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World Leaders in Equipment and Technology for Hydraulic Tube Expansion

HYDRAULIC EXPANSION DATA SHEET

DATE	CONTACT	PHONE
HYDRAULIC EXPANSION END USER		JOB #

SCOPE OF APPLICATION AND SPECIFICATIONS

NEW OR RETUBE	NUMBER OF EXPANSIONS	APPROXIMATE START DATE
TYPE OF UNIT:		
<input type="radio"/> Heat Exchanger	<input type="radio"/> Boiler	
<input type="radio"/> Condenser	<input type="radio"/> Other (Describe):	
<input type="radio"/> Feedwater Heater		

TUBES

QTY TUBES	MATERIAL	ACTUAL YIELD	ACTUAL TENSILE
O.D.	WALL THICKNESS/GAGE	WALL (CIRCLE ONE): <i>Avg. / Min. / Nominal</i>	
ACTUAL TUBE I.D. MEASUREMENT			TYPE: <i>Seamless / Welded Drawn</i>
U-BEND OR STRAIGHT		OVERALL LENGTH OF TUBE	
SETTING OF TUBE TO TUBESHEET PRIMARY FACE: <i>Recessed / Flush / Protruding</i>			
MAX. PROTRUSION OF TUBE ON SECONDARY TUBESHEET			
ARE THE TUBES TO BE WELDED TO THE TUBESHEET: <i>Yes / No</i>		HAVE TUBES BEEN PROPERLY ANNEALED: <i>Yes / No</i>	

TUBESHEET

TOTAL THICKNESS	MATERIAL	ACTUAL YIELD	ACTUAL TENSILE
CLAD: <i>Yes / No</i>	THICKNESS	MATERIAL	
SHELL ATTACHED: <i>Yes / No</i>	PARTITION PLATE: <i>Yes / No</i>		
IF "YES" TO EITHER OF THE ABOVE: SHORTEST DISTANCE BETWEEN HOLE CENTER LINE AND SHELL/PLATE			

HOLES

DIAMETER	CHAMFER: <i>Yes / No</i>	WHERE IS THE CHAMFER LOCATED: <i>Face / Back</i>
DEGREE OF CHAMFER		DEPTH OF THE CHAMFER

GROOVES

NUMBER	Note: as a minimum, placement of the 1 st groove should begin 1/2" from the face of the tubesheet or in the center based on tubesheet thickness.	
TEMA: <i>Yes / No</i>	IF "NO", PLEASE PROVIDE SPECIFICATIONS IN THE AREA PROVIDED ON PAGE 2.	
CUSTOMER RECEPTIVE TO HYDRAULIC EXPANSION GROOVE: <i>Yes / No</i>	Note: hydraulic expansion groove is a single wide groove (centered in sheet if possible).	

LIGAMENT

THICKNESS	PITCH	HOLE PATTERN
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HYDRAULIC EXPANSION DATA SHEET (CON'T)

EXPANSION ZONE

START OF EXPANSION INSIDE TUBESHEET
STOP OF EXPANSION DISTANCE FROM REAR OF TUBESHEET
TOTAL EXPANSION ZONE

TUBE-TO-TUBESHEET WELD REQUIREMENTS

ARE TUBES TO BE WELDED: <i>Yes / No</i>	IF "YES": <i>Seal Welded / Strength Welded</i>
WILL YOU TUBE LOCK PRIOR TO WELD: <i>Yes / No</i>	
WHAT IS THE MAXIMUM COUNTER SINK O.D. FOR WELD	

EXPANDING PRESSURE REQUIREMENTS

CONTACT ONLY: <i>Yes / No</i>	HYDROTEST PRESSURE	APPROXIMATE START DATE
NOTE: WHEN WELDING, THE FOLLOWING EXPANSION PROCEDURE IS RECOMMENDED.		
1. <i>TubePro; setting of tube</i>	3. <i>Hydraulic Expand</i>	
2. <i>Weld</i>	Note: <i>No weld rollover is recommended when hydraulic expanding</i>	

SPECIFICATIONS (IF APPLICABLE)

Please provide any available drawings, sketches, or blueprints, as well as performance requirements regarding working and test pressure of the vessel.

Drawings Supplied: *Yes / No*

EXTERNAL EXTENSIONS

For expansion which require going around an interference such as a channel, shell, partition plate, or any other obstruction, creating a situation where expansion would take place at a distance from the tubesheet face.

DISTANCE FROM OUTSIDE FACE OF SHELL OR PLATE TO FACE OF TUBESHEET
IS THERE ACCESS FOR A STOP COLLAR TO BE LOCATED AT TUBESHEET FACE OR OUTSIDE OF SHELL: <i>Yes / No</i>

INTERNAL EXTENSIONS

For expansions which require mandrel travel within a tube, re: inner tubesheet of a dual tubesheet application, baffle expansions, or expansion of a tubesheet through the opposite end.

DISTANCE FROM TUBESHEET FACE TO FACE OF INNER TUBESHEET OR BAFFLE.
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Signature: _____ Date: _____