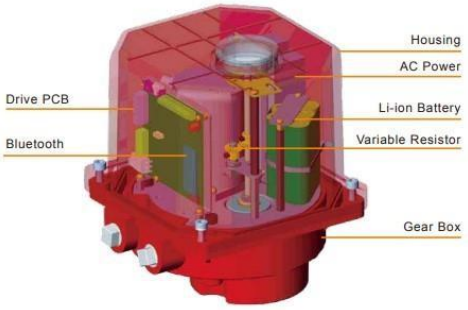
PRO UNI-D CO., LTD.

LINEAR Control Valve



Modular Design

- Plug & Play Kit are easy to add or repair functions:
  AC Power Modular and Failsafe Modular

Li-ion Battery

(two function optional)

- Failsafe function
- Backup power

Brushless DC Motor

- High duty cycle performance

LED Light Indicator

- Easy to know the status of the valve

High Duty Cycle

- 30% for ON/OFF function
- 75% for modulating function

Multi-Voltage

- AC110V~AC220V, DC24V

SUPPORT Modbus-ASCII with RS-485 (EIA-485)

- It's available to control 2~30pcs actuators through Modbus ASCII with RS-485 in sync or out of sync.
- No need to connect to I/O adopters.
- It's able to avoid electromagnetic interference.

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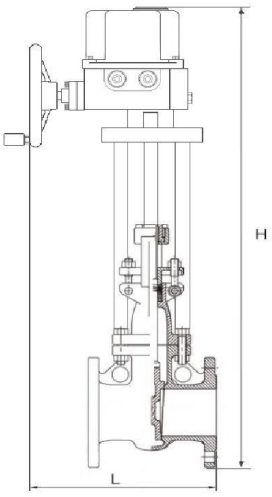
Specification and Outline Drawing:

UMB-N (Non-Rising-Stem Gate Valve, Cast Iron)

Item no. UMB-N-NRSGV-CI

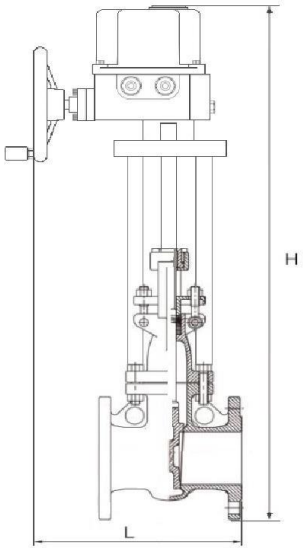


Non-rising-stem gate valve, cast iron						
Size	2”	2-1/2”	3”	4”	5”	6”
L	290	295	300	315	325	335
H	600	620	660	730	820	880

Size 3”			
Voltage	AC110	AC220	DC24
Standby Current (A)	0.07	0.07	0.13
Standby Power (W)	4	4	3
No-Load Operation Current (A)	0.16	0.13	0.6
No-Load Operation Power (W)	17	17	14.4
Travel time: 60sec.			

UMB-N (Rising-Stem Globe Valve, Stainless Steel 304)

Item no. UMB-N-RSGBV-304



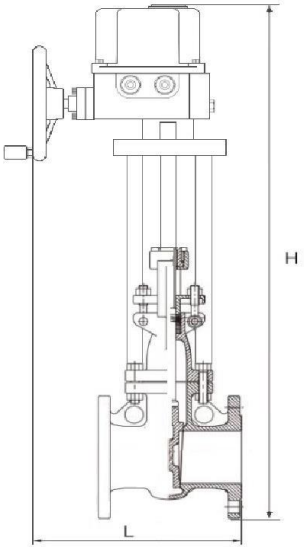
Rising-stem globe valve, stainless steel 304						
Size	2”	2-1/2”	3”	4”	5”	6”
L	305	310	320	330	340	360
H	640	660	700	770	860	920

Size 3”			
Voltage	AC110	AC220	DC24
Standby Current (A)	0.07	0.07	0.13
Standby Power (W)	4	4	3
No-Load Operation Current (A)	0.35	0.21	1.3
No-Load Operation Power (W)	35	35	31.2
Travel time: 30sec.			

Specification and Outline Drawing:

UMB-N (Rising-Stem Gate Valve Stainless Steel 304)

Item no. UMB-N-RSGV-304

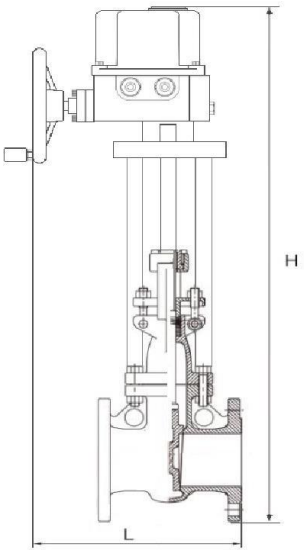


Rising-stem gate valve, stainless steel 304						
Size	2”	2-1/2”	3”	4”	5”	6”
L	290	295	300	315	330	335
H	680	700	800	870	960	1120

Size 3”			
Voltage	AC110	AC220	DC24
Standby Current (A)	0.07	0.07	0.13
Standby Power (W)	4	4	3
No-Load Operation Current (A)	0.22	0.16	0.8
No-Load Operation Power (W)	22	22	19.2
Travel time: 60sec.			

UMB-N (Rising-Stem Gate Valve Cast Iron)

Item no. UMB-N-RSGV-CI



Rising-stem gate valve, cast iron						
Size	2”	2-1/2”	3”	4”	5”	6”
L	290	295	300	315	325	335
H	680	700	790	870	1000	1160

Simple Instruction of UMB-N series actuator

1. Product Introduction

Linear valve actuator UMB-N adheres to specification of ISO5211. It's used to connect to linear valves such as global, gate valve…etc. The thrust is 11000~6000N and with mechanical position indicator green and red LED light.

2. Product Characteristics

- Modular Design
  .--Plug & Play Kit are easy to add or repair functions:
  AC Power Modular and Failsafe Modular
- Multi-Voltage
  .AC110~220V, DC24V
- Voltage free signal feedback is standard
  .Feedback signal for valve status (open or close), AC260V/100mA.
- Enclosure:
  IP67 waterproof and dustproof nylon enclosure that prevent damage from heat, acid, and alkali. Aluminum enclosure is optional.
- BLDC Motor
  .Blushless DC motor, insulation Class F, and it's available for long time operating.
- Working Condition:
  Ambient temperature: -10℃~+60℃
  The Humidity: 30%~95%.

3. Optional function

- Modulating 75% duty cycle
  Regulate flow through input signal 0~10VDC, 2~10VDC, 4-20mA.

- Failsafe
  Battery type, when power fails, the valve will be opened or closed immediately.

- Backup power
  Battery type, when power fails, end users can operate the valve by themselves.

- Heater

  Make the actuator inside temperature higher and dryer to prevent from the damage of concentration or moisture, 24V/5W.

4. Product Features

a. Over-loaded protection: When the loading torque or current overload, the electric actuator will stop operating.

b. Electromagnetic compatibility: The circuit matches EMC standard.

c. Modular design: Power and failsafe modular that make assembly and maintenance easier.

d. Double limit position:

(a) Motor detection: make the valve travel position precisely.

(b) Mechanical limit: with restricted baffle and adjustable travel screw.

e. Valve stuck protection: provide 1.3 times of valve torque, when valves unable to operate in few seconds, the power will be shut down.

f. Speed control: When valve travel less than 10%, the speed will be slowed down to adjust position precisely.

g. Mechanical lock: Motor and gear will be locked when the valve arrives at the indicated position.

h. Fail-safe: When power failure, the valve will be returned to the preset position. (valve open or close).

i. Valve travel control: Precise travel setting, keep the electric actuator lifetime longer.

k. The control program can be renewed through the software.

l. Signal feedback: Feedback signal for valve status (open or close), AC260V/100mA.

m. LED indicator for on/off.

Smart Type Linear Valve Actuator UMB-N Series		
Item	Specification	UMB-N
Power Supply (Optional)	DC24V	●
	AC110V~AC220V (Optional)	●
	AC380V (Optional)	
Thrust Range	1000~6000N	●
STROKE	60mm	●
Control Model (optional)	Modulating 4-20mA or 2~10V (Optional)	●
Rated Thrust	75%	●
Duty Cycle	30%~75%	●
Fail-Safe or backup power	≧ 1 One Time (Option)	●
Ambient Temperature	-10℃~+60℃	●
IP Rating	IP67, 1M 30 Min	●
	IP68, exceed 1M 30 Min (Optional)	●
Voltage free signal feedback	Max 100 (mA) (standard)	●
Heater	5W (Optional)	●

Features

- Brushless DC motor designed for long-term operation.
- Motor insulation: Class F
- Electromagnetic Compatibility: Complies with EMC certification.
- Hand wheel for emergency use.
- Fieldbus protocols are supported, such as Modbus-ASCII.
- Protective features: Overload, dual-limit position, valve jam, self-lock mechanism, and speed control.
- Ambient temperature: -10 to +60°C (Humidity <90% at +25°C).
- The failsafe function is based on a modular design, allowing for easy replacement.
- The standard duty cycle is S2 15minutes, for other duty cycles please consult us.

PRO UNI-D CO., LTD.

MODULATING FOR LINEAR TYPE

Product Feature

The function is available for customers to adjust the open angle of the valve that regulates liquid flow.

.For linear type, we offer modulating function for UMB-N.

.The input signal can control the valve precisely.

.BLDC motor, frequently operating without overheating.

.75% duty cycle. .Over-loaded protection.

.LED light indicator. .Voltage free signal feedback.

Electrical Input Indication

.Input Signal:

4~20mA (Standard)

2~10VDC (optional)

0~10VDC (optional)

.Output Signal:

4~20mA (Standard)

2~10VDC (optional)

0~10VDC (optional)

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MIT-UNID-CNS

PRO UNI-D CO., LTD.

Failsafe / Backup Power

For emergency power supply

Product Introduction

Our product offers two optional battery functions:

1. **Failsafe**
   The failsafe feature uses a battery system different from the traditional mechanical spring-return type. In the event of a power failure, it operates the valve to a pre-set position as specified by the customer.
2. **Backup Power**
   Similar to the failsafe function, the backup power feature allows customers to operate the valve during a power failure. However, unlike the failsafe, the valve position is not pre-set at the factory but can be controlled directly by the customer.

Important Notes:

- These two functions cannot be selected together because they use different circuit designs.
- Available Voltage Options:
  - AC 100~240V
  - DC 24V
- Modular Design: Easy to replace.

Cautions:

- The battery automatically charges when the voltage drops below DC 20.4V.
- For first-time use, the battery must be charged for at least 13 hours.
- If the battery is charged for 13 hours and the voltage remains below DC 18V, it should be replaced with a new one.

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PRO UNI-D CO., LTD.

Modbus ASCII Protocol Connection

Product Feature

1. Supports the control of 2 to 30 actuators, either synchronized or unsynchronized, via Modbus ASCII with RS-485 (as shown in the photo below).

2. Eliminates the need for I/O adapters, reducing wiring costs.
3. Provides protection against electromagnetic interference.

Example for connection:

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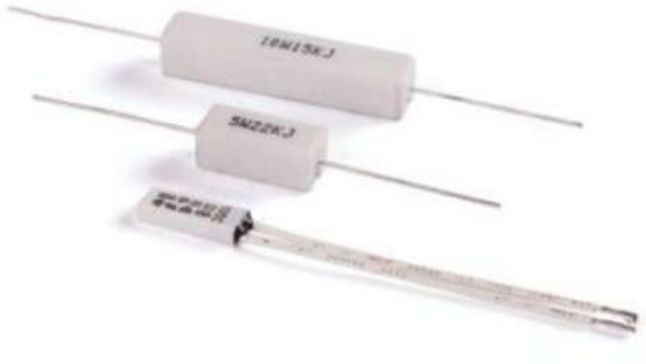
Heater (including thermal protector)

1. The heater raises the internal temperature of the electric actuator, keeping it warm and dry to prevent damage caused by condensation or moisture.
2. It also functions as a thermal protector.
3. If the heater's temperature exceeds the expected range, the thermal protector activates to lower the temperature.



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