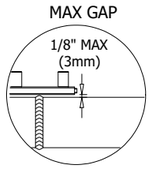
1 DRY FIT

CONTROTRACE (CT)

- Test fit piece/panel onto equipment to ensure proper fit.
- Ideal gap between CT elements and contact surfaces is zero. Maximum allowable gap for proper heating is 1/8" (3mm).
- Controtrace spacing dimensioned on the individual ControTrace installation drawings



FIELD NOTES:

** FIELD TO INSTALL PLATFORMS; LADDER; PIPING TIE-INS; ETC....
AFTER THE CONTROTRACE PANELS SUPPLIED BY
CONTROLS SOUTHEAST ARE INSTALLED.

CONTROHEAT (CH)

- The CH aluminum jackets should be test fitted to ensure jacket goes on without interference.

2 APPLY HEAT TRANSFER COMPOUND (HTC)

Heat transfer compound provides a conductive heat transfer path between CT and contact surfaces, and between CH and valves/fittings.

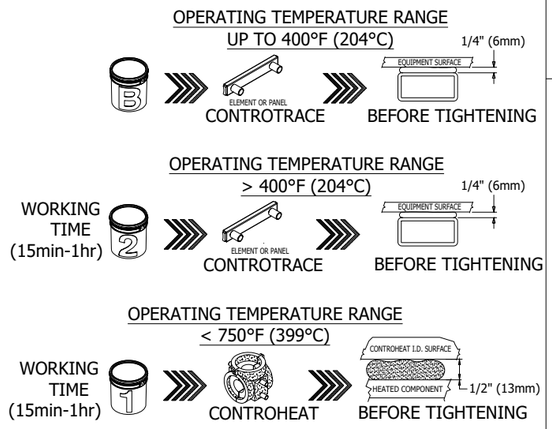
CONTROTRACE

- Apply a uniform layer of HTC to the interior surface of the CT. 1/4" (6mm) thickness is recommended.

CONTROHEATS

- Apply a uniform layer of HTC to the interior of the CH. 1/2" (12mm) thickness is recommended.

NOTE: Items installed with Grade 1 or Grade 2 water based HTC should be covered until insulated to protect the HTC from being washed out by heavy rains.



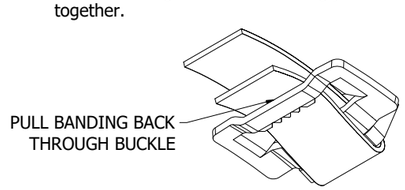
3 FASTEN

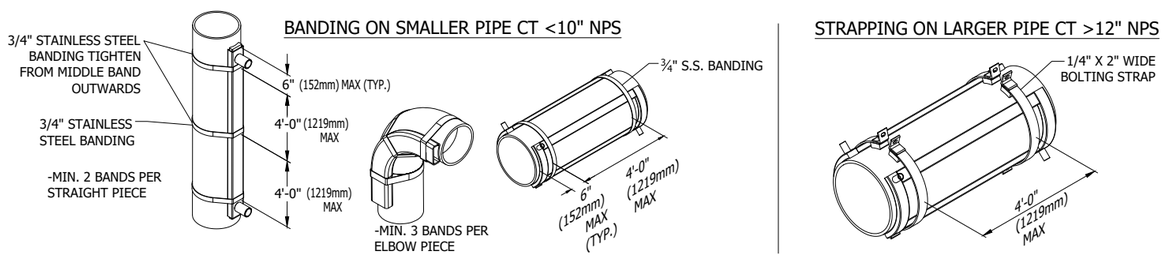
CONTROTRACE

- Single Element CT and CT Panels for 10" NPS and smaller are attached using 3/4" wide X 1/16" thick stainless steel bands and buckles. DO NOT use insulation banding for CT attachment.
- CT Panels for 12" NPS and larger are attached using 2" wide steel bolting straps.
- Hold CT element/panel in place while attaching first band/strap to ensure HTC is not lost.
- Banding and strap requirements:
  - Use a minimum of 3 bands or straps for each CT piece.
  - For panels attached with straps: straight CT panels less than 4' may use 2 straps.
  - Maximum of 4' (1.2m) between bands or straps on straight runs.
  - Maximum of 6" (150mm) from end of CT and first/last band or strap.
  - Make sure to loop banding back into buckle to prevent banding from slipping.
- Large CT Panels for equipment heating:
  - Use hangers to hold panels in position during installation. (See DWG-XXHC Drawings)
  - Use hold down clips on weld bosses to secure panels to the vessel. (See DWG-XXWB Drawings)
  - Wrench tighten nuts to secure panel firmly in place. Remove excess heat transfer compound. Bolting material is permanent and will not be removed.

CONTROHEATS

- CH jackets are assembled with bolting provided by CSI.
- Press CH halves together, install bolts, and use wrenches to tighten bolts and bring jacket halves together.





4 VERIFY AND INSPECT

CONTROTRACE

- Remove excess HTC from sides of CT. Grade B HTC is petroleum based and can be reused. Grade 1 and 2 are water based and any excess will need to be discarded.
- Inspect between the pipe and CT to make sure space is filled with HTC and CT is pulled down to within 1/8" of pipe. 1/8" thick weld wire is a good gauge to check this gap.
- There should be no air gaps between CT and contact surface.

CONTROHEATS

- After installing the CH and tightening the bolts all excess HTC can be removed and discarded.

5 INSULATE

CONTROTRACE

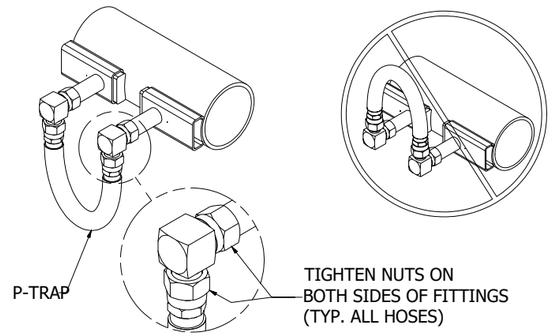
- Insulation is typically provided by an insulating contractor.
- To ensure the desired line temperature is maintained/achieved, verify insulation type and thickness matches the values listed on the CT installation drawings.
- Insulate all equipment surfaces, nozzles, manways, supports, nozzles, drains, vents, etc.

CONTROHEATS

- Best insulated by soft pack insulation that can cover their irregular shape and is typically provided by CSI.

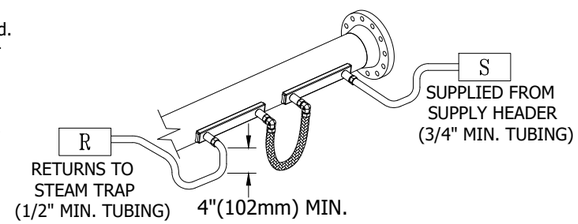
6 JUMPOVERS

- Flexible metal hoses with JIC+ fittings are the most common jumpover style.
- Clean threads and mating surfaces for all connections.
- Inspect the conical sealing surfaces for possible damage. Repair gaskets may be used to compensate if sealing surface has minor damage. (supplied by CSI)
- Apply a light oil to conical mating surface and back of nut (optional).
- Position jumpover in place and ensure hose hangs loosely. There should be no tension in the hose.
- Tighten the JIC nuts (4 per jumpover) to torque listed on hose tag. Use two wrenches to ensure hose does not twist during tightening.



7 SUPPLY/RETURN (FOR STEAM APPLICATION)

- The most common CT circuit starts with a supply line from a steam manifold. The minimum diameter of the supply line is 3/4" and it should be no longer than 100' (30.5m).
- After traveling through the CT system the steam and condensate travels through a return line to a steam trap connected to a condensate manifold. The minimum diameter of the return line is 1/2" and it should be no longer than 100' (30.5m).
- Return tubing should dip immediately on exiting from the last CT piece to ensure condensate drainage from the CT system.



8 SYSTEM TEST

CSI recommends a low pressure pneumatic soapy water leak test (snoop) of the completed system to verify proper assembly of the connection points. The test should also include supply and return manifold connections.

For additional installation questions contact
support.csi@ametek.com

P.O. #: XXXX			SALES #: XXXXX	JOB #:		N/A
A	xx xxx xx	ISSUED FOR APPROVAL	XXX	XXX	XXX	XXX
REV	DATE	DESCRIPTION	DES	DRW	CHK	PM
REVISION HISTORY						

Controls Southeast, Inc
CSI Website: www.csiheat.com
12201 Nations Ford Road, Pineville, NC 28134 (704) 644-5000

AMETEK®

TITLE: CONTROTRACE INSTALLATION INSTRUCTIONS
CLIENT: SOLD TO CUSTOMER
END USER/LOCATION
PROJECT: TANK/VESSEL PROJECT
DWG. NO. CT INSTALLATION INSTRUCTIONS REV. A

S:\Design Support Group\AutoCAD Group\CT Tanks-Vessels\Update B-D Border for 2021