IEC EXPLOSION-PROOF SOLENOID VALVES

Silent Technology KANEKO

catalog No.233
Our explosion-proof solenoid valves with a pressure-resistant structure have been certified for gas and/or dust explosion(s), meeting the requirements for use in zone 1 (gas) and/or zone 2 (dust) explosion hazard zone(s). For example, our explosion-proof solenoid valves can be used in any gaseous atmosphere, if applicable, including hydrogen and acetylene. Our valves have been accredited for ATEX, TIIS, NEPSI, KCs and COST standards. New additions to our product series feature lower-power-consumption coils (power consumption down approximately 50% compared with our previous coils) and/or stainless steel pressure-resistant casing for higher salt-resistant performance.
<table>
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<tr>
<th>Feature</th>
<th>M20 series</th>
<th>M0U series</th>
<th>M15G series</th>
<th>MT16G series</th>
<th>M55 series</th>
<th>M65G series</th>
<th>C81 series</th>
<th>M15WG series</th>
<th>M65WG series</th>
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</thead>
<tbody>
<tr>
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<td>Double solenoid</td>
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<td>Low temperature-resistant</td>
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</table>
All-stainless-steel versions available!

We can offer valves made of stainless steel that still meet the ATEX/IEC Ex standards*. Stainless steel versions provide much higher salinity tolerance than the conventional combination of aluminum and salinity-resistant coating.

* Stainless steel is used for exposed areas while non-exposed areas are made of aluminum.

Low power consumption!

The new coils consume only about half the power consumed by our conventional coils.

Overcoming dusty environments!

Our valves meet the relevant dust-explosion-proof standards, including for the electrically conductive environment of Type 1 explosion hazard zone (zone 21), and still meet the ATEX/IEC Ex standards. Our all-stainless-steel versions also are dust-explosion-proof.

Low temperature resistance up to -40°C!

Thanks to the new sealing (packing), our valves offer low ambient temperature resistance of up to -40°C (up to -30°C depending on types of relevant certification).

Safe instrumentation!

(accredited for IEC61508 and JISCO508)

(MOOU, M15G)

Our individual solenoid valves are rated at up to SIL3 (applicable to aluminum versions). For stainless steel type IIc explosion-proof electromagnetic valves, we are planning to obtain certification for the safe instrumentation system shortly.
Explosion proof certification systems around the world

Different countries and regions have different certification standards. Our solenoid valves have been certified by accreditation organizations and can be used in Europe, including Russia, and in Asia.

<table>
<thead>
<tr>
<th>Standards</th>
<th>Member countries</th>
<th>Certification ID</th>
<th>Solenoid ID (Examples)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATEX</td>
<td>Europe &amp; Asia</td>
<td>KEMA 10ATEX0033X</td>
<td>E22P1 (0.A.L), E22P3 (0.A.L)</td>
</tr>
<tr>
<td>IEC Ex</td>
<td>World</td>
<td>IEC Ex KEM 10.0035X</td>
<td>E22P1 (0.A.L), E22P3 (0.A.L)</td>
</tr>
<tr>
<td>NEPSI</td>
<td>China</td>
<td>GYJ101127</td>
<td>E22P1 (0.A.L), E22P3 (0.A.L)</td>
</tr>
<tr>
<td>KCS (KTL)</td>
<td>Korea</td>
<td>12-KB4BO-0175</td>
<td>E22P10,E22P30</td>
</tr>
<tr>
<td>TIIS</td>
<td>Japan</td>
<td>TC20159</td>
<td>E22P1A,E22P3A</td>
</tr>
<tr>
<td>GOST-R</td>
<td>Russia</td>
<td>POCC JP.A #45,05970</td>
<td>E22P00,E22P0L</td>
</tr>
</tbody>
</table>

*Please see the details at the end of the catalog*
Solenoid coding system

The coding system for the II C explosion-proof solenoid E22P is as follows.

**E22P 0 A - SA**

1. Material for pressure-resistant casing
   - 0: Base unit A356.0 / gas-explosion-proof
   - 1: Base unit A356.0 / gas-explosion-proof & low temperature-resistant
   - 3: Base unit 316SS / gas-explosion-proof & low temperature-resistant
   - 4: Base unit A356.0 / gas- and dust-explosion-proof
   - 5: Base unit 316SS / gas- and dust-explosion-proof

2. Coil type
   - L: Low power consumption coil
   - A: Rectifier coil
   - 0: Conventional coil

3. Pressure-resistant packing
   - No code: Not available
   - SA: SUS304 + aluminum
     *(Only Japan (THIS))*

**E22P solenoid types**

The E22P solenoid can be used with a range of valves.

**[M00U series]**

The M00U series solenoid valves are 3-way direct operated solenoid valves and are primarily used for actuating single-acting cylinders. The M00U series has a wide range of applications including open and closed on energization.

**M00U - 8 - E22P 0 A - 01 - DL - B**

1. Aperture
   - 6: Rc 1/8
   - 8: Rc 1/4
   - 10: Rc 3/8
   - 6N: NPT 1/8
   - 8N: NPT 1/4
   - 10N: NPT 3/8

2. Orifice size (mm)
   - No code: φ 1.6
   - 01: φ 3.0

3. Extra feature 1
   - No: Not available
   - DL: Low temperature-resistant

4. Extra feature 2
   - No code: Aluminum body
   - B: Body 304SS
   - C: Body 316SS

*Please refer to the descriptions above about the coding system for the E22P solenoid.

**<Standard specifications>**

Fluid: Clean air (without moisture or other impurities)
Connector aperture: 6A (1.8"), 8A (1/4"), 10A (3/8")
Air pressure: 0 - 0.7 MPa: Orifice size φ 1.6 mm
0 - 0.4MPa: Orifice size φ 3.0 mm
Response time: 0.1 sec
Cv value: 0.064 (φ 1.6) - 0.22 (φ 3.0)
[M15G series]

The M15G series solenoid valves are 4-way pilot solenoid valves and are primarily used for actuating double-acting cylinders.

**M15G-8-E22P 0 A-DL-B**

* Please refer to the descriptions above about the coding system for the E22P solenoid.

<table>
<thead>
<tr>
<th>Aperture</th>
<th>Extra feature 1</th>
<th>Extra feature 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 : Rc 1/4</td>
<td>No : Not available</td>
<td>No code : Aluminum body</td>
</tr>
<tr>
<td>10 : Rc 3/8</td>
<td>DL : Low temperature-resistant</td>
<td>B : Body 304SS</td>
</tr>
<tr>
<td>8N : NPT 1/4</td>
<td>NOTE : The Japan (TIIS) certification</td>
<td>C : Body 316SS</td>
</tr>
<tr>
<td>10N : NPT 3/8</td>
<td>does not offer low temperature resistance.</td>
<td></td>
</tr>
</tbody>
</table>

**<Standard specifications>**

Fluid: Clean air (without moisture or other impurities)
Connector aperture: 8A (1/4"), 10A (3/8")
Air pressure: 0.1 - 0.99MPa
Response time: 0.05 - 0.2 sec
Cv value: 0.87 (φ 6)

![M15G series diagram]

[![M15G series diagram](image)](image)

-[M15WG series]

M15WG series electromagnetic valves incorporate two solenoids to maintain their positions even after demagnetization.
*The other M15WG specifications are the same as those for the M15G series. For more information, see the M15 series specifications.*

![M15WG series diagram]

[![M15WG series diagram](image)](image)
【MK15G series】
MK15G series electromagnetic valves are four-way pilot valves and are primarily used for driving double-acting cylinders.

MK15G-8-E22P 0 A-DMI

① Aperture
8 : Rc1/4
8N : NPT1/4

* Please refer to the descriptions above about the coding system for the E22P solenoid.

<Standard specifications>
Fluid: Clean air (without moisture or other impurities)
Connector aperture: 8A (1/4")
Air pressure: 0.12 ~ 0.99 MPa
Response time: 0.2 sec
Cv value: 0.9

【M20 series】
M20 series electromagnetic valves are two-way pilot valves.
Fluid: Water, Air
Connector aperture: 15A ~ 25A
Air pressure: 0.049 ~ 0.883 MPa
Fluid pressure: 0.049 ~ 1.57 MPa
Cv value: 15A : 4.5
20A : 8.6
25A : 12.6

【M55 series】
M55 series electromagnetic valves are 3-way pilot valves.
Fluid: Instrumentation Air
Connector aperture: 10A ~ 32A
Air pressure: 0.12 ~ 0.99 MPa
Cv value: 8A : 1.22
10A : 3.2
15A : 4.3
20A : 5.18
25A : 14.5
32A : 17.3
[MT16G series]
MT16G series electromagnetic valves are four-way pilot valves and are primarily used for driving double-acting cylinders.

**MT16G-8-E22P 0 A-DL-B**

* Please refer to the descriptions above about the coding system for the E22P solenoid.

1. Aperture
   - 8: Rc 1/4
   - 8N: NPT 1/4
2. Extra feature 1
   - No: Not available
3. Extra feature 2
   - DL: Low temperature-resistant
   - NOTE: The Japan (TIIS) certification does not offer low temperature resistance.

<Standard specifications>
Fluid: Clean air (without moisture or other impurities)
Connector aperture: 8A (1/4"
Air pressure: 0.15 ~ 0.99 MPa (DL: 0.3 ~ 0.99MPa)
Response time: 0.2 sec
Cv value: 0.81

[MB15G series]
MB15 series electromagnetic valves are 4-way spool valves.
Fluid: Instrumentation Air
Connector aperture: 8A, 10A
Air pressure: 0.15 ~ 0.99MPa
Cv value: 0.5

[M65G series]
M65G series electromagnetic valves are 4-way pilot valves.
Fluid: Instrumentation Air
Connector aperture: 10A ~ 32A
Air pressure: 0.1 ~ 0.9 MPa
Cv value: 10A: 2.0
   - 15A: 2.5
   - 20A: 5.0
   - 25A: 12
   - 32A: 12
The certificate is as of July in 2012
CERTIFICATE

(1) EC-Type Examination
(2) Equipment and protective systems intended for use in potentially explosive atmospheres - Generators M4520
(3) EC Type Examination Certificate Number: EXMa-HAE0003.4 Issue Number: 3
(4) Equipment: Shunt Valve Operator, Type EZSP0, Type EZSP4, and Type EZSP4A
(5) Manufacturer: Kawasaki Sanyu Co., Ltd.
(6) Address: 8-18-5 Shinko, Kita-ku, Tokyo 116-0041, Japan
(7) This equipment and any accessories thereon are specified in the schedule to this certificate and the manufacturer's declaration of conformity.
(8) EZSP0, EZSP4, EZSP4A
(9) Compliance with the Essential Health and Safety Requirements has been verified by examination.
(10) SCHEDE

CERTIFICATE

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The certificate is as of July in 2012
STK Safety Devices
Solenoid Valves
Liquid Level Gauges
Breather Valves
Flame Arresters
Gas Seal Units
Shut-off Valves
Various Types of Explosion-proof Devices
Fluid Control Devices