1. **Revision Log**

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| Revision Log | | | | | |
| Revision Level | Revision Date | Section | Description | | Revised By |
| REL | 5/3/17 | ---- | Initial Release | | NT |
| A | 09/24/2019 |  | Mass updates, complete re-write to standard | | NT |
| B | 12/1/23 | Header | Replaced GHSP logo with newer version | | B. Balok |
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| Approval: | | CN: RS,FS | | MX: JH | |
| US: JA | | Other (as req’d): DRW | |

1. **Purpose:** 
   1. To define the global standard for the use of Bowl Feeders within 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
5. **Method:**
   1. **Bowl Feeder Selection**
      1. Preferred Brands

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

* Hoosier
* Performance Feeders
* Carlson
* Atlas
* Desoutter
* Automated Industrial Systems, Inc.
* IKS
* NEG
  + 1. Bowl Feeder Communication Selection

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

* + - * Discrete I/O
    1. Requirements
       - Feeder must be physically attached to main equipment
       - Feeder air and power must come from main equipment
         * Air must be on it’s own valve and controlled by the PLC
       - Recommendation is to have 3 sensors per bowl feeder
         * Bowl: material level low sensor to activate hopper (if using) or signal material handler
         * Track: material level low sensor to activate bowl
         * Escapment Location: part present sensor
       - It is recommended **not** to use air for component orientation
         * If supplier is recommending air, approval from Plant Maufacturing Engineering needed
       - It is recommended **not** to use a remote bolt-on vibration system
         * If supplier is recommending a remote bolt-on vibration system, approval from Plant Maufacturing Engineering needed
       - If feeding screws with a thread patch, contact points of the track/rail should be made to avoid the thread patch
       - If feasible, “self cleaning” track/rails should be used to remove debris before components reach the escapment location.
    2. Preventive Maintance
       - Preventive maintance, including bowl/hopper cleaning, recommendations from the supplier should be entered into the GHSP AM/PM tacking system.
  1. **Ladder Feeders**
     1. Multi-step ladder feeders should be avoided
     2. Single step ladder feeders are recommended, with straight inline feeder rails

1. **Records:** N/A