



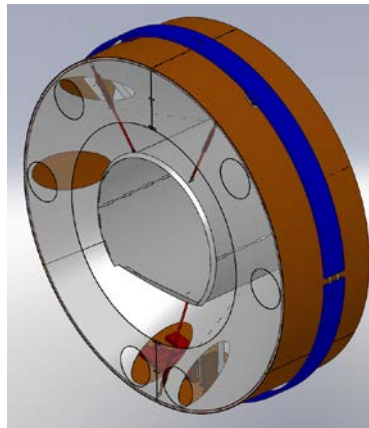
Statement of Work

AO – 509 Manifold Cryopump Tube Baffle ITM Weldment Assembly

C1202433-v4

1.0 Scope

This Statement of Work (SOW) is for the fabrication of four Manifold Cryopump Tube Baffle ITM weldment assemblies. The primary baffle piece parts are large. A completely assembled baffle will reside within an 8' by 8' area. This Manifold Cryopump Tube baffle will reside inside ultra-high vacuum. Materials, fabrication processing and cleanliness must adhere to the requirements specified within the LIGO control documents.



2.0 Document Access

Many supplemental documents and specifications are incorporated into and made a part this Statement of Work. Click on the document links to access these documents from the LIGO Document Control Center (DCC) or go on line to the LIGO Public DCC at <https://dcc.ligo.org/> to access the DCC#.

3.0 Commercial Terms and Applicable LIGO Specifications:

Note: The documents listed below are invoked for this Statement of Work and comprise additional requirements which are integral to this Statement of Work.

- [LIGO-C080185-v1](#) LIGO Commercial Items or Services Contract General Provisions
- [LIGO-Q0900001-v5](#) Advanced LIGO Supplier Quality Requirements
- [LIGO-Q1100003-v1](#) Acceptable Quality Level (AQL) for Inspection of LIGO Components
- [LIGO-E0900364-v8](#) Metal Components for use in the Advanced LIGO Vacuum System
- [LIGO-E1100842-v3](#) Specification for Oxidation of Polished Mirror (Super #8) Stainless Steel for aLIGO Baffles and Beam Dumps
- [LIGO-E0900048-v9](#) Welding Specification for Weldments used within the Advanced LIGO Vacuum System

4.0 Quality System:

Referring to the above referenced LIGO Specification Q0900001, Suppliers should include a copy of their current ISO 9001, AS9100, or TS16949 certification in their bid package. Suppliers lacking current certification should send a copy of their Quality Manual with their bid package.

5.0 Parts/Assemblies to be manufactured, Quantity Required, and Inspection requirements:

Note: refer to Section 8.0 for delivery schedule and location

5.1 Parts

Item	Part Number	Rev	Description	Material	Total QTY	Starting Serial Number
1	D0902619	v3	aLIGO_Manifold_Cryo_Baffle_Inner_Segment_Right	18 GAUGE 304 SSTL	4	002
2	D0902620	v3	aLIGO_Manifold_Cryo_Baffle_Radial_Segment, Bottom	18 GAUGE 304 SSTL	4	002
3	D0902621	v3	aLIGO_Manifold_Cryo_Baffle_Bracket	14 GAUGE 304 SSTL	24	007
4	D0902622	v3	aLIGO_Manifold_Cryo_Baffle_Inner_Segment_Left	18 GAUGE 304 SSTL	4	002
5	D0902623	v3	aLIGO_Manifold_Cryo_Baffle_Inner_Segment_Bottom	18 GAUGE 304 SSTL	4	002
6	D1000536	v3	aLIGO_Manifold_Cryo_Baffle_Brace_Brkt	14 GAUGE 304 SSTL	24	007
7	D1000558	v3	aLIGO_Manifold_Cryo_Baffle_Radial_Segment_Left	18 GAUGE 304 SSTL	4	002
8	D1000559	v3	aLIGO_Manifold_Cryo_Baffle_Radial_Segment_Right	18 GAUGE 304 SSTL	4	002
9	D1000570	v3	aLIGO_Manifold_Cryo_Baffle_Cylinder	18 GAUGE 304 SSTL	4	002
10	D1001018	v3	aLIGO_Manifold_Cryo_Baffle_Scraper_Plate	18 GAUGE 304 SSTL	4	002
11	D1001073	v3	aLIGO_Radial_Attachment	14 GAUGE 304 SSTL	12	004
12	D1002849	v3	aLIGO Manifold-Cryo Baffle Weldment Center Brace	14 GAUGE 304 SSTL	12	004
13	D1101501	v1	aLIGO Manifold-Cryo Baffle ,Lower Face Plate, ITM	18 GAUGE 304 SSTL	4	002
14	D1101503-1	v1	aLIGO Manifold-Cryo Baffle, Upper Side Face Plate, ITM	18 GAUGE 304 SSTL	4	002
15	D1101503-2	v1	aLIGO Manifold-Cryo Baffle, Upper Side Face Plate, ITM	18 GAUGE 304 SSTL	4	002

5.2 Assemblies

Item	Part Number	Rev	Description	Total QTY
1	D0902654	v3	aLIGO_Manifold_Cryo_Baffle_Subassembly_Weldment_Right	4
2	D0902655	v3	aLIGO_Manifold_Cryo_Baffle_Weldment Subassy, Bottom	4
3	D0902656	v3	aLIGO_Manifold_Cryo_Baffle_Weldment Subassy, Left	4
4	D1001348	v3	aLIGO_Manifold_Cryo_Baffle_Cyl-Scraper_Assy	4

Note: **AQL = 1.0**, refer to Q1100003 for the AQL table, see link in Section 3.0.

6.0 Manufacturing

6.1 Requirements:

Suppliers must refer to the LIGO Specifications referenced in Section 3 for additional, and in some cases, non-industry standard requirements.

6.2 Sub-Contracted Work:

- LIGO expects that at least 2/3 (by dollar value) of the contracted work be performed by the Supplier named on the Purchase Order. The Supplier shall be responsible for all sub-contracted work.
- The Supplier's quote shall state their intent to sub-contract any welding operations performed on components intended for Vacuum use. If E0900048 is invoked in Section 3, then the component will be used in Vacuum.

6.3 Precedence:

The drawings typically represent the finished part as needed for use in service. There may be requirements on the drawing (such as coatings) which are specifically defined as not the responsibility of the supplier in this SOW. Suppliers shall always contact a LIGO representative to resolve any discrepancies uncertainties in the documentation or instructions.

6.4 Special Instructions:

- All parts shall be shipped as specified in Section 8.0. Shipping containers shall be supplied by the awarded vendor and constructed for multiple uses.
- Selected vendor shall purchase 18 gauge 304 Super #8 Stainless Steel material from approved LIGO supplier.
- Return unused materials to:
LIGO Laboratory
California Institute of Technology
Attn: Lisa C. Austin
MS 100-36
391 S. Holliston Ave.
Pasadena, CA 91125

- Some parts will require electro-polish processing, as specified in drawing. Processing is the responsibility of the awarded vendor. LIGO recommends Cal Tech Plating of San Fernando, CA or another LIGO approved supplier. These parts must be handled with clean gloves after electro-polish process.
- Do not remove PVC layer on 18 gauge 304 Stainless Steel materials. It is expected that PVC will be peeled back to allow for welding.
- All bidders are required to submit weld samples along with their bids.

6.5 Exclusions:

- Supplier is NOT responsible for cleaning except as specified in E0900364 above.
- Supplier is NOT responsible for the oxidation process.

7.0 End Item Data Package:

Before delivery of the parts, the Supplier shall provide the following data, as a minimum:

- Any as-built modifications (with approval of the LIGO Contracting Officer) as mark-ups to the drawings
- Material certifications
- Heat Treat and/or Stress Relief certifications, if applicable
- Electro-polish certifications, if applicable
- Pickle/Passivation certifications, if applicable
- Inspection reports of all dimensional features for the number of parts specified per the AQL number and referenced in the AQL table Q1100003 and any other inspection requirements detailed in Section 5 of this SOW
- Certificate of compliance for each part number stating conformance to contract and drawing requirements

8.0 Delivery Requirements:

8.1 Shipping Containers and Packaging:

The contractor is responsible for providing shipping containers and transportation which protects these parts from damage from the transportation environment (weather, handling, accidents, etc.). Mating edges of parts shall be especially protected from damage during shipping.

8.2 Shipping Destination(s):

The deliveries are FOB at these destinations, i.e. the Supplier has the responsibility for shipping title and control of goods until they are delivered and the transportation has been completed. The contractor selects the carrier and is responsible for the risk of transportation and for filing claims for loss or damage.

- Caltech will determine the ship to location at time of award.
- Shipping terms will be prepay and add.

8.3 Delivery Schedule:

Deliveries are to be completed as specified below. If this cannot be accommodated, please provide an alternative delivery schedule for consideration with your bid package. Early or partial deliveries are welcome.

- Requested delivery - 8 weeks ARO.