

		Fort Saskatchewan Nitrogen Operations		Line Class <b>SX</b>
		<b>PIPING MATERIAL SPECIFICATION</b>		REV <b>2</b>
SERVICE	UREA - CARBAMATE (STAMICARBON SPEC SECTION IV)	INSPECTION		
CORROSION ALLOWANCE	0.75 MILLIMETERS 0.030 INCHES	BUTTWELD CONSTRUCTION		
TEMP LIMIT	204 °C (399.2) °F <b>MAX</b>	RATING	300 LB	
PRESSURE	SEE PT RATING TABLE	MATERIAL	316L PIPE; 316/316L SS VALVES	
COLOR	PER AGRIUM STD MTC-010-105-002	STRESS RELIEF		
VALVE TRIM		ASME STANDARD	B31.3 (2014)	
FLUID CATEGORY				

Item	Notes	Size (NPS)	Sch/Rating	Ends	Description	COMM CODE	REV
PIPE	4	1/2 - 2 1/2 - 2 3 - 6 8 - 12	10S 80S 40S 40S	PE TE PE PE	EFW, ASTM A312 GR. TP316L, BE EFW, ASTM A312 GR. TP316L, BE EFW, ASTM A312 GR. TP316L, BE EFW, ASTM A312 GR. TP316L, BE OR EFW, ASTM A358, CLASS 2, FROM ASTM A240 TYPE 316L PLATE, BE		
FITTINGS		1/2 - 12	-	BUTW	ASTM A403 GR. WP316L. WEIGHT TO MATCH PIPE		
VALVES	499	1/2 - 3 4 - 10 1/2 - 4 - - 6 1/2 - 8 6 - 8 3/4 X 1/2	300 300 300 300 300 300 600	FLGD FLGD FLGD FLGD FLGD FLGD THRD	316 SS, WRENCH OP, TUFLINE 0367 EG FS OR EQ. 316 SS, GEAR OP, TUFLINE 0367 EG FS OR EQ. 316 SS, BB, OS&Y, POWELL 2447A OR EQ. 316 SS, BB, OS&Y, ALOYCO 2447 OR EQ. 316 SS, BC, SWING TYPE, POWELL 2346A, OR EQ. 316 SS, BC, SWING TYPE, POWELL 3061A-SS OR EQ. 316 SS, HAND OP, PISTON TYPE SAMPLE VALVE. ALL WETTED PARTS TO BE 316SS. STRAHMAN SV-700	V7404 V7405 V7172 V7173 V7174 V7175	
FLANGES	SLIP ON	1/2 - 12	300	RF	ASTM A182 GR. F316L		
GASKET	SPIRAL WOUND 1	1/2 - 24	300		SPIRAL WOUND AND 316L SS FLEX STYLE CG OR 1/8", 316 SS WINDING W/ FLEX GRAPHITE FILLER		
BOLTING	STUD BOLTS				ALLOY STEEL ASTM A193 GR B7 STUD W/ ASTM A194 GR 2H NUT		

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Rev	Date	Description	By	Appv'd		

Branch Connection Legend, Notes & Chart		REV	
<div>Legend</div> <div>B - BRANCH WELD</div> <div>C - COUPLING</div> <div>D - THREDOLET</div> <div>E - REDUCING TEE</div> <div>M - TEE WITH REDUCING INSERT</div> <div>N - NIPOLET</div> <div>P - BRANCH WELD WITH REINFORCING PAD</div> <div>S - SOCKOLET</div> <div>T - TEE</div> <div>W - WELDOLET</div> <div>X - DO NOT USE</div> <div>F - FIL WND REINF BRANCH</div> <div>G - FIL WND W OR W/O RED</div> <div>L - ANG BRANCH/LATERAL</div> <div>Y - TEE W/RED. BUSHING</div> <div>Z - TEE W/BUTTWELD RED.</div> <div>R - SADDLE REDUCING TEE</div> <div>Q - TEE W/2 OR MORE RED.</div> <div>FRACTIONS - FILLET WELD SIZES</div> <div>NUMBERS≥1 – WIDTH OF REINFORCEMENT</div> <div>PAD OF SAME THICKNESS AS HEADER</div>			

**Specific Piping Notes**

001. THE FIRST PRESSURE IS GIVEN IN BAR (GAUGE), AND THE SECOND PRESSURE, SHOWN IN PARENTHESES, IS GIVEN IN PSIG.

- Where piping is flanged to epoxy coated vessel flanges, do not use spiral wound gaskets, use the following type gaskets:
  - J-M83 ACID RESISTANT SHEET, OR EQ. TEMPERATURES TO 400 °F; PRESSURES TO 20 PSIG; 1/16" THICK.
  - J-M91 CHEMPAC SHEET OR EQ. NOMINAL THICKNESS 3/32": TEMPERATURES TO 500 °F PRESSURES TO 750 PSIG
- PIPE FABRICATOR SHALL BE FURNISHED WITH SPECIAL HALF COUPLINGS FOR THE STRAHMAN SV-700 SAMPLING VALVE (V7065)
- ALL WELDS SHALL BE MADE SO THAT NO CREVICES OCCUR ON THE PRODUCT SIDE. THREADED CONNECTIONS TO BE AVOIDED
- IF THREADED CONNECTIONS CANNOT BE AVOIDED, SUCH AS INSTRUMENT CONNECTIONS, THE THREADED CONNECTIONS SHALL BE MADE UP USING TEFLON TAPE.
- COPPER OR COPPER BEARING MATERIALS ARE NOT PERMITTED
- STELLITE MATERIAL IS NOT PERMITTED
- USE VALVE V7062 FIR SAMPLING AND DRAIN CONNECTIONS ONLY WHERE SHOWN ON ENGINEERING FLOW DIAGRAMS. FOR VENTS AND DRAINS, WHEN TYPE OF VALVE IS NOT SHOWN ON ENGINEERING FLOW DIAGRAM, USE V7404 PLUG VALVE. GLOBE VALVES SHALL NOT BE USED FOR VENT OR DRAIN CONNECTIONS.
- WHEN VALVE V-7065 IS INSULATED IN ASME CODE SECTION VIII VESSEL MATERIAL FOR COUPLING TO BE ASTM A296 CF3M (TYPE 316LS.S) & VENDOR TO PROVIDE MILL & PHYSICAL TEST REPORTS TO VESSEL VENDOR. VALVES TO BE 1" X 3/4" SV-800 INSTEAD OF 3/4X1/2" SV-700
- 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.

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