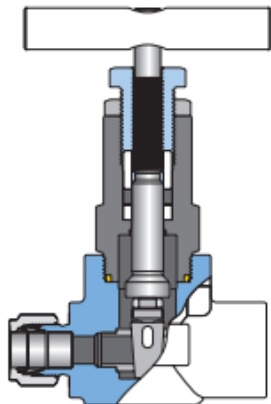


Gate Valve VGT3

Other Valves

VGT3 Gate Valve	217
VP3 Plug Valve	221
VPR Pressure Reducing Valve	225



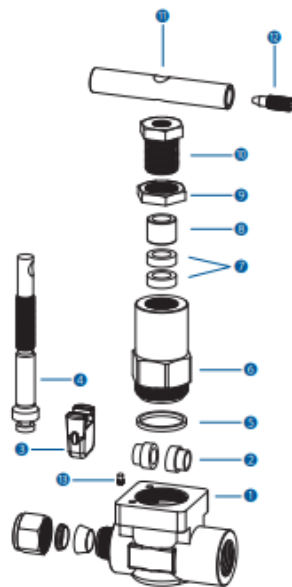


Features

- Design Spec : ANSI/ASME B16.34
- Pressure Rating : Up to 3,600 psig (248bar) @21°C
- Temperature Rating :
From -23°C to 232°C (-45°F to 350°F) with PTFE packing, up to 648°C (1200°F) with grafoil packing
- Body Materials : Standard 316 stainless steel, A105 and alloy400
- Compact forged body design
- Back seat design provides anti-blow out of stem and seal
- The hard faced seat ring and wedge enable longer life cycle
- Packing bolt allows easy packing adjustment for leak tight seal
- Handle Low operating torques

Materials of Construction

No.	Description	Materials		
	Body Material	316SS	A105	Alloy 400
1	Body	316SS/A182	A105	Alloy 400/B564
2	SEAT RING	316SS/A479		Alloy 400 / B164
3	DISC	CF8M/A479		UNS N04400
4	STEM	316SS/A479		Alloy 400/B164
5	BONNET PACKING	Grafoil		
6	BONNET	316SS/A479	A105	Alloy 400/B164
7	PACKING	PTFE (Available Grafoil)		
8	GLAND	316SS/A479		
9	LOCK NUT	316SS/A479		
10	PACKING BOLT	316SS/A479		
11	HANDLE	316SS		
12	HANDLE SCREW	304SS		
13	PIN	304SS		



Cleaning

UNILOK valves are free from machine oils, loose particles and grease throughout the close cleaning process.

Testing

Every valve is 100% factory tested with air and nitrogen at 1000psig(69bar) for leakage at the seat and packing.

Each test is performed to a maximum allowable leak rate of 0.1scc/min.

Sour Environment Services

UNILOK tube comply with NACE MR-0175/ISO 15156 for sour oilfield application or NACE MR-0103 for petroleum refining operations.

To order, add-N to the end of part number.

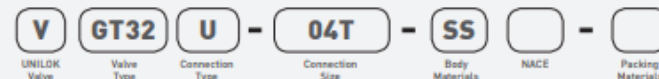
Sour Environment

The packing adjustment may be required during the valve's service life.

Proper installation, materials compatibility, operation and maintenance of these valves are the responsibility of the user. The total system design must be taken into consideration to ensure optimal performance and safety.

ServicesHow To Order

UNILOK VGT3 series gate valves are ordered by part number as shown below.



Valve Type	
GT3	INSTRUMENT GATE VALVE

Connection Type	
U	UNILOK Tube Fitting
F	Female NPT or ISO7/11PT
WS-	Socket Weld-Pipe

Connection Size						
Fractional(Inch) Tube O.D. Designation						
Tube O.D.	inch	1/4	3/8	1/2	3/4	1
	mm	6.35	9.52	12.70	19.05	25.40
Designator		04T	06T	08T	12T	16T

Metric Tube O.D. Designation						
Tube O.D.	mm	6	10	12	20	25
Designator		M06T	M10T	M12T	M20T	M25T

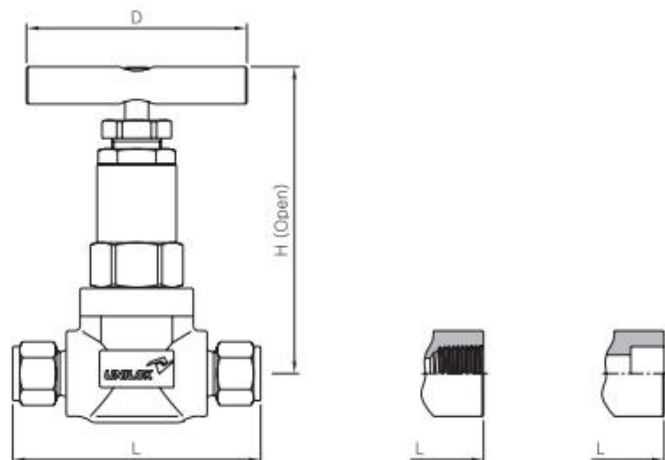
Pipe Size Designation (NPT or ISO7/1-PT)						
Pipe Size	1/4	3/8	1/2	3/4	1	
Designator	04N/R	06N/R	08N/R	12N/R	16N/R	

Weld Size Designation						
Pipe Size	1/4	3/8	1/2	3/4	1	
Designator	04P	06P	08P	12P	16P	

Body Materials	
SS	316 SS
MO	Alloy 400

NACE Application	
None	-
N	NACE Application

Packing Materials	
None	PTFE
GF	Grafoil



INSTRUMENT

Plug Valve VP3

Ordering Information & Dimensions

Part No.		End Connections		Port	Orifice	Cv	Dimensions (mm)		
		Inlet	Outlet				L	H	D
VGT31	F-04N-	1/4" Female NPT		Full	6.4	2.6	70.0	100.0	64.0
	F-06N-	3/8" Female NPT		Reduced					
	U-06T-	3/8" UNILOK							
	U-08T-	1/2" UNILOK							
	WS-04P-	1/4" Pipe SW		Full					
	WS-06P-	3/8" Pipe SW		Reduced					
VGT32	F-06N-	3/8" Female NPT		Full	10.0	6.1	86.0	140.0	89.0
	F-08N-	1/2" Female NPT		Reduced					
	U-08T-	1/2" UNILOK							
	U-10T-	5/8" UNILOK							
	WS-06P-	3/8" Pipe SW		Full					
	WS-08P-	1/2" Pipe SW		Reduced					
VGT33	F-08N-	1/2" Female NPT		Full	12.7	11.3	100.0	170.0	110.0
	F-12N-	3/4" Female NPT		Reduced					
	U-12T-	3/4" UNILOK							
	U-16T-	1" UNILOK							
	WS-08P-	1/2" Pipe SW		Full					
	WS-12P-	3/4" Pipe SW		Reduced					
VGT34	F-12N-	3/4" Female NPT		Full	19.0	26.3	127.0	210.0	140.0
	F-16N-	1" Female NPT		Reduced					
	U-16T-	1" UNILOK							
	WS-12P-	3/4" Pipe SW		Full					
	WS-16P-	1" Pipe SW		Reduced					

ISO7/1 Tapered Threads (PT) are available for all fractional sizes of VGT3 series valves. Add "R" as a suffix instead of "N"

Dimensions are for reference only and are subject to change without prior notice.



Plug Valve VP3

CONTENTS

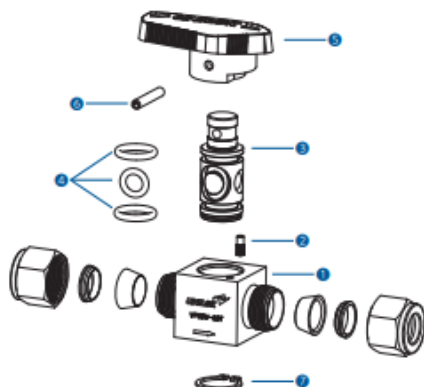
Features	222	Cleaning	223
Materials of Construction	222	Testing	223
Pressure Temperature Rating	222	How To Order	223
Flow Data	223	Ordering Information & Dimensions	224
Technical Data	223		

Features

- Working Pressure Rating up to 3000 psig [206 bar] @ 37°C [100°F]
- Temperature Rating from -23°C to 204°C [-10°F to 400°F]
- Quarter-turn operation
- Straight-through flow path
- 316 stainless steel and brass body materials
- Reliable simple design
- Handle Low operating torques
- 100% factor tested

Materials of Construction

No.	Description	Materials	
	Body Material	316SS	A105
1	Body	316SS/A479	Brass/B16
2	Pin	316SS/A479	
3	Plug	316SS/A479	PTFE-Coated Brass/B16
4	O-Ring	PTFE Coated FKM	
5	Handle	Nylon	
6	Spring Pin	316SS	
7	Snap Ring	Stainless Steel	



Pressure Temperature Rating

Series	VP31, VP32	VP31	VP32
Material	316 SS	Brass	
	PTFE Coated FKM		
Temperature, °C (°F)	Working Pressure, psig (bar)		
-23°C ~ 204°C (-10°F ~ 400°F)	3,000 psig (206 bar)	3,000 psig (206 bar)	2,000 psig (137 bar)
65°C (150°F)	3,000 psig (206 bar)	2,500 psig (172 bar)	2,000 psig (137 bar)
93°C (200°F)	3,000 psig (206 bar)	2,000 psig (137 bar)	2,000 psig (137 bar)
121°C (250°F)	2,000 psig (137 bar)	1,500 psig (103 bar)	1,500 psig (103 bar)
148°C (300°F)	1,000 psig (68.9 bar)	1,000 psig (68.9 bar)	1,000 psig (68.9 bar)
204°C (400°F)	1,000 psig (68.9 bar)	400 psig (27.5 bar)	400 psig (27.5 bar)

Flow Data

Part No.	End Connections		CV	Pressure Drop to Atmosphere, psi [bar]					
				Air Flow, std ft ³ /min [std L/min]			Water Flow, US gal/min [std L/min]		
	Inlet	Outlet		@ 70°F (21°C)			@ 70°F (21°C)		
VP31	U-02T-	1/8" UNILOK	0.1	0.3 [8.4]	0.8 [22]	1.1 [31]	0.1 [8.4]	0.2 [0.75]	0.3 [1.1]
	U-04T-	1/4" UNILOK	1.6	0.6 [165]	13.0 [362]	18.0 [500]	1.6 [6.2]	3.6 [13.5]	5.1 [19.2]
	M-02N-	1/8" Male NPT	1.0	3.7 [102]	81.0 [225]	11.0 [315]	1.0 [3.7]	2.2 [8.5]	3.2 [12.1]
	M-04N-	1/4" Male NPT	1.0						
	F-02N-	1/8" Female NPT	1.2	4.4 [120]	9.7 [272]	13.0 [370]	1.2 [4.5]	2.7 [10.2]	3.8 [14.2]
	F-04N-	1/4" Female NPT	0.9	3.3 [93]	7.3 [205]	10.0 [285]	0.9 [3.4]	2.0 [7.5]	2.8 [10.4]
VP32	U-06T-	3/8" UNILOK	6.4	23.0 [660]	52.0 [1470]	72.0 [2040]	6.4 [24]	14.0 [53]	20.0 [76]
	U-08T-	1/2" UNILOK	4.4	16.0 [460]	35.0 [1000]	49.0 [1390]	4.4 [16.5]	9.8 [37]	13.0 [50]
	M-08N-	1/2" Male NPT	2.4	9.0 [252]	19.0 [540]	27.0 [765]	2.4 [9.0]	5.4 [20]	7.6 [28.5]
	F-08N-	1/2" Female NPT	2.7	10.0 [285]	21.0 [600]	30.0 [850]	2.7 [10]	6.0 [22]	8.5 [32]

Technical Data

Series	Material	Orifice	Pressure Rating @ 70°F (21°C)	Temperature Rating
VP31	316 SS	4.4	3,000 psig [206 bar]	-23°C ~ 204°C [-10°F ~ 400°F]
	Brass		3,000 psig [206 bar]	
VP32	316 SS	7.2	3,000 psig [206 bar]	
	Brass		2,000 psig [137 bar]	

* Differential pressure is limited to 150 psig [10.3 bar]

Maximum if reverse flow occurs

Reverse-flow throttling may damage O-ring.

How To Order

UNILOK VP3 series Plug valves are ordered by part number as shown below.

V	R3	MU	- 04N04T	- SS	-
UNILOK Valve	Valve Type	Connection Type	Connection Size	Body Materials	O-ring Materials

Valve Type	
P31	Plug Valve [4.4mm Orifice]
P32	Plug Valve [7.2mm Orifice]

Connection Type	
U	UNILOK Tube Fitting
F	Female NPT or ISO7/1IPT
M	Male NPT or ISO7/1IPT

Connection Size					
Fractional(Inch) Tube O.D. Designation					
Tube O.D.	inch	1/8	1/4	3/8	1/2
	mm	3.17	6.35	9.52	12.70
Designator		02T	04T	06T	08T

Metric Tube O.D. Designation					
Tube O.D.	mm	6	8	10	12
Designator		M06T	M08T	M10T	M12T

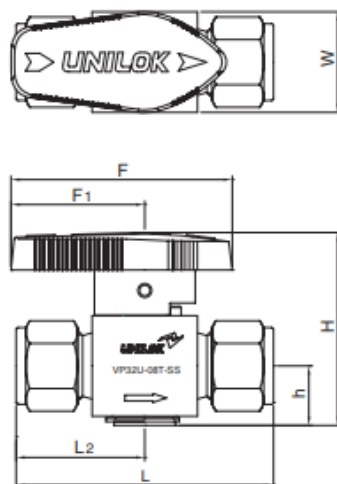
Pipe Size Designation (NPT or ISO7/1-PT)				
Pipe Size	1/2	1/4	3/8	1/2
Designator	02N/R	04N/R	06N/R	08N/R

Cleaning

UNILOK valves are free from machine oils, loose particles and grease throughout the close cleaning process.

Testing

Every plug valve is 100% factory tested for shutoff at 600 psig [41.3 bar]



INSTRUMENT

Pressure Reducing Valve VPR

Ordering Information & Dimensions

Part No.	End Connections		Dimensions (mm)							
	Inlet	Outlet	Orifice	L	L1	h	H	F	F1	W
VP31	U-02T-	1/8" UNILOK	4.4	50.6	25.3	11.7	39.2	46.5	29.0	19.0
	U-04T-	1/4" UNILOK		55.0	27.5					
	U-M06T-	6mm UNILOK		38.8	19.4					
	M-02N-	1/8" Male NPT		48.4	24.2					
	M-04N-	1/4" Male NPT		45.2	22.6					
	F-02N-	1/8" Female NPT		53.0	26.5					
	F-04N-	1/4" Female NPT		51.7	24.2					
	MU-04N04T-	1/4" Male NPT 1/4" UNILOK		50.7	24.2					
	MF-04N-	1/4" Male NPT 1/4" Female NPT		67.6	33.8	16.9	54.4	61.3	38.1	28.5
VP32	U-06T-	3/8" UNILOK	7.2	73.2	36.6					
	U-08T-	1/2" UNILOK		67.6	33.8					
	U-M08T-	8mm UNILOK		68.0	34.0					
	U-M10T-	10mm UNILOK		75.2	37.6					
	U-M12T-	12mm UNILOK		67.0	33.5					
	M-08N-	1/2" Male NPT		73.2	36.6					
	F-08N-	1/2" Female NPT								

ISO 7/1 Tapered Threads (PT) are available for all fractional sizes of VP3 series valves.
Add "R" as a suffix instead of "N".

Dimensions are for reference only and are subject to change without prior notice.



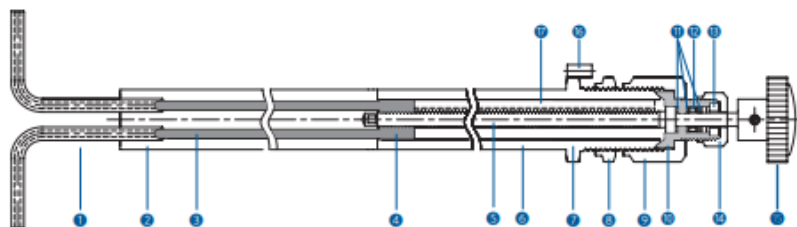
Features

- No Plugging
- Easy Cleaning & Maintaining
- Simple adjusting under various pressure conditions
- No corrosion

Specification

- Max Operating Temperature : 50°C(122°F)~149°C(300°F)
- Max Operating Pressure : 5000psi at 149°C(300°F)
- Sample Flow Range : 150ml/min~4000ml/min
- Pressure Reducing Range : 5~5000 psi
- Installation : Panel Mounting
- Connection : Tube, Socket Weld, 37° Flare & Elbow

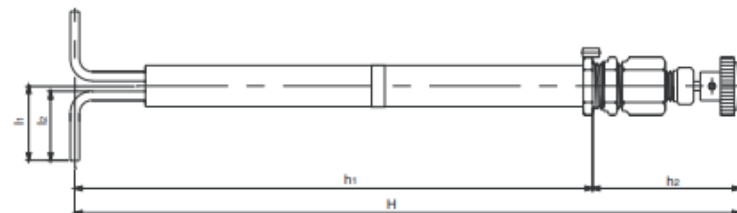
Materials of Construction



No.	Description	Materials	No.	Description	Materials	No.	Description	Materials
1	Tube	316SS	7	Bushing Body	316SS	13	Spindle Gland	Brass
2	Seat Body	304SS	8	Panel Nut	304SS	14	Spindle Nut	316SS
3	Long Stem	316SS	9	Body Nut	316SS	15	Handle	Xenoy
4	Stem Holder	316SS	10	Spindle Bushing	316SS	16	Loader	304SS
5	Spindle	316SS	11	Gasket Ring	Brass/PTFE	17	Holder Loader	316SS
6	Middle Body	316SS	12	Packing Seal	PTFE			

Application

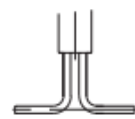
In modern power generation plants & general industrial boilers, chemical analysis of water and steam samples requires precise control of flow and pressure. High pressure reduction occurs unique sampling problems. UNILOK VPR series is a valve specially designed to solve these kinds of problems.



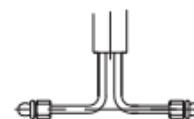
Ordering Information & Dimensions

Part No.	End Connection	Materials				
		H	h ₁	h ₂	l ₁	l ₂
VPR	04T-	461.0	359.0	102.0	51.6	48.0
	04P-					
	04F-					
	04E-					

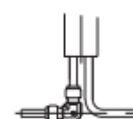
End Connection Type



Tube

Tube
Socket Weld

37° Flare

Union Elbow
to Tube

Important Notification

Proper installation, materials compatibility, operation and maintenance of these valves are the responsibility of the user. The total system design must be taken into consideration to ensure optimal performance and safety.