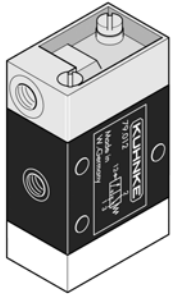


Miniature Valves

Series 79, 81, 84 Spool Valves

Kuhnke Miniature Valves

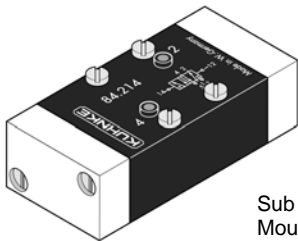
Steel Spool Valves, Pneumatically Operated, 10/32 (M5) Ported



3 Way
Series 79



4 Way
Series 81



Sub base
Mounted
Series 84

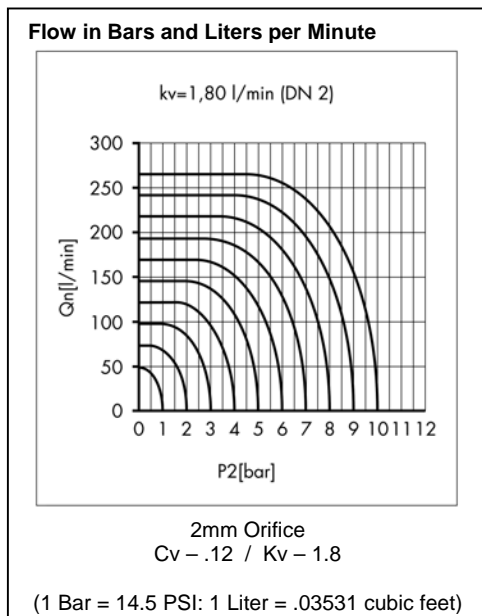
Series 79, 81 and 84 pneumatically operated spool valves are constructed of precision lapped steel spools and sleeves. Valves are available for in-line, manifold or sub base mounting.

A characteristic feature of these valves is a hardened and cut steel spool running in a similarly hardened and cut steel liner. The precision fit of these metal elements form the seal. The kinetic energies of the spool when switching over are absorbed by special cushioning in the covers and switching noise is reduced to a minimum.

This valve series contains a differential pressure valve which can be used for maintaining pressure in air systems. Valve has normal single air pilot spring return function, but with an additional port which can be used to return valve to normal position when secondary pressure reaches supply pressure.

Types: Standard valves are available in 2 mounting configurations, either sub base or in line. In-line (body ported) valves are mounted using (3) 1/8" dia. holes through the body. In-line or sub base mounted valves can be used with Kuhnke accessories or can be mounted on custom manifolds or equipment.

Technical Specifications



Operating Pressure:

145 PSI Max.
Min. - see actuation force.

Vacuum:

Not applicable.

Flow Rate:

7 CFM @ 100 PSI
3 CFM @ 45 PSI

Cv/Kv:

Cv - 0.12
Kv - 1.8

Orifice:

2mm

Connection:

10-32 or M5 ports

Media:

Filtered Air

Materials:

Aluminum housing, hardened steel spool and sleeve, Buna N seals, makrolon end caps.

Average Mechanical Life:

100 million operations

Operating Ambient:

-10°C to 70°C (12°F to 160°F)

Operation:

Via pneumatic input signal.

Actuation Force:

Min. with spring return- 30 PSI.
Min. with double pilot- 20 PSI.

Dimensions (inches):

	<u>3 Way</u>	<u>4 Way</u>
In Line		
Valve -		
Height:	1 11/16	2 3/16
Width:	5/8	5/8
Depth:	1	1
Weight:	1.5 oz.	2.5 oz.

Selection Chart

Differential Pressure Valve

A 3 or 4 way, in line air piloted valve is available for use in pressure compensating circuits. Valves can be used to maintain pressure in balancing or leveling applications.

A pilot pressure (min. 30 PSI), is applied to control port 14, operating the spool and allowing flow. When pressure is equalized on the secondary side of the valve (connected via a second pilot port - 12), the valve is closed by the return spring.

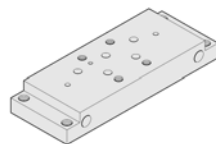
For a manifold mounted version, use valve **84212** and connect the secondary balance pressure to port 12 of the manifold or sub base section.

Description		Catalog number	
		In Line Mounted	Manifold Mounted
3 Way Single Air Pilot Spring Return		79012	---
4 Way Single Air Pilot Spring Return		81012	84212
4 Way Double Air Pilot Detent		81014	84214
3 Way Differential Pressure Valve		79016	---
4 Way Differential Pressure Valve		81016	---

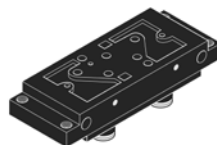
Sub bases / Manifolds

Manifold kits are available for both in-line or sub base mounted valves. See *accessories for miniature solenoid valves*. Single sub bases for mounting Series 83 or 84 valves are available in 2 versions:

An aluminum sub base, catalog number **84402-01** can be used to individually mount manifold valves. Base dimensions are 2 5/8" L x 1" W x 3/8" H. Tapped holes (M4) at each corner are used for mounting the base. 10-32 (M5) porting is through the bottom.



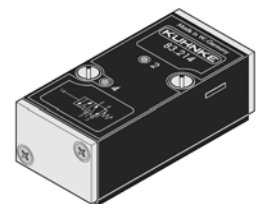
A special molded sub base cat. no. **83450** has instant push in fittings for 5/32 (4mm) tubing and fully adjustable flow controls to provide a compact valve package. Dimensions are 2 3/4" L x 1" W x 3/4" H.



Series 83 – Manifold Mounted, 4 Way Resilient Seal Spool Valves

Single Air Pilot **83212**
Double Air Pilot, Detent **83214**

Pneumatically actuated resilient seal spool valves are also available. For technical details see solenoid operated Series 83 valves in the solenoid section of this catalog.



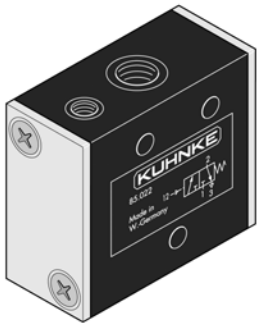
The Series 83 valve is manifold mounted, has red pop up indicators and uses standard Kuhnke 10-32 manifolds or sub bases. The body is a molded material.

Miniature Valves

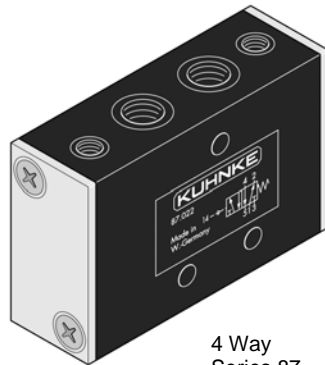
Series 85, 87 Spool Valves

Kuhnke Miniature Valves

Steel Spool Valves, Pneumatically Operated (1/8 Ports)



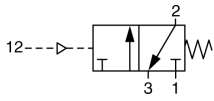
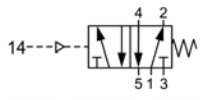
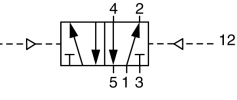
3 Way
Series 85



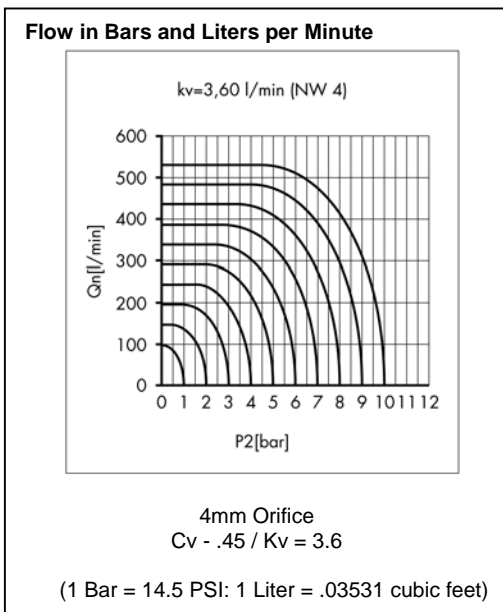
4 Way
Series 87

Series 85 and 87 pneumatically operated spool valves are constructed of precision lapped steel spools and sleeves.

In addition to in line mounting, four way pneumatically operated valves can also be mounted on Kuhnke series 87 manifolds. See solenoid valve accessories.

Description	Catalog Number	
	NPT Ports (USA Std.)	Metric Ports (European Std.)
3 Way Single Air Pilot Spring Return 	(Not Available)	85022
4 Way Single Air Pilot Spring Return 	87122	87022
4 Way Double Air Pilot Detent 	87124	87024

Technical Specifications



Operating Pressure:

30 to 145 PSI.

Vacuum:

Not applicable.

Flow Rate:

25 CFM @ 100 PSI

10 CFM @ 45 PSI

Cv/Kv:

Cv - 0.45

Kv - 3.6

Orifice:

4mm

Connection:

1/8 ports

Media:

Filtered Air

Materials:

Aluminum housing, hardened steel spool and sleeve, Buna N seals, plated end caps.

Average Mechanical Life:

100 million operations

Operating Ambient:

-10°C to 70°C (12°F to 160°F)

Operation:

Operated by pneumatic signal.

Dimensions (inches):

	3 Way	4 Way
Height:	1 13/16	2 7/16
Width:	3/4	3/4
Depth:	1 3/4	1 3/4
Weight:	5 oz.	6 oz.