



Equivalent to "DIN3394" group B For double shut-off compliant with low pressure (5 kPa) specifications

# Gas shut-off valve (quick open) DSG Series

- NC (open when energized)
- City gas/natural gas/LPG
- Port size: Rp1/2, Rp3/4, Rp1



## Features

- Japan Gas Appliances Inspection Association (JIA) certified product (relevant model No.: DSG-15-AC100V, AC200V, DSG-20-AC100V, AC200V, DSG-25-AC100V, AC200V. \* Option products are not compliant.)
- The DC driven actuator with rectifier has eliminated noise and coil burnout for safety.
- Built-in strainer for a structure that stops foreign matter such as dust in front of the valve during piping.
- Equipped with JIS standard conduit thread, making electrical wiring easy.

## Applications

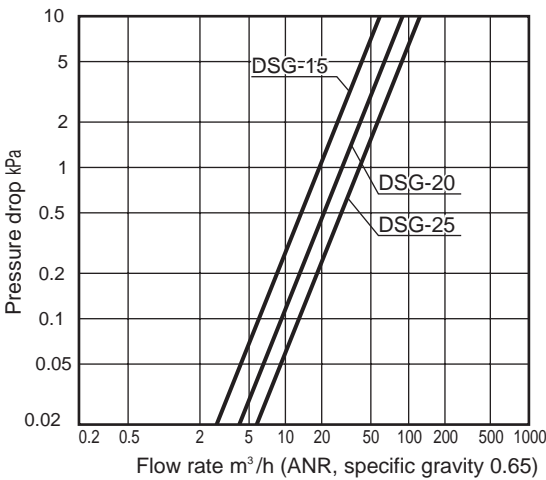
- Gas boilers
- Industrial furnaces
- Gas absorption water coolers/heaters
- Drying furnaces
- Hydrogen-related devices (only working fluid is hydrogen gas option)
- Other

## Specifications

| Item  | DSG-15   | DSG-20 | DSG-25 |
|---|--|--------|--------|
| Working fluid   | City gas/LPG (Hydrogen * 1)  |        |        |
| Working pressure kPa  | 0 to 5   |        |        |
| Flow rate <small>Specific gravity of city gas 0.65, P=0.25kPa</small> m <sup>3</sup> /h (ANR) | 9.8  | 15.0   | 20.0   |
| Cv  | 6.6  | 10.1   | 13.4   |
| Rated voltage V   | 100 AC <sup>+10%</sup> <sub>-15%</sub> 200 AC <sup>+10%</sup> <sub>-15%</sub>            |        |        |
| Frequency Hz  | Common to 50 and 60  |        |        |
| Power consumption (apparent power) VA   | 16   |        |        |
| Ambient temperature °C  | -20 to +60 (no freezing)   |        |        |
| Opening time s  | 0.5 or less  |        |        |
| Closing time s  | 1.0 or less  |        |        |
| Frequency cycles/min.   | 30 or less   |        |        |
| Mounting orientation  | Vertical direction with the coil on top or horizontal direction with the coil horizontal |        |        |
| Connection  | Screw-in (Rp)  |        |        |
| Port size   | 1/2  | 3/4    | 1      |
| Weight kg   | 1.0  | 1.2    | 1.2    |
| Proof pressure MPa  | 0.1  |        |        |
| Degree of protection  | IP51 or equivalent (IP21 or equivalent with HP terminal box)                             |        |        |

\*1: Only the working fluid hydrogen gas option can be used.

## Flow Rate Characteristics



## Reference: conversion factor

Converted flow rate = (flow rate in table) x (coefficient)

| Gas                        | City gas (13A) | Propane | Butane | Hydrogen gas *1 |
|----------------------------|----------------|---------|--------|-----------------|
| Specific gravity (air = 1) | 0.65           | 1.6     | 2.0    | 0.07            |
| Coefficient                | 1.0            | 0.63    | 0.57   | 3.04            |



### How to order

**DSG** - **15** - **Y** - **AC100V**

Model No.

**A** Port size

**B** Option

**C** Voltage

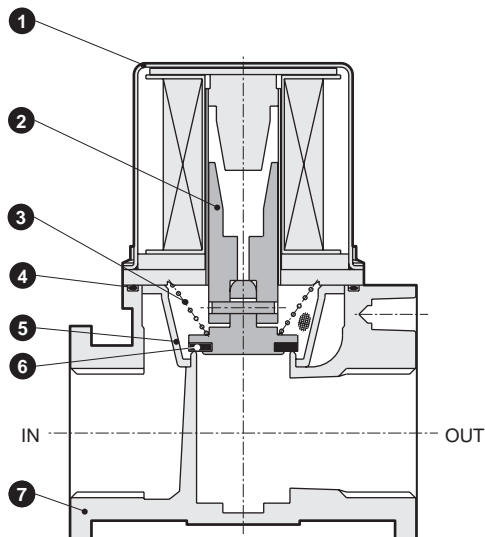
| Code               | Description                  |
|--------------------|------------------------------|
| <b>A Port size</b> |                              |
| <b>15</b>          | Rp1/2                        |
| <b>20</b>          | Rp3/4                        |
| <b>25</b>          | Rp1                          |
| <b>B Option</b>    |                              |
| <b>Blank</b>       | Standard                     |
| <b>Y</b>           | With flow rate adjustment    |
| <b>3M</b>          | With HP terminal box(G1/2)   |
| <b>P</b>           | With pressure detection port |
| <b>H2</b>          | Working fluid: Hydrogen gas  |
| <b>C Voltage</b>   |                              |
| <b>AC100V</b>      | 100 VAC 50/60 Hz             |
| <b>AC200V</b>      | 200 VAC 50/60 HZ             |

|                      |
|----------------------|
| EXA                  |
| FWD                  |
| HNB/G                |
| USB/G                |
| FAB/G                |
| FGB/G                |
| FVB                  |
| FWB/G                |
| FHB                  |
| FLB                  |
| AB                   |
| AG                   |
| AP/<br>AD            |
| APK/<br>ADK          |
| DryAir               |
| EX-<br>XPLNprf       |
| XPLNprf              |
| HVB/<br>HVL          |
| S $\nabla$ B/<br>NAB |
| LAD/<br>NAD          |
| Water-<br>Rela       |
| NP/NAP/<br>NVP       |
| SNP                  |
| CHB/G                |
| MXB/G                |
| Other<br>valves      |
| SWD/<br>MWD          |
| DustColl             |
| CVE/<br>CVSE         |
| CCH/<br>CPE/D        |
| LifeSci              |
| Gas-<br>Combus       |
| Auto-<br>Water       |
| Outdoor              |
| SpecFld              |
| Custom               |
| Ending               |



EXA  
FWD  
HNB/G  
USB/G  
FAB/G  
FGB/G  
FVB  
FWB/G  
FHB  
FLB  
AB  
AG  
AP/  
AD  
APK/  
ADK  
DryAir  
EX-  
XPLNprf  
XPLNprf  
HVB/  
HVL  
S ◇ B/  
NAB  
LAD/  
NAD  
Water-  
Rela  
NP/NAP/  
NVP  
SNP  
CHB/G  
MXB/G  
Other  
valves  
SWD/  
MWD  
DustColl  
CVE/  
CVSE  
CCH/  
CPE/D  
LifeSci  
Gas-  
Combus  
Auto-  
Water  
Outdoor  
SpecFld  
Custom  
Ending

Internal structure and parts list



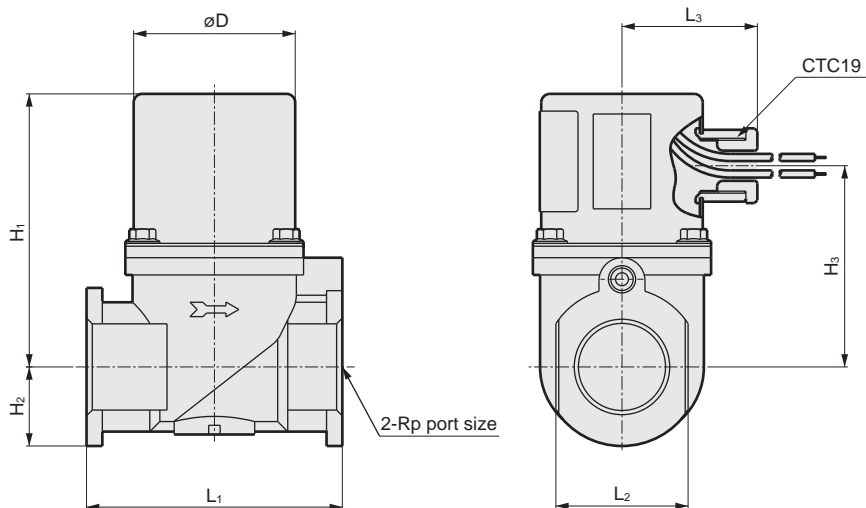
Cannot be disassembled

| No. | Part name  | Material             |
|-----|------------|----------------------|
| 1   | Bonnet     | Steel                |
| 2   | Plunger    | Stainless steel      |
| 3   | Spring     | Stainless steel wire |
| 4   | O-ring     | Nitrile rubber       |
| 5   | Strainer   | Resin                |
| 6   | Valve disc | Nitrile rubber       |
| 7   | Body       | Aluminum die-casting |

Dimensions



● Standard  
DSG-15 to 25

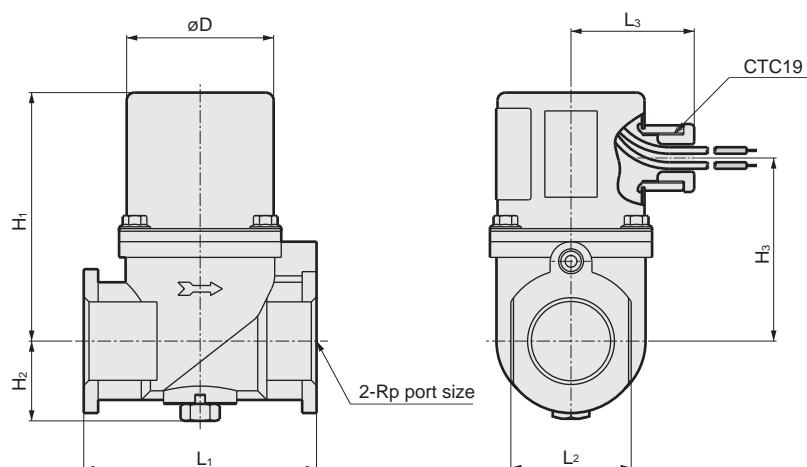


| Code      | Port size | H <sub>1</sub> | H <sub>2</sub> | H <sub>3</sub> | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | øD |
|-----------|-----------|----------------|----------------|----------------|----------------|----------------|----------------|----|
| Model No. |           |                |                |                |                |                |                |    |
| DSG-15    | 1/2       | 91             | 17.5           | 67             | 69             | 32             | 47             | 56 |
| DSG-20    | 3/4       | 95             | 27.5           | 71             | 89             | 46             | 47             | 56 |
| DSG-25    | 1         | 95             | 27.5           | 71             | 89             | 46             | 47             | 56 |



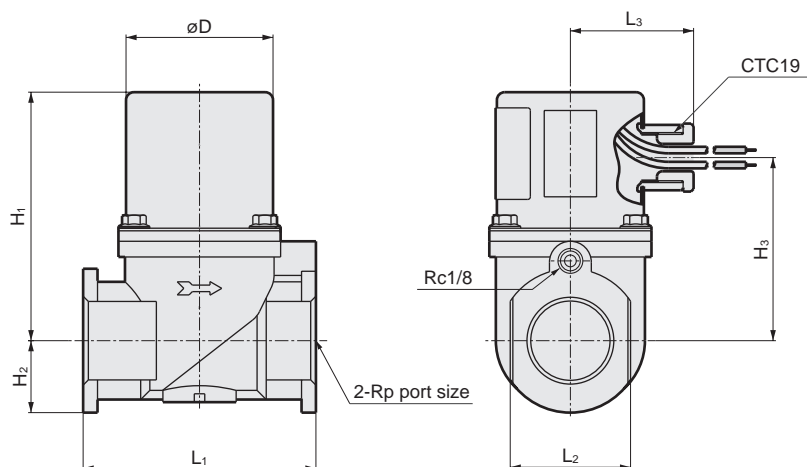
## Optional dimensions

- With flow rate adjustment  
DSG-15 to 25-Y



| Code<br>Model No. | Port<br>size | H <sub>1</sub> | H <sub>2</sub> | H <sub>3</sub> | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | ØD |
|-------------------|--------------|----------------|----------------|----------------|----------------|----------------|----------------|----|
| DSG-15-Y          | 1/2          | 91             | 24             | 67             | 69             | 32             | 47             | 56 |
| DSG-20-Y          | 3/4          | 95             | 30.5           | 71             | 89             | 46             | 47             | 56 |
| DSG-25-Y          | 1            | 95             | 30.5           | 71             | 89             | 46             | 47             | 56 |

- With pressure detection port  
DSG-15 to 25-P



| Code<br>Model No. | Port<br>size | H <sub>1</sub> | H <sub>2</sub> | H <sub>3</sub> | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | ØD |
|-------------------|--------------|----------------|----------------|----------------|----------------|----------------|----------------|----|
| DSG-15-P          | 1/2          | 91             | 17.5           | 67             | 69             | 32             | 47             | 56 |
| DSG-20-P          | 3/4          | 95             | 27.5           | 71             | 89             | 46             | 47             | 56 |
| DSG-25-P          | 1            | 95             | 27.5           | 71             | 89             | 46             | 47             | 56 |

|                          |
|--------------------------|
| EXA                      |
| FWD                      |
| HNB/G                    |
| USB/G                    |
| FAB/G                    |
| FGB/G                    |
| FVB                      |
| FWB/G                    |
| FHB                      |
| FLB                      |
| AB                       |
| AG                       |
| AP/<br>AD                |
| APK/<br>ADK              |
| DryAir                   |
| EX-<br>XPLNprf           |
| XPLNprf                  |
| HVB/<br>HVL              |
| S <sup>◇</sup> B/<br>NAB |
| LAD/<br>NAD              |
| Water-<br>Rela           |
| NP/NAP/<br>NVP           |
| SNP                      |
| CHB/G                    |
| MXB/G                    |
| Other valves             |
| SWD/<br>MWD              |
| DustColl                 |
| CVE/<br>CVSE             |
| CCH/<br>CPE/D            |
| LifeSci                  |
| Gas-<br>Combus           |
| Auto-<br>Water           |
| Outdoor                  |
| SpecFld                  |
| Custom                   |
| Ending                   |





Equivalent to "DIN3394" group B For double shut-off valve compliant with low pressure (5 kPa) specifications

## Gas double shut-off valve (quick open) DSG-W Series

- NC (open when energized)
- City gas/natural gas/LPG
- Port size: Rp3/4, Rp1

RoHS

### Features

- The DC driven actuator with rectifier has eliminated noise and coil burnout for safety.
- Built-in strainer for a structure that stops foreign matter such as dust in front of the valve during piping.

### Applications

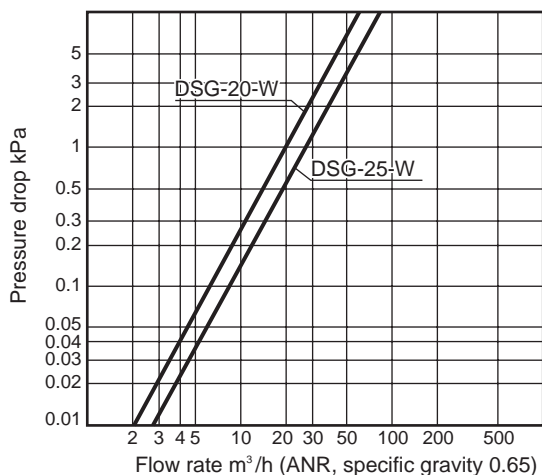
- Gas boilers
- Industrial furnaces
- Gas absorption water coolers/heaters
- Drying furnaces
- Hydrogen-related devices (only working fluid is hydrogen gas option)
- Other

### Specifications

| Item   | DSG-20-W   | DSG-25-W                            |
|--|--|-------------------------------------|
| Working fluid  | City gas/natural gas/LPG   |                                     |
| Working pressure kPa   | 0 to 5   |                                     |
| Flow rate <small>Specific gravity of city gas 0.65, ΔP=0.25kPa</small> m <sup>3</sup> /h (ANR) | 10.5   | 14.0                                |
| Cv   | 7.0  | 9.4                                 |
| Rated voltage V  | 100 AC <small>+10%<br/>-15%</small>  | 200 AC <small>+10%<br/>-15%</small> |
| Frequency Hz   | Common to 50 and 60  |                                     |
| Power consumption (apparent power) VA  | 16 x 2   |                                     |
| Ambient temperature °C   | -20 to +60 (no freezing)   |                                     |
| Opening time s   | 0.5 or less  |                                     |
| Closing time s   | 1.0 or less  |                                     |
| Frequency cycles/min.  | 30 or less   |                                     |
| Mounting orientation   | Vertical direction with the coil on top or horizontal direction with the coil horizontal |                                     |
| Connection   | Screw-in (Rp)  |                                     |
| Port size  | 3/4  | 1                                   |
| Weight kg  | 2.0  | 2.0                                 |
| Proof pressure MPa   | 0.1  |                                     |
| Degree of protection   | IP 21 or equiv.  |                                     |

\*1: Only the working fluid hydrogen gas option can be used.

### Flow Rate Characteristics



### Reference: conversion factor

Converted flow rate = (flow rate in table) x (coefficient)

| Gas                        | City gas (13A) | Propane | Butane | Hydrogen gas *1 |
|----------------------------|----------------|---------|--------|-----------------|
| Specific gravity (air = 1) | 0.65           | 1.6     | 2.0    | 0.07            |
| Coefficient                | 1.0            | 0.63    | 0.57   | 3.04            |

### How to order

DSG - 20 - W H2 - AC100V

Model No.

A Port size

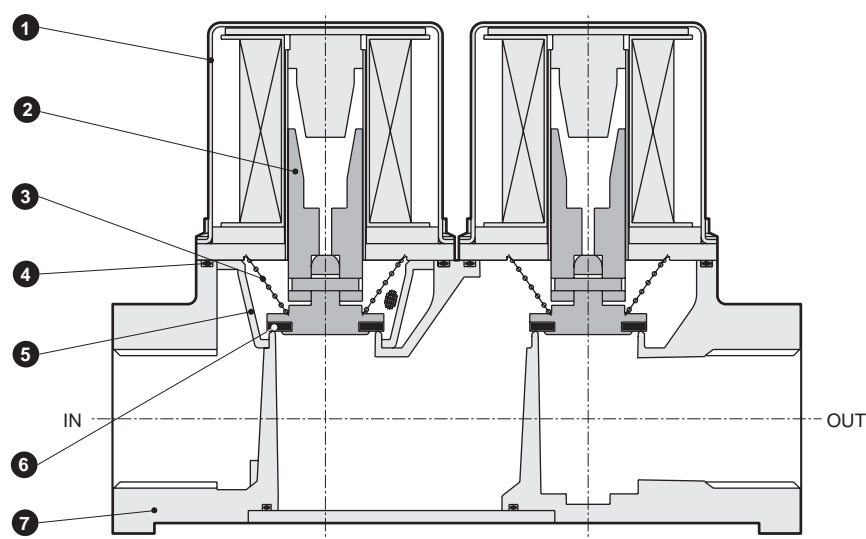
B Option

C Voltage

| Code               | Description                 |
|--------------------|-----------------------------|
| <b>A Port size</b> |                             |
| 20                 | Rp3/4                       |
| 25                 | Rp1                         |
| <b>B Option</b>    |                             |
| Blank              | Standard                    |
| H2                 | Working fluid: Hydrogen gas |
| <b>C Voltage</b>   |                             |
| AC100V             | 100 VAC 50/60 Hz            |
| AC200V             | 200 VAC 50/60 Hz            |



### Internal structure and parts list

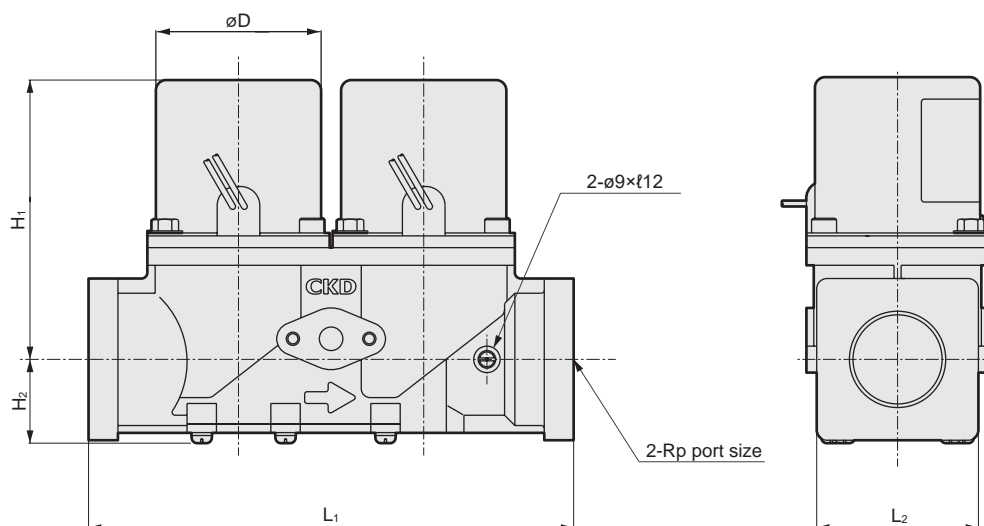


Cannot be disassembled

| No. | Part name  | Material             |
|-----|------------|----------------------|
| 1   | Bonnet     | Steel                |
| 2   | Plunger    | Stainless steel      |
| 3   | Spring     | Stainless steel wire |
| 4   | O-ring     | Nitrile rubber       |
| 5   | Strainer   | Resin                |
| 6   | Valve disc | Nitrile rubber       |
| 7   | Body       | Aluminum die-casting |

### Dimensions

● DSG-20/25-W



| Code      | Port size | H <sub>1</sub> | H <sub>2</sub> | L <sub>1</sub> | L <sub>2</sub> | øD |
|-----------|-----------|----------------|----------------|----------------|----------------|----|
| Model No. |           |                |                |                |                |    |
| DSG-20-W  | 3/4       | 95             | 28.5           | 165            | 55             | 56 |
| DSG-25-W  | 1         | 95             | 28.5           | 165            | 55             | 56 |