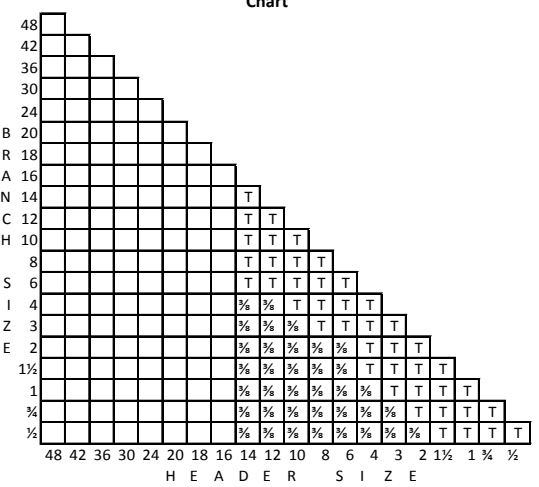
		Fort Saskatchewan Nitrogen Operations		Line Class RX
		PIPING MATERIAL SPECIFICATION		REV 3
SERVICE	UREA-CARBAMATE (STAMICARBON SPEC SECTION IV)		INSPECTION	
CORROSION ALLOWANCE	0.75 MILLIMETERS 0.030 INCHES		BUTTWELD CONSTRUCTION	
TEMP LIMIT	-29 °C (-20.02) °F TO 204 °C (399.2) °F		RATING	150 LB
PRESSURE	SEE PT RATING TABLE		MATERIAL	316SS FLG VALVES, 304L SS PIPE
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 - 6 1/2 - 2 8 - 14 16 - 24	10S 160 10S 40S	PE TE PE PE	EFW, ASTM A312 GR. TP316L, BE EFW, ASTM A312 GR. TP316L, BE EFW, ASTM A358 GR. 316L, CLASS 2 OR ASTM A312 GR. TP304L EFW, ASTM A358 GR. 316L, CLASS 2 OR ASTM A312 GR. TP304L		
FITTINGS		1/2 - 14 16 - 24	10S 40S	BUTW BUTW	ASTM A403, GR. WP 316L ASTM A403, GR. WP 316L, WEIGHT TO MATCH PIPE		
VALVES	GATE 499 GLOBE 7 GLOBE 7 CHECK CHECK PLUG 7 PLUG 7 BOTTOM SAMPLING 2,4,7	1/2 - 12 1/2 - 4 - - 6 1/2 - 8 10 - 12 1/2 - 4 6 - 10 3/4 X 1/2	150 150 150 150 150 150 150	RF RF RF RF RF RF RF THRD	316SS, BB, FP, OS&Y, TFE PKG, POWELL OR EQ. 316SS, BB, OS&Y, POWELL 2475 OR EQ. 316SS, BB, OS&Y, POWELL 2629 OR EQ. 316SS, BC, SWING TYPE, POWELL 2342 OR EQ. 316SS, BC, SWING TYPE, POWELL 2633 SS OR EQ. 316SS, WRENCH OP, TUFLINE 067 FS OR EQ. 316SS, GEAR OP, TUFLINE 067 EG FS OR EQ. 316L SS, HAND OP, PISTON TYPE SAMPLE VALVE. ALL WETTED PARTS TO BE 316L SS. STRAHMAN SV-700 OR EQ REFER TO MANUFACTURER'S CATALOG FOR SPECIAL COUPLINGS AND SPECIAL TEES.	V7111 V7143 V7186 V7112	
FLANGES	SLIP ON	1/2 - 24	150	RF	ASTM A182 GR. F316L		
GASKET	SPIRAL WOUND 2	1/2 - 24	150		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		

3	22-Nov-2017	Clarified valve & pipe material descriptions	J. Tomkins	J. Tomkins	RX	Page 1 of 2
2	14-Dec-2016	PT Table Rev, FP Valve Note, Cleanup	J. Tomkins	J. Tomkins		
1	25-May-2016	Gate Valves Added (MOC 300340019)	J. Tomkins	C. Barberi		
0	22-Feb-2016	Initial Issue as Agrium Spec	H. Qureshi	J. Tomkins		
Rev	Date	Description	By	Appv'd		

	Fort Saskatchewan Nitrogen Operations		Line Class
			RX
	PIPING MATERIAL SPECIFICATION		REV
			3

Branch Connection Legend, Notes & Chart		REV	Chart		PT RATING TABLE NOTES 001		REV
Legend B - BRANCH WELD C - COUPLING D - THREDOLET E - REDUCING TEE M - TEE WITH REDUCING INSERT N - NIPOLET P - BRANCH WELD WITH REINFORCING PAD S - SOCKOLET T - TEE W - WELDOLET X - DO NOT USE F - FIL WND REINF BRANCH G - FIL WND W OR W/O RED L - ANG BRANCH/LATERAL Y - TEE W/RED. BUSHING Z - TEE W/BUTTWELD RED. R - SADDLE REDUCING TEE Q - TEE W/2 OR MORE RED. FRACTIONS - FILLET WELD SIZES NUMBERS≥1 – WIDTH OF REINFORCEMENT PAD OF SAME THICKNESS AS HEADER					Temperature -29C (-20F) TO 38C (100F) 93C (200F) 149C (300F) 204C (400F) 260C (500F) 316C (600F) 343C (650F) 371C (700F) 399C (750F) 427C (800F) 454C (850F) 482C (900F) 510C (950F) 538C (1000F) 566C (1050F) 593C (1100F) 621C (1150F) 649C (1200F)		

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 EXPOXY COATED VESSEL FLANGES DO NOT USE SPIRAL WOUND GASKETS; USE THE FOLLOWING TYPE:
 - J-M83 ACID-RESISTANT SHEET, OR EQ. TEMPERATURE UP TO 400°F; PRESSURE 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 ARE TO BE AVOIDED.
 - IF THREADED CONECTIONS 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 V7065 FOR 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 DIAGRAMS, USE PLUG VALVE V7402. GLOBE VALVES SHALL NOT BE USED FOR VENT OR DRAIN CONNECTIONS.
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.

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