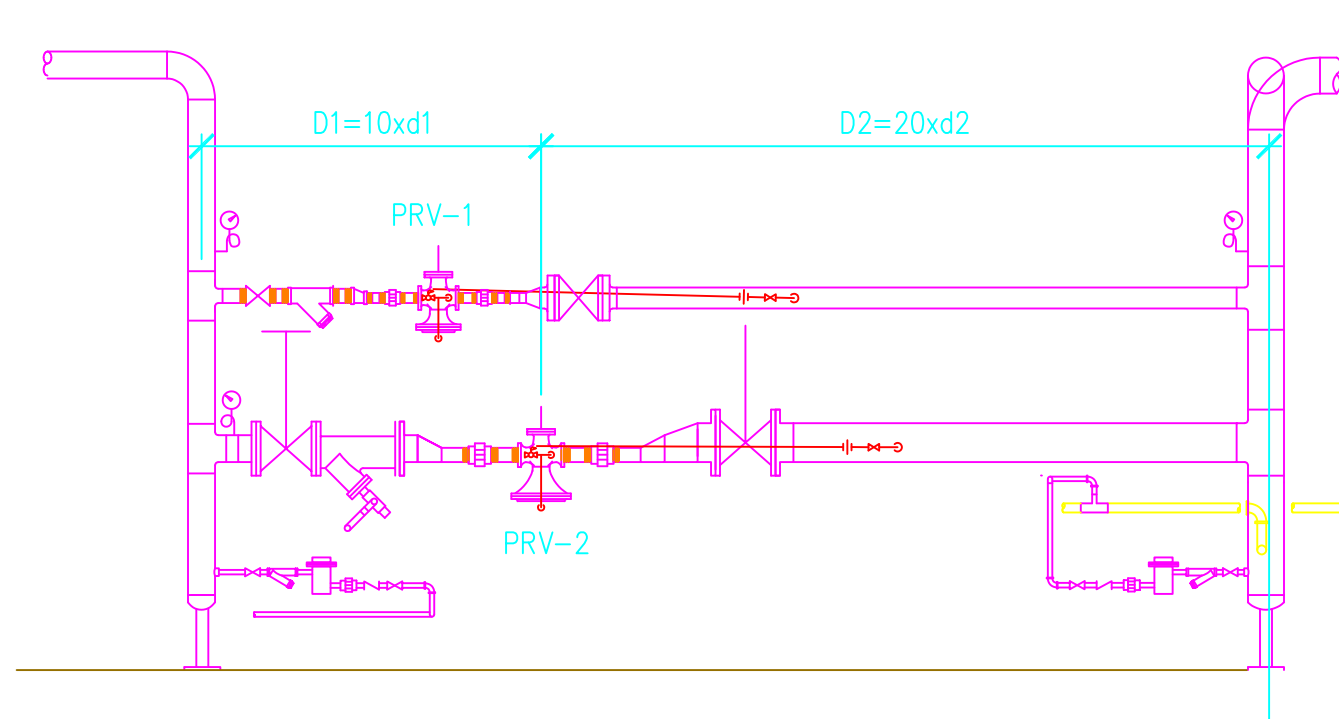


HIGH PRESSURE STEAM PIPING MAX. FLOWS

PIPE SIZE	60 PSIG (PPH)
1 1/4"φ	641
1 1/2"φ	872
2"φ	1437
2 1/2"φ	2050
3"φ	3166
4"φ	5451
6"φ	12372
8"φ	21423



LOW PRESSURE STEAM PIPING MAX. FLOWS

PIPE SIZE	> 15 PSIG (PPH)
1 1/4"φ	269
1 1/2"φ	367
2"φ	604
2 1/2"φ	862
3"φ	1331
4"φ	2293
6"φ	5203
8"φ	9010

PRESSURE REDUCING STATION Notes

- Keynotes on drawing
- HIGH PRESSURE STEAM SUPPLY PIPE SIZING IS BASED ON MAX. VELOCITY OF 6000 FPM.
 - LOW PRESSURE STEAM SUPPLY PIPE SIZE IS BASED ON A MAX. VELOCITY OF 6000 FPM.
 - PRESSURE REDUCING STATION TABLE IS BASED SPENCE TYPE E, FULL PORT VALVE SELECTIONS. PRV-1 SIZES AND FLOWS ARE THE 1/3 STEAMFLOW SELECTION. PRV-2 IS SELECTED TO BEST MATCH THE 2/3 FLOW.
 - D1 IS THE CRITICAL DIMENSION IN THE PRV LAYOUT. IF THERE IS INSUFFICIENT ROOM, D2 MAY BE REDUCED BUT, SHOULD NOT BE LESS THAN 10 X d2.
 - STRAINERS SHALL BE PLACED IN THE PIPING IN HORIZONTAL POSITION TO MINIMIZE CONDENSATE RETENTION.
 - SAFETY VALVES SHALL BE SIZED FOR FULL FLOW FAILURE OF BOTH PRVs. SAFETY VALVE SET PRESSURE SHALL BE 18 PSIG.

PRV STATION SIZING BASED ON SPENCE, TYPE E FULL PORT VALVES (ENGINEERING DATA)

STEAM FLOW	HP STEAM HEADER	PRV-1 1/3 STEAMFLOW (UP TO X PPH)	PIPE SIZE d1	PRV-1 SIZE	PIPE SIZE d2	PRV-2 2/3 STEAMFLOW (UP TO X PPH)	PIPE SIZE d1	PRV-2 SIZE	PIPE SIZE d2	LOW PRESSURE STEAM HEADER
930	2"φ	310	1 1/4"φ	1/2"φ	2"φ	620	1 1/2"φ	3/4"φ	2 1/2"φ	3"φ
1800	2 1/2"φ	600	1 1/2"φ	3/4"φ	2 1/2"φ	1200	2"φ	1 1/4"φ	3"φ	4"φ
2925	4"φ	975	2"φ	1"φ	3"φ	1950	2 1/2"φ	1 1/2"φ	4"φ	6"φ
4680	4"φ	1560	2 1/2"φ	1 1/4"φ	4"φ	3120	4"φ	2"φ	6"φ	6"φ
6570	6"φ	2190	3"φ	1 1/2"φ	6"φ	4380	4"φ	2 1/2"φ	6"φ	8"φ
10290	6"φ	3430	4"φ	2"φ	6"φ	6860	6"φ	3"φ	6"φ	10"φ
14610	8"φ	4870	4"φ	2 1/2"φ	6"φ	9740	6"φ	4"φ	8"φ	10"φ

PRV SCHEDULE (SAMPLE)

TOTAL STEAM FLOW	MARK	MFR & MODEL #	STEAM FLOW (PPH)	INLET PRES. (PSIG)	OUTLET PRES. (PSIG)	SIZE (IN.)	CLASS (PSIG)	Cv	DIMS. D1	DIMS. D2	COMMENTS
5000	PRV-1	SPNCE TYPE E	1667	50	15	1 1/2"φ	250	19.8	30	120	
	PRV-2	SPENCE TYPE E	3333	50	15	2 1/2"φ	250	44.0	40	120	

1/1/2014

DWN BY: LS CKD BY: LS

DESIGN GUIDES
STEAM SYSTEM ENGINEERING
STEAM PRESSURE REDUCING VALVES

MAINTENANCE
CAMPUS FACILITIES
UNIVERSITY OF MISSOURI-COLUMBIA



PROJECT NUMBER

SHEET