

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

<u>Service</u>	<u>Size</u>	<u>Pipe</u>	<u>Fittings</u>	<u>Joints</u>
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.

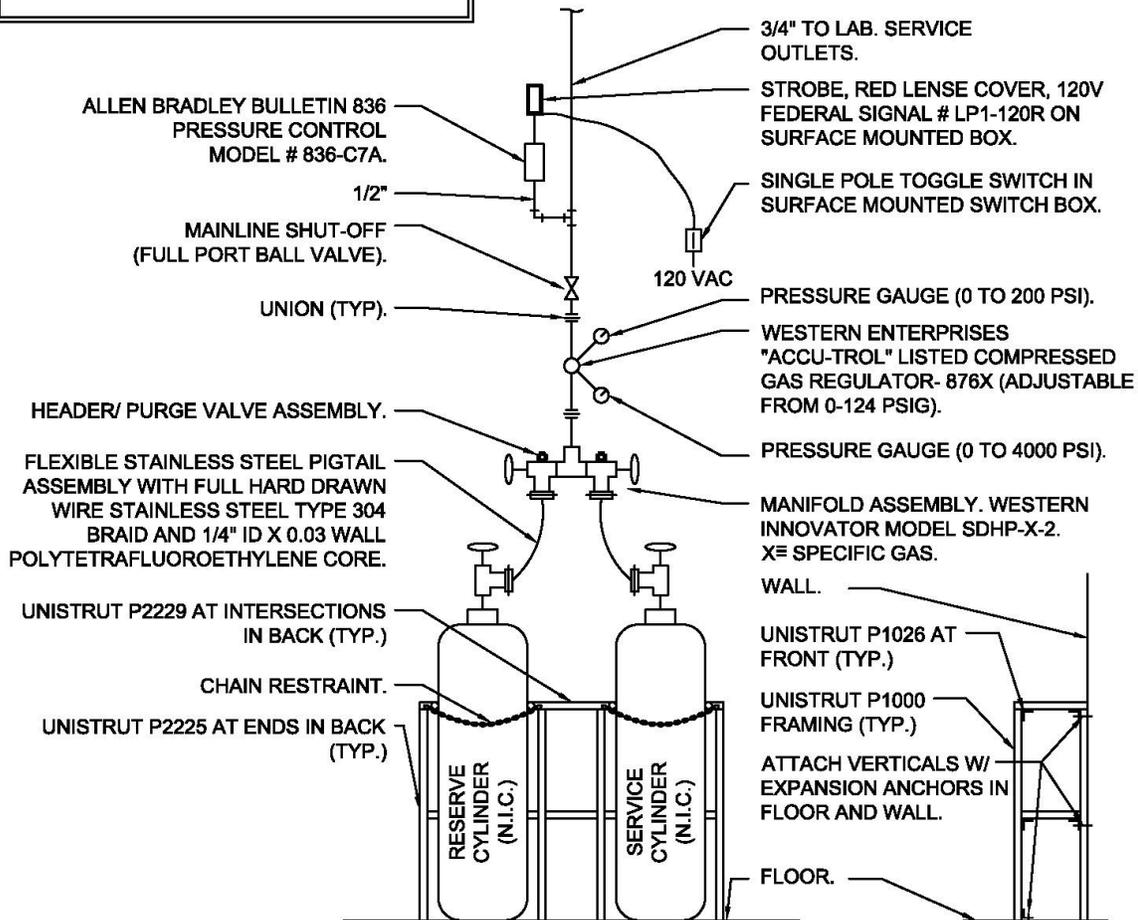
Part 3 - Execution

- 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.

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

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

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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