Physical Class Specification

# Document Approval

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| Approved by: |  |  |  |  |  |  |  |  |  |
|  |  | Name |  | Position |  | Signature |  | Date |  |
| Approved by: |  |  |  |  |  |  |  |  |  |
|  |  | Name |  | Position |  | Signature |  | Date |  |

# Revision History

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| **Version** | **Changed by** | **Date** | **Change No.** | **Reason** |



# Index List

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| **Class** | **Description** | **Make** |
|  | M1 Control Panel | N/A |
|  | S1 Control Panel | N/A |
|  | BFS Control Panel | N/A |
| mAGT | Vessel Mixer Agitator | Millipore |
| mASL | Pressure Switch | Festo |
| mBAV1 | Ball Valve 1/2" (actuated) | Meca INOX |
| mBAV2 | Ball Valve 1" (manual) | Meca INOX |
| mBAV3 | Ball Valve 3/4" (actuated) | Meca INOX |
| mBAV4 | Ball Valve 1-1/2" (actuated) | Meca INOX |
| mBAV5 | Ball Valve 2" (actuated) | Meca INOX |
| mBAV6 | Ball Valve 1/2" (manual) | Meca INOX |
| mBAV7 | Ball Valve 2" (manual) | Meca INOX |
| mBV6 | Butterfly Valve 4" (manual) | KSB AMRI |
| mBV7 | Butterfly Valve 4" (actuated) | KSB AMRI |
| mCOUP | Hansen Couplings | Eaton |
| mCV | Pneumatic Control Valve | Samson |
| mDV | Shutoff valve for 1 inch pipe, triclamp, normally-open stainless steel actuator | Millipore |
| mDV1 | Shutoff valve for 1 inch pipe, triclamp, normally-closed plastic actuator | Millipore |
| mDV14 | Provided by Rieckermann Thailand (Manual Valve) |  |
| mDV2 | Shutoff valve for 1.5 inch pipe, triclamp, normally-closed plastic actuator | Millipore |
| mDV3 | Shutoff valve for 2 inch pipe, triclamp, normally-closed plastic actuator (EPDM seat) | Millipore |
| mDV4 | Tank outlet valve for 2 inch, buttweld, normally-closed plastic actuator | Millipore |
| mDV5 | Provided by Rieckermann Thailand (Actuated Valve) |  |
| mDV6 | Shutoff valve for 2 inch pipe, triclamp, normally-closed plastic actuator (PTFE seat) | Millipore |
| mDV7 | Shutoff valve for 1 inch pipe, triclamp, manual valve | Millipore |
| mESTOP | Emergency Stop | IDEC |
| mESTOP1 | Emergency Stop | IDEC |
| mFILT | Vent Filter Housing Vent Filter Element | Millipore |
| mFILT1 | Compressed Air Filter | Milipore |
| mFILT2 | Filter Press | TBA by RT |
| mFILT3 | Pre-Filter Housing Pre-Filter Element | Milipore |
| mFILT4 | Sterile Filter Housing Sterile Filter Element | Milipore |
| mFILT5 | Vacuum Pump Moisture Trap - not ordered yet |  |
| mFXH | 2" Flexible Hose for PW/WFI/PS Vessel Inlet (Hansen Coupling) | Dockweiler |
| mFXH1 | 2" Flexible Hose for Mixing Vessel Outlet (Ferrule Clamp) | Dockweiler |
| mFXH2 | 1" Flexible Hose (Ferrule Clamp) | Dockweiler |
| mGV | Gate Valve 4" (manual) | VMXZ4 (Dancomech) |
| mHE | Vent Filter Heating Element | Millipore |
| mHEX | Heat Exchanger | Allegheny Bradford Corporation |
| mHMI | TP1900 Comfort INOX Touch Screen HMI | Siemens |
| mLAF | Laminar Flow Cabinet | Esco |
| mLC1 | Load Cells | Mettler Toledo |
| mMx | Mixing Vessel | Pharmafood Engineering |
| mPB | Push Button | Schneider |
| mPC | Batch PC | HP |
| mPG | Pressure gauge | Milipore |
| mPROX | Proximity sensor | ifm electronic gmbh |
| mPROX1 | Proximity sensor | ifm electronic gmbh |
| mPRT | Batch Report Printer | HP |
| mPRV | Pressure Regulating Valve | Parker |
| mPT | Pressure Indicating Transmitter | Endress+Hauser |
| mRD | Bursting disc | Fike |
| mSB | Spray ball | Aerre Inox |
| mSG | Sight Glass Vessel Luminare - w Light fitting | Max Muller AG |
| mSOL | SMS1 remote solenoid valve and digital input station | Festo |
| mSSP | Signal splitter | Amelec |
| mST | Steam trap | Spirax Sarco |
| mSy | Storage Vessel | Pharmafood Engineering |
| mT | Temperature probe c/w transmitter (with 35 mm neck) | Endress+Hauser |
| mT1 | Temperature probe c/w transmitter (with 35 mm neck) | Endress+Hauser |
| mT2 | Temperature probe c/w transmitter (with 35 mm neck) | Endress+Hauser |
| mTI | Temperature probe with Thermowell (Thermowell fabricated by JJK) | Endress+Hauser |
| mTT | Temperature Transmitter of Heating Jacket | Milipore |
| mTT1 | Temperature Transmitter with Hygienic Thermowell | Endress+Hauser |
| mUPS | Un-interruptible Power Supply | APC by Schneider Electric |
| mVP | Vacuum pump | Elmo Rietschle |