

# KINITICS VALVE ACTUATOR KVA38

## The KVA38 Valve Actuator

### Powering Reliability with Kinitics Automation

The KVA38 is a versatile general-purpose globe valve actuator designed to meet the needs of the energy and process control industries. The KVA38 is ideal for use in throttling and snap-acting control applications and serves as the perfect replacement for pneumatic actuators.

- Low maintenance design
- Spring-biased electric actuator
- Certified to operate in hazardous locations



**Intertek**

Hazloc ratings:  
USA: Class I, Zone 1, AEx db IIA, T6 Gb  
CA: Class I, Zone 1, Ex db IIA, T6 Gb



**PRODUCT DATA SHEET**



## General Specifications

All Configurations	Unit	
Rated Thrust <sup>1</sup>	N [lb·f]	3800 [854]
Operating Voltage	V	24DC and 120AC versions available
Temperature Range <sup>1</sup>	°C [°F]	-40 to 50 [-40 to 122]
Precision	µm [in]	100 [0.004]
Maximum Duty Cycle	%	100
Conduit Connection Size	1/2" NPT (x2)	
Fail-safe Position	Spring return closed on loss of power or signal	
Hazloc Rating	Canada & US Class I, Zone 1 AEx db IIA T6 Gb	
Inputs	Position Command • Valve Open	
Outputs	Position Feedback • Valve Open • Status	
Serial Communication	Modbus RTU	

<sup>1</sup> See "Operating Details"

## DC Actuator Specifications

	Unit	KVA38-13-D2	KVA38-19-D2	KVA38-29-D2
Rated Stroke	mm [in]	13 [1/2]	19 [3/4]	29 [1-1/8]
Operating Voltage	V	24VDC	24VDC	24VDC
Average Power (Throttling) <sup>2</sup>	W	80	90	100
Idle Power	W	2	2	2
SMA Inrush Current <sup>2</sup>	A	31	36	25
Max. Stem Speed	mm/s [in/s]	1.8 [0.07]	1.8 [0.07]	1.5 [0.06]

<sup>2</sup> See "Power Consumption"

## AC Actuator Specifications

	Unit	KVA38-13-A1	KVA38-19-A1	KVA38-29-A1
Rated Stroke	mm [in]	13 [1/2]	19 [3/4]	29 [1-1/8]
Operating Voltage	V	120VAC	120VAC	120VAC
Average Power (Throttling) <sup>2</sup>	W	80	90	100
Idle Power	W	2	2	2
SMA Inrush Current <sup>2</sup>	A	8	12	8
Max. Stem Speed	mm/s [in/s]	1.8 [0.07]	1.8 [0.07]	1.8 [0.07]

<sup>2</sup> See "Power Consumption"

## Electrical Ratings

Parameters	Units	DC Actuators		AC Actuators		
		Min	Max	Min	Max	
Operating Voltage Range	V	20.4	28.8	108	132	
<b>Inputs:</b>	4-20mA Position Command	V	7.5	36	7.5	36
	Valve Open Command	V	20	32	20	32
<b>Outputs</b>	4-20mA Position Feedback <sup>3</sup>	V	7.5	36	7.5	36
	Valve Open Feedback <sup>3</sup>	V	20	32	20	32
	Status Indicator <sup>3</sup>	V	20	32	20	32
<b>Serial</b>	RS485	V	-7	12	-7	12

<sup>3</sup> User Supplied Source

## Operating Details

The KVA is a motorless actuator that uses a shape memory effect to modulate stem position. Its operation differs from motorized valve actuators in some key respects.

**Unpowered Position:** A reliable mechanical compression spring maintains the KVA in the closed (extended) position whenever power or a signal is not present. As this action requires no electricity, full rated force is applied in the unpowered state.

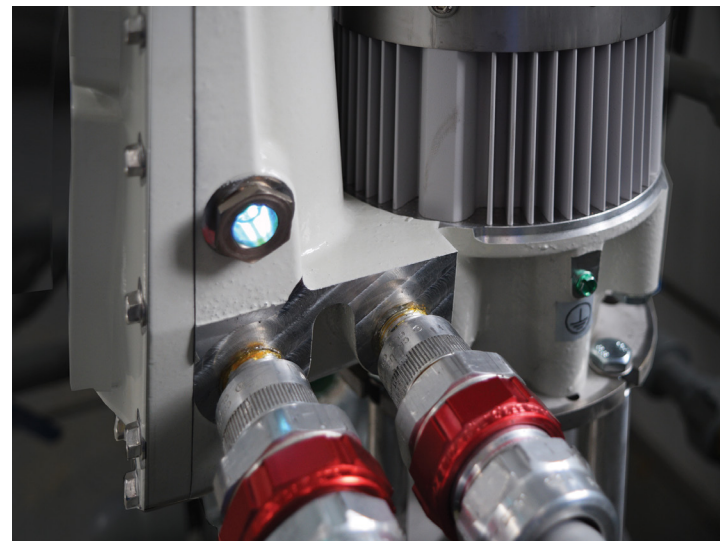
**Deadband:** The KVA's motorless design and mechanical biasing spring effectively eliminate deadband.

**Duty Cycle:** The KVA uses Shape Memory Alloy (SMA) technology to achieve 100% duty cycle capabilities without increasing power usage or wear. Unlike with motorized actuators, operators can achieve maximum productivity by eliminating control loop deadband.

**Elevated Temperature Effects:** The KVA uses the thermo-mechanical properties of SMA to lift and lower the stem.

Ambient temperatures above 40°C may temporarily reduce closing thrust. Sustained external temperatures significantly exceeding the actuator's rated maximum can cause unintentional actuation. Normal operation resumes once the actuator returns to its rated temperature range.

**SMA Inrush Current:** The KVA uses thermomechanical properties of SMA to lift and lower the stem. SMA inrush currents are experienced when a high-speed movement is requested. Users can restrict the maximum current through software. See "Power Consumption."



*KVA38 highlighting the indicator light, conduit entry ports, and external grounding screw for easy monitoring and safety.*



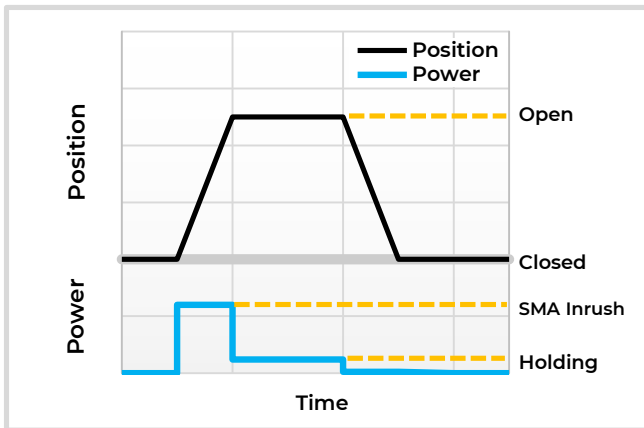
## Power Consumption

Kinetics recognizes the power limitations common to remote installations. The KVA's maximum power consumption can be adjusted by the user through Modbus commands. Reducing power draw will reduce the maximum stem speed.

The KVA draws up to peak SMA Inrush current when making fast lifting motions. For small adjustments such as in position-holding and throttling applications, power draw is minimized. See snap acting and throttling example applications.

Due to the KVA's unique architecture, there is no power penalty for making continuous small adjustments versus maintaining one position. This eliminates the need for an artificial deadband and delivers the best-in-class process response.

## Snap-Acting Application



## Terminology Definitions

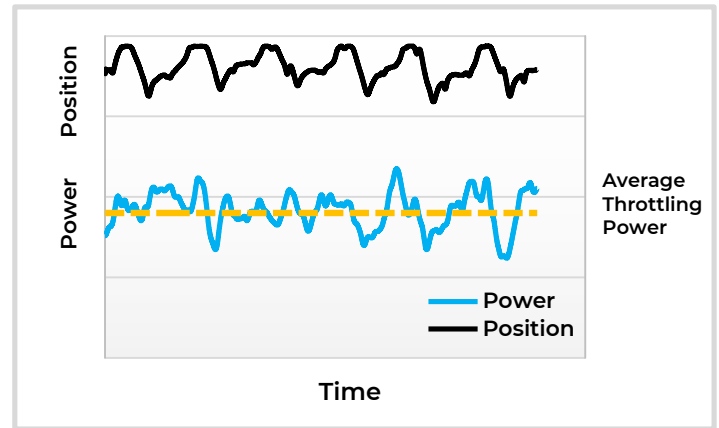
**SMA Inrush:** Peak input current for sudden lifting commands in an SMA actuator.

**Idle Power:** The continuous energy consumption in the closed state.

**Throttling:** Sustained actuator motion for maintaining flow rate or pressure.

**Snap-Acting:** Actuator operation in binary open or closed states, without intermediate positions.

## Throttling Application



## Snap-Acting Average Power Usage (Watts)<sup>4</sup>

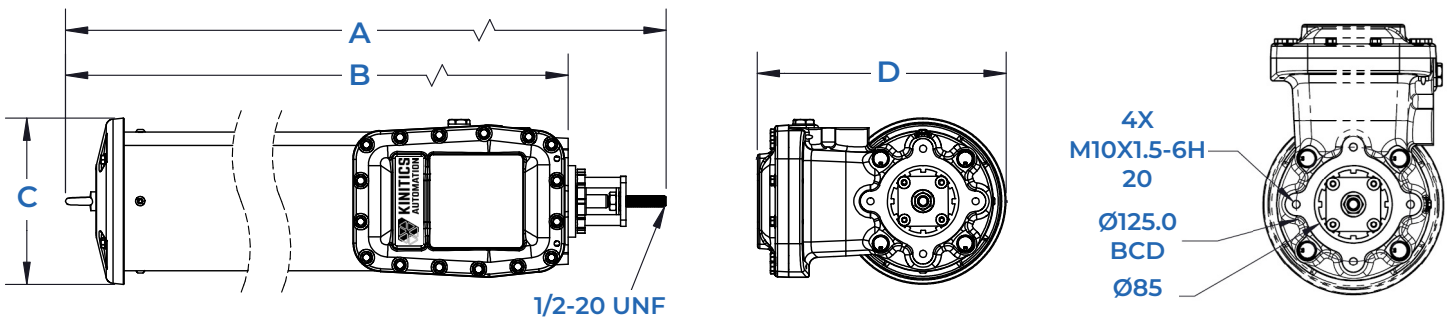
Minutes between cycles	2	4	6	8	10	15	20	30
KVA38-13	46	23	15	12	9	6	5	3
KVA38-19	85	42	28	21	17	11	8	6
KVA38-29	133	67	44	33	27	18	13	9

<sup>4</sup> Actuator lifting to full stroke

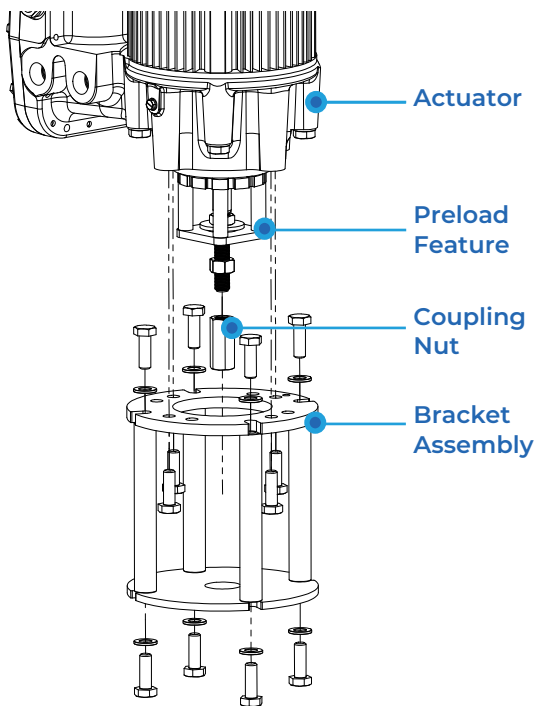
# KVA38

## Dimensional Information & Mounting

The KVA is available with optional mounting brackets that facilitate mating to the most common globe valves. The actuator must be mounted vertically and can be easily lifted by the included eye bolt.



	Weight (kg) [lbs]	A (mm) [in]	B (mm) [in]	C (mm) [in]	D (mm) [in]
KVA38-13	24 [53]	927 [36.5]	848 [33]	192 [7.5]	293 [11.5]
KVA38-19	29 [64]	1181 [46.5]	1096 [43]	192 [7.5]	293 [11.5]
KVA38-29	37 [81]	1562 [61.5]	1467 [57.5]	192 [7.5]	293 [11.5]



## Separator Application Example:

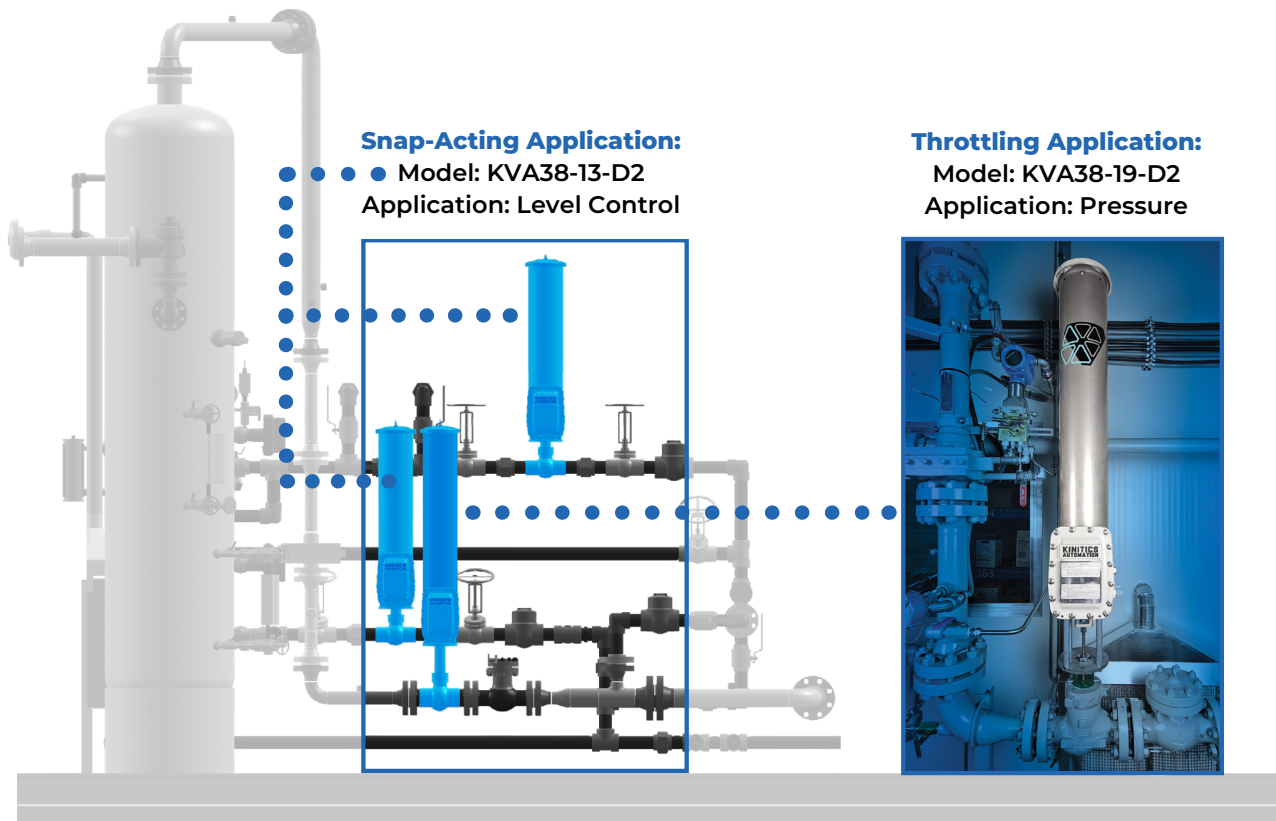
A robust, maintenance-free solution designed for safety, reliability, and superior performance in harsh environments.

**Mechanical Spring:** Fail-closed on loss of power or signal with a mechanical spring design for maximum safety.

**Zero-Maintenance Design:** Motorless design and simple installation. Fully electric, compatible with 24VDC & 120VAC.

**Built For Harsh Environments:** Certified to operate in hazardous locations in both US and Canada.

**Shape Memory Alloy Technology:** Superior to electric motors and pneumatics in throttling applications.



© 2026 Kinitics Automation Limited. Rev 3.0 published on 03-14-2026. Kinitics Automation Limited (Kinitics) reserves the right to make changes to this document from time-to-time to reflect corrections, improvements, or changes to the product and/or product information. Contact Kinitics to obtain the latest document version. The user understands and recognizes that this product is subject to many and varied conditions due to the manner in which it is to be installed and used. It is the user's responsibility to determine the suitability of this product for their application and provide adequate safeguards. The user acknowledges and agrees that they are solely responsible for compliance with all legal, regulatory and safety-related requirements concerning the use of this product. Kinitics disclaims any and all liability for loss, damage, injury, cost of repair, or consequential damages of any kind in connection with the use of this product.



**Kinitics Automation Limited**  
8430 Fraser Street  
Vancouver BC, V5X 0A4  
Canada

T: +1-604-304-1181  
F: +1-604-304-0526  
E: [info@kiniticsautomation.com](mailto:info@kiniticsautomation.com)  
W: [kiniticsautomation.com](http://kiniticsautomation.com)