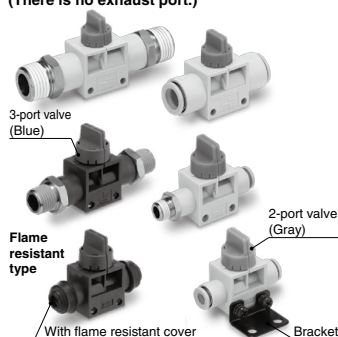


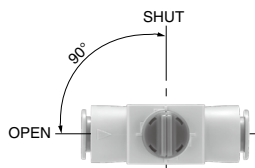
Finger Valve VHK-A Series

RoHS

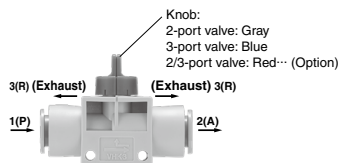
With a function to prevent the knob from coming out
Large effective area: 2.0 to 17.5 mm²
Reduced operating force
Poppet valve construction seldom suffers seal deflection.
The series begins with the min. tubing O.D. of $\phi 4$.
Selection from four types in accordance with the piping specifications
The 3-port valve discharges residual pressure from 2(A) with the handle set at SHUT.
(There is no exhaust port.)



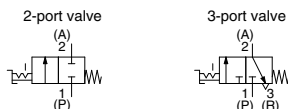
The valve direction clearly indicates whether the valve is open or closed.
(SHUT-OPEN: Counterclockwise)



2-port valves and 3-port valves can be distinguished by the color of their knobs.



Symbol



Specifications

Valve	2/3-port valves
Fluid	Air
Proof pressure	1.5 MPa
Max. operating pressure ^{Note 1)}	1.0 MPa
Operating vacuum pressure*	-100 kPa
Ambient temperature and operating fluid temperatures	0 to 60°C
Applicable tubing material ^{Note 2)}	Nylon, Soft nylon, Polyurethane
Accessory (Option)	Bracket

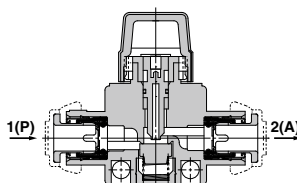
Note 1) Please note that when the valve is used at micro pressures of 0.1 MPa or less, valve leakage may be more than the standard value (5 cm³/min).

Note 2) Use caution about the maximum operating pressure when soft nylon or polyurethane tubing is used.
(Refer to Best Pneumatics No. 7 for details.)

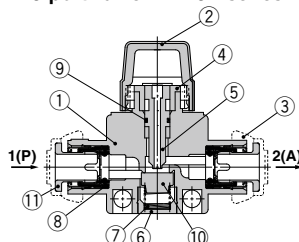
* Use VHK2 (2-port valve) for vacuum application.

Construction

2-port valve: VHK2A series



3-port valve: VHK3A series



Component Parts

No.	Description	Material	Note
1	Body	Standard type: PBT Flame resistant type: Flame resistant PBT (UL standard V-0)	
2	Knob	Standard type: POM Flame resistant type: Flame resistant PBT (UL standard V-0)	
3	Cover	Flame resistant CR (UL standard V-0)	Applicable to the flame-resistant cover only.
4	Cam ring	POM	
5	Stem	POM	
6	Spring guide	Brass	
7	Spring	Electroless nickel plated	
8	Seal	Stainless steel	
9	O-ring	NBR	
10	Valve	NBR	
11	Cassette	Standard type: POM Flame resistant type: Flame resistant PBT (UL standard V-0)	

Replacement Parts

Description	Model	
	- One-touch fitting - Applicable tubing O.D. $\phi 8$ or less	- One-touch fitting - Applicable tubing O.D. $\phi 10$ or more 1(P)-Male thread • 2(A)-Male thread - Port size R3/8 or more
	Part no.	
	VHK-B1A ^{Note 1)}	VHK-B2A ^{Note 1)}

Note 1) For details on selection of each bracket assembly part no., refer to the tables on page 1687-3.

Note 2) The bracket, bolts, nuts, and washers are supplied with the bracket assembly.

How to Order



Standard type VHK **2** **A** — **02S** — **02S** [] [] — []

Flame resistant type VHK **2** **A** **R** — **04F** — **04F** [] [] []

• Made to order

Valve model

2	2-port valve
3	3-port valve

Flame resistant type

1(P) port size

04F	ø4
06F	ø6
08F	ø8
10F	ø10
12F	ø12
M5	M5 x 0.8
01S	R 1/8
02S	R 1/4
03S	R 3/8
04S	R 1/2

Bracket

Nil	None
L	With L-bracket

* Bracket and screws are attached.

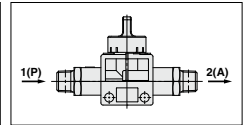
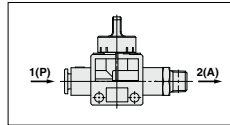
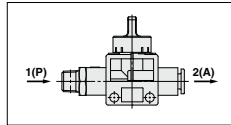
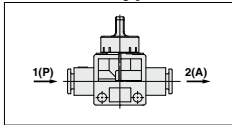
Flame resistant cover

Nil	None
C	With cover (For One-touch fitting only)

Knob color

Nil (Standard)	2-port valve 3-port valve	Gray Blue
R (Option)	2-port valve 3-port valve	Red

Standard Type



1(P): One-touch fitting
2(A): One-touch fitting

1(P)	2(A) Applicable tubing O.D. (mm)					
	ø4	ø6	ø8	ø10	ø12	
Applicable tubing O.D. (mm)	ø4	●				
	ø6		●			
	ø8			●		
	ø10				●	
	ø12					●

1(P): Male thread
2(A): One-touch fitting

1(P)	2(A) Applicable tubing O.D. (mm)					
	ø4	ø6	ø8	ø10	ø12	
Port size R	M5	●	●			
	1/8	●	●			
	1/4		●	●	●	
	3/8		●	●	●	●
	1/2				●	●

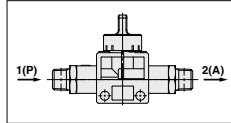
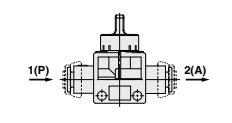
1(P): One-touch fitting
2(A): Male thread

1(P)	2(A) Port size R						
	M5	1/8	1/4	3/8	1/2		
Applicable tubing O.D. (mm)	ø4	●	●				
	ø6	●	●	●	●		
	ø8		●	●	●	●	
	ø10			●	●	●	●
	ø12				●	●	●

1(P): Male thread
2(A): Male thread

1(P)	2(A) Port size R					
	M5	1/8	1/4	3/8	1/2	
Port size R	M5	●				
	1/8	●	●			
	1/4		●	●		
	3/8			●	●	
	1/2				●	●

Flame Resistant Type (UL-94 Standard V-0 equivalent)



1(P): One-touch fitting
2(A): One-touch fitting

1(P)	2(A) Applicable tubing O.D. (mm)					
	ø4	ø6	ø8	ø10	ø12	
Applicable tubing O.D. (mm)	ø4	●				
	ø6		●			
	ø8			●		
	ø10				●	
	ø12					●

1(P): Male thread
2(A): Male thread

1(P)	2(A) Port size R				
	1/8	1/4	3/8	1/2	
Port size R	1/8	●			
	1/4		●		
	3/8			●	
	1/2				●

VM

VMG

VR

VR51

VHK

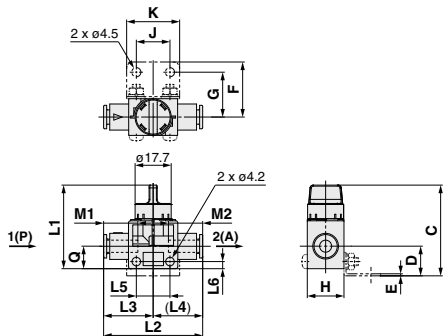
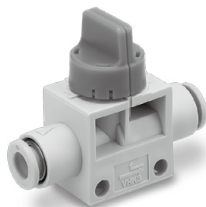
VH

VHS□

VHS

VHK-A Series

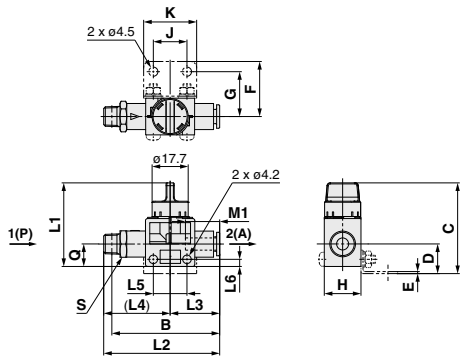
1(P)/2(A): One-touch Fitting



Applicable tubing O.D. (mm)		Model	H	L1	L2	L3	L4	L5	L6	M1	M2	Q	Flow rate characteristics						Weight (g)	Bracket mounting dimensions							
1(P)	2(A)												1(P)→2(A)			2(A)→3(R)*1				Bracket assembly no.	C	D	E	F	G	J	K
													Q _{min} (l/min)	b	Cv	Q _{min} (l/min)	b	Cv									
4	4	VHK□A-04F-04F	18	41	47.6	23.8	23.8	16.5	3.5	15.8	15.8	11	0.7	0.15	0.14	0.25	0.6	0.06	15	VHK-B1A	44.5	14.5	1	27	22	16.5	26
6	4	VHK□A-06F-04F	18	41	48	24.3	23.7	16.5	3.5	16.8	15.8	11	1.0	0.15	0.21	0.25	0.6	0.06	15	VHK-B1A	44.5	14.5	1	27	22	16.5	26
	6	VHK□A-06F-06F			48.6	24.3	24.3						1.4	0.15	0.35	0.25	0.6	0.06	16								
8	6	VHK□A-08F-06F	18	41	50.5	24.3	24.3	16.5	3.5	18.7	16.8	11	2	0.15	0.36	0.25	0.6	0.06	16	VHK-B1A	44.5	14.5	1	27	22	16.5	26
	8	VHK□A-08F-08F			52.4	26.2	26.2						1.9	0.15	0.39	0.25	0.6	0.06	17								
10	8	VHK□A-10F-08F	22	46	58.5	30.5	28	21.5	4	20.8	18.7	14	2.7	0.15	0.55	0.67	0.6	0.16	28	VHK-B2A	49	17	1	30	25	21.5	31
	10	VHK□A-10F-10F			61	30.5	30.5						3.1	0.15	0.65	0.67	0.6	0.16	29								
12	10	VHK□A-12F-10F	22	46	62	30.5	30.5	21.5	4	21.8	20.8	14	3.3	0.15	0.68	0.67	0.6	0.16	31	VHK-B2A	49	17	1	30	25	21.5	31
	12	VHK□A-12F-12F			63	31.5	31.5						3.4	0.15	0.70	0.67	0.6	0.16	32								

*1 3-port valve

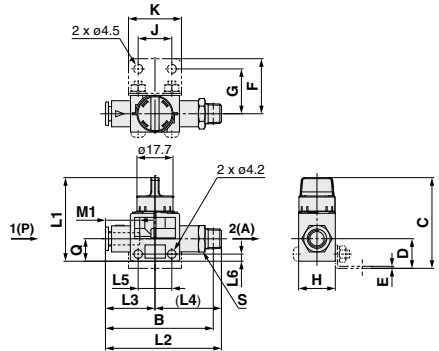
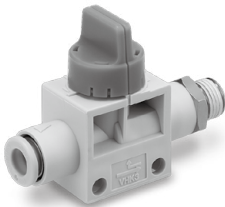
1(P): Male Thread, 2 (A): One-touch Fitting



Connection thread R	Applicable tubing O.D. (mm)		Model	H	L1	L2	L3	L4	L5	L6	M1	Q	Flow rate characteristics						Weight (g)	S +2 B (Width across flats)	Bracket mounting dimensions									
	1(P)	2(A)											1(P)→2(A)			2(A)→3(R)*1					Bracket assembly no.	C	D	E	F	G	J	K		
													Q _{min} (l/min)	b	Cv	Q _{min} (l/min)	b	Cv												
M5	4	VHK□A-M5-04F	18	41	52.9	23.8	29.1		16.5	3.5	15.8	11	0.4	0.15	0.10	0.25	0.6	0.06	19	49	11	VHK-B1A	44.5	14.5	1	27	22	16.5	26	
	6	VHK□A-M5-06F			53.9	24.3	29.6				16.8	11	0.4	0.15	0.10	0.25	0.6	0.06	21	50	13									
1/8	4	VHK□A-01S-04F			55.4	23.8	31.6				15.8	11	0.7	0.15	0.17	0.25	0.6	0.06	21	51	11	VHK-B1A	44.5	14.5	1	27	22	16.5	26	
	6	VHK□A-01S-06F	18	41	56.9	24.3	32.6		16.5	3.5	16.8	11	1.4	0.15	0.35	0.25	0.6	0.06	23	53	13									
1/4	8	VHK□A-01S-08F			62.2	26.2	36				18.7	11	1.9	0.15	0.47	0.25	0.6	0.06	31	58	17	VHK-B1A	44.5	14.5	1	27	22	16.5	26	
	6	VHK□A-02S-06F	18	41	60.4	24.3	36.1		16.5	3.5	16.8	11	1.4	0.15	0.35	0.25	0.6	0.06	31	54	14									
	8	VHK□A-02S-08F			65.2	26.2	39				18.7	11	1.9	0.15	0.47	0.25	0.6	0.06	32	59	17	VHK-B2A	49	17		30	25	21.5	31	
	10	VHK□A-02S-10F			73.8	30.5	43.3				20.8	14	3.1	0.15	0.78	0.67	0.6	0.16	49	68	19									
	12	VHK□A-02S-12F	22	46	76.3	31.5	44.8		21.5	4	21.8	14	3.4	0.15	0.85	0.67	0.6	0.16	63	70	22									
	6	VHK□A-03S-06F			62.4	24.3	38.1				16.8	11	1.4	0.15	0.35	0.25	0.6	0.06	41	56	16	VHK-B1A	44.5	11.5	1	27	22	16.5	26	
3/8	8	VHK□A-03S-08F	18	41	66.2	26.2	40		16.5	3.5	18.7	11	1.9	0.15	0.47	0.25	0.6	0.06	40	60	16									
1/2	10	VHK□A-03S-10F			74.8	30.5	44.3				20.8	14	3.1	0.15	0.78	0.67	0.6	0.16	51	68	19	VHK-B2A	49	17	1	30	25	21.5	31	
	12	VHK□A-03S-12F	22	46	77.3	31.5	45.8		21.5	4	21.8	14	3.4	0.15	0.85	0.67	0.6	0.16	64	71	22									
1/2	10	VHK□A-04S-10F			78.2	30.5	47.7				20.8	14	3.1	0.15	0.78	0.67	0.6	0.16	72	70	22	VHK-B2A	49	17	1	30	25	21.5	31	
	12	VHK□A-04S-12F	22	46	80.2	31.5	48.7		21.5	4	21.8	14	3.4	0.15	0.85	0.67	0.6	0.16	70	72	22									

*1 3-port valve *2 Reference dimensions after insertion of R thread.

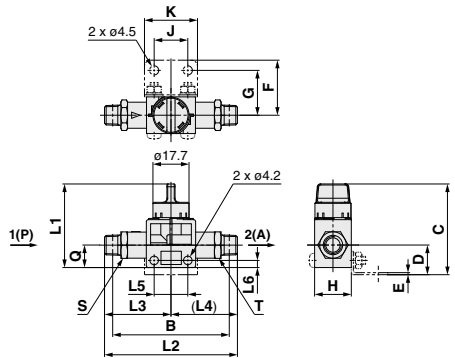
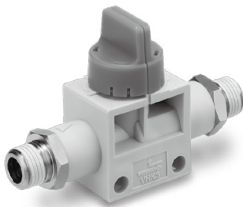
1(P): One-touch Fitting, 2(A): Male Thread



Applicable tubing O.D. (mm)	Connection thread R	Model	H	L1	L2	L3	L4	L5	L6	M1	Q	Flow rate characteristics						Weight (g)	+2 B	S (Width across flats)	Bracket mounting dimensions																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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*1 3-port valve *2 Reference dimensions after insertion of R thread.

1(P)/2(A): Male Thread

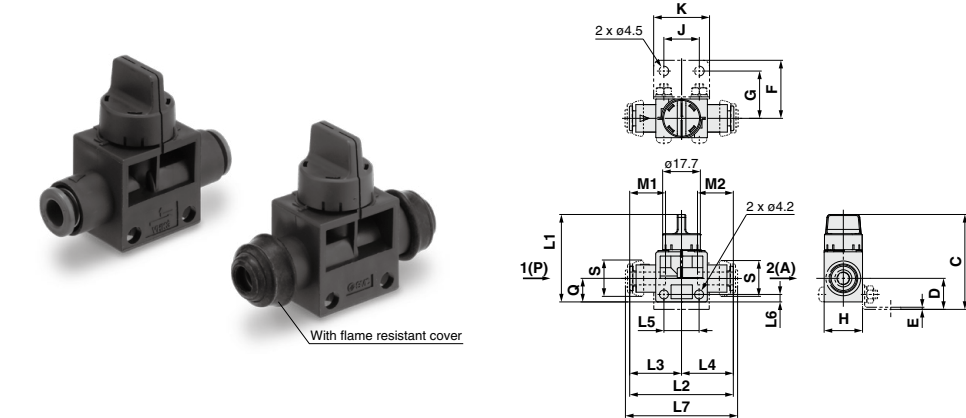


Connection thread R		Model	H	L1	L2	L3	L4	L5	L6	Q	Flow rate characteristics						Weight (g)	+2 B	S (Width across flats)	T (Width across flats)	Bracket mounting dimensions																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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*1 3-port valve *2 Reference dimensions after insertion of R thread.

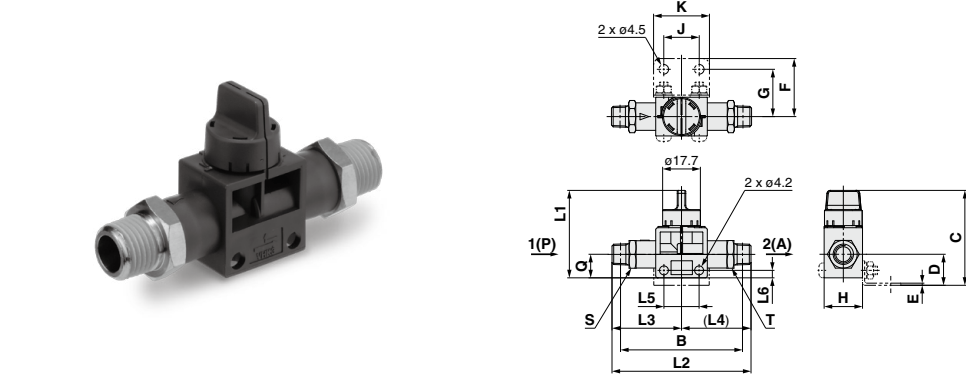
VHK-A Series

Flame Resistant Type: 1(P)/2(A): One-touch Fitting



Applicable tubing O.D. (mm)		Model	H	L1	L2	L3	L4	L5	L6	L7	Q	M1	M2	Flow rate characteristics						Weight (g)	Bracket mounting dimensions										
														1(P) → 2(A)			2(A) → 3(R)				S	Bracket assembly no.									
														C [dm ³ /[bar]]	b	Cv	C [dm ³ /[bar]]	b	Cv			C	D	E	F	G	J	K			
4	VHK□AR-04F-04F	18	41	47.6	23.8	23.8	16.5	3.5	51.6	11	15.8	15.8	0.4	0.15	0.14	0.25	0.6	0.08	15	ø14.4	VHK-B1A	44.5	14.5	1	27	22	16.5	26			
6	VHK□AR-06F-06F	18	41	48.6	24.3	24.3	16.5	3.5	52.6	11	16.8	16.8	1.4	0.15	0.35	0.25	0.6	0.08	16	ø16.8	VHK-B1A	44.5	14.5	1	27	22	16.5	26			
8	VHK□AR-08F-08F	18	41	52.4	26.2	26.2	16.5	3.5	56.4	11	18.7	18.7	1.9	0.15	0.39	0.25	0.6	0.08	17	ø19.2	VHK-B1A	44.5	14.5	1	27	22	16.5	26			
10	VHK□AR-10F-10F	22	46	61	30.5	30.5	21.5	4	65	14	20.8	20.8	3.1	0.15	0.65	0.67	0.6	0.21	29	ø23.3	VHK-B2A	49	17	1	30	25	21.5	31			
12	VHK□AR-12F-12F	22	46	63	31.5	31.5	21.5	4	67	14	21.8	21.8	3.4	0.15	0.70	0.67	0.6	0.21	32	ø25.7	VHK-B2A	49	17	1	30	25	21.5	31			

Flame Resistant Type: 1(P)/2(A): Male Thread



Connection thread R		Model	H	L1	L2	L3	L4	L5	L6	Q	B *	Flow rate characteristics						Weight (g)	S (Width across flats)	T (Width across flats)	Bracket mounting dimensions															
												1(P) → 2(A)									2(A) → 3(R)						Bracket no.									
												C [dm ³ /[bar]]									C [dm ³ /[bar]]						C [dm ³ /[bar]]									
												b									b						b									
1/8	1/8	VHK□AR-01S-01S	18	41	65.2	32.6	32.6	16.5	3.5	11	57	1.6	0.15	0.35	0.25	0.6	0.08	30	13	13	VHK-B1A	44.5	14.5	1	27	22	16.5	26								
1/4	1/4	VHK□AR-02S-02S	18	41	78	39	39	16.5	3.5	11	66	1.9	0.15	0.39	0.25	0.6	0.08	47	17	17	VHK-B1A	44.5	14.5	1	27	22	16.5	26								
3/8	3/8	VHK□AR-03S-03S	22	46	88.6	44.3	44.3	21.5	4	14	76	3.1	0.15	0.66	0.67	0.6	0.21	72	19	19	VHK-B2A	49	17	1	30	25	21.5	31								
1/2	1/2	VHK□AR-04S-04S	22	46	97.4	48.7	48.7	21.5	4	14	81	3.4	0.15	0.71	0.67	0.6	0.21	101	22	22	VHK-B2A	49	17	1	30	25	21.5	31								

VHK-A Series

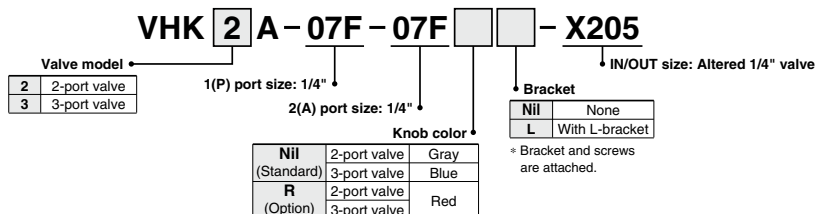
Made to Order

Please contact SMC for detailed dimensions, specifications, and lead times.



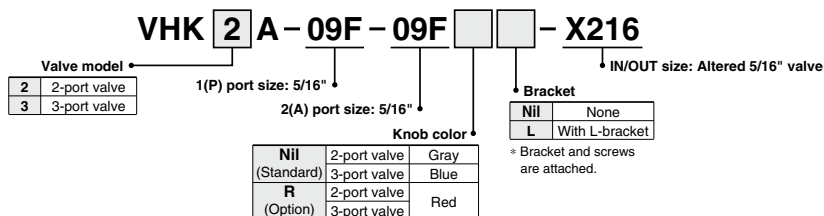
1 IN/OUT Size: Altered 1/4" Valve

X205



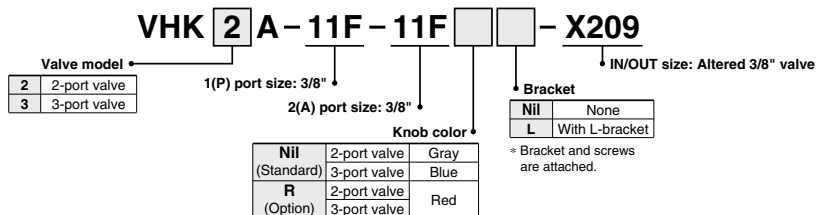
2 IN/OUT Size: Altered 5/16" Valve

X216



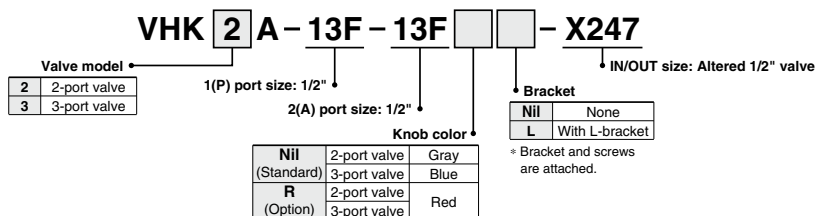
3 IN/OUT Size: Altered 3/8" Valve

X209



4 IN/OUT Size: Altered 1/2" Valve

X247



VM

VMG

VR

VR51

VHK

VH

VHS ☐

VHS