600 Series MagnaValve®

Steel Shot Media Valve for Air Blast Machines

The Smart Valve with SteadyFlow Technology

Model	Flow Rate Range
676-24	.2 - 2 lb/min (.1 - 1 kg/min)
677-24	1 - 10 lb/min (.45 - 4.5 kg/min)
678-24	3 - 30 lb/min (1.4 - 13.5 kg/min)
679-24	10 - 100 lb/min (4.5 - 45 kg/min)
690-24	30 - 300 lb/min (13.6 - 136 kg/min)

Flow rates based on S230 cast steel shot. Flow rate chart on page three.

The 678-24 MagnaValve

Features

- SteadyFlow Technology for smooth media flow
- ±10% of point, 10% - 100% Setpoint
- Meets SAE AMS 2432
- No moving parts for low-maintenance operation
- Normally closed
- Simplified installation and calibration
- CE compliant
- Includes a six ft (1.83 m) plug and cable
- 24 Vdc supply
- Ethernet with Embedded Webpage
- Built-In Servo
- Desired Flow Jump-To
- Customizable LCD screen
- Sealed enclosure
- 0 - 10 Vdc, 4 - 20 mA, I/O

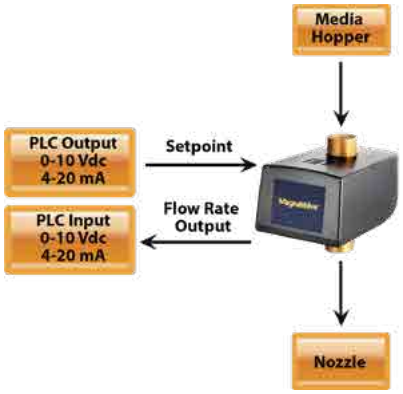
Description

The MagnaValve® is a normally closed magnetic valve that regulates the flow of steel shot and cut wire media in air blast machines. The MagnaValve has a built-in sensor that measures flow rate and, along with a built-in servo and flow jump-to feature, provides accurate and repeatable flow rates. The flow jump-to feature starts media flow at the desired flow rate instead of ramping up to the desired rate. The MagnaValve can be factory calibrated for various media types and sizes. It will be calibrated for the media type, size and flow rate specified on the purchase order.

The MagnaValve has a strong and stable rare earth permanent magnet for normally closed operation and an electromagnet for controlling shot flow rates. When no power is applied to the MagnaValve, the permanent magnet stops all flow. With power applied, the magnetic field is neutralized and shot is allowed to flow through the valve. If the power is interrupted for any reason, the permanent magnet in the valve securely holds the shot.

The MagnaValve provides reliable, repetitive, and consistent media flow rates for shot peening and blast cleaning applications. The MagnaValve makes it easy to document flow rates and establish or repeat a good set-up. The valve meets the requirements of SAE AMS 2432 and other aerospace and commercial specifications.

Clear and comprehensive installation manuals simplify installation for the 600 Series MagnaValve. In addition, the products are supported by the Electronics Inc. application engineering staff.



Servo with jump-to feature built into MagnaValve

Electronics Inc.
Shot Peening Control

Electronics Inc.
56790 Magnetic Drive
Mishawaka, Indiana 46545 USA
(574)256-5001
www.electronics-inc.com

600 Series MagnaValve

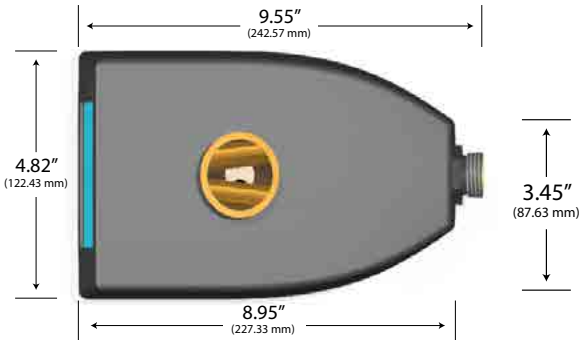
Steel Shot Media Valve for Air Blast Machines

Specifications

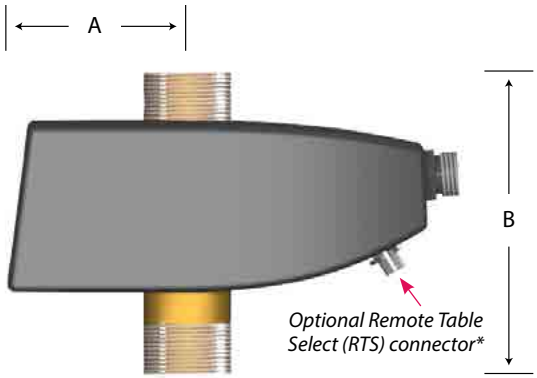
Power	+24 Vdc ±2 Vdc @ 2A	**Temperature Range**	32˚F - 131˚F (0˚C - 55˚C)
Media	All ferrous media except Cast Stainless Steel	**Flow Enable Input**	+24 Vdc ±2 Vdc into 20 KΩ
		Setpoint Input	0-10 Vdc / 4-20 mA
Maximum Pressure	100 PSI	**Flow Sensor Output**	0 - 10 Vdc, max output 11.5 Vdc
Mode	Normally Closed		4 - 20 mA, max output 15 Vdc
Ethernet	10/100 Mbps		

Dimensions Inches (Millimeters)

Top View



Side View



Model Number	Pipe Size	"A"	"B"
676-24	1" NPT	4.4″ (111.76 mm)	6.0" (152.4 mm)
677-24	1" NPT	4.4″ (111.76 mm)	6.0" (152.4 mm)
678-24	1.25" NPT	4.4″ (111.76 mm)	6.0" (152.4 mm)
679-24	1.25" NPT	4.4″ (111.76 mm)	8.0" (203.2 mm)
690-24	2" NPT	4.5″ (114.3 mm)	8.0" (203.2 mm)

*Multiple look-up tables are available with the Remote Table Select option. Consult factory for details.

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2024-07

600 Series MagnaValve Selector Guide Based on Flow Rate

Maximum Flow Rate (pounds per minute/kilograms per minute)										
Shot	**676-24**		**677-24**		**678-24**		**679-24**		**690-24**	
Size	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg
S-70	2	1	10	5	30	15	100	45	300	150
S-110	2	1	10	5	30	15	100	45	300	150
S-170	2	1	10	5	30	15	100	45	300	150
S-230	2	1	10	5	30	15	100	45	300	150
S-280	-		10	5	28	13	100	45	300	135
S-330	-	-	-	-	26	12	100	45	300	135
S-390	-	-	-	-	25	11	100	45	250	125
S-460	-	-	-	-	25	11	85	38	250	125
S-550	-	-	-	-	-	-	70	32	250	110
S-660	-	-	-	-	-	-	70	32	240	105
S-930	-	-	-	-	-	-	45	20	225	100
CCW-14	2	1	10	5	30	15	100	45	300	150
CCW-23	2	1	10	5	30	15	100	45	300	150
CCW-28	2	1	10	5	30	15	100	45	300	150
CCW-32	-	-	10	5	30	13.5	100	45	300	135
CCW-35	-	-	-	-	26	12	88	40	300	135

The LCD screen on the 600 Series MagnaValves provides critical process information at a moment's notice. It indicates that the "Enable" signal has been received and it displays the selected configuration table setting.

The requested media flow rate setpoint amount and the actual media flow rate are shown in the active bar graphs and digital formats.

The "Servo" bar graph displays the output capacity of the valve from 0-100%. This is very helpful for diagnostics: If the Servo shows 100% output but the actual flow rate is zero (or very low) it means the valve has opened fully but the hopper is out of media.

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