PROJECT: PIP-II_P2IT
CATEGORY: PIPING INSTRUMENTATION DIAGRAM

REV	REVISION CONTROL DOCUMENT	DATES	SIGNATURES
G	F10042546-G-RCD	12-Dec-2019	DRAWN R. Wang
		dd-Mmm-2019	APPROVED –

Notes

1. All pneumatic control valves will have an individual lockable valve on the air supply inlet to maintain valves in a safe position during U-tube insertion/removal.

2. All check valves in series with relief valves will have a 2mm hole drilled through bullet to avoid frequent opening of relief valves

3. In some cases a relief valve is shown on the bottom of a bayonet valve. These valves will be given the same number as the bayonet, but with the suffix "B". For example, the relief valve on bayonet MV-931-H will be tagged SV-931B-H.

4. In some cases a manual valve is shown on the top of a bayonet valve. These valves will be given the same number as the bayonet, but with the suffix "T". For example, the manual valve on bayonet MV-931-H will be tagged MV-931T-H. Any flanges on these valves are 1/4" female quick connect fittings.

TO TRANSFERLINE B
F00483370-CMTF
DISTRIBUTION BOX

CMTF Warm Vacuum Header
Interconects - F10115242

F00484071-CMTF Interconnection Piping

PIP2IT Cave Wall

CMTF Building Wall

THERMAL SHIELD

1" Sch 40 40K Shield Return, Line F
3/4" Sch 10 40K Shield Supply, Line E
1/2" Sch 10 5K Shield Return, Line D
1/2" Sch 10 5K Shield Supply, Line C
CF100 blind
14 inch flange/bellows assembly
4" Sch 10 2K Return, Line B

TP 604D-S
TP 604B-S
TP 604A-S
TP 604C-S

SV 601-V 1 PSIG
SV 602-V 1 PSIG
PT 602-V
KF40 flange

TP 601-V
PT 601-V

SV 160-H 7 PSIG
MV709-H

Guard gas supply
MV707-H

TP 601-H
Compressor Suction

MV-800-V
SV-801-H
MV-801-H
SV-804-H
MV-804-H
SV-803-H
MV-803-H
SV-800-H
MV-800-H
SV-802-H
MV-802-H
SV-627B-H
MV-627-H
SV-623B-H
MV-623-H
SV-621B-H
MV-621-H
SV-625B-H
MV-625-H
SV-611B-H
MV-611-H

TP 605A-S
TP 605B-S
TP 605C-S
TP 605D-S
TP 606A-S
TP 606B-S
TP 606C-S
TP 606D-S

TO 815-S
TO 827-H
TO 814-S
TO 613-S
TO 626-H
LL-001

PT 604-H
TO 604-H
PV 604-H DN 65
CV 604-H DN 50
SV 604-H 50 PSIG
MV-628-V
MV-628-H
MV-629-V
MV-629-H
MV-630-V
MV-630-H
MV-631-V
MV-631-H
PT 606-H
TO 606-H
PT 605-H
TO 605-H
PV 606-H DN 15
PV 605-H DN 15
PV 616-H
MV-612T-H
MV-612-H
MV-610T-H
MV-610-H
CV 606-H DN 20
CV 605-H DN 20
SV 605-H 275 PSIG
SV 606-H 275 PSIG
SV 704-H 16 PSIG
PV 615-H
PV 607-H DN 20
PV 608-H DN 20
MV-614T-H
MV-614-H
MV-616T-H
MV-616-H
CV 608-H DN 20
SV 607-H 275 PSIG
SV 608-H 275 PSIG
PV 614-H
PT 608-H
PT 607-H
TO 607-H

SV702-H 15 psig
RD 702-H 15 psig
TP630-H

SV 703-H 72 PSIG
SV 706-V 6 psig
6" CF flange
SV 708-H 15 PSIG
RD 708-H 40 psig
TP631-H
PRV 717-H
MV711-H
PRV 710-H
SV 615-H 275 PSIG
MV710-H
PV625-H
PT 711-H
Warm HP helium
F00484071-CMTF Interconnection Piping

TP 602-H
Compressor Suction
PT 611-H
TO 611-H
PV 618-H
SV 611-H 275 PSIG
CV 611-H DN 20
MV-622T-H
MV-622-H
MV-626T-H
MV-626-H
CV 613-H DN 20
SV 613-H 275 PSIG
PT 613-H
TO 613-H
PV 611-H DN 15
PV 613-H DN 20
MV708-H
PT 609-H
TO 609-H
PV 617-H
MV-618T-H
MV-618-H
CV 609-H DN 20
SV 609-H 50 PSIG
PV 609-H DN 65
PT 620-H
TO 620-H
PT 612-H
TO 612-H
PV 619-H
MV-624T-H
MV-624-H
MV-620T-H
MV-620-H
CV 610-H DN 20
SV 610-H 275 PSIG
PV 612-H DN 20
PV 610-H DN 15
SV 612-H 275 PSIG
PT 610-H
TO 610-H

SV 706-V 6 psig
6" CF flange
Shield/Intercepts
MV-1000-H
PV-1000-H
TX 731-H
4-1/2" tube relief
TX 2510-H
TX 2514-H
TX 2516-H
PV-1001-H
2-1/2" Sch 10
TX 2520-H
TX 2518-H
LL 1110-H
PT 2501-H
PT 2500-H
6" two-phase pipe
Single Spoke Resonator Cryomodule

PT 621-H
PT 622-H
PT 623-H
PT 624-H
TO 621-H
TO 622-H
TO 623-H
TO 624-H
SV 603-V 1 PSIG
PT 603-V
ISO 100 Flange
KF 40 Flange
PV 624-H DN 15
PV 622-H DN 15
Guard gas supplied
PV 603-H DN 15
HT-002 150 W
TO 625-H

1" Sch 40 40K Shield Return
40K SUPPLY 3/4" Sch 10
8K RETURN 1/2" Sch 10
5K SUPPLY 1/2" Sch 10
2K RETURN 4" Sch 10

DRAWN	P. LAMBERTZ	DATE	22-Oct-2018
CHECKED	J. COGHILL	DATE	12-Nov-2018
APPROVED	RENZHUO WANG	DATE	12-Nov-2018
USED ON			
MATERIAL			
GROUP: Technical Division Cryogenic Systems		CAGE CODE: 0U5R6	

FERMI NATIONAL ACCELERATOR LABORATORY
UNITED STATES DEPARTMENT OF ENERGY

NAME
CMTF PIP-II
TRANSFER LINE
PXIE CRYOGENICS P&ID

SCALE	SIZE	DRAWING NUMBER	SHEET	REV
NONE	E	F10042546	1 OF 1	G