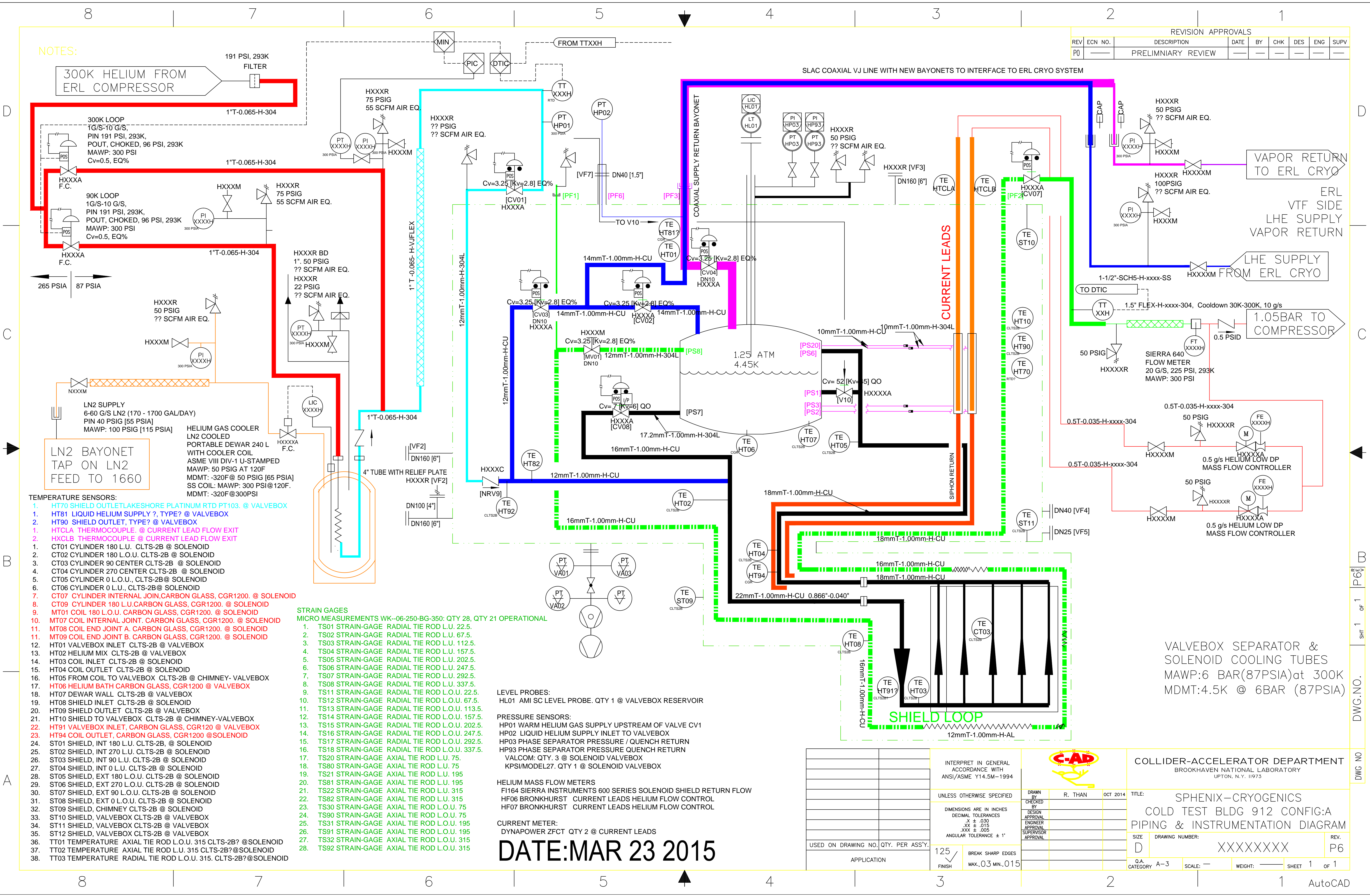


NOTES:

300K HELIUM FROM ERL COMPRESSOR

191 PSI, 293K FILTER

REVISION APPROVALS							
REV	ECN NO.	DESCRIPTION	DATE	BY	CHK	DES	SUPV
P0		PRELIMINARY REVIEW					



- TEMPERATURE SENSORS:
- HT70 SHIELD OUTLET LAKESHORE PLATINUM RTD PT103. @ VALVEBOX
 - HT81 LIQUID HELIUM SUPPLY ? TYPE? @ VALVEBOX
 - HT90 SHIELD OUTLET, TYPE? @ VALVEBOX
 - HTCLA THERMOCOUPLE. @ CURRENT LEAD FLOW EXIT
 - HXCLB THERMOCOUPLE @ CURRENT LEAD FLOW EXIT
 - CT01 CYLINDER 180 L.U. CLTS-2B @ SOLENOID
 - CT02 CYLINDER 180 L.O.U. CLTS-2B @ SOLENOID
 - CT03 CYLINDER 90 CENTER CLTS-2B @ SOLENOID
 - CT04 CYLINDER 270 CENTER CLTS-2B @ SOLENOID
 - CT05 CYLINDER 0 L.O.U., CLTS-2B @ SOLENOID
 - CT06 CYLINDER 0 L.U., CLTS-2B @ SOLENOID
 - CT07 CYLINDER INTERNAL JOIN, CARBON GLASS, CGR1200. @ SOLENOID
 - CT09 CYLINDER 180 L.U. CARBON GLASS, CGR1200. @ SOLENOID
 - MT01 COIL 180 L.O.U. CARBON GLASS, CGR1200. @ SOLENOID
 - MT07 COIL INTERNAL JOINT. CARBON GLASS, CGR1200. @ SOLENOID
 - MT08 COIL END JOINT A. CARBON GLASS, CGR1200. @ SOLENOID
 - MT09 COIL END JOINT B. CARBON GLASS, CGR1200. @ SOLENOID
 - HT01 VALVEBOX INLET CLTS-2B @ VALVEBOX
 - HT02 HELIUM MIX CLTS-2B @ VALVEBOX
 - HT03 COIL INLET CLTS-2B @ SOLENOID
 - HT04 COIL OUTLET CLTS-2B @ SOLENOID
 - HT05 FROM COIL TO VALVEBOX CLTS-2B @ CHIMNEY- VALVEBOX
 - HT06 HELIUM BATH CARBON GLASS, CGR1200 @ VALVEBOX
 - HT07 DEWAR WALL CLTS-2B @ VALVEBOX
 - HT08 SHIELD INLET CLTS-2B @ SOLENOID
 - HT09 SHIELD OUTLET CLTS-2B @ VALVEBOX
 - HT10 SHIELD TO VALVEBOX CLTS-2B @ CHIMNEY-VALVEBOX
 - HT91 VALVEBOX INLET, CARBON GLASS, CGR1200 @ VALVEBOX
 - HT94 COIL OUTLET, CARBON GLASS, CGR1200 @ SOLENOID
 - ST01 SHIELD, INT 180 L.U. CLTS-2B, @ SOLENOID
 - ST02 SHIELD, INT 270 L.U. CLTS-2B @ SOLENOID
 - ST03 SHIELD, INT 90 L.U. CLTS-2B @ SOLENOID
 - ST04 SHIELD, INT 0 L.U. CLTS-2B @ SOLENOID
 - ST05 SHIELD, EXT 180 L.O.U. CLTS-2B @ SOLENOID
 - ST06 SHIELD, EXT 270 L.O.U. CLTS-2B @ SOLENOID
 - ST07 SHIELD, EXT 90 L.O.U. CLTS-2B @ SOLENOID
 - ST08 SHIELD, EXT 0 L.O.U. CLTS-2B @ SOLENOID
 - ST09 SHIELD, CHIMNEY CLTS-2B @ SOLENOID
 - ST10 SHIELD, VALVEBOX CLTS-2B @ VALVEBOX
 - ST11 SHIELD, VALVEBOX CLTS-2B @ VALVEBOX
 - ST12 SHIELD, VALVEBOX CLTS-2B @ VALVEBOX
 - TT01 TEMPERATURE AXIAL TIE ROD L.O.U. 315 CLTS-2B? @ SOLENOID
 - TT02 TEMPERATURE AXIAL TIE ROD L.O.U. 315 CLTS-2B? @ SOLENOID
 - TT03 TEMPERATURE RADIAL TIE ROD L.O.U. 315. CLTS-2B? @ SOLENOID

- STRAIN GAGES
- MICRO MEASUREMENTS WK--06-250-BG-350. QTY 28. QTY 21 OPERATIONAL
- TS01 STRAIN-GAGE RADIAL TIE ROD L.U. 22.5.
 - TS02 STRAIN-GAGE RADIAL TIE ROD L.U. 67.5.
 - TS03 STRAIN-GAGE RADIAL TIE ROD L.U. 112.5.
 - TS04 STRAIN-GAGE RADIAL TIE ROD L.U. 157.5.
 - TS05 STRAIN-GAGE RADIAL TIE ROD L.U. 202.5.
 - TS06 STRAIN-GAGE RADIAL TIE ROD L.U. 247.5.
 - TS07 STRAIN-GAGE RADIAL TIE ROD L.U. 292.5.
 - TS08 STRAIN-GAGE RADIAL TIE ROD L.U. 337.5.
 - TS11 STRAIN-GAGE RADIAL TIE ROD L.O.U. 22.5.
 - TS12 STRAIN-GAGE RADIAL TIE ROD L.O.U. 67.5.
 - TS13 STRAIN-GAGE RADIAL TIE ROD L.O.U. 113.5.
 - TS14 STRAIN-GAGE RADIAL TIE ROD L.O.U. 157.5.
 - TS15 STRAIN-GAGE RADIAL TIE ROD L.O.U. 202.5.
 - TS16 STRAIN-GAGE RADIAL TIE ROD L.O.U. 247.5.
 - TS17 STRAIN-GAGE RADIAL TIE ROD L.O.U. 292.5.
 - TS18 STRAIN-GAGE RADIAL TIE ROD L.O.U. 337.5.
 - TS20 STRAIN-GAGE AXIAL TIE ROD L.U. 75.
 - TS80 STRAIN-GAGE AXIAL TIE ROD L.U. 75
 - TS21 STRAIN-GAGE AXIAL TIE ROD L.U. 195
 - TS81 STRAIN-GAGE AXIAL TIE ROD L.U. 195
 - TS22 STRAIN-GAGE AXIAL TIE ROD L.U. 315
 - TS82 STRAIN-GAGE AXIAL TIE ROD L.U. 315
 - TS30 STRAIN-GAGE AXIAL TIE ROD L.O.U. 75
 - TS90 STRAIN-GAGE AXIAL TIE ROD L.O.U. 75
 - TS31 STRAIN-GAGE AXIAL TIE ROD L.O.U. 195
 - TS91 STRAIN-GAGE AXIAL TIE ROD L.O.U. 195
 - TS32 STRAIN-GAGE AXIAL TIE ROD L.O.U. 315
 - TS92 STRAIN-GAGE AXIAL TIE ROD L.O.U. 315

LEVEL PROBES:
HL01 AMI SC LEVEL PROBE. QTY 1 @ VALVEBOX RESERVOIR

PRESSURE SENSORS:
HP01 WARM HELIUM GAS SUPPLY UPSTREAM OF VALVE CV1
HP02 LIQUID HELIUM SUPPLY INLET TO VALVEBOX
HP03 PHASE SEPARATOR PRESSURE / QUENCH RETURN
HP93 PHASE SEPARATOR PRESSURE QUENCH RETURN
VALCOM: QTY. 3 @ SOLENOID VALVEBOX
KPSI/MODEL27. QTY 1 @ SOLENOID VALVEBOX

HELIUM MASS FLOW METERS
F164 SIERRA INSTRUMENTS 600 SERIES SOLENOID FLOW RETURN FLOW
HF06 BRONKHURST CURRENT LEADS HELIUM FLOW CONTROL
HF07 BRONKHURST CURRENT LEADS HELIUM FLOW CONTROL

CURRENT METER:
DYNAPOWER ZFC QTY 2 @ CURRENT LEADS

DATE: MAR 23 2015

VALVEBOX SEPARATOR & SOLENOID COOLING TUBES
MAWP: 6 BAR (87PSIA) at 300K
MDMT: 4.5K @ 6BAR (87PSIA)

INTERPRET IN GENERAL ACCORDANCE WITH ANSI/ASME Y14.5M-1994	DRAWN BY: R. THAN	CHECKED BY: OCT 2014
UNLESS OTHERWISE SPECIFIED	DESIGN APPROVAL	ENGINEER APPROVAL
DIMENSIONS ARE IN INCHES	DECIMAL TOLERANCES	ANGULAR TOLERANCE ± 1°
.X ± .030	.XX ± .015	.XXX ± .005
USED ON DRAWING NO. QTY. PER ASSY.	125	BREAK SHARP EDGES FINISH
APPLICATION	MAX. .03 MIN. .015	

COLLIDER-ACCELERATOR DEPARTMENT
BROOKHAVEN NATIONAL LABORATORY
UPTON, N.Y. 11973

TITLE: SPHENIX-CRYOGENICS COLD TEST BLDG 912 CONFIG:A PIPING & INSTRUMENTATION DIAGRAM

SIZE: D DRAWING NUMBER: XXXXXXXX REV. P6

Q.A. CATEGORY: A-3 SCALE: — WEIGHT: — SHEET 1 OF 1

DWG. NO. 1 of 1 P66 DWG. NO.

AutoCAD