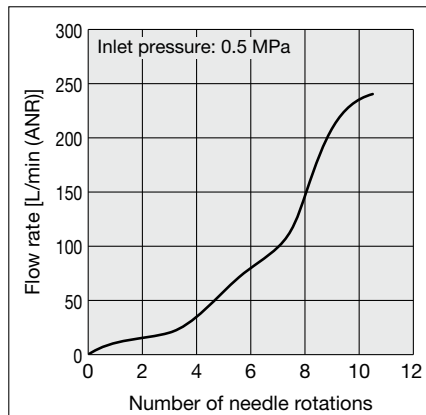
* For selecting applicable tubing O.D., refer to the "Model" on page 1.

Needle Valve: Flow Rate Characteristics

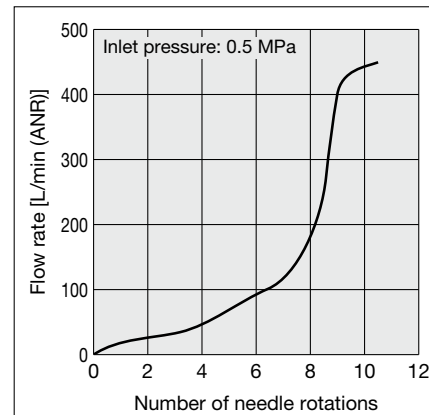
ASG1002-□



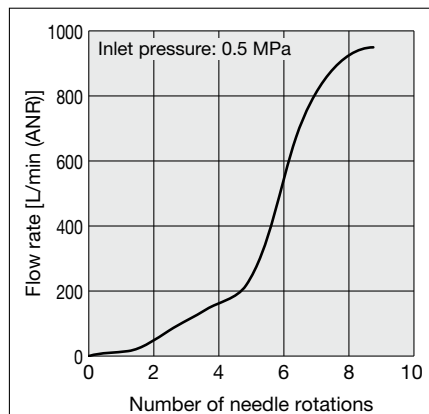
ASG2002-□



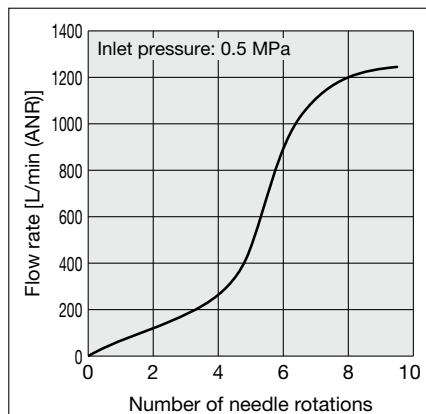
ASG2052-□



ASG3002-□



ASG4002-□

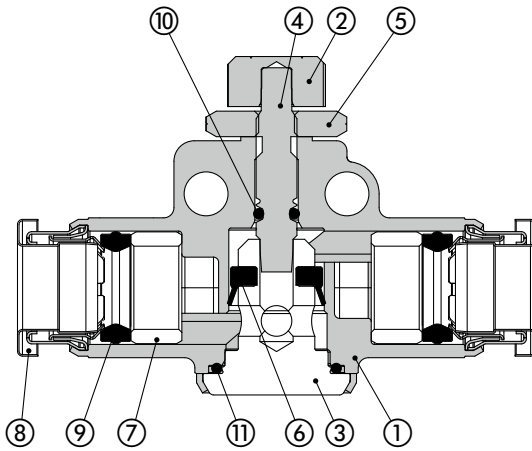


* The flow rate characteristics are representative values.

* The numbers above the flow rate characteristic curves in the charts show the applicable tubing outside diameter as defined by the product number.

ASG Series

Construction



Component Parts

No.	Description	Material	Note
1	Body A	Stainless steel 316	
2	Knob	Stainless steel 304	
3	Seat ring	Stainless steel 304	
4	Needle	Stainless steel 304	
5	Lock nut	Stainless steel 304	
6	U-seal	FKM	
7	Spacer	Stainless steel 303	
8	Cassette	Stainless steel 304	
9	Seal	FKM	
10	O-ring	FKM	
11	O-ring	FKM	

Options

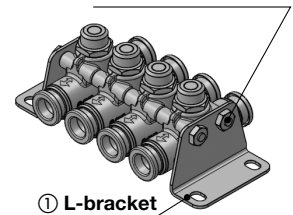
① L-Bracket (Material: Stainless steel 304)

Part number	Applicable model
ASG-10L	ASG1002-□
ASG-20L	ASG2002-□
ASG-25L	ASG2052-□
ASG-30L	ASG3002-□
ASG-40L	ASG4002-□

② Threaded Stud Kit for Manifold (Material: Stainless steel 304)

Part number				Applicable model
4 stations	6 stations	8 stations	10 stations	
ASG-31B	ASG-32B	ASG-33B	ASG-34B	ASG1002-□
		ASG-34B	ASG-35B	ASG2002-□
ASG-41B	ASG-42B	ASG-44B	ASG-45B	ASG2052-□
ASG-42B	ASG-44B	ASG-46B	ASG-47B	ASG3002-□
ASG-43B	ASG-45B	ASG-47B	ASG-48B	ASG4002-□

② Threaded Stud Kit for Manifold



③ Details of Threaded Stud Kit for Manifold

Threaded stud			Accessories			
Part number	Length	Quantity	Hexagon nut	Quantity	Flat washer	Quantity
ASG-31B	65	2	M3	4	M3	4
ASG-32B	93	2				
ASG-33B	107	2				
ASG-34B	132	2				
ASG-35B	150	2				
ASG-41B	78	2	M4	4	M4	4
ASG-42B	111	2				
ASG-43B	123	2				
ASG-44B	149	2				
ASG-45B	178	2				
ASG-46B	195	2				
ASG-47B	241	2				
ASG-48B	290	2				

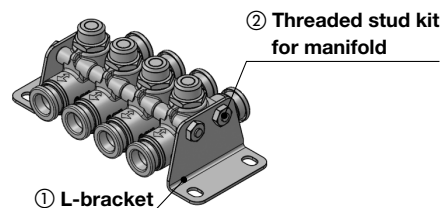
Ordering Example

Threaded studs for manifold are not included with the L-bracket.
Please order them according to the number of stations.

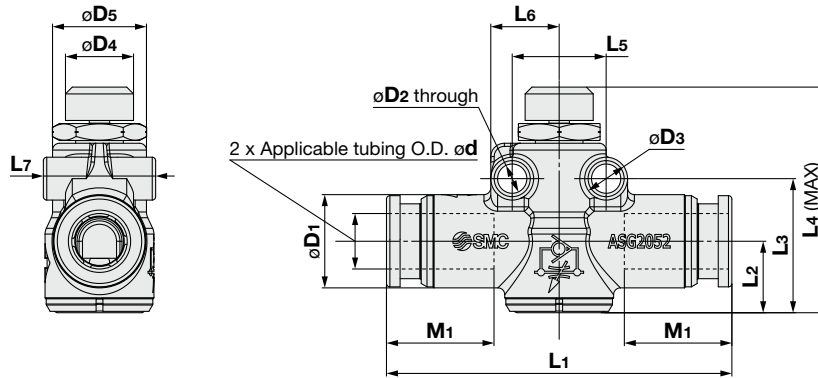
Ex.) ASG2002-06

When connecting 4 pcs. and mounting L-brackets on both sides

- Speed controller
ASG2002-06 4 pcs.
- L-bracket
ASG-20L 2 pcs.
- Threaded stud kit for manifold
ASG-31B 1 set



Dimensions



Metric Size

Model	øD1	øD2	øD3	øD4	øD5	L1	L2	L3	L4	L5	L6	L7	M1	Weight [g]
									Max.					
ASG1002-04	9.1	3.3	5.3	5.0	8.0	35.8	7.8	13.9	27.8	8.0	6.7	12.2	12.6	19.4
ASG2002-06	11.4	3.3	5.3	8.0	9.8	42.8	9.1	16.5	33.0	9.8	7.6	14.0	13.6	33.0
ASG2052-08	13.7	4.3	6.3	10.0	13.8	50.8	10.5	19.7	37.7	13.8	10.1	16.5	16.1	55.1
ASG3002-10	16.6	4.3	6.3	11.0	17.4	62.2	12.5	23.5	42.9	17.4	11.9	22.8	17.0	105.8
ASG4002-12	19.6	4.5	7.0	14.0	21.0	73.6	14.4	26.3	49.6	21.0	14.0	27.7	18.6	169.3

Inch Size

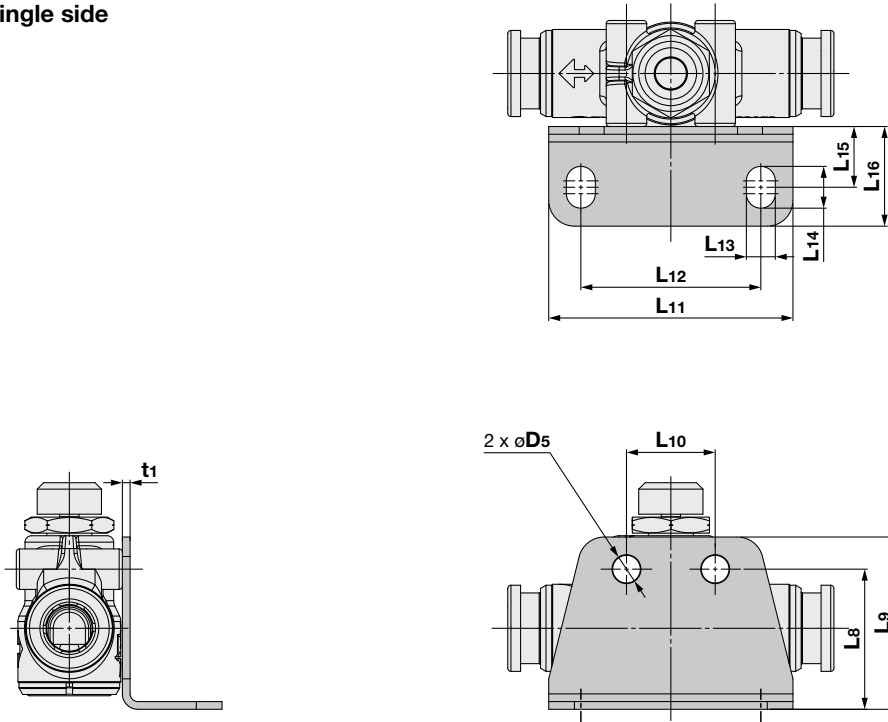
Model	øD1	øD2	øD3	øD4	øD5	L1	L2	L3	L4	L5	L6	L7	M1	Weight [g]
									Max.					
ASG1002-03	9.1	3.3	5.3	5.0	8.0	35.8	7.8	13.9	27.8	8.0	6.7	12.2	12.6	19.4
ASG2002-07	11.4	3.3	5.3	8.0	9.8	42.8	9.1	16.5	33.0	9.8	7.6	14.0	13.6	33.0
ASG2052-09	13.7	4.3	6.3	10.0	13.8	50.8	10.5	19.7	37.7	13.8	10.1	16.5	16.1	55.1
ASG3002-11	16.6	4.3	6.3	11.0	17.4	62.2	12.5	23.5	42.9	17.4	11.9	22.8	17.0	105.8
ASG4002-13	19.6	4.5	7.0	14.0	21.0	73.6	14.4	26.3	49.6	21.0	14.0	27.7	18.6	169.3

ASG Series

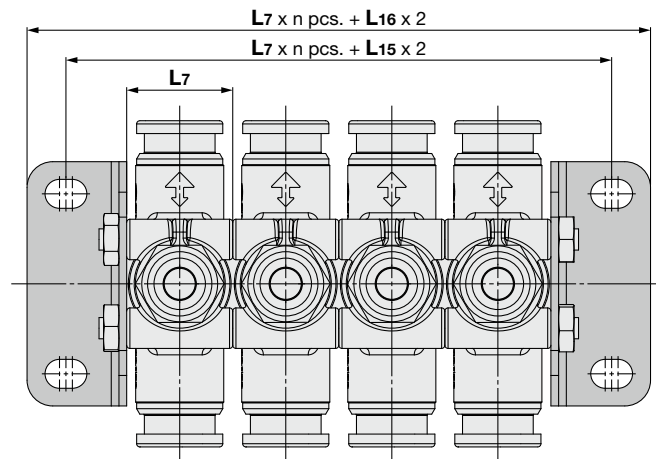
Dimensions

L-Bracket

Bracket on a single side




Brackets on both sides





Part number	Applicable model	D5	L7	L8	L9	L10	L11	L12	L13	L14	L15	L16	t1
ASG-10L	ASG1002-□	3.4	12.2	16.0	19.5	8.0	27.5	19.5	3.4	4.9	7.3	12.0	1
ASG-20L	ASG2002-□	3.4	14.0	18.6	22.6	9.8	29.0	21.0	3.4	4.9	7.3	12.0	1.2
ASG-25L	ASG2052-□	4.5	16.5	21.8	26.8	13.8	38.0	28.0	4.5	6.5	9.5	15.5	
ASG-30L	ASG3002-□	4.5	22.8	25.9	30.9	17.4	43.0	33.0	4.5	6.5	9.5	15.5	1.5
ASG-40L	ASG4002-□	4.5	27.7	28.7	33.7	21.0	49.0	39.0	4.5	6.5	9.5	15.5	

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.

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

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

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

*1) ISO 4414: Pneumatic fluid power - General rules and safety requirements for systems and their components
ISO 4413: Hydraulic fluid power - General rules and safety requirements for systems and their components
IEC 60204-1: Safety of machinery - Electrical equipment of machines - Part 1: General requirements
ISO 10218-1: Robots and robotic devices - Safety requirements for industrial robots - Part 1: Robots etc.

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 equipment.

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. Our products cannot be used beyond their specifications. Our products are not developed, designed, and manufactured to be used under the following conditions or environments. Use under such conditions or environments is not covered.

1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
2. Use for nuclear power, railways, aviation, space equipment, ships, vehicles, military application, equipment affecting human life, body, and property, fuel equipment, entertainment equipment, emergency shut-off circuits, press clutches, brake circuits, safety equipment, etc., and use for applications that do not conform to standard specifications such as catalogs and operation manuals.
3. Use for interlock circuits, except for use with double interlock such as installing a mechanical protection function in case of failure. Please periodically inspect the product to confirm that the product is operating properly.

Caution

We develop, design, and manufacture our products to be used for automatic control equipment, and provide them for peaceful use in manufacturing industries.

Use in non-manufacturing industries is not covered.

Products we manufacture and sell cannot be used for the purpose of transactions or certification specified in the Measurement Act.

The new Measurement Act prohibits use of any unit other than SI units in Japan.

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.

Safety Instructions

Be sure to read the “Handling Precautions for SMC Products” (M-E03-3) and “Operation Manual” before use.

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Specifications are subject to change without prior notice and any obligation on the part of the manufacturer.

D-G