

# Gas Electro-mechanical Valves



- Electrically actuated valves with powerful closing spring provide closure in less than 1 second for reliable, long-life operation
- Factory Mutual, CSA, UL and CE approved; Canadian registration obtained on all valve bodies
- Hazardous Locations valves approved for Non-incendive Class I, Division 2 areas
- Full assessment to IEC 61508 as SIL 3 capable
- Visual position indication provided
- 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 available
- Ambient and gas temperature ranges of -29°C to 60°C
- Application flexibility provided with 3/4" (DN20) through 6" (DN150) line sizes & line pressures up to 8.62 bar
- Unique bonnet design eliminates packing adjustments, reducing maintenance and minimizing drag on closing
- MAXON electro-mechanical gas valves meet Fluid Control Institute (FCI) 70-2 control valve standard for Class VI seat leakage
- Field rotatable top assemblies in 90° increments to fit specific application requirements
- Actuator assemblies available with manual reset or automatic reset operators
- Normally-closed and normally-open versions available
- Overtravel position switches for open and closed position

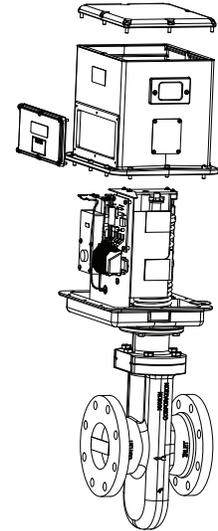
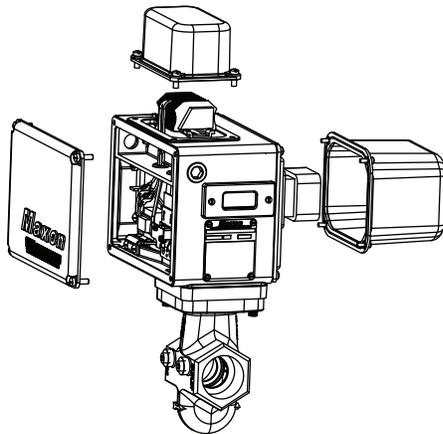
## Operating concepts

### Automatic reset valves

#### Current model designation (former model designation)

Standard & CP construction  
SMA11 (5000), CMA11 (5000 CP)  
SMA21 (STO-A), CMA21 (STO-A-CP)

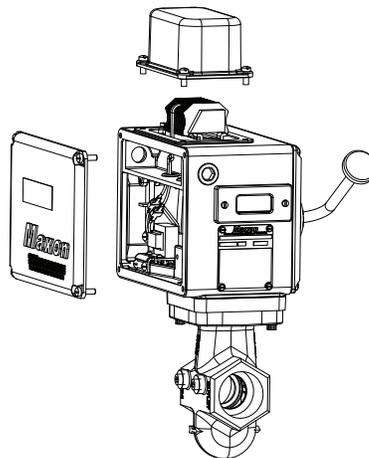
High capacity construction  
HMA11 (7000)



### Manual reset valves

#### Current model designation (former model designation)

Standard & CP construction only  
SMM11 (808), CMM11 (808 CP), SMM21 (STO-M)



- All valves are designed to return to normal position instantly with any interruption in the electric power supplied through your safety circuit.
- (Motorized) automatic reset actuators are used where remote access or unmanned applications are needed.
- Manual reset actuators require operating personnel to be physically present to actuate the valve from its at rest position.

## Switch assemblies

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- Provides positive valve position - open or closed
- Complies with “proof of closure” requirements
- Easily integrates with an analog control system, DCS or PLC
- Hermetically sealed (HS) switches included for Non-incendive valves

## Body and trim selections

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Cast iron, carbon steel, low temperature carbon steel and stainless steel body assemblies feature metal-to-metal seating that meets FCI 70-2 control valve standard for Class VI seat leakage. Internal trim options are available for general purpose and corrosive gases. Oxygen compatible trims are also available. Valve body assemblies are offered in normally-closed shut-off and normally-open vent versions.

Valve bodies are available in threaded, flanged, and socket-welded connections. Bodies are currently available in 3/4” (DN20) through 6” (DN150) sizes. Body design utilizes a straight-through flow path, which minimizes the pressure drop through the body.



Normally-closed shut-off valves utilize power to open. Removal of electrical signal allows instantaneous release of the holding mechanism, allowing the powerful closing spring to close the valve in less than one second.

**Series SMA11, SMM11, SMA12, SMM12, CMA11, CMM11, CMA12, CMM12, HMA11 (formerly Series 5000, 808, 5000 NI, 808 NI, 5000 CP, 808 CP, 5000-NI-CP, 808-NI-CP, 7000)**



Normally-open vent valves utilize power to close. Removal of electrical signal allows instantaneous release of the holding mechanism, allowing the valve to open in less than one second.

**Series SMA21, SMM21, SMA22, SMM22, CMA21, CMA22, CMM22 (formerly Series STO-A, STO-M, STO-A-NI, STO-M-NI, STO-A-CP, STO-A-NI-CP, STO-M-NI-CP)**



Agency approvals and certifications

	General Purpose Valves SMA11, SMM11, CMA11, CMM11, SMA21, SMM21, CMA21, HMA11		Non-incendive/Non-sparking Valves SMA12, SMM12, SMA22, CMA22, CMA12, CMM12, SMM22, CMM22	
	Standards	Markings	Standards	Markings
FM approvals	FM 7400		FM 7400 FM 3611 FM 3600 FM 3810	Class I, Div. 2, Groups ABCD Class II, Div. 2, Groups FG Class III, Div. 2 Temp Code T4 (AC) T3 (DC, sizes 3/4" - 1-1/2") T3C (DC, sizes 2"-6") 
FM approvals - IEC Ex Certification	Not applicable		IEC 60079-0 IEC 60079-15	Ex nA nC IIC T4A (AC), T3 (DC), Ta=60°C Gc Ex tc IIIC T135°C Dc IP65 FMG 11.0032X 
UL approvals	UL 429	 Listed General Purpose 628A (Normally open valves)  Listed Safety Shut-off 628A (Normally closed valves)	Not applicable	Not applicable
CSA International	CSA 6.5	 C/I	CSA 6.5 CSA 22.2 No. 213	Class I, Div. 2, Groups ABCD Class II, Div. 2, Groups FG Class III, Div. 2 Temp Code T4 (AC) T3 (DC) 
European approvals [1]	EN 161 EN 13774	CL/KL: A, GR 2 EC PIN: C87BQ83	Not applicable	Not applicable
IEC approvals	IEC 61508	None	IEC 61508	None
KTL approvals	None	None	Not applicable	12-KB4BO-0057 

[1] Product certified to meet the following (SMA11, CMA11, SMM11, CMM11, SMA21, CMA21, SMM21 only):  
Gas Appliance Directive (90/396/EEC)  
Low Voltage Directive (73/23/EEC)  
EMC Directive (2004/108/EC)

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.

	UL (UL 429)	CSA (CSA 6.5)	FM (FM 7400)	European (EN161)
Automatic Series MA11, MA12	100,000	100,000	20,000	<= 1" 200,000 <= 3" 100,000 <= 6" 50,000
Manual Series MM11, MM12	6,000	20,000	20,000	No special requirements
Vent valves Series MA21, MA22, MM21, MM22	6,000	No special requirements	No special requirements	No special requirements