PROJECTION FOR WELDED ON FITTING - FULL SIZES & REDUCING SIZES

MINIMUM LENGTH OF RUN - ALL O-LETS & STUB - INS
WITHOUT REINFORCING & MINIMUM BRANCH OF STUB - INS
(USING 150# FLG &300# FLG)

MINIMUM LENGTH OF RUN REQUIRED FOR REINFORCED STUB - INS
MINIMUM DIMENSIONS OF RUN AND BRANCH FOR REINFORCED AND
UNREINFORCED 45" BRANCH CONNECTIONS

DEVIATION OF DIMENSIONS

1. Dimensions for all O-lets are derived using Bonny Forge Fittings and all values include root-gap.

2. Dimensions of all flanges are as follows:

   $^1/_2$" thru 24" : ANSI B16.5 (1977)
   26" thru 60" : MSS-SP-44 (1975)

3. Source of dimensions on sheet 6 is Crane welding fittings. Forced flanges (1967 page 61). Dimensions are in mm and are sufficient to permit the use of slip-on flanges.

4. If the branch and run diameters fall into the size range of available tees and reducing tees and are specified in branch connection table of line class, do not use this table. Use ANSI B.16.9 (1971) dimensions. If the branch and run diameters do not fall into the size range of available tees and reducing tees as given in ANSI B.16.9 (1971) use this table.

DIMENSIONS 'L' FOR WELDED-ON FITTINGS-FULL SIZES

TABLE 1

NOM. DIA. WELDED ON FITTING	WELDOLET			SOCKOLET	THREADOLET
	STD.WT.	XS	SCH.160 / XXS	3000 #	3000 #
1/4	-	-	-	-	-
1/2	21	21	30	27	27
3/4	24	24	33	29	29
1	29	29	40	35	35
1-1/2	35	33	52	37	37
2	40	40	57	40	40
2-1/2	44	44	65	43	49
3	48	48	76	48	54
4	54	54	87	51	60
6	64	81	108		
8	75	103			
10	83	94			
12	90	105			
14	94	110			
16	98	117			
18	108	124			
20	122	132			
24	141	144			

EXAMPLE: Find center to end of branch projection and min. length of run for a 4" Wt. Weldolet branch on 4" Header when in-spec flange is 150". From table 1 dimension "L" = 54 plus 1/2 actual O.D. of pipe = 57, projection = 111. Min. run length from table 4 = 279.
NOTE: Dimension "L" includes root gap.

DIMENSIONS 'L' FOR WELDED-ON FITTINGS-REDUCING SIZES

TABLE 2

NOM. DIA. WELDED ON FITTING	WELDOLET			SOCKOLET		THREADOLET	
	STD.WT.	XS	XXS	3000 #	6000 #	3000 #	6000 #
1/4	17	17	-	21	-	21	30
1/2	21	21	30	27	33	27	33
3/4	27	24	33	29	38	28	38
1	29	29	40	35	41	35	41
1-1/2	35	35	52	37	44	37	44
2	40	40	57	40	54	40	54
2-1/2	44	44	65	43		49	
3	48	48	76	48		54	
4	54	54	87	51		60	
6	64	81	108				
8	75	103					
10	83	98					
12	90	108					
14	94	105					
16	98	111					
18	102	116					
20	106	124					
24	121	144					

EXAMPLE: Find center to end of branch projection and min. length of run for a 3/4" x 14" 6000 sockolet. From table 2 dimension "L" = 38; plus 1/2 actual O.D. of pipe = 178, projection would be equal to 216; min. length of run from table 4 = 149.(in-spec flange is 150 #)

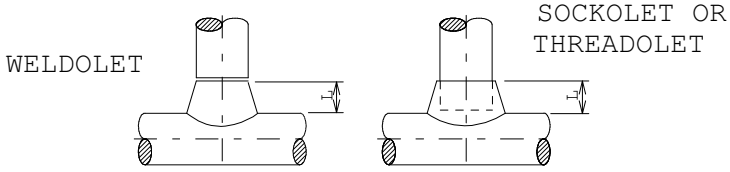
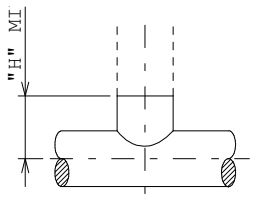


TABLE 3 - MINIMUM BRANCH PROJECTION OF STUB-INS UNREINFORCED (USING 150 # & 300 # FLG. DIMENSIONS)

HEADER NOM. DIA.	BRANCH PROJECTION FULL SIZE DIM.H 150 #	300 #
1/4 TO 3/4	75	84
1 TO 1-1/2	89	103
2	102	108
2-1/2	114	121
3	121	130
4	140	152
6	165	184
8	197	216
10	229	248
12	267	286
14	292	318
16	324	349
18	343	381
20	375	413
24	432	483

HEADER NOM. DIA.	BRANCH PROJECTION FULL SIZE DIM.H 150 #	300 #
26	460	511
28	489	543
30	518	572
32	556	600
34	581	629
36	610	660
38	645	610
40	670	645
42	699	670
44	727	702
46	752	733
48	781	759
50	810	791
52	838	816
54	867	854
60	953	930



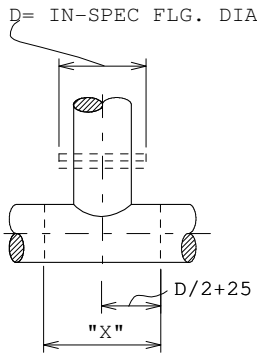
NOTE:

FOR PROJECTION OF BRANCHES LESS THAN HEADER SIZE USE DIMENSION "H" FOR FULL SIZE BRANCH MINUS 25.

TABLE 4 - DIMENSION “X” MINIMUM RUN LENGTH CONNECTION O’LETS & UNREINFORCED STUB-IN

BRANCH NOM. DIA.	150 #	300 #
1/4 TO 3/4	149	168
1 TO 1-1/2	178	206
2	203	216
2-1/2	229	241
3	241	260
4	279	305
6	330	368
8	394	432
10	457	495
12	533	572
14	584	635
16	648	699
18	686	762
20	749	826
24	864	965

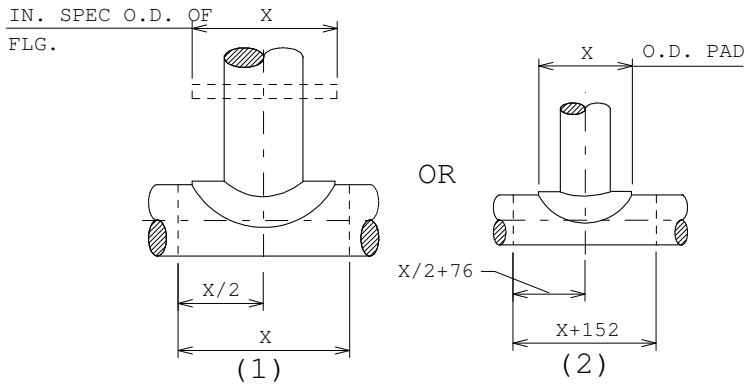
BRANCH NOM. DIA.	150 #	300 #
26	921	1022
28	921	1086
30	1035	1143
32	1111	1200
34	1162	1257
36	1219	1321
38	1289	1219
40	1340	1289
42	1397	1340
44	1454	1403
46	1505	1467
48	1562	1518
50	1619	1581
52	1676	1632
54	1734	1708
60	1905	1861



MIN. LENGTH OF RUN REQUIRED FOR REINFORCED STUB - INS

1. When reinforced stub-in is required the minimum length of run will be the larger dimension of (1) the O.D. of the in- spec flange of the branch size or (2) the diameter of the reinforcing pad for the branch plus 152.

SINGLE BRANCH - REINFORCED

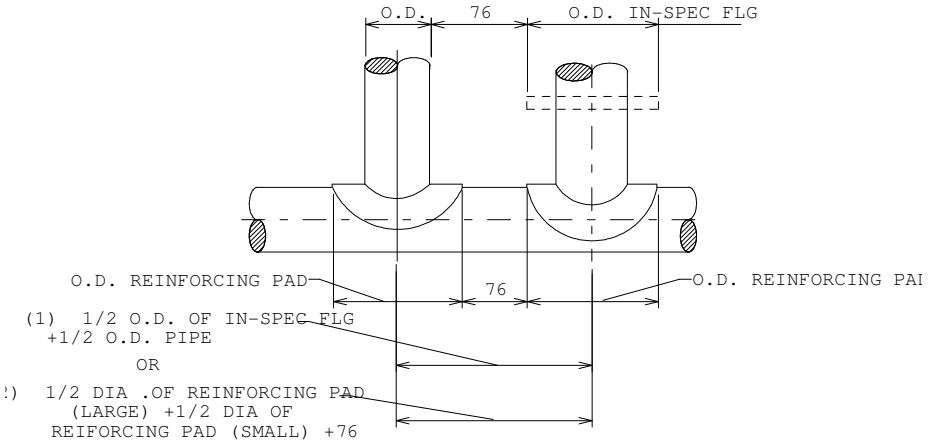


1) or (2) whichever is larger.

MIN. END TO CENTERLINE DIMENSION REQUIRED BETWEEN REINFORCED STUB - INS

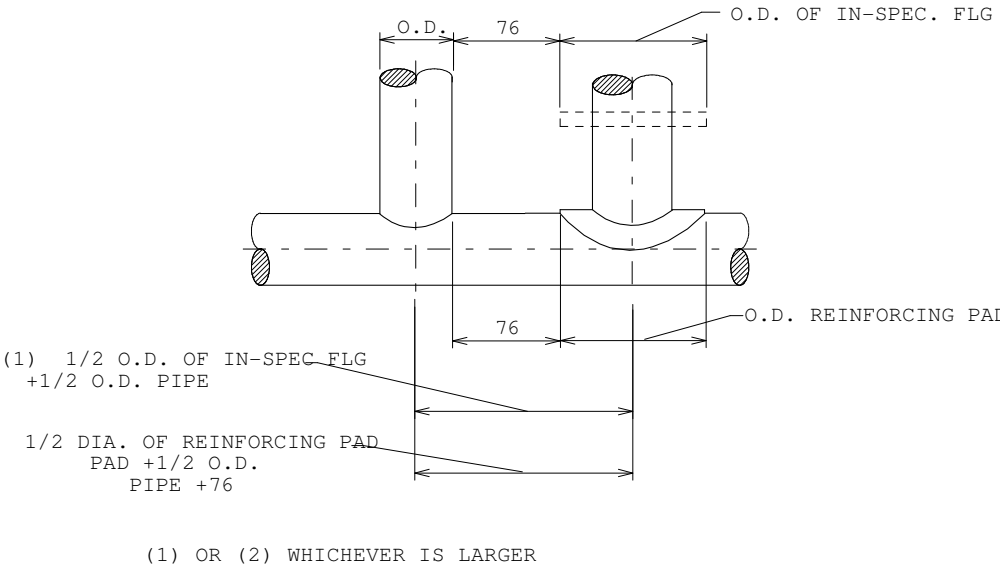
1. When reinforced stub-ins are required for two adjacent branches in the same plane use the larger dimension of [(1) 1/2 O.D. of the in- spec flange of the larger branch plus 1/2 pipe O.D. of the smaller branch or (2) 1/2 diameter of reinforcing pad of larger branch plus 1/2 diameter of reinforcing pad of smaller branch] plus 76. If both branches are same size use similar procedure.

ADJACENT BRANCHES - BOTH REINFORCED



(1) OR (2) WHICHEVER IS LARGER

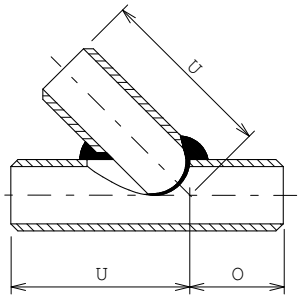
2. When reinforced stub-in is required on one of two adjacent stub-in branches use the larger dimension of [(1) 1/2 diameter of the in- spec flange of the reinforced branch plus 1/2 pipe O.D. of the unreinforced branch or (2) 1/2 diameter of reinforcing pad of the reinforced branch plus 1/2 pipe O.D.of the unreinforced branch] plus 76.



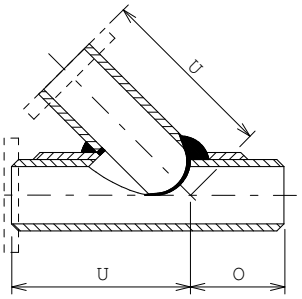
(1) OR (2) WHICHEVER IS LARGER

3. If slip-on flange is welded to run pipe, add it's thickness including the hub to pipe run.

DIMENSIONS OF 45° BRANCH CONNECTIONS



UNREINFORCED



REINFORCED

NOM. PIPE SIZE OF RUN	CENTER TO END DIMENSIONS	
	O	U
1	64	165
1-1/4	70	178
1-1/2	76	203
2	102	216
2-1/2	114	254
3	127	279
3-1/2	140	305
4	152	330
5	178	368
6	203	419
8	254	508
10	305	584
12	330	686
14	356	762
16	406	838
18	432	914
20	457	1016
24	508	1168