

# ProEYE® Inline Pulp Monitoring Systems For the Pulp and Paper Industry

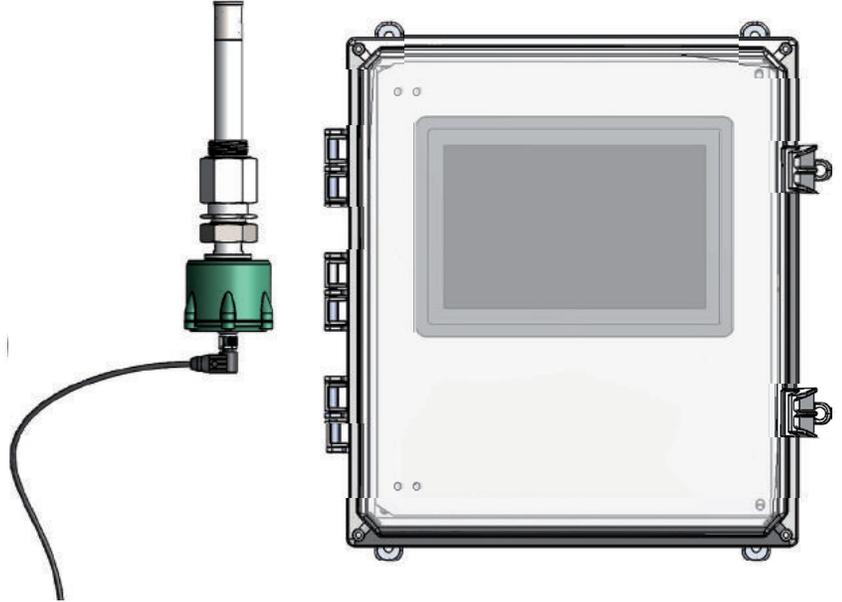
## DESCRIPTION

The ProEYE Inline Pulp Monitoring System uses a proprietary optical measurement technique to provide continuous, real-time monitoring of key pulp and furnish properties, including consistency, ash, freeness, brightness, kappa, and retention.

ProEYE is designed to support process visibility and operational stability across a wide range of pulp and paper applications, including chemical, mechanical, and recycled fiber systems.

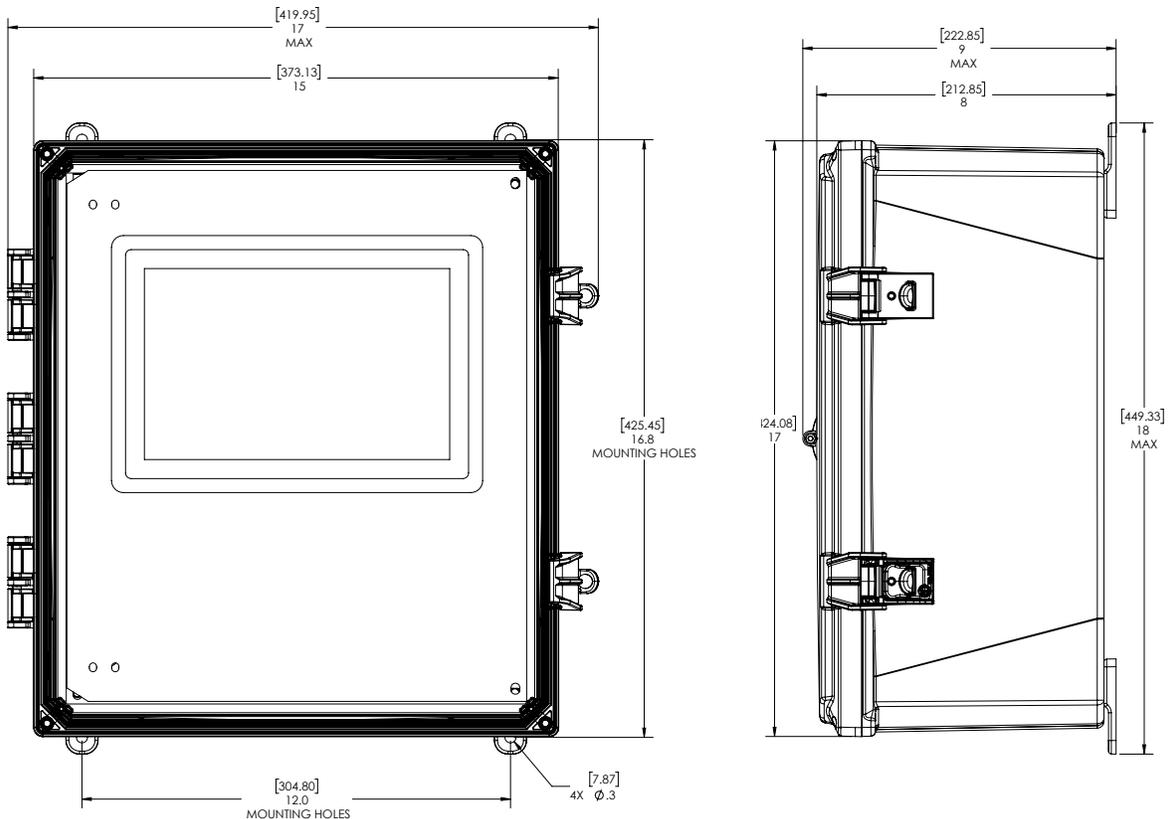
Multiple pulp properties are monitored by evaluating a matrix of strobed LED optical responses, enabling stable and repeatable insight into process behavior rather than reliance on intermittent laboratory measurements. This proprietary LED-strobing technology is resistant to process fluctuation and remains unaffected by normal process variability.

The ProEYE system consists of a direct-insertion optical probe and a Remote Display Unit (RDU), providing a complete inline monitoring solution suitable for integration with modern mill control systems.



## Remote Display Unit (RDU):

The wall- or stand-mounted Remote Display Unit (RDU) provides electrical inputs and outputs for integration with PLC, DCS, or other mill control systems. Monitored pulp variables are displayed on a 10-inch industrial touch screen, and remote connectivity is provided as standard to support diagnostics and data visibility.



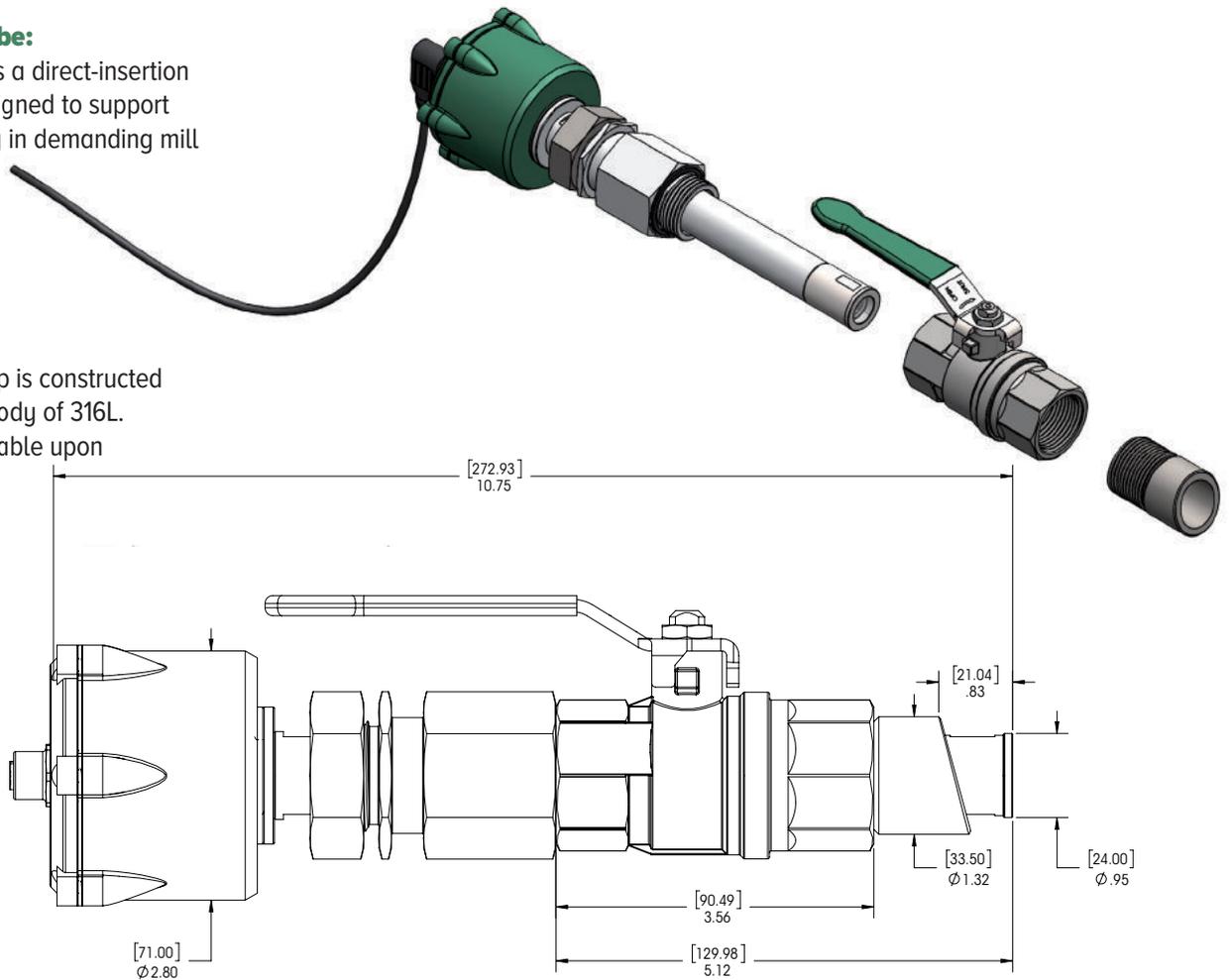
# ProEYE Inline Pulp Monitoring System

## ProEYE 100 Optical Probe:

The ProEYE optical probe is a direct-insertion inline sensing element designed to support continuous pulp monitoring in demanding mill environments. The probe is inserted into the process fluid through a 1" NPT sealed ball valve and nipple with its wetted parts constructed of AISI 316L material. The probe tip is constructed of T1 material with probe body of 316L. (All T1 material probe available upon special request)

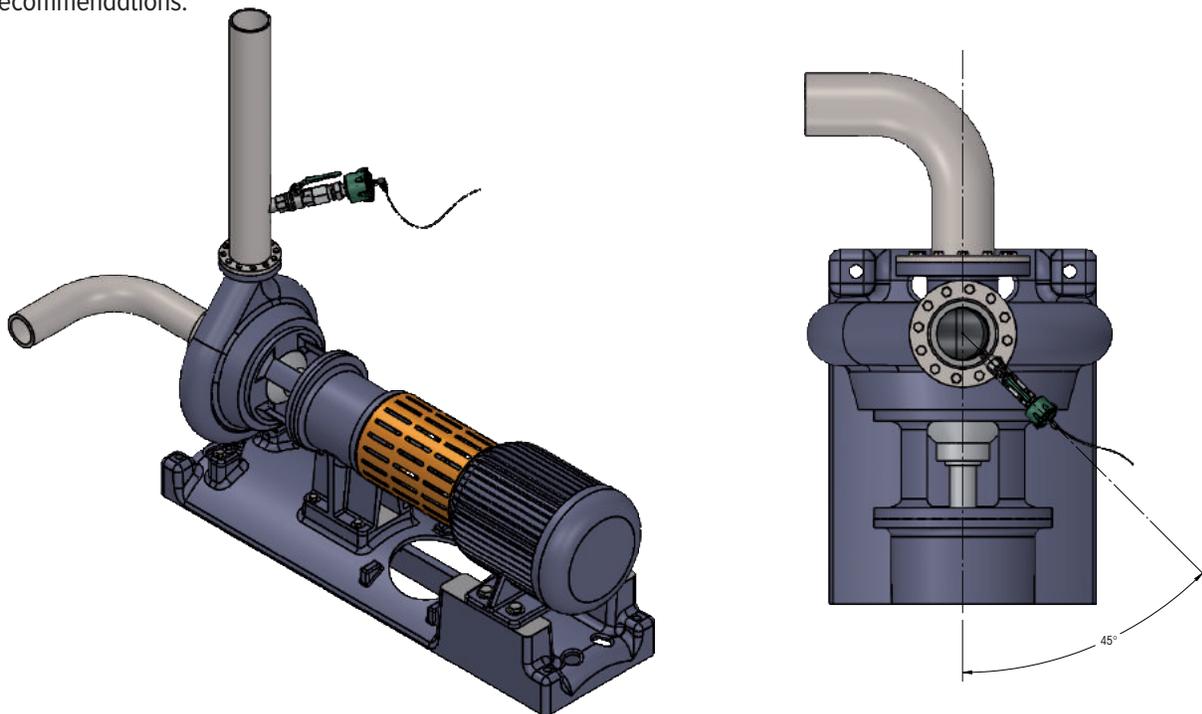
Once the probe is installed into the process, it is connected to the Remote Display Unit (RDU) via the 8-pin shielded cable.

The probe can be installed up to 50ft or more from the RDU.



## Installation:

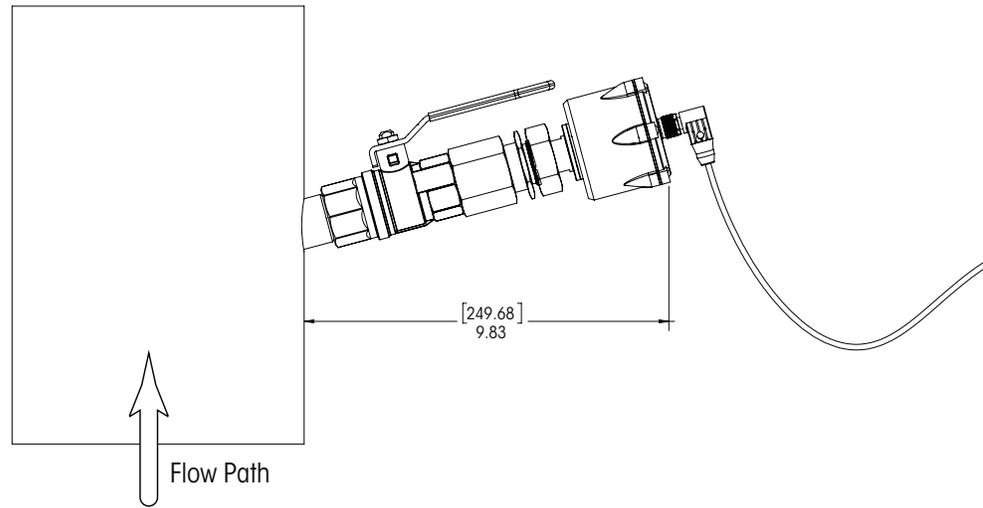
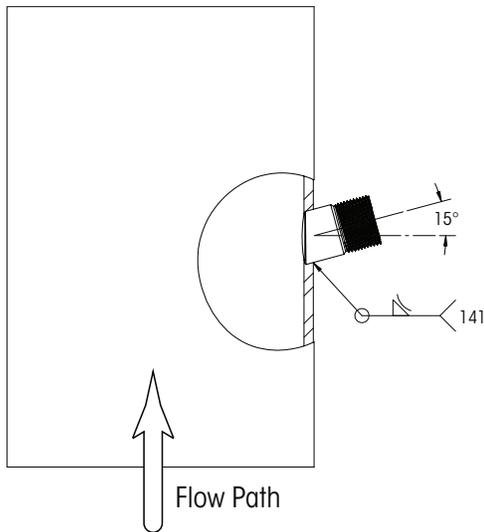
For best results, locate the optical probe on the high-pressure side of equipment (pump discharge, refiner outlet, screen outlet, etc.). The optimal location is approximately 18 to 24 inches downstream from the equipment outlet and positioned at a 45-degree angle from the centerline of the discharge pipe. In certain applications, the probe may also be installed on a horizontal or vertical pipe run at the point of highest turbulent flow. If the probe cannot be installed directly downstream of a piece of equipment, consult the factory for alternate placement recommendations.



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## Installation (continued):

The probe tip should face into the direction of flow to ensure proper exposure to the process stream. The installation nipple is inserted through the pipe wall at a 15-degree angle relative to the flow direction, with the end of the nipple flush with the internal diameter of the pipe. All welds should be smooth and flush to avoid disturbing process flow and to ensure the probe can be easily inserted without obstruction.



## TECHNICAL SPECIFICATIONS

### ELECTRICAL

Supply Voltage	110 / 220 VDC, 1 A
Sensor Probe Supply Voltage	24VDC
Analog Outputs	2 – Isolated 4-20 mA signals (loop power externally)
Digital Outputs	4 - 24VDC Single Phase Solid-State Relay Inputs 2 - 24VDC Single Phase Solid-State Relay Outputs 2 - 5VDC Single Phase Solid-State Relay Outputs
Remote Display Unit (RDU)	Industrial Mini PC, 10-inch Touch Screen, Wi-Fi Dongle Using Cellular Network connect for remote access, NEMAH Enclosure
Measurement Characteristics	Resolution: 12-bit Damping: Fully variable time constant Repeatability: 0.01% Cs

### MECHANICAL

Materials	Probe Sensing Element – AISI 316L SS, Titanium Optical Lens Material – Sapphire
Sensor Cable	10m standard - Additional options are available (consult Factory)
Temperature Limits	Ambient -22 to 176 °F Process 32 to 248 °F
Weight	Probe: 2.5lbs (1.1kg) RDU: 25lbs (11.3kg)

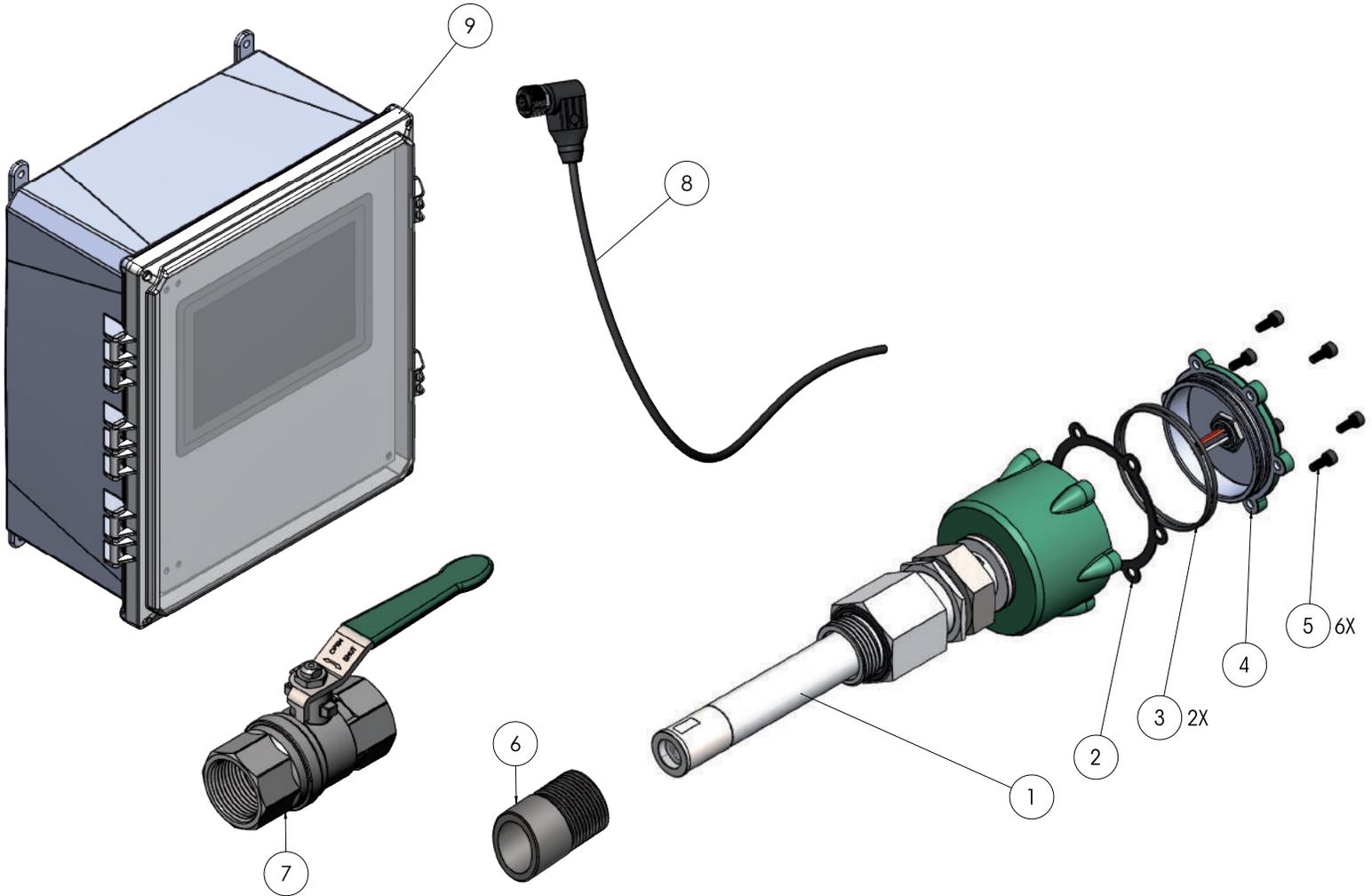
### CONFIGURATION / CALIBRATION

	Touch Screen/Local interface Back-lit LED
	Menu driven set-up
	Factory calibrated for 0 - 12% Cs. Field calibration using actual process samples and corresponding lab measurements is required after installation.
	Programmable to laboratory or mill samples
	Password protected

### AVAILABLE MONITORING CONFIGURATIONS

ProEYE 100	Dual channel, multi-light source for both channels
ProEYE CSX	Single channel, multi-light source
ProEYE CS	Single channel, single light source

# ProEYE Inline Pulp Monitoring System



No.	Part name
1	ProEYE optical probe
2	Lid gasket
3	Lid O-ring (x2)
4	Lid assembly
5	6x M4X10 SHCS
6	15° ball valve coupling nipple
7	AISI 316L ball valve
8	10m Signal Cable, Shielded, 8 Pin, F/STR - M/RA
9	RDU – Remote Display Unit