

# Cyclone Meter Lubrication System

## Reliable, Proven Design

The Cyclone meter lubrication system injects turbine meter lubricant to enable unrestricted movement of the turbine and to maintain measurement accuracy. Mounted to a pipeline, the system uses a pneumatically-operated positive displacement pump, a controller, a filter/regulator, and a solenoid valve to deliver injection. Capable of accepting pulses directly from a meter, index pulser, electronic corrector, or flow computer, the Cyclone system can operate in proportional-to-flow or time-based injection modes.

## Features and Benefits

- Proven design provides systematic lubrication to the meter for improved measurement and accuracy
- Versatile electronic controller for time-based, and proportional-to-flow operation
- Durable fiberglass reinforced polyester enclosure to protect from the elements
- Flexible dry contact or voltage pulse flow input
- Onboard LCD stroke and LED battery indicator
- Adjustable filter/regulator provides actuation gas
- Onboard 6 oz. oil reservoir
- Long life potted electronics
- Intrinsically safe for Class I, Div 1, Group C, D; and CSA and Cenelec Certified

## Specifications

### Controller

Power supply	Lithium battery pack
Battery reserve	2 years (1 stroke/hr)
Timer accuracy	< $\pm 0.01\%$ , deviation from absolute
Display	LCD, indicating total injections (resettable)
Flow Input	
Continuous	20 Hz
Minimum pulse width	20 ms
Pulse type	Digital, 5-24VDC Dry, Contact Closure



## Operating Mode

Timer mode, continuous	1 to 99 hours (incrementally adjustable)
	1 to 9.9 hours in .1 hour (6 minutes) increments
Timer mode, intermittent	Allows control to inject proportion to time during periods of flow
	1 to 99 hours (incrementally adjustable)
Proportional-to-flow mode	1 to 9,900 pulses (incrementally adjustable)

## Injection Pump

Operating pressure	1.03 to 103 bar (15 to 1,500 psi)
Actuation pressure	1.03 to 3.79 bar (15 to 55 psi)
Displacement	0.140 cc (fixed)
Operating system temperature	*-34°C to 60°C (-30°F to 140°F)

## Oil Reservoir

Material	Polycarbonate and anodized aluminum
Capacity	177 ml (6 oz.) per 1,250 injections
Compatible lubricants	Chemlube, Anderol, 5w or equivalent

