1. **Revision Log**

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| Revision Log | | | | | |
| Revision Level | Revision Date | Section | Description | | Revised By |
| REL | 05252016 | ---- | Initial Release | | PZ |
| A | 4/24/19 |  | Mass update, complete re-write to standard | | NT |
| B | 12/15/22 | 5.1.1  5.2 | Added new preferred brand  Added Design Requirements section | | T. Schuberg/T. Cooper/J. Jakus |
| C | 5/23/23 | 5.2.1 | Added images | | J. Jakus/N. Taylor |
| D | 12/1/23 | Header | Replaced GHSP logo with newer version | | B. Balok |
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| Approval: | | CN: RS | | MX: BA | |
| US: JA | | Other (as req’d): | |

1. **Purpose:** 
   1. To define the global standard for the use of Leak Testers in GHSP manufacturing facilities.
2. **Scope:** 
   1. This global standard applies to all GHSP manufacturing facilities.
3. **Definitions:** N/A
4. **References:**
   1. CP-WI-MFG-X301 Global Standard Production Equipment Safety, Ergonomic, and Delivery Checklist
   2. Job Aids (Operating Standards 🡪 Job Aids 🡪8.5-Job-Aids-prod-service 🡪 Global Standards)
5. **Method:**
   1. **Leak Tester Selection**
      1. Preferred Brands

*Selection outside the preferred brand requires approval by the Advanced Process Engineer and Global Standards Team*

* CTS
  + I 28
* Innomatec
  + LTC502
    1. Leak Test Parameters
* Determined by Customer Requirements
  + 1. Communication
* EtherNet/IP
* Digital I/O
  + For pass/fail applications only
  1. **Design Requirements**
     1. Tooling
        + Tooling materials:
          - Steel
          - Aluminum
        + No through holes allowed in tooling except for test port.
        + Test tooling shall be solid pieces.
        + O-ring grooves shall be “dove tail” shaped with the opening being smaller than the O-ring diameter. This is to prevent O-ring from lifting out of the groove when tooling opens. Radius or square cut is not acceptable. (See *Figure 1*)

A picture containing screenshot, design

Description automatically generatedA picture containing screenshot, sky, line, outdoor

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Figure 1 required O-ring groove. Figure 2 O-ring groove cutter

* + 1. System
       - All hoses in the test path shall be steel braded or steel reinforced (like hydraulic line). They cannot be standard pneumatic line.
       - No push lock fittings are acceptable in the test paths.
       - All fittings shall be certified or rated for zero leak for air.
       - All mechanical components shall be certified or rated for zero leak for air.
       - Any accessory valves to switch between flow directions/paths shall be rated for leak testing.
       - CTS offers a separate exhaust valve to prevent contamination of the whole system. This is a requirement to use.
  1. **Setup**
     1. Leak tester control module must be mounted as close to the access point and product being tested as possible.
     2. Must use high pressure rigid line, standard pneumatic airline cannot be used.
  2. **Process Verification**
     1. A known leak master (precision orifice) and a zero leak master must be created and used to verify the Leak Tester is functioning properly.

1. **Records:** N/A