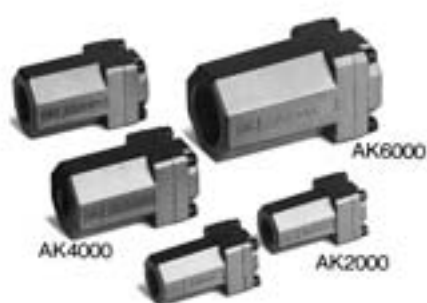


Check Valve Series AK

Large flow capacity
Low cracking pressure: 0.02 MPa
A wide variation of models



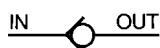
Model

Model	Port size	Effective area (mm ²)	Mass (g)
AK2000-01	1/8	25	105
AK2000-02	1/4	27.5	100
AK4000-02	1/4	47	155
AK4000-03	3/8	85	150
AK4000-04	1/2	95	140
AK6000-06	3/4	200	345
AK6000-10	1	230	315

Specifications

Fluid	Air
Proof pressure	1.5 MPa
Maximum operating pressure	1 MPa
Minimum operating pressure	0.02 MPa
Ambient and fluid temperature	-5 to 60°C (No freezing)

JIS Symbol



How to Order

AK 2 000 - 02

Standard size

2	1/4
4	1/2
6	1

Thread type

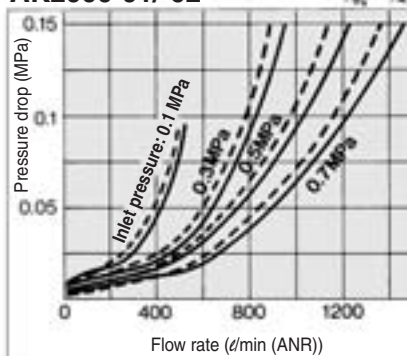
Nil	Rc
N	NPT
F	G

Port size

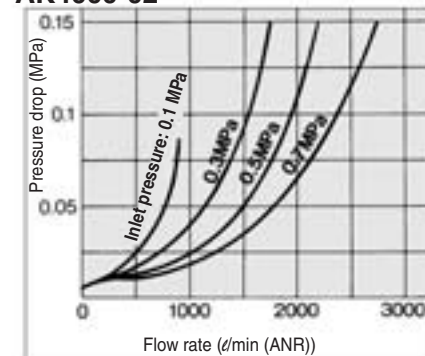
Port size	Applicable series
01	1/8 AK2000
02	1/4 AK2000, 4000
03	3/8 AK4000
04	1/2 AK4000
06	3/4 AK6000
10	1 AK6000

Flow Characteristics

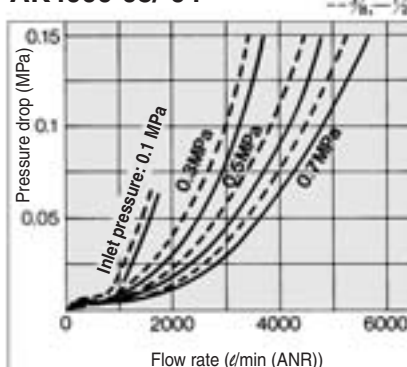
AK2000-01/-02



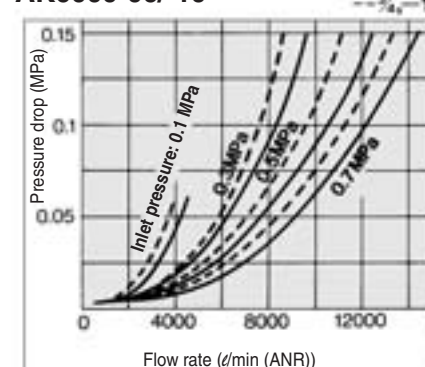
AK4000-02



AK4000-03/-04

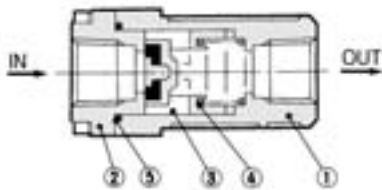


AK6000-06/-10

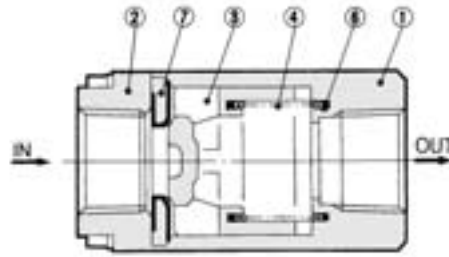


Construction

AK2000



AK4000/6000



Component Parts

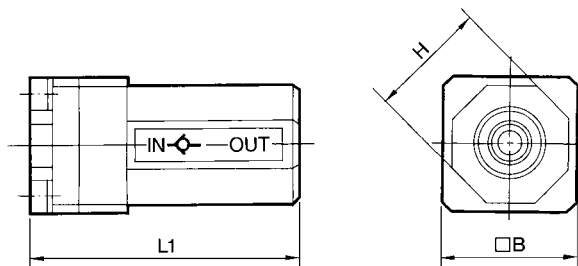
No.	Description	Material
1	Body	Aluminum-die casted ^{Note)}
2	Cover	Aluminum-die casted

^{Note)} AK2000: Zinc alloy

Replacement Parts

No.	Description	Material	Part no.		
			AK2000	AK4000	AK6000
3	Valve	POM	19033	19014	19024
4	Spring	Stainless steel	19037	19015	19025
5	O-ring	NBR	20 x 17 x 1.5	—	—
6	Ring	NBR	—	19016	19026
7	Seat ring	Brass, NBR	—	19013	19023

Dimensions



Model	Port size	L1	□B	H
AK2000-01, 02	1/8, 1/4	50	25	22
AK4000-02, 03, 04	1/4, 3/8, 1/2	67	36	36
AK6000-06, 10	3/4, 1	95	50	50

⚠ Specific Product Precautions

Be sure to read before handling.
Refer to front matters 58 and 59 for Safety Instructions and pages 412 to 414 for Flow Control Equipment Precautions.

Design/Selection

⚠ Caution

- Even when using with the specification range listed in the catalog, when the IN side of the check valve is throttled, it may fail to open all the way and may generate vibration.
- The cracking pressure is the pressure when the valve begins to open, and not the pressure when the valve is fully open.

Bushing Type Check Valve with One-touch Fittings

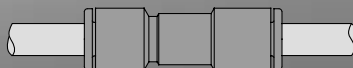
Series *AKH/AKB*

3 configurations provide design solutions based on the operating conditions.



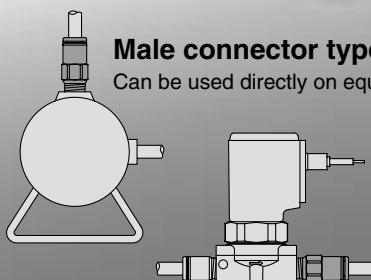
Straight type

Easily installed in pipe lines.



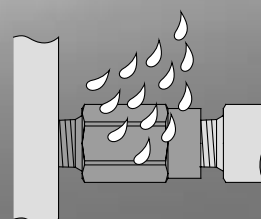
Male connector type

Can be used directly on equipment.



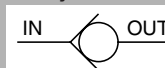
Bushing type

Can be used in applications with splashing coolant and spatter, etc.

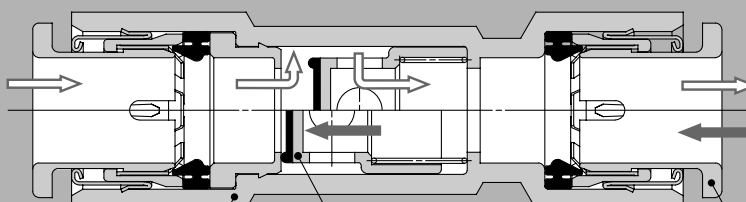


Can be used for vacuum (−100 kPa)

JIS Symbol



Free flow direction



Check direction

Compact & lightweight

Outside diameter: $\phi 11.6$ mm
Overall length: 37.1 mm
Weight: 5 g
(for AKH06-00)

Valve

Low cracking pressure: 0.005 MPa
Large effective area: 3 to 34 mm²

With One-touch fitting

Reduces piping labor
Release bushing color
Metric size: White
Inch size: Orange

Bushing Type Check Valve with One-touch Fittings

Series *AKH/AKB*

How to Order

Straight type

AKH **04** - **00**

Male connector type

AKH **04** **A** - **01** **S**

Applicable tubing O.D.

Metric size	Inch size
04 $\phi 4$	03 $\phi 5/32$
06 $\phi 6$	07 $\phi 1/4$
08 $\phi 8$	09 $\phi 5/16$
10 $\phi 10$	11 $\phi 3/8$
12 $\phi 12$	13 $\phi 1/2$

• With seal (Standard)

* M5 and 10-32 UNF types are not required.

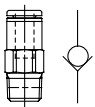
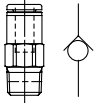
• Thread type

Nil	Metric thread (M5)
	Unified thread (10-32 UNF)
	R
N	NPT

• Port size

M5	M5 x 0.8
U10/32	10-32 UNF
01	1/8
02	1/4
03	3/8
04	1/2

Check valve free flow direction

A	From male thread to One-touch fitting	
B	From One-touch fitting to male thread	

Applicable Tubing O.D./Port Size Combinations

Metric size

Model	Applicable tubing O.D.	R thread				
		M5	1/8	1/4	3/8	1/2
AKH04	$\phi 4$	●	●			
AKH06	$\phi 6$	●	●			
AKH08	$\phi 8$		●	●	●	
AKH10	$\phi 10$			●	●	●
AKH12	$\phi 12$				●	●

Inch size

Model	Applicable tubing O.D.	NPT thread				
		10-32 UNF	1/8	1/4	3/8	1/2
AKH03	$\phi 5/32$	●	●			
AKH07	$\phi 1/4$	●	●			
AKH09	$\phi 5/16$		●	●	●	
AKH11	$\phi 3/8$			●	●	●
AKH13	$\phi 1/2$				●	●

Bushing type

AKB **01** **A** - **01** **S**

Body size

01	1/8
02	1/4
03	3/8
04	1/2

• With seal (Standard)

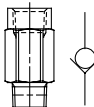
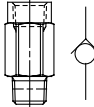
• Thread type

Nil	R
N	NPT

• Port size

01	1/8
02	1/4
03	3/8
04	1/2

Check valve free flow direction

A	From male to female thread	
B	From female to male thread	

Female/Male Threads Combinations

R thread

Model	Female thread Rc	Male thread R			
		1/8	1/4	3/8	1/2
AKB01□	1/8	●			
AKB02□	1/4		●		
AKB03□	3/8			●	
AKB04□	1/2				●

NPT thread

Model	Female thread NPT	Male thread NPT			
		1/8	1/4	3/8	1/2
AKB01□	1/8	●			
AKB02□	1/4		●		
AKB03□	3/8			●	
AKB04□	1/2				●

Bushing Type Check Valve with One-touch Fittings **Series AKH/AKB**



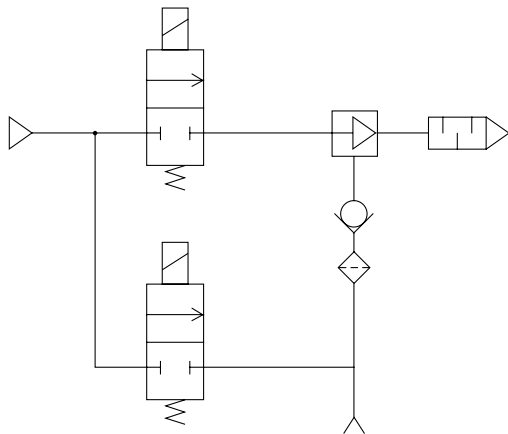
Specifications

Fluid	Air
Proof pressure	1.5 MPa
Operating pressure range	−100 kPa to 1 MPa
Cracking pressure	0.005 MPa
Ambient temperature and operating fluid temperature	−5 to 60°C (No freezing)
Applicable tubing material ^{Note)}	Nylon, Soft nylon, Polyurethane

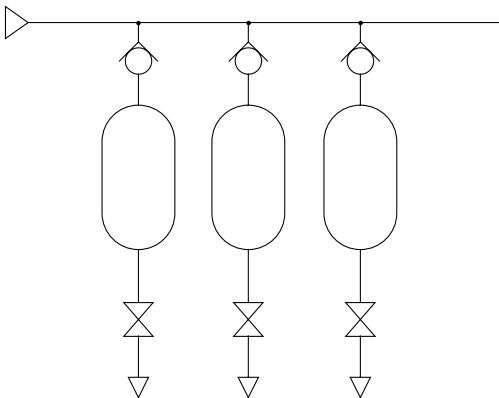
Note) Use caution regarding the max. operating pressure when soft nylon or polyurethane tubing is used.
(Refer to pages 371 and 372 for details.)

Application Example for Bushing Type Check Valve with One-touch Fittings

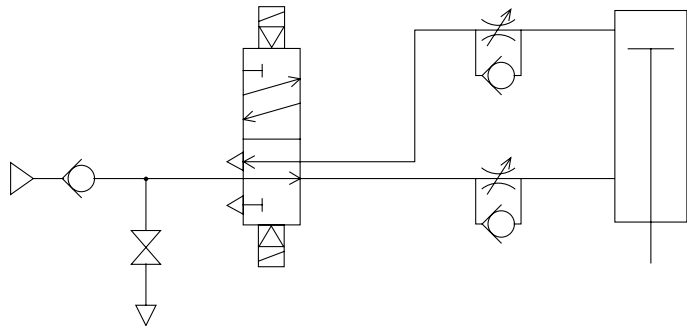
Prevention of reverse flow to vacuum source *
(Simple vacuum holding)



Tank pressure reverse flow prevention



Drop prevention *



* A certain amount of leakage is allowed in the specifications of this product.
Please note that it is not suitable for holding over an extended period of time.

⚠ Specific Product Precautions

Be sure to read before handling.
Refer to front matters 58 and 59 for Safety Instructions and
pages 412 to 414 for Flow Control Equipment Precautions.

Design/Selection

⚠ Caution

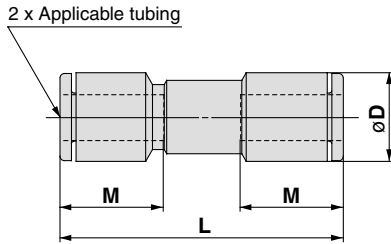
1. Even when using with the specification range listed in the catalog, when the IN side of the check valve is throttled, it may fail to open all the way and may generate vibration.
2. The cracking pressure is the pressure when the valve begins to open, and not the pressure when the valve is fully open.

AS
ASP
ASN
AQ
ASV
AK
VCHC
ASS
ASR ASQ
KE
TMH

Series AKH/AKB

Dimensions

Straight type: AKH



Metric Size

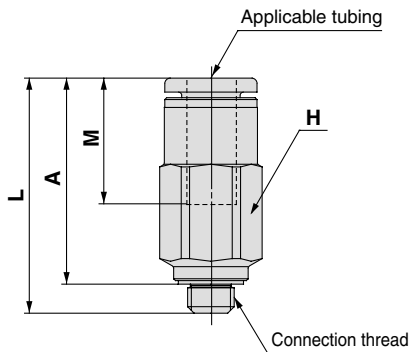
Applicable tubing O.D.	Model	øD	L	M	Effective area (mm ²)	Mass (g)
4	AKH04-00	9.3	33.5	12.7	2.8	3
6	AKH06-00	11.6	37.1	13.5	6.5	5
8	AKH08-00	15.2	53.3	18.5	14	10
10	AKH10-00	18.5	63.6	21	24	17
12	AKH12-00	21.7	70.2	22	34	25

Inch Size

Applicable tubing O.D.	Model	øD	L	M	Effective area (mm ²)	Mass (g)
5/32	AKH03-00	9.3	33.5	12.7	2.8	3
1/4	AKH07-00	12	39	13.6	6.5	6
5/16	AKH09-00	15.2	53.3	18.5	14	10
3/8	AKH11-00	18.5	63.6	21	24	17
1/2	AKH13-00	21.7	70.2	22	34	24

Male connector type: AKH

<For M5, UNF10-32>



Metric Size

Applicable tubing O.D.	Connection thread R	Model	H (Hexagon width across flats)	L	A *	M	Effective area (mm ²)	Mass (g)
4	M5 x 0.8	AKH04□-M5	8	24.3	21.2	12.7	2.8	5
	1/8	AKH04□-01S	10	24.6	20.6			10
6	M5 x 0.8	AKH06□-M5	10	25.8	22.2	13.5	2.8	8
	1/8	AKH06□-01S		26.9	22.9			
	1/4	AKH06□-02S	14	30	24	17	6.5	22
8	1/8	AKH08□-01S	14	31.7	27.7	18.5	6.5	16
	1/4	AKH08□-02S		36	35.5			24
	3/8	AKH08□-03S	17	42	35.5	21	14	43
10	1/4	AKH10□-02S	17	54.3	48.3	21	24	45
	3/8	AKH10□-03S		47.3	40.8			39
	1/2	AKH10□-04S	22	49.3	41.3	22	34	80
12	3/8	AKH12□-03S	19	60.5	54	22	34	62
	1/2	AKH12□-04S	22	54.5	46.5			80

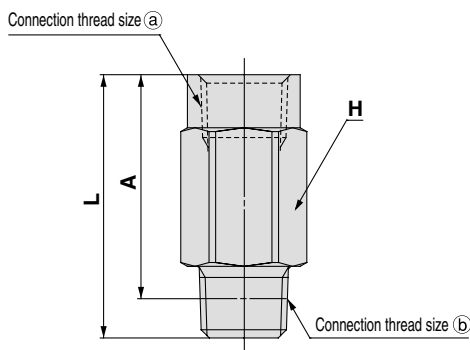
* Reference dimensions of R thread after installation.

Inch Size

Applicable tubing O.D.	Connection thread NPT	Model	H (Hexagon width across flats)	L	A *	M	Effective area (mm ²)	Mass (g)
5/32	10-32 UNF	AKH03□-U10/32	8	24.3	21.2	12.7	2.8	5
	1/8	AKH03□-N01S	11.11	24.6	20.6			10
1/4	10-32 UNF	AKH07□-U10/32	11.11	25.8	22.7	13.6	2.8	10
	1/8	AKH07□-N01S		26.9	22.9			11
	1/4	AKH07□-N02S	14.29	31	25	17	6.5	18
5/16	1/8	AKH09□-N01S	14.29	31.7	27.7	18.5	6.5	16
	1/4	AKH09□-N02S		36	35.5			24
	3/8	AKH09□-N03S	17.46	42	35.5	21	14	43
3/8	1/4	AKH11□-N02S	17.46	54.2	48.3	21	24	47
	3/8	AKH11□-N03S		47.2	40.7			40
	1/2	AKH11□-N04S	22.23	49.2	41.2	22	34	79
1/2	3/8	AKH13□-N03S	22.23	60.5	54	22	34	87
	1/2	AKH13□-N04S		54.5	46.5			85

* Reference dimensions of NPT thread after installation.

Bushing type: AKB



Metric Size

Connection thread size R		Model	H	L	A *	Effective area (mm ²)	Mass (g)
(a)	(b)						
1/8	1/8	AKB01□-01S	14	23.7	19.7	6.5	18
1/4	1/4	AKB02□-02S	17	39.8	33.8	14	44
3/8	3/8	AKB03□-03S	22	45.2	38.7	24	86
1/2	1/2	AKB04□-04S	24	56.2	48.2	34	113

* Reference dimensions of R thread after installation.

Inch Size

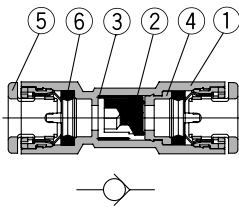
Connection thread size NPT		Model	H	L	A *	Effective area (mm ²)	Mass (g)
(a)	(b)						
1/8	1/8	AKB01□-N01S	14.29	24.2	20.2	6.5	18
1/4	1/4	AKB02□-N02S	17.46	40	34	14	44
3/8	3/8	AKB03□-N03S	22.23	44.9	38.4	24	86
1/2	1/2	AKB04□-N04S	23.81	55.5	47.5	34	113

* Reference dimensions of NPT thread after installation.

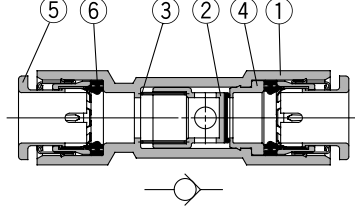
Construction

Straight type: AKH

ø4, ø6
ø5/32, ø1/4



ø8, ø10, ø12
ø5/16, ø3/8, ø1/2



Component Parts

No.	Description	Material	Note
1	Body	PBT	
2	Valve	NBR, Aluminum alloy	
3	Spring	Stainless steel	
4	Spacer	Brass	Electroless nickel plated
5	Cassette	—	
6	Seal	NBR	

Male connector type: AKH

	M5 type U10/32	ø4, ø6 ø8 x R1/8 ø5/32, ø1/4 ø5/16 x NPT1/8	ø8, ø10, ø12 ø5/16, ø3/8, ø1/2
Free flow One-touch fitting ↑ Male thread			
Free flow One-touch fitting ↓ Male thread			

Component Parts

No.	Description	Material	Note
1	Body	Brass	Electroless nickel plated
2	Valve	NBR, Aluminum alloy	
3	Spring	Stainless steel	
4	Spacer	Brass	Electroless nickel plated
5	Stopper	Stainless steel	
6	O-ring	NBR	
7	Cassette	—	
8	Seal	NBR	
9	Gasket	Stainless steel + NBR	

Bushing type: AKB

	R1/8 NPT1/8	R1/4, 3/8, 1/2 NPT1/4, 3/8, 1/2
Free flow Female thread ↑ Male thread		
Free flow Female thread ↓ Male thread		

Component Parts

No.	Description	Material	Note
1	Body	Brass	Electroless nickel plated
2	Valve	NBR, Aluminum alloy	
3	Spring	Stainless steel	
4	Spacer	Brass	Electroless nickel plated
5	Stopper	Stainless steel	
6	O-ring	NBR	

AS
ASP
ASN
AQ
ASV
AK
VCHC
ASS
ASR
ASQ
KE
TMH