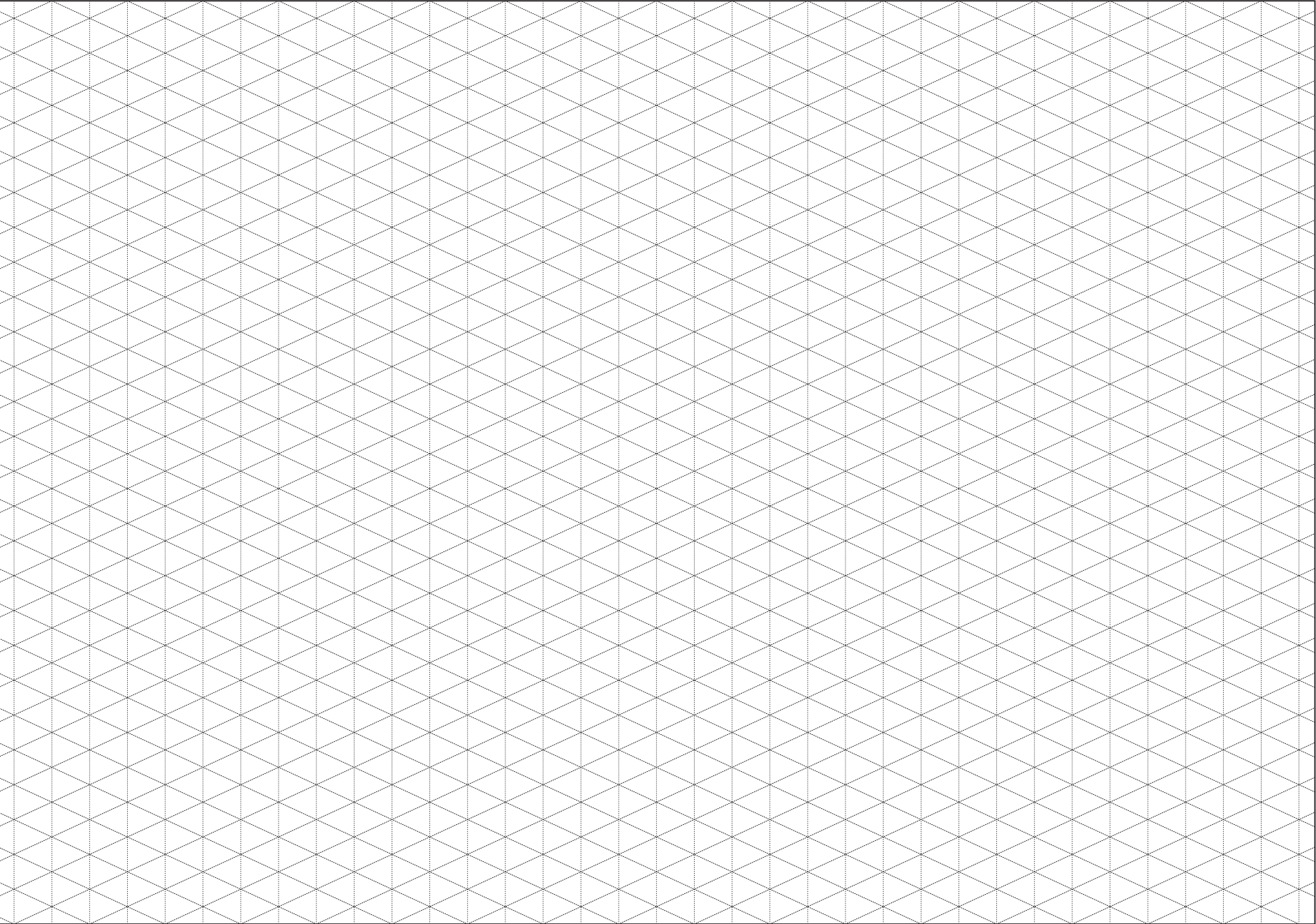





















PROJECT NAME	REPRESENTATIVE NAME	DRAWN BY	FLUID (LOX, LIN, LAR, LCD)
LOCATION	QUOTE NUMBER	PHONE NUMBER	SYSTEM PRESSURE



PROJECT NAME	REPRESENTATIVE NAME	DRAWN BY	FLUID (LOX, LIN, LAR, LCD)
LOCATION	QUOTE NUMBER	PHONE NUMBER	SYSTEM PRESSURE

VJ Piping Legend	
	FIELD JOINT
	CAP BAYONNET
	VACUUM INSULATED CRYOGENIC MANUAL GLOBE VALVE
	BAYONNET
	VACUUM JACKETED END 1/2" M.NPT
	VACUUM JACKETED FLEXIBLE HOSE, CGA 295 SWIVEL CONNECTION EACH END
	VACUUM JACKETED FLEXIBLE HOSE, INLET: WELDED TO VJ PIPE OUTLET: CGA 295 SWIVEL
	KEEP COLD (PHASE SEPARATOR)
	FLANGE

Non VJ Piping Legend	
	THERMAL EXPANSION PRESSURE RELIEF VALVE
	SPRING LOADED CRYOGENIC CHECK VALVE
	EXTENDED STEM CRYOGENIC MANUAL GLOBE VALVE, BRONZE
	ADAPTOR, 1/2" M.NPT X 1/2" FLARE MALE BRASS
	CANDY-CANE WITH THERMAL EXPANSION PRESSURE RELIEF VALVE
	NON-VACUUM JACKETED FLEXIBLE HOSE CGA 295 SWIVEL CONNECTION EACH END
	PHASE SEPARATOR

Non Piping Legend			
	CRYOGENIC LIQUID CYLINDER		INDICATES WALL PENETRATION
			LIQUID NITROGEN OPEN FLASK DEWAR

Specifications

INNER LINE

1/2" OUTSIDE DIAMETER TUBE X 0.035" WALL,
ASTM A269, TYPE 304 STAINLESS STEEL,
EXPANSION JOINTS AS REQUIRED

OUTER JACKET

2" OUTSIDE DIAMETER TUBE X 0.065" WALL,
ASTM A269 TYPE 304 STAINLESS STEEL

INSULATION

MULTI-LAYER SUPER INSULATION
(VACUUM JACKETED)

FACTORY PERFORMED LEAK TEST

HELIUM LEAK TEST ON THE ENTIRE ASSEMBLY
FOR MAX LEAK RATE OF 1 X 10-8 CC/SEC

FIELD PERFORMED LEAK TEST

THE INSTALLER SHALL PERFORM A FIELD
PNEUMATIC LEAK TEST ON THE COMPLETE
PIPING SYSTEM AT 110% OF THE DESIGN
PRESSURE IN ACCORDANCE WITH ASME B31.3.

DIMENSIONS

ALL DIMENSIONS ARE TO CENTERLINE OF
PIPE UNLESS NOTED OTHERWISE

DESIGN CODE

PER ASME B31.3 FOR PRESSURE PIPING

MATERIAL CERTIFICATION

MATERIAL CERTIFICATES REQUIRED FOR INNER
PRESSURE PIPING