VIP™ 2 inline REFRACTOMETER
With IRIS Technology



Smart Sensors are Just…Smarter!

The new MISCO VIP2 ("Very Important Process") inline process refractometer is a great example of the latest advancements in smart-sensor technology. Since the intelligence for processing and communication is contained within the sensor itself, the VIP2 refractometer eliminates the need for an external control box. The stainless steel sensor head and sapphire measuring surface are designed to survive the toughest environments. The sensor mounts to your processes using an industry standard 2" Tri-Clamp fitting.

IRIS Smart-Sensor Technology

The VIP2 inline refractometer is afforded higher precision and accuracy thanks to MISCO's revolutionary new IRIS™ technology. IRIS, short for Intelligent Refractive Index Sensor, puts the "smarts" in smart-sensor and is at the heart of every VIP_2 refractometer. Thanks to IRIS, the VIP2 can instantly and accurately measure refractive index, temperature correct the reading, convert refractive index into a more user-friendly unit of measure, and then transmit the results to your data capture system.

Built to Take it

Fabricated from the highest quality 316L stainless steel, and passivated to provide the best possible corrosion resistance, the VIP2 inline refractometer is constructed for years of service in the harshest environments. A precision ground sapphire optic, the next hardest substance to diamond, provides a virtually scratch-proof window into your fluid's physical properties. Ensuring the best possible level of precision and accuracy, the ultra-high-resolution linear detector array can detect even the smallest changes in concentration.

No Control Box Necessary

The new smart-sensor paradigm entirely eliminates the need for a separate external control box. Not only does the VIP2 sensor do all the processing and communicating itself, it does so in a smaller size package, with greater concentration, temperature, and pressure ranges and, it is nearly five-times more accurate than its predecessor.

Flexible Communication Options

Each VIP2 sensor is equipped with a special communication card that allows it to communicate with the outside world. You may select either analog or digital output. The analog communication card allows the user to select proportional 4 to 20 mA or 0 to 10 Volt output. The digital communication card transmits sensor readings in ASCII text format via a RS232 serial connection. All VIP2 sensors can be connected to the USB port on a Windows® computer, through MISCO Inline Connect™ software, where they can be easily configured and calibrated.

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Refractive Index Range:	1.3330 to 1.5000 nD20 (0 to 85 Brix) Equivalent
Resolution:	0.0001 nD20 (0.1 Brix) Equivalent
Precision:	+/- 0.0001 nD20 (+/- 0.1 Brix) Equivalent
Temperature Range:	-20 to 100 °C (-4 to 212 °F)
Pressure Range:	0 to 20.68 bar (0 to 300 psi)
Power:	5 to 24 VDC (3 VDC Optional)
Dimensions:	61 mm Tall x 64.1 mm Max Dia. (2.40" x 2.52")
Weight:	0.45 kg (1 lbs.)
Water Resistance:	IP68

MISCO®

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	IRIS	IRIS+	VIP$_2$
Range (Equivalence)*`	1.3330 to 1.3900 nD20	1.3330 to 1.3900 nD20	1.3330 - 1.5000 nD20
Resolution (Equivalence)	0.0001 nD 0.1 Brix	0.0001 nD 0.1 Brix	0.0001 nD 0.05 Brix
Precision (Equivalence)	+/- 0.0005 nD +/- 0.3 Brix	+/- 0.0003 nD +/- 0.2 Brix	+/- 0.0001 nD +/- 0.05 Brix
Adapter Fittings	5/16" (8 mm) Push-to-Connect	5/16" (8 mm) Push-to-Connect	2" Tri-Clamp
1,024 Element Detector Array	✔	✔	✔
LED Light Source @ 589.3 nm	✔	✔	✔
Sapphire Optic Material	✔	✔	✔
Sample Area Material	Polymer/Stainless Steel	316L Stainless Steel	Passivated 316L Stainless Steel
Body Material	Polymer	Polymer	Passivated 316L Stainless Steel
Auto Temperature Correction	✔	✔	✔
Temperature Range	41 to 104 °F (5 to 40 °C)	32 to 125 °F (0 to 52 °C)	-4 to 212 °F (-20 to 100 °C)
Pressure Range	0 to 36 psi (0 to 2.5 Bar)	0 to 50 psi (0 to 3.4 bar)	0 to 300 psi (0 to 20.68 bar)
Power Source	12 to 24 VDC	5 to 24 VDC	5 to 24 VDC
Dimensions	2" Dia. x 3.5" Long (5 cm x 8.9 cm)	2" Dia. x 3.5" Long (5 cm x 8.9 cm)	2.40" L x 2.52" Max. Dia. (61 mm x 64.1 mm)
Weight	11.5 oz. (0.33 kg)	1 lbs. (.45 kg)	1 lbs. (.45 kg)
Two User Calibration Points	✔	✔	✔
IP68 Protection Class	✔	✔	✔
Seals - Standard **	Viton & Buna-N	Kalrez	Fluorosilicone
USB Computer Interface	✔	✔	✔
4 to 20 mA Analog Option	✔	✔	✔
0 to 10 Volt Analog Option	✔	✔	✔
RS232 Digital Output Option		✔	✔
Made in the USA	✔	✔	✔