

Series 8000 Air Actuated Valves



- **Pneumatically actuated valves** with powerful closing spring for reliable operation
- **Compact design** with integral solenoid, quick exhaust and position switches that protects components, simplifies piping and minimizes space requirements
- **Factory Mutual, CSA, CE, IECEx, INMETRO and KTL (KC mark) approved** safety shut-off and vent valves
- **Hazardous Location approved:** Intrinsically Safe and Non-Incendive constructions available
- Full assessment to IEC 61508 as SIL 3 capable
- Large top mounted 360-degree open-shut visual position indication, configurable in red/green or yellow/black color schemes
- **Cast iron, carbon steel, low temperature carbon steel and stainless steel body assemblies** with internal trim options to handle general purpose or corrosive gases; oxygen compatibility, NACE compliance, and fire safe conformance to API 6FA
- **Ambient temperature ranges** of -58°F (-50°C) to 140°F (60°C); **Gas temperature range** of -58°F (-50°C) to 212°F (100°C)
- **Actuator assemblies are field-replaceable** and available in 120VAC 50/60 Hz, 240VAC 50/60 Hz, and 24VDC (with low power option), rated for NEMA 4, NEMA 4X and IP65
- **Unique bonnet design** eliminates packing adjustments, reducing maintenance and minimizing drag on closing
- Series 8000 Valves meet Fluid Control Institute (FCI) 70-2 control valve standard for Class VI seat leakage
- Option available to utilize customer-supplied, externally mounted solenoids. When used in hazardous locations, the component must be rated for the Class and Division of the hazardous area.

Features & benefits

MAXON Series 8000 Air Actuated Valves combine a unique space-saving design with a maintenance-free bonnet seal and a replaceable actuator for easy installation and smooth, trouble-free operation.

The valve's quick exhaust and powerful closing spring provide valve closure in less than one second and reliable, long-life operation.

Series 8000 Valve's compact design simplifies piping design and minimizes space requirements.

The field-replaceable actuator provides easier maintenance and reduced downtime. The actuator can also be rotated around the valve body in 90° increments to fit your specific application requirements.

A unique bonnet design eliminates packing adjustments for reduced maintenance and minimized drag on closing.

The large top-mounted open-shut indicator is visible from all angles for easy proof of valve position. SIL 3 capable design provides easy design for safety instrumented systems in the IEC 61508 and 61511 process. FM, CSA and CE approvals for use as a fuel safety shut-off valve making easy integration with worldwide certifications.

MAXON offers PSTrend partial stroke test technology designed especially for Series 8000 valves, to minimize probability of failure on demand by testing valve function without line shutdown. The combination of PSTrend and SIL 3 capable Series 8000 valves will help ensure safe, reliable operation of your process.



Body styles

Normally-closed shut-off valves use instrument air to open quickly. Removal of electrical signal allows release of control air through solenoid and quick exhaust valve allowing the powerful closing spring in the Series 8000 Valve to close the valve in less than one second. Optional speed control set kit available for slower opening adjustment.

Series 8011, 8012 & 8013
require 2.8-6.9 bar instrument air

Series 8111, 8112 & 8113
require 4.5-6.9 bar instrument air

Normally-open vent valves use instrument air to close quickly. Removal of electrical signal allows release of control air through solenoid and quick exhaust valve allowing the Series 8000 Valve to open in less than one second. Optional speed control set kit available for slower closing adjustment.

Series 8021, 8022 & 8023
require 3.1-6.9 bar instrument air

Series 8121, 8122 & 8123
require 4.8-6.9 bar instrument air



Valve body material and trim selections

Cast iron, carbon steel and stainless steel body assemblies feature metal-to-metal seating that meets the FCI 70-2 control valve standard for Class VI seat leakage. Various trim options are available depending on the fuel gas used in your application. Industrial strength trim options are available with a stainless steel seat and disc and PEEK follower for corrosive fuels that may contain traces of H₂S and/or CO₂ which meet NACE MR0175 requirements. Contact MAXON with your specific application details.

Valve bodies are available in your choice of threaded, flanged, and socket-welded connections. Bodies are currently available in 3/4" (DN20) through 6" (DIN150) sizes. Maxon valve bodies are designed in accordance with many ASME/ANSI piping and valve standards. While no one ASME/ANSI specification covers our valve in its entirety, our valve pipe connections comply with the applicable standard(s) listed below.

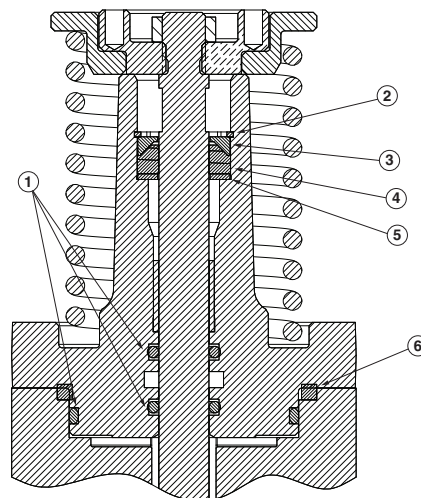
■ NPT threaded connections (end connections, test connections)	ASME/ANSI B.1.20.2
■ Cast iron valve flanged ends (125# Class end connections)	ASME/ANSI B.16.1
■ Cast iron valve threaded connections (end connections)	ASME/ANSI B.16.4
■ Steel & stainless steel valve flanged ends (Class 150# ends)	ASME/ANSI B.16.5
■ Face-to-face and end-to-end dimensions	ASME/ANSI B.16.10
■ Flanged facings	MSS SP-6
■ Valve body wall thickness	ASME/ANSI B16.34














Fire safe valves

Fire safe valves are offered with carbon steel and stainless steel body and bonnet materials. Fire safe trim options feature a stainless steel seat, disc and follower, preserving the high quality MAXON metal-to-metal seating and providing tight shut-off according to FCI 70-2 seat leakage requirements. A fire safe trim option is also available for those applications which necessitate NACE MR0175 compliance. All fire safe trims include graphite packing which provides a redundant seal to prevent leakage in case of a fire. The graphite packing used in fire safe trims is maintenance-free and requires no adjustment, allowing for the long life and reliability inherent to MAXON valves. MAXON fire safe design is validated against API 6FA requirements.



- 1) O-rings
- 2) Retaining ring
- 3) Packing washer
- 4) Graphoil stem ring
- 5) Flat washer
- 6) Graphoil body-to-bonnet ring



Agency Approvals and Certifications						
	General Purpose Valves 8111, 8121, 8011, 8021 Series		Non-Incendive/Non-Sparking Valves 8112, 8122, 8012, 8022 Series [3]		Intrinsically Safe Valves 8113, 8123, 8013, 8023 Series [4]	
	Standards	Markings	Standards	Markings	Standards	Markings
FM Approvals	FM 7400	 APPROVED FM 7400	FM 7400 FM 3611 FM 3600 FM 3810	Class I, Div 2, Groups ABCD, T4 Class II, Div 2, Groups FG, T4 Class III, Div 2, T4 Ex nA nC IIC T4 Ta = 60C Gc IP65  APPROVED FM 3600 FM 3611 FM 3810 FMG11.0030X Ex nA nC IIC T4 Ta=60°C Gc IP65 Ex tC IIIC T135° Dc	FM 7400 FM 3610 FM 3600 FM 3810	Class I, Div 1, Groups ABCD, T5 Class II, Div 1, Groups EFG, T5 Class III, Div 1, T5 Ex ia IIC T5 Ta = -50C to +50C IP 65  APPROVED FM 3600 FM 3610 FM 3810 FMG11.0030X Ex ia IIC T5 Ta=-50°C to +50°C IP65 Ex tb IIIC T100°C Ta=-50°C to +50°C
FM Approvals-IECEX Certification	Not Applicable	None	IEC 60079-0 IEC 60079-15	Ex nA nC IIC T4 Ta=60°C Gc IP65 Ex tC IIIC T135°C Dc FMG 11.0030X  APPROVED FM 3600 FM 3611 FM 3810 FMG11.0030X Ex nA nC IIC T4 Ta=60°C Gc IP65 Ex tC IIIC T135° Dc	IEC 60079-0 IEC 60079-11	Ex ia IIC T5 Ta= -50°C to +50°C IP65 Ex tb IIIC T100°C Ta= -50°C to +50°C FMG 11.0030X  APPROVED FM 3600 FM 3610 FM 3810 FMG11.0030X Ex ia IIC T5 Ta=-50°C to +50°C IP65 Ex tb IIIC T100°C Ta=-50°C to +50°C
CSA International	CSA 6.5	 C/I	CSA 6.5 CSA 22.2 No. 213 CSA 22.2 1010.1 CSA E60079-0 CSA E60079-15	Class I, Div 2, Groups ABCD, T4 Class II, Div 2, Groups FG, T4 Class III, Div 2, T4 Ex nA IIC T4 Ta = 60C (with standard solenoid) (Zone 2 approval) Ex nA IIC T5 Ta = 50C (with IS solenoid) (Zone 2 approval)  C/I 03.1433937	CSA 6.5 CSA 22.2 No. 157 CSA 22.2 1010.1 CSA E60079-0 CSA E60079-11	Class I, Div 1, Groups ABCD, T5 Class II, Div 1, Groups EFG, T5 Class III, Div 1, T5 Ex ia IIC T5 Ta = 60C (Zone 0 Approval)  C/I 03.1433937X Ex ia
European Approvals [1]	EN 161 EN 13774	CL/KL: A, GR 2 EC PIN: C86CM45	EN 161 EN 13774	CL/KL: A, GR 2 EC PIN: C86CM45	EN 161 EN 13774	CL/KL: A, GR 2 EC PIN: C86CM45
European Approvals [2] (Hazardous Locations)	Not Applicable	None	Not Applicable	None	EN 60079-0 EN 60079-11 EN 60529 EN 61241-11 EN 13463-1 EN 13463-5	II 2 G c Ex ia IIC T5 Ta=-50C to +50C IP65 II 2 D c Ex iaD 21 IP65 T100°C Ta=-50C to +50°C FM07ATEX0036 
IEC Approvals	IEC 61010-1 IEC 61508	None	IEC 61010-1 IEC 61508	None	IEC 61010-1 IEC 61508	None
NCC/Inmetro	Not Applicable	None	ABNT NBR IEC 60079-0 IEC 60079-15 IEC 60079-31	Ex nA nC IIC T4 Gc (-40 °C ≤ Ta ≤ +60 °C) Ex tc IIIC T135°C Dc IP65  Segurança NCC INMETRO ocp 0034	ABNT NBR IEC 60079-0 ABNT NBR IEC 60079-11 IEC 60079-31	Ex ia IIC T5 Ga (-50 °C ≤ Ta ≤ +50 °C) Ex tc IIIC T135°C Dc IP65  Segurança NCC INMETRO ocp 0034
KTl	Not Applicable	None	Announcement No. 2010-36 of Ministry of Employment and Labor	Ex nA nC IIC T5/T4 Ex tc IIIC T135°C IP65 (-40°C ≤ Ta ≤ +60°)  12-KB4BO-0058X-Ex	Announcement No. 2010-36 of Ministry of Employment and Labor	Ex ia IIC T5 (-50°C ≤ Ta ≤ +50°C)  12-KB4BO-0059X-Ex
AGA Certifications	AS 4629	None	AS 4629	None	AS 4629	None

[1] Product certified to meet the following: Gas Appliance Directive (2009/142/EC); Low Voltage Directive (73/23/EEC); EMC Directive (89/336/EEC)

[2] Product certified to meet the following: ATEX Directive (94/9/EC)

[3] When used with a customer-supplied, externally mounted solenoid, MAXON 8112, 8122, 8012, 8022 valves will only carry FM Approval to FM 3611, 3600 and 3810 standards.

[4] When used with a customer-supplied, externally mounted solenoid, MAXON 8113, 8123, 8013, 8023 valves will only carry FM Approval to FM 3610, 3600 and 3810 standards.

Valve cycle requirements

This is based on the standards that MAXON valves are approved to and the corresponding minimum number of cycles to be completed without failure as shown in the chart below.

	CSA (CSA 6.5)	FM (FM 7400)	European (EN161)
Automatic - Normally Closed Series 8011, 8111, 8012, 8112, 8013, 8113	100,000	20,000	<= 1" 200,000 <= 3" 100,000 <= 6" 50,000
Vent Valves Series 8021, 8121, 8022, 8122, 8023, 8123	No special requirements	No special requirements	No special requirements