

CONTROLLER FEATURES (SCG GROUP)



Features

- Benefit from demand regeneration on virtually any system. In sizes from 3/4" to 3", including standard or extended range as well as remote reset meters, Econominder® controls can be used with single or multiple tank softeners with application ranges from 125 to 63,750 gallons (standard range) and 625 to 318,750 (extended range) requiring immediate or delayed regeneration.
- Made of brass or tough, corrosion-resistant plastic to provide dependable service
- Simple and sound mechanical design has only one instream moving part - the meter impeller. Flow accuracy range is ± 5% from 0.25 - 300 gpm. Cv range is 6.8 - 135 gpm
- Water flow drives mechanics - meter registers even during power outages
- Meter is on conditioned water

Remote Reset Meter Options

Include immediate or delayed regeneration and standard or extended range.

Meter Size	Accuracy Range (+/- 5%) gpm	Cv	Capacity Range	
			Standard (gals)	Extended (gals)
3/4" Inline Only	0.25 - 15.0	6.8	125 - 2,125	625 - 10,625
1" Inline or Remote Reset	0.70 - 40.0	18	310 - 5,270	1,150 - 26,350
1.5" Inline or Remote Reset	1.50 - 75.0	40	625 - 10,625	3,125 - 53,125
2" Inline or Remote Reset	3.00 - 150.0	70	1,250 - 21,250	6,250 - 106,250
3" Inline or Remote Reset	7.00 - 300.0	135	3,750 - 63,750	18,750 - 318,750

Meter	Style	Material	Plumbing Connections
3/4"	5600/9000	Noryl	Inlet/Outlet - O-Ring Quick Connect
	2500	Brass w/Noryl Cover	Inlet/Outlet - Union, Meter Unit
1"	9000	Brass	Inlet/Outlet - Female NPT
	2750	Brass	Inlet - Male NPT with Union Outlet - Female NPT
1-1/2"	2850/9500	Brass	Inlet - Male NPT with Union Outlet - Female NPT
2"	2900	Brass	Inlet - Male NPT with Union Outlet - Female NPT
3"	3900	Brass	Inlet/Outlet - Male NPT with Union

Valve Specifications

A meter is the most efficient method of monitoring water usage and initiating timely regenerations. Average to extreme water hardness indicates the use of a standard range meter. Lower than average water hardness indicates the use of an extended range meter.

Remote reset meters, although available for any commercial/ industrial installation, are generally used to signal regenerations on series or alternating multiple tanks systems.

Commercial/Industrial Applications

System 4 - Single Tank with Meter Control

Delayed Regeneration - When meter zeros out, unit remains in service until 2:00 a.m., then regenerates automatically

Immediate Regeneration - When meter zeros out, unit goes immediately into regeneration

System 5 Interlock - Two or More Tanks with Metered Control

All units in service at the same time. When one meter zeros out, that unit starts regeneration. Other units remain in service even if they zero out during this time.

System 6 Series (Filters only) - Two or More Tanks with Controls, One Remote Reset Meter

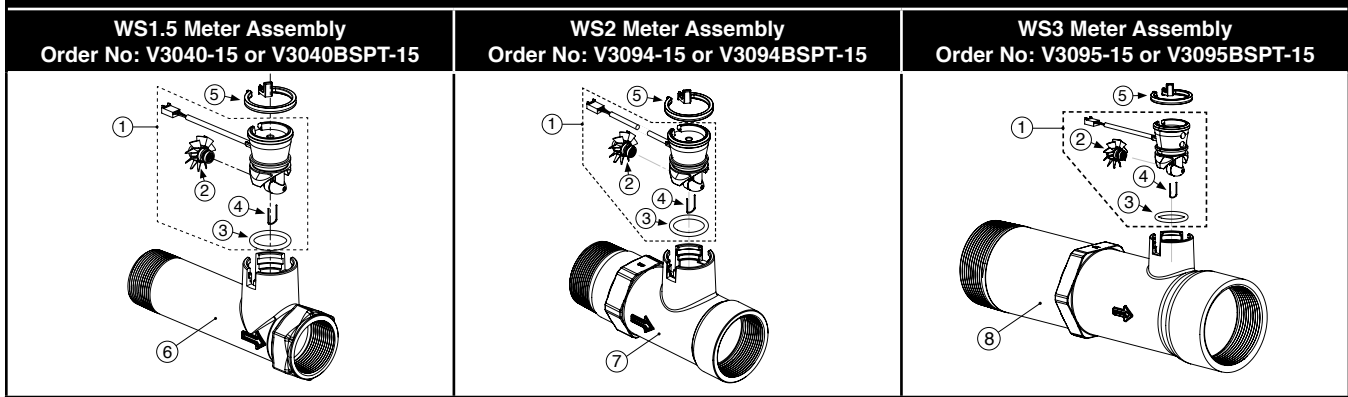
All units in service at the same time. The remote reset meter monitors the entire system's capacity. When meter zeros out, the 'lead' unit regenerates. Upon returning to service, subsequent units regenerate as needed.

System 7 Alternating - Two or More Tanks with Controls, One Remote Reset Meter

One unit is on standby and all other units are in service. When meter zeros out, the standby unit goes into a regeneration cycle.



Inline Flow Meters NPT or BSPT



Drawing No.	Order No.	Description	Quantity
Common Parts			
1	V3221	WS Remote Meter Asy 15 Ft Cord (includes V3118-03, V3501 and V3105)	1
2	V3118-03	WS1.5/2 Turbine Asy	1
3	V3105	O-Ring 215	1
4	V3501	WS1.5/2 Turbine Clip	1
5	V3632	WS1.5/2/3 Meter Retaining Clip	1
WS1.5 Meter Assembly Parts			
6	V3401-04	WS1.5 Meter Housing MxF NPT	1
	V3401BSPT-04	WS1.5 Meter Housing MxF BSPT	
Not Shown	V3437	WS1.5 Flow Straightener (located inside meter housing)	1
WS2 Meter Assembly Parts			
7	V3754-01	WS2 Meter NPT MxF Housing	1
	V3754BSPT-01	WS2 Meter BSPT MxF Housing	
Not Shown	V3488	WS2 Flow Straightener (located inside meter housing)	1
WS3 Meter Assembly Parts			
8	V3844-01	WS3 Meter NPT MxF Housing	1
	V3844BSPT-01	WS3 Meter BSPT MxF Housing	
Not Shown	V3602	WS3 Flow Straightener (located inside meter housing)	1

Installation of the V3040-15 WS1.5 Meter NPT Assembly can be accomplished using 1.5" NPT pipe and fittings. For V3040BSPT-15 WS1.5 Meter BSPT use 1.5" BSPT pipe and fittings.

Installation of the V3094-15 WS2 Meter NPT Assembly can be accomplished using 2" NPT pipe and fittings. For V3094BSPT-15 WS2 Meter BSPT Assembly use 2" BSPT pipe and fittings.

Installation of the V3095-15 WS3 Meter NPT Assembly can be accomplished using 3" NPT pipe and fittings. For V3095BSPT-15 WS3 Meter BSPT Assembly use 3" BSPT pipe and fittings.

WHEN INSTALLING THE METER, MAKE SURE THE ARROW ON THE METER BODY IS GOING THE SAME DIRECTION AS THE WATER FLOW. THE METER CAN BE INSTALLED IN HORIZONTAL OR VERTICAL APPLICATIONS. HYDROCARBONS SUCH AS KEROSENE, BENZENE, GASOLINE, ETC., MAY DAMAGE PRODUCTS THAT CONTAIN O-RINGS OR PLASTIC COMPONENTS. EXPOSURE TO SUCH HYDROCARBONS MAY CAUSE THE PRODUCTS TO LEAK. DO NOT USE THE PRODUCT(S) CONTAINED IN THIS DOCUMENT ON WATER SUPPLIES THAT CONTAIN HYDROCARBONS SUCH AS KEROSENE, BENZENE, GASOLINE, ETC.

**THIS WATER METER SHOULD NOT BE USED AS THE PRIMARY MONITORING DEVICE FOR CRITICAL OR HEALTH EFFECT APPLICATIONS.
OPERATING PRESSURES: 20 PSI MINIMUM / 125 PSI MAXIMUM (1.4 - 8.6 BAR) • OPERATING TEMPERATURES: 40°F MINIMUM / 110°F MAXIMUM (4° - 43° C)**

The 22 gauge wire crimp terminals are Molex Series 41572 or 40445. The housing connector is Molex Series 2695 White Housing, P/N 22-01-3037. The housing connector diagram shows the proper installation of the RED, WHITE and BLACK wires for CLACK CORPORATION CONTROL VALVES. When connecting to other manufacturers control valves please contact your original equipment manufacturer for proper wiring instructions.

Wiring:

- The meter must be supplied with a DC voltage between 4 and 24 volts
- The RED wire is positive
- The BLACK wire is negative
- The WHITE wire is the meter output

Calibration instructions for WS1.5 Meters:

- For WS1.5" valves select 1.5 if valve software records in gallons and 38 if valve software records in cubic meters.
- The calibration factor for the Meter Assembly is 37 pulses per gallon or 9.8 pulses per liter when used on applications other than WS1.5" valves.
- The meter flow range is 0.5-75 gpm (2-284 lpm) + 5% (output signal 0.4 Hz to 47.5 Hz). NOTE: Not all flow monitors will register accurately at either the low or high flow range of this meter. Contact your flow monitor manufacturer for limitations.
- Pressure drop at 75 gpm (284 lpm) is 2.7 PSI (0.2 bar)

Calibration instructions for WS2 Meters:

- For WS2H valves select 2.0 if valve software records in gallons and 50 if valve software records in cubic meters.
- For WS2 valves select 2.0 if valve software records in gallons and 50 if valve software records in cubic meters.
- The calibration factor for the WS2 Meter Assembly is 20 pulses per gallon or 5.3 pulses per liter when used on applications other than WS2H or WS2 valves.
- The meter flow range is 1.5-150 gpm (5.7-568 lpm) + 5% (output signal 0.4 Hz to 47.5 Hz). NOTE: Not all flow monitors will register accurately at either the low or high flow range of this meter. Contact your flow monitor manufacturer for limitations.
- Pressure drop at 150 gpm (568 lpm) is 3.6 PSI (0.3 bar)

Calibration instructions for WS3 Meters:

- The calibration factor for the WS3 Meter Assembly is 8 pulses per gallon or 2.1 pulses per liter when used on applications other than Clack valves.
- The meter flow range is 3.5-350 gpm (13 to 1,325 lpm) + 5% (output signal 0.46 Hz to 46.6 Hz). NOTE: Not all flow monitors will register accurately at either the low or high flow range of this meter. Contact your flow monitor manufacturer for limitations.
- Pressure drop at 350 gpm (1,325 lpm) is 7.3 PSI (0.50 bar).

