



Process Equipment  
Division

Manufacturer's  
Welding Instructions (WPS)  
**Housing Connection T**  
**DN 25; DN50/40; DN80/65; DN100**

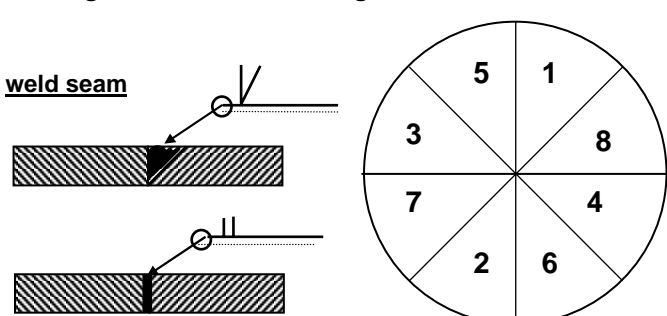
**TUCHENHAGEN**

Date: 2004-11-08

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Replace for: 21S09309E

Location: Büchen	Preparation: mechanical
Welding process: 141 ( TIG-Pulse )	Cleaning method: brushing or pickling
Reference-No: WPSAnschlT1004	Specification of the parent metal: 1.4404 (X2CrNiMo17 13 2)
Welder: Certified according to EN287-1; AD-2000 HP3	
Welding process: 141 DIN EN 24063	Workpiece thickness (mm): t = 2mm to t = 8 mm
Type of joint: see draft	Outside diameter (mm): 145; 165; 200; 225
Preparation of joint: no gap between flange and base metal	Welding position: PA , PD (overhead)
Location: Büchen	Preparation: mechanical

Structure of the joint	Welding procedure
<p><b>Welding of the final run in 8 segments</b></p> 	<p><b><u>Pulsed arc welding to be applied only</u></b></p> <ol style="list-style-type: none"> <li>1. Tack weld always on the opposite side, 8 times with filler metal</li> <li>2. Weld root if possible without filler metal; final run with filler metal (number of final runs depending on material thickness )</li> <li>3. Welding to be carried out with a turnover jig to be connected to the forming gas supply (No. 21M09309G). After each welding operation, cool weld seam with water.</li> <li>4. Re-chuck turnover jig before welding the root</li> </ol>

Weld layer	Process	Filler metal Ø [mm]	Current [A]	Voltage [V]	Kind of current/ Electrode polarity	Welding speed [cm/min]
Root	141	1,2; 1,6	50 - 60	10 -14	=/-	3 -7
First layer	141	1,2; 1,6	50 - 60	10 – 14	=/-	3 -7
2,3,4, etc. layers	141	1,2; 1,6	105 -125	10 – 14	=/-	3 -7

Filler metal: 1.4430 (DIN EN 12072: 19 12 3 LSi)	Intermediate layer temperature: T<30°C
Shielding gas: EN 439 - I <sub>1</sub>	Flow rate [l/min]:
Backing gas: EN 439 - I <sub>1</sub>	Shielding gas: 13 - 15      Backing gas: 10 -20

<p>Manufacturer:</p>  <p>Merhof 08.11.2004</p> <p>.....</p> <p>Name, Date and Signature (Welding supervision)</p>	<p>.....</p> <p>Name, Date and Signature (Welder)</p>
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