

### 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



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.

#### MEDIA CONTACT MATERIALS

##### Body

Brass, 316 Stainless Steel

##### Seats

PCTFE, PEEK, ETFE (Tefzel®) ETFE, Polyimide (VespeI®)

##### 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 VespeI® are registered trademarks of E.I. du Pont de Nemours and Company.

### Applications

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

### Features and Benefits

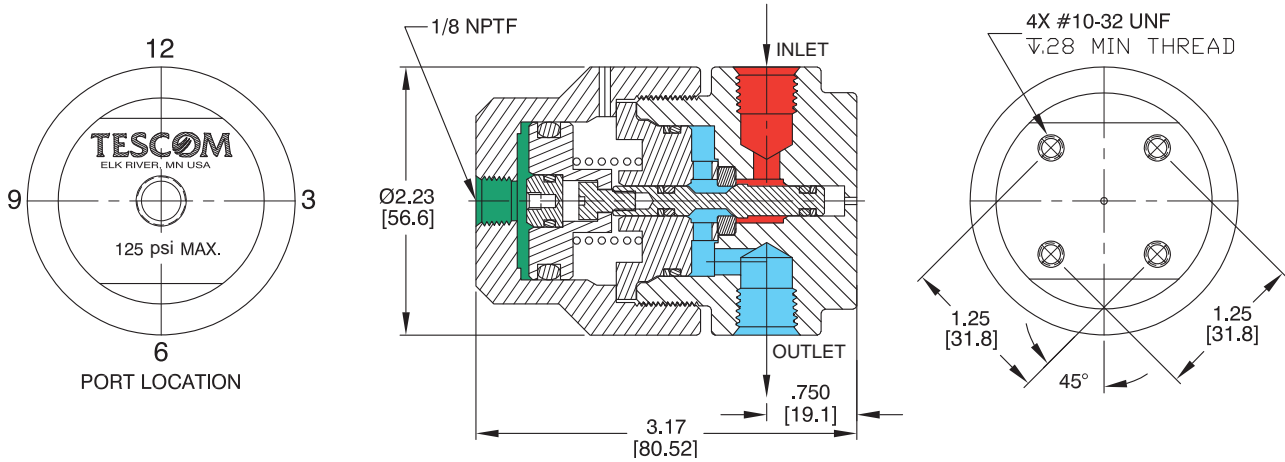
- Balanced poppet design means high reliability and exceptional cycle life
- High flow capacity:  $C_V = 0.75$  or 2.0
- Normally open or normally closed
- Brass or 316 Stainless Steel machined bar stock
- Low actuation: 60 psig / 4.1 bar - minimum
- High operating pressure: 6000 psig / 414 bar maximum (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

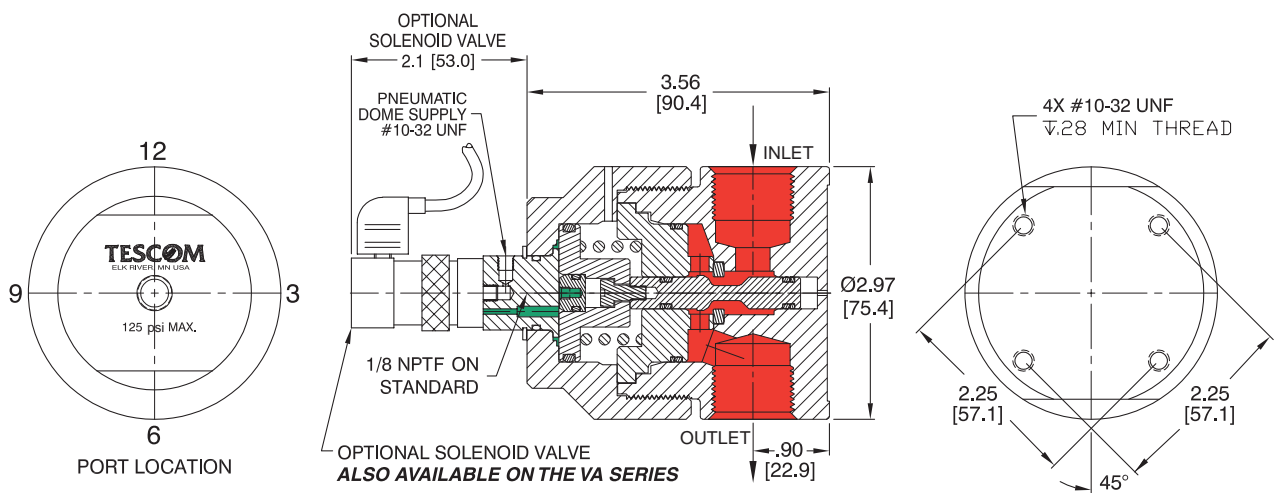


#### TOOLS FOR ASSEMBLY FOR VA VALVE

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



SERIES	TYPE	BODY AND TRIM MATERIAL	SEAT				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
			SEAT MATERIAL	O-RING	MAXIMUM OPERATING PRESSURE	OPERATING TEMPERATURE*					
VA	C – Normally Closed P – Normally Open	1 – Brass 6 – 316 Stainless Steel	AB – ETFE (Tefzel®)	Nitrile, Buna-N	Brass 3500 psig 241 bar	-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 <sub>y</sub> 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 <sub>y</sub> to .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 <sub>y</sub> to .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 <sub>y</sub> to .5)
			AK – ETFE (Tefzel®)	Kalrez®**		20°F to 250°F -7°C to 121°C					
			AV – ETFE (Tefzel®)	FKM (Viton®-A)	Stainless Steel	-15°F to 250°F -26°C to 121°C					
			AE – ETFE (Tefzel®)	E.P.	3500 psig 241 bar	-40°F to 250°F -40°C to 121°C					
			AU – ETFE (Tefzel®)	Urethane		-40°F to 165°F -40°C to 74°C					
			CB – PCTFE	Nitrile, Buna-N	Brass 3500 psig 241 bar	-40°F to 165°F -40°C to 74°C					
			CK – PCTFE	Kalrez®**		20°F to 165°F -7°C to 74°C					
			CV – PCTFE	FKM (Viton®-A)	Stainless Steel	-15°F to 165°F -26°C to 74°C					
			CE – PCTFE	Ethylene Propylene	3500 psig 241 bar	-40°F to 165°F -40°C to 74°C					
			CU – PCTFE	Urethane		-40°F to 165°F -40°C to 74°C					
			PB – PEEK	Nitrile, Buna-N	Brass 6000 psig 414 bar	-40°F to 165°F -40°C to 74°C					
			PK – PEEK	Kalrez®**		20°F to 250°F -7°C to 121°C					
			PV – PEEK	Viton®	Stainless Steel	-15°F to 250°F -26°C to 121°C					
			PE – PEEK	E.P.	10,000 psig 690 bar	-40°F to 250°F -40°C to 121°C					
			PU – PEEK	Urethane		-40°F to 165°F -40°C to 74°C					
			VB – Polyimide (Vespe®)	Nitrile, Buna-N	Brass 6000 psig 414 bar	-40°F to 165°F -40°C to 74°C					
			VK – Polyimide (Vespe®)	Kalrez®**		20°F to 250°F -7°C to 121°C					
			VV – Polyimide (Vespe®)	FKM (Viton®-A)	Stainless Steel	-15°F to 250°F -26°C to 121°C					
			VE – Polyimide (Vespe®)	E.P.	10,000 psig 690 bar	-40°F to 250°F -40°C to 121°C					
			VU – Polyimide (Vespe®)	Urethane		-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				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
			SEAT MATERIAL	O-RING	MAXIMUM OPERATING PRESSURE	OPERATING TEMPERATURE*					
VG	C – Normally Closed	1 – Brass	CB – PCTFE	Nitrile Buna-N	Brass 3500 psig 241 bar	-40°F to 165°F -40°C to 74°C 20°F to 165°F	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
	P – Normally Open	6 – 316 Stainless Steel	CK – PCTFE	Kalrez®**	Stainless Steel 3500 psig 241 bar	-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					
			CV – PCTFE	FKM (Viton®-A)	Stainless Steel 3500 psig 241 bar	-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					
			CE – PCTFE	Ethylene Propylene		-40°F to 165°F -40°C to 74°C					
			CU – PCTFE	Urethane							
			PB – PEEK	Nitrile Buna-N	Brass 6000 psig 414 bar	-40°F to 165°F -40°C to 74°C 20°F to 250°F					
			PK – PEEK	Kalrez®**		-7°C to 121°C -15°F to 250°F					
			PV – PEEK	FKM (Viton®-A)	Stainless Steel 10,000 psig 690 bar	-26°C to 121°C -40°F to 250°F -40°C to 121°C					
			PE – PEEK	Ethylene Propylene		-40°F to 165°F -40°C to 74°C					
			PU – PEEK	Urethane							
			VB – Polyimide (VespeI®)	Nitrile Buna-N	Brass 6000 psig 414 bar	-40°F to 165°F -40°C to 74°C 20°F to 250°F					
			VK – Polyimide (VespeI®)	Kalrez®**	Stainless Steel	-7°C to 121°C -15°F to 250°F -26°C to 121°C					
			VV – Polyimide (VespeI®)	FKM (Viton®-A)	10,000 psig 690 bar	-40°F to 250°F -40°C to 121°C -40°F to 165°F -40°C to 74°C					
			VE – Polyimide (VespeI®)	Ethylene Propylene							
			VU – Polyimide (VespeI®)	Urethane							

\* 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	-40°F to 165°F / -40°C to 74°C 20°F to 250°F / -7°C to 121°C
			AK – ETFE (Tefzel®)	PTFE	Kalrez®**	Stainless Steel 3500 psig / 241 bar	-15°F to 250°F / -26°C to 121°C -40°F to 250°F / -40°C to 121°C
	AV – ETFE (Tefzel®)	PTFE	FKM (Viton®-A)				
	AE – ETFE (Tefzel®)	PTFE	Ethylene Propylene				
	AU – ETFE (Tefzel®)	PTFE	Urethane				
	CB – PCTFE	PTFE	Kalrez®**	Brass 3500 psig / 241 bar	-40°F to 165°F / -40°C to 74°C 20°F to 165°F / -7°C to 74°C		
	CK – PCTFE	PTFE	FKM (Viton®-A)	Stainless Steel	-15°F to 165°F / -26°C to 74°C -40°F to 165°F / -40°C to 74°C		
	CV – PCTFE	PTFE	Ethylene Propylene	500 psig / 241 bar	-40°F to 165°F / -40°C to 74°C		
	CE – PCTFE	PTFE	Urethane				
	CU – PCTFE	PTFE	Urethane				
	PB – PEEK	PCTFE	Nitrile, Buna-N	Brass 6000 psig / 414 bar	-40°F to 165°F / -40°C to 74°C 20°F to 250°F / -7°C to 121°C		
	PK – PEEK	PCTFE	Kalrez®**	Stainless Steel	-15°F to 250°F / -26°C to 121°C -40°F to 250°F / -40°C to 121°C		
	PV – PEEK	PCTFE	FKM (Viton®-A)	10,000 psig / 690 bar	-40°F to 165°F / -40°C to 74°C		
	PE – PEEK	PCTFE	Ethylene Propylene				
	PU – PEEK	PCTFE	Urethane				
	VB – Polyimide (Vespel®)	PCTFE	Nitrile, Buna-N	Brass 6000 psig / 414 bar	-40°F to 165°F / -40°C to 74°C 20°F to 250°F / -7°C to 121°C		
	VK – Polyimide (Vespel®)	PCTFE	Kalrez®**	Stainless Steel	-15°F to 250°F / -26°C to 121°C -40°F to 250°F / -40°C to 121°C		
	VV – Polyimide (Vespel®)	PCTFE	FKM (Viton®-A)	10,000 psig / 690 bar	-40°F to 165°F / -40°C to 74°C		
	VE – Polyimide (Vespel®)	PCTFE	Ethylene Propylene				
	VU – Polyimide (Vespel®)	PCTFE	Urethane				
	VG – Polyimide (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 20°F to 165°F / -7°C to 74°C	
			CK – PCTFE	PTFE	Kalrez®**			
			CV – PCTFE	PTFE	FKM (Viton®-A)	Stainless Steel 3500 psig / 241 bar	-15°F to 165°F / -26°C to 74°C -40°F to 165°F / -40°C to 74°C	
			CE – PCTFE	PTFE	Ethylene Propylene			
			CU – PCTFE	PTFE	Urethane			
				PB – PEEK	PCTFE	Nitrile, Buna-N	Brass 6000 psig / 414 bar	-40°F to 165°F / -40°C to 74°C 20°F to 250°F / -7°C to 121°C
				PK – PEEK	PCTFE	Kalrez®**		
				PV – PEEK	PCTFE	FKM (Viton®-A)	Stainless Steel 10,000 psig / 690 bar	-15°F to 250°F / -26°C to 121°C -40°F to 250°F / -40°C to 121°C
				PE – PEEK	PCTFE	Ethylene Propylene		
				PU – PEEK	PCTFE	Urethane		
			VB – Polymide (VespeI®)	PCTFE	Nitrile, Buna-N	Brass 6000 psig / 414 bar	-40°F to 165°F / -40°C to 74°C 20°F to 250°F / -7°C to 121°C	
			VK – Polymide (VespeI®)	PCTFE	Kalrez®**			
			VV – Polymide (VespeI®)	PCTFE	FKM (Viton®-A)	Stainless Steel 10,000 psig / 690 bar	-15°F to 250°F / -26°C to 121°C -40°F to 250°F / -40°C to 121°C	
			VE – Polymide (VespeI®)	PCTFE	Ethylene Propylene			
			VU – Polymide (VespeI®)	PCTFE	Urethane			

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\*\*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.