Reliability characteristic data for:

Check Valve

Prepared	9/Feb/2016 Noritaka Morisako
Checked	
Approved	9/Feb/2016 Hirosuke Yamada

Model number: AK* series

B10 / $B10_d$ data

Based on the following endurance test results of the Check Valve AK* series, and assuming a failure mode following the weibull distribution the following B10 and $B10_d$ data have been estimated. (90% confidence level)

	B10	$B10_d$
AK* series	7.4 million cycles	14.8 million cycles

NOTE:
The estimated reliability data provided is only applicable to the component in the stated operating conditions.
Use of this data for any assessment under standards or otherwise, is at the sole risk of the user.
This product is not a safety component and is not supplied to provide a safety function.
The $B10_d$ value is based on the tested B10 value using B10×2.

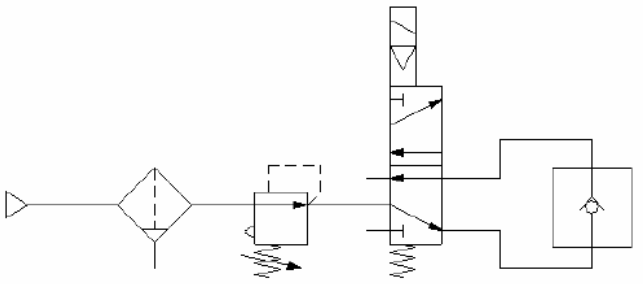
Endurance test results

For reference

- 5 valves were tested up to 10 million cycles, and found to have zero failure.

Endurance test conditions

1) Test circuit



2) Pressure: 1MPa
3) Lubrication: None
4) Air supply: Dry air
5) Operating freq.: 1 times / sec.
6) Laboratory: Life test room
7) Ambient temp.: Normal temp. (13 to 33°C)
8) Load: None

Result of design assessment and validation to EN ISO 13849-1:2008 & EN ISO 13849-2:2008

This component conforms to the basic safety principles ☐ yes

This component conforms to the basic safety principles and well tried safety principles ☑ yes

This component is a well tried component. ☐ yes

For installation and operating conditions refer to the Instruction Manuals:

AS*-TFS0014A for AKB and AS*-TFS0015A for AKH

The component is not a safety component as defined by Article2(c) of the Machinery Directive 2006/42/EC

How to Order

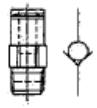
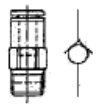
Straight type AKH 04 – 00

Male connector type AKH 04 A – □ 01 S

Applicable tubing O.D.

Metric size		Inch size	
04	ø4	03	ø5/32
06	ø6	07	ø1/4
08	ø8	09	ø5/16
10	ø10	11	ø3/8
12	ø12	13	ø1/2

Check valve free flow direction

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

Thread type

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

With seal (Standard)

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

Port size

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

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□	ø4	●	●			
AKH06□	ø6	●	●	●		
AKH08□	ø8		●	●	●	
AKH10□	ø10			●	●	●
AKH12□	ø12				●	●

Inch size

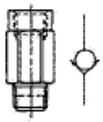
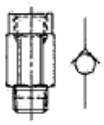
Model	Applicable tubing O.D.	NPT thread 10-32 UNF	1/8	1/4	3/8	1/2
AKH03□	ø5/32	●	●			
AKH07□	ø1/4	●	●	●		
AKH09□	ø5/16		●	●	●	
AKH11□	ø3/8			●	●	●
AKH13□	ø1/2				●	●

Bushing type AKB 01 A – □ 01 S

Body 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	

Thread type

Nil	R
N	NPT

With seal (Standard)

Port size

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

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				●