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