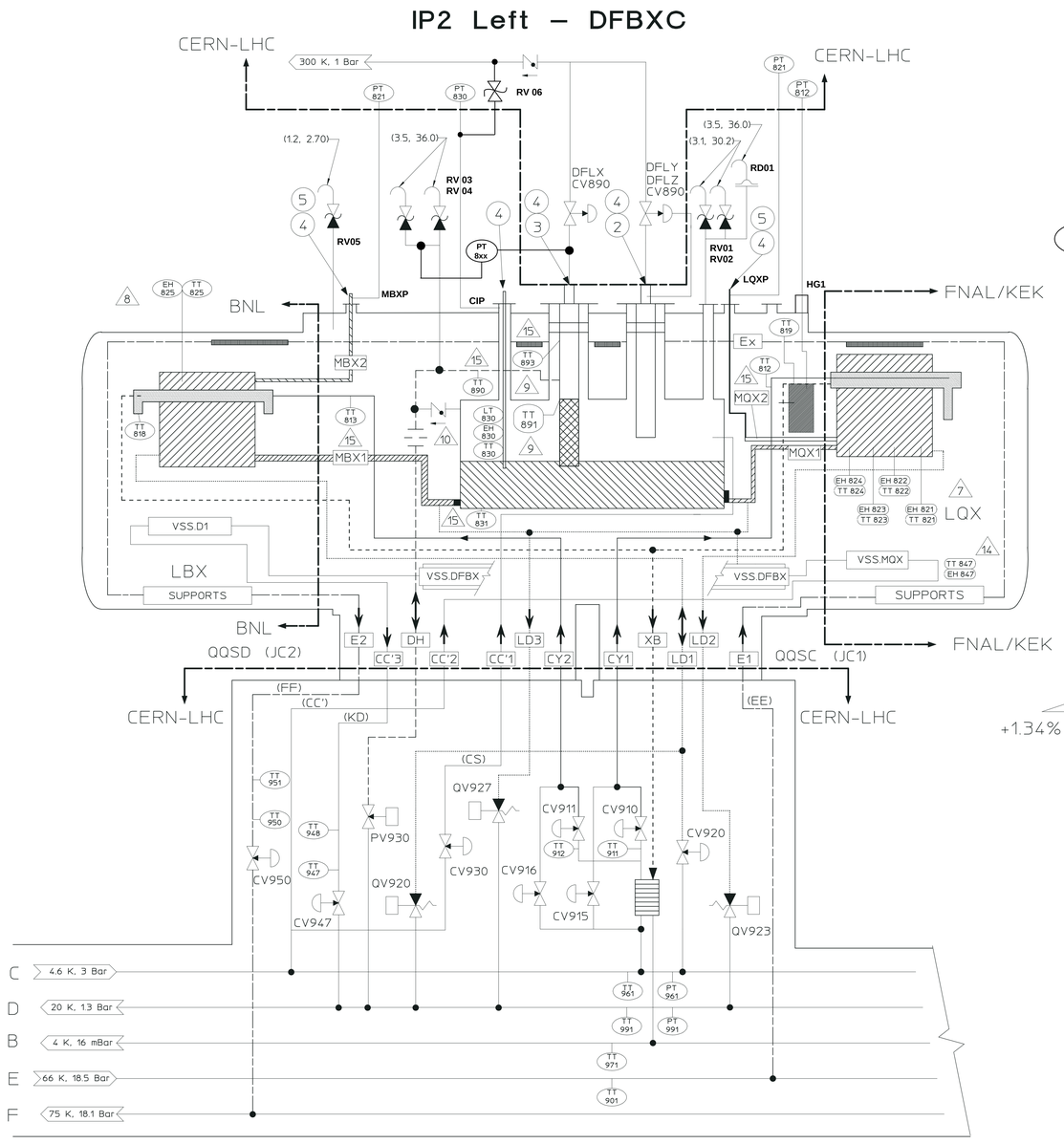

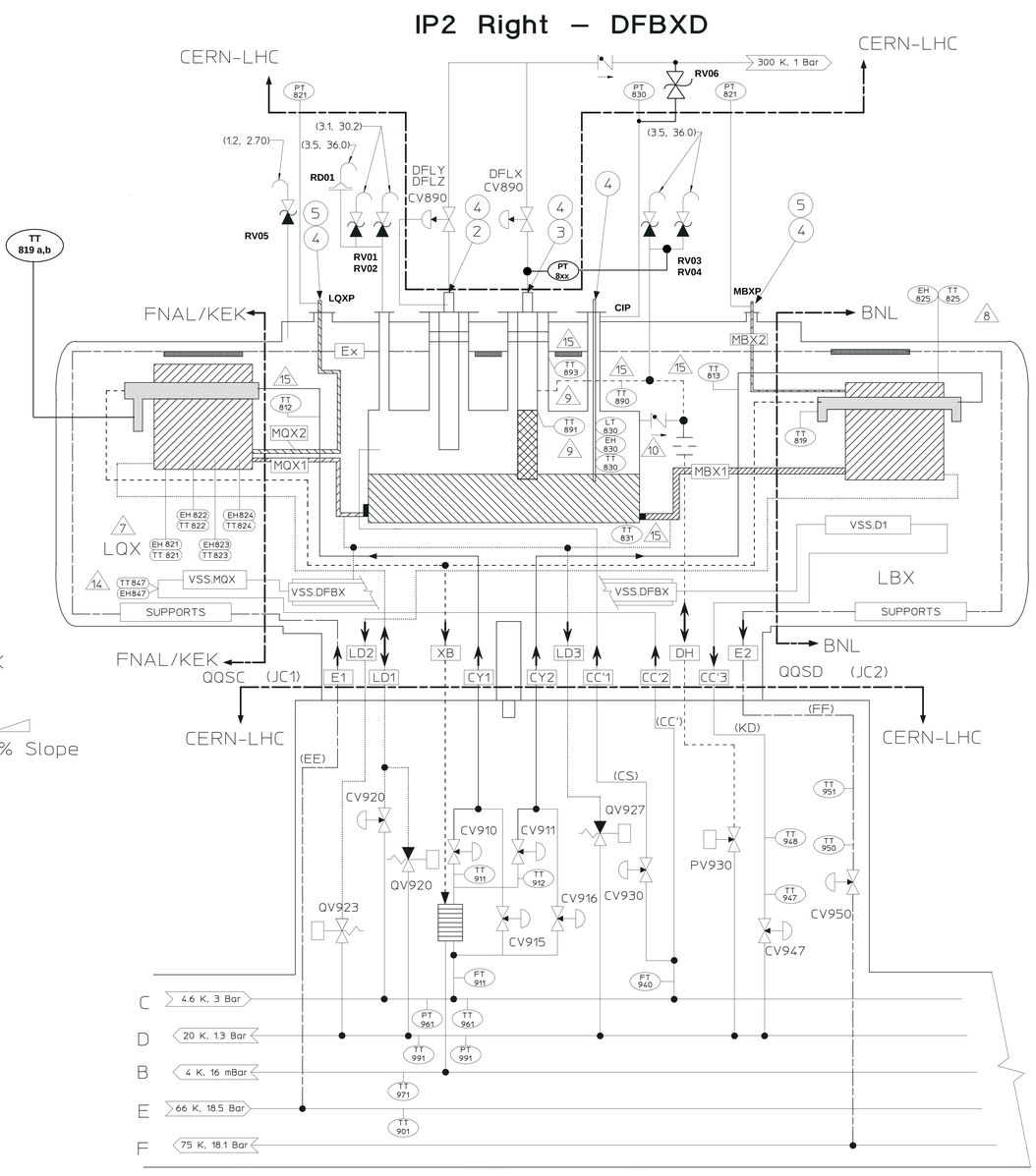

TT 819 a,b

+1.34% Slope

25H4096

Shield Cooling
HTS Cooling
Cooldown, Quench
4.5 K Cooling
1.9 K Supply
1.9 K Return
Piping Designation
SEE NOTE _ Designation
Interface
CERN-LHC
1.9 K, 16 mBar
1.9 K, 1 Bar
4.5 K, 1.3 Bar
Shield
HTS
1 Conduction Cooled
2 Vapor Cooled
3 MQX, MBX Leads
4 Electrical Signals
5 Q.P. HEATERS
LT Level Sensor
EH Heater
TT Temp Sensor
PT Pressure Sensor
FT Flowmeter
Automatic Control Valve (Fail Closed)
Automatic Control Valve (Fail Open)
Automatic On-Off Valve (Fail Closed)
Relief Valve: Press. setting (bar, psig)
Rupture Disk: Press. setting (bar, psig)
CERN Special Safety Relief Valve
Heat Exchanger
Collection Volume
Check Valve
Orifice
LEGEND

NOTES:

1. HEADER TEMPERATURES AND PRESSURES ARE APPROXIMATE NOMINAL CONDITIONS.
2. INTERFACE BOUNDARIES ARE INDICATED.
3. ALL SENSORS IN LQX AND LBX NOT SHOWN.
4. QRL SENSORS INCLUDED FOR REFERENCE.
5. PIPING DESIGNATIONS PER LHC-Q-ES-0001.00 rev 1.0 SHOWN IN ( ) AS REQUIRED.
6. SAFETY RELIEF DEVICES PER LBNL ENG. NOTE M8054.
7. INSTRUMENTATION IS 2X REDUNDANT AT EACH LOCATION. WIRES CONNECT TO LQX FEEDTHROUGH VIA MQX2 TUBE.
8. INSTRUMENTATION IS 2X REDUNDANT AT EACH LOCATION. WIRES CONNECT TO LBX FEEDTHOUGH VIA MBX2 TUBE.
9. INSTRUMENTATION WIRES IN HTS LEAD FEEDTHROUGH. ONLY TT891 IS 2X REDUNDANT. 6 HTS LEADS PER BOX.
10. INSTRUMENTATION WIRES IN LHE DIAGNOSTIC FEEDTHROUGH 2X REDUNDANT.
11. UNLESS OTHERWISE NOTED, INSTRUMENTATION WIRES IN VACUUM SPACE.
12. VSS INTERCONNECTION HARDWARE PROVIDED BY CERN.
13. RELIEF DEVICE PRESSURE SETTINGS IN BAR (ABSOLUTE)
14. WIRES EXIT AT Q1.
15. SENSOR NOT REDUNDANT.

REV	DWG	CHK	ZONE	DATE	CHANGES
B	jz		D1-8	8Aug05	Added LQX Temp Sensors, CERN P tap and Bleed valve, numbered LBL relief devices

FORMERLY 24C3706-2

FOR CERN USE

PART NO.	DESCRIPTION

UNLESS OTHERWISE SPECIFIED
TOLERANCES
THREADS ARE CLASS 2
CHAMFER ENDS OF ALL SCREW THREADS 30°.
CUT 1.5 PITCH THRD RELIEF WITH ROUND NOSE TOOL ON MACHINE CUT THREADS.
BREAK EDGES .016 MAX. ON MACHINED WORK
REMOVE BURRS WELD SPLATTER & LOOSE SCALE
REFERENCES: ANSI Y14.5 & B46.1.

SHOP ORDERS
ACCT. NO. | SERIAL NO.
DATE ISSD | DATE REQD. | NO. REQD.
DELIVER TO
SURFACE TREATMENT
IDENT. METH.
DWG BY Y. KAJIYAMA DATE 25-OCT-02
CHK BY JON ZBASNIK DATE 25-OCT-02

LAWRENCE BERKELEY LABORATORY
UNIVERSITY OF CALIFORNIA-BERKELEY
LARGE HADRON COLLIDER, IR FEEDBOX
CRYOGENICS
DFBX IP2 FLOW SCHEMATICS

PATENT CLEAR | DWG. TYPE SCHEMATIC | SHOWN ON | SCALE N/A | DO NOT SCALE PRINTS
MICROFILMED | DESIGN ACCT. NO. Z5LCE6 | CATEGORY CODE LH2003 | DWG. NO. 25H4096 | SIZE | REV. B