



VYON Series Cryogenic Needle Valves

Rev. 01-01
Aug. 2023



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 (19 bar)
- Temperature up to -320°F (-196°C) ~ 176°F (80°C) with graphite Packing
- Screwed End : 1/2" ~ 1"
- Flanged End : 1/2" ~ 1"
- Butt weld End : 1/2" ~ 1"



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

Position Indicator

Packing seal to Graphite

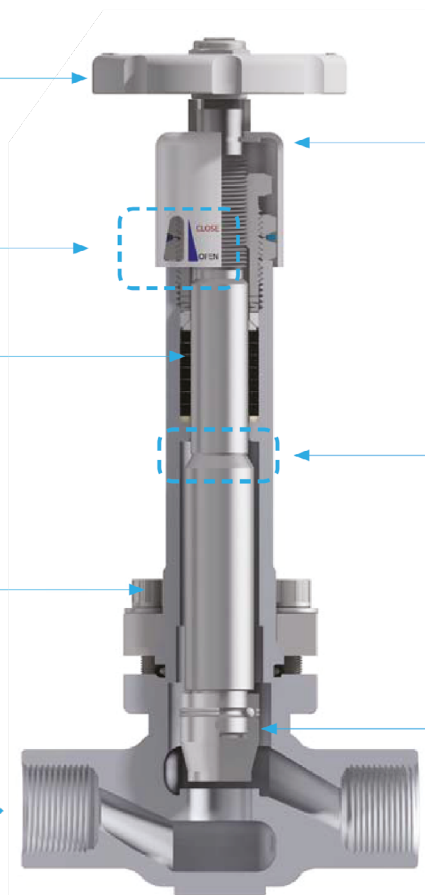
Bolted bonnet

Cap
Protects stem threads
against ingress of dirt

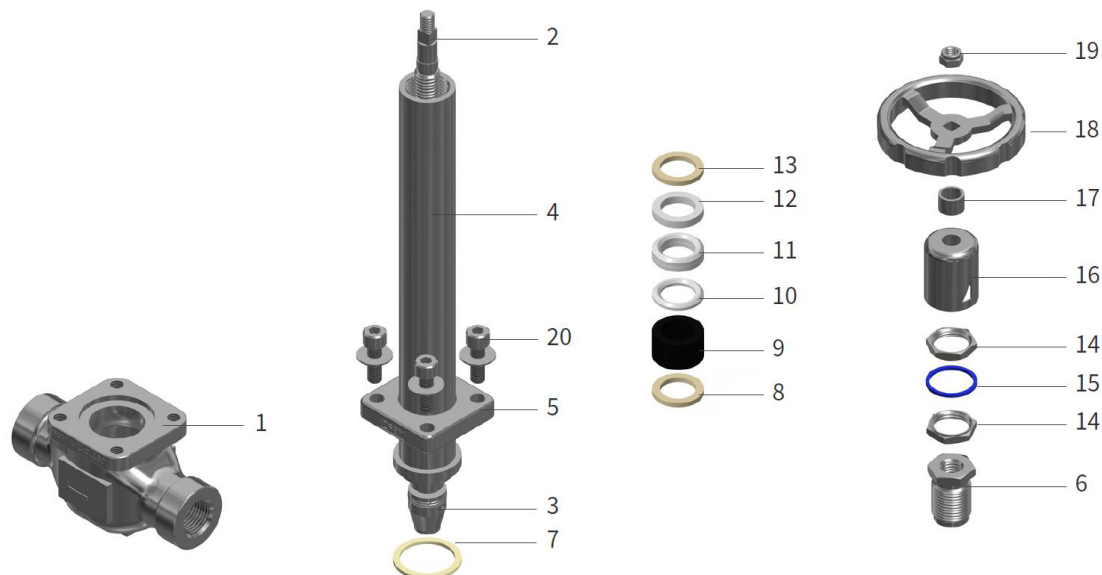
Stem back seating
Fully open position

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

Flow



Materials of Construction



Component	Valve Material
1. Body	ASTM A351 CF3M/CF8M
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. Bushing	ASTM A276 TYPE 316
7. Gasket	V7020
8. Low Gland	PEEK
9. Packing	GRAFOIL
10. Lower Seat guide	PCTFE

• Wetted parts listed in blue.

Component	Valve Material
11. Guide Packing	PCTFE
12. Upper Seat Guide	PCTFE
13. Upper Gland	ASTM A276 TYPE 316
14. Indicator Nut	ASTM A276 TYPE 316
15. Indicator Ring	Plastic
16. Cap	ASTM A276 TYPE 316
17. Handle support	ASTM A276 TYPE 316
18. Handle	ASTM A351 CF8
19. Handle nut	ASTM A276 TYPE 316
20. Bolt & Spring Washer	STAINLESS STEEL

Design

- DK-Lok Cryogenic Needle valves are designed to ASME B16.34 pressure rating
- NPT thread connections in accordance with ASME B1.20.1
- Flange Connections in accordance with ASME B16.5
- Butt weld Connections in accordance with ASME B16.9
- Cryogenic test in accordance with BS 6364

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

Classification

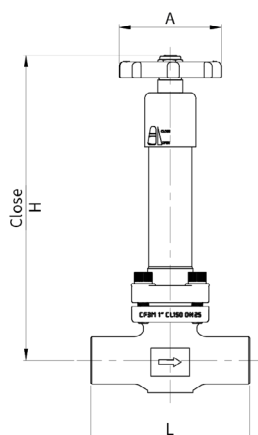
- DK-Lok VYON Series has received ABS, BV, KR, LR, DNV GL, RS classification.
- Refer to the table below for each classification.



Classification	ABS	BV	KR	LR	DNV GL	RS
Certificate No.	21-2105601-PDA	64258 A0/BV	CWN19339-VV012	LR21262101TA	TAP000015V	29 0000 28.14.13.110
Size	1/2", 1"	1/2", 1"	1/2", 1"	1/2", 1"	1/2", 3/4", 1"	1/2", 1"
Temperature	-196 ~ 80°C"	-196 ~ 80°C"	-196 ~ 80°C	-196 ~ 80°C"	-196 ~ 371°C"	-196 ~ 80°C
Working Pressure	19 bar @ -196°C	19 bar @ -196°C	19 bar @ -196°C	19 bar @ -196°C	20 bar @ -196°C	20 bar @ -196°C
Class	Class 150					

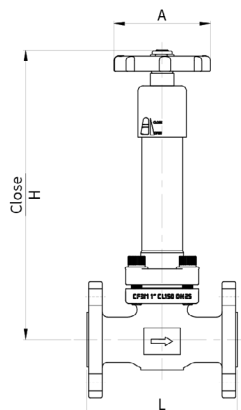
Dimensions

Dimensions – Screwed Ends



Basic Ordering Number		End Connection	Dimensions, mm(in.)		
			L	H	A
VYON	F8N	1/2" Female NPT	114 (4.49)	348 (13.7)	90 (3.54)
	F12N	3/4" Female NPT	140 (5.51)	378 (14.9)	110 (4.33)
	F16N	1" Female NPT	140 (5.51)	378 (14.9)	110 (4.33)
	F8R	1/2" Female PT	114 (4.49)	348 (13.7)	90 (3.54)
	F12R	3/4" Female PT	140 (5.51)	378 (14.9)	110 (4.33)
	F16R	1" Female PT	140 (5.51)	378 (14.9)	110 (4.33)

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

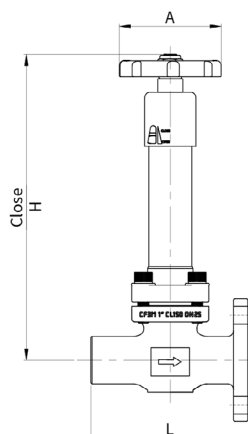


Dimensions– Flanged Ends

Basic Ordering Number		End Connection	Dimensions, mm(in.)		
		Flange	L	H	A
VYON	8RF	1/2" x RF	120 (4.72)	348 (13.7)	90 (3.54)
	12RF	3/4" x RF	140 (5.51)	378 (14.9)	110 (4.33)
	16RF	1" x RF	140 (5.51)	378 (14.9)	110 (4.33)

* Flange design in accordance with ANSI B16.5 Class 150

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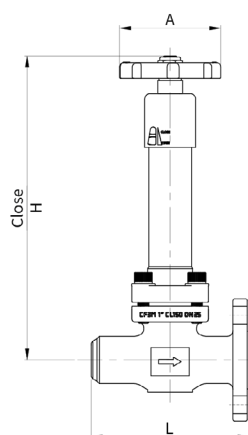


Dimensions– Screwed End / Flanged End

Basic Ordering Number		End Connection		Dimensions, mm(in.)		
		Thread (IN)	Flange (OUT)	L	H	A
VYON	F8NRF	1/2" NPT	1/2"	117 (4.6)	348 (13.7)	90 (3.54)
	F12NRF	3/4" NPT	3/4"	140 (5.51)	378 (14.9)	110 (4.33)
	F16NRF	1" NPT	1"	140 (5.51)	378 (14.9)	110 (4.33)

* Flange design in accordance with ANSI B16.5 Class 150

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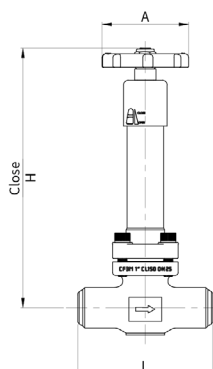


Dimensions– Butt weld End / Flanged End

Basic Ordering Number		End Connection		Dimensions, mm(in.)		
		Butt weld (IN)	Flange (OUT)	L	H	A
VYON	BW8RF	1/2"	1/2"	117 (4.6)	348 (13.7)	90 (3.54)
	BW12RF	3/4"	3/4"	140 (5.51)	378 (14.9)	110 (4.33)
	BW12RF	1"	1"	140 (5.51)	378 (14.9)	110 (4.33)

* Flange design in accordance with ANSI B16.5 Class 150

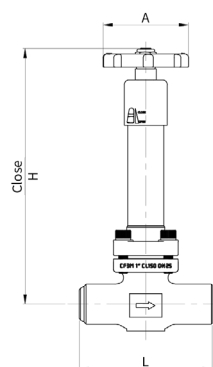
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Dimensions– Butt weld Ends

Basic Ordering Number		End Connection	Dimensions, mm(in.)		
			L	H	A
VYON	BW8	1/2"	114 (4.49)	348 (13.7)	90 (3.54)
	BW12	3/4"	140 (5.51)	378 (14.9)	110 (4.33)
	BW16	1"	140 (5.51)	378 (14.9)	110 (4.33)

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Dimensions– Butt weld End / Screwed End

Basic Ordering Number		End Connection		Dimensions, mm(in.)		
		Butt weld (IN)	Thread (OUT)	L	H	A
VYON	BW8RF	1/2"	1/2" NPT	117 (4.6)	348 (13.7)	90 (3.54)
	BW12RF	3/4"	3/4" NPT	140 (5.51)	378 (14.9)	110 (4.33)
	BW12RF	1"	1" NPT	140 (5.51)	378 (14.9)	110 (4.33)

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Ordering Information

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

VYON

-F8N

-C2

Connection	Class Rating	Packing Material	Valve Body Material Designator
Female NPT 1/2" : F8N F8N F12N FLANGE RF 1/2" : 8RF 12RF 16RF	Nil : Class 150	Nil : Graphite	ASTM A351 CF3M : C2 ASTM A351 CF8M : C3

Safe Valve Selection

The selection of a valve for any application or system design must be considered to ensure safe performance.

Valve function, valve rating, material compatibility, proper installation, operation and maintenance remain the sole responsibility of the system designer and the user. DK-Lok accepts no liability for any improper selection, installation, operation or maintenance.



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