

VYON Series Cryogenic Needle Valves

No.VYON-1
September 2016

Pressures up to 275 psig (20 bar)



Features

- Dust cap to prevent debris from entering
- Bolted bonnet & outside screw
- Non-rotating stem disc & positive shut off
- Straight through flow path for providing a minimum pressure drop and maximum flow
- Application of the chevron stem packing to prevent leakage to the stem

Specifications

- Pressure up to 275 psig (20 bar)
- Temperature up to -320°F (-196°C) ~ 700°F (371°C) with graphite Packing
- Screwed End : 3/8" ~ 1"

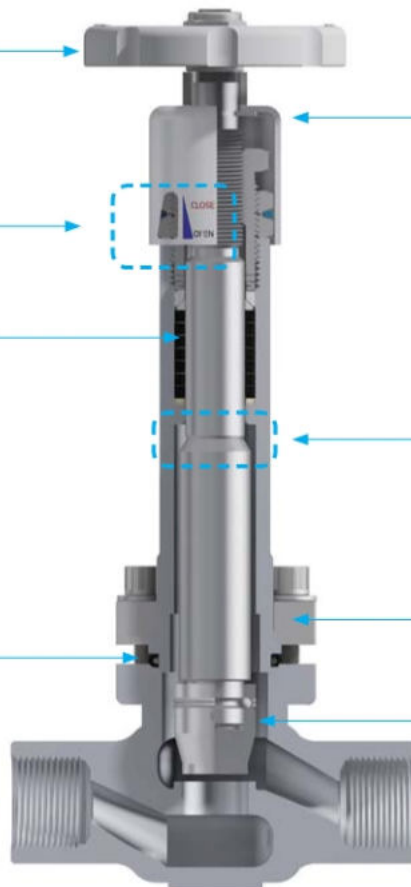
Stainless steel Round handle
square drive stem & lock nut
to ensure positive actuation

Position Indicator

Packing seal to Graphite

Spiral wound gasket
SS316 with Graphite

Flow



Dust Cap
Protects stem threads
against ingress of dirt

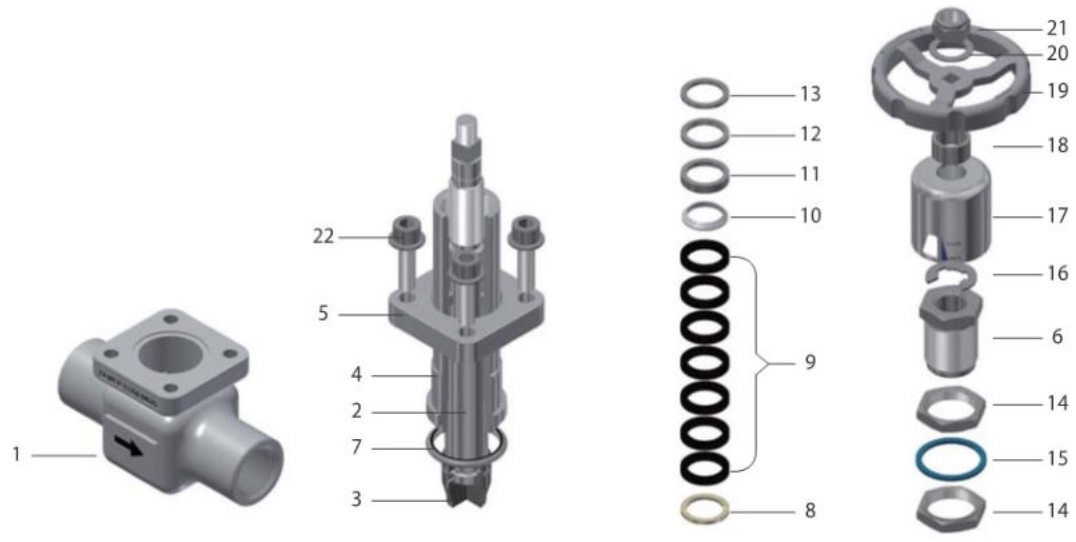
Stem back seating
Fully open position

Bolted bonnet

Non-Rotating Stem Disc at Closure
is for maximum metal seat life and
positive seal

IDK-LOK® Cryogenic Needle Valves **VYON Series**

Materials of Construction



Component	Valve Material
1. Body	ASTM A351 CF3M
2. Stem	ASTM A479 TYPE 316
3. Stem disc	ASTM A479 TYPE 316
4. Extended Bonnet	ASTM A479 TYPE 316
5. Bolted bonnet	ASTM A351 CF8M
6. Packing bolt	ASTM A479 TYPE 316
7. Bonnet packing	Graphite & SS316
8. Lower Gland	ASTM A479 TYPE 316
9. Packing	Graphite
10. Lower seat	PTFE
11. Upper seat	PTFE
12. Disk spring	ASTM A564 TYPE 630

Component	Valve Material
13. Upper Gland	ASTM A479 TYPE 316
14. Indicator nut	Stainless steel
15. Indicator ring	Plastic
16. Indicator key	Stainless steel
17. Dust cap	Stainless steel
18. Handle support	Stainless steel
19. Handle	ASTM A351 CF8M
20. Washer	Stainless steel
21. Handle nut	Stainless steel
22. Bonnet Bolt	Stainless steel
23. Key ball	ASTM A479 TYPE 316
24. Spring key	Stainless steel

Wetted parts are listed in blue.

Design

- DK-Lok Cryogenic Needle valves are designed to ASME B16.34 pressure rating
- NPT thread connections in accordance with ASME B1.20.1
- Cryogenic test in accordance with BS 6364

Factory Test

- Every valve is factory tested with nitrogen @ 69 bar (1000 psig) for leakage at the seat to a maximum allowable leak rate of 0.1 SCCM.
- Stem packing is tested for no detectable leakage.

IDK-LOK® Cryogenic Needle Valves

VYON Series

Cleaning and Packaging

- Every valve is cleaned and packaged in accordance with DK-Lok cleaning standard DC-01.

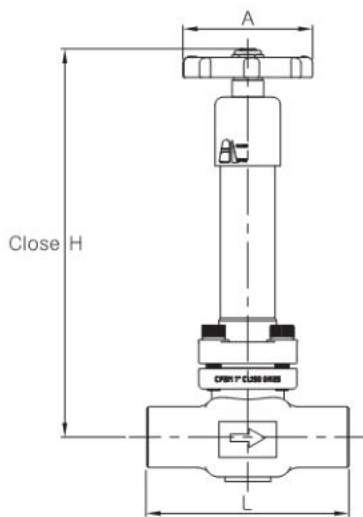
Application

- LNG and LPG trailers
- High purity cryogenic or gas system

Applicable Fluid & Boiling point

Fluid	Boiling Point	
	°F	°C
Helium	-452.1	-268.9
Hydrogen	-423.0	-252.8
Nitrogen	-320.5	-195.8
Air	-318.0	-194.4
Argon	-302.6	-185.9
Oxygen	-297.3	-182.9
Naturalgas	-270.0	-167.8

Dimensions



Basic Ordering Number	End Connection	Dimensions, mm(in.)			
		L	H	A	
VYON	F6N	3/8" Female NPT	114 (4.49)	235 (9.25)	90 (3.54)
	F8N	1/2" Female NPT	114 (4.49)	235 (9.25)	90 (3.54)
	F12N	3/4" Female NPT	140 (5.51)	260 (10.24)	90 (3.54)
	F16N	1" Female NPT	140 (5.51)	260 (10.24)	90 (3.54)
	F6R	3/8" Female PT	114 (4.49)	235 (9.25)	90 (3.54)
	F8R	1/2" Female PT	114 (4.49)	235 (9.25)	90 (3.54)
	F12R	3/4" Female PT	140 (5.51)	260 (10.24)	90 (3.54)
	F16R	1" Female PT	140 (5.51)	260 (10.24)	90 (3.54)

All dimensions shown are for reference only and are subject to change.

Ordering information

Select valve basic ordering number, applicable Packing, body material, Connection size, Valve Class Rating

VYON

Connection	Class Rating	Packing Material	Valve Body Material Designator
- F8N ↓ Female NPT 3/8": F6N F8N F12N F16N	- A ↓ A : Class 150	Nil : Graphite	- C2 ↓ ASTM A351 CF3M : C2 ASTM A351 CF8M : C3