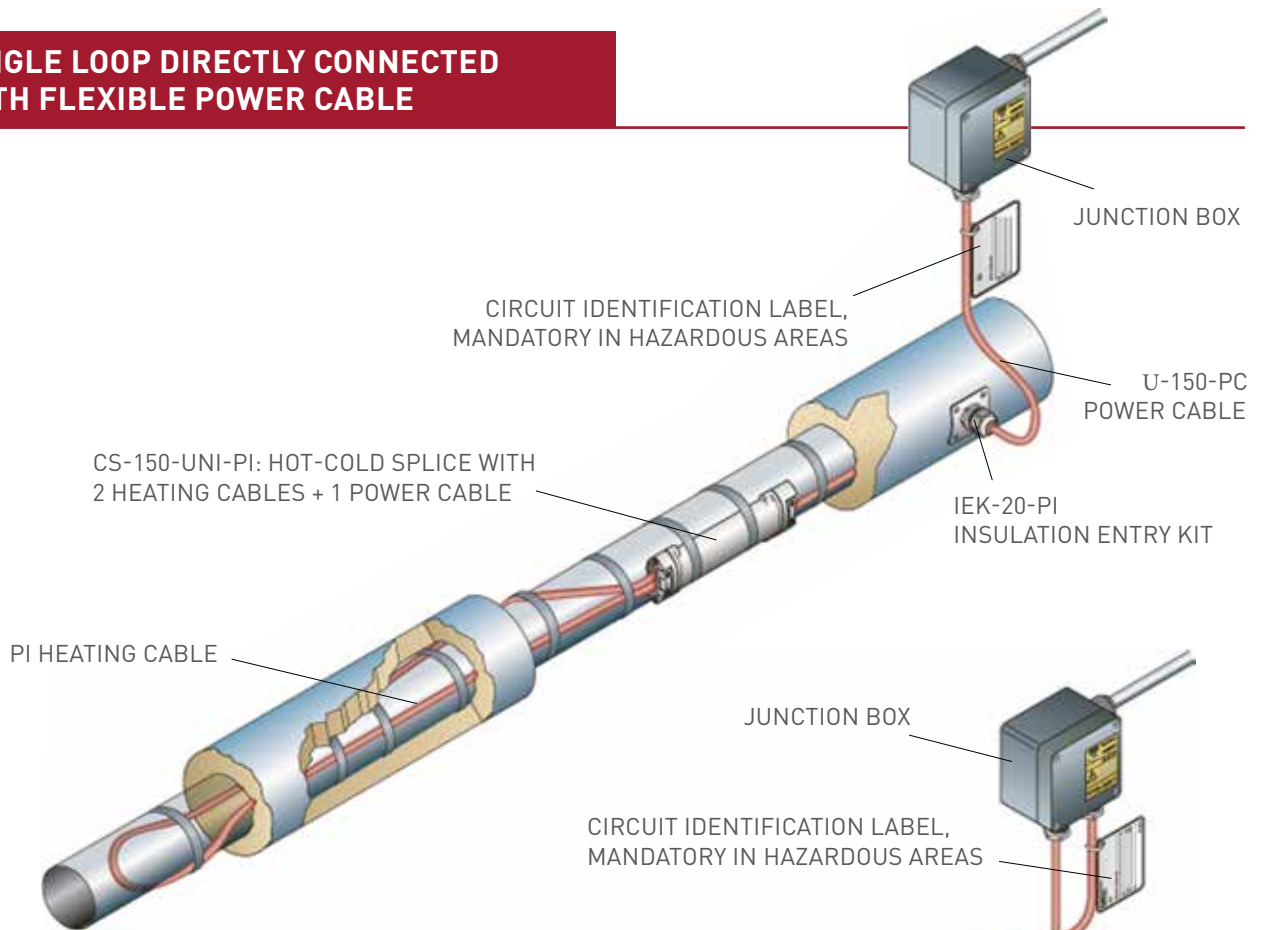
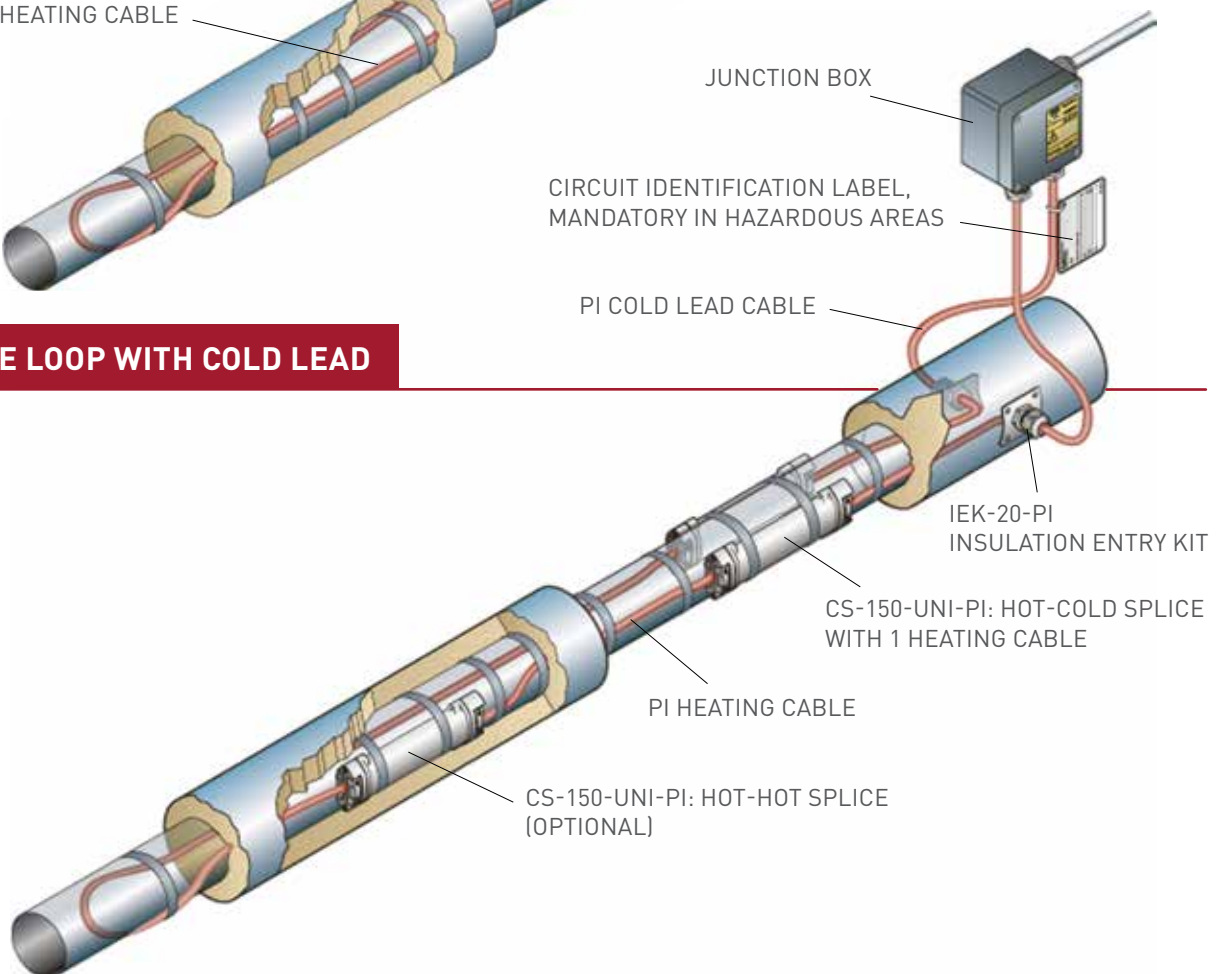


TYPICAL CONFIGURATIONS FOR Santo PI HEATING SYSTEMS

SINGLE LOOP DIRECTLY CONNECTED WITH FLEXIBLE POWER CABLE

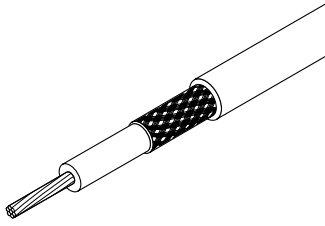


SINGLE LOOP WITH COLD LEAD



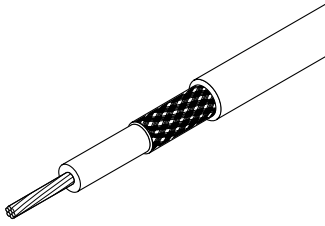
SANTO offers Polymer Insulated heating cables in a very wide range of resistances as well as a complete range of components and accessories to build a complete heat-tracing system. All components are fully compatible across the three types and entire range of resistances.

HEATING CABLES



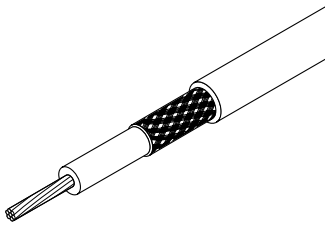
XPI-NH

SANTO PI series heating cable for use in non-hazardous areas. The heating cable can be used for temperatures up to 260°C and provides the highest chemical resistance and good mechanical strength, particularly at elevated temperatures.



XPI

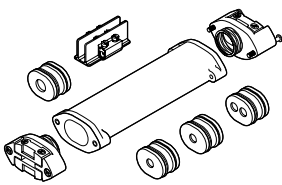
SANTO PI series heating cable for use in hazardous areas (gas and dust environments). The heating cable can be used for temperatures up to 260°C with an intermittent exposure up to 300°C. The inner insulation layer consists of a sandwich construction of high temperature fluoropolymers and PTFE and the outer jacket is made of PTFE, providing a highly flexible, easy to terminate robust heating cable with the highest chemical resistance and excellent mechanical strength (4 J impact resistance), particularly at elevated temperatures.



XPI-S

SANTO PI series heating cable for use in hazardous areas (gas and dust environments). The heating cable can be used for temperatures up to 260°C with an intermittent exposure up to 300°C. The inner insulation layer consists of an extra thick sandwich construction of high temperature fluoropolymers and PTFE and the outer jacket is made of PTFE, providing a highly flexible, easy to terminate very robust heating cable with the highest chemical resistance and most excellent mechanical strength (7 J impact resistance), particularly at elevated temperatures.

COMPONENTS AND ACCESSORIES

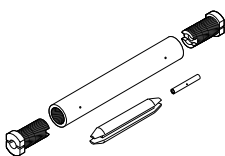


CS-150-UNI-PI

Universal under insulation connection kit for PI heating cables. Approved for use in hazardous areas, cold applied, using screw terminals.

For the splicing and the connection of PI heating cables to cold leads (max 32A) or a 3-core flexible power cable (max 25A).

Glands (M20) and appropriate insulation entry kits need to be ordered separately.

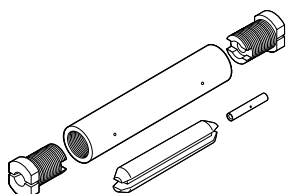


CS-150-2.5-PI

Under insulation splice/connection kit for PI heating cables.

Approved for use in hazardous areas, silicone filled, using crimp connectors.

For the splicing and the connection of PI heating cables to cold leads with a maximum cross section of 2.5 mm². Glands (M20) and appropriate insulation entry kits as well as the conductor crimp, need to be ordered separately.

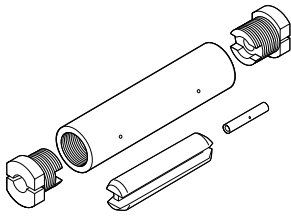


CS-150-6-PI

Under insulation splice/connection kit for PI heating cables.

Approved for use in hazardous areas, silicone filled, using crimp connectors.

For the splicing and the connection of PI heating cables to cold leads with a cross section from 4 to 6 mm². Glands (M20) and appropriate insulation entry kits as well as the conductor crimp, need to be ordered separately.

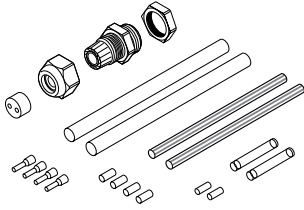


CS-150-25-PI

Under insulation splice/connection kit for PI heating cables.

Approved for use in hazardous areas, silicone filled, using crimp connectors.

For the splicing and the connection of PI heating cables to cold leads with a cross section from 10 to 25 mm². Glands (M20) and appropriate insulation entry kits as well as the conductor crimp, need to be ordered separately.

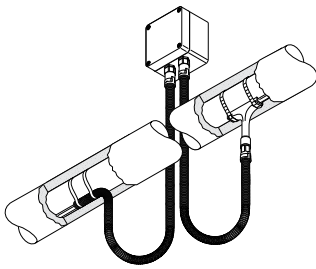


CS20-2.5-PI-NH

Non hazardous area under insulation splice/connection kit for PI heating cables.

For use in non-hazardous areas only. Heat shrink technology, using crimp connectors.

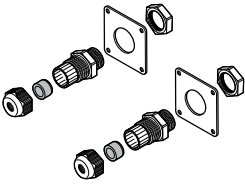
For the splicing and the connection of PI heating cables to cold leads with a maximum cross section of 2.5 mm². Kit includes material for connection of two cold leads and a dual hole grommet/gland (M20).



CCON2X.. AND ACCESSORIES

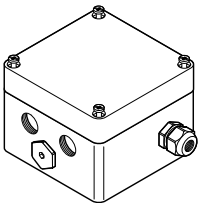
Conduit system for additional mechanical protection of PI heating cables.

Designed to allow for usage in hazardous areas and to provide an additional mechanical protection of heating cables or cold lead cables between the junction box and entry into the insulation. Conduit system available in different materials for different temperatures and fully supported with all required accessories for different set ups.



IEK-20-PI

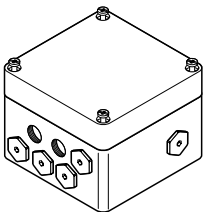
Insulation entry kit for two PI cold leads. Includes two cable glands (M20) with mounting plates. Diameter range: 5-13 mm.



JB-EX-20 (-EP)

Junction box, 3 x M20 entries and 1 x M25 with gland, approved for use in hazardous areas.

Typical use as power-box for PI/MI heating cables. Also available with earth plate (reference MF-EX-20-EP).

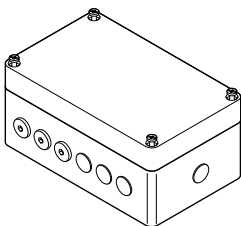


MF-EX-21

Junction box, 6 x M20 and 1 x M32 entries for use in hazardous areas.

Power cable gland (M32) must be purchased separately.

Typical use as power-, splice- and end-box for 3-phase systems with PI/MI heating cables.

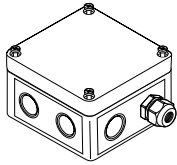


JB-EX-21/35MM2

High load junction box, 6 x M20 and 1 x M40 entries, approved for use in hazardous areas.

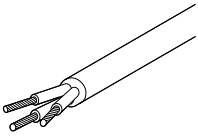
Power cable gland (M40) must be purchased separately.

Typical use as power-, splice- and end-box for 3-phase systems with PI/MI heating cables.



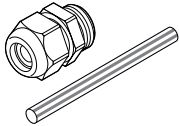
MF-82

Junction box, 4 x M20/M25 pre-punched holes and M25 cable gland for use in non-hazardous areas.



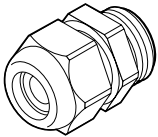
C-150-PC

3-core flexible power cable for connection to CS-150-UNI-PI, 3 x 2.5 mm², silicone insulation, temperature range: -40°C to +180°C, short term: 215°C.



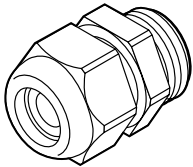
GL-44-M20-KIT

Cable gland Ex e (M20), polyamide, for use with PI cables with a diameter range of 5 - 13 mm. Also includes green/yellow sleeve (80 mm) for braid.



GL-45-M32

Cable gland Ex e (M32), polyamide, for use with power cables with a diameter range of 12 - 21 mm.



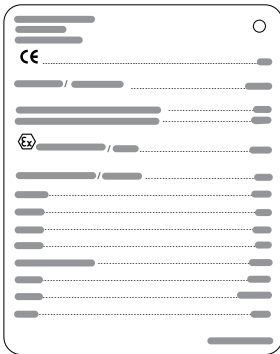
GL-51-M40

Cable gland Ex e (M40), polyamide, for use with power cables with a diameter range of 17 - 28 mm.



DT-PLUG-M20-EXE-PLASTIC

Stopping plug Ex e (M20), polyamide, spare part for various junction boxes.



PI-LABEL-EX

Circuit identification label for PI heating cables, aluminium, required for marking in hazardous area applications, includes cable tie.

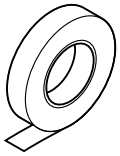
PI-LABEL-NH

Circuit identification label for PI heating cables, aluminium, strongly recommended for marking in non-hazardous area applications, includes cable tie.



JSBQ-I-01

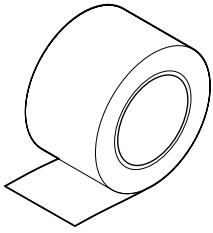
Self adhesive warning label: For proper marking of electric heat-tracing systems. One label per 5 m of traced pipe.



GT-66 AND GS-54

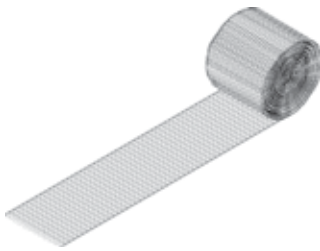
GT-66: Glass fibre fixing tape for polymer insulated heating cables on pipes. Not to be used on stainless steel. 20 m/roll, width: 12 mm.

GS-54: Glass fibre fixing tape for polymer insulated heating cables on stainless steel pipes. 16 m/roll, width: 12 mm.



ATE-180

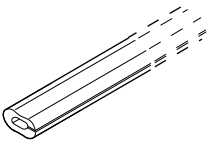
Aluminum adhesive tape, for polymer insulated cables on tanks and pipes, including stainless steel. 55 m/roll, width: 63.5 mm.



METAL-MESH-SS-50MM-10M

Stainless steel mesh for fixing heating cables on valves, pumps or other odd-shaped surfaces. This mesh provides optimum contact and heat transfer between heating cables and heated equipment and can be used for exposure temperatures of up to 400°C.

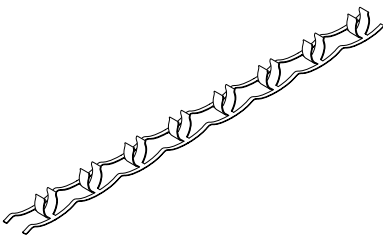
10 m/roll, width: 50 mm.



G-02

Silicone rubber sleeve, mechanically protects heating cables on edges, flanges, insulation cladding. Cut-to-length on-site.

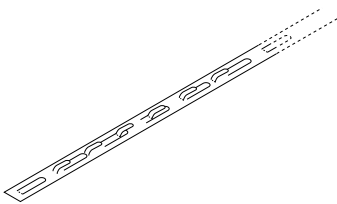
1 m long, temperature resistant up to 215°C.



PI-FIX-SS-XMM-10M

Stainless steel clip band to attach polymer insulated series heating cables to pipes. Clips at regular distances to allow for even heater spacing. Band available in two sizes for different diameter ranges.

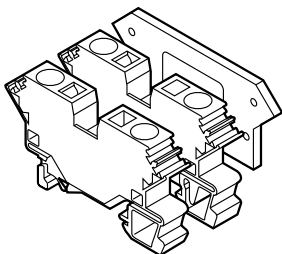
Rolls of 10 m.



HARD-SPACER-SS-25MM-25M

Pre-punched stainless steel strap, which allows fixed distances, when heating cables are attached to surfaces of bigger pipes and vessels.

Punch interval: 25 mm, length: 25 m.



HWA-WAGO-PHASE

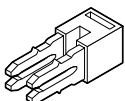
Phase/neutral terminal (Ex e), spare part for various junction boxes, max. 10 mm² solid/stranded.

HWA-WAGO-EARTH

Earth terminal (Ex e), spare part for various junction boxes, max. 10 mm² solid/stranded.

HWA-WAGO-ENDPLATE

End plate for terminals HWA-WAGO-..., 10 mm² terminals, spare part.



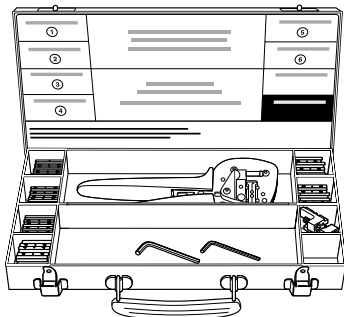
HWA-WAGO-JUMPER

Jumper to bridge terminals HWA-WAGO-..., 10 mm² terminals, spare part.

TEMPERATURE CONTROLS

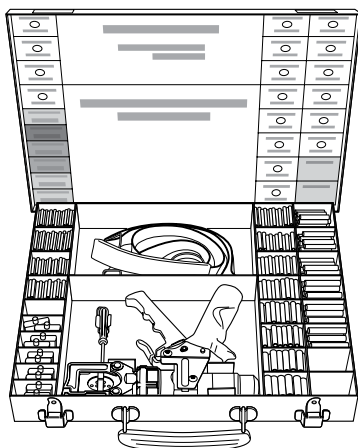
See control and monitoring product range.

SPECIAL TOOLS



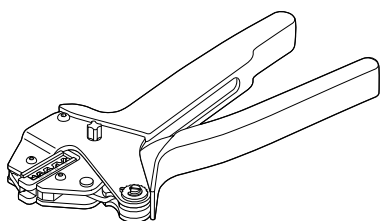
PI-TOOL-SET-01

Metal toolbox containing a mechanical crimp tool, crimping dies and the crimps required for the connection of PI heating cables and cold leads in conjunction with the connection/splice kit type CS-150-2.5-PI (cross section up to 2.5 mm²). This tool is required for a reliable connection and is also recommended for maintenance purposes.



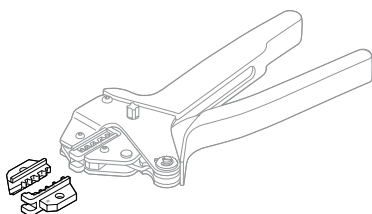
PI-TOOL-SET-02

Metal toolbox containing a hydraulic crimp tool, crimping dies and the crimps required for the connection of PI heating cables and cold leads in conjunction with the connection/splice kits type CS-150-6-PI (cross section 4 - 6 mm²) and CS-150-25-PI (cross section 10 - 25 mm²). This tool is required for a reliable connection and is also recommended for maintenance purposes.



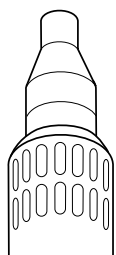
CW-CT-KIT

Crimp tool with dies for installation of crimps for the connection/splice kits type: CS-20-2.5-PI-NH.



CW-CT-DIE

Spare set of dies for crimp tool CW-CT-KIT and crimps of 2.5 mm².



CV-1983-220V-3060W

High power heat gun for heat shrink based components. Power output: 3 kW.