



DRY GAS METER

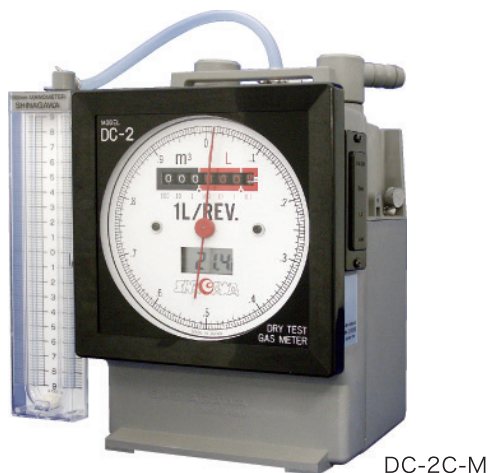
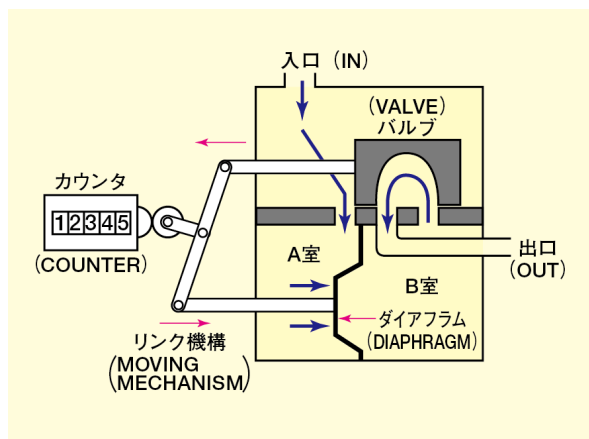
DC For experimentation,
environmental measurement

DS For large flow

D-NM For high pressure



<http://www.shinagawa-net.co.jp>



The principle and structure of dry gas meters

The meter is divided into four measuring chambers, by two diaphragms. Gas flows into a chamber, moving the diaphragm due to differential pressure. The chambers are alternately connected to inlet or outlet, by a slide valve which moves with the diaphragms. The diaphragm movement is conducted to an integrating counter via a rotary crank, showing the volume passing through the meter.

DC – For experimentation, environmental measurement

Materials All models:

Casing : Polybutylene terephthalate (PBT) and polycarbonate (PC)
Diaphragm : Polyester cloth with hydrin rubber (CHC+NBR)
Counter parts : Brass and polyacetal resin (POM)

DC-5A : Inner parts : Aluminium alloy die casting, zinc-coated steel plate and brass

DC-1C/2C : Inner parts : Polyphenylene sulfide (PPS) and stainless steel

DC-5C : Inner parts : Aluminium alloy die casting, zinc-coated steel plate and stainless steel

Pressure loss	320Pa
Operating pressure limit	0kPa to 10kPa
Operating temperature limit	-10°C to 50°C

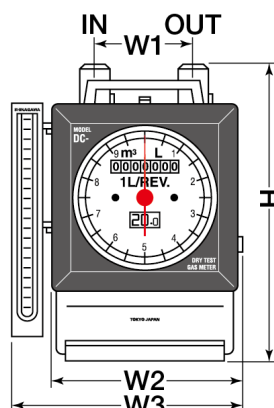
Repeatability: $\pm 0.3\%$ (Standard deviation)
*Changes depending on the measurement situation

Model	Measuring range	Diaphragm capacity (L)	One revolution (L)	Minimum scale (mL)	Connector	Weight (kg)
DC-1C	0.16 ~ 18.3L/min (10 ~ 1100L/h)	0.7	1	5	ϕ 9	2.8
DC-2C	0.16 ~ 33.3L/min (10 ~ 2000L/h)	0.7	1	5	ϕ 13	2.8
DC-5A/C	0.16 ~ 83.3L/min (10 ~ 5000L/h)	1.2	10	50	ϕ 19	4.2

*Pulse output can be installed.

*Manometer can be installed.

Model	W1	W2	W3 (M type)	L	H
DC-1	90	174	235	150	258
DC-2	90	174	235	150	258
DC-5	130	199	264	176	309



Symbols

DC ①-② AorC ③-④

- ① Pulse output
A : Explosion-proof pulse output
Da : Regular pulse output
- ② Maximum flow rate
1/2/5 (A-type is only 5)
- ③ Options
o : Degreased
f : Teflon coating
- ④ Options
M : 1.8kPa manometer
D : Without digital thermometer

DS – For large flow



DS-1.6A-T

Materials DS-1.6 ~ 16: Casing: Aluminium alloy die casting (ADC12) and zinc-coated steel plate

DS-25 ~ 160: Casing: Zinc-coated steel plate

All models:

Inner parts: Aluminium alloy die casting, zinc-coated steel plate and polyacetal resin

Diaphragm: Polyester cloth with hydrin rubber (CHC+NBR)

Other parts: Nickel-coated brass, stainless steel and polycarbonate (PC)

Operating pressure limit	0kPa to 20kPa
Operating temperature limit	-10°C to 50°C

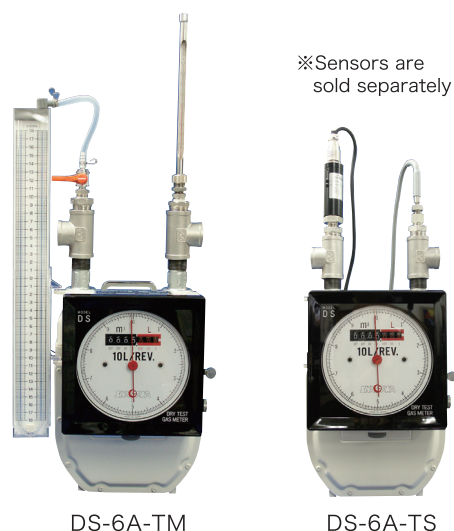
Model	Da pulse rate option	A pulse rate option	
DS-1.6A	0.01	0.1	1
DS-2.5A	0.01	0.1	1
DS-4A, -6A	0.01	0.1	1
DS-10A, -16A	0.1	1	10
DS-25A	0.1	1	10
DS-40A, -65A	1	10	100
DS-100A, -160A	1	10	100

Model	Distance between inlet/outlet center	W	H1	H	L	L2	Weight (kg)
DS-1.6A	130	174	219	279	173	94	4.7
DS-2.5A	130	174	240	299	178	102	5.1
DS-4A, -6A	130	195	269	330	196	120	6.5
DS-10A, -16A	220	300	341	421	253	167	11
DS-25A	220	417	452	534	421	367	24
DS-40A, -65A	320	513	573	655	474	423	36
DS-100A, -160A	380	639	728	841	559	519	68

Model	Measuring range	Diaphragm capacity (L)	One revolution (L)*	Minimum scale (L)	Pulse rate (L/p)	Pressure loss (Pa)	Gas tube
DS-1.6A	0.16 ~ 26.6L/min (0.01 ~ 1.6m ³ /h)	0.6	10	0.2	0.1	220	20A 3/4B
DS-2.5A	0.37 ~ 41.6L/min (0.02 ~ 2.5m ³ /h)	0.9	10	0.2	0.1	220	20A 3/4B
DS-4A	0.5 ~ 66.6L/min (0.03 ~ 4m ³ /h)	1.7	10	0.2	0.1	220	20A 3/4B
DS-6A	0.66 ~ 100L/min (0.04 ~ 6m ³ /h)	1.7	10	0.2	0.1	300	20A 3/4B
DS-10A	1.16 ~ 166L/min (0.07 ~ 10m ³ /h)	4	100	2	1	300	32A 1 1/4B
DS-16A	1.66 ~ 266L/min (0.1 ~ 16m ³ /h)	4	100	2	1	300	32A 1 1/4B
DS-25A	2.5 ~ 416L/min (0.15 ~ 25m ³ /h)	9	100	2	1	300	50A 2B
DS-40A	5 ~ 666L/min (0.3 ~ 40m ³ /h)	20	1000	20	10	300	50A 2B
DS-65A	6.66 ~ 1083L/min (0.4 ~ 65m ³ /h)	20	1000	20	10	300	50A 2B
DS-100A	10 ~ 1666L/min (0.6 ~ 100m ³ /h)	40	1000	20	10	300	80A 3B
DS-160A	16.6 ~ 2666L/min (1.0 ~ 160m ³ /h)	40	1000	20	10	400	80A 3B

*Analogue pointer can be attached as an option

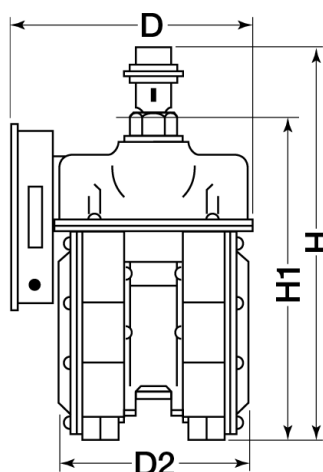
*Rubber tube connection is available as an option



DS-6A-TM

DS-6A-TS

※Sensors are sold separately



Repeatability: $\pm 0.3\%$ (standard deviation)

*Changes depending on the measurement situation

Symbols

DS ① - ② A ③ - ④

*Corrosion resistant uses Ce

- ① Pulse output
A : Explosion-proof
Da : Regular (magnified)
Blank : Regular
- ② Maximum flow rate
1.6/2.5/4/6/10/16/25/40/65/100/160
- ③ Option
o : Degreased
- ④ Option
T : Analogue pointer
M : With 3.6kPa manometer and rod thermometer
S : With mounting brackets for temperature and pressure sensors
R : Rubber tube joint
Without : Gas pipe joint (standard)

D-NM – For high pressure



D-NMA-7A

Materials D-NM-2~15: Internal casing: Aluminium alloy die casting (ADC12) and zinc-coated steel plate
D-NM-30~120: Internal casing: Zinc-coated steel plate

All models:

Outer casing: Carbon steel

Diaphragm: Polyester cloth with hydin rubber (ECO+NBR)

Transmission unit: Sealed system with magnetic coupling

Pressure loss	200Pa
Operating pressure limit	-0.097MPa to 0.97MPa
Pressure tolerance	1.45MPa
Operating temperature limit	-10°C to 50°C

Model	Measuring range	Diaphragm capacity (L)	Minimum scale (L)	Welded flange	Dimensions (mm)	Weight (kg)
D-NM-2A	0.16 ~ 33.3L/min (10 ~ 2000L/h)	0.6	0.2	20A	L322 W320 H354	27
D-NM-7A	0.33 ~ 116.6L/min (20 ~ 7000L/h)	1.7	0.2	25A	L379 W380 H421	80
D-NM-15A	3.33 ~ 250L/min (200 ~ 15000L/h)	4	2	32A	L474 W400 H544	95
D-NM-30A	10 ~ 500L/min (600 ~ 30000L/h)	9	2	50A	L476 W530 H599	110
D-NM-50A	16.6 ~ 833L/min (1000 ~ 50000L/h)	20	20	65A	L641 W750 H690	160
D-NM-120A	33.3 ~ 2000L/min (2000 ~ 120000L/h)	40	20	80A	L810 W880 H1030	350

*Pulse output can be installed.

Repeatability: $\pm 0.3\%$ (Standard deviation) *Changes according to the measurement situation.

Optional functions

Pulse output / Explosion-proof system / Resettable counter

Accessories



STF Digital counter



Pressure sensor



Temp. sensor



3.6kPa manometer



Carrying case

- Notice and request**
- Gases consisting of e.g. O₂ or H₂ will require special configurations
 - Please contact us about specifications, repair or calibration
 - Specifications are subject to change without prior notice



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