

VALVTECHNOLOGIES



VALVXPRESS™

Automated Valve Solution

Pre-Engineered • Zero-Leakage • Metal-Seated

VALVXPRESS™



Four-year guarantee
on valve and actuator
automation packages.

Available for quick
delivery.

*Quality and
dependability
in one package –
guaranteed*

VALVXPRESS™ – for customers who demand quick delivery of a zero-leakage automated valve solution for severe service water and steam applications. The package includes the superior quality of the V1-1 valve and ValvTechnologies actuator, backed with the best four-year guarantee in the industry. **VALVXPRESS™** pre-engineered, automated packages are compact, robust and ready to ship.

Pre-engineered package includes:

- Half thru 4" metal-seated V1-1 ball valve
- Socket weld and butt weld end connections
- A105, F22, F91 body materials
- 2500#–4500# pressure classes
- Valve operating conditions to 1400°F (760°C)
- High-cycle pneumatic rack and pinion actuator
 - Hard anodized coating
 - High temperature Viton® seals
- High-cycle mounting hardware
- Limit switch w/ position indicator – 2-SPDT, quick set cam, IP67, NEMA 4/4X
- NAMUR solenoid – 110V/120V, 230V, 24VDC coils
- Filter/regulator with gauge
- Retainer prevents stem driving into ball

The V1-1 proven seat design provides improved performance, far beyond the wear-prone, corrosion-prone crevices of conventional seats. Engineered to eliminate leak paths and maximize direct flow, these units' enhanced rotary design and construction also deliver the extra safety margin crucial to maintaining peak productivity.

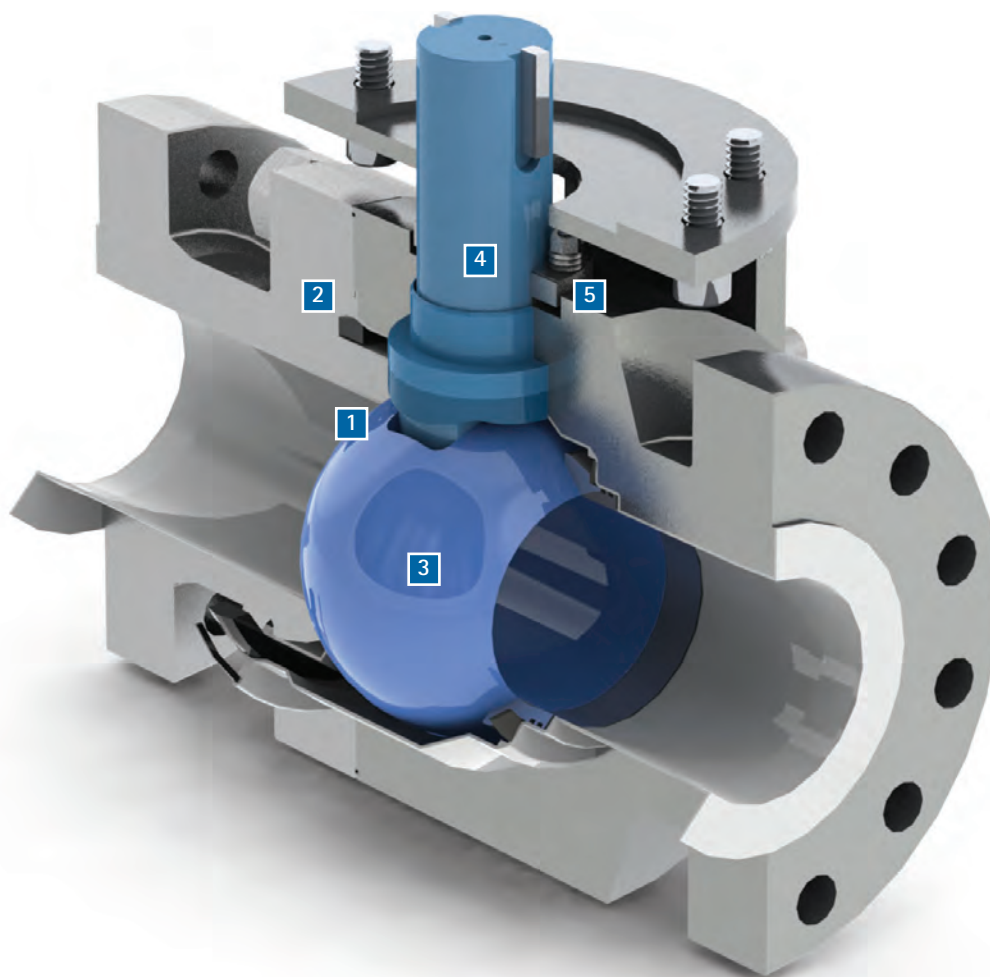
1 Integral Metal Seat

With patented Cerametal and Rocket Applied Metallic (RAM®) coatings, the integral seat in ValvTechnologies' rotary operating valves are resistant to attack of abrasive magnetite or ferrous oxides in the steam flow.

2 Body Seal Ring

ValvTechnologies employs a field proven seal ring technology to ensure sealing under all operating conditions, up to 1400°F (760°C). The body seal ring is loaded at a pressure higher than 20,000 psi (1379 bar).

Integral seat mounts the ball in a fixed position which allows for superior performance over floating ball valves.



3 Patented Coating Process

The sealing surfaces are overlaid with Tungsten or Chromium Carbide using our exclusive RAM® process. These surfaces have a hardness of 68-72 Rc to allow operation in the most severe conditions.

4 Blow-out Proof Stem

ValvTechnologies' design utilizes a one piece, hard-faced, blow-out proof stem that is inserted through the inside of the body cavity eliminating the possibility of blow-out through the gland area.

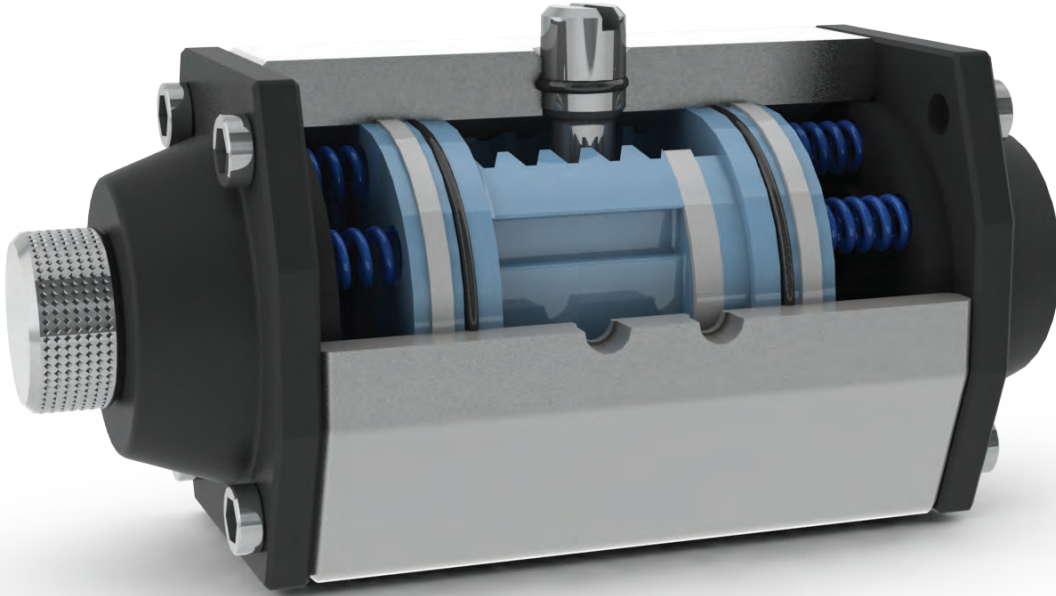
5 Live Loaded Gland Area

The V1-1 gland packing design features a four-stud, live-loaded assembly designed for heavy industrial applications. The packing material is high purity Grafoil® surrounded by carbon fiber/Inconel anti-extrusion rings. The six Belleville springs (per stud) provide constant load pressure through extreme thermal shocks and prevent wear leaks in high-cycle service.

Actuator

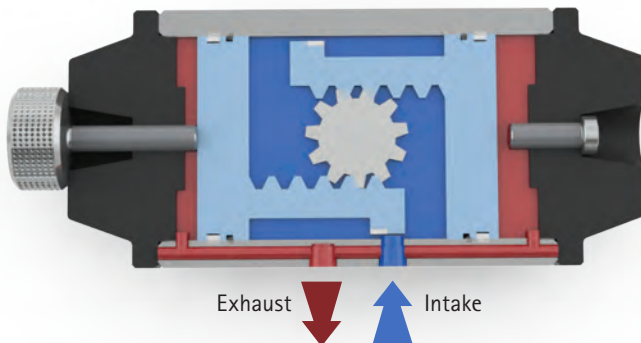
The actuators utilize a rack and pinion design which provides constant torque output in a compact package. The torque output is proportional to the air supply pressure. Twin horizontally opposed cylinders incorporate piston guides to ensure engagement between the rack and pinion. Double acting and spring return models are of comparable compact design.

- Hard anodized body with high-temperature seals
- Maximum working pressure 142 psi / 10 bar
- Maximum working temperature 320°F / 160°C

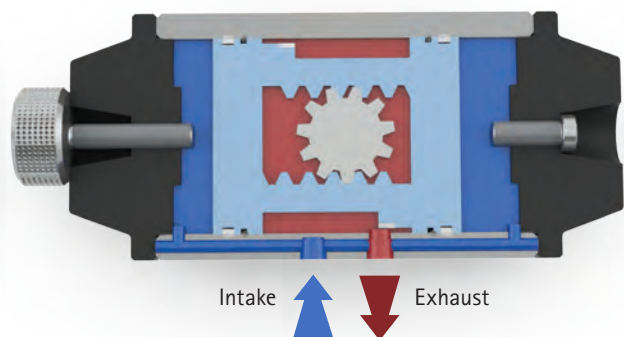


Actuator Operation

Counter-clockwise



Clockwise



Counter clockwise output operation is achieved by inserting pressure into the intake to force the pistons apart thus rotating the actuator pinion counter clockwise. During the operation, air from the outer chambers is exhausted. Clockwise output operation is achieved by reverse of the above.

Mounting & Accessories



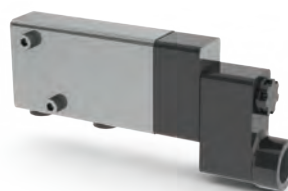
Mounting Kit Exploded View

- Air gap for heat dissipation
- Retainer prevents stem driving into ball
- Cast WCB top plate & bottom plate
- Single-fit actuator mounting
- Integral stop
- Drive sleeve



Limit Switch

- Enclosure rated to IP67
- Quick-set cam
- 2-SPDT switches
- Multipoint terminal strip
- Visual open/closed beacon



NAMUR Solenoid

- Interchangeable 110V/120V, 230V, 24VDC coils
- Anodized aluminum housing



Filter/Regulator

- High-efficiency water & particle removal
- Full-flow gauge ports
- Balanced design for optimum control

Actuator Sizing

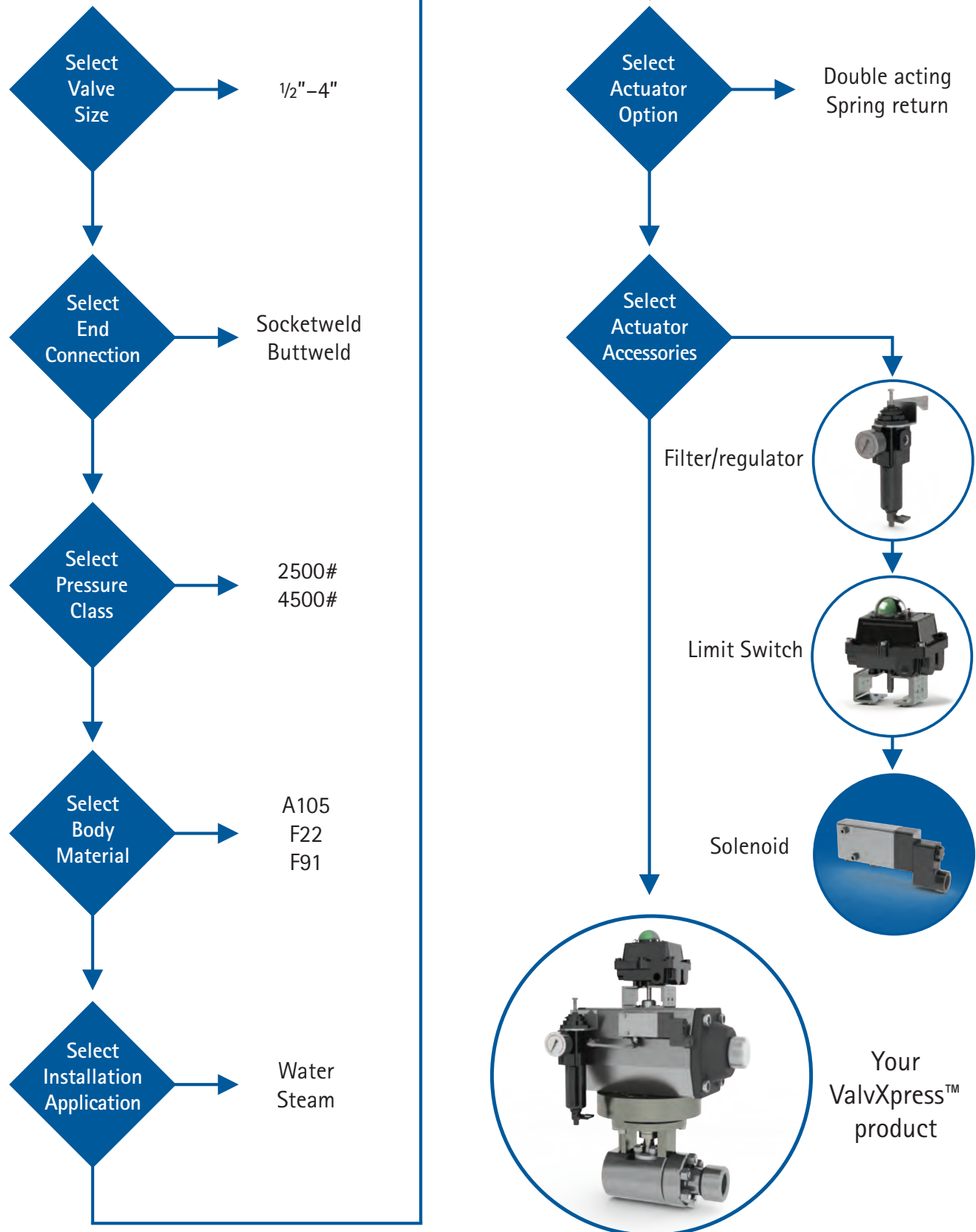
IMPERIAL					
Model	Torque Output (in-lbs.f)		Cycle Time (seconds)	Weight (lbs)	
	Spring Return	Double Acting		Spring Return	Double Acting
VTI 03	N/A	490	1	N/A	6
VTI 04	410	1,160	1	14	11
VTI 05	960	2,720	1	28	22
VTI 06	1,860	5,560	2	54	44
VTI 08	3,560	10,430	Double acting 4 Spring return 6	101	82
VTI 10	9,720	26,400	Double acting 6 Spring return 8	225	172

METRIC					
Model	Torque Output (Nm)		Cycle Time (seconds)	Weight (kg)	
	Spring Return	Double Acting		Spring Return	Double Acting
VTI 03	N/A	50	1	N/A	3
VTI 04	46	119	1	6	5
VTI 05	108	278	1	13	10
VTI 06	209	567	2	24	20
VTI 08	400	1,064	Double acting 4 Spring return 6	46	38
VTI 10	1,090	2,695	Double acting 6 Spring return 8	102	78

NOTES:

- 2500# - water - ΔP 3200 psi
- 4500# - water - ΔP 4300 psi
- 2500# - steam - (water + 40% torque)
- 4500# - steam - (water + 40% torque)
- Torque values at 80 psi / 5.5 bar air supply
- Maximum air supply pressure allowable is 142 psi
- Weights are for actuator only; excludes accessories
- VTI 03 Double acting and VTI 04 spring return for low ΔP applications only

Ordering Process



VALVXPRESS™



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- China

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ValvTechnologies products are certified to:

