DIVISION 15 - MECHANICAL

Section 15480 - Plumbing Special Systems

Introduction

Special plumbing systems including:

LABORATORY WATER SYSTEMS, MEDICAL GAS SYSTEMS, COMPRESSED AIR SYSTEMS, VACUUM SYSTEMS

Part 1 - General

- Refer to section 15990 For testing requirements

Part 2 - Products

- Pipe Schedule

Service	Size	Pipe	Fittings	Joints
Laboratory RO water	All	Schedule 80 PVC	Schedule 80 PVC	Solvent Welded
High Purity Water	All	Polypropylene Type 1 Schedule 80	Polypropylene Type 1 Schedule 80	Fusion Weld Mechanical Joint
Medical Gas	All	Copper Type “L” Oxygen Grade	Wrought Copper	15%silver Solder
Compressed Air	All	Copper Type “L”	Wrought Copper	Less Than 0.2% Lead Alloy Solder
Lab Vacuum	All	Copper Type “L”	Wrought Copper or Cast Brass	Less Than 0.2% Lead Alloy Solder
Specialty Gases	All	Review with User for requirements and discuss with PD&C		

- Laboratory High Purity Water Systems
    - Utilize campus-wide RO water system where available with local filtration purifiers where required by user.
    - Where building wide high purity water is required, utilize a complete system by a single manufacturer to ensure a single point of responsibility.
    - Piping system shall be Schedule 80 PVC solvent welded for campus-wide RO system.
    - No tapered connectors shall be utilized on faucets.
    - Sterilize system before handover to U of A.

- Compressed Air Systems shall be/provided with:
    - Oil-less compression for medical application.
    - Automatic drain valve c/w isolation valve.
    - Air dryer with air dryer bypass valve (if required).
    - Conditioned inlet air preferred.
    - Filter inlet.
    - Oil and moisture separators.

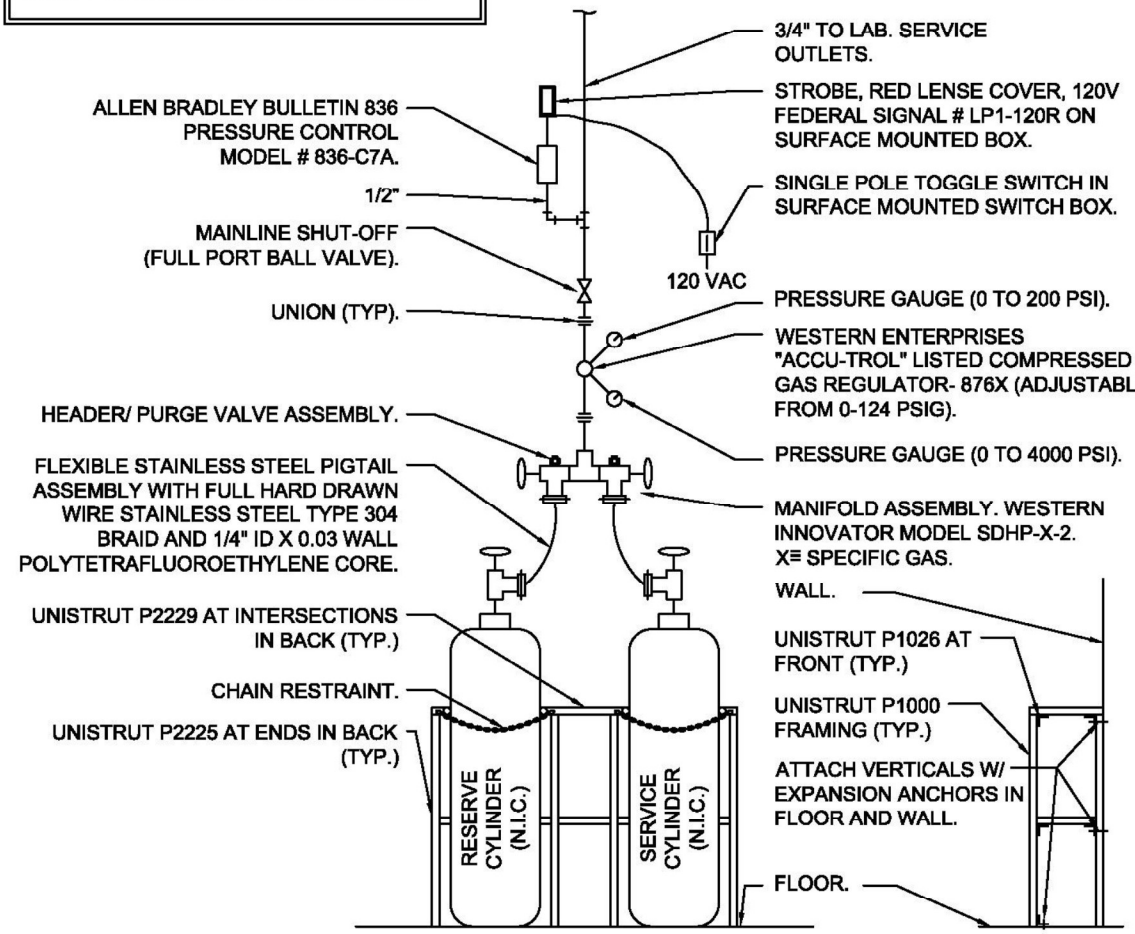
Part 3 - Execution

- Workmanship
    - System Cleaning - fill laboratory water systems and hold water for 24 hours prior to flush. Flush clean 3 times.

- All vacuum pumps must be vented to the exterior of the building.
- Vacuum pump tanks must be drained to waste container.
- Provide bypass around filter assembly for servicing.
- Purge medical gas systems with nitrogen during soldering.

SPECIAL GASES MANIFOLD DIAGRAM

NOTE:
RACK PIPING MANIFOLD/ HEADER ASSEMBLY & COMPONENTS ON WALL W/ UNISTRUT.



NOTE:
PRESSURE SWITCH/ CONTROL SHALL ENERGIZE STROBE WHEN MAIN LINE PRESSURE IS 15 PSIG LESS THAN SYSTEM DISCHARGE (SETTING) AT PRESSURE REGULATOR.

NOTE:
WALL MOUNTED CYLINDER BRACKET SIMILAR TO GRAINGER SERIES 4ZH MAY BE USED INSTEAD OF UNISTRUT SUPPORT WITH USER'S PERMISSION.

SERVICE SCHEDULE

SERVICE	PIPE SIZE	PRESSURE
ARGON	3/4"	80 PSI
HELIUM	3/4"	80 PSI
NITROGEN	3/4"	80 PSI

DRAWING 15480

UNIVERSITY OF ARIZONA
MANUAL OF DESIGN SPECIFICATION STANDARDS

STANDARD DETAIL:
SPECIAL GASES MANIFOLD DIAGRAM

DRAWN BY: KML	DETAIL NO.	REVISIONS
APPROVED BY: S. H.	15480-D1	
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End of Section 15480