

ATKOMATIC

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atkomatic solenoid



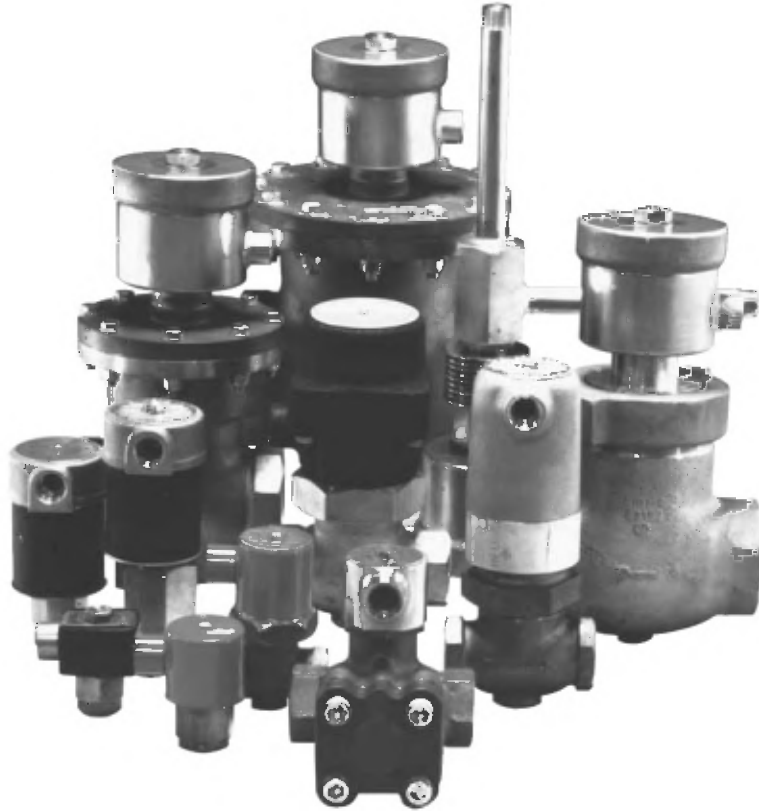
01895 200015

sales@tamo.co.uk

ATKOMATIC

ATKOMATIC Solenoid Valves

Heavy-duty Process Solenoid Valves for Clean Air, Gases, Liquids, Steam, Corrosive Fluids & Cryogenic Fluids



atkomatic solenoid

Overview of Product Line

General

- Solenoid valves to meet a wide variety of industrial applications
- 2 position, 2-way valves (one 3-Way valve)
- Most are globe style valves with piston poppets (some barstock direct lift)
- Gravity close, with spring and fluid pressure assist
- Most are in-line mounted full ported using pipe threads
- Many are available either normally open or normally closed
- Built to handle all types of clean fluid including air, water, oil, steam, cryogenics, fuels, caustics, refrigerants, and solvents

Performance Ranges

- Pressure: vacuum to 10,000 psi (690 bar)
- Fluid temperatures: -423° F (-253° C) to +500° F (+260° C) [+750° F (+399° C) some models]
- Pipe sizes from 1/8" to 3" (Cv from 0.02 to 71)

Materials of Construction

- 316 stainless steel & naval bronze or brass
- Seat material selection:
Elastomer: Buna N, Viton®, EPR
Plastic: Teflon®, PCTFE
Metal: stainless, brass

All plunger and magnetic stop materials are electroless nickel-plated 416 or 430 stainless steels. Some AC valves have shading rings made of silver or copper. See [page 21 of the Atkomatic Technical Manual for details](#)

Actuators

- Solenoids rated for continuous duty (operational pressure values for normally open valves are based on intermittent duty only)
- Class H and class B available
- Available with NEMA
Type 1 housing: standard
Type 4 housings: waterproof
Type 7 and 9 housings: explosion-proof for hazardous locations

Circle Seal Controls

2301 Wardlow Circle • P.O. Box 3300 • Corona, CA 92880

Phone (951) 270-6200 Fax (951) 270-6201

www.circlesealcontrols.com • am_sales@circlesealcontrols.com • ind_sales@circlesealcontrols.com

ATKOMATIC Solenoid Valves

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ATKOMATIC Solenoid Valves

Valve Ordering Information

ATKOMATIC valves can be ordered from any of the Circle Seal distributors. A complete list of all authorized stocking distributors is on the Internet at <http://www.circle-seal.com>.

There are 3 methods of ordering ATKOMATIC solenoid valves:

- 1 Specifying the current catalog number
- 2 Specifying the complete application information
- 3 For some older valves, referencing a serial number.

Method 1: Specifying the current catalog number

This is the preferred method for ordering solenoid valves.

These catalog numbers are constructed as outlined in the product offering section and more detailed instructions are on pages 4–5. Use of these catalog numbers eliminates the need for communicating lengthy text describing all of the application information. Use of these catalog numbers will facilitate order processing in the factory.

Note that the same application information as described in Method 2 must be obtained from the customer to create the catalog number.

Method 2: Specifying the complete application information

- 1 Valve type: normally open or normally closed. This is the position that the valve will return to when electricity is removed.
- 2 Pilot operated, direct lift of semi-direct lift. This selection can be made by reviewing the customer's application with regard to minimum pressure drop and flow requirements (page 4-5).
- 3 Pipe size. If this is not known, it can be determined from the flow, C_v , and/or pressure drop requirement obtained from the customer and/or using the formula from the catalog (see page 13 of the Atkomatic Technical Manual).
- 4 Material of construction: bronze or stainless steel. This selection is made considering compatibility with the fluid and sometimes determined by pressure and size requirements.
- 5 Fluid: the exact type and state (gas or liquid). The fluid temperature is required if it is elevated or if the fluid is more viscous than 150 SUS at room temperature or if fluid compatibility is an issue.
- 6 Voltage: both the voltage and frequency (if different from 60 Hz, the assumed default).
- 7 Maximum operating pressure (maximum differential pressure).

Note that this is not necessarily the maximum pressure at which a particular valve series can perform. More often that not, applications require a specific operational capability that is below the maximum operating pressure of the valve series. Specifying the actual operating pressure requirement allows maximizing the overall performance of the valve by appropriate sizing of the valve's internal orifices. Select the pressure category that matches or most closely exceeds the maximum operational requirement for the application.

- 8 Ambient temperature if elevated above normal room temperature 104° F (40° C), the maximum ambient for continuous coil operation).
- 9 Options: valve position indicator, manual opening device, or manual throttling device.

Note: If the 4 or 5 digit catalog base number is already known steps 1 through 4 have already been completed.

Method 3: Referencing a serial number

This may apply when an order is placed to duplicate a previously built ATKOMATIC Solenoid Valve. The serial number is a 6-digit number that appears on the valve's nameplate at the top of the coil housing. Valves produced after July, 1998 are not serialized and this method of ordering is not applicable to them. The factory maintains files of serialized valves built between July, 1990 and July, 1998 and may be able to duplicate these upon order. Due to incomplete records, this is not a recommended method of ordering valves.

Without this information it is not possible to select a valve or accept and process an order.

Repair Kits Ordering Information

To order a repair kit for a valve, specify the valve catalog number preceded by a K\ . For instance the repair kit for a 31820–200PMAA1S valve is K\31820–200PMAA1S. Typical contents of repair kits are shown in the section for each valve series in this catalog.

NOTE: All ATKOMATIC valves are built exclusively for the type of fluid and pressure indicated on the product nameplate. Attempted usage at higher pressures and/or different fluids can result in immediate or delayed valve malfunction (failure to open or close and/or leakage).

Instructions for Creating the Solenoid Valve Catalog Numbers

Note: Not all the categories apply to all valve series (see the catalog numbering key for each valve series in the Product Offering section, pages 7-70).

1 Match the customer's needs to a catalog base number or valve series using the process outlined in steps 1 through 4 of Method 2 (specifying the complete application information) of the previous section.

2 Fill in the first 3 digits after the dash with the appropriate coil voltage code leaving zeros in 2 of the 3 spaces for the unused voltages (see page 3-4 of the Atkomatic Technical Manual).

Note: The valves are designed to operate reliably with a voltage within $\pm 10\%$ of the nominal catalog voltage for normally closed valves and $+10\% - 0\%$ for normally open valves.

3 Select the coil insulation temperature rating: class H (180° C rise) or class B (155° C rise). Class B coils can be successfully used when fluid temperatures are between 0° and 220° F (-18° C and +104° C) and the ambient is at room temperature. Class H coils are recommended for other ambient and fluid temperature ranges or where maximum coil life is desired. Usage examples for class H coils include cryogenic fluids, steam, and hot locations such as boiler fuel feed. If in doubt, default to class H which, although slightly more expensive, provides the customer a higher degree of coil burnout protection. Note that class H coils are typically used by default on most stainless steel valves and class B coils or class H coils can be specified on the bronze valves (see page 5 of the Atkomatic Technical Manual).

4 Select the connection type. The default is pipe thread (NPT) which is the preference of the majority of industrial customers. British pipe threads are frequently specified for the Japanese market. AND threads, Aminco threads, flanges, tube stubs, pipe stubs, socket welded connections, butt welded connections, and couplings are options that cause the valve to become a project valve that is numbered differently than catalog valves.

5 Select the operating pressure (for pilot operated and semi-direct lift valves) or orifice size (for direct lift valves)*. This pressure is the actual maximum pressure differential that the valve will be operated at. This can be (and frequently is) less than the maximum possible pressure for a particular valve series (see page 1 of the Atkomatic Technical Manual for an explanation of operational pressure and the individual valve series pressure capabilities in the Product Offering section, pages 7-70).

a) Direct lift valves

The diameter of the flow orifice specified determines the flow capacity or Cv of the valve. Note that as larger orifice sizes are selected, the pressure differential that the valve can open against is decreased. Conversely, increasing the differential pressure across the valve requires the use of a smaller flow orifice and therefore results in a lower flow capacity or Cv. This relationship between operational pressure and flow orifice sizing is displayed on charts in the catalog pages for each valve. Note that the viscosity of the fluid has a significant influence on the operational pressures. This is caused by the viscous drag on the plunger as it moves through the fluid during valve opening. This effect is also displayed in the catalog tables which show different operational pressures for three fluids with different viscosity's (representative fluids for these 3 categories are air, water, and hydraulic oil). The pressures given are the maximum operational differential pressures that the valves can operate reliably with the particular orifice selected.

* The 50000 Series normally open direct lift valve is an exception to this. The operating pressure range must be known and is specified by the second digit of the catalog number. This is because the construction of the pressure containment changes for pressures above 1500 psi (104 bar).

b) Pilot operated and semi-direct lift valves

The maximum operational differential pressure the valve is built to operate against is specified here. Note that this is not necessarily the maximum pressure at which a particular valve series can perform. More often that not, applications require a specific operational capability that is below the maximum pressure rating of the valve. Specifying this actual pressure requirement allows maximizing the overall performance of the valve by appropriate sizing of the valve's internal orifices. Select the pressure category that matches or most closely exceeds the maximum operational requirement for the application.

6 Select the main seat and pilot seat material(s)

The following is a set of general rules to guide in the selection of seat materials:

a) Select materials that are chemically compatible with the fluid at operational temperatures. This may at first sound difficult but actually is no different than selecting seal material for any other type of product including other Circle Seal components. There are many sources for chemical compatibility data such as:

- 1) The technical section of Circle Seal's catalog.
- 2) Parker's o-ring handbook.
- 3) *Chemical Resistance Guide for Elastomers* by Kenneth Pruett, Compass Publications, P.O. Box 2276, La Mesa, CA 91943, (619) 589-9336

b) Rubber seats (disk & pilot) cannot be used over 500 psig. This is the maximum pressure at which these seals will perform

reliably. Plastic (Teflon® or PCTFE) or metal seats must be used for pressures above 500 psi. In full ported valves, a rubber disc seal can be physically displaced by flow forces if exposed to pressure drops exceeding 500 psig. In direct lift valves pressure drops over 500 psi will deform a rubber seat reducing the orifice size and although the valve may still function, flow will be restricted.

- c) Rubber seats (Buna N, Viton®, & EPR) are capable of effecting the most positive seals especially at low pressures. See the factory leakage standards section for the maximum allowable leak rates for production acceptance testing. Typical temperature limitations for rubber seats and seals are:

- Buna N: -65° F to +275° F (-54° C to +135° C)
- Viton®: -15° F to +400° F (-29° C to +204° C)
- EPR: -65° F to +300° F (-54° C to +149° C)

Note that these temperatures are the maximum that the compound can withstand and their suitability with a specific fluid may require more restrictive temperature limitations.

- d) Plastic seats (Teflon® & PCTFE) can seal reliably with only moderate leakage at low pressure differentials. See the factory leakage standard section (see page 15 of the Atkomatic Technical Manual) for the maximum allowable leak rates for production acceptance testing. Typical temperature limitations for plastic seats and seals are:

- PCTFE: -400° F to +400° F (-240° C to +204° C)
- Teflon®: -450° F to +500° F (-268° C to +260° C)

Note that these temperatures are the maximum that the compound can withstand and their suitability with a specific fluid may require more restrictive temperature limitations.

- e) Metal seats (brass or stainless steel). Metal pilot seats are commonly used in liquid applications where the fluid does not present a hazard from a flammability or toxic aspect. These applications include most water, oil, liquid nitrogen, etc. applications. The purpose of using metal pilot seats is that the life of the product is enhanced as compared to a rubber or plastic pilot seats. Also the operational pressure capability is increased (the valve is able to operate at higher pressures more reliably) with a slightly increased leakage allowance. Metal disc or main valve seats are typically used where temperature limitations require their use.

7 Select the seal material

Generally, use the same material for the external seals as was used for the valve seats i.e. if Buna N seats are used, then Buna N body seals are also used. (An exception is PCTFE which is not available in o-rings in the standard catalog product). The valve body seal materials are not subject to the 500 psi limitation that the seats; for instance, Teflon® disc seats can be used at high pressure with Viton® body seals.

8 Specify the fluid media by type category (see page 1 of the Atkomatic Technical Manual for assistance in selection the fluid category). The categories are:

- a) Gas: this includes all types of fluids that remain in the gaseous state
- b) Low viscosity liquid: all liquid fluids up to a viscosity of 40 SUS (4.3 centistokes) such as water, mineral oil, gasoline, JP-4, #2 diesel & fuel oil, and other light oils depending on their temperature
- c) High viscosity liquid: all liquid fluids from a viscosity of 41 SUS to 150 SUS (32 centistokes) such as light to medium weight oils depending on their temperature (hydraulic fluids such as MIL-5606, #3 & #4 diesel & fuel oil)
- d) Steam
- e) Cryogenic fluids: includes all fluids that can be in either a liquid or gaseous state such as liquid nitrogen, liquid oxygen, liquid hydrogen, liquid argon, CO₂, etc.

Note: In cases where the fluid can exist at either a liquid or gaseous state, select a cryogenic make-up regardless of the temperatures involved. An example of this would be butane, which can be a gas or liquid depending on pressure at temperatures at or near room temperature.

9 Select the coil housing (see pages 8 and 12 of the Atkomatic Technical Manual for coil housing information).

- a) Standard NEMA 1
- b) Waterproof NEMA 4
- c) Explosion-proof NEMA 7
- d) Combination explosion- and waterproof NEMA 4 & 7

10 Specify options desired (available on selected series, see page 71).

- a) valve position indicator
- b) manual opening device
- c) manual metering device

Consult with you local stocking distributor or the sales department at the factory for assistance in selecting and specifying valve products for specific applications.

Valve Product Matrix

Configurable Valves for General Applications—valves that are built to order

VALVE TYPE	MATERIAL	PRESSURE	PIPE SIZE	SERIES	PAGE		
Direct Lift	Bronze	1000	¾"-1"	3000	24		
		1500	¼"-½"	3000	24		
	Stainless	3000	¼"-¾"	14000	44		
		5000	⅝"-¼"	1000	18		
		6000	¼"-1"	16000	51		
		10,000	⅝"-½"	2000	21		
Pilot-piston	Bronze	300	¼"-1½"	500	14		
		500	¼"-1½"	4000	27		
		500	2"-3"	5000	27		
		1000	¾"-1½"	6000	31		
		1500	¼"-½"	6000	31		
		3000	⅝"-1"	12000	39		
	Stainless	1500	1¼"-2"	8000	36		
		4000	¼"-1½"	8000	36		
		6000	⅝"-½"	7000	34		
		Semi-direct	Bronze	300	¼"-1½"	15400	46
				500	2"-3"	30400	55
				1000	¾"-1½"	30400	55
Stainless	1500		¼"-½"	30400	55		
	1500		¼"-1"	15800	49		
	3000		¼"-2"	30800	59		

Configurable Valves for Special Applications—valves that are built to order

VALVE TYPE	MATERIAL	PRESSURE	PIPE SIZE	SERIES	PAGE
3-Way Direct Lift	Stainless	2500	¼"-½"	13000	41
High Temp Direct Lift	Stainless	2500	⅝"-1"	50000	68
Fast Response Pilot-piston	Stainless	2000	1¼"-2"	35800	62
		1500	½"-1"	35800	62
High Temp Semi-direct	Stainless	2500	¼"-1½"	40000	65

Specific Purpose Valves—valves that are pre-built for common applications

VALVE TYPE	MATERIAL	PRESSURE	PIPE SIZE	SERIES	PAGE
Steam Pilot-piston	Bronze	125	¼"-1½"	HS	10
Air Water Oil Pilot-piston	Bronze	250	¼"-2"	JJ	8
CO ₂ Pilot-piston	Stainless	350	½"	15-794	12

Explanation of Product Matrix

To facilitate understanding the scope of the ATKOMATIC product line, the valves can be divided into 3 basic valve design categories as follows: 1) Direct lift valves 2) Pilot operated valves 3) Semi-direct lift valves

Each of these basic valve types is appropriate to use in different types of customer's systems.

Direct lift valves are applicable where large flow volumes are not required and pressures range from medium to very high. Because direct lift valves utilize the solenoid force to directly effect the opening of the flow orifice against line pressure, they are restricted to relatively small flow capacities. See page 21 of the Atkomatic Technical Manual for a complete description of operation. Typical line sizes are 1/8" to 3/8" with flow orifices ranging from 0.047 (3/64") to 0.188 (3/16"). Application examples include direct injection of an additive into a process, high pressure cleaning, low volume bleeding operations, high pressure hydraulic systems, etc.

Pilot operated valves are used where a flow producing a minimum pressure drop is always present in a system or in systems where the valves full flow capacity is not required under low flow conditions. The solenoid in these valves is used to open a small internal pilot orifice that unbalances the valves piston thus opening a relatively large flow area. See pages 21-23 of the Atkomatic Technical Manual for a complete description of operation. A pressure differential of 5 psi minimum is required to open (and maintain open) these types of valves. Sizes are available from ¼" to 3" and are fully ported (internal flow areas are equal to or greater than the connecting pipe). Application examples include container filling, chemical process, fluid transfer in systems where flow is constant, etc.

Semi-direct lift valves are utilized where it is desired to have the valve function independent of system flow (operation down to 0 psi or where flow may not be sufficient to produce a 5 psi differential across the valve). These valves function in a similar manner to pilot operated valves but have a mechanical linkage between the piston and the solenoid plunger that holds the valve open. See page 22 of the Atkomatic Technical Manual for a complete description of operation. Semi-direct lift valves are available in line sizes of ¼" to 3" and are also fully ported. Application examples include tank venting to atmospheric pressure or 0 psi, charging a tank to a pressure equal to supply pressure, processes where flow is variable and might be insufficient to provide a 5 psi differential, vacuum systems, pump inlet lines, etc.

Within each of these categories are valves of 2 basic materials of construction: bronze and stainless steel, each serving different fluid media. In addition, the pressure capabilities vary with different valve series within each of the design type categories and material of construction subcategory.

Most of the valves in the product line are configurable, meaning that they can be constructed to meet a variety of application conditions by varying their internal components.

Explanation of Product Matrix

The configurable valve series are:

Direct Lift Design

Bronze

3000 Series, 0 to 1500 psi (0 to 104 bar)

Stainless

14000 Series, 0 to 3000 psi (0 to 207 bar)
 1000 Series, 0 to 5000 psi (0 to 345 bar)
 16000 Series, 0 to 6000 psi (0 to 414 bar)
 2000 Series, 0 to 10,000 psi (0 to 690 bar)

Pilot-piston Design

Bronze

500 Series, 5 to 300 psi (0.4 to 10.4 bar)
 4000 Series, 5 to 500 psi (0.4 to 35.4 bar)
 5000 Series, 5 to 500 psi, 2 to 3" sizes (0.4 to 34.5 bar)
 6000 Series, 5 to 1500 psi (0.4 to 104 bar)
 12000 Series, 5 to 3000 psi (0.4 to 207 bar)

Stainless

8000 Series, 5 to 4000 psi (0.4 to 34.5 bar)
 7000 Series, 5 to 6000 psi (0.4 to 414 bar)

Semi-direct Lift Design

Bronze

15400 Series, 0 to 300 psi (0 to 10.4 bar)
 30400 Series, 0 to 1500 psi (0 to 104 bar)

Stainless

15800 Series, 0 to 1500 psi (0 to 104 bar)
 30800 Series, 0 to 3000 psi (0 to 207 bar)

There are some valves that do not fit neatly into this progression that address specific marketplace needs. These valves are also configurable and include:

13000 Direct Lift 3-Way Valve, stainless steel, 0 to 2500 psig (0 to 173 bar)
 35000 External Pilot Operated, stainless steel, 0 to 2000 psig (0 to 138 bar), rapid closure
 40000 Semi-direct Lift, stainless steel, 0 to 2500 psig (0 to 173 bar), elevated media temperatures to 750° F (399° C)
 50000 Direct Lift, stainless steel, 0 to 3000 psig (0 to 207 bar), elevated media temperatures to 750° F (399° C)

A few of the valves are designed to meet specific usage's and are always built with the same configuration of internal parts.

The specific usage valves are currently: JJ Series, general purpose air, water, and oil, 5 to 250 psig
 HS Series, steam, 5 to 125 psi
 15-794 Series, liquid CO₂, 5 to 350 psi

All of these valves are currently pilot-piston operated. They are designed to cover specific and/or broad ranges of applications such that they can be conveniently stocked by distribution for rapid delivery.

These specific usage valves may be added to or removed as the demand for them changes.

These valve series are available in either normally open or normally closed configurations.

SERIES	NORMALLY CLOSED	NORMALLY OPEN	PAGE
	CATALOG NUMBER PREFIX	CATALOG NUMBER PREFIX	
500	5x0	5x1	14
3000	3x00 & 3x08	3x01	24
4000	4x00 & 4x08	4x01 & 4x07	27
5000	5x00 & 5x08	5x01 & 5x07	27
6000	6x00	6x01	31
8000	8xx0	8xx1	36
13000*	131x0	132x0	41
15400	154x0 & 154x8	154x1 & 154x7	46
16000	16x00	16x01	51
30400	314x0	324x0	55
30800	318x0 & 318x1	328x0 & 328x1	59
35800	358xx-O	358xx-P	62
40000	418x0	428x0	65
50000	50xx0	50xx1	68

Notes:

1. The pressures given above are the maximum for the various valve series, actual operating pressure will vary with coil voltages and fluid media (and in some cases valve size).
2. Normally open valves are rated for intermittent duty only unless other operational parameters (such as voltage, ambient temperature, fluid temperature, etc.) are at their nominal values.

* The 13000 Series is also available in a distributor version which has a catalog number prefix of 133x0 and is described on page 49.

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JJ Series

Bronze, Pilot-piston, Pressure 5 to 250 psig (0.4 to 17 bar)
General Purpose Air, Water, and Light Oil (150 SSU max.) Value



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Features

- Pressures to 250 psig (17 bar)
- Fluid temperatures from -65°F to $+180^{\circ}\text{F}$ (-54°C to $+82^{\circ}\text{C}$)
- Pipe sizes from $\frac{1}{4}$ " through 2" (British BSPT ports available)
- Full ported valves: Cv from 1.4 to 46
- Pilot operated: require a minimum pressure differential of 5 psig
- Bronze or brass valve material
- Buna N pilot seat, piston seat, and body o-ring seals
- Class B and class H coils are available
- Coil housing - Nema 1
- Treated 416 stainless steel plunger material for increased corrosion resistance

Operational Pressures (5 psid minimum pressure differential)

GASES		LIQUIDS TO 40 SUS		LIQUIDS OVER 40 SUS	
AC	DC	AC	DC	AC	DC
250	150	150	100	75	50

Circle Seal Controls

2301 Wardlow Circle • P.O. Box 3300 • Corona, CA 92880

Phone (951) 270-6200 Fax (951) 270-6201

www.circlesealcontrols.com • am_sales@circlesealcontrols.com • ind_sales@circlesealcontrols.com

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HS Series

Bronze, Pilot-piston, Pressure 5 to 125 psig (0.4 to 9 bar)
Steam or Hot Water Valve



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sales@tamo.co.uk

Features

- Pressures to 125 psig (9 bar) saturated steam temperature of 352° F (178° C)
- Pipe sizes from ¼" through 1½" (British BSPT ports available)
- Full ported valves: Cv from 1.4 to 21
- Pilot operated: require a minimum pressure differential of 5 psig (0.4 bar)
- Bronze valve material (naval M Bronze)
- Metal to metal pilot seat, Teflon® piston seat and Teflon® body o-ring seal
- Class H coil is standard
- Treated 416 stainless steel plunger material for increased corrosion resistance
- No other options available

Operational Pressures (5 psid minimum pressure differential)

LIQUIDS TO 40 SUS		STEAM	
AC	DC	AC	DC
125	125	125	125

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2301 Wardlow Circle • P.O. Box 3300 • Corona, CA 92880

Phone (951) 270-6200 Fax (951) 270-6201

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ATKOMATIC

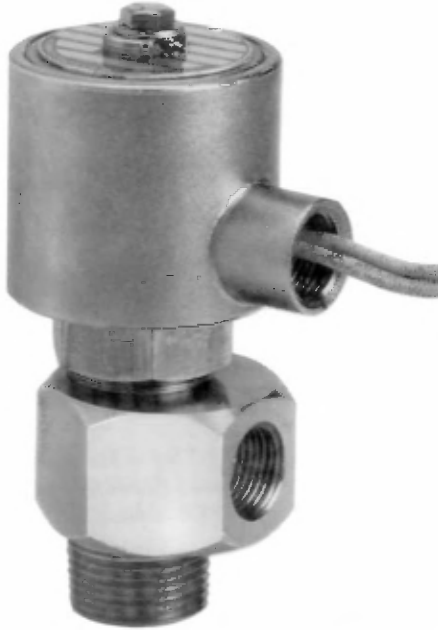
15-794 Series

Stainless Steel, Pilot-piston, Pressure 5 to 350 psig (.4 to 24 bar)
Liquid CO₂ Valve



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Features

- Designed specifically for liquid CO₂
- Pilot operated valve
- Pressure to 350 psig (24 bar)
- ½" NPT ports
- Cv of 3.0
- Stainless steel construction
- Teflon® piston (seat material)
- Teflon® body seal
- Coil housing is waterproof and nickel plated
- Class H and Class B coils are available
- No other options available

Operational Pressures (5 psid minimum pressure differential)

LIQUID CARBON DIOXIDE	
AC	DC
350	350

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2301 Wardlow Circle • P.O. Box 3300 • Corona, CA 92880

Phone (951) 270-6200 Fax (951) 270-6201

www.circlesealcontrols.com • am_sales@circlesealcontrols.com • ind_sales@circlesealcontrols.com

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500 Series

Bronze, Pilot-piston, Pressure 5 to 300 psig (0.4 to 21 bar)
Low Pressure Valve Configurable for Variety of Fluid Applications



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Features

- Pressures to 300 psig (21 bar)
- Fluid temperatures from -100°F to $+450^{\circ}\text{F}$ (-73°C to $+232^{\circ}\text{C}$)
- For use with any gas or liquid (max. viscosity of 150 SUS), including steam, that is not harmful to bronze
- Pipe sizes from $\frac{1}{4}''$ through $1\frac{1}{2}''$ NPT (British BSPT ports available)
- Full ported valves: Cv from 1.4 to 21
- Pilot operated: requires a minimum pressure differential of 5 psig
- Available in normally open and normally closed versions
- Optional pilot and piston seat materials of Teflon[®], PCTFE, Buna N, Viton[®], EPR, or metal (316 stainless steel pilot and/or brass piston seat) depending on fluid type and pressure
- Body seal materials of Teflon[®], Viton[®], Buna N, or EPR.
- Bronze valve material (naval M Bronze)
- Coil housings available in NEMA 1 (standard), NEMA 4 (waterproof), NEMA 7 (explosion-proof for hazardous locations), and combination NEMA 4 & 7
- Manual opening and throttling devices are available as options
- Class B coils are available for media temperatures of 0°F through $+220^{\circ}\text{F}$ (-18°C through $+104^{\circ}\text{C}$)
- Class H coils are available: recommended for media temperatures of -100°F through $+450^{\circ}\text{F}$ (-73°C through $+232^{\circ}\text{C}$)
- Treated 416 stainless steel plunger material for increased corrosion resistance

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Phone (951) 270-6200 Fax (951) 270-6201

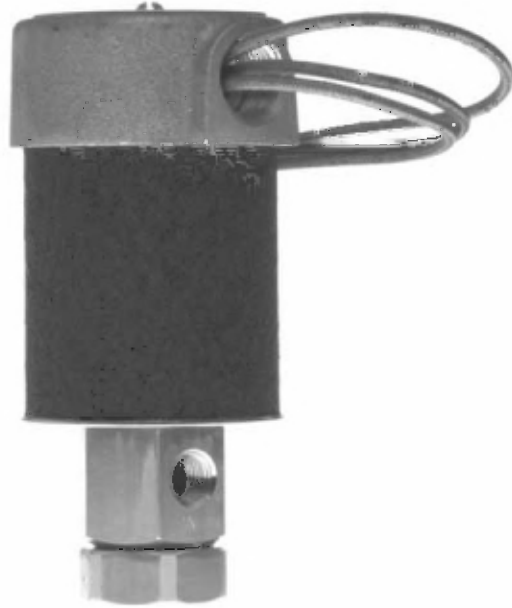
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atkomatic solenoid

ATKOMATIC

1000 Series

Stainless Steel, Direct Lift to 5000 psig (345 bar)
Medium Pressure Valve Configurable for Variety of Fluid Applications



01895 200015

sales@tamo.co.uk

Features

- Direct acting valve
- Pressure to 5000 psig (345 bar) depending on fluid and orifice size
- Barstock body construction
- Compact size
- Stainless steel construction on all wetted parts: 316 for pressure containing parts and plunger material is 416 stainless that is treated for increased corrosion resistance
- Will handle fluids with viscosity up to 200 SUS
- Fluid temperatures from -423°F to $+500^{\circ}\text{F}$ (-253°C to $+260^{\circ}\text{C}$)
- Suitable for use with wide variety of fluid including: air, gasses, liquids, hydraulic fluids, steam, cryogenic fluids, and corrosive fluids
- Optional seat materials of Teflon[®], PCTFE, Buna N, Viton[®], EPR, or 316 stainless steel depending on fluid type and pressure
- Body seal materials of Teflon[®], Viton[®], Buna N, or EPR.
- Flow orifice sizes of $\frac{1}{16}''$, $\frac{3}{32}''$, $\frac{1}{8}''$, and $\frac{3}{16}''$
- Pipe sizes of $\frac{1}{8}''$ and $\frac{1}{4}''$ NPT
- British BSPT ports available
- Cv from 0.093 to 0.72
- Class H coil is standard
- Can use a class H double wound coil (requires use with a relay to drop put primary coil winding after valve actuation) depending on pressure
- Coil housing is NEMA 1

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atkomatic solenoid

ATKOMATIC

2000 Series

Stainless Steel, Direct Lift to 10,000 psig (690 bar)
Medium Pressure Valve Configurable for Variety of Fluid Applications



01895 200015

sales@tamo.co.uk

atkomatic solenoid

Features

- | | |
|--|---|
| • Direct acting valve | fluid type and pressure. These are available with 1/6" through 3/6" orifices |
| • Pressure to 10,000 psig (690 bar) depending on fluid and orifice size | • Seat material is Stellite® with 1/32" and 3/64" orifices |
| • Barstock body construction | • Body seal materials of Teflon®, Viton®, Buna N, or EPR. |
| • Stainless steel construction on all wetted parts: 316 for pressure containing parts and plunger material is 416 stainless that is treated for increased corrosion resistance | • Flow orifice sizes of 1/32", 3/64", 1/6", 3/32", 1/8", and 3/16" |
| • Will handle fluids with viscosity up to 200 SUS | • Pipe sizes of 1/8", 1/4", 3/8", and 1/2" NPT |
| • Fluid temperatures from -423° to +500° F (-253° C to 260° C) | • British BSPT, AND, and AMINCO ports available |
| • Suitable for use with wide variety of fluid including: air, gasses, liquids, hydraulic fluids, steam, cryogenic fluids, and corrosive fluids | • Cv from 0.020 to 0.72 |
| • Optional seat materials of Teflon®, PCTFE, Buna N, Viton®, EPR, or 316 stainless steel depending on | • Can use a class H double wound coil (requires use with a relay to drop put primary coil winding after valve actuation) depending on pressure |
| | • Coil housings available in NEMA 1 (standard), NEMA 4 (waterproof), NEMA 7 (explosion-proof for hazardous locations), and combination NEMA 4 & 7 |
| | • Class H coil is standard |

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ATKOMATIC

3000 Series

Bronze, Direct Lift Medium Pressure Valve to 1500 psig (104 bar)
Configurable for Variety of Fluid Applications



01895 200015

sales@tamo.co.uk

Features

- | | |
|---|--|
| • Direct acting valve | • Body seal materials of Teflon®, Viton®, Buna N, or EPR |
| • Pressure to 1500 psig (104 bar) depending on fluid and orifice size | • Pipe sizes of 1/4, 3/8, 1/2, 3/4, and 1" NPT |
| • Available in normally open and normally closed versions | • British BSPT ports available |
| • Bronze valve material (naval M bronze) % plunger is electroless nickel plated 416 stainless | • Flow orifice sizes of 1/16, 3/32, 1/8, & 3/16" |
| • For use with any gas or liquid (max. viscosity of 200 SSU), including steam and cryogenic, that is not harmful to bronze | • Cv from 0.093 to 0.72 |
| • Fluid temperatures from -423° to +500° F (-253° C to +260° C) | • Coil housings available in NEMA 1 (standard), NEMA 4 (waterproof), NEMA 7 (explosion-proof for hazardous locations), and combination NEMA 4 & 7 |
| • Optional seat materials of Teflon®, PCTFE, Buna N, Viton®, EPR, or 316 stainless steel depending on fluid type and pressure | • Class B coils are available for media temperatures of 0° through 220° F |
| | • Class H coils are available: recommended for media temperatures of -423° through +500° F (-253° C to +260° C) (is standard on normally open version) |

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atkomatic solenoid

ATKOMATIC

4000 & 5000 Series

Bronze, Pilot-piston, Pressure 5 to 500 psig (0.4 to 34.5 bar)
Medium Pressure Valve Configurable for Variety of Fluid Applications



01895 200015

sales@tamo.co.uk

Features

- Pressures to 500 psig (0.4 to 34.5 bar)
- Full ported valves
- Pilot operated: require a minimum pressure differential of 5 psig (0.4 bar)
- For use with any gas or liquid (max. viscosity of 200 SSU), including steam and cryogenics, that is not harmful to bronze
- Pipe sizes of 1/4" through 1 1/2" NPT for 4000 Series and 2" through 3" NPT in 5000 Series (British BSPT ports available)
- Cv from 1.4 to 71
- Available in normally open and normally closed versions
- Fluid temperatures from -423° F to +500° F (-253° C to +260° C)
- Optional seat materials of Teflon®, PCTFE, Buna N, Viton®, EPR, or metal (316 stainless steel pilot and/or brass piston seat) depending on fluid type and pressure
- Body seal materials of Teflon®, Viton®, Buna N, or EPR.
- Bronze valve material (naval M Bronze)
- Removable 316 stainless steel body inserts (stainless steel trim) 4000 Series only
- Coil housings available in NEMA 1 (standard), NEMA 4 (waterproof), NEMA 7 (explosion-proof for hazardous locations), and combination NEMA 4 & 7
- Manual opening and throttling devices are available as options
- Class B coils are available for media temperatures of 0° F (-18° C) through +220° F (104° C) (available on both normally closed and normally open valves)
- Class H coils are available: recommended for media temperatures of -423° F (-253° C) through +500° F (+260° C) (available on both normally closed and normally open valves)

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ATKOMATIC

6000 Series

Bronze, Pilot-piston, Pressure 0 to 1500 psig (0.4 to 103.5 bar)
Medium Pressure Valve Configurable for Variety of Fluid Applications



01895 200015

sales@tamo.co.uk

atkomatic solenoid

Features

- Pressures to 1500 psig (103.5 bar)
- Pilot operated: require a minimum pressure differential of 5 psig (0.4 bar)
- Full ported valves
- Fluid temperatures from -423°F to $+500^{\circ}\text{F}$ (-253°C to $+260^{\circ}\text{C}$)
- For use with any gas or liquid (max. viscosity of 200 SSU), including steam and cryogenic, that is not harmful to bronze
- Pipe sizes of $\frac{1}{4}$ " through $1\frac{1}{2}$ " (British BSPT ports available)
- Cv from 1.4 to 21
- Available in normally open and normally closed versions
- Optional pilot & piston seat seal materials of Teflon®, PCTFE, Buna N, Viton®, EPR, or metal (316 stainless steel pilot & brass piston seat) depending on fluid type and pressure
- Body seal materials of Teflon®, Viton®, Buna N, or EPR.
- Bronze valve material (naval M bronze)
- Removable 316 stainless steel body inserts (stainless steel trim)
- Coil housings available in NEMA 1 (standard), NEMA 4 (waterproof), NEMA 7 (explosion-proof for hazardous locations), and combination NEMA 4 & 7
- Manual opening and throttling devices are available as options
- Class B coils are available for media temperatures of 0°F (-18°C) through $+220^{\circ}\text{F}$ (104°C) (available on both normally closed and normally open valves)
- Class H coils are available: recommended for media temperatures of -423°F (-253°C) through $+500^{\circ}\text{F}$ ($+260^{\circ}\text{C}$) (available on both normally closed and normally open valves)
- Treated 416 stainless steel plunger material for increased corrosion resistance

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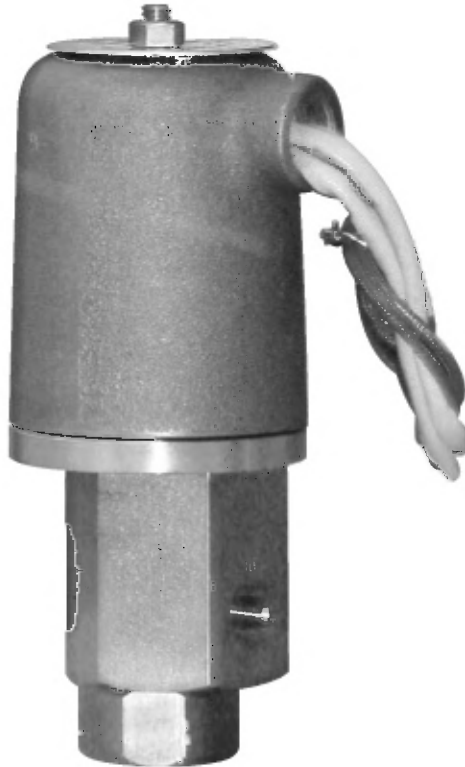
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ATKOMATIC

7000 Series

Stainless Steel, Pilot-piston, Pressure 5 to 6000 psig (0.4 to 414 bar)
High Pressure Valve Configurable for Variety of Fluid Applications



01895 200015

sales@tamo.co.uk

Features

- Pressure to 6000 psig (414 bar)
- Pilot operated: require a minimum pressure differential of 5 psig (0.4 bar)
- Barstock body configuration
- Fluid temperatures of -423°F (-253°C) through $+500^{\circ}\text{F}$ ($+260^{\circ}\text{C}$) (Kel-F[®] piston recommended for -400°F (-240°C) through $+400^{\circ}\text{F}$ ($+204^{\circ}\text{C}$))
- All 316 stainless steel construction on pressure containing parts; plunger material is 416 stainless that is treated for increased corrosion resistance
- Will handle fluids with viscosity up to 200 SUS
- Suitable for use with wide variety of fluid including: air, gasses, liquids, hydraulic fluids, steam, cryogenic fluids, and corrosive fluids
- Piston material (same as seat material) of PCTFE or 17-4 stainless steel
- Body seal materials of Teflon[®], Viton[®], Buna N, or EPR
- Pipe ports of $\frac{1}{4}$ ", $\frac{3}{8}$ ", or $\frac{1}{2}$ " NPT (British BSPT ports available)
- Flow orifice of $\frac{5}{16}$ "
- Cv from 1.0 to 2.0
- Uses a class H fiberglass wrapped, double wound coil (requires use with a relay to drop put primary coil winding after valve actuation)
- Coil housings available in NEMA 1 (standard), NEMA 4 (waterproof), NEMA 7 (explosion-proof for hazardous locations), and combination NEMA 4 & 7

Operational Pressures (5 psi minimum pressure differential)

GASES		LIQUIDS TO 40 SUS		LIQUIDS OVER 40 SUS		STEAM	
AC	DC	AC	DC	AC	DC	AC	DC
6000	4000	6000	3500	6000	2500	300	300
414 bar	276 bar	414 bar	242 bar	414 bar	173 bar	21 bar	21 bar

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ATKOMATIC

8000 Series

Stainless Steel, Pilot-piston, Pressure 5 to 4000 psig (0.4 to 276 bar)
High Pressure Valve Configurable for Variety of Fluid Applications



01895 200015

sales@tamo.co.uk

Features

- Pressure to 4000 psig depending on fluid and coil type (276 bar)
- Pilot operated: require a minimum pressure differential of 5 psig (0.4 bar)
- Full ported valves
- Available in normally open and normally closed versions
- Fluid temperatures of -423°F (-253°C) through $+500^{\circ}\text{F}$ ($+260^{\circ}\text{C}$)
- Stainless steel construction on all wetted parts—316 for machined parts and CF8M for cast parts. Plunger material is 416 stainless that is treated for increased corrosion resistance
- Will handle fluids with viscosity up to 200 SUS
- Suitable for use with wide variety of fluid including: air, gasses, liquids, hydraulic fluids, steam, cryogenic fluids, and corrosive fluids
- Removable 316 stainless steel body inserts (stainless steel trim)
- Optional pilot and piston seat materials of Teflon[®], PCTFE, Buna N, Viton[®], EPR, or 316 stainless steel depending on fluid type and pressure
- Body seal materials of Teflon[®], Viton[®], Buna N, or EPR
- Pipe ports of $\frac{1}{4}$ " through 2" NPT ($1\frac{1}{2}$ " max. in 4000 psig (276 bar) version); British BSPT ports available
- Cv from 1.1 through 45
- Class H coils standard
- Can use a class H double wound coil (requires use with a relay to drop put primary coil winding after valve actuation) depending on pressure (for operation up to 4000 psi (276 bar))
- Coil housings available in NEMA 1 (standard), NEMA 4 (waterproof), NEMA 7 (explosion-proof for hazardous locations), and combination NEMA 4 & 7
- Manual opening device is available as an option

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ATKOMATIC

12000 Series

Bronze, Pilot-piston, Pressure 5 to 3000 psig (0.4 to 207 bar)
High Pressure Valve Configurable for Variety of Fluid Applications



Features

- Pressures to 3000 psig (207 bar)
- Fluid temperatures from -423° F to +400° F (-54° C to +204° C)
- For use with any gas or liquid (max. viscosity of 150 SSU) including steam, that is not harmful to bronze
- Pipe sizes of 3/8" through 1" (British BSPT ports available)
- Full ported valve, Cv from 2.8 to 8.9
- Pilot operated: require a minimum pressure differential of 5 psig
- Optional pilot seat materials of Teflon®, PCTFE, or 440 stainless steel
- Optional piston seat materials of Teflon®, PCTFE, Buna N, Viton®, or EPR depending on fluid type and pressure
- Body seal materials of Viton®, Buna N, EPR, or Kalrez®
- Bronze valve material (naval M bronze)
- Removable 316 stainless steel body inserts (stainless steel trim)
- Coil housings available in NEMA 1 (standard), NEMA 4 (waterproof), NEMA 7 (explosion-proof for hazardous locations), and combination NEMA 4 & 7
- Manual opening device is available as an option
- Class B coils are available for media temperatures of 0° F through +220° F
- Class H coils are available: recommended for media temperatures of -423° F through +400° F (-54° C to +204° C)
- Can be mounted in any orientation
- Compact size and relatively low current draw with AC coils
- Treated 416 stainless steel plunger material for increased corrosion resistance

Operational Pressures (5 psi minimum pressure differential)

GASES		LIQUIDS TO 40 SUS		LIQUIDS OVER 40 SUS		STEAM	
AC	DC	AC	DC	AC	DC	AC	DC
3000 / 207 bar	3000 / 207 bar	3000 / 207 bar	3000 / 207 bar	3000 / 207 bar	3000 / 207 bar	3000 / 207 bar	3000 / 207 bar

Note: Buna N, Viton® and EPR seats are limited to 500 psig (34.5 barg).

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ATKOMATIC

13000 Series

Stainless Steel, 3-Way, Direct Lift, Pressure 0 to 2500 psig (173 bar)
High Pressure Valve Configurable for Variety of Fluid Applications



01895 200015

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atkomatic solenoid

Features

- 3-Way valve
- Direct acting valve
- Barstock construction
- Can be installed as normally closed, normally open, or as a directional valve
- Can be mounted in any orientation (except normally open version)
- Pressure to 2500 psig (173 bar) depending on valve type, fluid and orifice size
- Media temperatures from -423°F to $+350^{\circ}\text{F}$ (-253°C to 177°C)
- Stellite[®] seats (cobalt alloy for hardness and corrosion resistance)
- Ports sizes of $\frac{1}{4}$ ", $\frac{3}{8}$ ", and $\frac{1}{2}$ " NPT (British BSBT ports available)
- Cv from 0.056 through 0.40
- Stainless steel construction on all wetted parts: 316 for pressure containing parts and plunger material is 416 stainless that is treated for increased corrosion resistance
- Will handle fluids with viscosity up to 150 SUS
- Class H coils standard
- Suitable for use with wide variety of fluid including: air, gasses, liquids, hydraulic fluids, steam, cryogenic fluids, and corrosive fluids
- Explosion-proof NEMA 7 coil housing is standard; can also be furnished with a combination water- and explosion-proof NEMA 4 & 7 coil housing

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ATKOMATIC

14000 Series

Stainless Steel, Direct Lift, Pressure 0 to 3000 psig (207 bar)
High Pressure Valve Configurable for Variety of Fluid Applications



01895 200015

sales@tamo.co.uk

Features

- Direct acting valve
- Pressure to 3000 psig (207 bar) depending on fluid and orifice size
- Barstock construction
- Can be mounted in any orientation
- Stainless steel construction on all wetted parts: 316 for pressure containing parts and plunger material is 416 stainless that is treated for increased corrosion resistance
- Optional stem materials of Teflon®, PCTFE, or 440 stainless steel
- Media temperatures from -423° F to +400° F (-253° C to +204° C)
- Will handle fluids with viscosity up to 150 SUS
- Suitable for use with wide variety of fluid including: air, gasses, liquids, hydraulic fluids, steam, cryogenic fluids, and corrosive fluids
- Ports are oriented inline or at 90° degrees (inlet on side & outlet on bottom)
- Pipe sizes from 1/4" & 3/8" NPT (British BSPT ports available)
- Flow orifices of 1/16", 1/8", 3/32", and 1/4"
- Cv from 0.093 to 0.40
- Compact size and relatively low current draw with AC coils
- Class H coils are standard
- Coil housings available in NEMA 1 (standard), NEMA 4 (waterproof), NEMA 7 (explosion-proof for hazardous locations), and combination NEMA 4 & 7

Operational Pressures (No minimum pressure differential)

ORIFICE SIZE	GASES		LIQUIDS TO 40 SUS		LIQUIDS OVER 40 SUS		STEAM	
	AC	DC	AC	DC	AC	DC	AC	DC
1/16	3000 / 207 bar	3000 / 207 bar	3000 / 207 bar	3000 / 207 bar	3000 / 207 bar	3000 / 207 bar	200 / 14 bar	200 / 14 bar
1/8	2500 / 173 bar	2100 / 145 bar	2000 / 138 bar	1400 / 97 bar	1800 / 124 bar	1300 / 90 bar	200 / 14 bar	200 / 14 bar
3/32	1900 / 131 bar	1100 / 76 bar	1,400 / 97 bar	1100 / 76 bar	1000 / 69 bar	850 / 59 bar	200 / 14 bar	200 / 14 bar
1/4	450 / 31 bar	300 / 21 bar	300 / 21 bar	225 / 16 bar	275 / 19 bar	175 / 12 bar	200 / 14 bar	200 / 14 bar

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ATKOMATIC

15400 Series

Bronze, Semi-direct Lift, Pressure 0 to 300 psig (21 bar)
Low Pressure Valve Configurable for Variety of Fluid Applications



01895 200015

sales@tamo.co.uk

Features

- Semi-direct lift action for operation down to zero pressure differential
- Operation up to 300 psi (21 bar)
- Bronze valve material (naval M bronze)
- Available normally closed or normally open
- Media temperatures from -423°F to $+500^{\circ}\text{F}$ (-253°C to $+260^{\circ}\text{C}$)
- Will handle fluids with viscosity up to 150 SUS
- Suitable for use with wide variety of fluid including: air, gasses, liquids, hydraulic fluids, steam, cryogenic fluids, and fluid not harmful to bronze
- Optional seat materials of Teflon[®], PCTFE, Buna N, Viton[®], EPR, or metal (316 stainless steel pilot and/or brass piston seat) depending on fluid type and pressure
- Body seal materials of Teflon[®], Viton[®], Buna N, or EPR
- Pipe sizes from $\frac{1}{4}$ " through $1\frac{1}{2}$ " NPT
- British BSPT ports are available
- Full ported valves: Cv from 1.1 through 21.5
- Coil housings available in NEMA 1 (standard), NEMA 4 (waterproof), NEMA 7 (explosion-proof for hazardous locations), and combination NEMA 4 & 7
- Manual opening and throttling devices are available as options
- Valve position indicator option is available
- Class B coils are available for media temperatures of 0°F through 220°F
- Class H coils are available: recommended for media temperatures of -423°F (-253°C) through $+500^{\circ}\text{F}$ ($+260^{\circ}\text{C}$)
- Treated 416 stainless steel plunger material for increased corrosion resistance

Operational Pressures (No minimum pressure differential)

GASES		LIQUIDS TO 40 SUS		LIQUIDS OVER 40 SUS		STEAM	
AC	DC	AC	DC	AC	DC	AC	DC
300 / 21 bar	300 / 21 bar	300 / 21 bar	300 / 21 bar	300 / 21 bar	300 / 21 bar	125 / 9 bar	125 / 9 bar

Note: Normally open valves are rated for intermittent duty only on 15000 Series valves and are not recommended for cryogenic service above 50 psig

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ATKOMATIC

15800 Series

Stainless Steel, Semi-direct Lift, Pressure 0 to 1500 psig (104 bar)
Medium Pressure Valve Configurable for Variety of Fluid Applications



01895 200015
sales@tamo.co.uk

atkomatic solenoid

Features

- Stainless steel construction on all wetted parts: 316 for barstock parts and CF8M for cast parts.
- Plunger material is 416 stainless that is treated for increased corrosion resistance
- Semi-direct lift action for operation down to zero pressure differential
- Normally closed operation
- Operation up to 1500 psi (104 bar)
- Media temperatures from -423°F to $+500^{\circ}\text{F}$ (-253°C to $+260^{\circ}\text{C}$)
- Will handle fluids with viscosity up to 150 SUS
- Suitable for use with wide variety of fluid including: air, gasses, liquids, hydraulic fluids, steam, cryogenic fluids, and corrosive fluids
- Optional pilot and piston seat materials of Teflon[®], PCTFE, Buna N, Viton[®], EPR, or 316 stainless steel depending on fluid type and pressure
- Body seal materials of Teflon[®], Viton[®], Buna N, or EPR
- Pipe sizes from $\frac{1}{4}$ " through 1" NPT
- British BSPT ports are available
- Full ported valves: Cv from 1.1 through 12.5
- Removable 316 stainless steel body inserts (stainless steel trim)
- Class H coils standard
- Coil housings available in NEMA 1 (standard), NEMA 4 (waterproof), NEMA 7 (explosion-proof for hazardous locations), and combination NEMA 4 & 7
- Manual opening device is available as an option
- Valve position indicator option is available

Operational Pressures (No minimum pressure differential)

GASES		LIQUIDS TO 40 SUS		LIQUIDS OVER 40 SUS		STEAM	
AC	DC	AC	DC	AC	DC	AC	DC
1500 / 104 bar	1500 / 104 bar	1500 / 104 bar	1000 / 69 bar	1500 / 104 bar	1000 / 69 bar	200 / 14 bar	200 / 14 bar

Note: Buna N, Viton[®] and EPR seats are limited to 500 psi.

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ATKOMATIC

16000 Series

Stainless Steel, Direct Lift, Pressure 0 to 6000 psig (414 bar)
High Pressure Valve Configurable for a Variety of Fluid Applications



01895 200015

sales@tamo.co.uk

atkomatic solenoid

Features

- Direct acting valve
- Pressure to 6000 psig 414 bar depending on coil type, fluid and orifice size
- Available in normally open and normally closed versions
- Stainless steel construction on all wetted parts: 316 for machined parts and CF8M for cast parts.
- Plunger material is 416 stainless that is treated for increased corrosion resistance
- Will handle fluids with viscosity up to 200 SUS
- Media temperature from -423°F to $+500^{\circ}\text{F}$ (-253°C to $+260^{\circ}\text{C}$)
- Suitable for use with wide variety of fluid including: air, gasses, liquids, hydraulic fluids, steam, cryogenic fluids, and corrosive fluids
- Optional seat materials of Teflon[®], PCTFE, Buna N, Viton[®], EPR, or 316 stainless steel depending on fluid type and pressure
- Body seal materials of Teflon[®], Viton[®], Buna N, or EPR.
- Pipe sizes from $\frac{1}{4}$ " through 1" NPT (British BSBT ports available)
- Flow orifices of $\frac{1}{16}$ ", $\frac{3}{32}$ ", $\frac{1}{8}$ ", or $\frac{3}{16}$ "
- Cv from 0.093 to 0.72
- Class H coils standard
- Can use a class H double wound coil (requires use with a relay to drop put primary coil winding after valve actuation) depending on pressure
- Coil housings available in NEMA 1 (standard), NEMA 4 (waterproof), NEMA 7 (explosion-proof for hazardous locations), and combination NEMA 4 & 7

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ATKOMATIC

30400 Series

Bronze, Semi-direct Lift, Pressure 0 to 1500 psig (104 bar)
Medium Pressure Valve, Configurable for a Variety of Fluid Applications



01895 200015

sales@tamo.co.uk

atkomatic solenoid

Features

- Semi-direct lift action for operation down to zero pressure differential
- Operation up to 1500 psig (104 bar)
- Media temperatures from -423°F to $+500^{\circ}\text{F}$ (-253°C to $+260^{\circ}\text{C}$)
- Will handle fluids with viscosity up to 150 SUS
- Bronze valve material (naval M bronze)
- Suitable for use with wide variety of fluid including: air, gasses, liquids, hydraulic fluids, steam, cryogenic fluids, and fluids not harmful to bronze
- Heaviest duty and most rugged construction
- Optional seat materials of Teflon[®], PCTFE, Buna N, Viton[®], EPR, or metal (316 stainless steel pilot and/or brass piston seat) depending on fluid type and pressure
- Body seal materials of Teflon[®], Viton[®], Buna N, or EPR
- Removable 316 stainless steel body inserts (stainless steel trim)
- Available in normally closed configuration from $\frac{1}{4}$ " to 3" NPT ports
- Available in normally open configuration from $\frac{1}{4}$ " to 1 $\frac{1}{2}$ " NPT ports
- British BSPT ports available
- Full ported valves
- Normally closed Cv from 2.7 to 71
- Normally open Cv from 2.7 to 21
- Class H coils are standard
- Coil housings available in NEMA 1 (standard), NEMA 4 (waterproof), NEMA 7 (explosion-proof for hazardous locations), and combination NEMA 4 & 7
- Manual opening and throttling devices are available as options (requires aluminum piston on 2 $\frac{1}{2}$ " & 3")
- Valve position indicator option is available

Circle Seal Controls

2301 Wardlow Circle • P.O. Box 3300 • Corona, CA 92880

Phone (951) 270-6200 Fax (951) 270-6201

www.circlesealcontrols.com • am_sales@circlesealcontrols.com • ind_sales@circlesealcontrols.com

ATKOMATIC

30800 Series

Stainless Steel, Semi-direct Lift, Pressure 0 to 3000 psig (207 bar)
High Pressure Valve Configurable for a Variety of Fluid Applications



01895 200015

sales@tamo.co.uk

atkomatic solenoid

Features

- Stainless steel construction on all wetted parts: 316 for machined parts and CF8M for cast parts
- Plunger material is 416 stainless that is treated for increased corrosion resistance
- Semi-direct lift action for operation down to zero pressure differential
- Operation up to 3000 psig (207 bar)
- Media temperatures from -423°F to $+500^{\circ}\text{F}$ (-253°C to $+260^{\circ}\text{C}$)
- Will handle fluids with viscosity up to 150 SUS
- Suitable for use with wide variety of fluid including: air, gasses, liquids, hydraulic fluids, steam, cryogenic fluids, and corrosive fluids
- Optional seat materials of Teflon[®], PCTFE, Buna N, Viton[®], EPR, or metal (316 pilot seat and/or 316 piston seat) depending on fluid type and pressure
- Body seal materials of Teflon[®], Viton[®], Buna N, or EPR
- Heaviest duty and most rugged construction
- Removable 316 stainless steel body inserts (stainless steel trim)
- Available in normally closed configuration from $\frac{1}{4}$ " to 2" ports
- Available in normally open configuration from $\frac{1}{4}$ " to $1\frac{1}{2}$ " ports
- British BSPT ports are available
- Full ported valves
- Cv from 2.5 to 45 in normally closed valves
- Cv from 2.5 to 21.5 in normally open valves
- Class H coils are standard
- Coil housings available in NEMA 1 (standard), NEMA 4 (waterproof), NEMA 7 (explosion-proof for hazardous locations), and combination NEMA 4 & 7
- Manual opening device is available as an option
- Valve position indicator option is available

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ATKOMATIC

35800 Series

Stainless Steel, Pilot-piston, Pressure 35 to 2000 psig (2.4 to 138 bar)
High Pressure Valve Configurable for Variety of Fluid Applications



Features

- Rapid response time: achieved by use of an external pilot source
- Pilot operated valve
- Operation up to 2000 psig (138 bar)
- Stainless steel construction on all wetted parts: 316 for machined parts and CF8M for cast parts.
- Plunger material is 416 stainless that is treated for increased corrosion resistance
- Available in ½" through 2" NPT pipe size
- Full ported valves; heavy duty, rugged construction
- Cv from 5.1 to 45
- British BSPT ports available
- Media temperatures from -15° F to +400° F (-26° C to 204° C)
- Optional piston seat materials of Teflon®, PCTFE, Buna N, Viton®, EPR, or 316 stainless steel depending on fluid type and pressure
- Body seal materials of Teflon®, Viton®, Buna N, or EPR
- Piston lip seals are Viton®
- Optional piston seat materials of Teflon®, PCTFE, Buna N, Viton®, EPR or 316 stainless steel depending on fluid type and pressure.
- Removable 316 stainless steel body inserts (stainless steel trim)
- Will handle fluids with viscosity up to 150 SUS
- Suitable for use with wide variety of fluid including: air, gasses, liquids, hydraulic fluids, cryogenic fluids, and corrosive fluids
- Class H coils are standard
- Coil housings available in NEMA 1 (standard), NEMA 4 (waterproof), NEMA 7 (explosion-proof for hazardous locations), and combination NEMA 4 & 7
- Manual opening and throttling devices are available as options
- Valve position indicator option is available

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atkomatic solenoid

ATKOMATIC

40000 Series

Stainless Steel, Semi-direct Lift, Pressure 0 to 2500 psig (173 bar)
High Temperature High Pressure Valve Configurable for a Variety of Fluid Applications



01895 200015

sales@tamo.co.uk

Features

- Designed for high temperature fluids, maximum nominal temperature rating of 750° F (399° C)
- Operational pressure up to 2500 psi (173 bar)
- Extended neck to locate the solenoid at a distance from the hot fluid flow
- Carbon graphite piston rings
- 316 stainless steel body o-rings
- Pilot seats are made of Stellite® (a cobalt alloy) for temperature and wear resistance
- Piston is made of 17-4 stainless steel and the piston seat is Stellite®
- Available in normally open and normally closed versions
- Mounted with the coil oriented down to minimize convection heating of coil from the hot media
- Stainless steel construction on all pressure containing parts: 316 for machined parts and CF8M for cast parts.
- Plunger material is 416 stainless that is treated for increased corrosion resistance
- Semi-direct lift action for operation down to zero pressure differential
- Will handle fluids with viscosity up to 150 SUS
- Suitable for use with wide variety of fluid including: air, gasses, liquids, hydraulic fluids, steam, and corrosive fluids
- Heaviest duty and most rugged construction
- Removable 316 stainless steel body inserts (stainless steel trim)
- Full ported valves
- Available in normally closed configuration from ¼" to 1½" ports
- Cv from 1.1 to 21.5 in normally closed version
- Available in normally open configuration from ¼" to 1" ports
- Cv from 1.1 to 21.0 in normally open version
- British BSPT ports are available
- Class H coils are standard
- Coil housings available in NEMA 1 (standard), NEMA 4 (waterproof), NEMA 7 (explosion-proof for hazardous locations), and combination NEMA 4 & 7

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atkomatic solenoid

ATKOMATIC

50000 Series

Stainless Steel, Direct Lift, Pressure 0 to 3000 psig (207 bar), High Temperature
High Pressure Valve Configurable for Variety of Fluid Applications



01895 200015

sales@tamo.co.uk

Features

- Designed for high temperature fluids, maximum nominal temperature rating of 750° F (399° C)
- Direct lift valve
- Barstock construction
- Mounted with coil oriented down to minimize convection heating of coil from hot media
- Flow orifices of $\frac{1}{16}$ ", $\frac{3}{32}$ ", $\frac{1}{8}$ ", and $\frac{3}{16}$ "
- Cv from 0.093 to 0.72
- Available with NPT pipe ports or welded pipe stubs as "standard" catalog items
- Normally closed and normally open versions available
- Available in pipe size from $\frac{1}{8}$ " through 1" NPT or $\frac{1}{8}$ " through 1" tube stubs
- Pressures up to 3000 psig (207 bar)
- Stainless steel construction on all pressure containing parts: 316 for machined parts and CF8M for cast parts.
- Plunger material is 416 stainless that is treated for increased corrosion resistance
- Will handle fluids with viscosity up to 150 SUS
- Suitable for use with wide variety of fluid including: air, gasses, liquids, hydraulic fluids, steam, cryogenic fluids, and corrosive fluids
- Stellite® seat (cobalt alloy for wear and corrosion resistance)
- Extended stem to reduce heat transfer from fluid to coil (two lengths available depending on fluid temperature)
- Class H coils are standard

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