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Vacuum Chambers — We Keep It Simple

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The critical path item in many vacuum coating systems is the vacuum chamber. Vacuum chambers seem complex because numerous details must be exactly right such as:

- Material stresses,
- Deflections,
- Surface finishes,
- Critical dimensions, and
- Helium leak-tight seals and welding.

We are introducing Magnum Steel Works—the new vacuum chamber manufacturer who is simplifying this process. With lower prices, shorter lead times, and the high-quality workmanship a vacuum chamber requires, our process is designed to help our customers get a cost-effective chamber on their floor in record time. Magnum Steel is here to keep it simple for you.

<https://www.svc.org>

DOI: <https://doi.org/10.14332/svc24.proc.0056>

We Keep it Simple

Amazing Prices, Top Quality and Short Deliveries



Vacuum
Chambers



Large Metal
Fabrications

Chambers are Not Just a Metal Box Magnum Steel Works INC.

- Many experienced fabricators fail at making vacuum chambers
- It is Art and Science
- Requires knowledge of the application
- Hundreds of details
- CAD and FEA software is not enough

Chambers can Seem Complicated



- 1×10^{-9} std cc/sec of He leak rate
- Virtual leaks
- Material compositions/compatibility
- Surface finishes
- Deflections
- Critical alignments
- Temperatures

Success vs Failure



- Hundreds of details that can lead to failure
- Only one path to success



Chambers are Critical Path



- Little work on system without the chamber
- Often the longest lead time item
- High cost
- Higher costs with delays and problems

The Process is Simple

- Design
- Procurement
- Weld
- Machine
- Detail/clean
- Test
- Ship



Where is the Time and Cost?



1. Approval times
2. Queue times
3. Setups/learning because of uniqueness
4. Material handling
5. Competing products
6. Rework

Offshore is not the Answer

- Long lead times
- Hidden costs
- Different expectations
- Quality



Why another Chamber Builder?



- Processes designed just for chambers
- Job shop atmosphere
- Made in the US
- Low-cost area
- Central for shipping
- Chamber expertise



Magnum has Huge capabilities

- 128,000 sq feet
- Large horizontal machining
- CWI and certified welding
- Low overhead



Magnum has Huge capabilities



50,000 lb. forklift

www.MagnumSteelWorks.com



Weld Shop, 2 25ton Cranes

916-225-2212

12

Chamber Manufacturing made Simple



- Amazing Prices
- Top Quality
- Short Deliveries



Chamber Manufacturing made Simple



Questions?

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