



Form Number: F-2884  
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# Tank to Pump Valves

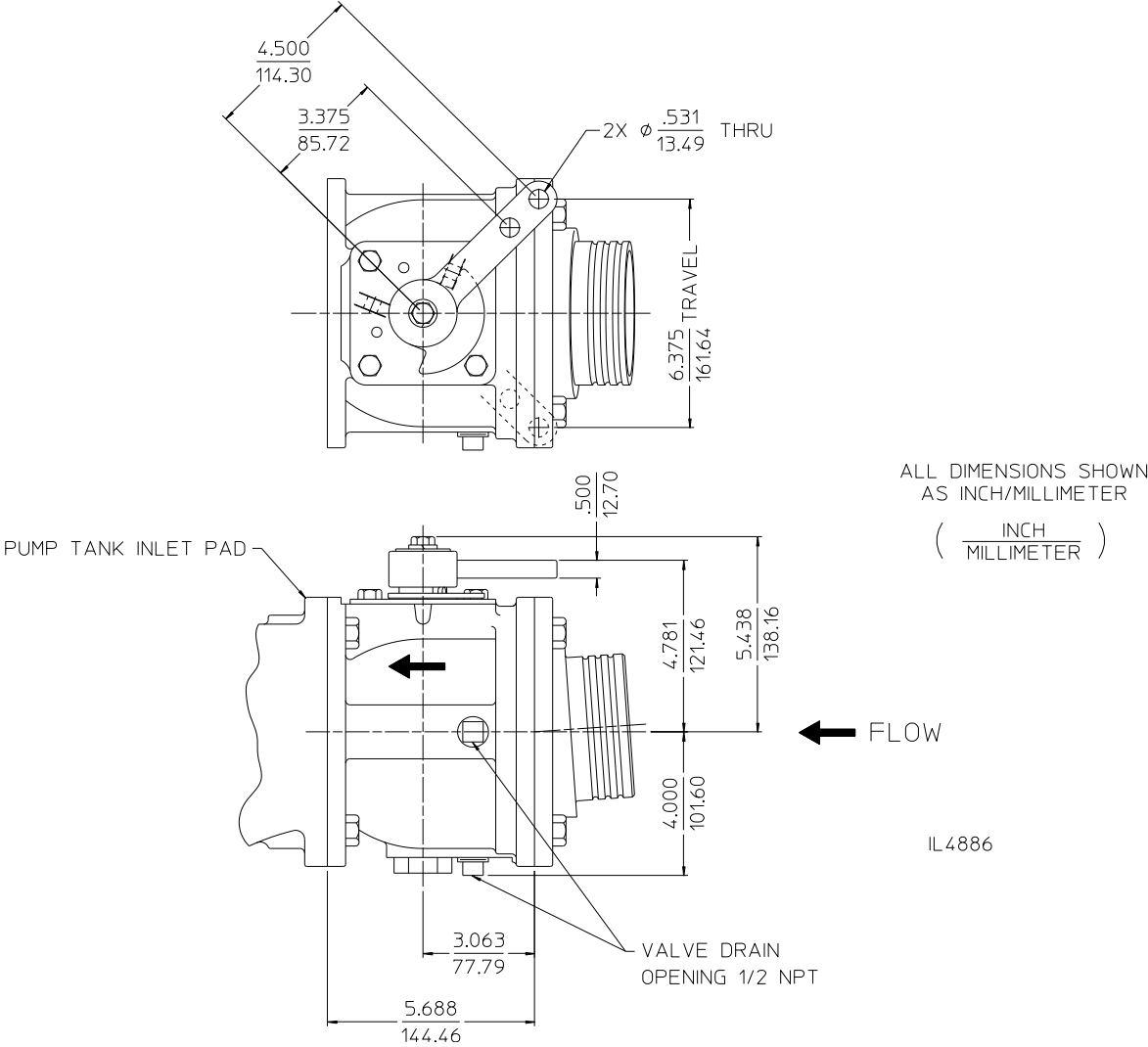
## Installation, Operation and Maintenance Instructions

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Akron	Manual	1/4 Turn Handle	8	8	Provided by OEM	Not Applicable	9	9	10	11
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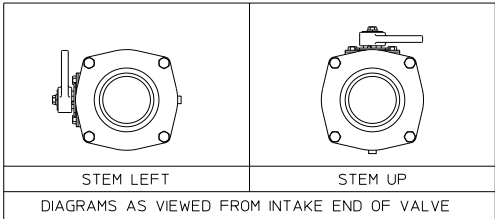
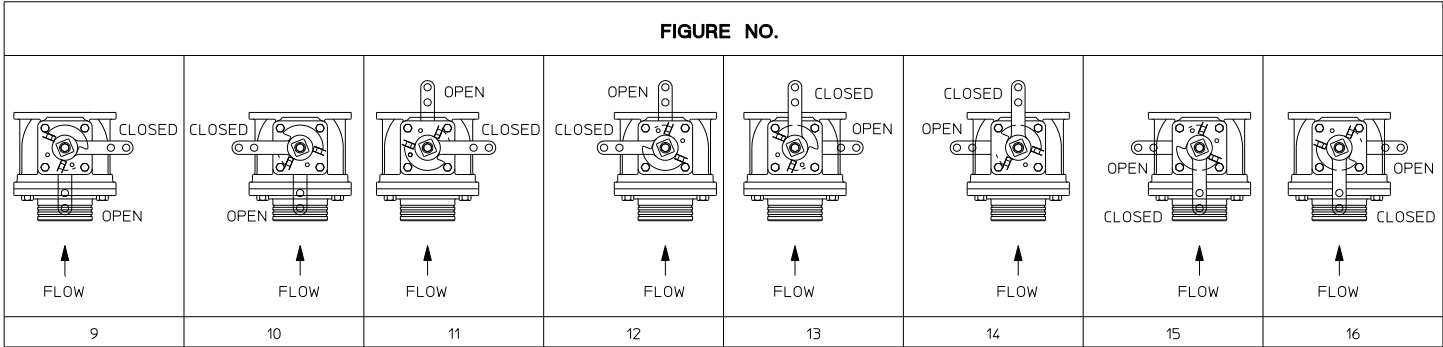
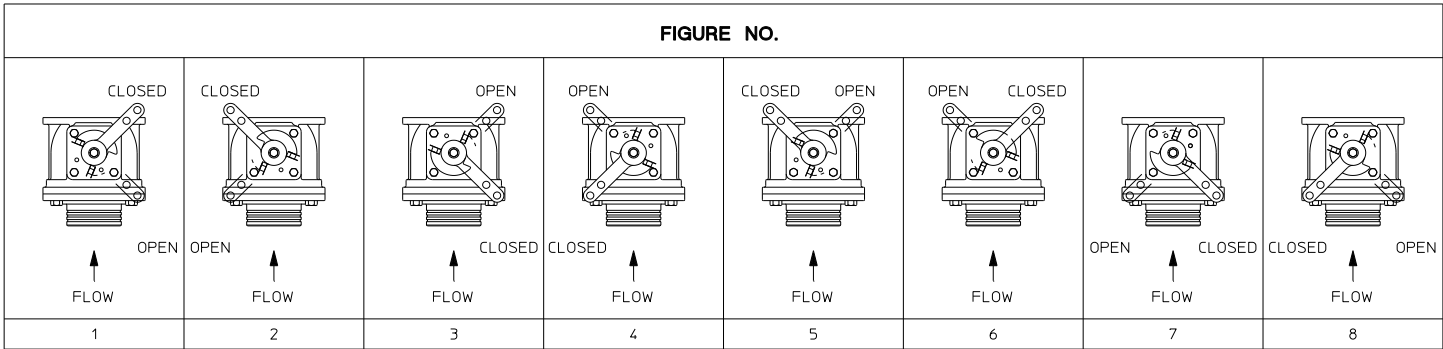
# Waterous Valve – Manual 1/4 Turn Handle

## Dimensions



# Waterous Valve – Manual 1/4 Turn Handle

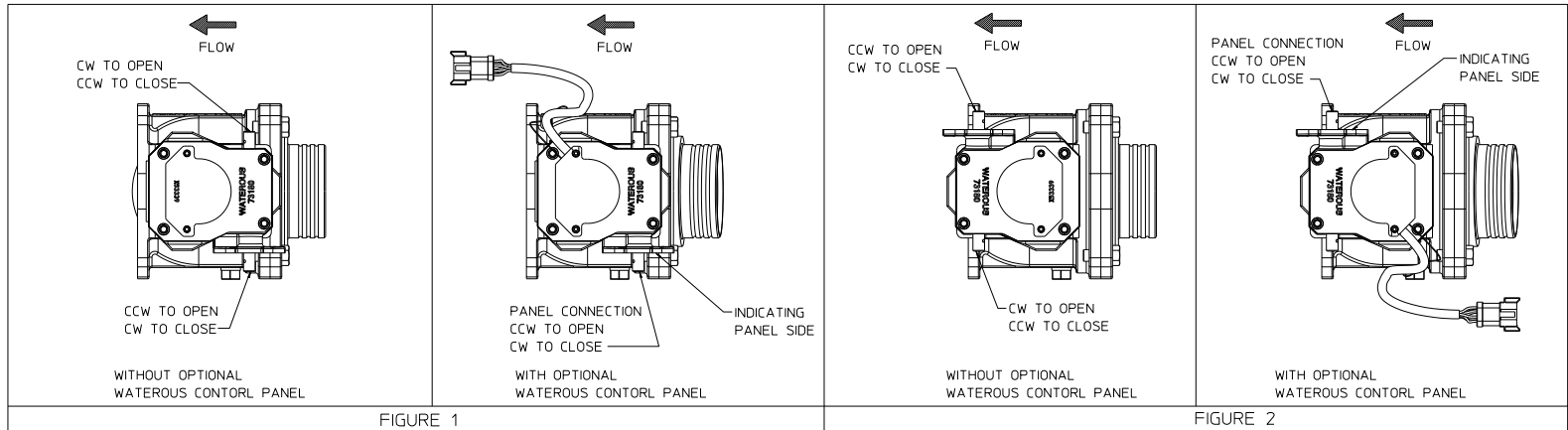
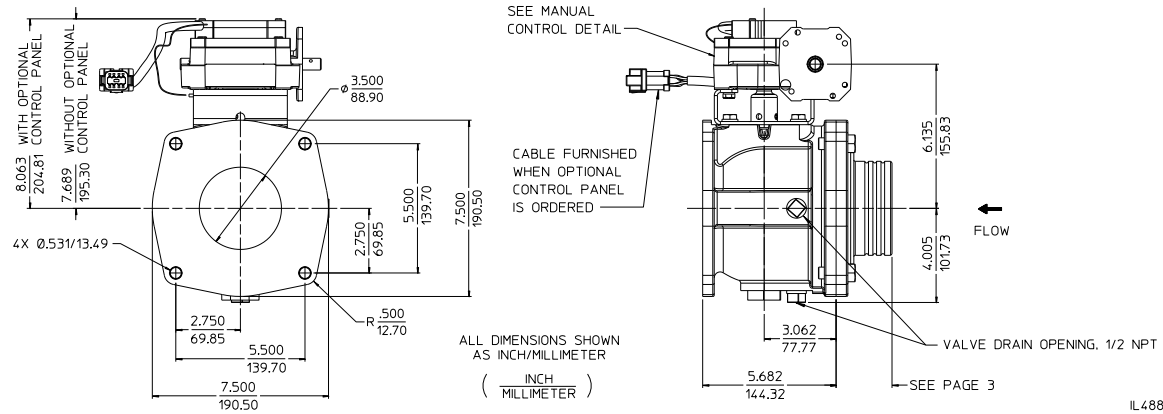
## Available Operator Positions



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# Waterous Valve – Manual Rotary Actuator

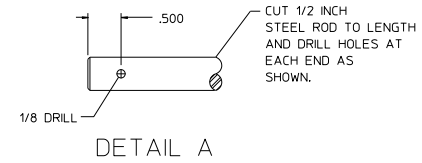
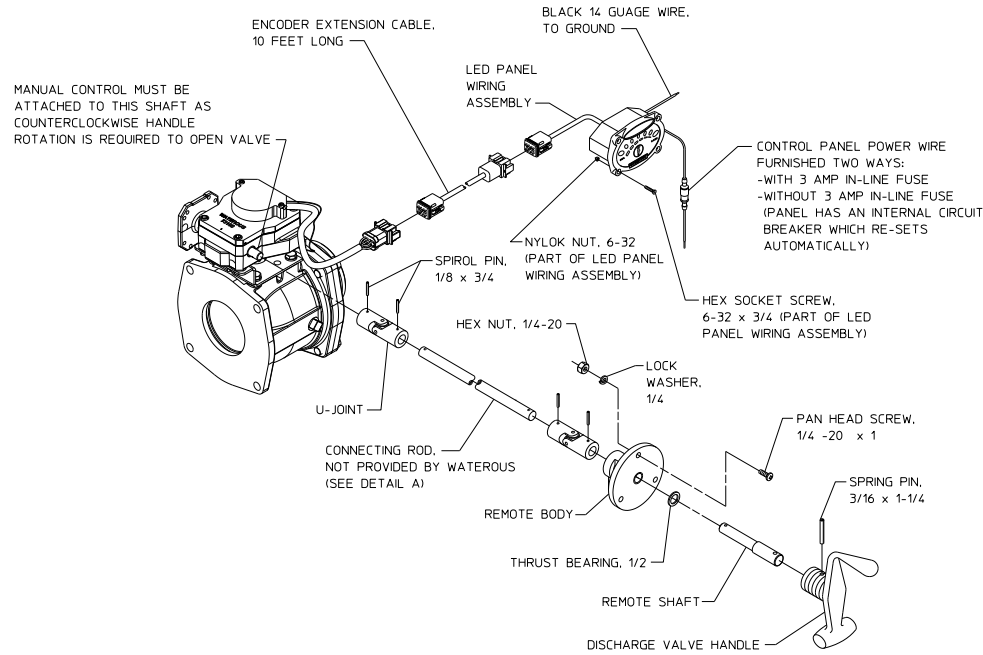
## Dimensions and Available Operator Positions



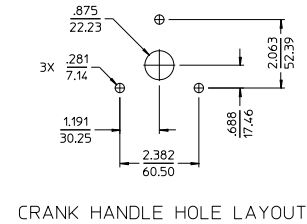
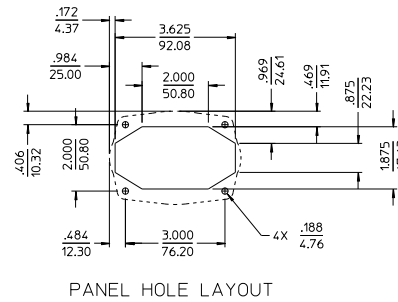
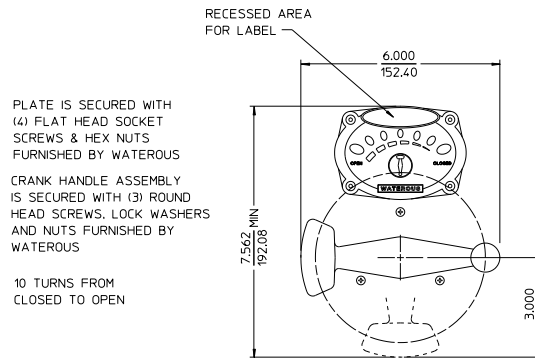
# Waterous Valve – Manual Rotary Actuator

## Panel Connection

**Note:** If additional cable extensions are required, order Waterous part no. K 1101.

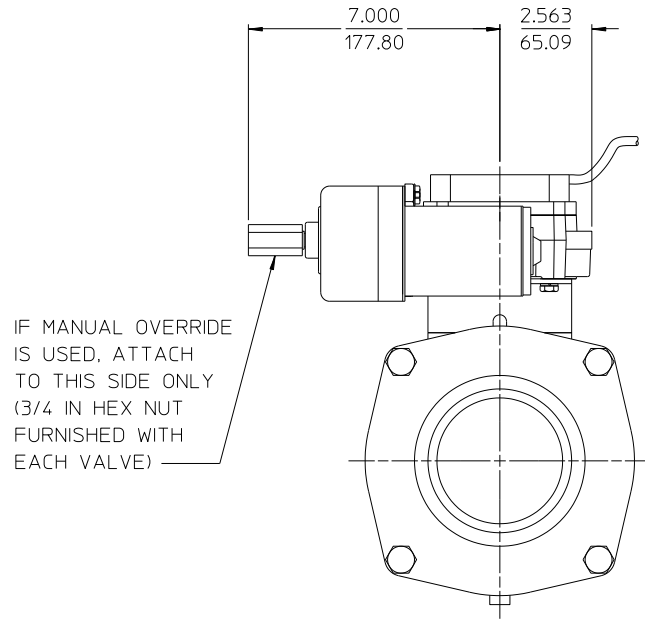


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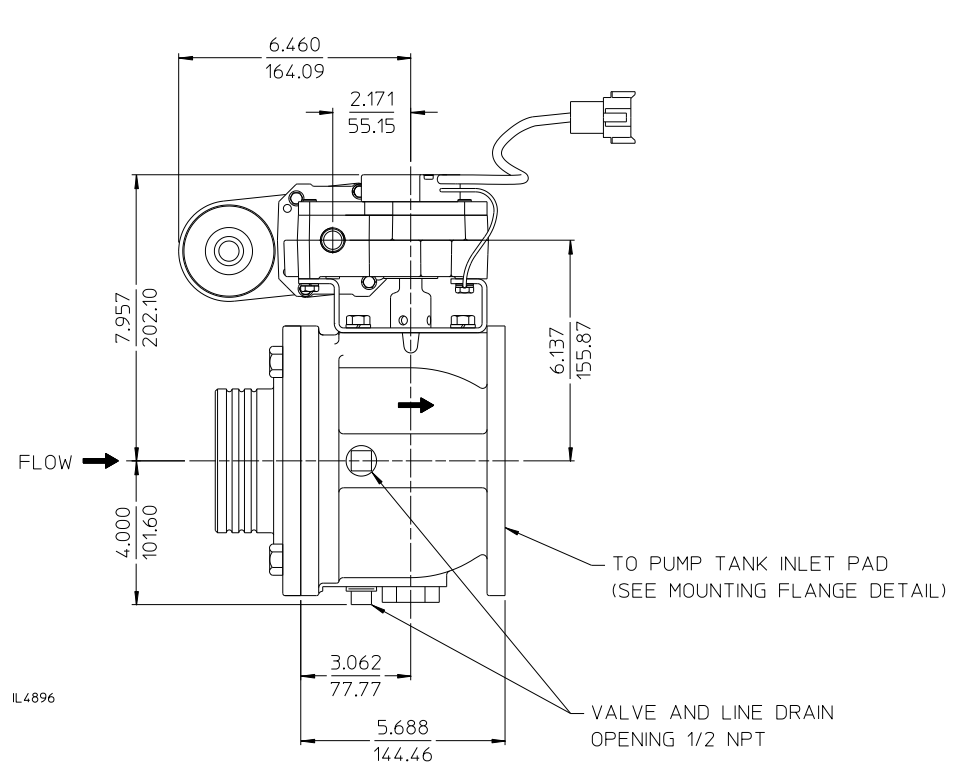
# Waterous Valve – Electric Rotary Actuator

## Dimensions, Available Operator Positions



ALL DIMENSIONS SHOWN  
AS INCH/MILLIMETER

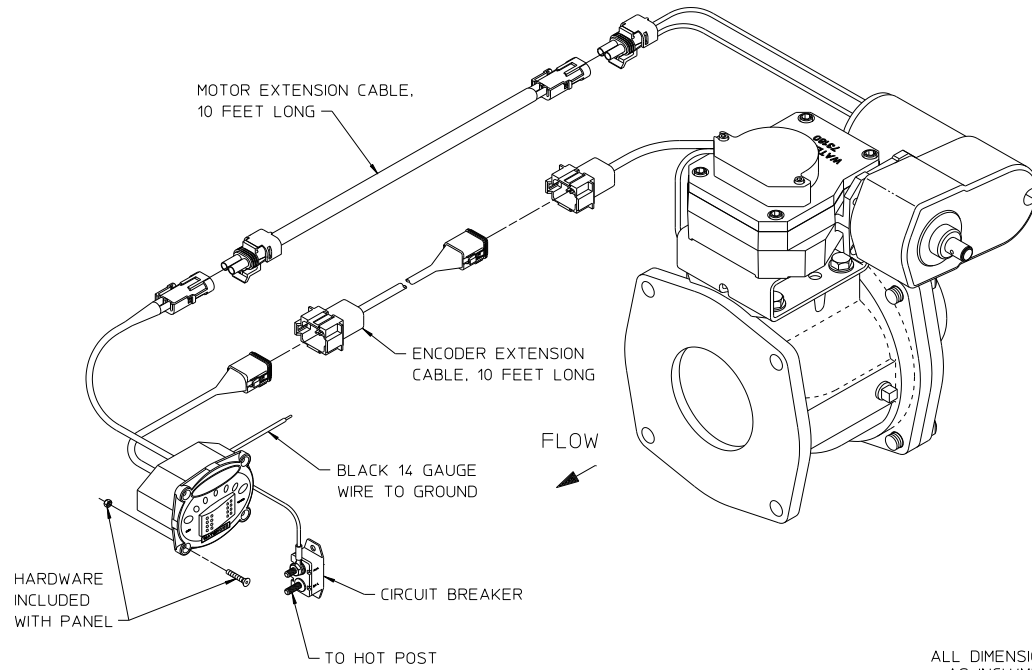
(  $\frac{\text{INCH}}{\text{MILLIMETER}}$  )



# Waterous Valve – Electric Rotary Actuator

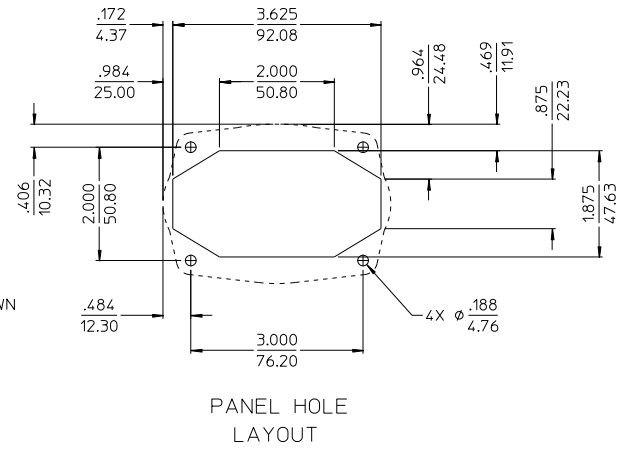
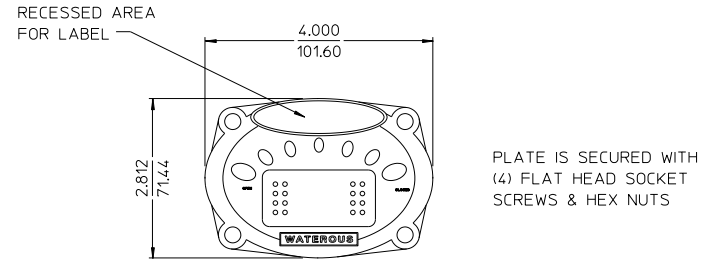
## Panel Connection

**Note:** If additional cable extensions are required, order Waterous part no. K 1100.



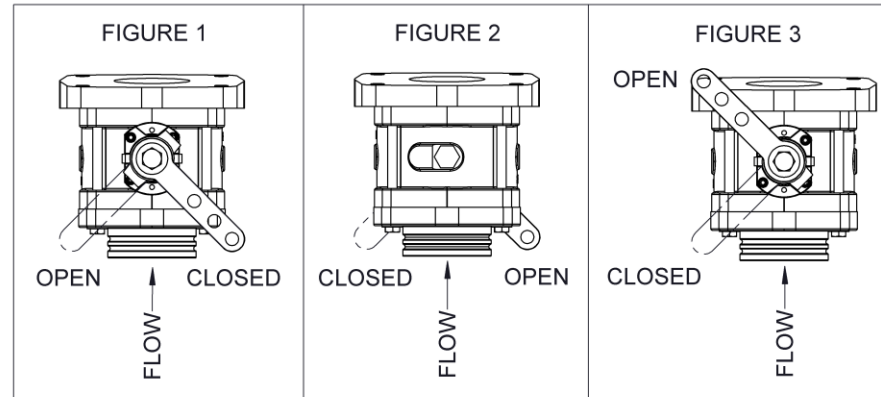
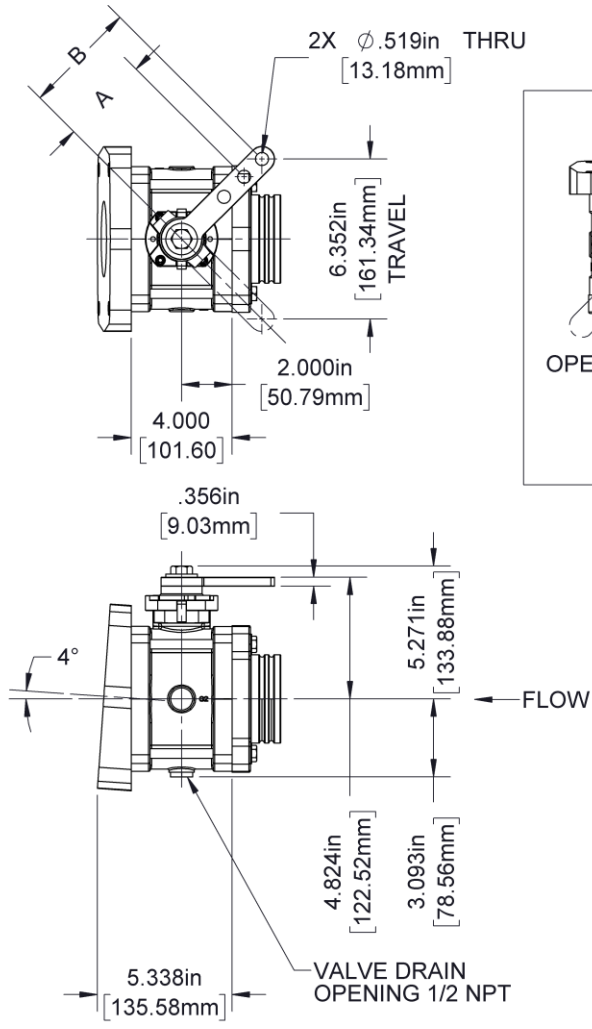
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ALL DIMENSIONS SHOWN AS INCH/MILLIMETER  
( INCH / MILLIMETER )



# Akron and Elkhart Valves – Manual 1/4 Turn Handle

## Dimensions and Available Operator Positions



VALVE MANUFACTURER	DIMENSION	
	A	B
AKRON	3.250in/ 82.55mm	4.500in/114.30mm
ELKHART (LONG HANDLE)	4.968in/126.18mm	7.000in/177.80mm
ELKHART (SHORT HANDLE)	3.250in/82.55mm	4.500in/114.30mm

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## Panel Connection - Description

### **1/4 Turn Handle Operation:**

The valve is operated by a separate OEM provided cable, rod, bell crank or power actuator connected to the valve control arm.

Note that multiple control arm positions are available relative to the waterflow (sixteen for Waterous valves and three for Akron/Elkhart valves) to satisfy necessary rod connections. See pages 3 and 8.

### **Manual Rotary Actuator Operation:**

See page 5 for panel components. The valve is operated by a crank handle located on the operator's panel which is connected to the valve by a .50 in. diameter control rod. The indicating panel is optional as some OEM's furnish their panel.

Note that Waterous offers four actuator positions relative to waterflow and control rod connection location, see page 4.

### **Electric Rotary Actuator Operation:**

See pages 6 and 7 for panel components and manual override. The valve is operated by an electric motor on the valve. A control panel is furnished for opening and closing the valve which also indicates the open-closed position. The valve may be manually operated via a hex nut on the valve's electric motor.

Note that it is normal for the valve to produce a ratcheting sound upon reaching the full open or completely closed position.

## Drain Line Connection

Each valve has one 1/2 in. FNPT on the bottom of the valve body which is to be used for draining the valve.

## Maintenance

### Waterous Valves

The effectiveness of a ball-type valve depends greatly upon the tightness of its seal, as a leaking seal allows air to enter the pump during priming or water to escape when operating. Sand or other abrasive material in the water being pumped can score and roughen the surfaces of the valve parts. These rough surfaces may gradually cut the seal and cause leakage.

If valve leakage is detected, rotate the valve ball 180° so the seal contacts the opposite side of the ball. If turning the ball does not stop the leakage, replace the ball. If valve still leaks, replace the seal.

Operating linkages should be kept free of grease and dirt. No lubrication is required. Operate the valves at least monthly (with water flowing) to flush and lubricate the seals.

### Akron and Elkhart Valves

Consult the appropriate Akron or Elkhart literature.

## Troubleshooting – Waterous Valves Only

Problem	Possible Cause	Solution
Valve leaking	Damaged seal	Replace seal with appropriate seal kit
	Scored / Corroded valve ball	Clean with emery cloth, rotate ball 180°, or replace
Panel LED's all illuminated constantly	Encoder not grounded	Check for ground on encoder assembly
	Defective encoder	Unplug encoder from panel – if LED's turn off, replace encoder
Valve Position LED's NOT illuminated	No power to panel	Check for power supply to panel
	Encoder not grounded	Check for ground on panel
	Defective panel	Connect jumper wire from 12V red wire deutsch connector to each other pin of the connector – should light the individual LED's on the panel
Electric Valve doesn't open or close	Defective switch	Check for proper connections
	Motor to switch connection	Check wiring from motor to switch
	Defective motor	Unplug connection at motor and measure motor continuity with an Ohm meter – should be less than 5 Ohms
	No power to panel	Check for power supply to panel
	Damaged Actuator	Replace Actuator
Motor runs constantly	Defective switch / short circuit across switch	Check for circuit across switch – replace if necessary