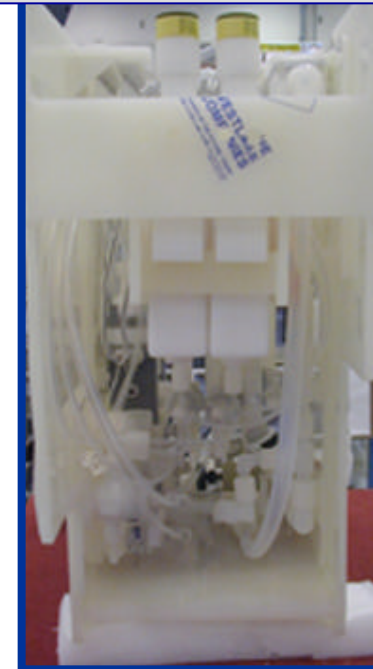


# Process Tube Systems, Inc.



## CONTRACT MANUFACTURING

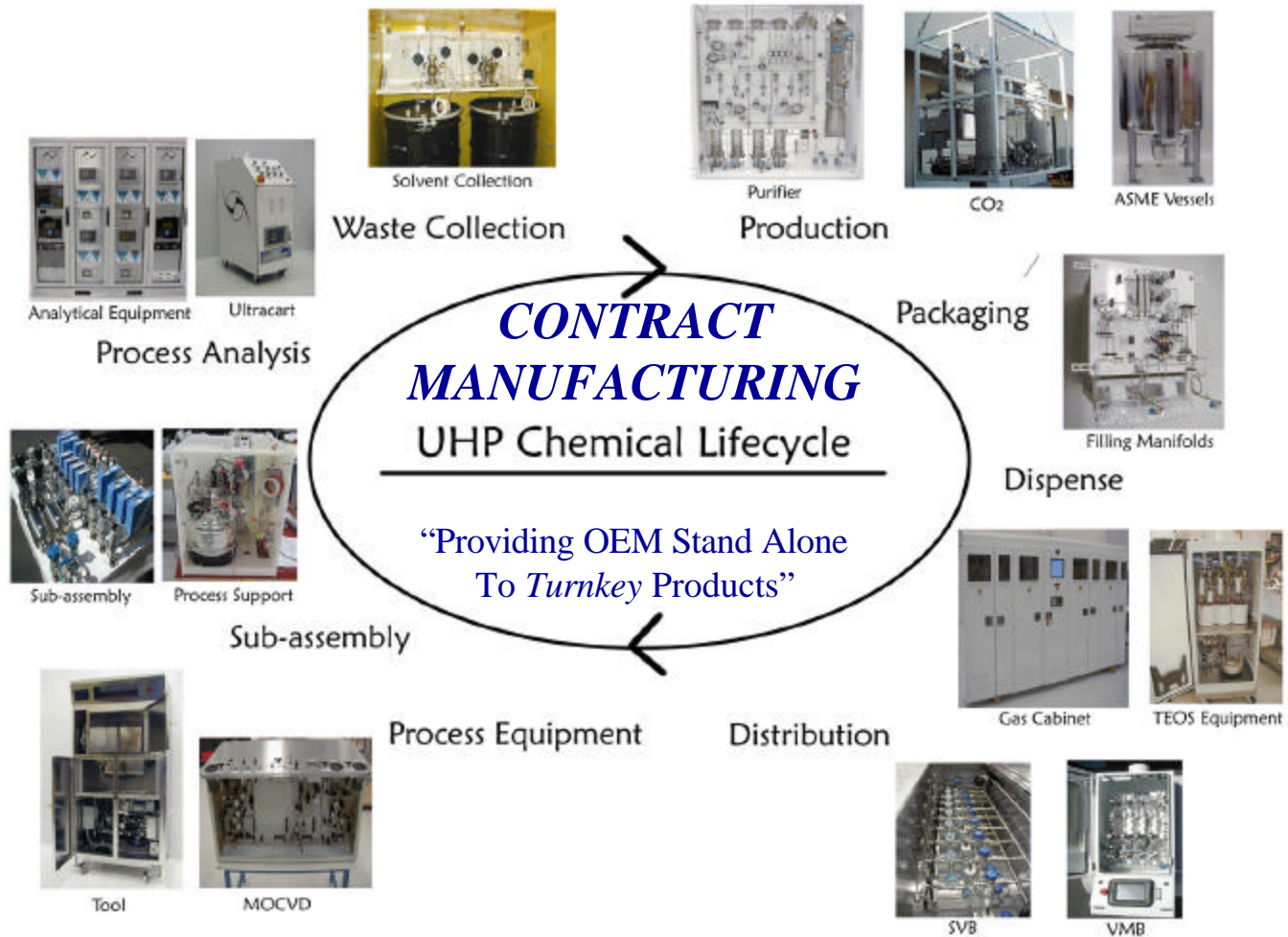


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# OEM Equipment Fabrication Across the Chemical Lifecycle



**PTS**

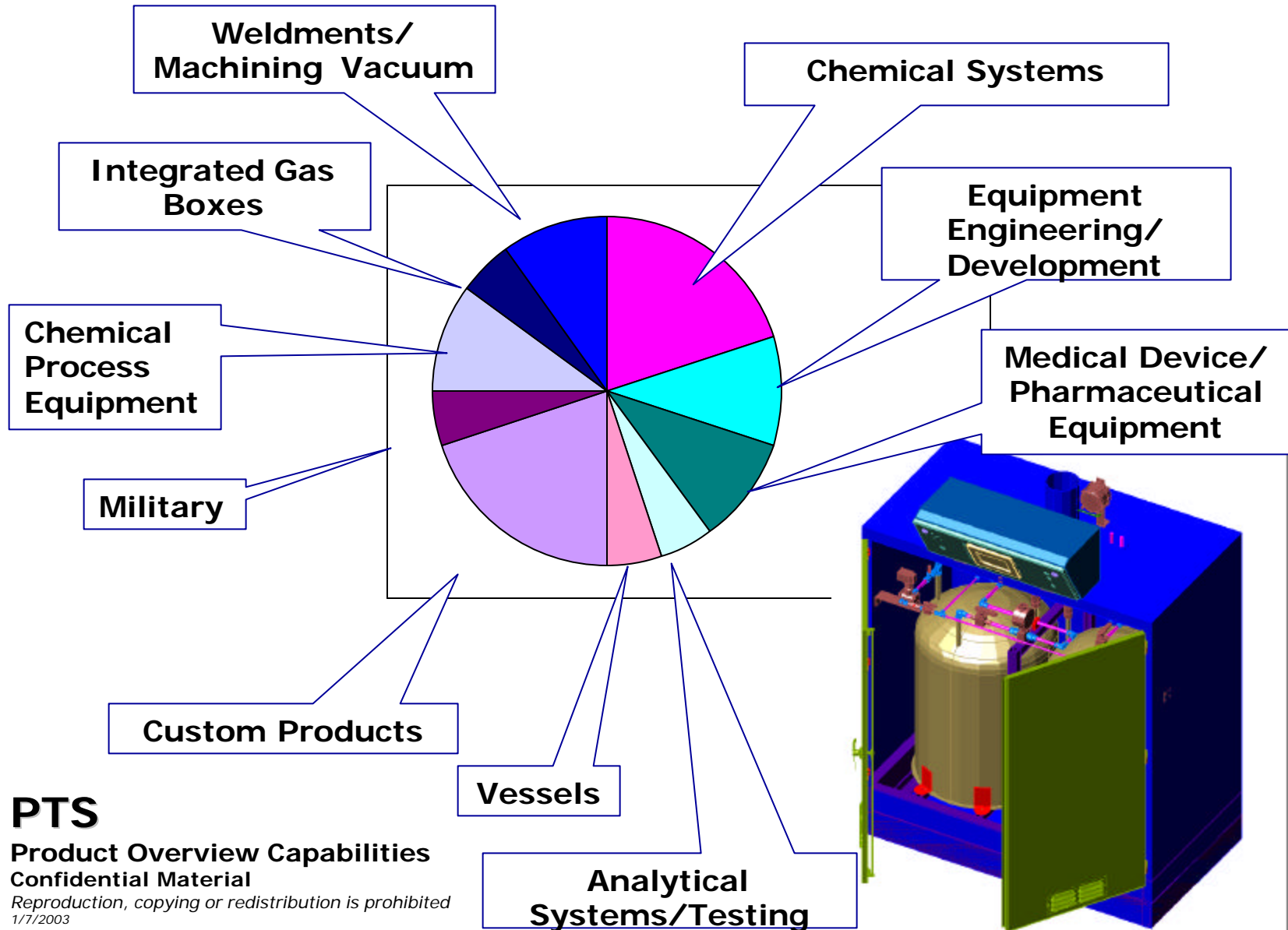
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# PTS Business Breakdown



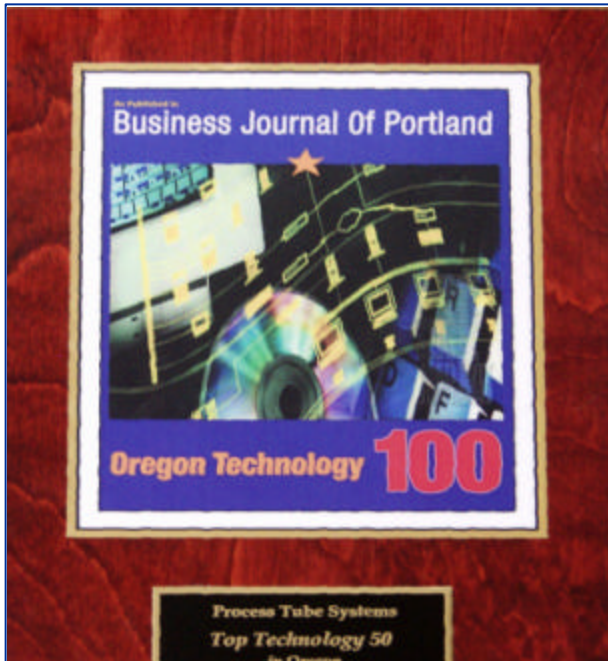
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# Profile



Our clients come to us because we excel in specific areas of expertise: **FLUID SYSTEMS.**

Our customers receive the benefits of high quality systems, minimized fixed costs, lower inventories, and lower absorbed costs.

- **16 Years in Business**
- **21,000 sq.ft. Manufacturing**
- **Two Locations: California, Oregon**
- **Largest Customers:**
  - **BOC Edwards, World's Largest Microprocessor, ASML**

- Contaminate Free Environment – Class 1 or Better
- Highly Trained Workforce
- Stand-alone Quality Program
- MRP
- Material Traveler For Complete Job Tracking
- Lean Manufacturing Process

## PTS

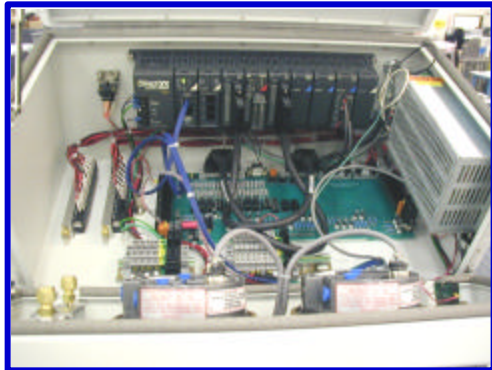
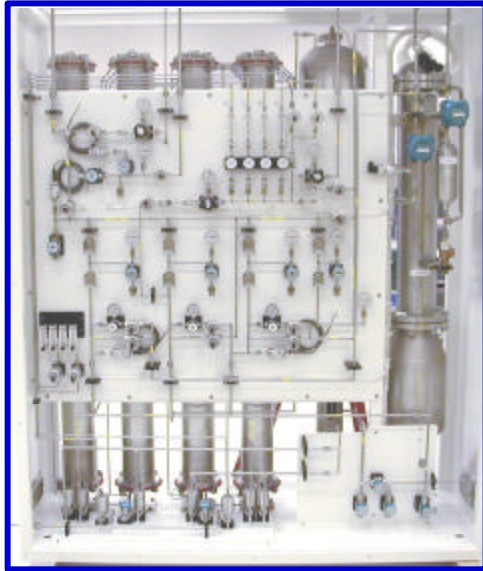
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# Chemical & Equipment Engineering



Design Standards  
Semi S2 Standards  
ASME B31.3  
U.L. 508 Electrical Shop  
NFPA, UFC, UMC  
Military  
GMP

Software Platforms  
Pro-E 2000 i<sup>2</sup>  
AutoCAD – 2000 3-D  
Visual Basic  
PLC Programs  
Inventor

Engineering Process  
Peer-based Design Review  
Signoff  
ISO 9000 Compliant Processes  
Valve Engineering



## PTS

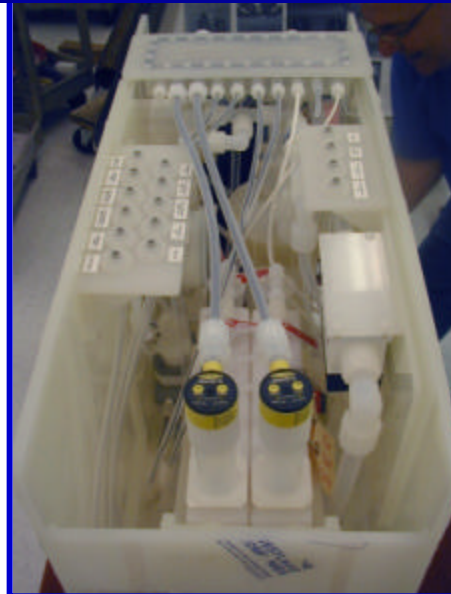
**Product Overview Capabilities**  
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# Plastic Fabrication, Assemblies & Design



## CHEMICAL INJECTION SYSTEMS, VAPORIZERS, AND TURNKEY MODULES

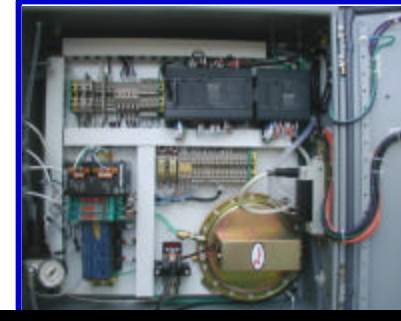
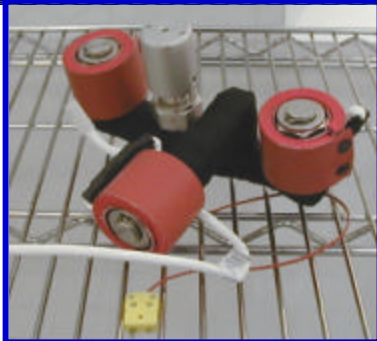


**PTS**

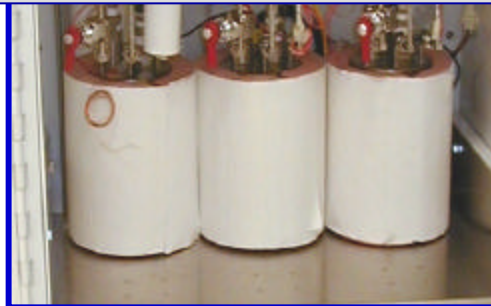
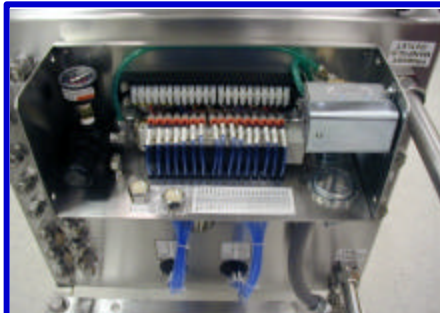
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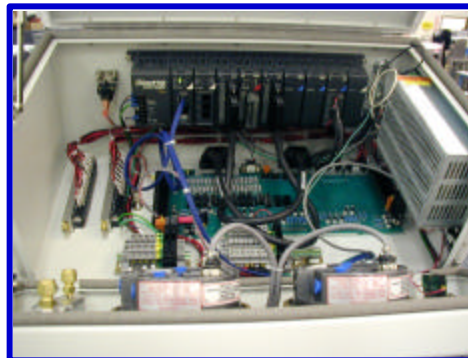
# U.L. 508 Electrical Assembly



**SEMI S2 ♦ CE MARKING ♦ TRACER GAS TESTING**



**EXPLOSION PROOF ♦ NEMA 4**



## PTS

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# Electrical-Mechanical Integration

## HCL/NH3 Gas Cabinet

Gas Detection integrated in

Heating Circuits

Pneumatic Controls and Actuation

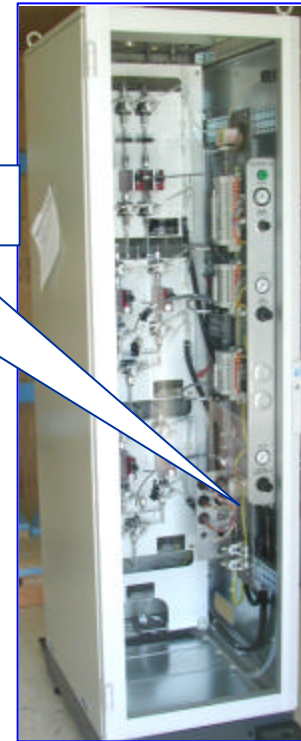
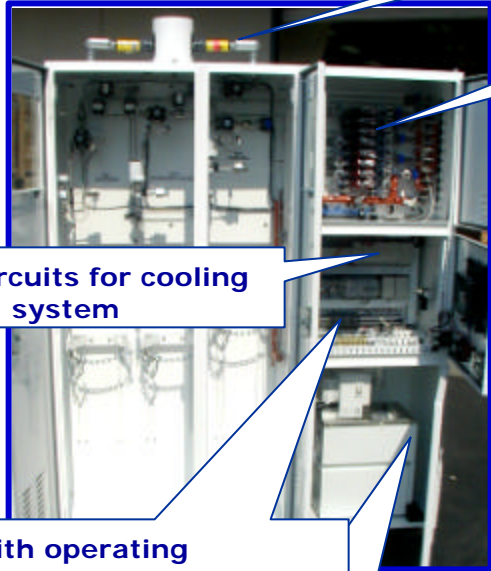
110V circuits for cooling system

Enclosure Design & Fabrication

PLC with operating software Semi and CE compliant systems

Human Machine Interface

Instrumentation



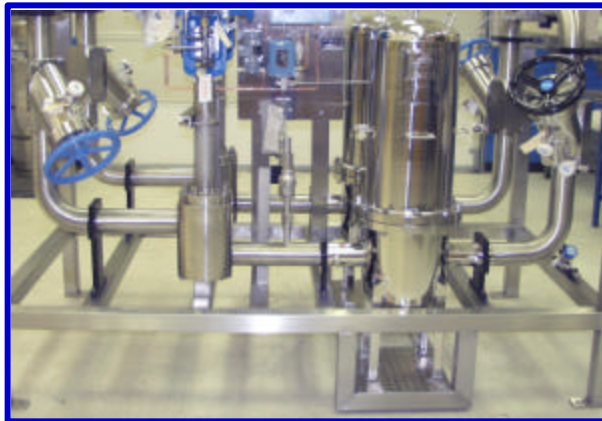
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**Product Overview Capabilities**  
**Confidential Material**

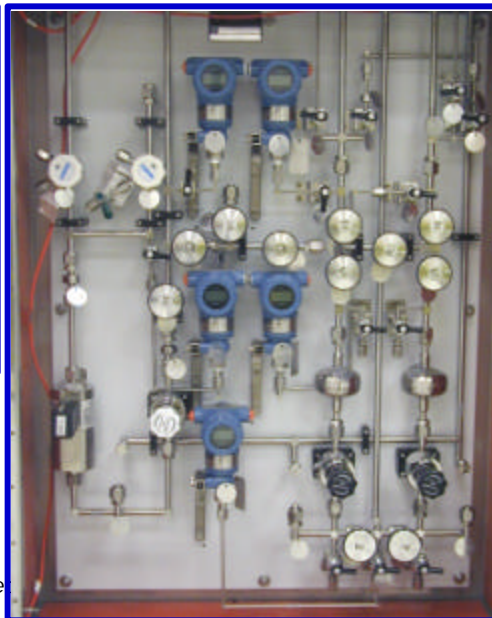
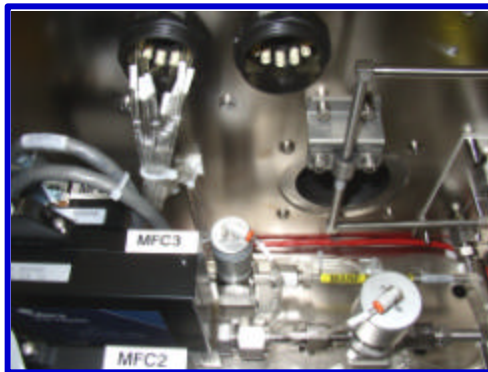
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# Mechanical Fabrication



**SHEET METAL ♦ PNEUMATICS ♦ PROCESS PIPING**

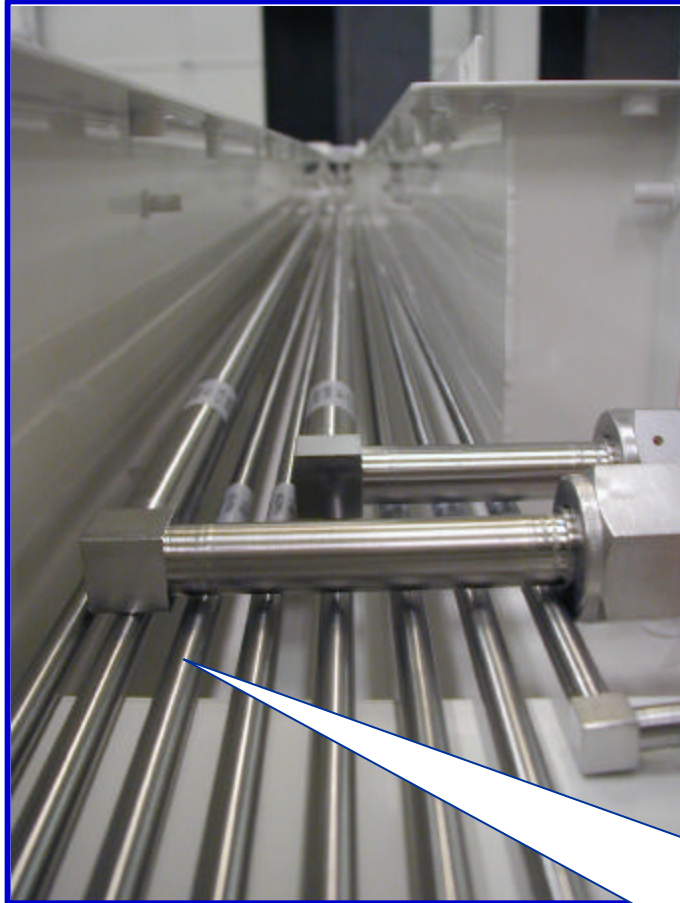


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## OEM Manufacturing Services



- Manual & Semi Automatic TIG Welding
- MIG & Orbital Welding
- Plastic Fabrication
- Clean room Assembly
- Vacuum Leak Detection
- Manual Milling/Turning
- Tube Bending
- Electronic Assembly
- Equipment Design: Concept to Production
- Reverse Engineering
- Third Party Quality Testing
- Outsourcing Management

Our teams work with **YOU** to develop a roadmap together to find improvements such as price reductions, material stocking, equipment design.

**PTS**

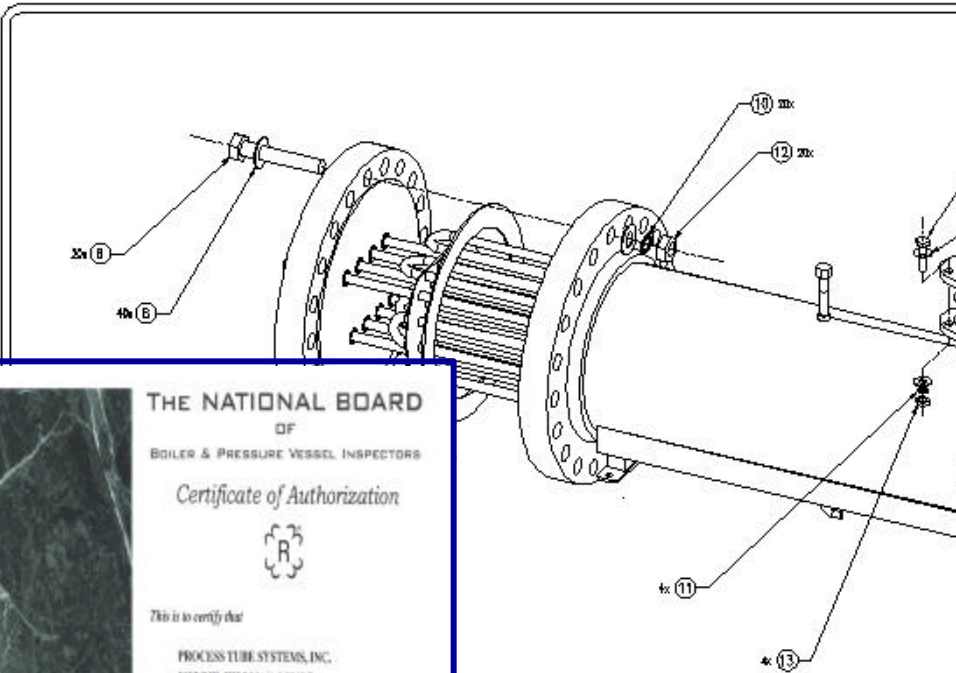
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*1/7/2003*

# A.S.M.E. Pressure Vessel Fabrication & Design



**THE NATIONAL BOARD**  
OF  
BOILER & PRESSURE VESSEL INSPECTORS

*Certificate of Authorization*

**R**

This is to certify that

PROCESS TUBE SYSTEMS, INC.  
902 S.W. HILLMAN COURT  
SUITE 312  
WILSONVILLE, OREGON 97131

is authorized to use the "R" SYMBOL in accordance with the provisions of the National Board.

The scope of Authorization is limited as follows:

REPAIRS AND/OR ALTERATIONS AT THE ABOVE LOCATION AND EXTENDED FOR FIELD REPAIRS AND/OR ALTERATIONS CONTROLLED BY THIS LOCATION

CERTIFICATE NUMBER: B-5438

**U**

**CERTIFICATE OF AUTHORIZATION**

This certificate accredits the named company as authorized to use the indicated symbol of the American Society of Mechanical Engineers (ASME) for the scope of activity shown below in accordance with the applicable rules of the ASME Boiler and Pressure Vessel Code. The use of the Code symbol and the authority granted by this Certificate of Authorization are subject to the provisions of the agreement set forth in the application. Any construction stamped with this symbol shall have been built strictly in accordance with the provisions of the ASME Boiler and Pressure Vessel Code.

COMPANY: PROCESS TUBE SYSTEMS, INC.  
902 S.W. HILLMAN CT.  
SUITE 312  
WILSONVILLE, OREGON 97131

SCOPE: MANUFACTURE OF PRESSURE VESSELS AT THE ABOVE LOCATION ONLY

AUTHORIZED: OCTOBER 26, 1999  
EXPIRES: OCTOBER 26, 2002  
CERTIFICATE NUMBER: 31428

*Donna L. Collins*  
CHAIRMAN OF THE BOILER AND PRESSURE VESSEL COMMITTEE

*Paul D. Ayler*  
DIRECTOR, ACCREDITATION AND CERTIFICATION

12	3/4"-10 3/4"-103 SH BY HEX NUT	B, BOLT	4
15	1"-1/2" 8 3/4"-103 SH BY HEX NUT	B, BOLT	20
11	3/4" 8 3/4"-103 SH BY 1/2" WASH	B, BOLT	4
10	1"-1/2" 2 1/2"-103 SH BY 1/2" WASH	B, BOLT	20
9	3/4" 8 3/4"-103 SH BY 1/2" WASH	B, BOLT	8
8	1"-1/2" 8 3/4"-103 SH BY 1/2" WASH	B, BOLT	40
7	3/4"-10 1 1/4" 1000 8 3/4"-103 SH BY BOLT	B, BOLT	4
6	1"-1/2" 8 3/4" 1000 8 3/4"-103 SH BY BOLT	B, BOLT	20
5	1"-1/2" 8 3/4" 1000 8 3/4"-103 SH BY BOLT	HD, BOLT	1
4	1" 8 3/4" 2500 8 3/4"-103 SH BY BOLT	HD, BOLT	1



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# Analytical Business Group



## PTS

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# World Wide Shipping & Packaging



Getting the product there on time and undamaged



16 year's experience shipping around the world

UHP Practices & Protocols



Every part, subassembly or system PTS ships is tested. Testing ranges from helium leak testing, moisture content, and particle counts to full software checkout

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