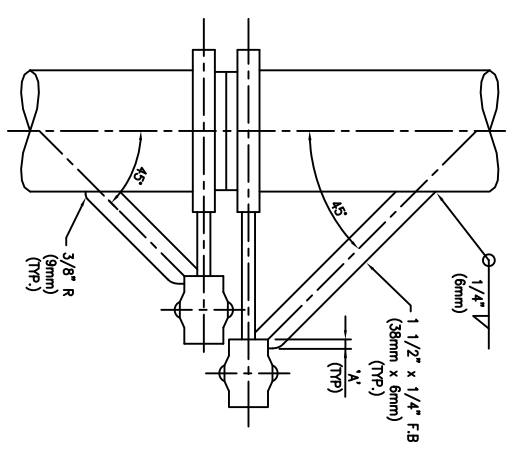
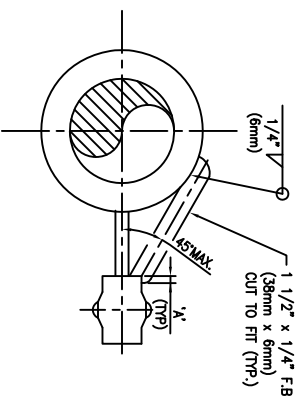


DETAIL 1  
3" AND LARGER HEADER

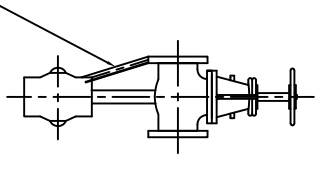


VERTICAL INSTALLATION

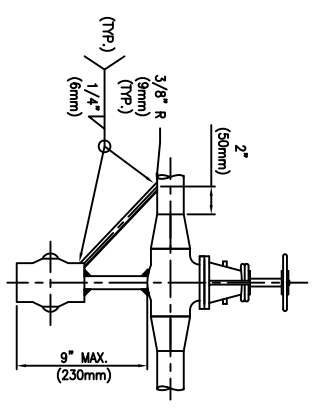


HORIZONTAL INSTALLATION

DETAIL 3  
GUSSETING FOR ORFICE TAP CONNECTIONS

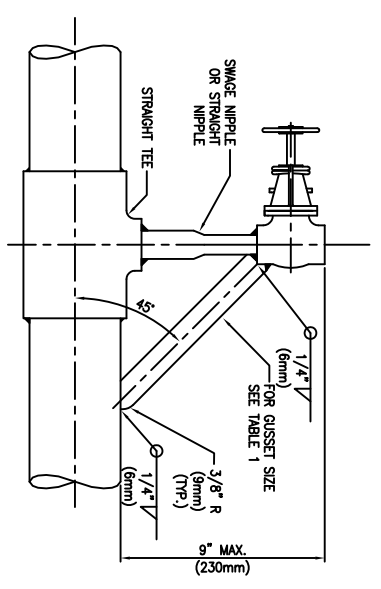


FLANGED VALVE

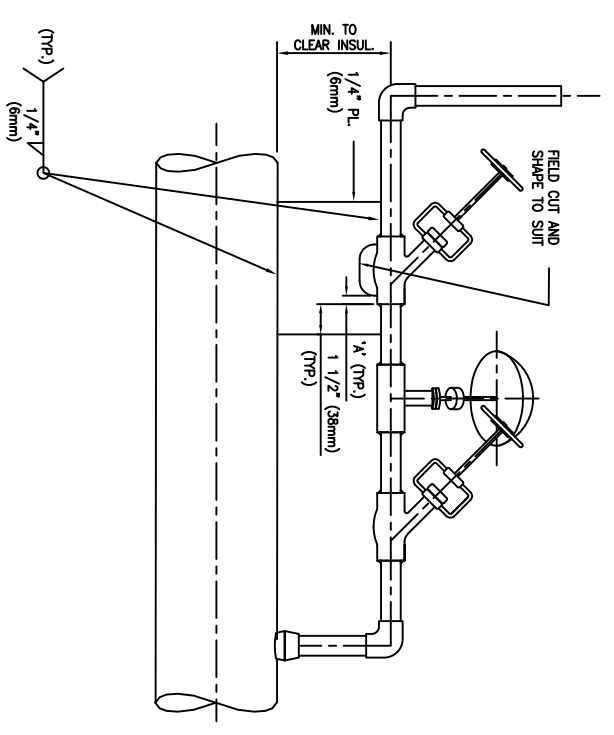


BUTTWELD VALVE

DETAIL 4  
VALVE TAP CONNECTION GUSSETING



DETAIL 2  
2" AND SMALLER HEADER



DETAIL 5  
GUSSETING OF DOUBLE BLOCK VALVES

NOTES

1. THIS STANDARD DRAWING COVERS THE GUSSETING OF SMALL DIAMETER BRANCHES 2" OR LESS REQUIRED FOR VIBRATION. GUSSETING SHALL ONLY BE USED ON LINES THAT ARE NOTED ON THE PAD AS BEING IN "VIBRATING SERVICE" OR WHERE THERE IS A PROJECT JOB NOTE THAT THAT GUSSETING IS REQUIRED IN SPECIFIC SITUATIONS.
2. GUSSETING MATERIAL SHALL BE CS FOR CS AND ALLOY LINES OPERATING BELOW 800°F. FOR ALLOY LINES OPERATING ABOVE 800°F. THE GUSSET MATERIAL SHALL BE THE SAME AS THE PIPING MATERIAL. GUSSETING MATERIAL FOR ALL SS LINES SHALL BE TYPE 304.
3. GUSSET INSTALLATIONS MAY BE AVOIDED BY SUBSTITUTING A NIPPLET.
4. ALL ORFICE TAP CONNECTIONS SHALL BE GUSSETED SEE DETAIL #3.
5. ALL THREADED CONNECTIONS SHALL BE SEAL WELDED PRIOR TO GUSSETING.
6. FOR FLANGED BRANCHES GUSSETS IN SOME VIBRATION AND MECHANICAL STRENGTH SERVICE MAY BE AVOIDED BY THE USE OF LONG WNF FLANGE.
7. WHEN GUSSETING SMALL BORE FLANGED VALVES, THE GUSSET SHALL BE WELDED TO THE PIPING FLANGE.
8. HEAT SENSITIVE VALVE INTERVALS MUST BE REMOVED PRIOR TO GUSSET WELDING.

TABLE 1

VALVE SIZE	* 1/4" MAX	GUSSET SIZE
1/2"	1/2" (12mm)	1 1/2" x 1/4" (38mm x 6mm) F.B.
3/4"	1/2" (12mm)	1 1/2" x 1/4" (38mm x 6mm) F.B.
1"	3/4" (19mm)	1 1/2" x 1/4" (38mm x 6mm) F.B.
1 1/2"	3/4" (19mm)	2 x 1/4" (50mm x 6mm) F.B.

DRAWING NO.	REFERENCE DRAWINGS	ENGINEER STAMP & PERMIT	REV.	ISSUED FOR CONSTRUCTION	DESCRIPTION	BY	DATE	CHK	APP.	CLIENT	CLIENT BY:	DATE	TITLE	SCALE	JOB NO.	DRAWING NO.	REV.
			0								TA	10/08/09	PIPING STANDARD DETAILS	N.T.S.		PSD-0017	0
											AP	10/06/09	GUSSETING OF 1 1/2" & SMALLER BRANCHES				
											AP	10/06/09					