On/Off and Shut-off Valves

DVAVG1862X012

Specifications

For other materials or modifications, please consult TESCOM.

OPERATING PARAMETERS

Pressure rating per criteria of ANSI/ASME B31.3

Maximum Operating Pressure
3500, 6000, 10,000 psig / 241, 414, 690 bar

Design Proof Pressure
150% maximum rated

Leak Rate
Bubble-tight

Ambient Operating Temperature
See Part Number Selector

Flow Capacity
VA Series Valve: C_V = 0.75
VG Series Valve: C_V = 2.0

Low Actuation Pressure Range
60 psig / 4.1 bar

Maximum Actuation Pressure
VA Series Valve: 125 psig / 8.6 bar
VG Series Valve: 150 psig / 10.3 bar

Actuation Times with 80 psig / 5.5 bar Actuation Pressure
VA Series Valve: 50 milliseconds
VG Series Valve: 75 milliseconds

MEDIA CONTACT MATERIALS

Body
Brass, 316 Stainless Steel

Seats
PCTFE, PEEK, ETFE (Tefzel®) ETFE, Polyimide (Vespel®)

Valve Stem
17-4 PH Stainless Steel

O-Rings
Nitrile, Buna-N, FFKM, Perfluoroelastomer (Kalrez®), FKM (Viton®-A), Ethylene Propylene, Urethane

Back-up Rings
PTFE, PCTFE

Remaining Parts
316 Stainless Steel, Brass

OTHER

Cleaning
CGA 4.1 and ASTM G93

Weight (approximate)
VA Series Valve: 3 lbs / 1.4 kg
VG Series Valve: 5 lbs / 2.3 kg

Kalrez®, Viton®, Tefzel®, Teflon®, and Vespel® are registered trademarks of E.I. du Pont de Nemours and Company.

TESCOM VA and VG Series are air operated valves offering normally open/normally closed capabilities, operating pressures of 6000, 10,000, and 15,000 psig / 414, 690, and 1034 bar, very high cycle life and optional integrated solenoid valve. Suitable for liquid and gas applications.

Applications

- High pressure cycling testing
- Pneumatic and hydraulic control panels
- R&D labs

Features and Benefits

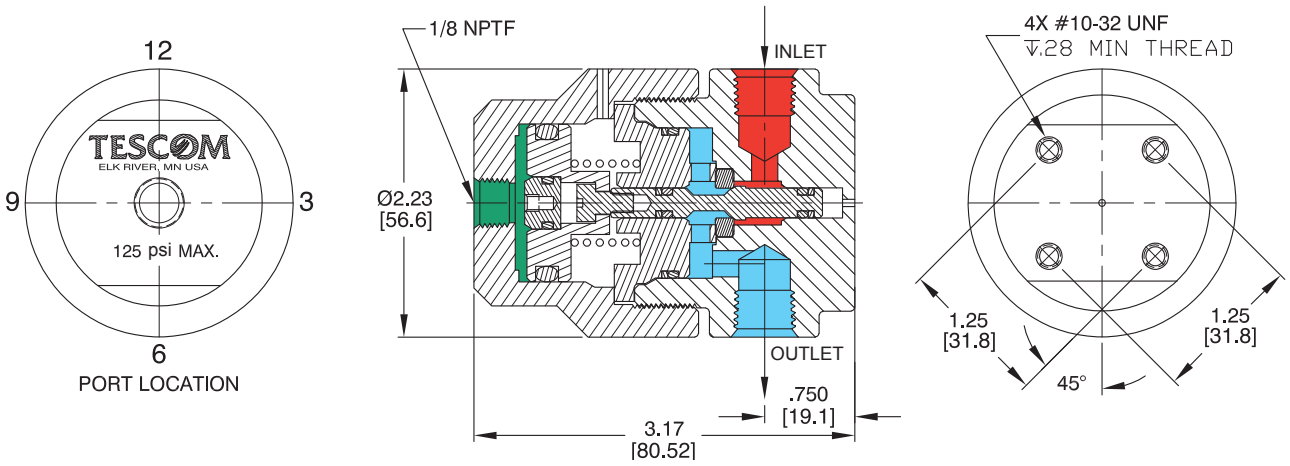
- Balanced poppet design means high reliability and exceptional cycle life
- High flow capacity: C_V = 0.75 or 2.0
- Normally open or normally closed
- Brass or 316 Stainless Steel machined bar stock
- Low actuation: 60 psig / 4.1 bar - minimum
- High operating pressure: 6000 psig / 414 bar maximum (Brass), 10,000 psig / 690 bar maximum (Stainless Steel)
- 15,000 psig / 1034 bar version is available
- Oxygen model is available that has passed adiabatic compression test per ISO 10524
- Optional pneumatic assist solenoid valve actuation (12V, 24V or 115V)

VA/VG SERIES

VA/VG Series Valve Drawings

VA SERIES

NORMALLY CLOSED VERSION

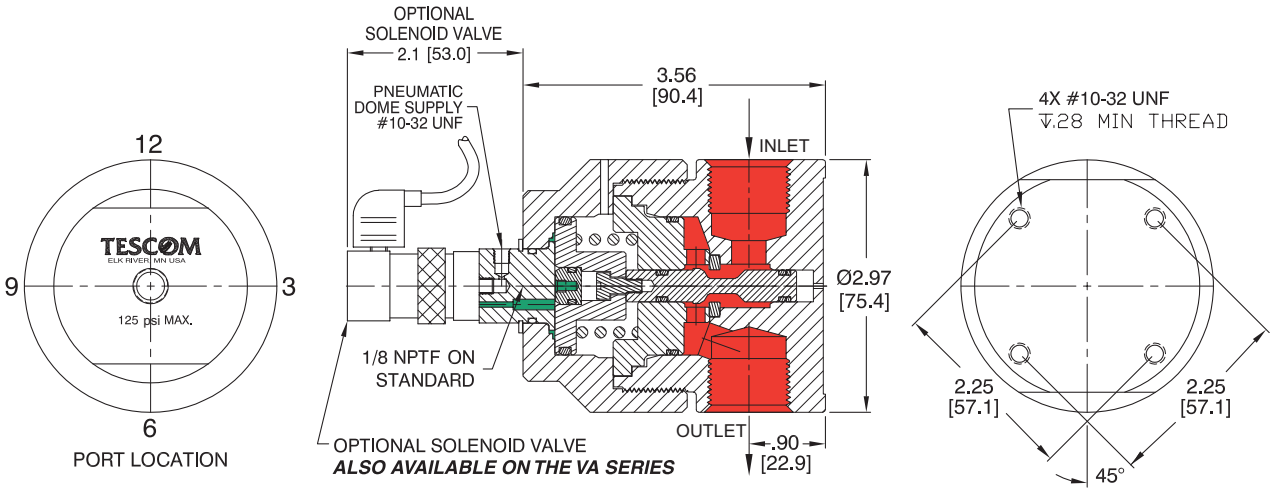


TOOLS FOR ASSEMBLY FOR VA VALVE

PART NO.	DESCRIPTION	QUANTITY	PART NO.	DESCRIPTION	QUANTITY
64082-1	Tool, Spacer	1	64096	Collet Spanner Wrench	1
64083-1	Tool, Base	1	64097	Collet, 1/4" / 6.35 mm	1
64095	Hex Collet Chuck	1	64084	Complete Kit	

VG SERIES

NORMALLY OPEN VERSION



All dimensions are reference & nominal
Metric [millimeter] equivalents are in brackets

VA Series Valve Part Number Selector

Repair Kits, Accessories & Modifications are available for this product. Please contact TESCOM for more information.

Example for selecting a part number:

VA SERIES

					For Non-Metallic Kit			
					K	I	T	N
VA	C	1	AB	9	A	9	B	9

SERIES	TYPE	BODY AND TRIM MATERIAL	SEAT: SEAT MATERIAL	SEAT: O-RING	SEAT: MAXIMUM OPERATING PRESSURE	SEAT: OPERATING TEMPERATURE*	OPTIONS	PORT LOCATION 3 SIZE AND TYPE	PORT LOCATION 6 SIZE AND TYPE	PORT LOCATION 9 SIZE AND TYPE	PORT LOCATION 12 SIZE AND TYPE
VA	**C** – Normally Closed **P** – Normally Open	**1** – Brass **6** – 316 Stainless Steel	**AB** – ETFE (Tefzel®) **AK** – ETFE (Tefzel®) **AV** – ETFE (Tefzel®) **AE** – ETFE (Tefzel®) **AU** – ETFE (Tefzel®)	Nitrile, Buna-N Kalrez®** FKM (Viton®-A) E.P. Urethane	Brass 3500 psig 241 bar Stainless Steel 3500 psig 241 bar	-40°F to 165°F -40°C to 74°C 20°F to 250°F -7°C to 121°C -15°F to 250°F -26°C to 121°C -40°F to 250°F -40°C to 121°C -40°F to 165°F -40°C to 74°C	**9** – None **C** – CCL **V** – Solenoid Valve (24 volt) **W**– Solenoid Valve (12 volt)	**A** – 1/4" NPTF Inlet **C** – 3/8" NPTF Inlet **E** – 1/4" SAE Inlet **N** – 1/8" NPTF Inlet *(changes C_V to 0.5)*	**A** – 1/4" NPTF Inlet **B** – 1/4" NPTF Outlet **C** – 3/8" NPTF Inlet **D** – 3/8" NPTF Outlet **E** – 1/4" SAE Inlet **F** – 1/4" SAE Outlet **P** – 1/8" NPTF Outlet *(changes C_V to .5)* **9** – None	**A** – 1/4" NPTF Inlet **B** – 1/4" NPTF Outlet **C** – 3/8" NPTF Inlet **D** – 3/8" NPTF Outlet **E** – 1/4" SAE Inlet **F** – 1/4" SAE Outlet **P** – 1/8" NPTF Outlet *(changes C_V to .5)* **9** – None	**A** – 1/4" NPTF Inlet **B** – 1/4" NPTF Outlet **C** – 3/8" NPTF Inlet **D** –3/8" NPTF Outlet **E** – 1/4" SAE Inlet **F** – 1/4" SAE Outlet **P** – 1/8" NPTF Outlet *(changes C_V to .5)* **9** – None
			CB – PCTFE **CK** – PCTFE **CV** – PCTFE **CE** – PCTFE **CU** – PCTFE	Nitrile, Buna-N Kalrez®** FKM (Viton®-A) Ethylene Propylene Urethane	Brass 3500 psig 241 bar Stainless Steel 3500 psig 241 bar	-40°F to 165°F -40°C to 74°C 20°F to 165°F -7°C to 74°C -15°F to 165°F -26°C to 74°C -40°F to 165°F -40°C to 74°C -40°F to 165°F -40°C to 74°C					
			PB – PEEK **PK** – PEEK **PV** – PEEK **PE** – PEEK **PU** – PEEK	Nitrile, Buna-N Kalrez®** Viton® E.P. Urethane	Brass 6000 psig 414 bar Stainless Steel 10,000 psig 690 bar	-40°F to 165°F -40°C to 74°C 20°F to 250°F -7°C to 121°C -15°F to 250°F -26°C to 121°C -40°F to 250°F -40°C to 121°C -40°F to 165°F -40°C to 74°C					
			VB – Polymide (Vespel®) **VK** – Polymide (Vespel®) **VV** – Polymide (Vespel®) **VE** – Polymide (Vespel®) **VU** – Polymide (Vespel®)	Nitrile, Buna-N Kalrez®** FKM (Viton®-A) E.P. Urethane	Brass 6000 psig 414 bar Stainless Steel 10,000 psig 690 bar	-40°F to 165°F -40°C to 74°C 20°F to 250°F -7°C to 121°C -15°F to 250°F -26°C to 121°C -40°F to 250°F -40°C to 121°C -40°F to 165°F -40°C to 74°C					

** For additional porting types, consult factory.*

* Brass body is limited to +200 °F (93 °C) maximum.
**FFKM, Perfluoroelastomer (Kalrez®)

VA/VG SERIES

VG Series Valve Part Number Selector

Repair Kits, Accessories & Modifications are available for this product. Please contact TESCOM for more information.

Example for selecting a part number:

VG SERIES

For Non-Metallic Kit: **K I T N**

VG C 1 CB 9 C 9 D 9

SERIES	TYPE	BODY AND TRIM MATERIAL	SEAT: SEAT MATERIAL	SEAT: O-RING	SEAT: MAXIMUM OPERATING PRESSURE	SEAT: OPERATING TEMPERATURE*	OPTIONS	PORT LOCATION 3 SIZE AND TYPE	PORT LOCATION 6 SIZE AND TYPE	PORT LOCATION 9 SIZE AND TYPE	PORT LOCATION 12 SIZE AND TYPE
VG	**C** – Normally Closed **P** – Normally Open	**1** – Brass **6** – 316 Stainless Steel	**CB** – PCTFE **CK** – PCTFE **CV** – PCTFE **CE** – PCTFE **CU** – PCTFE	Nitrile Buna-N Kalrez®** FKM (Viton®-A) Ethylene Propylene Urethane	Brass 3500 psig 241 bar Stainless Steel 3500 psig 241 bar	-40°F to 165°F -40°C to 74°C 20°F to 165°F -7°C to 74°C -15°F to 165°F -26°C to 74°C -40°F to 165°F -40°C to 74°C -40°F to 165°F -40°C to 74°C	**9** – None **C** – CCL **V** – Solenoid Valve (24 volt) **W** – Solenoid Valve (12 volt)	**C** – 3/8" NPTF Inlet **G** – 1/2" NPTF Inlet **J** – 3/4" NPTF Inlet **L** – 3/8" SAE Inlet **P** – 1/2" SAE Inlet	**C** – 3/8" NPTF Inlet **D** – 3/8" NPTF Outlet **G** – 1/2" NPTF Inlet **H** – 1/2" NPTF Outlet **J** – 3/4" NPTF Inlet **K** – 3/4" NPTF Outlet **L** – 3/8" SAE Inlet **M** – 3/8" SAE Outlet **P** – 1/2" SAE Inlet **R** – 1/2" SAE Outlet **9** – None	**C** – 3/8" NPTF Inlet **D** – 3/8" NPTF Outlet **G** – 1/2" NPTF Inlet **H** – 1/2" NPTF Outlet **J** – 3/4" NPTF Inlet **K** – 3/4" NPTF Outlet **L** – 3/8" SAE Inlet **M** – 3/8" SAE Outlet **P** – 1/2" SAE Inlet **R** – 1/2" SAE Outlet **9** – None	**C** – 3/8" NPTF Inlet **D** – 3/8" NPTF Outlet **G** – 1/2" NPTF Inlet **H** – 1/2" NPTF Outlet **J** – 3/4" NPTF Inlet **K** – 3/4" NPTF Outlet **L** – 3/8" SAE Inlet **M** – 3/8" SAE Outlet **P** – 1/2" SAE Inlet **R** – 1/2" SAE Outlet **9** – None
			PB – PEEK **PK** – PEEK **PV** – PEEK **PE** – PEEK **PU** – PEEK	Nitrile Buna-N Kalrez®** FKM (Viton®-A Ethylene Propylene Urethane	Brass 6000 psig 414 bar Stainless Steel 10,000 psig 690 bar	-40°F to 165°F -40°C to 74°C 20°F to 250°F -7°C to 121°C -15°F to 250°F -26°C to 121°C -40°F to 250°F -40°C to 121°C -40°F to 165°F -40°C to 74°C					
			VB – Polymide (Vespel®) **VK** – Polymide (Vespel®) **VV** – Polymide (Vespel®) **VE** – Polymide (Vespel®) **VU** – Polymide (Vespel®)	Nitrile Buna-N Kalrez®** FKM (Viton®-A) Ethylene Propylene Urethane	Brass 6000 psig 414 bar Stainless Steel 10,000 psig 690 bar	-40°F to 165°F -40°C to 74°C 20°F to 250°F -7°C to 121°C -15°F to 250°F -26°C to 121°C -40°F to 250°F -40°C to 121°C -40°F to 165°F -40°C to 74°C					

* Brass body is limited to +200 °F (93 °C) maximum.
** FFKM, Perfluoroelastomer (Kalrez®)

VA Series Valve Modules

Repair Kits, Accessories & Modifications are available for this product. Please contact TESCOM for more information.

Example for selecting a part number:

63583 - C 6 CV

SERIES	TYPE	BODY AND TRIM MATERIAL	SEAT MATERIAL	BACK-UP RING MATERIAL	O-RING	MAXIMUM OPERATING PRESSURE	OPERATING TEMPERATURE*
63583	**C** – Normally Closed **P** – Normally Open	**1** – Brass **6** – 316 Stainless Steel	**AB** – ETFE (Tefzel®)	PTFE	Nitrile, Buna-N	Brass 3500 psig / 241 bar Stainless Steel 3500 psig / 241 bar	-40°F to 165°F / -40°C to 74°C 20°F to 250°F / -7°C to 121°C -15°F to 250°F / -26°C to 121°C -40°F to 250°F / -40°C to 121°C -40°F to 165°F / -40°C to 74°C
			AK – ETFE (Tefzel®)	PTFE	Kalrez®**		
			AV – ETFE (Tefzel®)	PTFE	FKM (Viton®-A)		
			AE – ETFE (Tefzel®)	PTFE	Ethylene Propylene		
			AU – ETFE (Tefzel®)	PTFE	Urethane		
			CB – PCTFE	PTFE	Nitrile, Buna-N	Brass 3500 psig / 241 bar Stainless Steel 500 psig / 241 bar	-40°F to 165°F / -40°C to 74°C 20°F to 165°F / -7°C to 74°C -15°F to 165°F / -26°C to 74°C -40°F to 165°F / -40°C to 74°C -40°F to 165°F / -40°C to 74°C
			CK – PCTFE	PTFE	Kalrez®**		
			CV – PCTFE	PTFE	FKM (Viton®-A)		
			CE – PCTFE	PTFE	Ethylene Propylene		
			CU – PCTFE	PTFE	Urethane		
			PB – PEEK	PCTFE	Nitrile, Buna-N	Brass 6000 psig / 414 bar Stainless Steel 10,000 psig / 690 bar	-40°F to 165°F / -40°C to 74°C 20°F to 250°F / -7°C to 121°C -15°F to 250°F / -26°C to 121°C -40°F to 250°F / -40°C to 121°C -40°F to 165°F / -40°C to 74°C
			PK – PEEK	PCTFE	Kalrez®**		
			PV – PEEK	PCTFE	FKM (Viton®-A)		
			PE – PEEK	PCTFE	Ethylene Propylene		
			PU – PEEK	PCTFE	Urethane		
			VB – Polymide (Vespel®)	PCTFE	Nitrile, Buna-N	Brass 6000 psig / 414 bar Stainless Steel 10,000 psig / 690 bar	-40°F to 165°F / -40°C to 74°C 20°F to 250°F / -7°C to 121°C -15°F to 250°F / -26°C to 121°C -40°F to 250°F / -40°C to 121°C -40°F to 165°F / -40°C to 74°C -40°F to 165°F / -40°C to 74°C
			VK – Polymide (Vespel®)	PCTFE	Kalrez®**		
			VV – Polymide (Vespel®)	PCTFE	FKM (Viton®-A)		
			VE – Polymide (Vespel®)	PCTFE	Ethylene Propylene		
			VU – Polymide (Vespel®)	PCTFE	Urethane		
			VG – Polymide (Vespel®)	PCTFE	Buna-N 90 Duro		

* Brass body is limited to +200 °F (93 °C) maximum.
**FFKM, Perfluoroelastomer (Kalrez®)

VA/VG SERIES

VG Series Valve Modules

Learn more about common options.
For modifications, repair kits and accessories, contact factory.

Example for selecting a part number:

67270 - C 6 VV

SERIES	TYPE	BODY AND TRIM MATERIAL	SEAT MATERIAL	BACK-UP RING MATERIAL	O-RING	MAXIMUM OPERATING PRESSURE	OPERATING TEMPERATURE*
67270	**C** – Normally Closed **P** – Normally Open	**1** – Brass **6** – 316 Stainless Steel	**CB** – PCTFE	PTFE	Nitrile, Buna-N	Brass 3500 psig / 241 bar	-40°F to 165°F / -40°C to 74°C
			CK – PCTFE	PTFE	Kalrez®**		20°F to 165°F / -7°C to 74°C
			CV – PCTFE	PTFE	FKM (Viton®-A)		-15°F to 165°F / -26°C to 74°C
			CE – PCTFE	PTFE	Ethylene Propylene	Stainless Steel 3500 psig / 241 bar	-40°F to 165°F / -40°C to 74°C
			CU – PCTFE	PTFE	Urethane		-40°F to 165°F / -40°C to 74°C
			PB – PEEK	PCTFE	Nitrile, Buna-N	Brass 6000 psig / 414 bar	-40°F to 165°F / -40°C to 74°C
			PK – PEEK	PCTFE	Kalrez®**		20°F to 250°F / -7°C to 121°C
			PV – PEEK	PCTFE	FKM (Viton®-A)		-15°F to 250°F / -26°C to 121°C
			PE – PEEK	PCTFE	Ethylene Propylene	Stainless Steel 10,000 psig / 690 bar	-40°F to 250°F / -40°C to 121°C
			PU – PEEK	PCTFE	Urethane		-40°F to 165°F / -40°C to 74°C
			VB – Polymide (Vespel®)	PCTFE	Nitrile, Buna-N	Brass 6000 psig / 414 bar	-40°F to 165°F / -40°C to 74°C
			VK – Polymide (Vespel®)	PCTFE	Kalrez®**		20°F to 250°F / -7°C to 121°C
			VV – Polymide (Vespel®)	PCTFE	FKM (Viton®-A)		-15°F to 250°F / -26°C to 121°C
			VE – Polymide (Vespel®)	PCTFE	Ethylene Propylene	Stainless Steel 10,000 psig / 690 bar	-40°F to 250°F / -40°C to 121°C
			VU – Polymide (Vespel®)	PCTFE	Urethane		-40°F to 165°F / -40°C to 74°C

* Brass body is limited to +200 °F (93 °C) maximum.
** FFKM, Perfluoroelastomer (Kalrez®)

POPULAR MODIFICATIONS

- Cartridge style for manifolds – fitting reduction
- Explosion Proof solenoid, Class I, Div I & II, Groups A, B, C, D
- Oxygen model is available that has passed adiabatic compression test per ISO 10524 (VA Series only)
- On/Off switch
- Hand Toggle actuated option
- Stepper motor options 24VDC (VA Series only)
- 15,000 psig / 1034 bar
- 20,000 psig / 1379 bar (VA Series only)
- High force actuator to prevent flow with high delta (VA Series only)
- Special porting including welded fittings
- Captured breather ports (bonnet and body)

For additional modifications, consult the factory.