

Ball Valve Actuators Pneumatic Operation



Model Code

KHB-25SAE-1114 - A 5 1 A A

Ball Valve

Available for both KHB & KHM Series
(See pages 5 - 17 for details on ball valve model codes)

Note: OMIT the Handle code rather than entering the code for no handle.

Actuator Type

A = Pneumatic - single (ESA) or double acting (EDA)

Size*

- 1 = 12 (recommended for valves KHB-06... & KHB-10)
- 2 = 25 (recommended for valves KHB-16... & KHB-20)
- 3 = 40
- 4 = 65
- 5 = 100 (recommended for valves KHB-25... & KHM-32)
- 6 = 200
- 7 = 350 (recommended for valves KHM-40... & KHM-50)

Operation

- 1 = All Double acting (air to A to open, air to B to close)
 - 2 = #2 Spring Set (balances with 40 psi)
 - 3 = #3 Spring Set (balances with 60 psi)
 - 4 = #4 Spring Set (balances with 80 psi)
 - 5 = #5 Spring Set (balances with 100 psi)
 - 6 = #6 Spring Set (balances with 120 psi)
- Single acting, spring return
(air to A to open, spring to close)

Limit Switches

- A = none
- B = Standard Limit Switch Module (2 SPDT)

Additional Options

- A = none
- B = Control Valve: 120V AC
- C = Control Valve: 24V DC

Model Codes containing selections listed in RED are non-standard items

- Minimum quantities will apply -

Contact HYDAC for information and availability

Not all combinations are available

Description

The HYDAC dependable rack and pinion pneumatic actuators are compact and efficient components with a trouble-free, high-cycle service life.

The double piston design allows significantly reduced cylinder diameter and overall size as compared to single piston design.

Each piston has a gear rack that applies an equal force at two points directly across the diameter of a common pinion gear.

This feature, combined with the patented suspension system, creates a symmetrically balanced, center-mount actuator with a short, powerful stroke, rapid response, and fully concentric operating loads for optimum life expectancy and performance in control valve applications.

Product Features

- Reliable rack and pinion design.
- High output torque and compactness
- Integrated air manifold and internal porting
- A solenoid valve can be mounted directly onto actuator body thus external piping is simplified
- Double-acting and single-acting (spring return) models are available
- Self-lubricating bands reduce friction and smooth piston travel, and increase efficiency
- Limit switch available

Ordering

Pneumatic Actuators (double acting) & Mounting Kits

Valve Size	Actuator Model Code	Actuator Part Number	Mounting Kit Part Number
KHB-06 (1/4")	EDA-12	02700204	02061508
KHB-10 (3/8")	EDA-12	02700204	02061508
KHB-16 (1/2")	EDA-25	02700205	02061509
KHB-20 (3/4")	EDA-25	02700205	02061510
KHB-25 (1")	EDA-100	02700206	02061511
KHM-32 (1 1/4")	EDA-100	02700206	02061512
KHM-40 (1 1/2")	EDA-350	02700207	02061513
KHM-50 (2")	EDA-350	02700207	02061513

Optional Accessories (model code / part number)

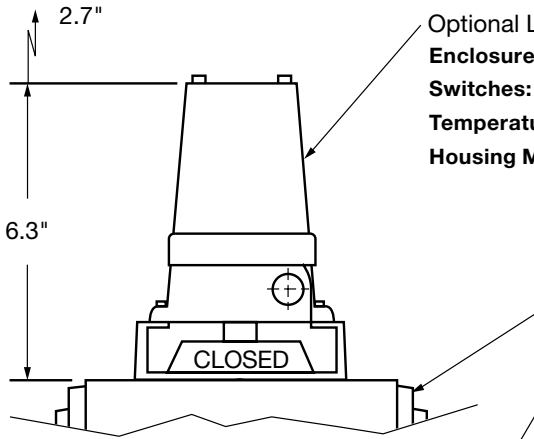
Limit Switch Box (2 SPDT switches)			
ACTUATOR LIMIT SWITCH HDN/2			02700282
Limit Switch Mounting Kit (for EDA-12)			
ACTUATOR LIMIT SWITCH MTG KIT MKN-12			02700283
Limit Switch Mounting Kit (for EDA-25 thru EDA-350)			
ACTUATOR LIMIT SWITCH MTG KIT MKN-25/350			02700284
Solenoid Control Valve⁽¹⁾ (120 VAC)	3-Way (for ESA)		02082888
	4-Way (for EDA)		02082890
Solenoid Control Valve⁽¹⁾ (24 VDC)	3-Way (for ESA)		02082887
	4-Way (for EDA)		02082889

*Recommendations for actuator size are based on a typical application: Double acting actuator, 3000 psi max. pressure, mineral based hydraulic fluid, 80-100 psi shop air, and a moderate duty cycle. Applications with Spring Return actuators, higher system pressures, low lubricity fluids, or infrequent cycling (< once/hr.) may require a larger size actuator. Please consult HYDAC Engineering Department for assistance sizing actuators for these applications.

⁽¹⁾ See pages 39 - 40 for information on solenoid valves.

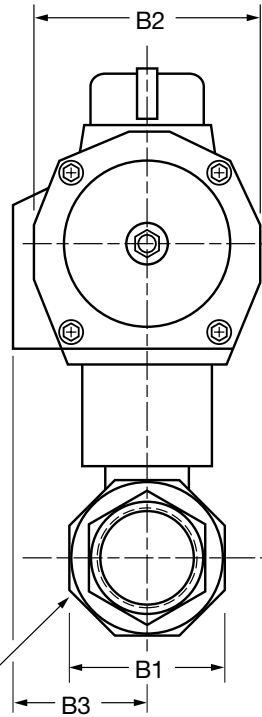
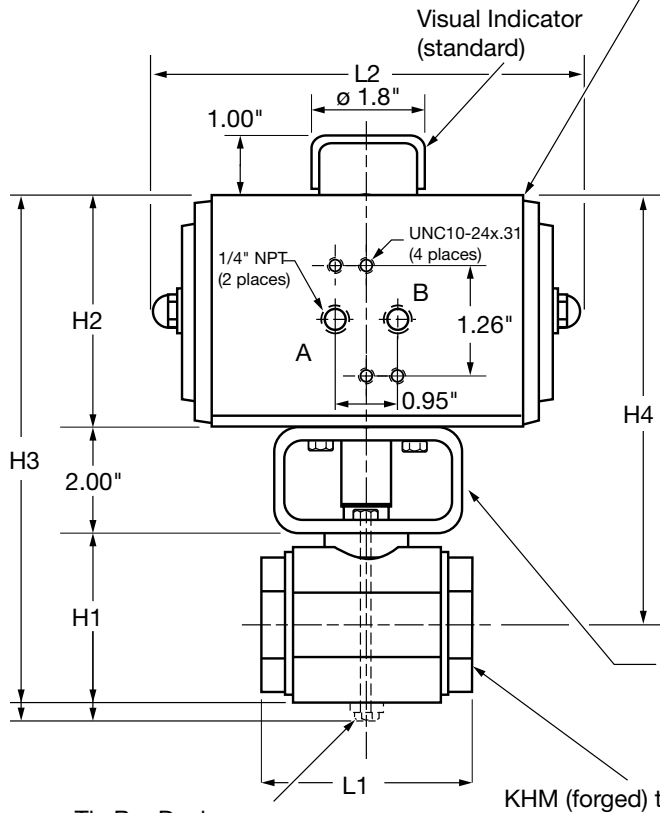
Dimensions

Clearance Required
to Remove Cover



Optional Limit Switch
Enclosure: NEMA 4, includes 2 SPDT switches plus visual indicator.
Switches: up to 250 V AC or DC. Contacts: N/O and N/C
Temperature: -4° to 175°F
Housing Material: Aluminum housing, polyurethane finish.

Actuator
Operating Pressure: 120 psi max.
Rotation: 90° Pressurize port "A" for counter-clockwise rotation (opening the valve)
Temperature: -4° to 175°F
Materials: Aluminum housing and shaft, polyurethane finish.
Service Life: up to one million cycles
Mounting: Bottom flange and square drive to ISO 5211
 Top and solenoid flange to VDE-VDI 3845 NAMUR



Tie Bar Design

Used With: KHB & KHB3K sizes -06, -10, -16, -20, -25

KHM (forged) type valve shown

Ball Valve / Actuator Size	H1	H2	H3	H4	L1	L2	B1	B2	B3	Operating Time (sec)	Air Cons. (in3/1atm)	Weight (lbs.)
KHB-06 / EDA-12	2.2	2.4	6.6	5.3	2.8	4.1	1.0	2.4	1.9	0.4	4	3.5
KHB-10 / EDA-12	2.2	2.4	6.6	5.3	2.9	4.1	1.3	2.4	1.9	0.4	4	4
KHB-16 / EDA-25	2.5	3.2	7.7	6.2	3.3	6.3	1.5	2.9	1.8	0.5	7	6.5
KHB-20 / EDA-25	3.2	3.2	8.4	6.5	3.8	6.3	1.9	2.9	1.8	0.5	7	8
KHB-25 / EDA-100	3.5	4.7	10.2	8.1	4.5	8.7	2.3	4.3	2.5	1.2	30	14
KHM-32 / EDA-100	3.4	4.7	10.1	8.6	4.4	8.7	3.0	4.3	2.5	1.2	30	16
KHM-40 / EDA-350	3.8	7.1	12.9	11.2	5.2	12.0	3.4	6.8	3.7	3.6	120	37
KHM-50 / EDA-350	4.5	7.1	13.6	11.5	5.6	12.0	4.2	6.8	3.7	3.6	120	42

Dimensions are for general information only, all critical dimensions should be verified by requesting a certified print.

Dimensions are in inches and lbs.

*Dependent upon valve and seal materials selected.