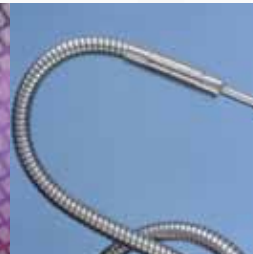




THERMAL
Detection



PRODUCTS FOR STERILE SERVICES
FOR THE HEALTHCARE & PHARMACEUTICAL SECTORS



Autoclave Chamber & Load Probes - Steriprobe® [SL100]

The Steriprobe® [SL100] and Sterimaster® [SL104 USA only] with its rugged construction was developed to meet the demanding conditions found in modern pharmaceutical autoclave chambers.

Product Information

- Steriprobe® and Sterimaster® specified by satisfied end users and autoclave manufacturers for many years.
- Used extensively in steam and water cycle autoclaves.
- Available in both PT100 resistance (all types) and thermocouple formats (type 'T' as standard).
- Stainless steel flexible conduit for mechanical protection of the lead wire.
- All metallic parts in Grade 316L [1.4404] stainless steel. Sensor conductors Teflon® insulated, outer jacket in thick walled extruded silicone rubber, FDA listed 21CFR 177 2600.
- Silicone rubber jacket to USP VI also available on request.
- Available in many sizes, standard dimensions ex-stock and custom requirements to order.

For further details please download or request data sheet: PDS-003-SL100.pdf

Steriprobe® and Sterimaster® are registered trademarks of Thermal Detection Ltd.



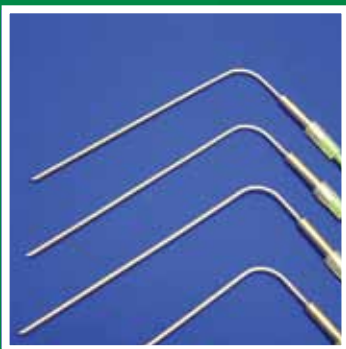
Autoclave Chamber & Load Probes - [SL150]

SL150 with its sleek and flexible design for use in pharmaceutical autoclaves, as an alternative to the Steriprobe®, often where space is an issue.

Product Information

- SL150 specified by satisfied end users and autoclave manufacturers for many years.
- Used extensively in steam and water cycle autoclaves.
- Available in both PT100 resistance (all types) and thermocouple formats (type 'T' as standard).
- All metallic parts in Grade 316L [1.4404] stainless steel. Sensor conductors Teflon® insulated, outer jacket in thick walled extruded silicone rubber, FDA listed 21CFR 177 2600.
- Silicone rubber jacket to USP VI also available on request.
- Offers increased flexibility with optional probe tip configurations.
- Available in many sizes, standard dimensions ex-stock and custom requirements to order.

For further details please download or request data sheet: PDS-006-SL150.pdf



Autoclave Chamber & Load Probes - [SL160]

SL160 has the same material specification as the SL150, but uses a 90° bend and various sensing tip diameters with a chisel point.

- Available in many sizes, standard dimensions ex-stock and custom requirements to order.

For further details please download or request data sheet: PDS-007-SL160.pdf



Autoclave Drain, Vent & Air Filter Probes (SD050)

Although the application conditions are not as demanding as the chamber/load probes, the same high level of reliability is required.

The drain probe provides critical data to the steriliser control system.

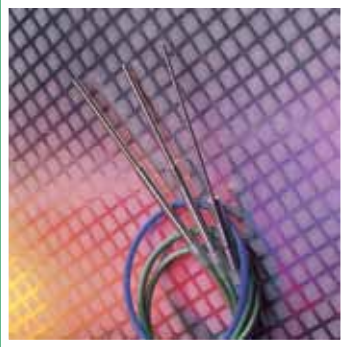
The vent probe monitors the temperature of the chamber atmosphere when returning the chamber back to ambient pressure.

The air filter probe ensures that an acceptable level of air removal from the chamber has taken place prior to the sterilisation cycle.

Product Information

- All metallic parts in Grade 316L [1.4404] stainless steel only.
- All sensor conductors Teflon® insulated with outer jacket in MFA.
- Available in resistance thermometer (all types) and thermocouple formats (type 'T' as standard).
- Available in many sizes, standard dimensions ex-stock and custom requirements to order.

For further details please download or request data sheet: PDS-001-SD050.pdf



Refrigerator, Freezer & Incubator Probes (SD051)

For use in laboratories, the refrigerator, freezer and incubator sensors are similar to the drain and air filter probes, but withstand lower temperatures.

Product Information

- All as SD050.

For further details please download or request data sheet: PDS-002-SD051.pdf



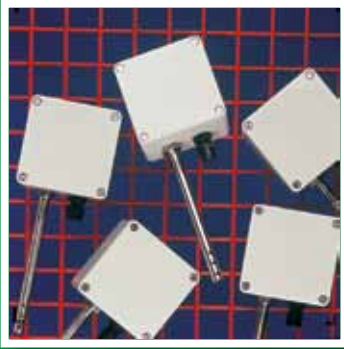
Sensor with Hermetically Sealed Connector (SSA200)

Originally designed for use with portable process plant in the pharmaceutical industry, the entire sensor can be subjected to sterilisation cycles and CIP operations without removal.

Product Information

- For pharmaceutical flasks, fermenter vessels and other portable equipment that needs to be sterilised.
- In PT100 resistance thermometer configuration only.
- All metallic parts in Grade 316L [1.4404] stainless steel only.
- Aerospace/military style connector utilising a glass based die-electric seal.
- Probe stem can be fitted with a Tri-clover type of sanitary/hygienic flange.

For further details please download or request data sheet: PDS-008-SSA200.pdf



Ambient Air Sensors (AA)

Designed for wall or surface mounting in cleanrooms, laboratories and computer rooms. Available for outside use as a frost protection device.

Product Information

- Enclosures available in ABS thermoplastic or die-cast aluminium.
- Sheath in Grade 316L [1.4404] stainless steel.
- Available with plain stem as standard or perforated to avoid wind chill in outdoor applications
- Available either in PT100 resistance thermometer or thermocouple configuration.
- Units are available with a temperature transmitter to provide a signal output of 4 to 20mA for transmission to an indicator, recorder, data-logger or other instrumentation.

For further details please download or request data sheet: PDS-067-AA.pdf



Hygienic Surface Probe (HSP)

Pipe mounted surface probes [highly polished] for clean work areas and process piping for use in pharmaceutical applications.

Product Information

- To suit various tube and pipe size distribution lines.
- Clamp in 316 stainless steel [highly polished].
- Edges and inside corners are chamfered or rounded for cleanliness and safety.
- Insert material is silicone rubber and compliant with FDA 21CFR 177.
- Available with either PT100 resistance thermometer or thermocouple configurations.
- Units are available with a temperature transmitter to provide a signal output of 4 to 20mA for transmission to an indicator, recorder, data-logger or other instrumentation.

For further details please download or request data sheet: PDS-011-HSP.pdf



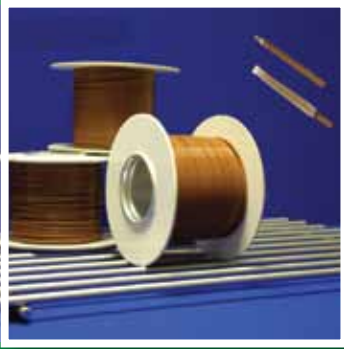
Stainless Steel Spool (SPOOL)

Spools are typically used to provide a means of monitoring the temperature of pure water in water systems.

Product Information

- All in Grade 316L [1.4404] stainless steel.
- Tri-clover flange connections.
- Complete with a thermowell for mounting the temperature sensor.
- Available either in PT100 resistance thermometer or thermocouple configuration.
- Available with a temperature transmitter to provide a high level 4 to 20mA signal output.

For further details please download or request data sheet: PDS-038-SPOOL.pdf



Validation Thermocouple Wire on Reels (TE-PTFE)

Validation thermocouples are used for temperature mapping to ensure that the required temperature has been attained and uniformly applied to the product within the chamber.

Product Information

- Available on 100M and 300M reels.
- Conductors Teflon® insulated for autoclaves and lyophilizers.
- Conductor sizes 1/0.3mm, 1/0.5mm, 3/0.2mm, 7/0.2mm and 13/0.2mm as standard in Teflon®.
- Class 1 tolerance and in accordance with BS EN 60587-1:1984.
- Maximum temperature 250°C.
- Other sizes available on request.

For further details please download or request data sheet: PDS-021-R1-VT.pdf



Validation Thermocouple Wire 'for Hot Air Sterilisation' on Reels (TE-KapH)

Generally as TE-PTFE above but these validation thermocouples are used for temperature mapping in hot air sterilisation/depyrogenation applications.

Product Information

Generally as above but;

- Conductors are Kapton® insulated for depyrogenation.
- Conductor sizes 1/0.3mm and 7/0.2mm as standard.
- Maximum temperature 350°C for short durations.

For further details please download or request data sheet: PDS-021-R2-VT.pdf



Validation Pre-cut Thermocouples for Temperature Mapping (VTFP)

Thermocouple validation wire in various pre-cut lengths with a formed hot junction, available with a bare or encapsulated tip. Ready to use!

Product Information

- Conductors Teflon® insulated for autoclaves and lyophilizers, Kapton® insulated for depyrogenation.
- Conductor sizes 1/0.3mm, 1/0.5mm, 7/0.2mm and 13/0.2mm as standard in Teflon® and Kapton®.
- Formed hot junction either left bare or encapsulated in Teflon®.
- Available with a stainless steel protection tip in 316L for hot junction protection and to prevent Kapton® insulation from fraying.
- Available with identification at both ends for ease of installation.
- Available with a weep-hole on request.
- Available in a wide variety of lengths.

For further details please download or request data sheet: PDS-021-PCP-VT.pdf and PDS-021-PCK-VT.pdf

Teflon® and Kapton® are registered trademarks of the Dupont Corp.



Validation Thermocouple Looms

for Temperature Mapping (VTFP-LOOM)

Pre-cut validation thermocouples available in looms (bundles) for large chambers using multiple thermocouples, prepared for easy installation.

Product Information

Generally as VTFP for mapping but;

- Available in various quantities per loom.
- Supplied tie-wrapped for easy handling, and to be removed once in place in the chamber.

For further details please download or request data sheet: PDS-021-LP-VT.pdf and PDS-021-LK-VT.pdf



Validation Thermocouple Entry Glands

[TCEG/1 and TCEG/2]

Providing a fast and simple solution to the installation of validation thermocouples the TCEG/1 (accepts up to 18 thermocouples) and the TCEG/2 (accepts up to 36 thermocouples).

Product Information

- Specified by satisfied end users and autoclave manufacturers for many years.
- Optional types of mounting arrangement, Tri-clover flange or screwed connection (various sizes).
- Gland body and wetted parts in Grade 316L [1.4404] stainless steel, and gland cap in Grade CZ112 marine brass.
- Integral locking mechanism prevents inadvertent cap removal.
- Can accept up to 36 thermocouples.
- Replacement seals available.
- With the addition of a 'Y' or 'T' piece, two units can utilise a single chamber entry point providing up to 72 thermocouple measurements.

For further details please download or request data sheet: PDS-022-TCEG.pdf



Steam Quality Test Kits (Series 600)

Steam Quality Testing has been an EU requirement for many years (EN 285) and the practice has since been adopted worldwide. High quality steam is an essential requirement for maintaining optimum results in steam sterilisation cycles.

Product Information

- Portable and housed within a compact case or flight case
- Offers various options to suit all requirements:
- Non condensable gas value.
- Steam superheat value.
- Steam dryness value.
- Clean steam analysis.
- All procedures meet the current European Standard of EN285 and the UK Health Service Standard HTM2010 and HTM2031.
- Hygienic test elbows in 316L [1.4404] stainless steel available in ¾", 1", 1½", 2" and 3" pipe sizes. Other accessories available on application.

For further details please download or request data sheet: PDS-040-SQ600.pdf



Steam Quality Test Elbow (ELB)

The hygienic test elbows are for use with the steam quality test kits and once completed they are fully passivated and supplied with full documentation.

- Material 316L (1.4404/1.4435/AISI) stainless steel, fully annealed, grease free and passivated.
- Available electro-polished.
- Pipe sizes: ¾", 1", 1.5", 2" or 3".
- Tri-clover mounting flanges to suit pipe size, but test points with ½" Tri-clover flanges.

For further details please download or request data sheet: [PDS-041-ELB.pdf](#)

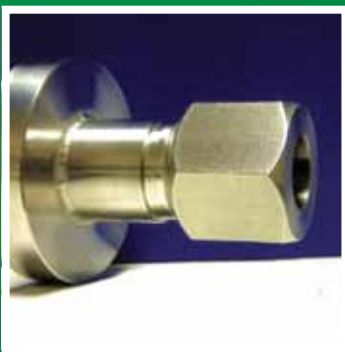


Thermocouple Capacitance Welder (CW)

Offering a choice of three units, SR48 (low cost) bench mounted, SR50 (portable) and the SR80 (bench mounted) Premium. For fast and efficient production of thermocouple hot junctions.

- Allows good hot junctions to be formed to produce accurate and reliable measurement. Only relying on twisted conductors is not good practice.
- Three choices of unit dependant on application, Bench mounted units have a power rating of up to 48 and 80 Joules. The portable unit up to 50 Joules.
- All units operate from a standard 110/220V AC supply.
- SR-80 model provides the facility of an Argon purge during welding, reducing the onset of oxidisation.
- Optional accessories available for all models.

For further details please download or request data sheet: [PDS-036'1-SR48.pdf](#), [PDS-036'2-SR50.pdf](#) and [PDS-036'3-SR80.pdf](#)



Autoclave Chamber Entry Adaptors (CPF)

The CPF series of adaptors were designed as replacement entry gland seals for autoclave probes, providing a high integrity single access point to the chamber. Primarily for Finn-Aqua and Fedegari autoclaves.

Product Information

- Allows up to six probes to pass through a single chamber entry point.
- Base of adaptor is identical to the autoclave manufacture's original mounting configuration, allowing a straight forward exchange.
- Sealant is in Teflon®.
- All wetted parts are in Grade 316L (1.4404) stainless steel.
- Entry gland blanks (EGB) available to blank off vacant positions.
- FA1 is designed for use with Finn-Aqua and FE1 with Fedegari autoclaves.
- Adapters to suit other manufacturers autoclaves available on request.

For further details please download or request data sheet: [PDS-024-CPF-FA1.pdf](#) or [PDS-025-CPF-FE1.pdf](#)



Single Probe/Tube Feedthrough (PG)

The PG range of sealing glands offer a fast and economical method of sealing a single sensor, tube or element, using soft seal technology. Used in both pressure and vacuum applications.

Product Information

- All wetted parts in Grade 316L [1.4404] stainless steel.
- Probe sealants in Teflon® or Viton®.
- Temperature range from -80° to +250°C.
- Pressure range (@20°C) Vacuum to 690 bar.
- Optional types of mounting arrangement, screwed, weld-neck or Tri-clover flange [for sanitary/hygienic applications].
- Hole sizes from 1.0mm to 44.5mm.
- Replacement sealants are available to enable repeated use.

For further details please download or request data sheet: [PDS-101-MPG-PG.pdf](#)



Multiple Probe/Tube Feedthrough (MHC)

and Custom Range (MHM)

The MHC and MHM range of sealing glands enables multiple probe/sensors to pass through a single gland/entry, using soft seal technology. Used in both pressure and vacuum applications.

Product Information

- All wetted parts in Grade 316L [1.4404] stainless steel.
- Probe sealants in Teflon® or Viton®, Neoprene.
- Temperature range from -80° to +250°C.
- Pressure range (@20°C) Vacuum to 690 bar.
- Optional types of mounting arrangement, screwed, weld-neck or Tri-clover flange [for sanitary/hygienic applications].
- Hole sizes from 0.5mm to 1/4" [seals 1 to 16 elements].
- Replacement sealants are available to enable repeated use.
- Custom hole sizes and configurations available on 'MHM' range.

For further details please download or request data sheet: [PDS-106-MHC.pdf](#) and [PDS-105-MHM.pdf](#)



High Density Feedthrough (HDe)

The HDe Series high density sealing gland permits multiple thermocouples or copper conductors to pass through a single process connection, invaluable when you are faced with entry restrictions on freeze dryer chambers.

Product Information

- Allows from 6 to 30 thermocouples or 12 to 60 copper conductors in a single feedthrough.
- Up to three feedthroughs can be mounted on a single entry gland allowing 18 to 90 thermocouples or 36 to 180 copper conductors to pass through a single entry point [dependent on size of entry].
- Optional types of mounting arrangement, Tri-clover flange or screwed connection.
- All wetted parts in Grade 316L [1.4404] stainless steel.
- All copper and thermocouple conductors are of solid construction in 24 AWG [0.51mm] and are Teflon® insulated.
- Accepts power levels for low voltage signals of up to 100V DC at 500mA.
- Process operating range of -80°C to +120°C and up to 345 bar pressure at 20°C.

For further details please download or request data sheet: [PDS-100-HD.pdf](#)



Probe Mounting Bottle Cap [GL45]

GL45 is a modified probe mounting cap. This allows a temperature probe to be located in a pre-determined position and central in the product bottle. Suitable for different size bottles.

Product Information

- Probe mounting gland in Grade 316L [1.4404] stainless steel.
- Teflon® olive secures probe in position allowing the need for finger tightening of gland only.
- Suitable for Schott Duran® and Corning® bottles, other manufacturers on request.
- Only required to be finger tight and so a fast and simple solution.

For further details please download or request data sheet: PDS-023-GL45.pdf



Thermocouple Mounting Bottle Cap with Cannula [GL45-1]

This is similar to the GL45 but is intended to support one or more thermocouple wires. The mounting cap is permanently fitted with a cannula, keeping the hot junctions central in the product bottle.

Product Information

- Probe mounting gland in Grade 316L [1.4404] stainless steel.
- Silicone rubber olive secures thermocouple/s in position allowing the need for finger tightening of gland only.
- Cannula in Teflon® and various lengths up to 250mm (non removable).
- Holds various conductor sizes and quantities of thermocouples.

For further details please download or request data sheet: PDS-027-GL45-1.pdf



Kapton® Autoclave Tape [Ktape]

Adhesive backed tapes that are suitable for use in autoclave chambers. Able to sustain high operating temperatures and ideal for taping thermocouples into position.

Product Information

- Can be used for restricting the movement of small product containers or ampoules during sterilisation cycles.
- Choice of either 10mm, 12mm or 25mm wide tapes with each roll 33 metres in length. Other sizes available on request.
- Adhesive coating of pressure sensitive cross linked polymer.
- Maximum operating temperature 370°C.

For further details please download or request data sheet: PDS-037-Ktape.pdf



Ampoule Holder for Biological Indicators in Fluid Loads (BI)

Biological indicator (BI) ampoules provide the most convenient and controlled method of obtaining cycle lethality data for the validation of fluid sterilisation processes.

Product Information

- Ampoule is held in correct position in a Teflon® holder and stainless steel wires.
- Units available for all bottle sizes.

For further details please download or request data sheet: PDS-039-BI.pdf



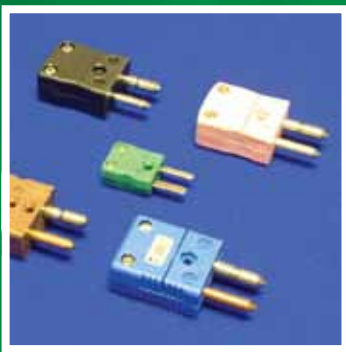
Compression Glands (MSC)

Compression glands (male stud couplings) designed for use with sensor probes allowing variable insertion depths.

Product Information

- Various tube and pipe sizes available from 1.0mm to 1" OD.
- Material 316 stainless steel.
- Various thread formations BSPT, BSPP, NPT, Metric and Tri-clover flange.
- Available with Teflon® olives on request (stainless steel olive as standard).

For further details please download or request data sheet: PDS-030-MSC.pdf



Thermocouple Connectors (M/FC)

A range of thermocouple connectors (IEC colours) to suit all popular calibrations.

Product Information

- Miniature size male in-line connectors with flat pins.
- Standard size male in-line connectors with hollow round pins.
- Female connectors to suit.
- Contacts are polarised to prevent incorrect connection.
- Standard temperature 200°C, High temperature 350°C.

For further details please download or request data sheet: PDS-088-M/FC.pdf



Pharmaceutical Clamps and Accessories (PSC)

A range of sanitary clamps and solid Tri-clover blank flanges and accessories in stainless steel.

Product Information

- Material 316 [1.4401] stainless steel.
- A double hinged clamp with wing nut.
- Sizes available from ½" to 3" for both clamp and Tri-clover flanges.
- Adapters and concentric reducers available.
- Gaskets available in PTFE solid, PTFE envelope, Viton®, Silicone and EPDM.

For further details please download or request data sheet: PDS-029-PSC.pdf



Standard Test Pack Sheets, Wrap and Carrier (STP)

The test pack sheets are designed to enable the Bowie and Dick test to be carried out on large steam sterilisers in accordance with EN285 and CFPP 01-01 for porous loads and fabrics. Conforming to EN 285 and CFPP 01-01.

Product Information

- Produced from 100% bleached cotton sheets.
- 38 sheets to a pack (35 normally required to carry out a test).
- Towels need to be washed (to remove dressing – EN285:2006.24.1) prior to use.
- Sheets are also available pre-washed, folded and ready for use.

For further details please download or request data sheet: PDS-043-STP.pdf



Temperature Transmitter PT100 input (SEM206P)

& Thermocouple input (SEM206TC)

In-head programmable temperature transmitters that accept either a PT100 or thermocouple sensor and converts the input to a 4 to 20mA signal output.

- An in-head transmitter that incorporates the latest digital technology to ensure accurate drift free performance.
- Programmed and ranged free of charge by TDL. Should you wish to configure it yourself, software is also available.
- SEM206P is suitable for PT100 resistance thermometer (2 or 3 wires) and range -200 to +850°C (18 to 390Ω).
- SEM206TC is suitable for thermocouples: 'K', 'J', 'T', 'E', 'N', 'R', and 'S', plus mV. Isolated input and output? range -200 to +1760°C (dependant on thermocouple type).
- Other transmitters available with ATEX approval.

For further details please download or request data sheet: PDS-082-206P.pdf and PDS-083-206TC.pdf



Light Duty Pharmaceutical Sensor (LDP, LDPS & LDPF)

For temperature measurement on a pharmaceutical process plant, the LDP series offers a simple and economical solution.

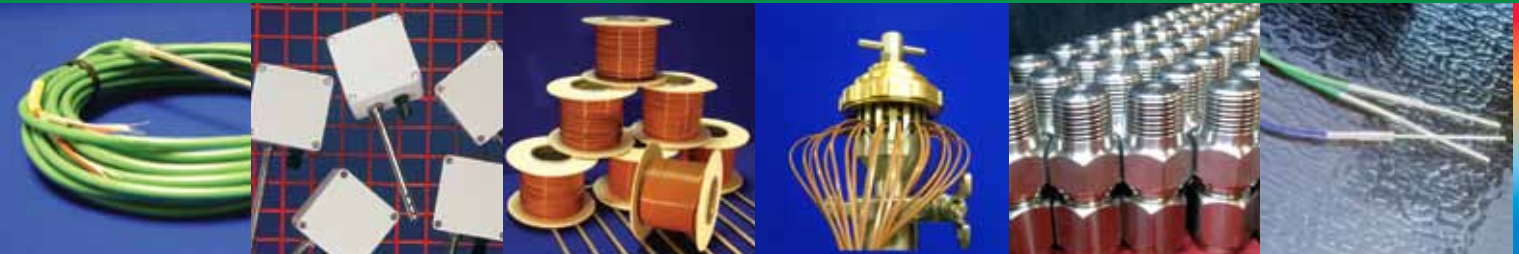
Product Information

- All wetted parts in Grade 316L (1.4401) stainless steel.
- Probe diameters available from 3.0mm to 12.7mm.
- Available in both PT100 resistance thermometer (all tolerances) and thermocouple configuration.
- Supplied as a plain stem or mounting arrangement either screwed (LDPS) or Tri-clover hygienic/sanitary flange (LDPF) welded or sliding fitting in both cases.
- Standard connection head is in FDA approved white polypropylene with a screw cap and retention chain and an M20 cable entry. Environmental rating of IP67. Can also be supplied with a grade 316 stainless steel connection head.

For further details please download or request data sheet: PDS-012-LDP.pdf

ABOUT THERMAL DETECTION LTD.

- We have been manufacturing temperature sensors and associated devices for the pharmaceutical, biotechnology and healthcare sectors since 1984.
- Accredited to BS EN ISO 9001:2008 since 1993.
- A long term supplier to 'other equipment manufacturers' in the above sectors and specified by many organisations as their preferred supplier.



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