



Low Pressure Manual Bellows Valves

Standard Type



Features

- Compact designed inner capacity.
- Minimal contributions of moisture, Oxygen and Hydrocarbon, Minimal particle generation.
- DK-LOK's own electropolished.
- DI water cleaned, assembled, tested & packaged in the certified clean room.
- PCTFE seat material with remarkable chemical & thermal resistance.
- Installation can be made either panel-mount or bottom-mount

Specification

Size	1/4"	3/8", 1/2"
Cv Value	0.36	1.1
Max. Working Pressure	10 bar (145 psig)	
Max. Working Temperature	-10° ~ 80°C (-23~176°F)	
Internal Leakage Allowance – He Holding Time ≥ 15 sec	≤ 4x10 ⁻⁹ atm.cc/s	
External Leakage Allowance – He Holding Time ≥ 1 min	≤ 4x10 ⁻⁹ atm.cc/s	
Particle Inspection (EP Only) Pressure : 60~80psi N2 Gas Sample Volume : 1CFM 0.1 μm and Larger	No count	

Product Grade

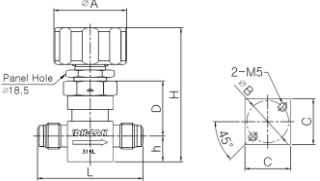
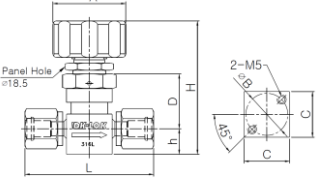
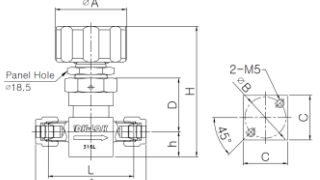
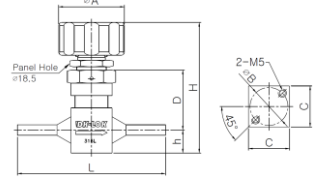
Level	AP	BA	EP
Inner Surface Roughness	Ry ≤ 25 μm	Ry ≤ 3.0 μm / Ra 10μin	Ry ≤ 0.7 μm / Ra 5μin
	Cut off Length : 2.5mm	Cut off Length : 0.8mm	Cut off Length : 0.25mm
	Measuring Length : 12.5mm	Measuring Length : 4mm	Measuring Length : 1.25mm
Polishing	Machining Finish	Machining Finish	Electro Polishing Finish

Material of Construction

Description	Materials
Body	316L Stainless Steel
	316L Stainless Steel VAR
Seat	PCTFE
Bellows	316L Stainless Steel
Handle	Aluminum

- Wetted Components are listed in [blue](#)

Ordering Information and Dimensions

Model	Basic Ordering Number	End Connections	Dimensions (mm)							
			L	h	H	A	B	C	D	ℓ
	U-VBC4-DM-	1/4" DCR Male	58	14	73	40	23	25	30	-
	U-VBC8(6)-DM-	1/2" DCR Male	60	16	80	40	23	25	36.5	-
	U-VBC4-DF-	1/4" DCR Female	70.5	14	73	40	23	25	30	-
	U-VBC8(6)-DF-	1/2" DCR Female	90	14	80	40	23	25	36.5	-
	U-VBC4-DK-	1/4" DK-LOK	48	14	73	40	23	25	30	62.5
	U-VBC6-DK-	3/8" DK-LOK	63	14	80	40	23	25	36.5	77.5
	U-VBC8-DK-	1/2" DK-LOK	63	14	80	40	23	25	36.5	84
	U-VBC4-TW-	1/4" Tube Butt Weld	150	14	80	40	23	25	36.5	-
	U-VBC6-TW-	3/8" Tube Butt Weld	150	14	80	40	23	25	36.5	-
	U-VBC8-TW-	1/2" Tube Butt Weld	150	14	80	40	23	25	36.5	-

How to order

U	-	VBC	-	4	-	DM	-	LN	-	SL	-	B	-	X
DK-LOK UHP Product		Valve Type		Size		End Connector Type		Option Type		Material		Inner Surface Level		User Option

Valve Type	Size	End Connector Type	Option Type	Material	Surface Level	User Option
VBC	4 : 1/4"	DM : DCR Male	Blank : No Lock Nut	SL : 316L Stainless Steel	B : BA Grade	Blank : Standard
	6 : 3/8"	DF : DCR Female	LN : Lock Nut	DL : 316L Stainless Steel VAR	P : EP Grade	X : Customization No.
	8 : 1/2"	DK : DK-LOK				
		TW : Tube Butt Weld				

Note) DCR : DK-Metal Face Seal

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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Low Pressure Pneumatic Bellows Valves Standard Type



Features

- Compact designed inner capacity.
- Minimal contributions of moisture, Oxygen and Hydrocarbon, Minimal particle generation.
- DK-LOK's own electropolished.
- DI water cleaned, assembled, tested & packaged in the certified clean room.
- PCTFE seat material with remarkable chemical & thermal resistance.

Specification

Size	1/4"	3/8", 1/2"
Cv Value	0.36	1.1
Max. Working Pressure	10 bar (145 psig)	
Max. Working Temperature	-10° ~ 80°C (-23~176°F)	
Actuator Pressure Rating	4 ~ 6 bar (58 ~ 87 psig)	
Internal Leakage Allowance – He Holding Time ≥ 15 sec	≤ 4x10 ⁻⁹ atm.cc/s	
External Leakage Allowance – He Holding Time ≥ 1 min	≤ 4x10 ⁻⁹ atm.cc/s	
Particle Inspection (EP Only) Pressure : 60~80psi N2 Gas Sample Volume : 1CFM 0.1 μm and Larger	No count	

Product Grade

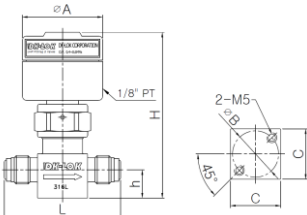
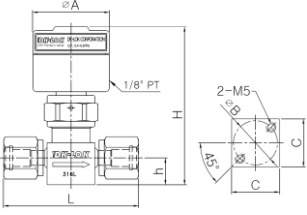
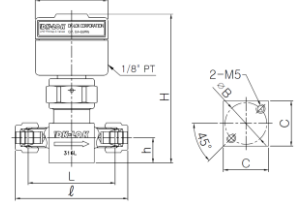
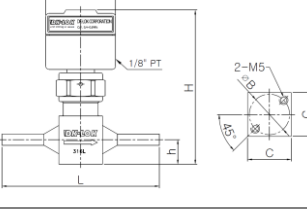
Level	AP	BA	EP
Inner Surface Roughness	Ry ≤ 25 μm	Ry ≤ 3.0 μm / Ra 10μin	Ry ≤ 0.7 μm / Ra 5μin
	Cut off Length : 2.5mm	Cut off Length : 0.8mm	Cut off Length : 0.25mm
	Measuring Length : 12.5mm	Measuring Length : 4mm	Measuring Length : 1.25mm
Polishing	Machining Finish	Machining Finish	Electro Polishing Finish

Material of Construction

Description	Materials
Body	316L Stainless Steel
	316L Stainless Steel VAR
Seat	PCTFE
Bellows	316L Stainless Steel
Actuator	Aluminum

- Wetted Components are listed in [blue](#)

Ordering Information and Dimensions

Model	Basic Ordering Number	End Connections	Dimensions (mm)						
			L	h	H	A	B	C	ℓ
	U-PVBC4-DM-	1/4" DCR Male	58	14	82.5	40	23	25	-
	U-PVBC8(6)-DM-	1/2" DCR Male	60	16	89	40	23	25	-
	U-PVBC4-DF-	1/4" DCR Female	70.5	14	82.5	40	23	25	-
	U-PVBC8(6)-DF-	1/2" DCR Female	90	14	89	40	23	25	-
	U-PVBC4-DK-	1/4" DK-LOK	48	14	82.5	40	23	25	62.5
	U-PVBC6-DK-	3/8" DK-LOK	63	14	89	40	23	25	77.5
	U-PVBC8-DK-	1/2" DK-LOK	63	14	89	40	23	25	84
	U-PVBC4-TW-	1/4" Tube Butt Weld	150	14	89	40	23	25	-
	U-PVBC6-TW-	3/8" Tube Butt Weld	150	14	89	40	23	25	-
	U-PVBC8-TW-	1/2" Tube Butt Weld	150	14	89	40	23	25	-

How to order

U	-	PVBC	-	4	-	DM	-	C	-	SL	-	B	-	X
DK-LOK UHP Product		Valve Type		Size		End Connector Type		Operation Type		Material		Inner Surface Level		User Option

Valve Type	Size	End Connector Type	Operation Type	Material	Surface Level	User Option
PVBC	4 : 1/4"	DM : DCR Male	C : Normal Close	SL : 316L Stainless Steel	B : BA Grade	Blank : Standard
	6 : 3/8"	DF : DCR Female	O : Normal Open	DL : 316L Stainless Steel VAR	P : EP Grade	X : Customization No.
	8 : 1/2"	DK : DK-LOK				
		TW : Tube Butt Weld				

Note) DCR : DK-Metal Face Seal

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High Flow Manual Bellows Valves

Standard Type



Features

- Maximum flow & Compact designed inner capacity.
- Minimal contributions of moisture, Oxygen and Hydrocarbon, Minimal particle generation.
- DK-LOK's own electropolished.
- DI water cleaned, assembled, tested & packaged in the certified clean room.
- PCTFE seat material with remarkable chemical & thermal resistance.

Specification

Size	1/2"	3/4"
Cv Value	2.0	2.8
Max. Working Pressure	10 bar (145 psig)	
Max. Working Temperature	-10° ~ 80°C (-23~176°F)	
Internal Leakage Allowance – He Holding Time ≥ 15 sec	≤ 5x10 ⁻⁹ atm.cc/s	
External Leakage Allowance – He Holding Time ≥ 1 min	≤ 5x10 ⁻⁹ atm.cc/s	
Particle Inspection (EP Only) Pressure : 60~80psi N2 Gas Sample Volume : 1CFM 0.1 μm and Larger	No count	

Product Grade

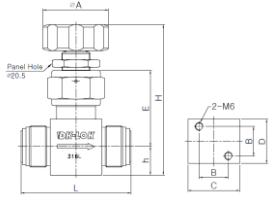
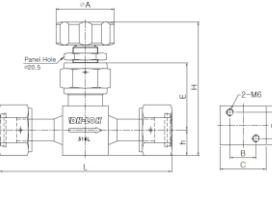
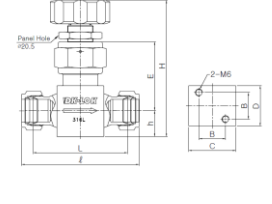
Level	AP	BA	EP
Inner Surface Roughness	Ry ≤ 25 μm	Ry ≤ 3.0 μm / Ra 10μin	Ry ≤ 0.7 μm / Ra 5μin
	Cut off Length : 2.5mm	Cut off Length : 0.8mm	Cut off Length : 0.25mm
	Measuring Length : 12.5mm	Measuring Length : 4mm	Measuring Length : 1.25mm
Polishing	Machining Finish	Machining Finish	Electro Polishing Finish

Material of Construction

Description	Materials
Body	316L Stainless Steel
	316L Stainless Steel VAR
Seat	PCTFE
Bellows	316L Stainless Steel
Handle	Aluminum

- Wetted Components are listed in [blue](#)

Ordering Information and Dimensions

Model	Basic Ordering Number	End Connections	Dimensions (mm)								
			L	h	H	A	B	C	D	E	ℓ
	U-HFVBC8-DM-	1/2" DCR Male	76.2	12.7	113	52	22.6	40	34	65.3	-
	U-HFVBC12-DM-	3/4" DCR Male	85	22	116	52	22.6	40	34	58.4	-
	U-HFVBC8-DF-	1/2" DCR Female	102.6	12.7	113	52	22.6	40	34	65.3	-
	U-HFVBC12-DF-	3/4" DCR Female	149	22	116	52	22.6	40	34	58.4	-
	U-HFVBC8-DK-	1/2" DK-LOK	74	12.7	113	52	22.6	40	34	65.3	94
	U-HFVBC12-DK-	3/4" DK-LOK	80	22	116	52	22.6	40	34	58.4	100

How to order

U	-	HFVBC	-	8	-	DM	-	LN	-	SL	-	B	-	X
DK-LOK UHP Product		Valve Type		Size		End Connector Type		Option Type		Material		Inner Surface Level		User Option

Valve Type	Size	End Connector Type	Option Type	Material	Surface Level	User Option
HFVBC	8 : 1/2"	DM : DCR Male	Blank : No Lock Nut	SL : 316L Stainless Steel	B : BA Grade	Blank : Standard
	12 : 3/4"	DF : DCR Female	LN : Lock Nut	DL : 316L Stainless Steel VAR	P : EP Grade	X : Customization No.
		DK : DK-LOK				
		TW : Tube Butt Weld				

(Note) DCR : DK-Metal Face Seal

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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High Flow Pneumatic Bellows Valves

Standard Type



Features

- Maximum flow & Compact designed inner capacity.
- Minimal contributions of moisture, Oxygen and Hydrocarbon, Minimal particle generation.
- DK-LOK's own electropolished.
- DI water cleaned, assembled, tested & packaged in the certified clean room.
- PCTFE seat material with remarkable chemical & thermal resistance.

Specification

Size	1/2"	3/4"
Cv Value	2.0	2.8
Max. Working Pressure	10 bar (145 psig)	
Max. Working Temperature	-10° ~ 80°C (-23~176°F)	
Actuator Pressure Rating	3.4~5 bar(51~73psig)	
Internal Leakage Allowance – He Holding Time ≥ 15 sec	≤ 5x10 ⁻⁹ atm.cc/s	
External Leakage Allowance – He Holding Time ≥ 1 min	≤ 5x10 ⁻⁹ atm.cc/s	
Particle Inspection (EP Only) Pressure : 60~80psi N2 Gas Sample Volume : 1CFM 0.1 μm and Larger	No count	

Product Grade

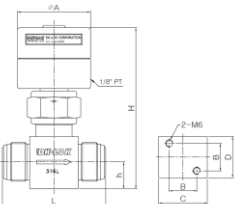
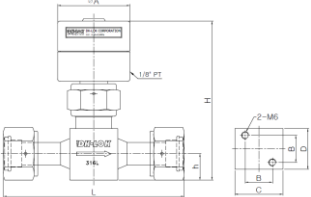
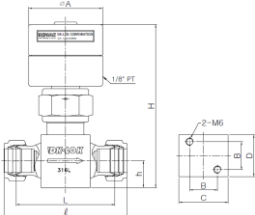
Level	AP	BA	EP
Inner Surface Roughness	Ry ≤ 25 μm	Ry ≤ 3.0 μm / Ra 10μin	Ry ≤ 0.7 μm / Ra 5μin
	Cut off Length : 2.5mm	Cut off Length : 0.8mm	Cut off Length : 0.25mm
	Measuring Length : 12.5mm	Measuring Length : 4mm	Measuring Length : 1.25mm
Polishing	Machining Finish	Machining Finish	Electro Polishing Finish

Material of Construction

Description	Materials
Body	316L Stainless Steel
	316L Stainless Steel VAR
Seat	PCTFE
Bellows	316L Stainless Steel
Actuator	Aluminum

- Wetted Components are listed in [blue](#)

Ordering Information and Dimensions

Model	Basic Ordering Number	End Connections	Dimensions (mm)							
			L	h	H	A	B	C	D	ℓ
	U-HFPVBC8-DM-	1/2" DCR Male	76.2	12.7	132	60	22.6	40	34	-
	U-HFPVBC12-DM-	3/4" DCR Male	85	22	134.5	60	22.6	40	34	-
	U-HFPVBC8-DF-	1/2" DCR Female	102.6	12.7	132	60	22.6	40	34	-
	U-HFPVBC12-DF-	3/4" DCR Female	149	22	134.5	60	22.6	40	34	-
	U-HFPVBC8-DK-	1/2" DK-LOK	74	12.7	132	60	22.6	40	34	94
	U-HFPVBC12-DK-	3/4" DK-LOK	80	22	134.5	60	22.6	40	34	100

How to order

U	-	HFPVBC	-	8	-	DM	-	C	-	SL	-	B	-	X
DK-LOK UHP Product		Valve Type		Size		End Connector Type		Operation Type		Material		Inner Surface Level		User Option

Valve Type	Size	End Connector Type	Operation Type	Material	Surface Level	User Option
HFPVBC	8 : 1/2" 12 : 3/4"	DM : DCR Male DF : DCR Female DK : DK-LOK	C : Normal Close O : Normal Open	SL : 316L Stainless Steel DL : 316L Stainless Steel VAR	B : BA Grade P : EP Grade	Blank : Standard X : Customization No.

Note) DCR : DK-Metal Face Seal

Safe Valve Selection

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Low Pressure Manual Bellows Valves Standard Type

No.VB Series
DEC.2021



Features

- Compact designed inner capacity.
- Minimal contributions of moisture, Oxygen and Hydrocarbon, Minimal particle generation.
- DK-LOK's own electropolished.
- DI water cleaned, assembled, tested & packaged in the certified clean room.
- Standard PTFE Disk Material.

Specification

Size	15A	1"	20A	25A
Cv Value	2.9	4.1	4.1	6.9
Max. Working Pressure	10 bar (145 psig)			
Max. Working Temperature	-10° ~ 80°C (-23~-176°F)			
Internal Leakage Allowance (He) Test Pressure $\leq 1 \times 10^{-2}$ Torr Holding Time ≥ 15 sec.	$\leq 1 \times 10^{-5}$ atm.cc/s			
External Leakage Allowance (He) Test Pressure $\leq 1 \times 10^{-2}$ Torr Holding Time ≥ 1 min.	$\leq 1 \times 10^{-5}$ atm.cc/s			
Particle Inspection (EP only) Pressure : 60~80 psi N2 Gas Sample Volume : 1CFM 0.1 μ m and Larger	No count			

Product Grade

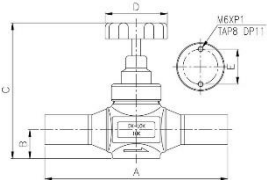
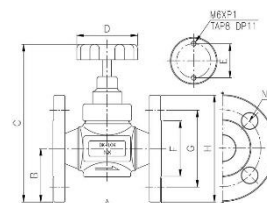
Level	AP	BA	EP
Inner Surface Roughness	Ry $\leq 25 \mu$ m	Ry $\leq 3.0 \mu$ m / Ra 10 μ in	Ry $\leq 0.7 \mu$ m / Ra 5 μ in
	Cut off Length : 2.5mm	Cut off Length : 0.8mm	Cut off Length : 0.25mm
	Measuring Length : 12.5mm	Measuring Length : 4mm	Measuring Length : 1.25mm
Polishing	Machining Finish	Machining Finish	Electro Polishing Finish

Material of Construction

Description	Materials
Body	304 Stainless Steel
	316L Stainless Steel
Disk	PTFE
Bellows	316L Stainless Steel
Handle	Aluminum

- Wetted Components are listed in [blue](#)

Ordering Information and Dimensions

Model	Basic Ordering Number	End Connections	Dimensions (mm)									
			Size	A	B	C	D	E	F	G	H	N-I
	U-VB15A-TW-	15A Butt Weld	15A	190	24	127	75	30	-	-	-	-
	U-VB16T-TW-	1" Butt Weld	1"	200	28	130	75	35	-	-	-	-
	U-VB20A-TW-	20A Butt Weld	20A	200	28	130	75	35	-	-	-	-
	U-VB25A-TW-	25A Butt Weld	25A	210	33	155	75	40	-	-	-	-
	U-VB15A-FL-	15A Flange	15A	108	47.5	151	75	30	51	70	95	4-Ø15
	U-VB20A-FL-	20A Flange	20A	117	50	152	75	35	56	75	100	4-Ø15
	U-VB25A-FL-	25A Flange	25A	127	62.5	184	75	40	67	90	125	4-Ø19

How to order

U	-	VB	-	15A	-	TW	-	SL	-	B	-	X
DK-LOK UHP Product		Valve Type		Size		End Connector Type		Material		Inner Surface Level		User Option

Valve Type	Size	End Connector Type	Material	Surface Level	User Option
VB	15A : 15A	TW : Butt Weld	4S : 304 Stainless Steel	AP : AP Grade	Blank : Standard
	16T : 1"	FL : Flange(JIS10K)	SL : 316L Stainless Steel	B : BA Grade	X : Customization No.
	20A : 20A			P : EP Grade	
	25A : 25A		-		

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Low Pressure Manual Bellows Valves Standard Type



Features

- Compact designed inner capacity.
- Minimal contributions of moisture, Oxygen and Hydrocarbon, Minimal particle generation.
- DK-LOK's own electropolished.
- DI water cleaned, assembled, tested & packaged in the certified clean room.
- Standard PTFE Disk Material.

Specification

Size	32A	2"	40A	50A
Cv Value	16	16	16	21
Max. Working Pressure	10 bar (145 psig)			
Max. Working Temperature	-10° ~ 80°C (-23~-176°F)			
Internal Leakage Allowance (He) Test Pressure $\leq 1 \times 10^{-2}$ Torr Holding Time ≥ 15 sec.	$\leq 1 \times 10^{-5}$ atm.cc/s			
External Leakage Allowance (He) Test Pressure $\leq 1 \times 10^{-2}$ Torr Holding Time ≥ 1 min.	$\leq 1 \times 10^{-5}$ atm.cc/s			
Particle Inspection (EP only) Pressure : 60~80 psi N2 Gas Sample Volume : 1CFM 0.1 μ m and Larger	No count			

Product Grade

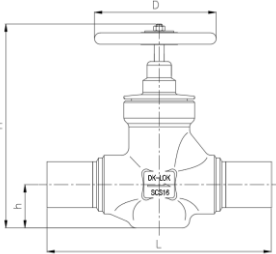
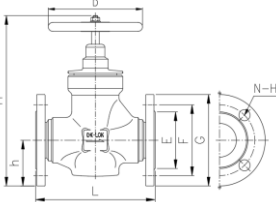
Level	AP	BA	EP
Inner Surface Roughness	Ry $\leq 25 \mu$ m	Ry $\leq 3.0 \mu$ m / Ra 10 μ in	Ry $\leq 0.7 \mu$ m / Ra 5 μ in
	Cut off Length : 2.5mm	Cut off Length : 0.8mm	Cut off Length : 0.25mm
	Measuring Length : 12.5mm	Measuring Length : 4mm	Measuring Length : 1.25mm
Polishing	Machining Finish	Machining Finish	Electro Polishing Finish

Material of Construction

Description	Materials
Body	304 Stainless Steel
	316L Stainless Steel
Disk	PTFE
Bellows	316L Stainless Steel
Handle	SCS13

- Wetted Components are listed in [blue](#)

Ordering Information and Dimensions

Model	Basic Ordering Number	End Connections	Dimensions (mm)								
			Size	L	h	H	D	E	F	G	N-H-
	U-VB32A-TW-	32A Butt Weld	32A	270	51	218	160	-	-	-	-
	U-VB32T-TW-	2" Butt Weld	2"	270	51	218	160	-	-	-	-
	U-VB40A-TW-	40A Butt Weld	40A	270	51	218	160	-	-	-	-
	U-VB50A-TW-	50A Butt Weld	50A	295	61	268	160	-	-	-	-
	U-VB32A-FL-	32A Flange	32A	165	67.5	235	160	76	100	135	4-Ø19
	U-VB40A-FL-	40A Flange	40A	165	70	238	160	81	105	140	4-Ø19
	U-V B50A-FL-	50A Flange	50A	203	77.5	289	160	96	120	155	4-Ø19

How to order

U	-	VB	-	32A	-	TW	-	SL	-	B	-	X
DK-LOK UHP Product		Valve Type		Size		End Connector Type		Material		Inner Surface Level		User Option

Valve Type	Size	End Connector Type	Material	Surface Level	User Option
VB	32A : 32A	TW : Butt Weld	4S : 304 Stainless Steel	AP : AP Grade	Blank : Standard
	32T : 2"	FL : Flange(JIS10K)	SL : 316L Stainless Steel	B : BA Grade	X : Customization
	40A : 40A			P : EP Grade	
	50A : 50A		-		

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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Low Pressure Manual Bellows Valves

Standard Type



Features

- Compact designed inner capacity.
- Minimal contributions of moisture, Oxygen and Hydrocarbon, Minimal particle generation.
- DK-LOK's own electropolished.
- DI water cleaned, assembled, tested & packaged in the certified clean room.
- Standard PTFE Disk Material.

Specification

Size	65A	80A	100A	125A	150A	200A	250A	300A	350A	400A	450A	500A
Cv Value	81	132	200	302	434	772	1200	1600	2000	2650	3100	3400
Max. Working Pressure	10 bar (145 psig)											
Max. Working Temperature	-10° ~ 80°C (-23~-176°F)											
Internal Leakage Allowance (He) Test Pressure ≤ 1×10 ⁻² Torr Holding Time ≥ 15 sec.	≤ 1x10 ⁻⁵ atm.cc/s											
External Leakage Allowance (He) Test Pressure ≤ 1×10 ⁻² Torr Holding Time ≥ 1 min.	≤ 1x10 ⁻⁵ atm.cc/s											
Particle Inspection (EP only) Pressure : 60~80 psi N2 Gas Sample Volume : 1CFM 0.1μm and Larger	No count											

Product Grade

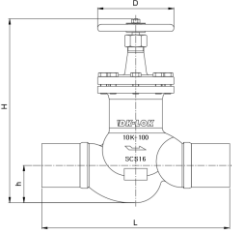
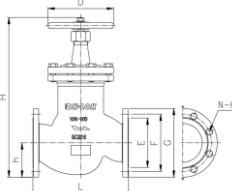
Level	AP	BA	EP
Inner Surface Roughness	Ry ≤ 25 μm	Ry ≤ 3.0 μm / Ra 10μin	Ry ≤ 0.7 μm / Ra 5μin
	Cut off Length : 2.5mm	Cut off Length : 0.8mm	Cut off Length : 0.25mm
	Measuring Length : 12.5mm	Measuring Length : 4mm	Measuring Length : 1.25mm
Polishing	Machining Finish	Machining Finish	Electro Polishing Finish

Material of Construction

Description	Materials
Body	SCS13
	SCS16
Disk	PTFE
Bellows	316L Stainless Steel
Handle	SCS13

- Wetted Components are listed in [blue](#)

Ordering Information and Dimensions

Model	Basic Ordering Number	End Connections	Dimensions (mm)									
			STD	Size	L	h	H	D	E	F	G	N-H
	U-VB65A-TW-	65A Butt Weld	Sch.5	65A	416	68	289	160	-	-	-	
	U-VB80A-TW-	80A Butt Weld	Sch.5	80A	441	80	329	160	-	-	-	
	U-VB100A-TW-	100A Butt Weld	Sch.5	100A	492	94	476	200	-	-	-	
	U-VB125A-TW-	125A Butt Weld	Sch.10	125A	556	111	539	300	-	-	-	
	U-VB150A-TW-	150A Butt Weld	Sch.10	150A	606	126	555	300	-	-	-	
	U-VB200A-TW-	200A Butt Weld	Sch.10	200A	795	157	714	400	-	-	-	
	U-VB250A-TW-	250A Butt Weld	Sch.10	250A	1022	190	868	400	-	-	-	
	U-VB300A-TW-	300A Butt Weld	Sch.10	300A	1100	216	1120	500	-	-	-	
	U-VB350A-TW-	350A Butt Weld	Sch.10	350A	1187	241	1286	713	-	-	-	
	U-VB400A-TW-	400A Butt Weld	Sch.10	400A	1314	268	1318	713	-	-	-	
	U-VB450A-TW-	450A Butt Weld	Sch.10	450A	1440	305	1454	800	-	-	-	
	U-VB500A-TW-	500A Butt Weld	Sch.10	500A	1440	327.5	1625	800	-	-	-	
	U-VB65A-FL-	65A Flange	JIS10K	65A	216	87.5	308	160	116	140	175	4-Ø19
	U-VB80A-FL-	80A Flange	JIS10K	80A	241	92.5	341	160	126	150	185	8-Ø19
	U-VB100A-FL-	100A Flange	JIS10K	100A	292	105	487	200	151	175	210	8-Ø19
	U-VB125A-FL-	125A Flange	JIS10K	125A	356	125	553	300	182	210	250	8-Ø23
	U-VB150A-FL-	150A Flange	JIS10K	150A	406	140	569	300	212	240	280	8-Ø23
	U-VB200A-FL-	200A Flange	JIS10K	200A	495	165	721	400	262	290	330	12-Ø23
	U-VB250A-FL-	250A Flange	JIS10K	250A	622	200	868	400	324	355	400	12-Ø25
	U-VB300A-FL-	300A Flange	JIS10K	300A	698	222.5	1120	500	368	400	445	16-Ø25
	U-VB350A-FL-	350A Flange	JIS10K	350A	787	245	1290	713	413	445	490	16-Ø25
	U-VB400A-FL-	400A Flange	JIS10K	400A	914	280	1330	713	475	510	560	16-Ø27
	U-VB450A-FL-	450A Flange	JIS10K	450A	1040	310	1579	800	530	565	620	20-Ø27
	U-VB500A-FL-	500A Flange	JIS10K	500A	1040	338	1630	800	585	620	675	20-Ø27

How to order

U	-	VB	-	65A	-	TW	-	SL	-	B	-	X
DK-LOK UHP Product		Valve Type		Size		End Connector Type		Material		Inner Surface Level		User Option

Valve Type	Size	End Connector Type	Material	Surface Level	User Option
VB	65A : 65A	TW : Butt Weld FL : Flange(JIS10K)	4S : SCS13 SL : SCS16	AP : AP Grade B : BA Grade P : EP Grade	Blank : Standard X : Customization No.
	80A : 80A				
	100A : 100A				
	125A : 125A				
	150A : 150A				
	200A : 200A				
	250A : 250A				
	300A : 300A				
	350A : 350A				
	400A : 400A				
	450A : 450A				
	500A : 500A				

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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V13W Series Bellows Valves

Severe Service Bellows Valves, Double Sealed
Working Pressure up to 2,500 psig (172 bar)

Features

V13W series bellows valve offers the most difficult fluid handling applications. This design with the secondary sealing system fits to the need for a safe and reliable system.

Applications include cryogenic to high temperatures, high pressure to vacuum in power plants, instrumentation, panels, and critical sampling system for toxic, radioactive, and hazardous fluids.

Bellows subassembly (Figure 1)

Welding upper end of the bellows to 12. stem (weld 1) and the other end to 19. stem weld ring (weld 2), this bellows is then welded to the valve body (weld 3).

Bellows subassembly with the three places of welding provides all metal, hermetical sealed valve. This primary seal offers a complete sealing between the system and atmosphere where leakage is not accepted.

Secondary seal (6), (18).

All welded stainless steel valves with secondary seal makes this valve for the most difficult fluid containment applications. Secondary sealing prevents leakage to atmosphere in the event of a bellows rupture due to excessive pressurization. Leakage past the primary seal is contained by secondary seal.

Actuator threads (2)

Hardened 440C stainless steel actuator is for maximum strength, wear resistance, and positive stem retraction.

Acme power transmission threads constructed on actuator (2) and the bonnet (8) for low operation torque and to handle the extreme force transmitted to the threads in high pressure bellows valve. The threads are not in contact with the process fluid and are protected from atmospheric containments by the packing (6).

Valve actuation

Valves in high pressure tend to stick in the closed position. The ball bearing (9), and double pin (10) on a shoulder of stem extension (11) provide positive lifting of stem (12) and stem retraction. Compressing or stretching the bellows allows linear motion of the stem with the convolutions.

Ported bonnet nut (15)

This allows monitoring sealing condition of weld 3 (Figure 1) and low seal O-ring (18).

Turns to Open

Bellows valves operated by manual actuating bar handle requires around 1 3/4 turns on the V13WA series and 2 1/2 turns on the V13WB & V13WC series to open the valves to full flow.

A jam nut (4) is provided for locking the gland nut (3).

Additional Features

- Non-rotating stem disc (17).
- Standard panel (14) and bottom mounting.
- Union bonnet construction allows packing (6) replacement for maintenance.
- Safety back-seat sealing in the valve closed position.
- DKLOK tube fitting and socket or butt weld end connections.
- Regulating stem disc for V13WA series.

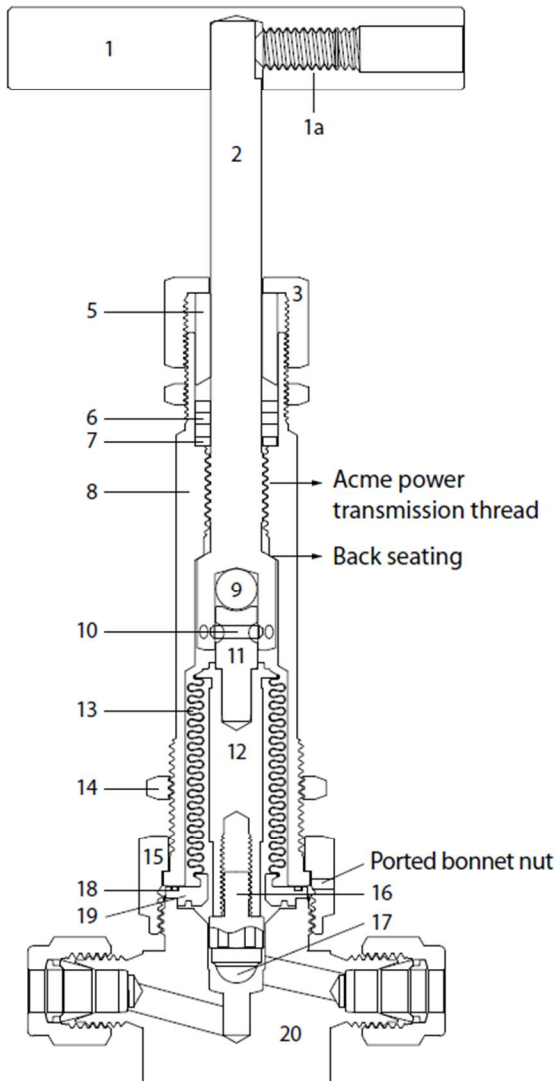
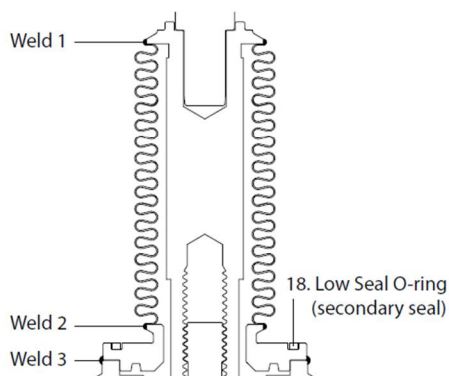
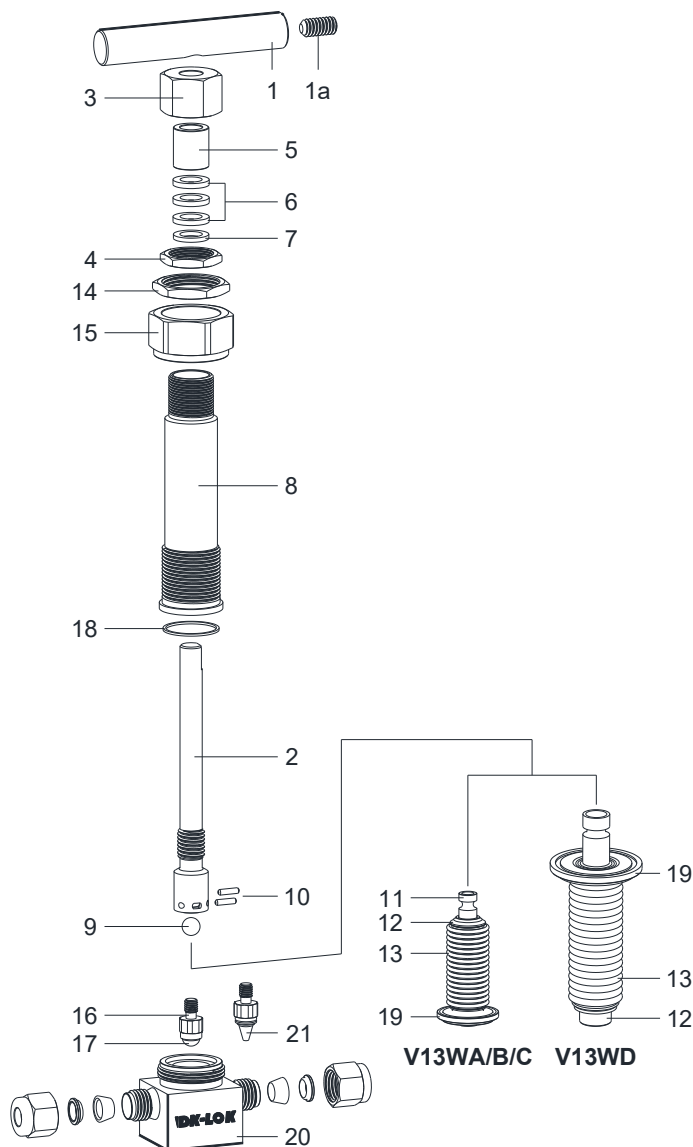


Figure 1.
Bellows Subassembly (Primary Seal)



Materials of Construction



No.	Component	Material Grade / ASTM specification
1	Handle	Aluminum Blue-anodized / B211
1a.	Set Screw	Alloy Steel / ANSI 18.3
2	Actuator	440C SS / A 479 or A276
3	Gland Nut	316SS / A 479 or A276
4	Jam Nut	316SS / A 479 or A276
5	Gland	316SS / A 479 or A276
6	Packing	Grafoil, optional PTFE/D1710
7	Spacer	316SS / A 479 or A276
8	Bonnet	316SS / A 479 or A276
9	Ball Bearing	316SS / A 479 or A276
10	Pin (2)	316SS
11	Stem Extension (V13WA/B/C Only)	440C SS / A 479 or A276
12	Stem	316SS / A 479 or A276
13	Bellows	Type 321 / A 240 or 1.4541-DIN EN10028-7
14	Panel Mount Nut	316SS / A 479 or A276
15	Bonnet Nut	316SS / A 479 or A276
16	Stem Adapter	316SS / A 479 or A276
17	Spherical Stem Disc	Cobalt alloy / AMS 5373
21	Optional Regulating Stem Disc	316SS / A 479 or A276
18	Low Seal O-Ring	316SS / A 479 or A276
19	Stem Weld Ring	316SS / A 479 or A276
20	Body	316SS / A 479 or A276

Wetted parts are listed in blue.

Lubricants

Spherical Stem Disc : Fluorinated-based.

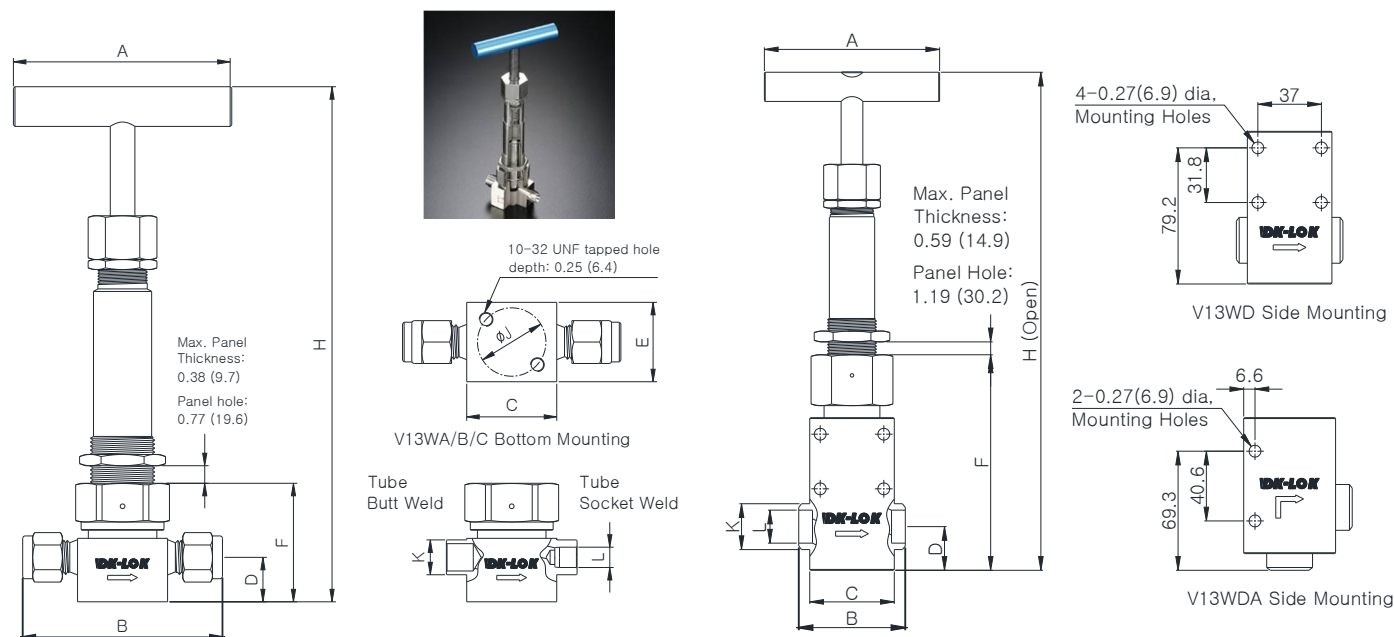
Non-wetted Lubricant : Silicon based.

Factory test

Every bellows valve is vacuum-tested with helium at room temperature for 5s to maximum leak rate of 4×10^{-9} std cm^3/s at the seat, envelope, and all seals.

Cleaning and Packaging

Every bellows valve is cleaned and packaged in accordance with DK-Lok Corporation cleaning standard DC-01. Optional DC-11 cleaning for oxygen application is available on request.

Ordering Information and Dimensions


Basic Ordering		End Connections		Orifice	Dimensions, in (mm)								
Number		Inlet	Outlet		B	C	D	E	F	H	J	K	L
V13WA-	D4T-	1/4 in. DK-LOK	0.172 (4.37)	2.46 (62.5)	1.13 (28.8)	0.56 (14.2)	1.00 (25.4)	1.49 (37.8)	6.45 (164)	1.00 (25.4)	-	-	2.75 (69.9)
	D6M-	6mm DK-LOK	0.172 (4.37)	2.46 (62.5)							-	-	
	SW4T-	1/4 in. Tube Socket Weld	0.156 (3.96)	1.68 (42.7)							0.38 (9.7)	0.25 (6.4)	
	W6T-	3/8 in. Tube Butt Weld	0.156 (3.96)	1.68 (42.7)									
V13WB-	D6T-	3/8 in. DK-LOK	0.265 (6.73)	3.09 (78.5)	1.57 (39.9)	0.50 (12.7)	1.13 (28.7)	1.61 (40.9)	6.59 (167)	1.13 (28.7)	-	-	
	D10M-	10mm DK-LOK	0.281 (7.14)	3.11 (79.0)							-	-	
	SW6T-	3/8 in. Tube Socket Weld	0.281 (7.14)	2.27 (57.7)							0.50 (12.7)	0.38 (9.7)	
	W8T-	1/2 in. Tube Butt Weld	0.281 (7.14)	2.27 (57.7)									
V13WC-	D8T-	1/2 in. DK-LOK	0.312 (7.92)	3.30 (83.8)	1.57 (39.9)	0.50 (12.7)	1.13 (28.7)	1.61 (40.9)	6.59 (167)	1.13 (28.7)	-	-	
	D12M-	12mm DK-LOK	0.281 (7.14)	3.30 (83.8)							-	-	
	SW8T-	1/2 in. Tube Socket Weld	0.312 (7.92)	2.27 (57.7)							0.75 (19.1)	0.50 (12.7)	
	W12T-	3/4 in. Tube Butt Weld	0.312 (7.92)	2.27 (57.7)									
V13WD-	SW12T-	3/4 in. Tube Socket Weld	0.500 (12.7)	2.44 (62.0)	1.94 (49.2)	1.00 (25.4)	1.61 (41.0)	4.88 (124)	11.6 (295)	-	1.05 (26.7)	0.76 (19.3)	4.00 (102)
V13WDA-		1/2 in. Tube Butt Weld	0.610 (15.5)	2.49 (63.2)	2.11 (53.5)	1.44 (36.6)							

Ordering information.

Select the desired valve basic ordering number, and optional disc.

Note:

Optional regulating disc is applicable only to V13WA series

V13WA-D4T
-R
-S

Stem Disc Designator

Valve Material Designator

Nil: Spherical stem disc

S: stainless steel 316

R: Regulating stem disc

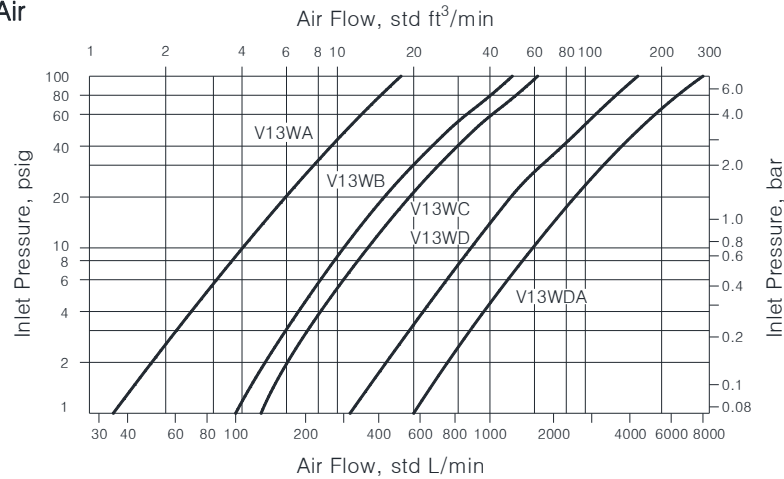
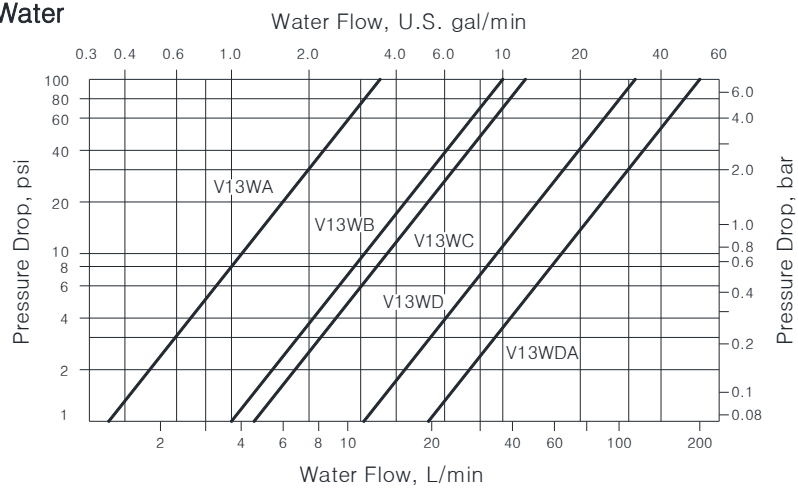
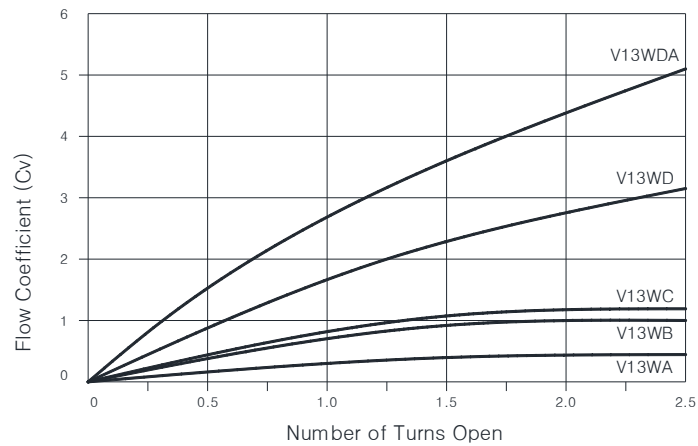
Pressure-Temperature Ratings

Rating are for SS316 valve with spherical and regulating stem disc

Temperature, °F(°C)	Working Pressure, psig (bar)
-20 to 650 (-28 to 343)	2500 (172)
700 (371)	2120 (146)
750 (398)	1740 (119)
800 (426)	1360 (93.7)
850 (454)	980 (67.5)
900 (482)	600 (41.3)
950 (510)	540 (37.2)
1000 (537)	480 (33.0)
1050 (565)	425 (29.2)
1100 (593)	360 (24.8)
1150 (621)	300 (20.6)
1200 (648)	250 (17.2)

Technical Data

Valve series	Stem disc	Cv	Internal Volume in. ³ (cm ³)
V13WA	Standard spherical	0.36	0.11 (1.8)
V13WB		1.0	0.25 (4.1)
V13WC		1.2	0.27 (4.4)
V13WD		3.1	1.46 (23.9)
V13WDA		5.3	1.22 (20.0)
V13WA	Optional regulating	0.36	0.11 (1.8)

Flow Data @ 70 °F (20 °C)
Air

Water

Flow Coefficient at Turns Open
Flow Coefficient at Turns Open


We reserve the right to change specifications stated in this catalog for our continuing program of improvement.

Pneumatic Actuators
Features

- Low actuation pressures
- Aluminum and stainless steel components

Actuator Series

- 8 series actuator for V13WD series valves

Actuation Modes

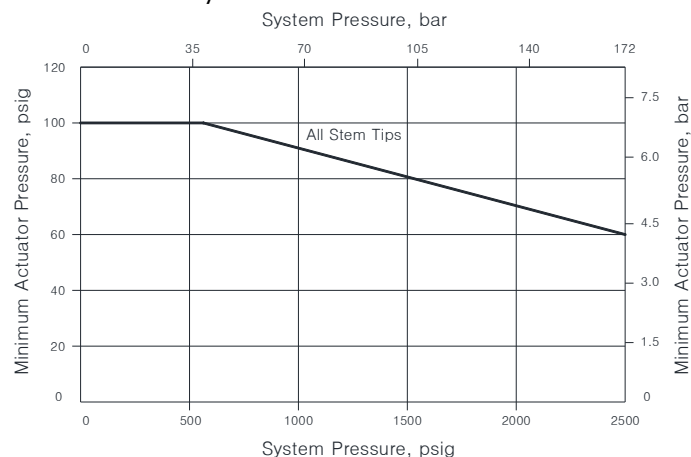
- Normally closed—air opens, spring closes

Technical Data

Valve Series	Actuator Series	Pressure Rating psig (bar)	Temperature Rating °C (°F)
V13WD	8	40 ~ 150 (2.7 ~ 10.3)	23 ~ 148 (10 ~ 300)

Pneumatic Actuator Performance

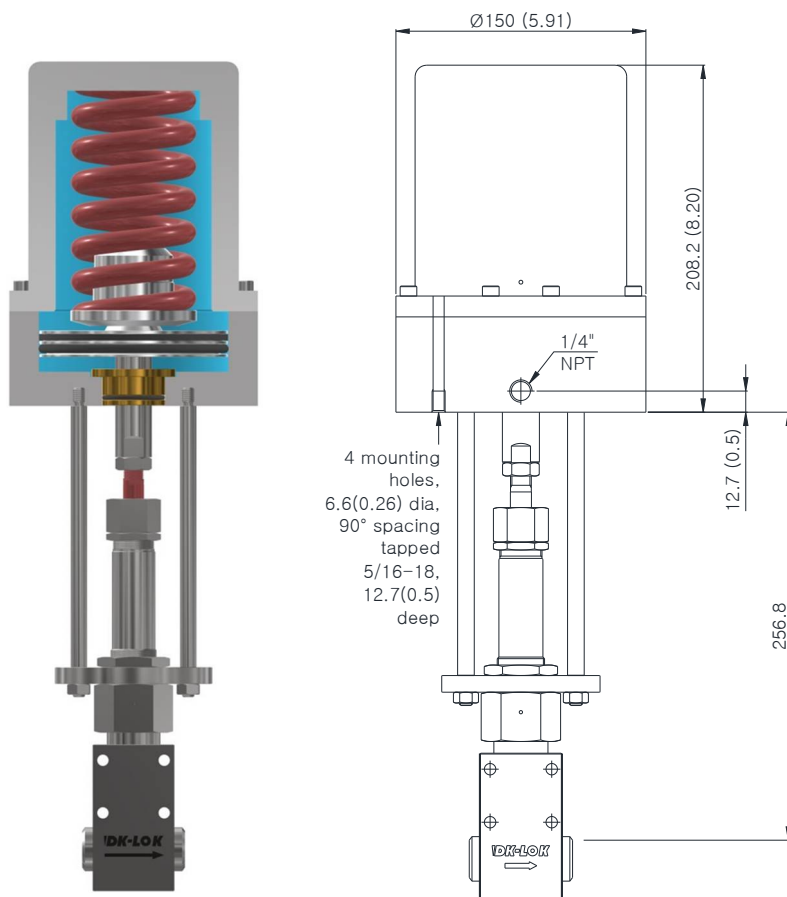
- 8 Series Normally Closed


Dimensions and Ordering Information

Dimensions, in millimeters (inches), are for reference only and are subject to change.

Add an actuator series designator, then an actuation mode designator to the valve ordering number.

Example: V13WD-SW12T-8C-S



<Normally Closed>

Safe Valve Selection

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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.



No. YPVB-1
FEB. 2025

Low Pressure Y type Pneumatic Bellows Valves

Welding Body Type



Features

- Minimal contributions of moisture, Oxygen and Hydrocarbon, Minimal particle generation.
- DK-LOK's own electropolished.
- DI water cleaned, assembled, tested & packaged in the certified clean room.
- Standard PTFE Disk Material.

Specification

Size	40A
Cv Value	45
Max. Working Pressure	10 bar (145 psig)
Max. Working Temperature	PTFE, PCTFE : -10° ~ 80°C
Actuator Pressure Ration	5 ~ 7 bar (72.5 ~ 101.5 psig)
Internal Leakage Allowance – He Holding Time ≥ 15 sec	PTFE : ≤ 1x10 ⁻⁵ atm.cc/s PCTFE : ≤ 5x10 ⁻⁹ atm.cc/s
External Leakage Allowance – He Holding Time ≥ 1 min	PTFE : ≤ 1x10 ⁻⁵ atm.cc/s PCTFE : ≤ 5x10 ⁻⁹ atm.cc/s
Particle Inspection (EP Only) Pressure : 60~80psi N2 Gas Sample Volume : 1CFM 0.1 μm and Larger	No count

Product Grade

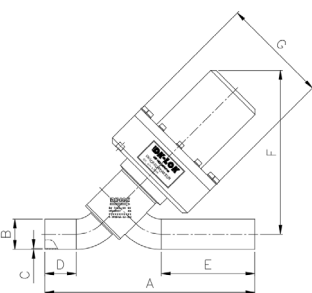
Level	AP	BA	EP
Inner Surface Roughness	Ry ≤ 25 μm	Ry ≤ 3.0 μm / Ra 10μin	Ry ≤ 0.7 μm / Ra 5μin
	Cut off Length : 2.5mm	Cut off Length : 0.8mm	Cut off Length : 0.25mm
	Measuring Length : 12.5mm	Measuring Length : 4mm	Measuring Length : 1.25mm
Polishing	Machining Finish	Machining Finish	Electro Polishing Finish

Material of Construction

Description	Materials
Body	304/316L Stainless Steel
Seat	PTFE, PCTFE
Bellows	316L Stainless Steel
Actuator	Aluminum

- Wetted Components are listed in [blue](#)

Ordering Information and Dimensions

Model	Basic Ordering Number	End Connections	Dimensions (mm)						
			A	B	C	D	E	F	G
	U-YPVB40A-TW	40A Tube Butt Weld	335.5	48.6	1.65	50	149.4	262	170

How to order

U DK-LOK UHP Product	-	YPVB Valve Type	40A Size	1 Seat Type	2 Gasket Type	1 Pipe Type	TW End Connector	-	SL Material	B Inner Surface Level	-	X User Option
Valve Type	Size	Seat Type	Gasket Type	Pipe Type	End Connector Type	Material		Surface Level	User Option			
YPVB	40A : 40A	1 : PTFE 2 : PCTFE	1 : PTFE 2 : PCTFE	1 : 5S(Seamless) 2 : 10S(Seamless) 3 : 5S(Seam) 4 : 10S(Seam)	TW : Tube Butt Weld	SL : 316L Stainless Steel 4S : 304 Stainless Steel		B : BA Grade P : EP Grade AP : AP Grade MP : MP Grade	Blank : Standard X : Customization No.			

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.

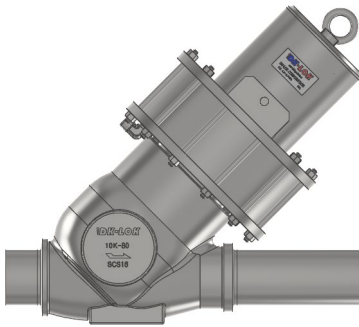
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Low Pressure Y type Pneumatic Bellows Valves

Casting Body Type



Features

- Minimal contributions of moisture, Oxygen and Hydrocarbon, Minimal particle generation.
- DK-LOK's own electropolished.
- DI water cleaned, assembled, tested & packaged in the certified clean room.
- Standard PTFE, PCTFE Disk Material.

Specification

Size	80A
Cv Value	270
Max. Working Pressure	10 bar (145 psig)
Max. Working Temperature	PTFE, PCTFE : -10° ~ 80°C
Actuator Pressure Ration	5 ~ 7 bar (72.5 ~ 101.5 psig)
Internal Leakage Allowance – He Holding Time ≥ 15 sec	PTFE : ≤ 1x10 ⁻⁵ atm.cc/s PCTFE : ≤ 5x10 ⁻⁹ atm.cc/s
External Leakage Allowance – He Holding Time ≥ 1 min	PTFE : ≤ 1x10 ⁻⁵ atm.cc/s PCTFE : ≤ 5x10 ⁻⁹ atm.cc/s
Particle Inspection (EP Only) Pressure : 60~80psi N2 Gas Sample Volume : 1CFM 0.1 μm and Larger	No count

Product Grade

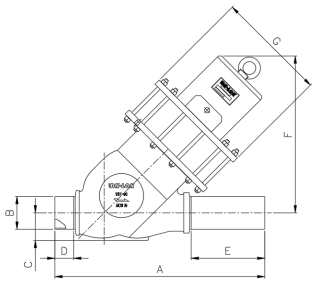
Level	AP	BA	EP
Inner Surface Roughness	Ry ≤ 25 μm	Ry ≤ 3.0 μm / Ra 10μin	Ry ≤ 0.7 μm / Ra 5μin
	Cut off Length : 2.5mm	Cut off Length : 0.8mm	Cut off Length : 0.25mm
	Measuring Length : 12.5mm	Measuring Length : 4mm	Measuring Length : 1.25mm
Polishing	Machining Finish	Machining Finish	Electro Polishing Finish

Material of Construction

Description	Materials
Body	SCS13, SCS16
Seat	PTFE, PCTFE
Bellows	316L Stainless Steel
Actuator	304 Stainless Steel

- Wetted Components are listed in [blue](#)

Ordering Information and Dimensions

Model	Basic Ordering Number	End Connections	Dimensions (mm)						
			A	B	C	D	E	F	G
	U-YPVB80A-TW-	80A Tube Butt Weld	570	89.1	2.1	51	200	427	300

How to order

U	-	YPVB		80A	1	2	1	2	TW	-	SL	B	-	X
DK-LOK UHP Product		Valve Type		Size	Seat Type	Gasket Type	Pipe Type	Body Type	End Connector		Material	Inner Surface Level		User Option
Valve Type	Size	Seat Type	Gasket Type	Pipe Type	Body Type	End Connector Type	Material	Surface Level	User Option					
YPVB	80A : 80A	1 : PTFE 2 : PCTFE	1 : PTFE 2 : PCTFE	1 : 5S(Seamless) 2 : 10S(Seamless) 3 : 5S(Seam) 4 : 10S(Seam)	2 : Dry sand casting	TW : Tube Butt Weld	SL : SCS16 4S : SCS13	B : BA Grade P : EP Grade AP : AP Grade MP : MP Grade	Blank : Standard X: Customization No.					

Safe Valve Selection

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