Nutrien		Fort Saskatchewan Nitrogen Operations PIPING MATERIAL SPECIFICATION		
SERVICE	STEAM, BFW, BOILER PIPING	INSPECTION	CLASS II PER TECH STD P8-1T	rs
CORROSION ALLOWANCE	1.65 MILLIMETERS 0.065 INCHES	BUTTWELD CONSTRUCTI	ON IV PER TECH P4-6TS	
TEMP LIMIT	593 °C (1099.4) °F M ₽		ASME B16.5 CLASS 900, RF	
PRESSURE	SEE PT RATING TABLE	MATERIAL STRESS RELIE	1.25CR-S/EFW	
COLOR	1			
VALVE TRIM	FULL H.F.	ASME STAND	DARD B31.1 (2022)	
FLUID CATEGORY				

Item	Notes	Size (NPS)	Sch/Rating	Ends	Description	COMM CODE	REV
PIPE	222							
		1/2 -	3	160	PE	1-1/4CR-1/2MO,SMLS,ASME SA335-P11	DQ1001	2
		4 -	8	120	PE	1-1/4CR-1/2MO,SMLS,ASME SA335-P11	DQ1001	2
		10 -	10	140	PE	1-1/4CR-1/2MO,SMLS,ASME SA335-P11	DQ1001	2
		12 -	24	CALC	PE	1-1/4CR-1/2MO,SMLS,ASME SA335-P11	DQ1001	2
		26 -	48	CALC	PE	1-1/4CR-1/2MO,EFW,ASME SA691 1-1/4CR,CL. 13	DQ1103	2
							,	
NIPPLES								
IN-LINE		1/2 -	2	160	PE	1-1/4CR-1/2MO,SMLS,ASME SA335-P11	DQ1301	2
BRANCH		1/2 -	2	160	PE	1-1/4CR-1/2MO,SMLS,ASME SA335-P11	DQ1301*	2
SWAGE (CONC)	875	1/2 -	2	160	PE	1-1/4CR-1/2MO,ASME SA234-WP11-S,MSS SP-95	DQ1603	2
SWAGE (ECC)	875	1/2 -	2	160	PE	1-1/4CR-1/2MO,ASME SA234-WP11-S,MSS SP-95	DQ1604	2
IN-LINE	311, 935	1/2 -	2	XXS	TE	1-1/4CR-1/2MO,SMLS,ASME SA335-P11	DQ1301	2
BRANCH	311, 935	1/2 -	2	XXS	TE	1-1/4CR-1/2MO,SMLS,ASME SA335-P11	DQ1301*	2
SWAGE (CONC)	311, 875,	1/2 -	2	XXS	TE	1-1/4CR-1/2MO,ASME SA234-WP11-S,MSS SP-95	DQ1603	2
	935							
SWAGE (ECC)	1	1/2 -	2	XXS	TE	1-1/4CR-1/2MO,ASME SA234-WP11-S,MSS SP-95	DQ1604	2
1 ' '	935	-/-				1 2, 161 2, 211 6, 161 2 6, 125 1 11 22 6,111 65 61 65		_
	333							
FITTINGS	223							
SOCKOLET		1/2 -	2	3000	WELD	1-1/4CR-1/2MO,ASME SA182-F11,FLAT TYPE	DQ3907	2
90 ELL		1/2 -	2	3000	socw	1-1/4CR-1/2MO,ASME SA182-F11,ASME B16.11	DQ4001	2
45 ELL		1/2 -	2	3000	SOCW	1-1/4CR-1/2MO,ASME SA182-F11,ASME,B16.11	DQ4002	2
TEE		1/2 -	2	3000	SOCW	1-1/4CR-1/2MO,ASME SA182-F11,ASME,B16.11	DQ4003	2
TEE (RED)		1/2 -	2	3000	SOCW	1-1/4CR-1/2MO,ASME SA182-F11,ASME,B16.11	DQ4003*	2
	311, 935	1/2 -	2	3000	THRD	1-1/4CR-1/2MO,ASME SA182-F11,ROUND HEAD,ASME B16.11	DQ5001	2
COUPLING	,	1/2 -	2	3000	SOCW	1-1/4CR-1/2MO,ASME SA182-F11,ASME,B16.11	DQ4005	2
COUPLING (RED)		1/2 -	2	3000	SOCW	1-1/4CR-1/2MO,ASME SA182-F11,ASME,B16.11	DQ4005*	2
COUPLING	311 935	1/2 -	2	6000	THRD	1-1/4CR-1/2MO,ASME SA182-F11,ASME B16.11	DQ5205	2
COUPLING (RED)		1/2 -	2	6000	THRD	1-1/4CR-1/2MO,ASME SA182-F11,ASME B16.11	DQ5205*	2
CAP	333	1/2 -	2	3000	SOCW	1-1/4CR-1/2MO,ASME SA182-F11,ASME,B16.11	DQ4007	2
	311, 935	1/2 -	2	6000	THRD	1-1/4CR-1/2MO,ASME SA182-F11,ASME B16.11	DQ5207	2
REDUCING INSERT	333	1/2 -	2	3000	SOCW	1-1/4CR-1/2MO,ASME SA182-F11,MSS SP-79	DQ4009	2
UNION-X	l _{KK}	1/2 -	2	3000		UNIONS NOT PERMITTED (USE FLANGES)	DQ401X	-
SOCKOLET		1/2 -	48	3000	WELD	11-1/4CR-1/2MO.ASME SA182-F11	DQ3902	2
THREADOLET	304 311	1/2 -	48	3000	WELD	1-1/4CR-1/2MO,ASME SA182-F11	DQ3903	2
Time, to deet	935	-/-	-10	3000	WELD	1 1/461(1/21010), 13012 3/1102 111	DQ3303	~
SW LATROLET	955	1/2 -	48	3000	WELD	1-1/4CR-1/2MO,ASME SA182-F11	DQ3914	2
THRD LATROLET	304 311	1/2 -	48	3000	WELD	1-1/4CR-1/2MO,ASME SA182-F11 1-1/4CR-1/2MO,ASME SA182-F11	DQ3914 DQ3918	2
I IIIIO LATINOLET	935	*/	+0	3000	VVLLD	1 1/ TON 1/ 21910, MOIVIE OMIOZ 1 11	243316	
SW ELBOLET	935	1/2 -	48	3000	WELD	1-1/4CR-1/2MO,ASME SA182-F11	DQ3913	2
THRD ELBOLET	204 211	1/2 -	46 48	3000	WELD	1-1/4CR-1/2MO,ASME SA102-F11 1-1/4CR-1/2MO,ASME SA182-F11	DQ3913 DQ3917	2
I LIND ELBOLE		1/2 -	40	3000	WELD	1-1/4CN-1/2IVIO,M3IVIE 3M102-F11	DQ391/	
COLID DAD SULIC	935	2/4	2/4		COCK	1 1/4CD 1/2MO ACME CA102 F11 DOUND TYPE ACME B15 11	DO4313	,
SOLID BAR PLUG		3/4 -	3/4		SOCW	1-1/4CR-1/2MO,ASME SA182-F11,ROUND TYPE,ASME B16.11	DQ4213	2
WELDOLET	8//	1½ -	4		WELD	1-1/4CR-1/2MO,ASME SA182-F11,FLAT TYPE	DQ3906	2
REDUCER (CONC)		1½ -	48		WELD	1-1/4CR-1/2MO,ASME SA234-WP11-S,ASME B16.9	DQ3006	2
REDUCER (ECC)		1½ -	48		WELD	1-1/4CR-1/2MO,ASME SA234-WP11-S,ASME B16.9	DQ3007	2
WELDOLET		1½ -	48		WELD	1-1/4CR-1/2MO,ASME SA182-F11	DQ3901	2
BW ELBOLET		1½ -	48		WELD	1-1/4CR-1/2MO,ASME SA182-F11	DQ3911	2
BW LATROLET		1½ -	48		WELD	1-1/4CR-1/2MO,ASME SA182-F11	DQ3912	2
90 ELL	1	3 -	24		WELD	1-1/4CR-1/2MO,ASME SA234-WP11-S,ASME B16.9	DQ3001	2
90 ELL (SR)	428	3 -	24		WELD	1-1/4CR-1/2MO,ASME SA234-WP11-S,ASME B16.28	DQ3002	2
45 ELL		3 -	24		WELD	1-1/4CR-1/2MO,ASME SA234-WP11-S,ASME B16.9	DQ3003	2
TEE		3 -	24		WELD	1-1/4CR-1/2MO,ASME SA234-WP11-S,ASME B16.9	DQ3004	2

1		Added FP Valve Note, General Cleanup Initial Issue as Agrium Spec	J. Tomkins H. Qureshi	J. Tomkins J. Tomkins	9S1DU	1 of 3
1 0	16-Jun-2016	Added FP Valve Note, General Cleanup	J. Tomkins	J. Tomkins	9S1DU	I ~ I
3	F 4 '2022	Revised Code Year ASME B31.1-2022 Add Notes 922/925/935/936, Rev Code Yr, CA, P/T Tbl, Str Rlf, SA Mat'l, Pipe Sch, Err Fix	S.Sarkar K. Kang	T. King T. King		Page



Fort Saskatchewan Nitrogen Operations PIPING MATERIAL SPECIFICATION

Line Class 9S1DU REV 3

FITTINGS (CONT.)	Item	Notes	Size (NP	PS) S	Sch/Rating	Ends	Description	COMM CODE	REV
TEE (RED) OOA OOA OOA OOA OOA OOA OOA O	FITTINGS (CONT.)	223							
CAP 90 11 74 74 74 74 74 74 74			3 -	24		WELD	1-1/4CR-1/2MO.ASME SA234-WP11-S.ASME B16.9	DQ3004*	2
90 ELL 26 - 48									
90 ELL (SPI) 428									
## 45 ELL 26 - 48		428							
TEE (RED) REDUCER (RECC) REDUCER (RE		720							
TEE (RED)									
REDUCER (ECC) REDUCER (COC) RE				-			I		
REDUCER (CONC) 26 - 48			-						
ELIPTICAL HEAD 401 32 - 48									
VALVES GLOBE GATE GATE GATE GATE GATE GATE GATE GAT		l		-					
GLOBE 900, 935	ELLIPTICAL HEAD	401	32 -	48		WELD	1-1/4CR-1/2MO,ASME SA387-11,CL.1,(2:1 AXIS RATIO)	DQ3401	2
GLOBE 900, 935	\/A1\/EC								
GATE S10		000 025	1/2	2	1500	T/C\\\/	1 1/4CD DODY W/ EIIII H E TRIM	VEEVICO2	2
GATE GATE GATE SOL. 935 1/2 - 2 1500 SOCW 11/4CR BODV W/ FULL H. F. TRIM F.P. VDFBLCX7 VDFGLCX7 GATE GATE SOL. 935 1/2 - 2 1500 SOCW 11/4CR BODV W/ FULL H. F. TRIM VERGICAT VDFGLCX7 VDFGLCX7 GATE GATE SOL. 935 1/2 - 2 1500 SOCW 11/4CR BODV W/ FULL H. F. TRIM M. VEFGLCX7 VCEUCMW VFLOW FOLL H. F. TRIM M. VEFGLCX7 VGEUCMW VFLOW FOLL H. F. TRIM M. VEFGLCX7 VGEUCMW VFLOW FOLL H. F. TRIM M. VEFGLCX7 VGEUCMW VFLOW FOLL H. F. TRIM M. VEFGLCX VGEUCM VFLOW FOLL H. F. TRIM M. VEFGLCX VGEUCMW									2
GATE 50.1935 1/2 - 2 1500 SOCW 11/4CR 80DV W FULL H.F. TRIM VEFGIGS7 2 GATE GLOBE 1/2 - 2 1500 WELD 11/4CR 80DV W FULL H.F. TRIM M. SEQUE VIGURE GLOBE 1/2 - 2 1500 SOCW 11/4CR 80DV W.FULL H.F. TRIM M. SEQUE VIGURE VIGURE GLOBE 1/2 - 2 1500 SOCW 11/4CR 80DV W.FULL H.F. TRIM M. SEQUE VIGURE VIGURE GLOBE 1/2 - 2 1500 SOCW 11/4CR 80DV W.FULL H.F. TRIM M. SEQUE VIGURE									
GATE SOL. 935		499							
GATE 3 - 24 900 WELD 11/4CR BODY W FULL H. TRIM .PSB VCEUICMW									_
GLOBE 1/2 - 2 1500 SOCW 1/4CR BODY W FULL H. TRIM NEPDLE VIF4/CX7 VIF4/CX7 GLOBE 3 - 3 900 WELD 1/4CR BODY W FULL H. TRIM SS VIF4/CX7		501, 935							2
GLOBE			-				1 1/4CR BODY W/ FULL H.F. TRIM ,PSB		
GLOBE 4									
GLOBE CHECK 1/2 2 1500 SOCW HILL H.F. TRIM, SWING H.ORV VEALUL H.F. TRIM, SWING			1/2 -	2	1500	SOCW	1 1/4CR BODY W/ FULL H.F. TRIM	VJFAJCX7	
GLOBE CHECK 1/2 2 1500 SOCW HILL H.F. TRIM, SWING H.ORV VEALUL H.F. TRIM, SWING	GLOBE		3 -	3	900			VHEUJCMW	
CHECK CHECK 1/2 - 2 1500 SOCW 11/4CR BODY W/ FULL H.F. TRIM, SWINGH OR V VREJICYD			4 -						
CHECK 3 - 24 900 WELD 1.1/4CR BODY W/ FULL H.F. TRIM, TILT, H/V.PSC VREIJCYD									
FLANGES SOCKET WELD BLIND BLIN									
SOCKET WELD 1/2 - 2 1500 RF 1-1/4CR-1/2/MO_ASME SA182-F11_ASME B16_S.TD FIN D02405 2 1500 RF 1-1/4CR-1/2/MO_ASME SA182-F11_ASME B16_S.TD FIN D02705 2 2 1500 RF 1-1/4CR_ASME SA182-F11_ASME B16_S.TD FIN D02705 2 2 1500 RF 1-1/4CR_ASME SA182-F11_ASME B16_S.TD FIN D02805 2 2 1500 RF 1-1/4CR_ASME SA182-F11_ASME B16_S.TD FIN D02805 2 2 2 2 2 2 2 2 2	on zen		Ĭ		300	****	2 27 101 202 117 1 022 1111 1 11111 7 112 13 14 15 00	***************************************	
BUIND	FLANGES	612							
BUIND A	SOCKET WELD		1/2 -	2	1500	RF	1-1/4CR-1/2MO,ASME SA182-F11,ASME B16.5,STD FIN	DQ2405	2
PAIR WN ORIFICE 637	BLIND		1/2 -	2	1500	RF	1-1/4CR-1/2MO.ASME SA182-F11.ASME B16.5.STD FIN	DO2705	
WELD NECK 3		637							
BOLTING STUD BOLTS 605									
PAIR WN ORIFICE 637 WELD NECK BLIND 26 - 48 900 RF 1.1/4CR.ASME SA182-F11,B16.36,3/4" SW TAPS,STD FIN DQ2104 2 RF 1.1/4CR.1/ZMO.ASME SA182-F11.API 605.STD FIN DQ2104 2 GASKETS SPIRAL WOUND SPIRAL									
WELD NECK 26 - 48 900 RF 11/4CR-1/2MO.ASME SA182-F11.API 605.STD FIN DQ2774 2 2 2 2 3 3 3 4 4 4 4 4 4 4		627							
BLIND		037							
SPIRAL WOUND				-					
SPIRAL WOUND 1/2 - 24 26 - 48 1/8" 316 SS WINDING W/FLEX GRAPH FILLER, B16.47-B R4PF1 R4PF	BLIND		26 -	48	900	RF	1 1/4CR-1/2MO,ASME SA182-F11,API 605,STD FIN	DQ2774	2
SPIRAL WOUND 1/2 - 24 26 - 48 1/8" 316 SS WINDING W/FLEX GRAPH FILLER, B16.47-B R4PF1 R4PF	GASKETS	701							
SPIRAL WOUND 26 - 48		l'01	1/2 -	24			1/8" 316 SS WINDING W/FLEX GRAPH FILLER B16 47-B	RADE1	
BOLTING STUD BOLTS 605									
STUD BOLTS 605 1/2 - 48	SI IIIAL WOOND		20	70			1/6 31033 WINDING W/LEEK GRAFTITIEEER	11.41.12	
MISCELLANEOUS STEAM TRAP S33	BOLTING								
STEAM TRAP S33		605	1/2 -	48			ASME SA193 GR B16 STUD W/ ASME SA194 GR 4 NUTS	CB7015	2
SPACER 1/2 - 2 1500									
CIRCULAR BLANK FIGURE 8 861 1/2 - 2 1500 RF 1-1/4CR-1/2MO,PER TECH STD P36-1TS,STD FIN DQ8213 Y-STRAINER 860 1/2 - 2 1500 SOCW 1-1/4CR BODY W/304 SS SCREEN "L",TECH STD P25-2TS DQ8612 Y-STRAINER 1/2 - 2 1500 SOCW 1-1/4CR BODY W/304 SS SCREEN "G",TECH STD P25-2TS DQ8612 BRANCH WELD 1/2 - 48 BRANCH WELD W/PAD-ALLOY CB9812 SHOP/FIELD BW 1/2 - 48 BUTT WELD-ALLOY CB9811 FIGURE 8 3 - 12 900 RF 1-1/4CR-1/2MO,PER TECH STD P36-1TS,STD FIN DQ8211 CIRCULAR BLANK 3 - 24 900 RF 1-1/4CR-1/2MO,PER TECH STD P36-1TS,STD FIN DQ8211 CIRCULAR BLANK 3 - 24 900 RF 1-1/4CR-1/2MO,PER TECH STD P36-1TS,STD FIN DQ8211 SWAGE (CONC) II, 922, 935 1/4 - 3/8 XS 1-1/4CR-1/2MO,PER TECH STD P36-1TS,STD FIN DQ8210 NON-STANDARD II. 922, 935 1/4 - 3/8 XS 1-1/4CR-1/2MO,PER TECH STD P36-1TS,STD FIN DQ8210 NEW 1-1/4CR-1/2MO,PER TECH STD P36-1TS,STD FIN DQ8211 CIRCULAR BLANK 3 - 24 900 RF 1-1/4CR-1/2MO,PER TECH STD P36-1TS,STD FIN DQ8210 NON-STANDARD II. 922, 935 1/4 - 3/8 XS 1-1/4CR-1/2MO,PER TECH STD P36-1TS,STD FIN DQ8210 NON-STANDARD II. 922, 935 1/4 - 3/8 XS 1-1/4CR-1/2MO,SMLS,ASME SA335-P11 DQ1001 2 SWAGE (ECC) II. 922, 935 1/4 - 3/8 XS 1-1/4CR-1/2MO,ASME SA234-WP11-S,MSS SP-95 DQ1603 2 PLUG II, 311, 935 1/4 - 3/8 THRD 1-1/4CR-1/2MO,ASME SA335-P11 DQ2005 2 WELD NECK III 1/2 - 24 1500 RF 1-1/4CR-1/2MO,SMLS,ASME SA335-P11 DQ1001 2 FIGURE 8 II 3 - 12 1500 RF 1-1/4CR-1/2MO,PER TECH STD P36-1TS,STD FIN DQ8215 CIRCULAR BLANK II 3 - 24 1500 RF 1-1/4CR-1/2MO,PER TECH STD P36-1TS,STD FIN DQ8215 CIRCULAR BLANK II 3 - 24 1500 RF 1-1/4CR-1/2MO,PER TECH STD P36-1TS,STD FIN DQ8215		S33							
FIGURE 8 861	SPACER		1/2 -	2	1500	RF	1-1/4CR-1/2MO,PER TECH STD P36-1TS,STD FIN	DQ8214	
FIGURE 8 861	CIRCULAR BLANK	l	1/2 -	2	1500	RF	1-1/4CR-1/2MO,PER TECH STD P36-1TS,STD FIN	DQ8213	
Y-STRAINER 860	FIGURE 8	861	1/2 -	2	1500	RF	1-1/4CR-1/2MO,PER TECH STD P36-1TS,STD FIN	DQ8215	
Y-STRAINER 1/2 - 2 1500 SOCW 1-1/4CR BODY W/304 SS SCREEN "G".TECH STD P25-2TS DQ8611 BRANCH WELD 1/2 - 48 BRANCH WELD W/PAD-ALLOY CB9820 BRANCH WELD W/PAD-ALLOY CB9812						SOCW			
BRANCH WELD 1/2 - 48									
BRANCH WELD 1/2 - 48		l			1000	300.			
SHOP/FIELD BW									
FIGURE 8 3 - 12 900 RF 1-1/4CR-1/2MO,PER TECH STD P36-1TS,STD FIN DQ8212 DQ8211 DQ8210 DQ8211 DQ8210 DQ8213 DQ8215		1							
SPACER 3 - 24 900 RF 1-1/4CR-1/2MO,PER TECH STD P36-1TS,STD FIN DQ8211 DQ8210					000	פר			
CIRCULAR BLANK 3 - 24 900 RF 1-1/4CR-1/2MO.PER TECH STD P36-1TS.STD FIN D08210									
NON-STANDARD		l	3 -						
II, 922, 935 1/4 - 3/8 XS 1-1/4CR-1/2MO.SMLS.ASME SA335-P11 DQ1001 2		-	3 -	24	900	RF	11-1/4CR-1/2MO.PER TECH STD P36-1TS.STD FIN	DQ8210	\vdash
SWAGE (CONC) II, 922, 935 1/4 - 3/8 XS 1-1/4CR-1/2MO,ASME SA234-WP11-S,MSS SP-95 DQ1603 2	NUN-STANDARD		.,,	2,0	,,c		14 4 /4 CD 4 /23 4 Q CD 4 C A CD 4 E CA 22 E D44	D04004	ا ہا
SWAGE (ECC) II, 922, 935									
PLUG II, 311, 935 1/4 - 3/8 THRD 1-1/4CR-1/2MO,ASME SA182-F11,ROUND HEAD,ASME B16.11 DQ5001 2									
WELD NECK II					XS				
II			1/4 -	3/8				DQ5001	
II	WELD NECK	j ii	1/2 -	24	1500	RF	1-1/4CR-1/2MO,ASME SA182-F11,ASME B16.5,STD FIN	DQ2005	2
FIGURE 8 II 3 - 12 1500 RF 1-1/4CR-1/2MO,PER TECH STD P36-1TS,STD FIN DQ8215 CIRCULAR BLANK II 3 - 24 1500 RF 1-1/4CR-1/2MO,PER TECH STD P36-1TS,STD FIN DQ8213		lu .	2½ -	2½	160	PE	1-1/4CR-1/2MO,SMLS,ASME SA335-P11		2
CIRCULAR BLANK II 3 - 24 1500 RF 1-1/4CR-1/2MO,PER TECH STD P36-1TS,STD FIN DQ8213	FIGURE 8	lu .							
				24	1500	RF	1-1/4CR-1/2MO.PER TECH STD P36-1TS.STD FIN	DQ8214	

	24 14 2024	Davissal Carlo Vasa ACAAS D24 4 2022	C Cl	T 1/2		1
3	,	Revised Code Year ASME B31.1-2022	S.Sarkar	T. King		1
2	5-Apr-2023	Add Notes 922/925/935/936, Rev Code Yr, CA, P/T Tbl, Str Rlf, SA Mat'l, Pipe Sch, Err Fix	K. Kang	T. King	9S1DU	Page
1	16-Jun-2016	Added FP Valve Note, General Cleanup	J. Tomkins	J. Tomkins	33100	2 of 3
0	22-Feb-2016	Initial Issue as Agrium Spec	H. Qureshi	J. Tomkins		1
Rev	Date	Description	Ву	Appv'd		



Fort Saskatchewan Nitrogen Operations PIPING MATERIAL SPECIFICATION

Line Class 9S1DU REV

Branch Connection Legend, Notes & Chart		Chart 48 T	PT RATING TABLE ASME B16.5 (2020) - SEE NOTES 001/936	
Legend B - BRANCH WELD C - COUPLING		42 P T 36 P P T 30 P P P T	Temperature Pressure -29C (-20F) TO 38C (100F) 158.18 (2250)	
D - THREDOLET E - REDUCING TEE M - TEE WITH REDUCING INSERT N - NIPOLET		24 P P P P T B 20 P P P P P T R 18 P P P P P P T A 16 P P P P P P P T A 16 P P P P P P P T	93C (200F) 158.18 (2250) 149C (300F) 152.22 (2165) 204C (400F) 146.23 (2080) 260C (500F) 140.27 (1995)	2
P - BRANCH WELD WITH REINFORCING PAD S - SOCKOLET	813	N 14 P P P P P P P P P T C 12 P P P P P P P P P T H 10 P P P P P P P P P P T	316C (600F) 127.59 (1815) 343C (650F) 124.07 (1765) 371C (700F) 119.86 (1705)	
T - TEE W - WELDOLET X - DO NOT USE		8 P P P P P P P P P P P P T T S 6 P P P P P P P P P P P P P T 1 4 P P P P P P P P P P P P P P T Z 3 P P P P P P P P P P P P P P P P P T	399C (750F) 112.13 (1595) 427C (800F) 107.21 (1525) 454C (850F) 102.64 (1460)	
F - FIL WND REINF BRANCH G - FIL WND W OR W/O RED L - ANG BRANCH/LATERAL		E 2 S S S S S S S S S S S S S S S S T 1½ S S S S S S S S S S S S S S S S S E T 1 S P P P S S S S S S S S S S S S E E T	482C (900F) 94.91 (1350) 510C (950F) 67.15 (955) 538C (1000F) 45.7 (650)	
Y - TEE W/RED. BUSHING Z - TEE W/BUTTWELD RED. R - SADDLE REDUCING TEE		% S P P P P S E E E E E E T 48 42 36 30 24 20 18 16 14 12 10 8 6 4 3 2 1½ 1½ ½	566C (1050F) 30.23 (430) 593C (1100F) 20.39 (290) 621C (1150F)	
Q - TEE W/2 OR MORE RED.		H E A D E R S I Z E Specific Piping Notes	649C (1200F)	

- II. USE OF NON-STANDARD COMPONENTS TO BE REVIEWED AND APPROVED BY THE PIPING DESIGN WORKGROUP LEADER.
- KK. COMMODITY WILL NOT BE TRANSFERRED TO KELWAY. THIS IS A DUMMY CODE USED AS A WARNING OF PIPE CLASS RESTRICTIONS.
- 001. THE FIRST PRESSURE IS GIVEN IN KG/CM2 (GAGE), AND THE SECOND PRESSURE, SHOWN IN PARENTHESES, IS GIVEN IN PSIG.
- 222. WHERE PIPE SCHEDULE IS SHOWN UNDER. "SCH/RAT". IT IS ADEQUATE FOR THE FULL FLANGE RATING. WHERE "CALC" IS SHOWN. THE PRESSURE LIMIT MAY BE LOWER THAN THE FLANGE RATING.
- 223. ALL BUTTWELD COMPONENT THICKNESSES SHALL MATCH PIPE THICKNESS.
- 304. THREADED OUTLET REINFORCED BRANCH WELD FITTINGS TO BE USED ONLY FOR THERMOWELL AND HYDROSTATIC TEST CONNECTIONS.
- 311. THREADED JOINTS ARE ONLY PERMITTED AT TERMINAL OF VENT, DRAIN AND HYDROSTATIC CONNECTIONS, AT INSTRUMENT TAKE-OFF POINTS, OR OTHER LOCATIONS APPROVED BY MAINTENANCE ENGINEERING.
- 401. WHEN CAPS ARE REQUIRED ABOVE 30 INCH SIZE, ELLIPTICAL HEADS WITH 2:1 AXIS RATIO SHALL BE USED.
- 428. USE OF SHORT RADIUS ELBOWS SHOULD BE REVIEWED AND APPROVED BY SYSTEMS & PIPING MECHANICAL.
- 499. USE FULL PORT VALVES AT INLET AND DISCHARGE OF PSV'S AND IN PUMP SUCTIONS WHERE PRESSURE DROP IS CRITICAL, USE FULL PORT VALVES WHERE RODDING OUT IS REQUIRED.
- 501. THREADED BY SOCKETWELD (T/SW) VALVES SHALL BE USED FOR VENT, DRAIN AND INSTRUMENT CONNECTIONS ONLY.
- 510. TO BE USED WHEN MATING FLANGED VALVES TO FLANGED NOZZLES.
- 605. DIMENSIONS FOR FLANGES, GASKETS AND BOLTING LARGER THAN NPS 24 AND UP TO NPS 60 SHALL BE PER ASME B16.47, SERIES B (API 605)
- 612. THE USE OF FLANGES SHALL BE MINIMIZED; WELDED CONNECTIONS SHALL BE USED IN ORDER TO ELIMINATE THE PROBABILITY OF LEAKS.
- 637. ORIFICE FLANGES SHALL HAVE SOCKETWELD TAPS PER ASME B16.36 AND PER JOB STANDARD M21-1J WHEN SPECIFIED. USE SOLID BAR PLUG FOR UNUSED ORIFICE TAP.
- 701. ALLOW 1/8" BETWEEN FLANGES FOR GASKETS.
- 813. A PAD HAS BEEN SELECTED TO PROVIDE REINFORCEMENT FOR THIS BRANCH CONNECTION SUBJECT TO THE MOST SEVERE COINCIDENT CONDITION OF INTERNAL PRESSURE AND FLUID TEMPERATURE SEEN IN THIS SPECIFICATION. HOWEVER, THE SPECIFIC PRESSURETEMPERATURE CONDITION FOR THIS CONNECTION MAY ELIMINATE THE NEED FOR REINFORCEMENT
- 860. TO BE USED FOR AIR, GAS OR STEAM SERVICE
- 861. TO BE USED FOR LIQUID SERVICE.
- 875. THE USE OF SWAGE NIPPLES IS NOT PERMITTED WHEN THE LARGE END EXCEEDS NPS 2.
- 877. FLAT O-LETS SHOULD ONLY BE USED FOR CONCENTRIC WELD CONNECTIONS: I.E. WELDED TO CAP AT BOTTOM OF DRIP/BOOT LEG.
- 900. TO BE USED ONLY WHERE SHOWN ON THE PIPING AND INSTRUMENT DIAGRAMS (P&ID'S).
- 922. IF THREADED, THIS ITEM DOES NOT MEET THE SPECIFIED CORROSION ALLOWANCE OF THIS SPECIFICATION.
- 925. PWHT IS REQUIRED FOR WT > 12.7MM-0.50IN. PWHT PER B31.1 FOR WT ≤ 12.7MM-0.50IN, BUT APPROVAL FROM MAINTENANCE ENGINEERING IS REQUIRED TO USE EXEMPTIONS IN TABLE 132.2-1.
- 935. THREADED COMPONENTS SHALL ONLY BE USED FOLLOWING THE LIMITATIONS LAID OUT IN ASME B31.1 PARAGRAPH 114.2.
- 936. RATINGS IN THE PRESSURE-TEMPERATURE TABLE HAVE BEEN UPDATED TO MEET ASME B16.5-2020.
- S33. SELECTION OF STEAM TRAPS BY SYSTEMS (OR OTHER VENDOR'S EQUIV.):
 - (1) LOW PRESSURE STEAM, SARCO UTD-52L (DW8992) (2) MED PRESSURE STEAM, SARCO TD-62 (DQ8993)
 - (3) HIGH PRESSURE STEAM, SARCO TD-120 (DT8995)
 - (4) HIGH PRESSURE STEAM. TLV HR150A (DT8996)
 - (5) L.P. PROCESS SS, SARCO FT-46-10 (FL8991)

- (6) L.P. PROCESS CS, SARCO UTDL-52L (DW8992)
- (7) LOW PRESSURE STEAM, SARCO FT450-4.5(CB8991), FT450-10(CB8992), FT450-
- 14(CB8993), FT450-21(CB8994).
- (8) M.P. PROCESS SS, SARCO FT-46-21 (FL8992)
- (9) DRAIN TRAPS, SPIRAX SARCO FA450-4.5(CB8891), FA450-10(CB8892), FA450-
- 14(CB8893), FA450-21(CB8894).

3	31-May-2024	Revised Code Year ASME B31.1-2022	S.Sarkar	T. King		
2	5-Apr-2023	Add Notes 922/925/935/936, Rev Code Yr, CA, P/T Tbl, Str Rlf, SA Mat'l, Pipe Sch, Err Fix	K. Kang	T. King	9S1DU	Page
1	16-Jun-2016	Added FP Valve Note, General Cleanup	J. Tomkins	J. Tomkins	33100	3 of 3
0	22-Feb-2016	Initial Issue as Agrium Spec	H. Qureshi	J. Tomkins		
Rev	Date	Description	Ву	Appv'd		