

AGD**R-HD/AGD**R-HDF AGD21R-A

High durability Valve for process gases

Overview

A valve for process gas that offers the high durability needed to keep up with advances in refinement. Three types are available to meet your needs.

Features

These valves offer high-temp, high-durability, and high-stability performance.

● AGD**R-HD

Durability: 10 million cycles guaranteed

● AGD**R-HDF

Durability: 10 million cycles guaranteed

Supports 200°C

Equipped with stable response actuator

● AGD21R-A

Durability: 10 million cycles guaranteed

Actual value: 100 million cycles

Supports 200°C

Equipped with stable response actuator

Response lag of ± 2 msec after 100 million cycles

* Actual value



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Air operated valve

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High-durability process gas valve

AGD**R-HD Series

Made-to-order product

Specifications

| Item | AGD0*R-HD | AGD1*R-HD |
|--|---|---|
| Working fluid | Inert gas/process gas | |
| Working pressure Pa(abs) to MPa(G) | 1.3 x 10 ⁻⁶ to 0.99 | |
| Fluid temperature °C | 5 to 80 | |
| Operating ambient temperature °C | 5 to 80 | |
| Storage ambient temperature °C | -10 to 80 | |
| Valve seat leakage P·m ³ /s(He) | 1.0 x 10 ⁻¹⁰ or less (initial) 1.3 x 10 ⁻⁹ or less (after operation) | |
| External leakage P·m ³ /s(He) | 2.8 x 10 ⁻¹² or less | |
| Cv (23°C under pressurization) | 0.1 | 0.3 |
| Connection | 1/4"JXR male fitting 1/4"JXR female fitting | 1/4"JXR male fitting 1/4"JXR female fitting 1/4"Double barbed fitting |
| Operating pressure MPa | NC 0.4 to 0.6 NO 0.4 to 0.5 | |
| Operating port | M5 | |
| Durability | Guaranteed: 1,000 million cycles (actual: 3,000 million cycles or more) | |
| Variation | NC, NO, block valve, with proximity switch (OMRON) | |

How to order

AGD0 1 R - HD - 4RM

A Actuation

B Connection

| Code | Description |
|---------------------|------------------------|
| A Actuation | |
| 1 | NC (Normally Closed) |
| 2 | NO (Normally Open) |
| B Connection | |
| 4RM | 1/4"JXR male fitting |
| 4R | 1/4"JXR female fitting |

AGD1 1 R - HD - 4RM

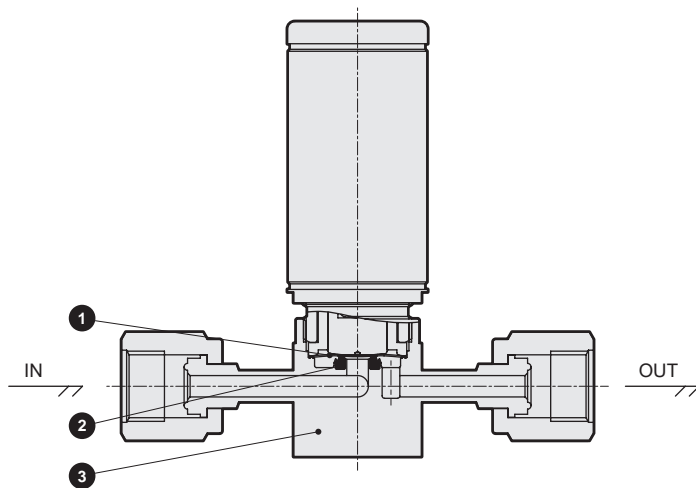
A Actuation

B Connection

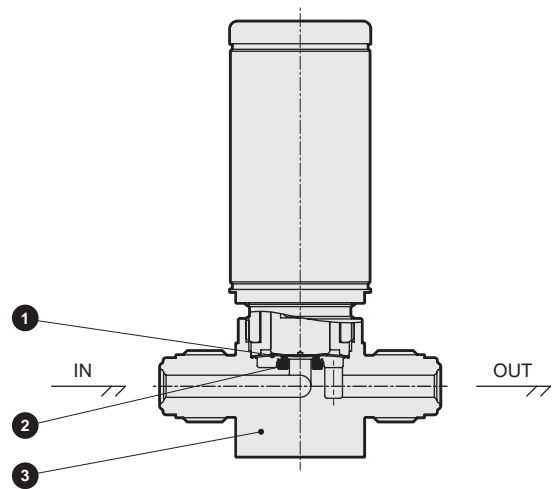
| Code | Description |
|---------------------|---------------------------|
| A Actuation | |
| 1 | NC (Normally Closed) |
| 2 | NO (Normally Open) |
| B Connection | |
| 4RM | 1/4"JXR male fitting |
| 4R | 1/4"JXR female fitting |
| 4S | 1/4"Double barbed fitting |

Internal structure and parts list

● AGD11R-HD-4R



● AGD11R-HD-4RM



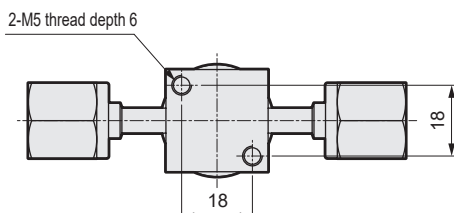
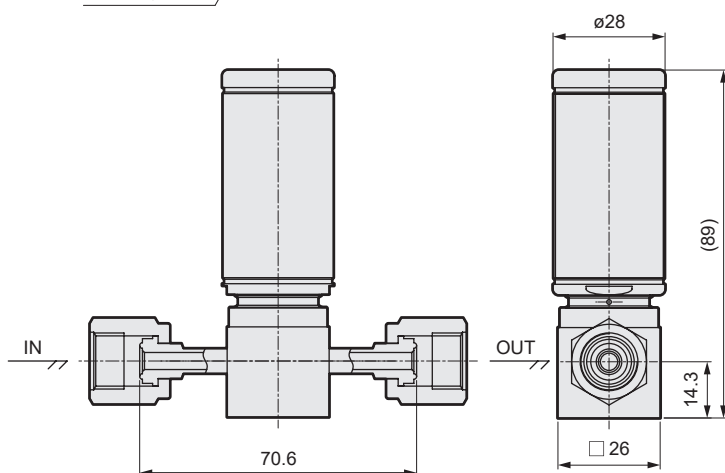
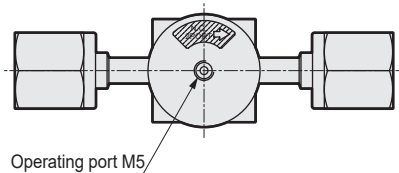
Gas contacting parts material

| | Part name | Material |
|---|------------|-------------|
| 1 | Diaphragm | Ni-Co alloy |
| 2 | Valve seat | PCTFE |
| 3 | Body | SUS316L |

Dimensions

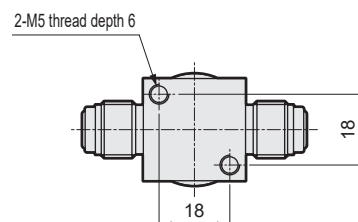
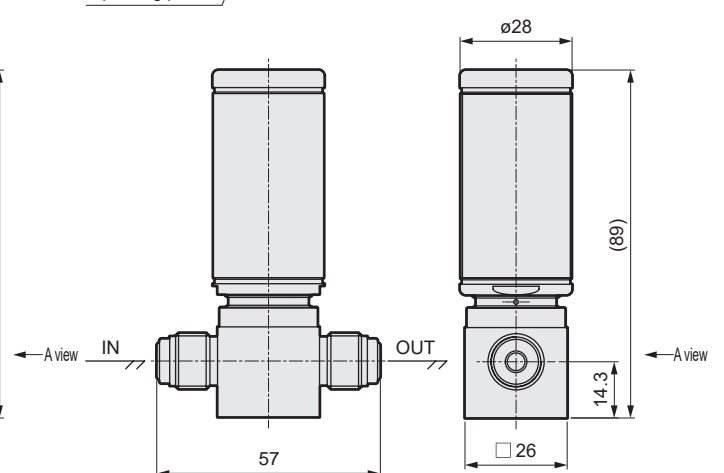
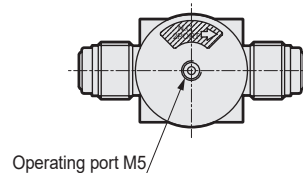
AGD11R-HD-4R

● JXR female fitting



AGD11R-HD-4RM

● JXR male fitting





High temperature/high durability gas valve

AGD**R-HDF Series

Made-to-order product

Specifications

| Item | AGD1*R-HDF | AGD2*R-HDF |
|---|---|---|
| Working fluid | Inert gas/process gas | |
| Working pressure Pa(abs) to MPa(G) | 1.3×10^{-6} to 0.5 | |
| Fluid temperature °C | 20 to 200 | |
| Operating ambient temperature °C | 20 to 150 | |
| Storage ambient temperature °C | -10 to 80 | |
| Valve seat leakage Pa·m ³ /s(He) | 1.0×10^{-10} or less (at 23°C) | |
| External leakage Pa·m ³ /s(He) | 2.8×10^{-12} or less | |
| Cv (23°C under pressurization) | 0.3 | 0.65 |
| Connection | 1/4"JXR male fitting 1/4"JXR female fitting 1/4"Double barbed fitting | 3/8"JXR male fitting 3/8"JXR female fitting 3/8"Double barbed fitting |
| Operating pressure MPa | NC 0.4 to 0.6 NO 0.4 to 0.5 | |
| Operating port | M5 | |
| Durability | Guaranteed: 10 million cycles (actual: 30 million cycles or more) | |
| Variation | NC, NO, block valve, with fiber sensor | |

How to order

AGD1 **1** R - HDF - **4RM**

A Actuation

B Connection

| Code | Description |
|---------------------|---------------------------|
| A Actuation | |
| 1 | NC (Normally Closed) |
| 2 | NO (Normally Open) |
| B Connection | |
| 4RM | 1/4"JXR male fitting |
| 4R | 1/4"JXR female fitting |
| 4S | 1/4"Double barbed fitting |

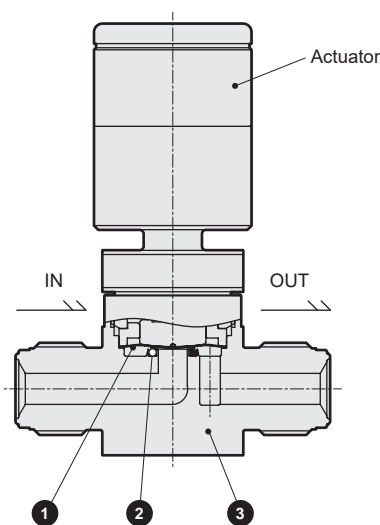
AGD2 **1** R - HDF - **6RM**

A Actuation

B Connection

| Code | Description |
|---------------------|---------------------------|
| A Actuation | |
| 1 | NC (Normally Closed) |
| 2 | NO (Normally Open) |
| B Connection | |
| 6RM | 3/8"JXR male fitting |
| 6R | 3/8"JXR female fitting |
| 6S | 3/8"Double barbed fitting |

Internal structure and parts list

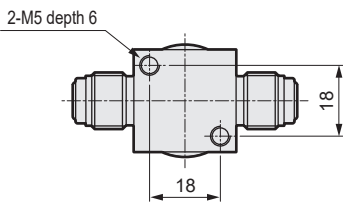
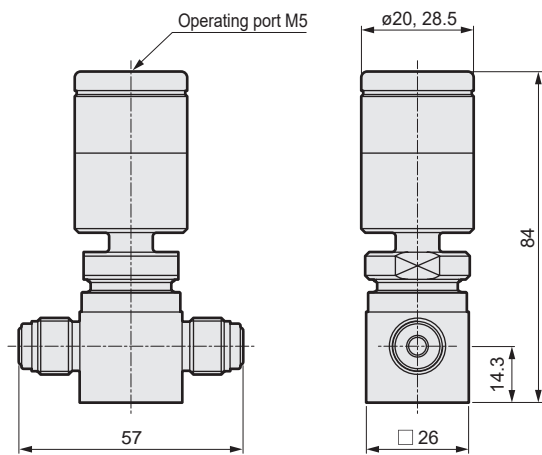


Gas contacting parts material

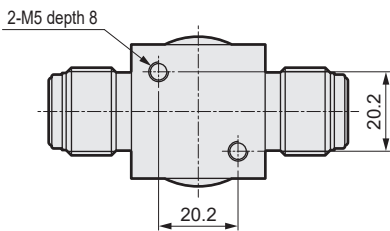
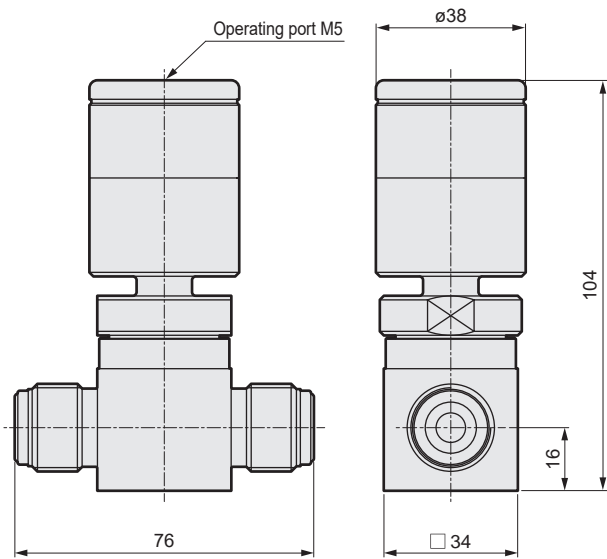
| Part No. | Part name | Material |
|----------|------------|-------------|
| 1 | Diaphragm | Ni-Co alloy |
| 2 | Valve seat | PFA |
| 3 | Body | SUS316L |

Dimensions

●AGD1*R-HDF-4RM



●AGD2*R-HDF-6RM





High-durability process gas valve for high temperatures

AGD21R-A Series

● Air operated metal diaphragm valve

RoHS

Made-to-order product

Specifications

| Item | AGD21R-A |
|--|--|
| Working fluid | Inert gas/Process gas |
| Working pressure Pa(abs)-MPa(G) | 1.3×10^{-6} to 0.5 |
| Fluid temperature °C | 150 to 200 (*1) |
| Operating ambient temperature °C | 20 to 150 |
| Storage ambient temperature °C | -10 to 80 |
| Valve seat leakage Pa·m ³ /s(He) | 1×10^{-7} or less (at 200°C) |
| External leakage Pa·m ³ /s(He) | 2.8×10^{-12} or less |
| Cv (200°C, negative pressure) | 0.4 and over |
| Connection | 3/8" JXR male fitting 3/8" JXR female fitting 3/8" Double barbed fitting |
| Actuation | NC (Normally Closed) |
| Operating pressure MPa | 0.4 to 0.6 |
| Operating port | M5 *2 |
| Weight kg | 0.7 |

*1: 150°C or below for actuator part

*2: With optional ø4 push-in fitting

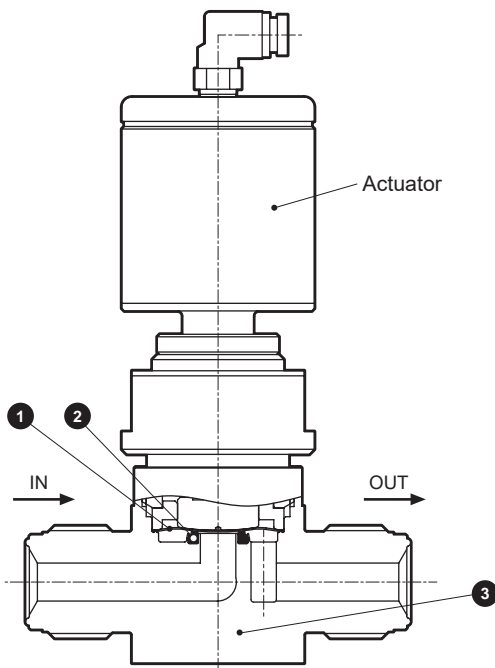
How to order

AGD21R-A- 6RM

Model No. A Connection

| Code | Description |
|---------------------|---------------------------|
| A Connection | |
| 6RM | 3/8"JXR male fitting |
| 6R | 3/8"JXR female fitting |
| 6S | 3/8"Double barbed fitting |

Internal structure and parts list



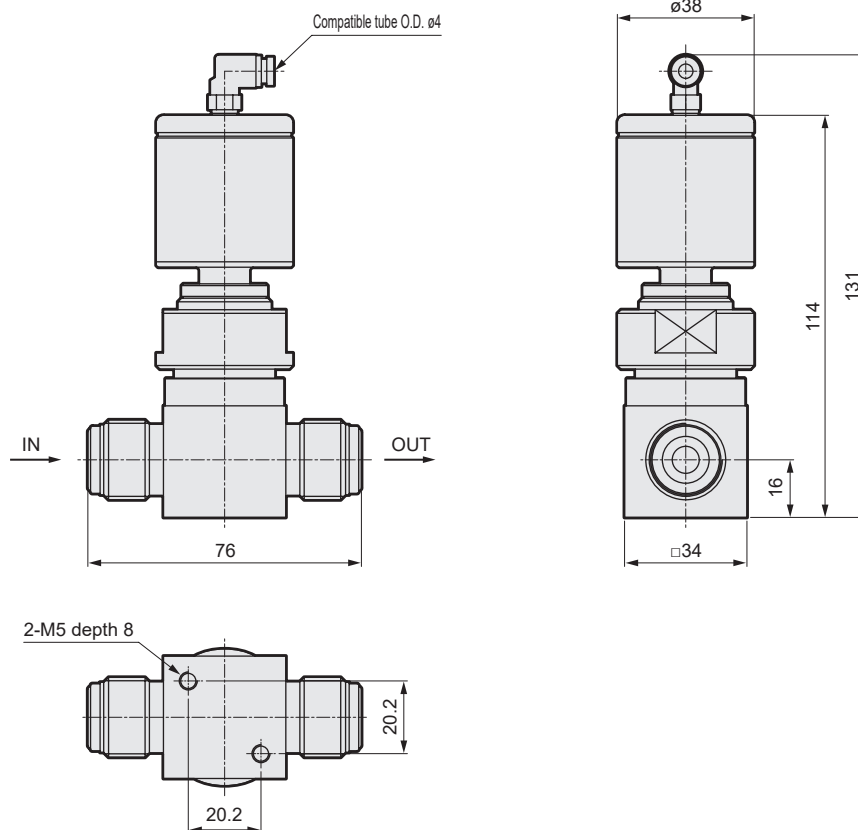
Gas contacting parts material

| Part No. | Part name | Material |
|----------|------------|-------------|
| 1 | Diaphragm | Ni-Co alloy |
| 2 | Valve seat | PFA |
| 3 | Body | SUS316L |

Dimensions

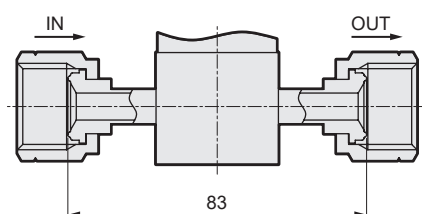
AGD21R-A-6RM

● JXR male fitting

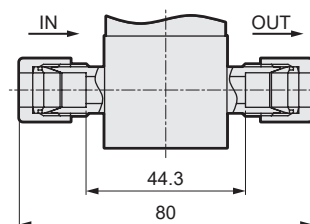


AGD21R-A-6R AGD21R-A-6S

● JXR female fitting



● Double barbed fitting



AGD21R-A Actuator option

Appearance

AGD21R-A with sensor



■ Valve open/close confirmation can be output from the sensor.

Fiber sensor

E3NX-FA Series (OMRON Corporation)

Made-to-order product