



Probes and Accessories
The Temperature Standard, Planetwide™

YSI Precision™

Dependable, Safe, Cost-Effective Temperature Probes

Since introducing the first practical electronic medical thermometer in the early 1950s, YSI has played an important role in temperature monitoring for critical healthcare and laboratory applications. Today, with a full line of reusable, autoclavable, and disposable probes as well as accessories and precision thermometers, the YSI Precision Temperature Group is



a single source supplier for all your temperature monitoring requirements. If a standard probe does not meet your unique needs, YSI can engineer and manufacture a cost-effective custom probe by applying a 400 or 700 series platform.

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www.YSI.com

- Patient Care
- Incubators
- Cuvettes
- Emergency Room
- Cardiovascular
- Respiratory Care
- Laboratory
- Research



Cost-effective YSI probes measure temperature with YSI Precision™ interchangeable thermistors, a highly-accurate temperature technology that YSI invented and perfected over the decades. This thermal expertise, in combination with regulatory experience, manufacturing automation, and custom capability positions YSI as a leader in temperature measurement for healthcare facilities and labs.

■ **Dependability**

Trust YSI Precision™ temperature probes to deliver continuous, high-precision measurement.

■ **Accuracy**

Probes using YSI Precision™ thermistors are accurate to $\pm 0.1^{\circ}\text{C}$ between 32° and 42°C .

■ **Repeatability**

Every YSI probe is traceable to the U.S. National Institute of Standards and Technology (NIST).

■ **Interchangeability**

YSI's patented manufacturing techniques ensure that every probe is interchangeable with every other probe of the same series.



Medical Reusable Temperature Probes

As demands on healthcare providers increase, healthcare professionals are taking the lead in finding answers to cost versus quality issues. YSI Precision™ reusable probes are a sensible solution, offering substantial reductions in cost with no trade-off in quality.

YSI 400 Series Reusable Temperature Probes

YSI 401 Esophageal or Rectal (adult) with vinyl design for ease-of-insertion and long-term use.

YSI 402 Esophageal or Rectal (pediatric) is similar to the YSI 401, with a smaller, flexible design.

YSI 409B Skin (adult) with a sensor disk that features a stainless steel patient surface attached to flexible vinyl wire.

YSI 427 Skin (pediatric) with one-piece construction, similar to the YSI 421.

YSI 408 Skin (adult) features a rigid, stainless steel handle and is particularly effective when taking intermittent skin, oral, or axillary measurements.



YSI 403 Oral or Rectal

(adult) with a sensor in a stainless steel sheath



YSI 406 Oral or Rectal

(pediatric) metal probe, similar to the YSI 403, but with a smaller profile.



YSI 423 Oral or Rectal

(pediatric) with a sensor located at the tip of a semi-flexible nylon tube

Benefits

Compatibility

YSI probes are designed to plug directly into standard YSI 400 or 700 Series monitoring instruments.

Safety

With no need for adapter boxes and electrical isolation of conductors, non-latex YSI reusable probes virtually eliminate concerns about safety.

Cost-Effective

YSI reusable probes have a cost-per-use far below that of any competitive product or technology.

Characteristics

Temperature Range:	0 to 60°C
Accuracy:	±0.2°C from 0 to 60°C, ±0.1°C from 32 to 42°C
Cleaning:	Probes should be cleaned with a mild detergent and water to remove excess bioburden and improve the effectiveness of disinfection and sterilization.
Disinfection:	Low level: cidex/glutaraldehyde High level: cidex/glutaraldehyde, dilute bleach, 70% isopropyl alcohol
Sterilization:	Ethylene oxide gas, STERIS® System 10 YSI 400AC only: steam autoclave (20 min. at 121-123°C), recommended ANSI/AAMI ST35
Termination:	Standard .25" phone plug, compatible with most patient monitors
Regulatory:	Compliant with FDA Regulations, and 93/42/EEG CE-Medical Device Directives

Medical Autoclavable Probes

Only YSI 400AC Series Reusable Temperature Probes have the ability to withstand autoclave sterilization. Featuring accurate, dependable YSI technology, these probes provide high-precision measurement for reliable, continuous temperature monitoring.

- Exclusive technology
- Convenient, autoclavable design
- Dependable and safe to use
- Lower cost and less waste generated

Featuring gold-plated plugs, sealed thermistors, and state-of-the-art materials, YSI 400AC probes are resistant to standard chemicals and disinfectants. Simply sterilize with other autoclavable instruments and these probes are ready to use.

Guaranteed for 100 autoclave cycles or six months.



YSI 409AC Skin Probe
(adult)



YSI 402AC Esophageal/Rectal Probe
(pediatric)



YSI 401AC Esophageal/Rectal Probe
(adult)

YSI 700 Series Reusable Probes

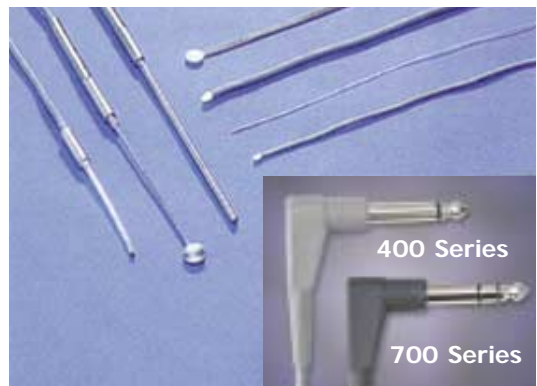
YSI makes a complete line of reusable probes and accessories for 700 Series inputs providing linear response. Most YSI 400 Series probes (except the YSI 406, 421, and 423) have a corresponding 700 Series probe. They are easily distinguished from 400 Series probes at the connector end.

YSI 701 Esophageal or Rectal
(adult)

YSI 702A Esophageal or Rectal
(adult)

YSI 709B Skin
(adult)

YSI 729 Skin
(pediatric)



Specialty Probes

YSI 801 Neonatal Probes

Compatible with Air Shields equipment, the YSI 801 is an economical alternative for monitoring infant temperature.



YSI 4009 Tempheart™ Shields

YSI 4012 Mini-Tempheart™ Shields

Heat-reflecting adhesive pads hold probes securely to the skin for accurate temperature reading.

Probe Accessories

400 Series

YSI 4010 Extension Lead 10 ft. (3m)

YSI 4025 Extension Lead 25 ft. (7.6m)

YSI 4050 Extension Lead 50 ft. (15.2m)

700 Series

YSI 7010 Extension Lead 10 ft. (3m)

YSI 7025 Extension Lead 25 ft. (7.6m)

YSI 7050 Extension Lead 50 ft. (15.2m)

YSI 4930 Adapter for HP Monitors



YSI 441A

Airway Temperature Probes

Allows continuous temperature monitoring of gases delivered through anesthesia and respiratory circuits. Manifold outlet included with each probe.

Reusable Probe Specifications

400 Series:	401	14 Fr., 4.7 mm tip diameter
	402	9 Fr., 3.0 mm tip diameter
	423	10 Fr., probe length is 6.3 cm, diameter is 3.2 mm
	409B	9.5 mm sensor disk diameter
	427	4.8 mm sensor disk diameter
	403	12 Fr., 4.0 mm diameter
	406	9 Fr., 3.0 mm diameter
Autoclavable:	401AC	14 Fr., 4.7 mm diameter
	402AC	10 Fr., 3.3 mm diameter
	409AC	9.5 mm diameter disk
700 Series:	701	17 Fr., 6.3 mm tip diameter
	702A	12 Fr., 4.0 mm tip diameter
	709B	9.5 mm sensor disk diameter
	708	9.5 mm sensor disk diameter
	729	4.8 mm sensor disk diameter
	703	12 Fr., 4.0 mm diameter
Special Series:	801	9.5 mm sensor disk diameter
	4009	Tempheart™ heat-reflecting adhesive pads
	4012	Mini-Tempheart™ heat-reflecting adhesive pads (smaller diameter)
	441A	7.6 mm diameter tapered manifold fitting

Medical Disposable Temperature Probes

From the emergency room to surgery to respiratory care, source your disposable probe needs from the hospital standard – YSI. Disposable temperature probes from YSI are interchangeable with every other probe as well as YSI reusable probes.

YSI 4400 Series Disposable Temperature Probes

YSI Precision™ general-purpose disposable probes, for esophageal or rectal applications, are manufactured for extended dwellings. Now compliant with the CE-Medical Device Directive.

YSI 4491 General-Purpose Esophageal/Rectal

YSI Precision™ disposable esophageal stethoscopes let you monitor heart and lung sounds as well as temperature with a single insertion.

YSI 4412 Esophageal Stethoscope
12 Fr.

YSI 4418 Esophageal Stethoscope
18 Fr.

YSI 4424 Esophageal Stethoscope
24 Fr.

Skin-Surface Probes



YSI 4499 Skin Surface

YSI Precision™ skin-surface disposable probes have excellent response to temperature. Now compliant with the CE-Medical Device Directive.



Disposable Probe Accessories

YSI 4910 Connector Cable for HP Monitors
10 ft. (3m)

YSI 4940 Connector Cable for 4400 Series Probes 10 ft. (3m)

YSI 4009 Tempheart Adhesive Pads
100 per box

YSI 4012 Mini-Tempheart Adhesive Pads
100 per box

YSI Temphearts hold skin surface probes to a patient's skin. The foam and reflective foil of the Tempheart insulate the sensor from environmental temperatures and radiated light. Pads are coated with hypoallergenic, medical-grade adhesive, providing safe, long-term adhesion.

Disposable Probe Specifications

4400 Series:	4491	General-Purpose Esophageal/Rectal
	4499	Skin Surface
	4412	Esophageal Stethoscope, 12 Fr.
	4418	Esophageal Stethoscope, 18 Fr.
	4424	Esophageal Stethoscope, 24 Fr.

Accuracy: $\pm 0.1^{\circ}\text{C}$ from 32° to 42°C

Sterilization and packaging: Probes are individually packaged in gamma radiation-sterilized pouches

Termination: Disposable probe portion terminated in RJ-11 Style connector. Interconnect cable (reusable) terminated in standard .25" phone plug (except YSI 4910)

Precision Thermometer



YSI Precision™ 4000A Thermometer

Provides highly accurate, continuous patient temperature monitoring in a variety of medical settings including surgery, postoperative, critical care, and clinics. The two-channel-design allows clinicians to monitor multiple patient sites simultaneously, for example, patient core body temperature and surface temperature.

- Compliant with CE-MDD and international medical electrical safety standard IEC 60601-1
- Clinical accuracy of $\pm 0.1^{\circ}\text{C}$
- High resolution of 0.01°C from 0 to 50°C shows small changes in temperature
- Uses YSI Precision 400 Series Reusable Temperature Probes and YSI Precision 4400 Series Disposable Probe System
- $^{\circ}\text{C}/^{\circ}\text{F}$ selectable
- Selectable high and low alarm set points
- Visual and audible alarms
- Push-button self-calibration
- High-quality LCD digital readouts
- Six C-size alkaline batteries provide a minimum of 900 hours use

Characteristics

Temperature Range:	0 to 50°C (32 to 122°F , selectable)
Accuracy:	$\pm 0.10^{\circ}\text{C}$ (0.20°F) in the range between 25 and 45°C (77 and 113°F) $\pm 0.20^{\circ}\text{C}$ (0.40°F) throughout the rest of the measurement range
Resolution:	0.01°C (0.01°F)
Input:	YSI 400 Series Reusable Temperature Probes or YSI 4400 Series Disposable Temperature Probes
Probe Power:	Typically $30\mu\text{W}$ or less, depending on temperature being measured
Size Weight:	$22.3 \times 7.6 \times 11.5$ cm, .96 kg ($8.5 \times 3 \times 4.5$ inches, 2.1 lbs.)

Laboratory Reusable Temperature Probes

The worldwide standard in clinical temperature measurement, YSI reusable probes are environmentally friendly and deliver unsurpassed performance. Premium quality, maximum safety, and proven dependability — the YSI 400 Series is a safe, reliable alternative to disposable products.

YSI 418 Pointed Tubular Probe

316 stainless steel; for semi-solids such as meat, fruit, tobacco, etc.

YSI 451 1.3 mm Tubular Probe

Now redesigned with a stainless steel tip for added strength; for short-term immersion in small liquid samples such as cuvettes and micro pipettes

YSI 400 Series Temperature Probes

YSI 404 Pyrex Tubular Probe

Chemically inert for immersion, thermometric titrations, freezing points.

YSI 405 Gas/Air Probe

Designed to measure or monitor ambient air temperature in test rooms, incubators, and surgical suites; rugged construction features stainless steel cage around epoxy-encapsulated sensor.

YSI 410 Tubular with NPT Fitting Probe

Withstands 500 psi; 316 stainless steel; for use in pipes and vessels.

YSI 416 Autoclavable Tubular Probe

Stainless steel fitting and sheath; detachable lead.

YSI 700 Series Reusable Probes

YSI makes a complete line of reusable probes and accessories for 700 Series inputs providing linear response. They are easily distinguished from 400 Series probes at the connector end.

YSI 703 Oral or Rectal (adult)

YSI 708 Skin (adult)



Laboratory Probe Specifications

400 Series Probes

Temperature Range:

-40 to +150°C (-40 to +300°F), typically

Accuracy:

±0.4°C at -40°C; ±0.1°C from 0 to 70°C;
±0.2°C at 100°C; ±0.4°C at 150°C

Leads:

Non-detachable 3 m (10 ft.) vinyl-covered wire (exception, detachable leads on the YSI 416). Junction between probe and leads should not be immersed.

Termination:

Right-angle molded .25" phone plug. Gray (400 Series) plug is 2-conductor.

700 Series Probes

Temperature Range:

-30 to +100°C (-22 to 212°F), typically

Accuracy:

±0.15°C from -30 to +100°C

Leads:

Non-detachable 3 m (10 ft.) vinyl-covered wire. Junction between probe and leads should not be immersed.

Termination:

Right-angle molded .25" phone plug. Black (700 Series) plug is 3-conductor.

500 Series Probes

Temperature Range:

0 to 70°C (32 to 158°F)

Accuracy:

Probes are not interchangeable. Measurement accuracy is influenced by possible errors from thermistor self-heating, which can produce small errors and must be determined in the specific measurement circumstance.

Conversion Charts:

YSI provides a 0 to 70°C temperature conversion chart with each probe. YSI can re-calibrate old probes, and provide new conversion charts.

Leads:

Non-detachable 3 m (10 ft.) vinyl-covered wire. Junction between probe and leads should not be immersed.

Termination:

All probe cables have a right-angle molded .25" phone plug.

Note: For typical values of Time Constants of probes, visit our website: www.YSI.com

YSI 500 Series Temperature Probes

YSI Precision™ 500 Series Temperature Probes are designed for applications requiring small size and rapid response. Available in two styles — hypodermic and catheter — YSI 500 Series probes are ideal for laboratory and research applications. While all YSI 500 Series probes can be used with any YSI thermometer that accepts a YSI 400 Series probe, the small size of the thermistor temperature sensor prevents use of our patented process for probe interchangeability. Therefore, a chart is supplied with each probe for conversion of indicated temperature to actual temperature.

Catheter Probes

Designed for long-term subcutaneous measurement and thermal dilution and flow measurement studies

- Time Constant: 0.2 sec.
- Temperature Range: 0° to 70°C (32° to 158°F)
- Electrically isolated
- Not autoclavable

YSI 554 1-mm Catheter Probe

YSI 555 0.7-mm Catheter Probe

Hypodermic Probes

Designed for subcutaneous, intramuscular, intravenous, and small area measurement.

- Time Constant: 0.2 sec.
- Temperature Range: 0° to 70°C (32° to 158°F)
- Stainless Steel
- Epoxy-sealed
- Not electrically isolated

YSI 551 20-Gauge Hypodermic Probe

YSI 552 22-Gauge Hypodermic Probe

Engineered-to-Order Probes

If you don't find a standard probe that suits your needs, YSI can custom engineer and manufacture a cost-effective probe specifically for your application. Engineered-to-order probes from YSI offer the flexibility of custom design at a price comparable to standard probes. Match the probe style you need with a custom connector or cable length that will match your application.

Regulatory Expertise

YSI engineers are knowledgeable and experienced in many medical and laboratory guidelines and standards, including:

- FDA
- ISO certifications
- CE-Medical Device Directive

Many YSI products are compliant with FDA regulations for sale as medical devices. Contact YSI Technical Support to ensure that your probe meets or exceeds the mandatory or voluntary standards and guidelines for your industry.

For more information on engineered-to-order probes or regulatory standards, call YSI Technical Support.

Temperature@YSI.com

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800 747-5367 *U.S. only*



Sales Policy

To quickly qualify for open account status, please supply this information to our Credit Manager:

- Two credit references from vendors
- Bank reference
- Name of CEO or president
- Name of Treasurer
- Name of Controller
- Credit limit desired

Terms of Sale

Terms are Net 30 days from invoice date. We also accept VISA/Mastercard, COD, Pay-in-Advance and Letter of Credit (L/C). Shipping is prepaid and added, FOB Dayton, Ohio, or shipping charges can be collect with a carrier account number.

OEM or Contract Discounts

Qualification for OEM discount requires that these conditions be met:

- Use of YSI product in a fashion that's integral with the product
- Description of application in the simplest, non-proprietary terms
- Expected use rate
- Permission to advertise, if use is not proprietary

We will negotiate all agreements based on product and volume. Typically, all purchases of similar products may be mixed for discount. Delivery schedules are a significant factor in developing the terms of a purchase agreement. Contact your local agent or YSI Customer Service.

Order Change and Cancellation

The cancellation of any orders entered for stock products must be done 30 days prior to shipping date. With few exceptions, orders for special products and Configure-to-Order probes cannot be cancelled.

Returned Goods

Products that are returnable are:

- Standard catalog thermistors
- Products that have been negotiated as returnable at the time of order placement
- Standard medical product that Customer Service can easily determine has not been opened or used

Please contact YSI Customer Service to receive a TAN (return) number. A 20% re-stocking fee will apply.

Minimum Orders

Our minimum order value for thermistor components is 100 pieces. For smaller quantities, please contact a YSI Dealer. There is a \$500 USD minimum order required for all other YSI products.

Expedited Service

Anticipated delivery for Special products or Configure-to-Order probes is 4 weeks. If standard delivery needs to be expedited please contact YSI Customer Service to discuss material and resource availability.

Limited Warranty

We warrant our products against defects in materials and workmanship when the products are used according to their ratings and specifications. Our maximum liability is limited to repair or replacement (at our option) of defective products. For sensors, sensor assemblies, special products, and instruments, the warranty period is 1 year from shipment date. We will handle warranty repairs and replacements expeditiously. Contact YSI Customer Service for instructions on returning products.



For more information on
quality YSI Precision™
probes and accessories,
contact the YSI Precision
Temperature Group.

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