

LARP

LMQXF DESIGN & Prototype Fabrication/Testing

Author

Antonios Vouris

LMQXF Design, March 6th, 2017

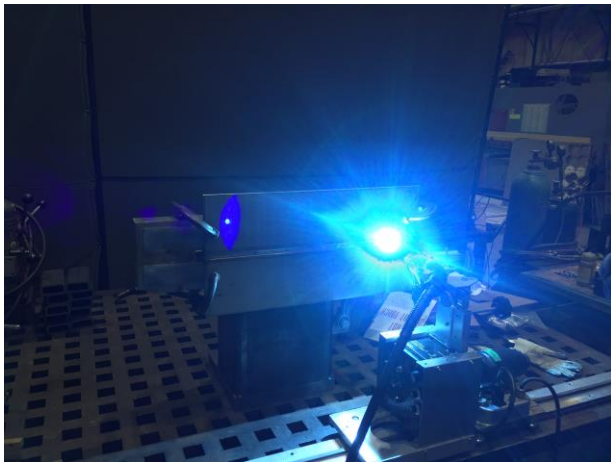
Weld Equipment

Bug-O Systems –
Automated Cutting &
Welding System:
Modular Drive System



Weld procedure Parameters

- Weld procedure development at moment:
 - Millermatic 350P
 - Pulse mode
 - Wire - .035" (.89 mm) 308L Si
 - Gas – 90%Ar/10%CO₂
 - 22.6 Volts
 - 3 Passes:
 - 1..10 IPM (254 mm/m), 2.. 10.75 IPM (273 mm/m), 3.. 14.25 IPM (362 mm/m)
- Still tweaking to decrease weld shrinkage from 0.1" (2.54mm).



Cold Mass Design

- Design/Fab per ASME BPVC Section VIII-1?
- Material requirements:
 - 304/304L, 316/316L, 316LN?
 - Low Co?
 - Shell Forming & End Domes
- NDE:
 - Spot RT – 6” spot /300 ft. of weld
 - Liquide penetrant test (PT) - nozzles
- Pressure Test/HMS Leak Test?
- Interface/End Domes design and material?
- Mounting brackets and fiducials?

Milestones & Questions

- Coldmass specifications –
- Low Co?
- NDE:
 - Spot RT – 6” spot /300 ft. of weld
 - Liquide penetrant test (PT) - nozzles
- Pressure Test/HMS Leak Test?
- Interface/End Domes design and material?
- Mounting brackets and fiducials?
- CERN Supplied Materials:
 - Shell material (Feb 2018)
 - Beam Tube (April 2018)
 - Ht Exchangers (April 2018)
 - Bus Bar (March/April 2018)
 - Temp Sensors (March/April 2018)
 - Instrumentation wires (March/April 2018)
 - Cryostat kit (August 2018)

THANK YOU!

