

DESCRIPTION

The R-K NLA series air valve features a compact plastic valve available in six different models for uses in which no lubrication is required or permitted in the valve. This patented valve is designed so there is no metal contact with the fluid. Engineered with automatic fail-safe shut-off, this 2-way air operated valve is designed to actuate at 40-80 PSI and operates in any position. This direct-acting full flow valve features top entry for easy in-line maintenance and minimum water hammer.

Primarily designed for minimum maintenance, it's ideal for DI water and other high purity applications. Suitable for harsh chemicals that would remove the lubricant from ordinary valves.

R-K NLA SERIES NON-LUBRICATED AIR- OPERATED VALVES FOR HIGH-PURITY APPLICATIONS



KEY FEATURES

- **Non-Lubricated Design:** Ideal for DI water and high-purity or aggressive chemical applications.
- **No Metal in Fluid Contact:** Ensures purity and corrosion resistance.
- **Fail-Safe Shut-Off:** Spring-return action for normally closed or normally open operation.
- **Air Actuation:** Operates efficiently at 40–80 PSI.
- **Top Entry Maintenance:** Simplifies in-line servicing without removing the valve.
- **All-Position Operation:** Can be installed in any orientation.
- **Minimal Water Hammer:** Smooth, direct-acting valve operation.

VALVE BODY MATERIALS:

- Type 1 – Grade 1 PVC
- Natural Polypropylene (PP)
- PVDF (Polyvinylidene Fluoride)

Internal Components:

Stainless steel spring (fully isolated from fluid)
Teflon sleeves(1-1/2" and 2")

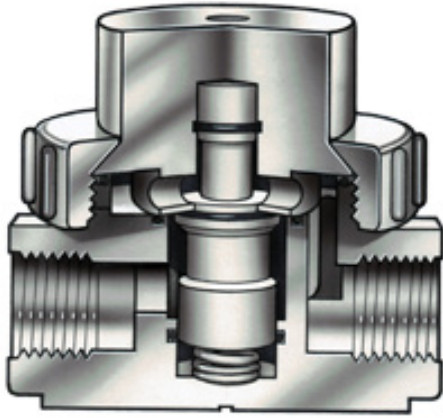
SIZES & PORTING

Valve Sizes: 1/4", 1/2", 3/4", 1", 1 1/2", and 2".
1/2", 3/4", and 1" available in molded body styles

Port Types:

1/4" to 1": FPT (Female Pipe Thread)
1 1/2" and 2": MPT (Male Pipe Thread)

Mounting: Four 1/4"-20 tapped holes (two cut-out slots on molded bodies)



PATENT NO: 4,267,861

PRESSURE & TEMPERATURE RATINGS:

Operating Pressure Range: 0 to 150 PSIG with a maximum recommended operating temperature

Air actuating pressure: 40-80 PSI.

Temperature Range

- PVC: 0°F to 140°F
- POLYPRO: 0°F to 180°F
- PVDF: 0°F to 280°F
- Teflon: 0°F to 340°F

SIX MODELS TO CHOOSE FROM

Type 1	Normally Closed	Most common configuration. Air pressure to the 1/8" top port opens the valve. When pressure is removed, the spring closes it. Fail-safe closed
Type 2	Normally Open	Air pressure to the 1/8" top port closes the valve. When pressure is removed, the spring returns it to full open. Fail-safe open
Type 3	Air-to-Open, Air-to-Close	No spring action. Controlled through pneumatics. Air to the top port opens it; air to the bottom port closes it
Type 4	Bottom Flow Control	Includes flow adjustment screw and locknut at the bottom. Air pressure opens the valve to pre-set flow; spring returns it to closed when pressure is removed.
Type 5	Top Flow Control	The top-mounted adjustment screw and locknut set a constant flow even with no air. Air opens the valve fully; spring returns it to pre-set position.
Type 6	Top and Bottom Flow Control	Combines Type 4 and Type 5. Adjustable screws at both top and bottom provide a full range of preset and dynamic flow control.

The chart below will specify R - K standard valves regarding valve size, valve material, and seal material.
For special orders, please consult the factory for pricing and delivery information.

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VALVE SIZE

25 = 1/4"
50 = 1/2"
75 = 3/4"
100 = 1.0"
150 = 1.5"
200 = 2.0"

MATERIAL

1 = PVC
2 = POLYPRO
3 = PVDF
4 = TEFLON
5 = OTHER (Please specify)

SEALS

E = EPDM
V = VITON
K = KALREZ
O = OTHER (Please specify)

X = MOLDED BODY
(1/2", 3/4", 1" ONLY)

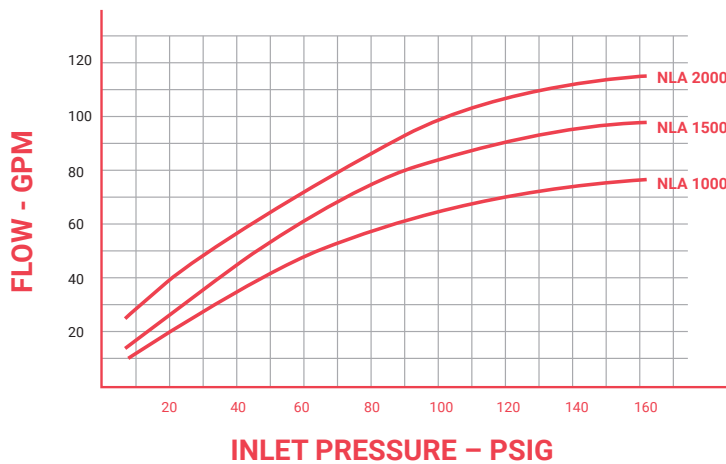
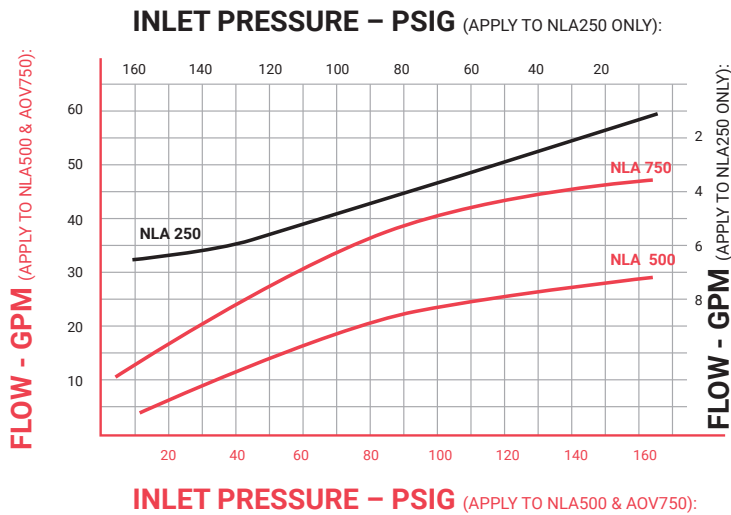
VALVE TYPE

1 = NORMALLY CLOSED
2 = NORMALLY OPEN
3 = AIR TO OPEN/CLOSE
4 = BOTTOM FLOW CONTROL
5 = TOP FLOW CONTROL
6 = TOP AND BOTTOM FLOW CONTROL

ENGINEERING & PERFORMANCE DATA

NOTES

- During the assembly process, a small amount of DuPont Krytox is applied to assist in the break-in of moving parts, then carefully wiped off prior to final assembly and testing.
- Test data was performed with 68°F water and 160 PSIG maximum pressure.
- These performance curves will change with higher viscosity liquid and/or higher temperature.
Consult your local sales representative or manufacturer directly for custom products or special applications.



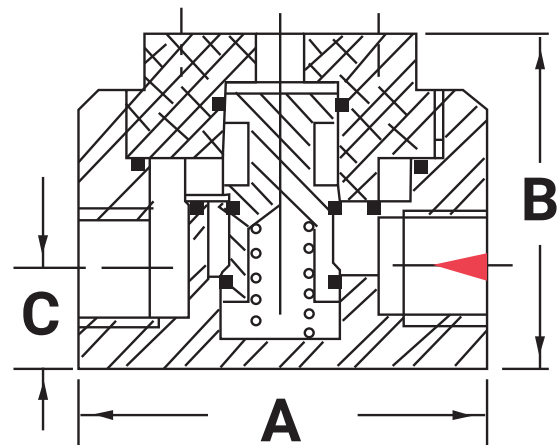
DIMENSIONAL DATA

DIMENSIONS IN INCHES

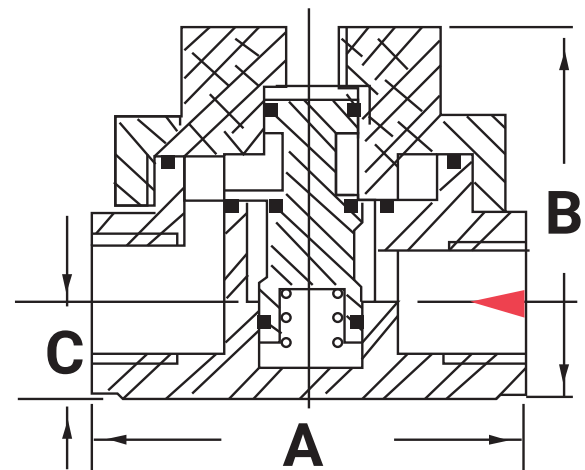
() MOLDED BODY DIM

Valve size	Ports	A	B	C	Cv
1/4"	FNPT	2	1.8	0.5	0.58
1/2"	FNPT	3 (2.9)	2.5 (2.4)	.7 (.7)	2.42
3/4"	FNPT	3.5 (3.3)	3 (2.8)	.9 (.7)	3.28
1.0"	FNPT	4 (3.9)	3.5 (3.3)	1.1 (.9)	4.32
1.5"	MPT	5	4.7	1.5	16.1*
2.0"	MPT	6	5.5	1.7	21.7*

(*) Cv value @ 150 GPM



MACHINED BODY STYLE



MOLDED BODY STYLE