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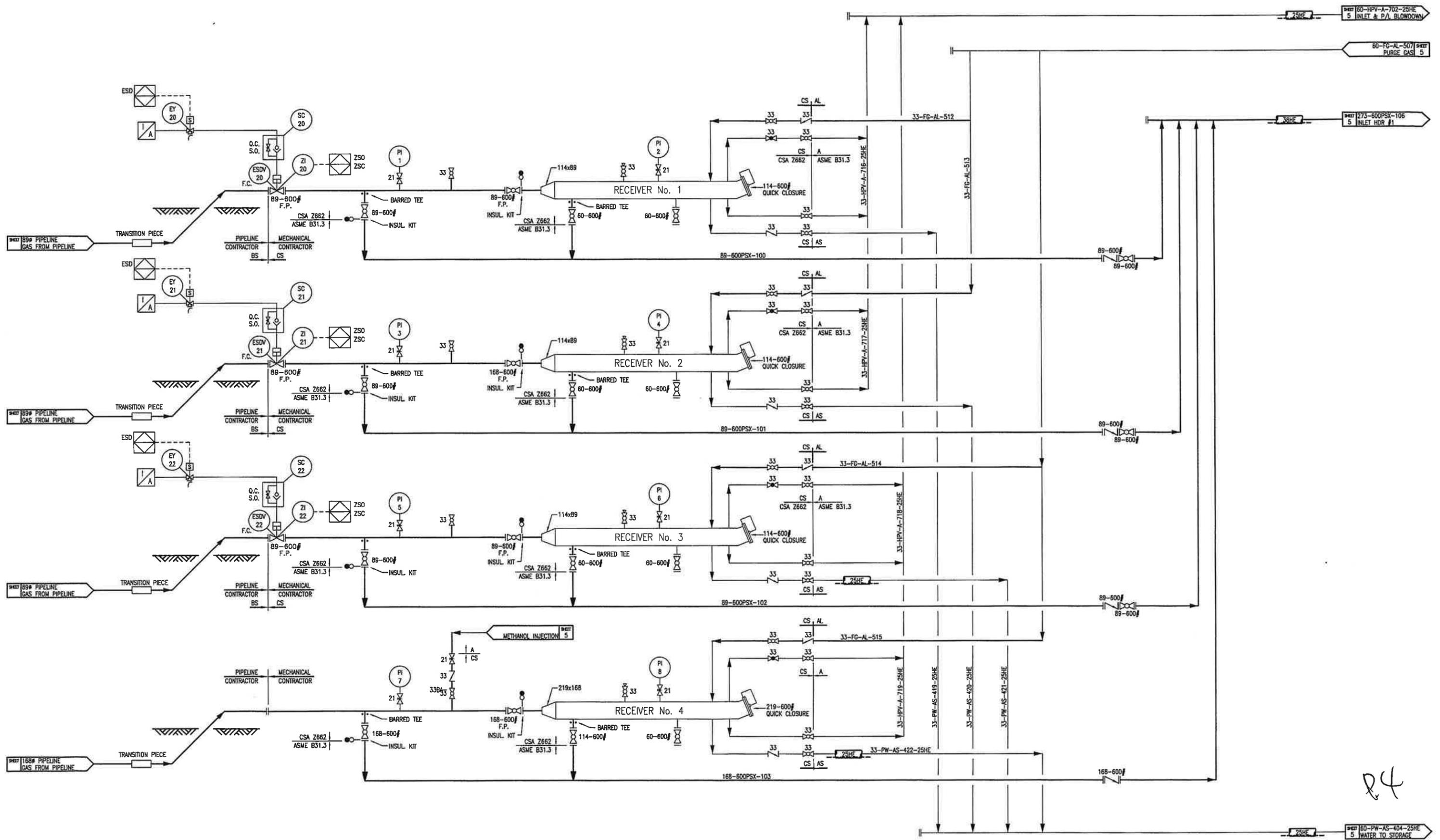
SHEET 47 ——— I.A. COMPRESSOR (K-700A/B); WET AIR RECIEVER (V-704);AIR DRYER (D-702); AIR AFTER FILTER (F-703);
FUEL GAS HEADER

SHEET 48 ——— I.A. COMPRESSOR (K-700A/B); WET AIR RECIEVER (V-704);AIR DRYER (D-702); AIR AFTER FILTER (F-703);

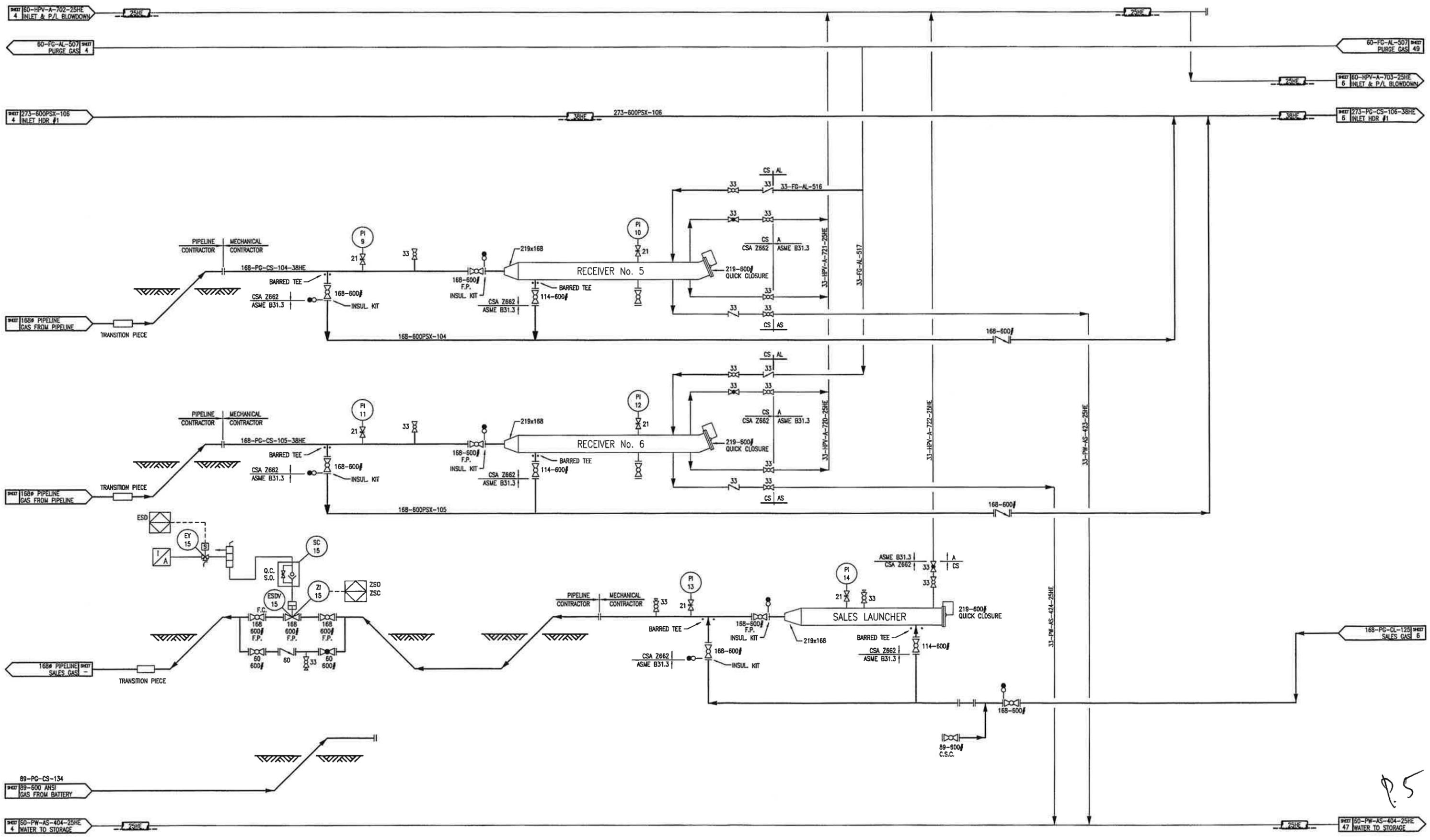
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FLARE STACK (FS-802)

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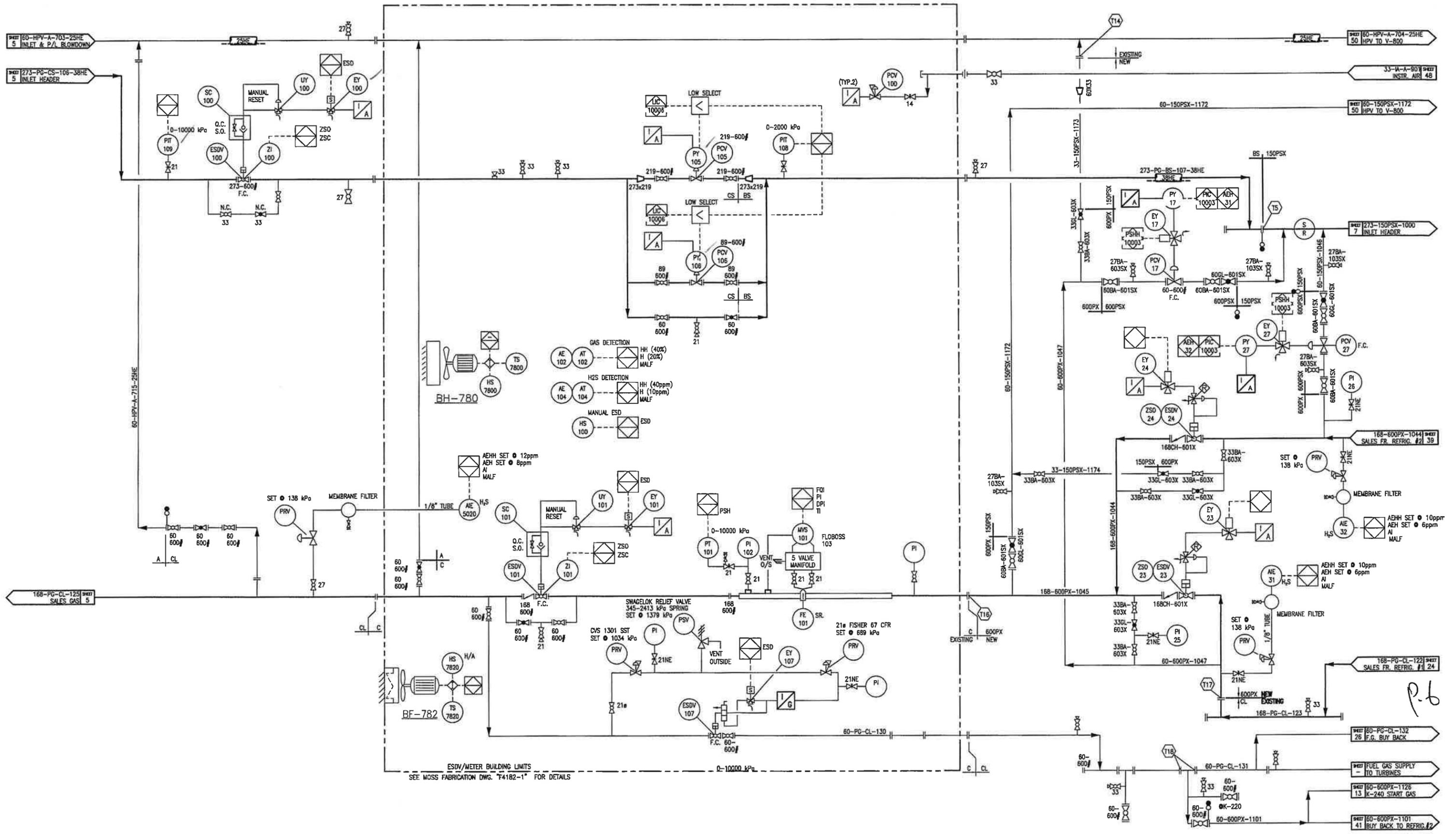
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P.5

BH-780
BUILDING HEATER (ELECTRIC)
 VENDOR: MOSS
 MAKE/MODEL: RUFFNECK/
 DUTY: 7.5 kW
 c/w 1/4hp/___V/1ø/60 Hz.

BF-782
BUILDING FAN
 VENDOR: MOSS
 MAKE/MODEL: DAYTON/10"
 DUTY:
 c/w 1/4hp/ 110 V/1ø/60 Hz.



ESDV/METER BUILDING LIMITS
 SEE MOSS FABRICATION DWG. F4182-1" FOR DETAILS

P.6

BH-210A/B
BUILDING HEATER
RUFFNECK/FX4-480380-350-T
35 KW

BF-213
BUILDING FAN
VENDOR: TOROMONT
MAKE/MODEL: TBA
MOTOR: 120/240V/18/XP

K-200
PROCESS COMPRESSOR
VENDOR: TOROMONT
FRAME: ARIEL JGK/4-3
ENGINE: WALKESHA L5794LT
TOROMONT S/N 31484

V-201
SUCTION SCRUBBER
762# x 1829 S/S
MAWP: 4516 kPag @ 149°C
C.A: 3.2mm

V-202
STAGE 1st SUCTION BOTTLE
610# x 1778 S/S
MAWP: 4516 kPag @ 149°C
C.A: 3.2mm

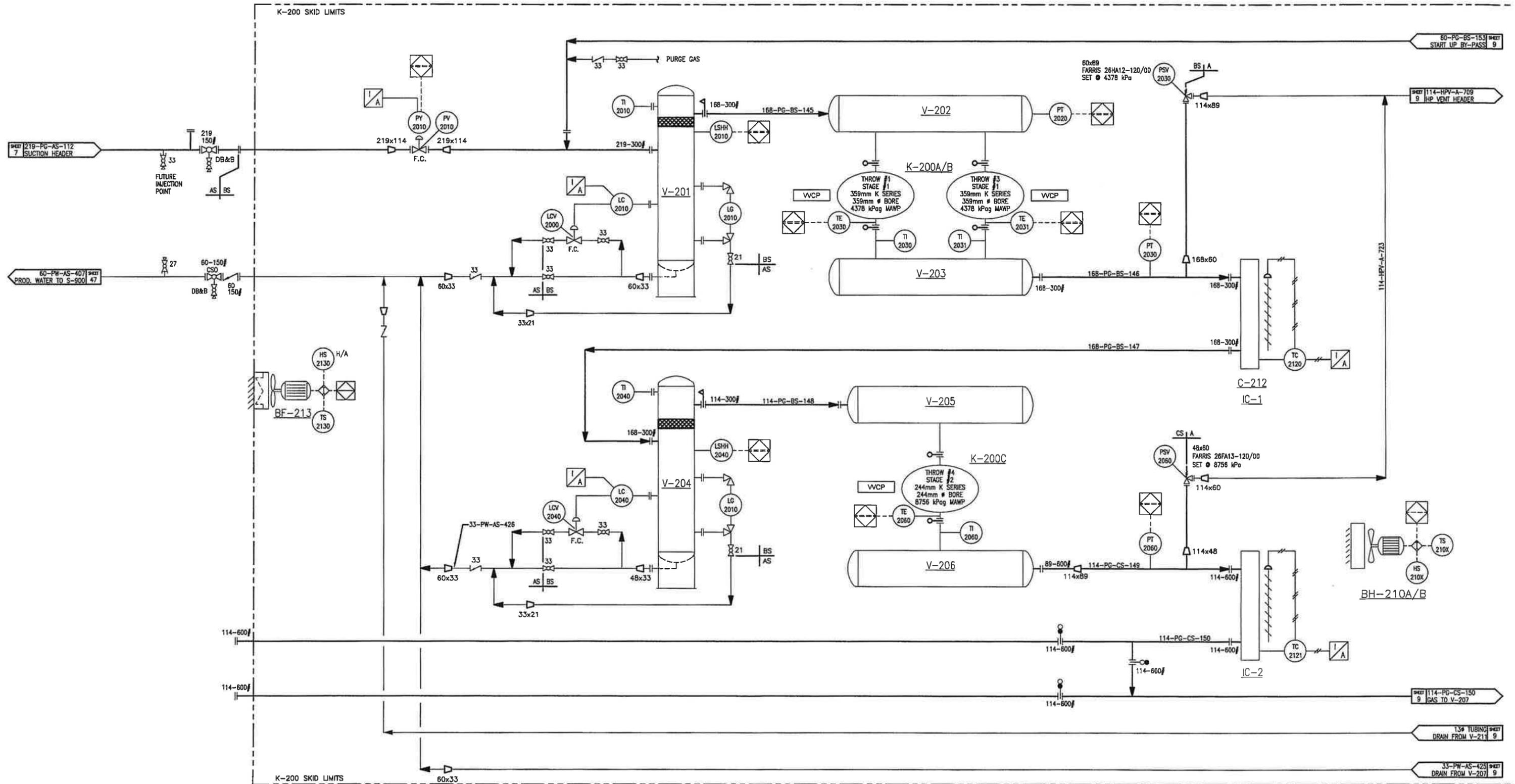
V-203
STAGE 1st DISCHARGE BOTTLE
457# x 1778 S/S
MAWP: 4447 kPag @ 177°C
C.A: 3.2mm

V-204
2nd STAGE SCRUBBER
559# x 1676 S/S
MAWP: 4516 kPag @ 149°C
C.A: 3.2mm

V-205
2nd STAGE SUCTION BOTTLE
508# x 914 S/S
MAWP: 4516 kPag @ 149°C
C.A: 3.2mm

V-206
2nd STAGE DISCHARGE BOTTLE
508# x 762 S/S
MAWP: 8880 kPag @ 177°C
C.A: 3.2mm

G-212
AIR COOLER
HEMPHILL/144EH-110-22
IC1: 447 kPag @ 177/-29°C
IC2: 8909 kPag @ 177/-29°C
AC: 11376 kPag @ 177/-29°C
C.A: 3.2mm



60-PG-BS-153 sheet
START UP BY-PASS 9

114-HPV-A-709 sheet
IHP VENT HEADER 9

114-PG-CS-150 sheet
GAS TO V-207 9

1.3# TUBING sheet
DRAIN FROM V-211 9

33-PW-AS-426 sheet
DRAIN FROM V-207 9

P.B

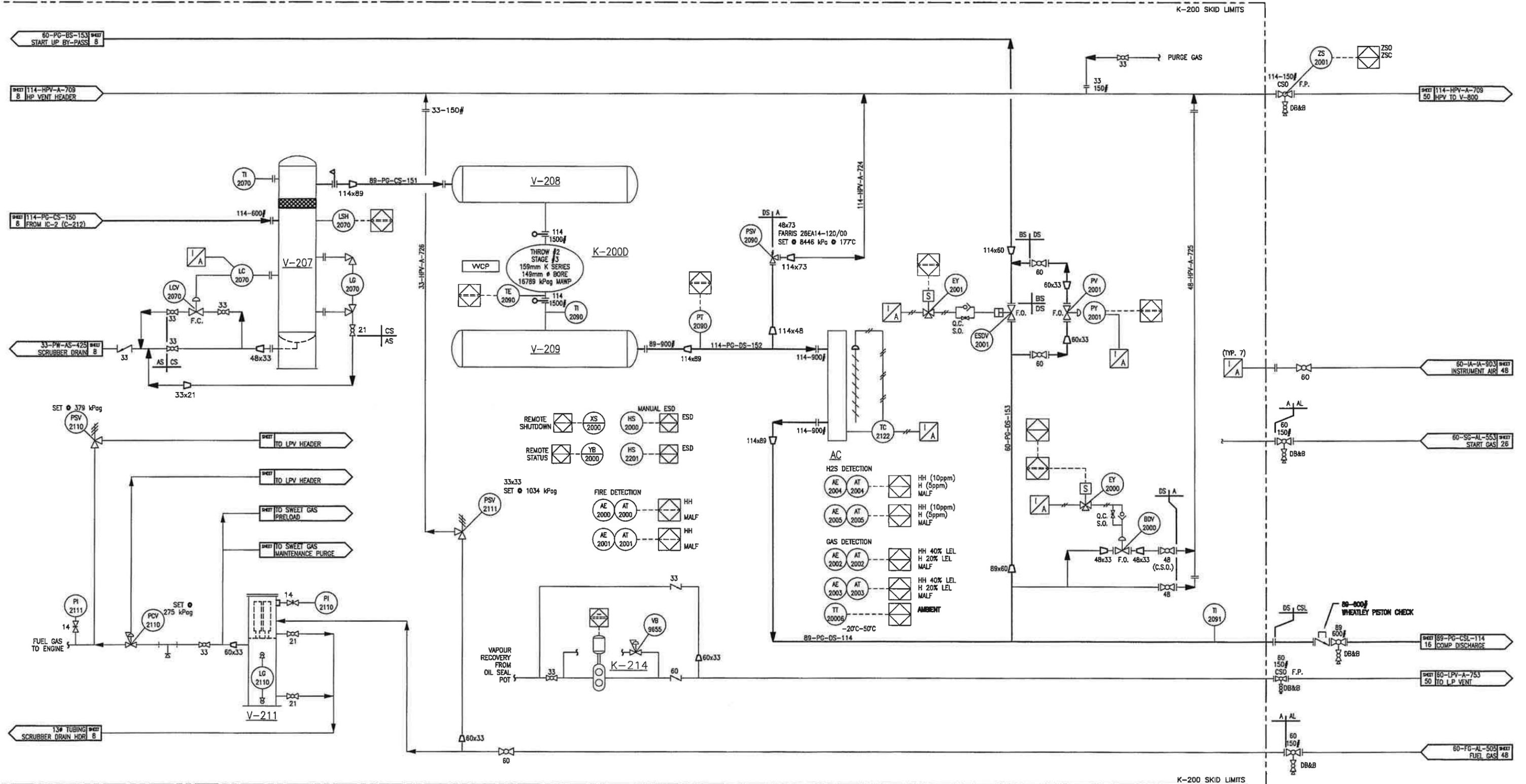
V-207
3rd STAGE SCRUBBER
508# x 11676 S/S
MAWP: 9066 kPag @ 149°C
C.A.: 3.2mm

V-208
3rd STAGE SUCTION BOTTLE
457# x 914 S/S
MAWP: 9066 kPag @ 149°C
C.A.: 3.2mm

V-209
3rd STAGE DISCHARGE BOTTLE
406# x 762 S/S
MAWP: 11376 kPag @ 177°C
C.A.: 3.2mm

V-211
FUEL FILTER SEPARATOR
VENDOR: TOROMONT
SIZE: 152mm O.D.
M.A.W.P.: 1895 kPag
ELEMENT: PEOD/PCHG-36

P-214
WASTE OIL VRU COMPRESSOR
VENDOR: TOROMONT
MAKE/MODEL: UTILE/LGA-12
MOTOR: BALDOR 1 HP-460V/3/60-XP



BH-230A/B
BUILDING HEATER
 RUFFNECK/FX4-480360-350-T
 35 KW

BF-233
BUILDING FANS
 VENDOR: TOROMONT
 MAKE/MODEL: TBA
 C/W 120-240V /1ø/XP

K-220
PROCESS COMPRESSOR
 VENDOR: TOROMONT
 FRAME: ARIEL JGK/4-3
 ENGINE: WAUKESHA L5794LT
 TOROMONT S/N 31485

V-221
SUCTION SCRUBBER
 762# x 1829 S/S
 MAWP: 4516 kPag @ 149°C
 C.A: 3.2mm

V-222
STAGE 1st SUCTION BOTTLE
 610# x 1778 S/S
 MAWP: 4516 kPag @ 149°C
 C.A: 3.2mm

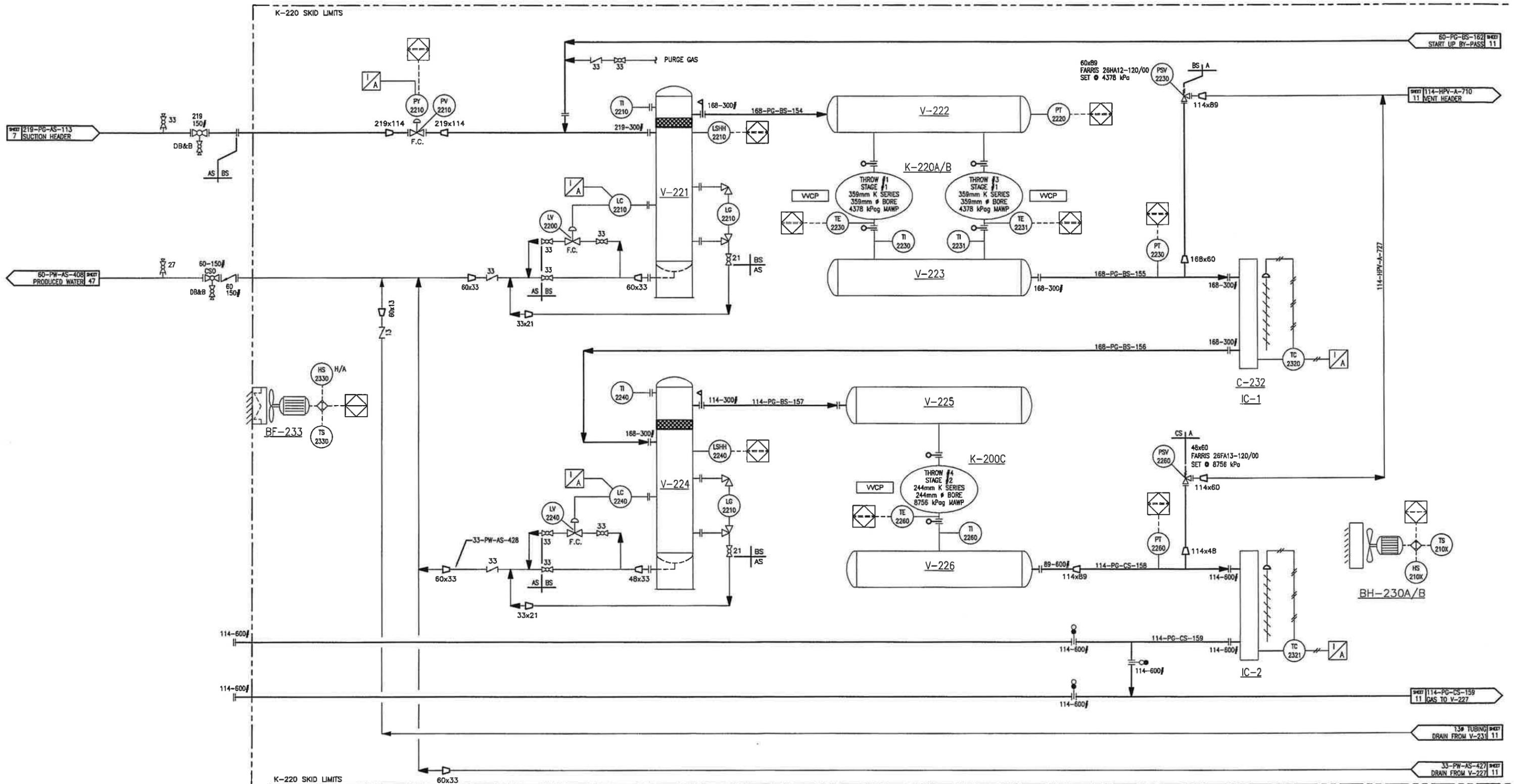
V-223
STAGE 1st DISCHARGE BOTTLE
 457# x 1778 S/S
 MAWP: 4447 kPag @ 177°C
 C.A: 3.2mm

V-224
2nd STAGE SCRUBBER
 559# x 1676 S/S
 MAWP: 4516 kPag @ 149°C
 C.A: 3.2mm

V-225
2nd STAGE SUCTION BOTTLE
 508# x 914 S/S
 MAWP: 4516 kPag @ 149°C
 C.A: 3.2mm

V-226
2nd STAGE DISCHARGE BOTTLE
 508# x 762 S/S
 MAWP: 8880 kPag @ 177°C
 C.A: 3.2mm

C-232
AIR COOLER
 HEMPHILL/144EH-110-22
 IC1: 447 kPag @ 177/-29°C
 IC2: 8909 kPag @ 177/-29°C
 AC: 11376 kPag @ 177/-29°C
 C.A: 3.2mm



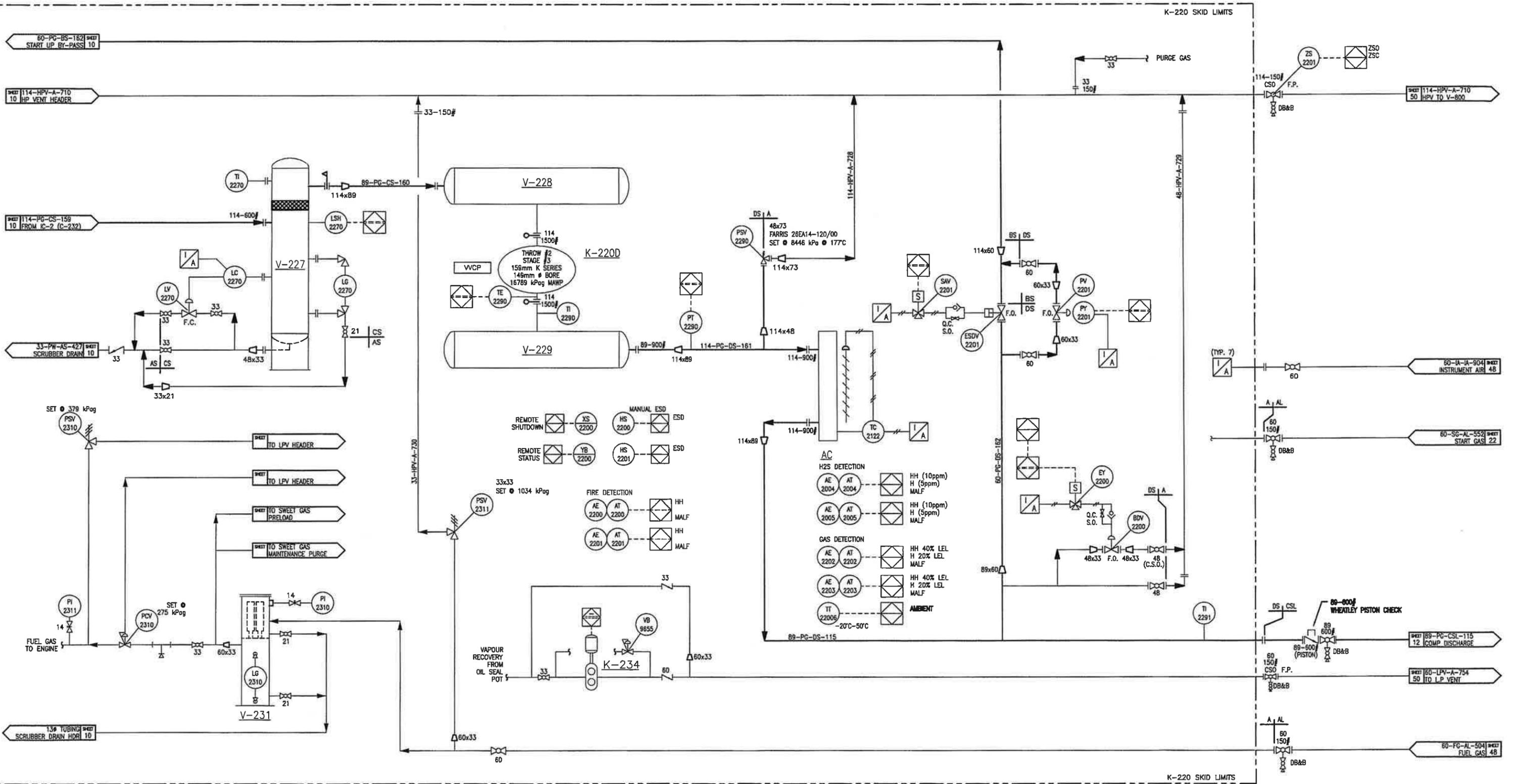
V-227
3rd STAGE SCRUBBER
508# x 11676 S/S
MAWP: 9086 kPag @ 149°C
C.A.: 3.2mm

V-228
3rd STAGE SUCTION BOTTLE
457# x 914 S/S
MAWP: 9086 kPag @ 149°C
C.A.: 3.2mm

V-229
3rd STAGE DISCHARGE BOTTLE
408# x 762 S/S
MAWP: 11376 kPag @ 177°C
C.A.: 3.2mm

P-234
WASTE OIL VRU COMPRESSOR
VENDOR: TOROMONT
MAKE/MODEL: UTILE/LGA-12
MOTDR: BALDOR 1 HP-460V/3/60-XP

V-231
FUEL FILTER SEPARATOR
VENDOR: TOROMONT
SIZE: 152mm O.D.
M.A.W.P.: 1965 kPa
ELEMENT: PECO/PCHG-36



BH-250A/B
BUILDING HEATERS
TBD

BF-253
BUILDING FAN
VENDOR: TOROMONT
MAKE/MODEL: TBA

K-240
PROCESS COMPRESSOR
GEMINI ES-804-3
c/w CAT G3516TAW-AFR ENGINE
1085 HP @ 1200 RPM
TOROMONT UNIT #31605

V-241
1st STAGE SUCTION SCRUBBER
762 O.D. x 1829 S/S
MAWP 4516 KPa. @ 149°C
C.A. : 3.2mm

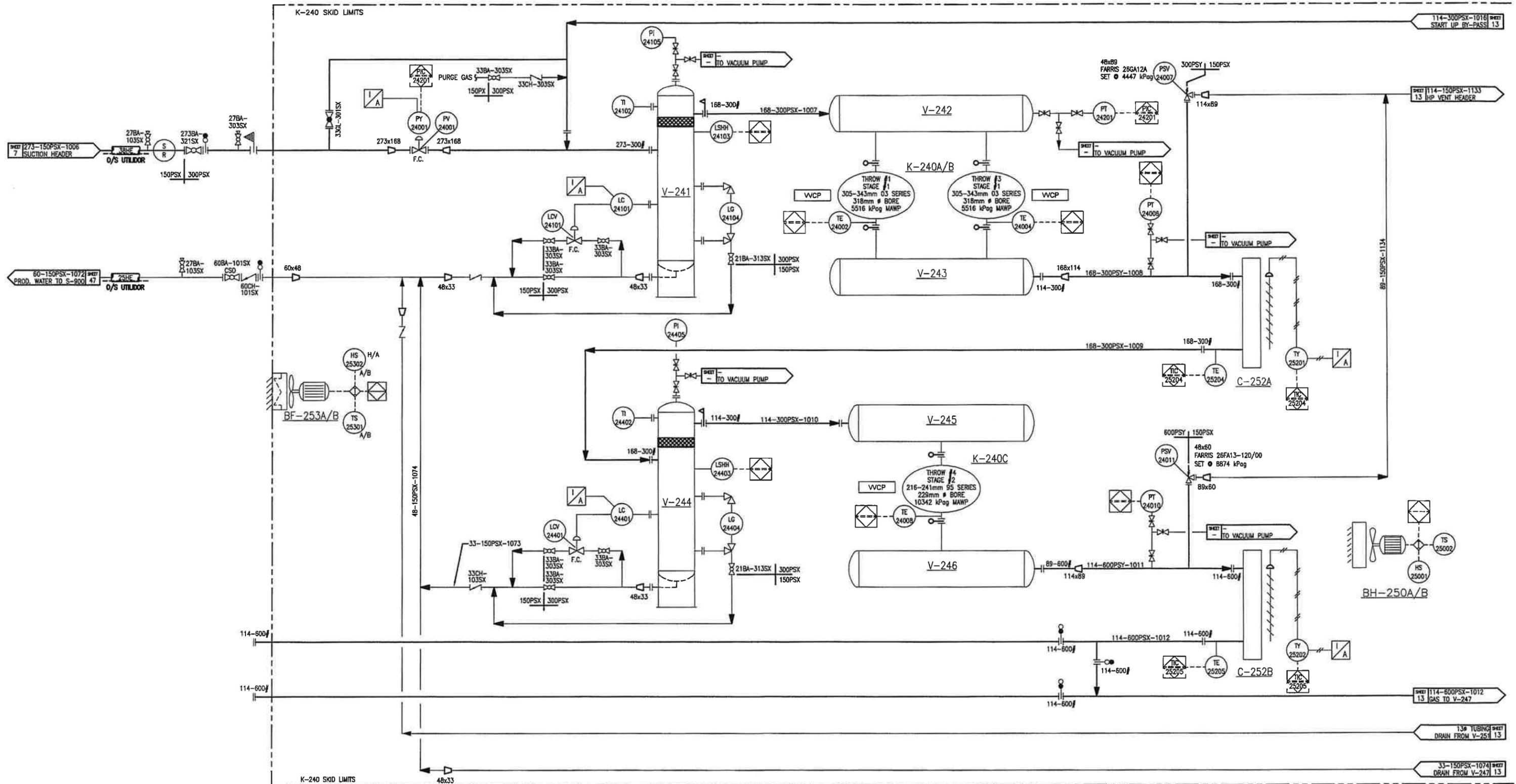
V-242
1st STAGE SUCTION BOTTLE
610 O.D. x 1676 S/S
MAWP 4516 KPa. @ 149°C
C.A. : 3.2mm

V-243
1st STAGE DISCHARGE BOTTLE
610 O.D. x 1676 S/S
MAWP 4447 KPa. @ 149°C
C.A. : 3.2mm

V-245
2nd STAGE SUCTION BOTTLE
508 O.D. x 1016 S/S
MAWP 4516 KPa. @ 149°C
C.A. : 3.2mm

V-246
2nd STAGE DISCHARGE BOTTLE
406 O.D. x 813 S/S
MAWP 8874 KPa. @ 177°C
C.A. : 3.2mm

V-244
INTERSTAGE #1 SCRUBBER
610 O.D. x 1829 S/S
MAWP : 4516 KPa. @ 149°C
C.A. : 3.2mm



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V-251
FUEL GAS FILTER SEPARATOR
 168 O.D. x
 MAWP 1965 KPa. @ 38°C

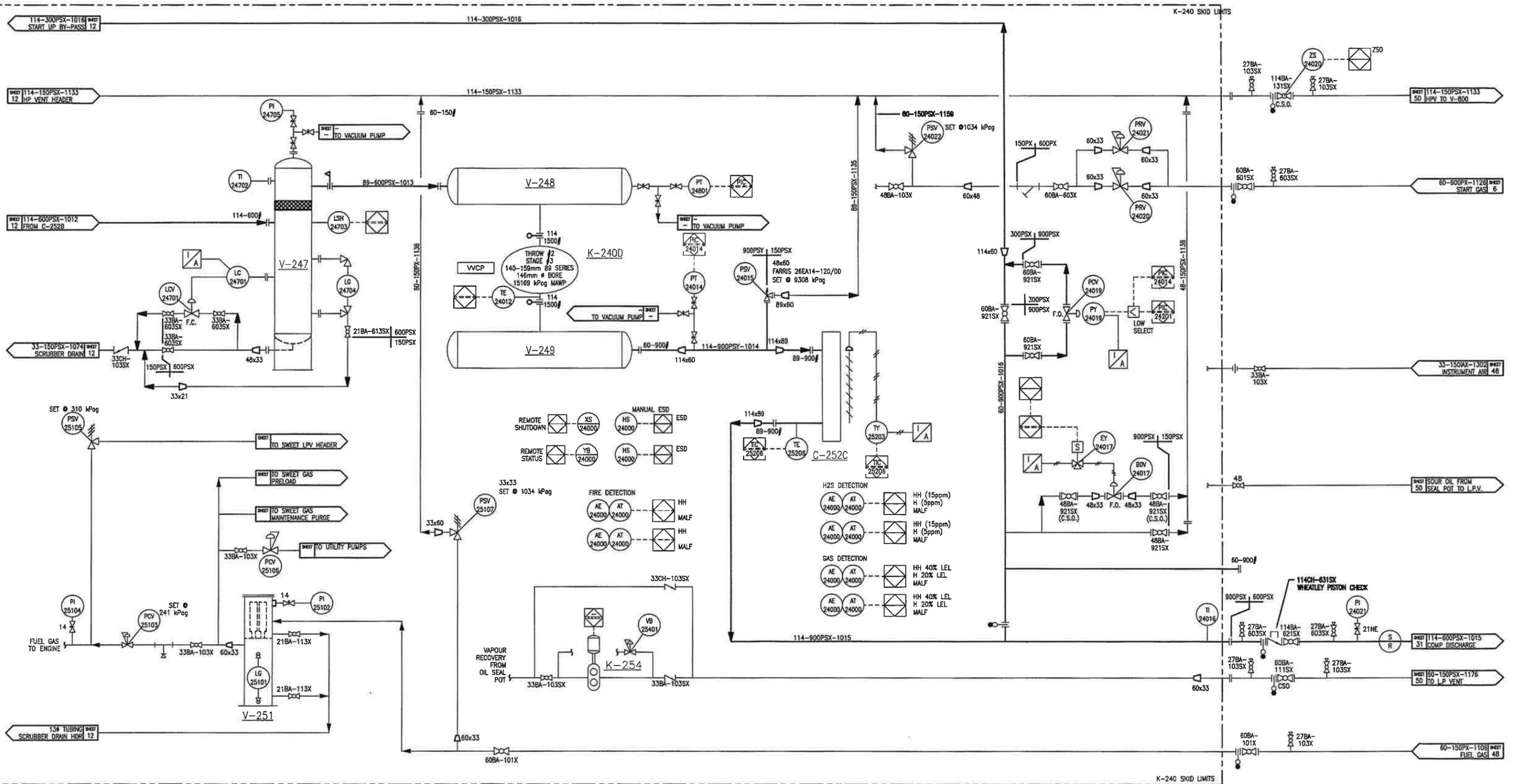
V-247
INTERSTAGE #2 SCRUBBER
 508 O.D. x 1676 S/S
 MAWP : 9032 KPa. @ 149°C
 C.A. : 3.2mm

V-248
3rd STAGE SUCTION BOTTLE
 408 O.D. x 813 S/S
 MAWP 9032 KPa. @ 149°C
 C.A. : 3.2mm

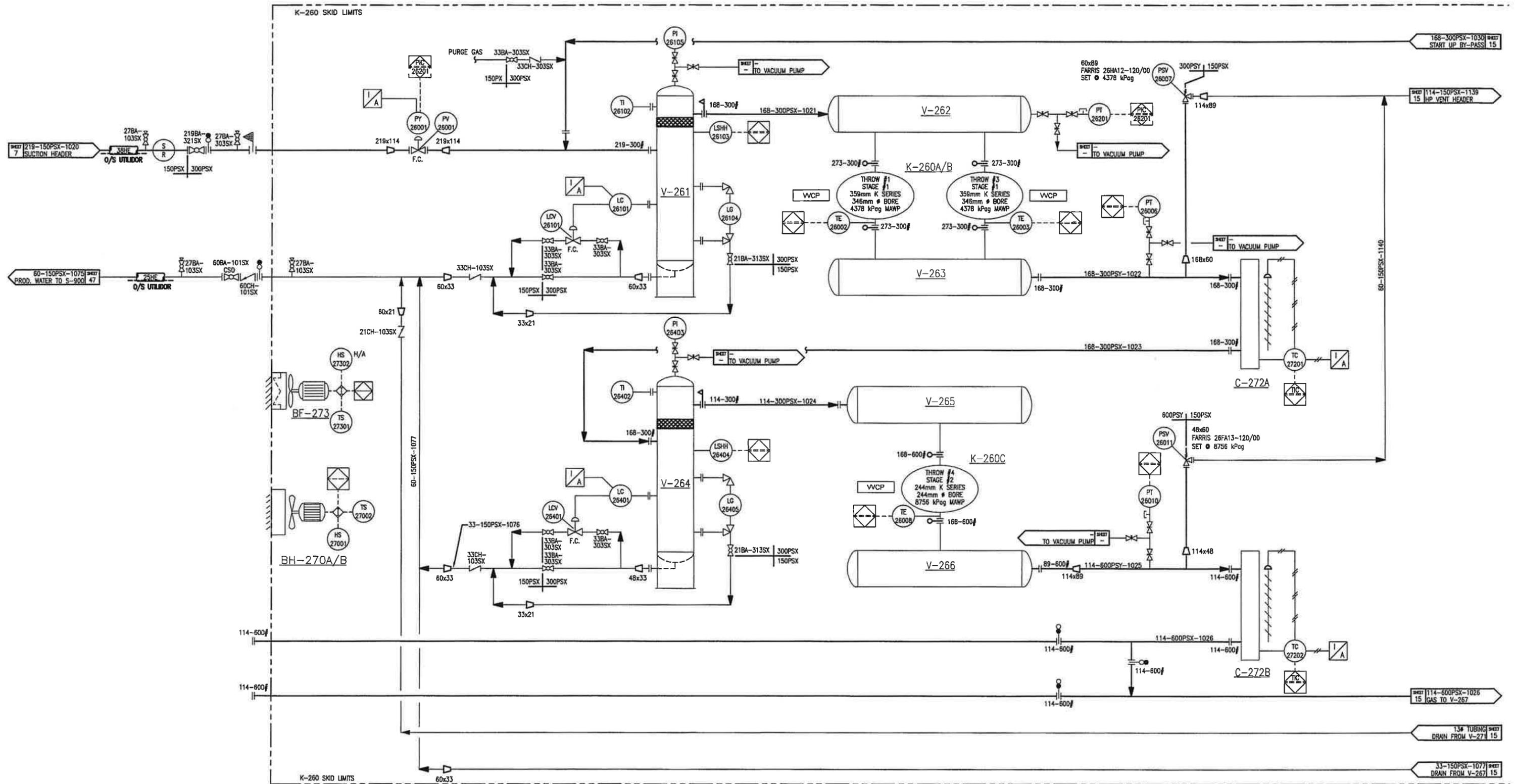
V-249
3rd STAGE DISCHARGE BOTTLE
 356 O.D. x 813 S/S
 MAWP 11376 KPa. @ 177°C
 C.A. : 3.2mm

K-254
WASTE OIL VRU COMPRESSOR
 VENDOR: TOROMONT
 MAKE/MODEL: TBD
 MOTOR: TBD

C-252A/B/C
AIR X-CHANGER
 AIR-X-HEMPHILL - 144EH-110-22
 A : MAWP 4447 KPa. @ -29°C/177°C
 B : MAWP 8874 KPa. @ -29°C/177°C
 C : MAWP 11376 KPa. @ -29°C/177°C



BH-270A/B BUILDING HEATERS TBD
 BF-273 BUILDING FAN VENDOR: TOROMONT MAKE/MODEL: TBA
 K-260 PROCESS COMPRESSOR ARIEL J6K/4-3 c/w WAUKESHA L5794LT TOROMONT UNIT #31799
 V-261 1st STAGE SUCTION SCRUBBER 762 O.D. x 1829 S/S MAWP 4516 kPa. @ 149°C C.A. : 3.2mm
 V-262 1st STAGE SUCTION BOTTLE 610 O.D. x 1778 S/S MAWP 4516 kPa. @ 149°C C.A. : 3.2mm
 V-263 1st STAGE DISCHARGE BOTTLE 457 O.D. x 1778 S/S MAWP 4447 kPa. @ 177°C C.A. : 3.2mm
 V-265 2nd STAGE SUCTION BOTTLE 508 O.D. x 914 S/S MAWP 4516 kPa. @ 149°C C.A. : 3.2mm
 V-266 2nd STAGE DISCHARGE BOTTLE 508 O.D. x 762 S/S MAWP 8881 kPa. @ 177°C C.A. : 3.2mm
 V-264 INTERSTAGE #1 SCRUBBER 610 O.D. x 1676 S/S MAWP : 4516 kPa. @ 149°C C.A. : 3.2mm



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V-271
FUEL GAS FILTER SEPARATOR
168 O.D. x
MAMP 1965 KPa. @ 38°C

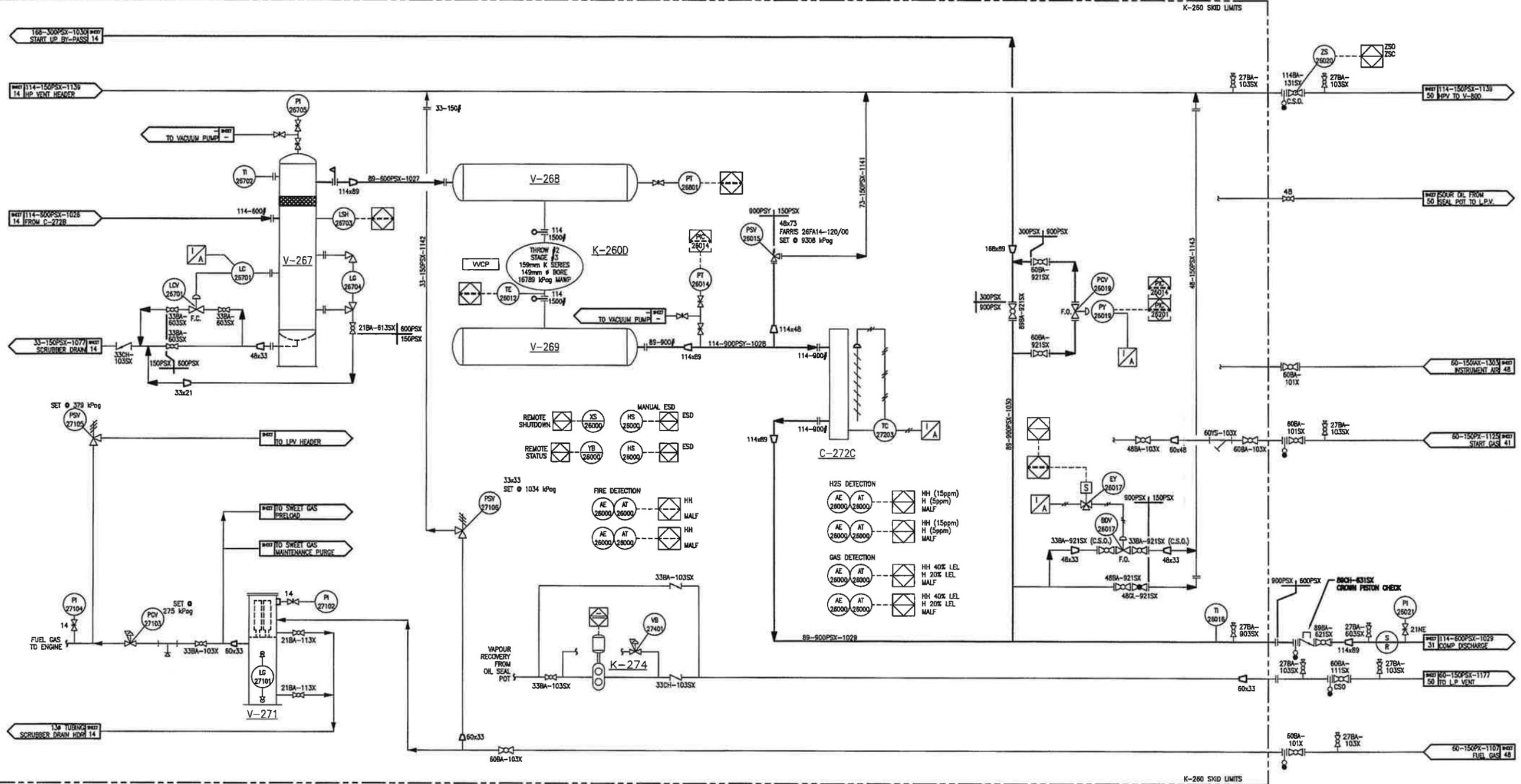
V-267
INTERSTAGE #2 SCRUBBER
508 O.D. x 1676 S/S
MAMP 9032 KPa. @ 149°C
C.A. : 3.2mm

V-268
3rd STAGE SUCTION BOTTLE
457 O.D. x 914 S/S
MAMP 9032 KPa. @ 149°C
C.A. : 3.2mm

V-269
3rd STAGE DISCHARGE BOTTLE
405 O.D. x 762 S/S
MAMP 11376 KPa. @ 177°C
C.A. : 3.2mm

P-274
WASTE OIL VRIU COMPRESSOR
VENDOR: TOROMONT
MAKE/MODEL:
MOTOR:

C-272A/B/C
AIR X-CHANGER
AIR-X-HEMPHILL - 144EH-110-22
A : MAMP 4447 KPa. @ -29°C/177°C
B : MAMP 8874 KPa. @ -29°C/177°C
C : MAMP 11376 KPa. @ -29°C/177°C



NOTES	REFERENCE DRAWINGS	REV.	DATE	BY	DESCRIPTION	CHK'D	APP'D	CLIENT	ENGINEERING & PERMIT STAMPS		BY	DATE
									SCALE/PLOT SCALE	DRAWING NAME		
		9A	11.07.12	CA	CONVERTED TO GALLEON TITLEBLOCK						CA	11.07.12
		9	10.10.18	CAF	PHASE II EXPANSION GENERAL REVISIONS							
		8	10.10.15	CAF	PHASE II EXPANSION							
		7	10.09.21	CAF	POST CONSTRUCTION							
		6	10.05.03	CAF	GENERAL REVISIONS							
		5	10.07.20	CAF	REVISED AS PER CLIENTS REMARKS							
		4	10.07.01	CAF	ISSUED FOR CONSTRUCTION	PC						
		3	10.05.05	JG	ISSUED FOR CLIENT REVIEW							
		2		ASA	POST CONSTRUCTION REVISION							
		9B	11.08.21	FE	ISSUED FOR REVIEW (MRC JOB# 11844)							

GUIDEX
Guide Exploration Ltd.

MILLENIA
Resource Consulting

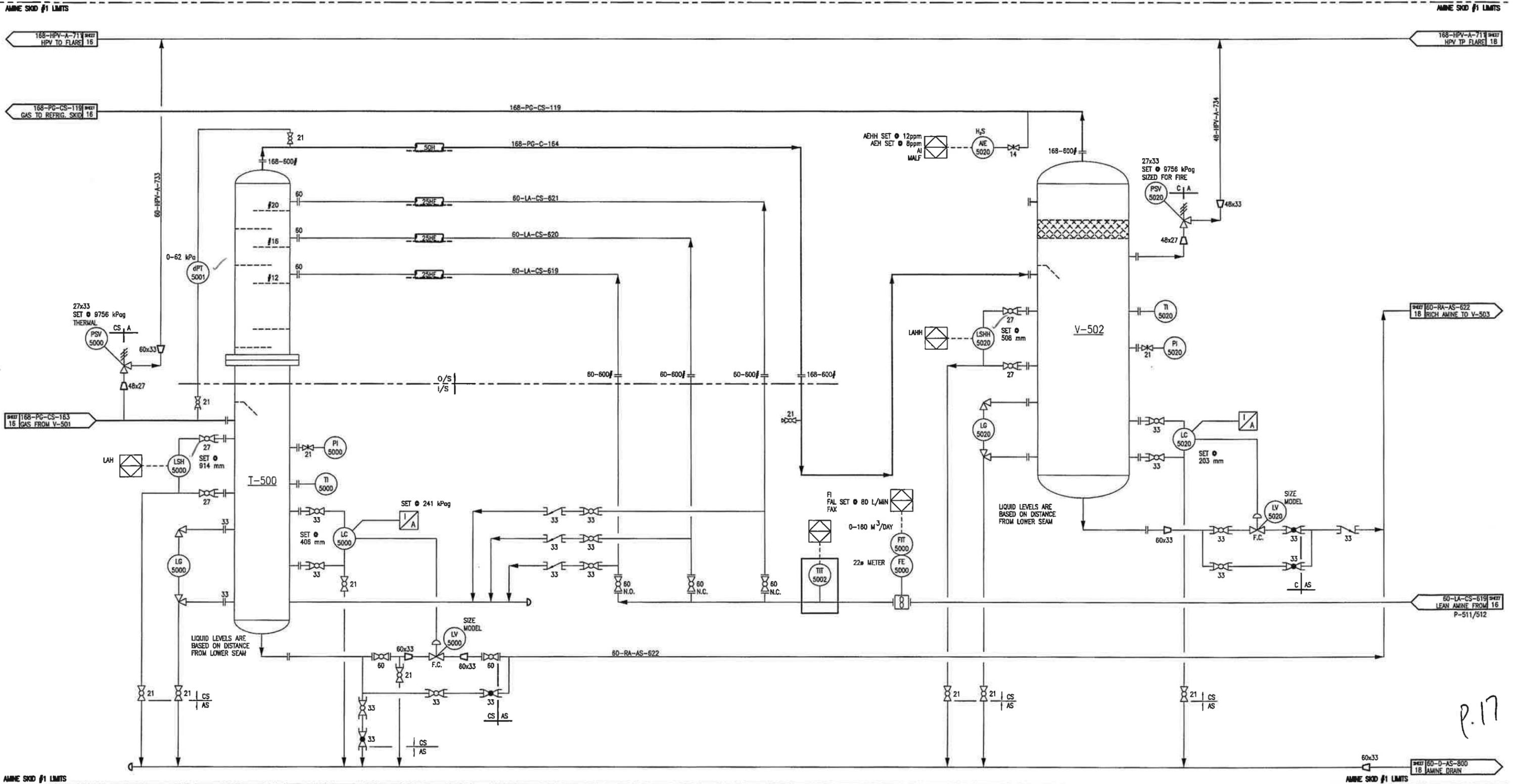
KAKUT 14-12 GAS PLANT
LSD 14-12-75-3 W6M
K-2600 COMPRESSOR
PIPING & INSTRUMENTATION DIAGRAM

MRC JOB No.: 11844
CADNAME: 74514-P&ID-015

SCALE/PLOT SCALE: NTS
DRAWING NAME: 74514-P&ID-015
REV. 9B

T-500
AMINE CONTACTOR
 VENDOR: TOROMONT
 SIZE: 762mm OD x 16155mm S/S
 M.A.W.P.: 9756 kPag @ -28°C/65°C
 CA: 3.2mm

V-502
SWEET GAS SCRUBBER
 VENDOR: TOROMONT
 SIZE: 762mm ID x 1829mm S/S
 M.A.W.P.: 9756 kPag @ -29°C/65°C
 CA: 3.2mm

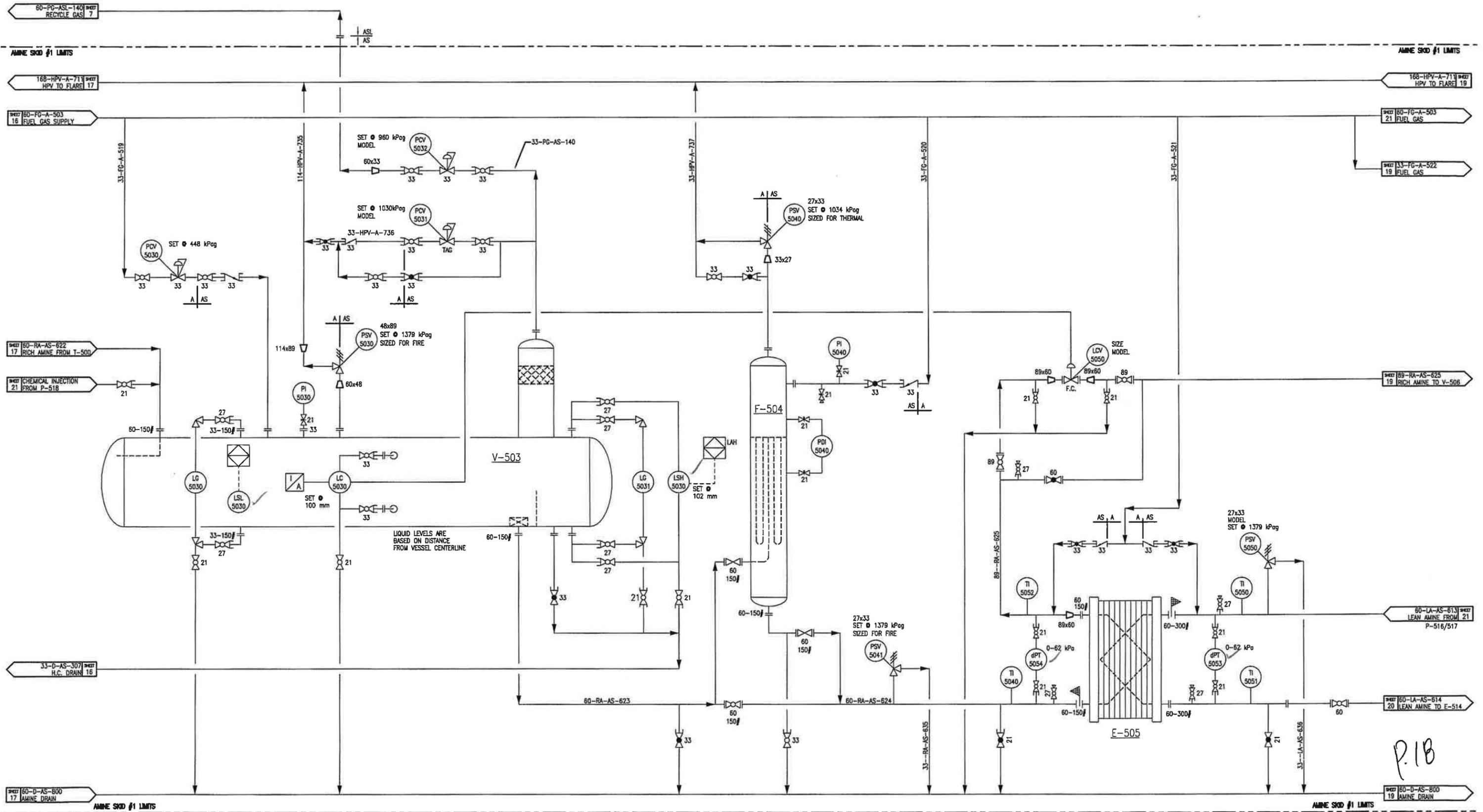


P.17

V-503
 AMINE FLASH DRUM
 VENDOR: TOROMONT
 610mm OD x 1829mm S/S
 M.A.W.P.: 1379 kPag @ -29°C/93°C
 C.A.: 3.2mm

F-504
 RICH AMINE FILTER
 VENDOR: TOROMONT
 MAKE: EGS BGI-L2
 SIZE: 219mm OD x 838mm S/S
 M.A.W.P.: 1379 kPag @ -29°C/93°C
 C.A.: 3.2mm

E-505
 LEAN/RICH AMINE EXCHANGER
 VENDOR: TOROMONT
 MAKE: VIEK
 M.A.W.P.: 1379 kPag @ -29/93°C
 PLATE MTR'L: 316LSS
 PROCESS DUTY: 302.8 KW

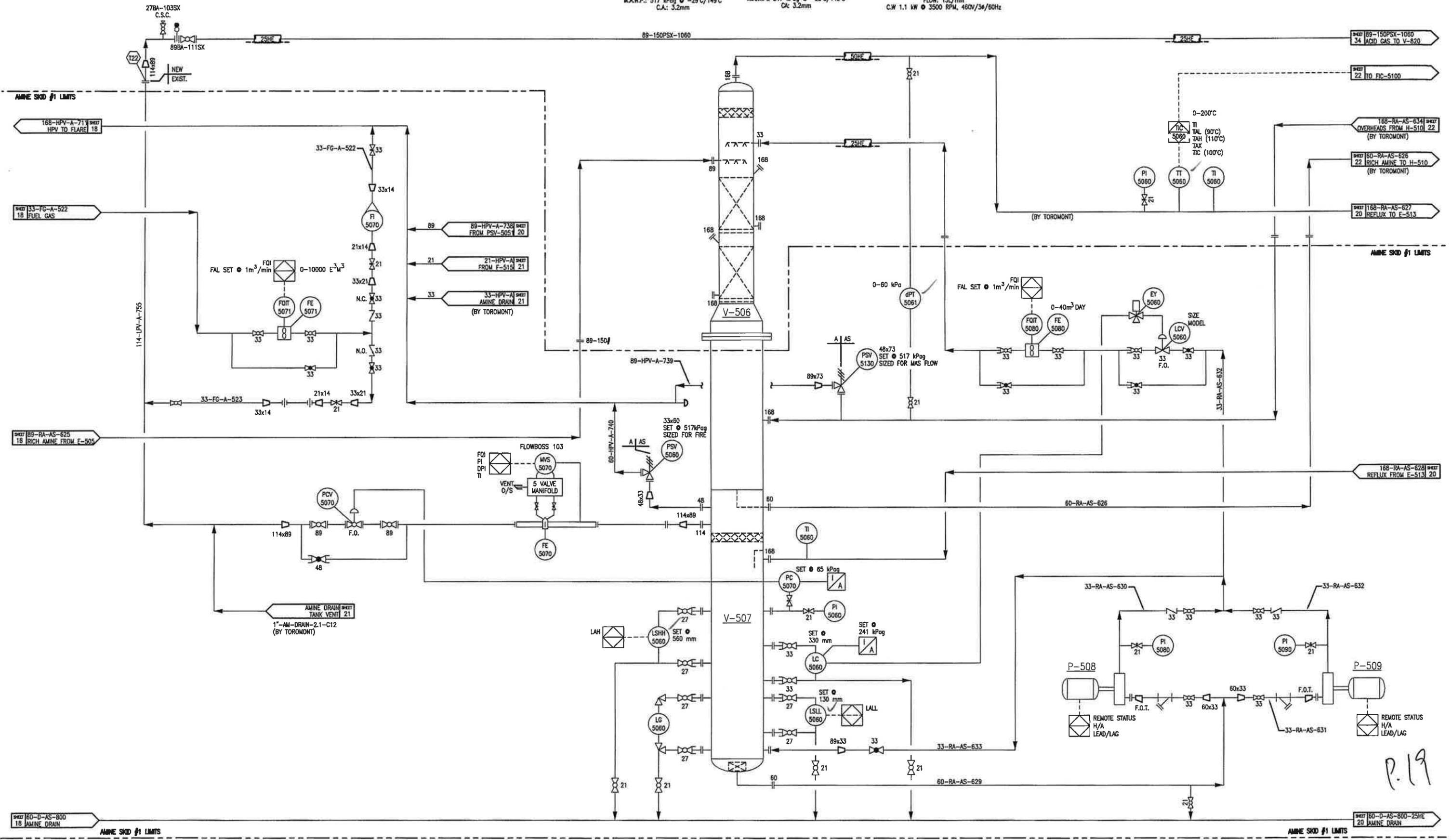


P.18

V-506
AMINE REGENERATOR
 VENDOR: TOROMONT
 SIZE: 762/409mm OD x 11735mm S/S
 M.A.W.P.: 517 kPag @ -29°C/149°C
 C.A.: 3.2mm

V-507
REFLUX ACCUMULATOR
 VENDOR: TOROMONT
 SIZE: 762mm OD x 3394mm S/S
 M.A.W.P.: 517 kPag @ -29°C/149°C
 C.A.: 3.2mm

P-508/509
AMINE REFLUX PUMPS
 VENDOR: TOROMONT
 MAKE/MODEL: DEANLINE CENTRIFUGAL PUMP / 3/4 DL
 FLOW: 15L/min
 C.W 1.1 kW @ 3500 RPM, 460V/3ø/60Hz

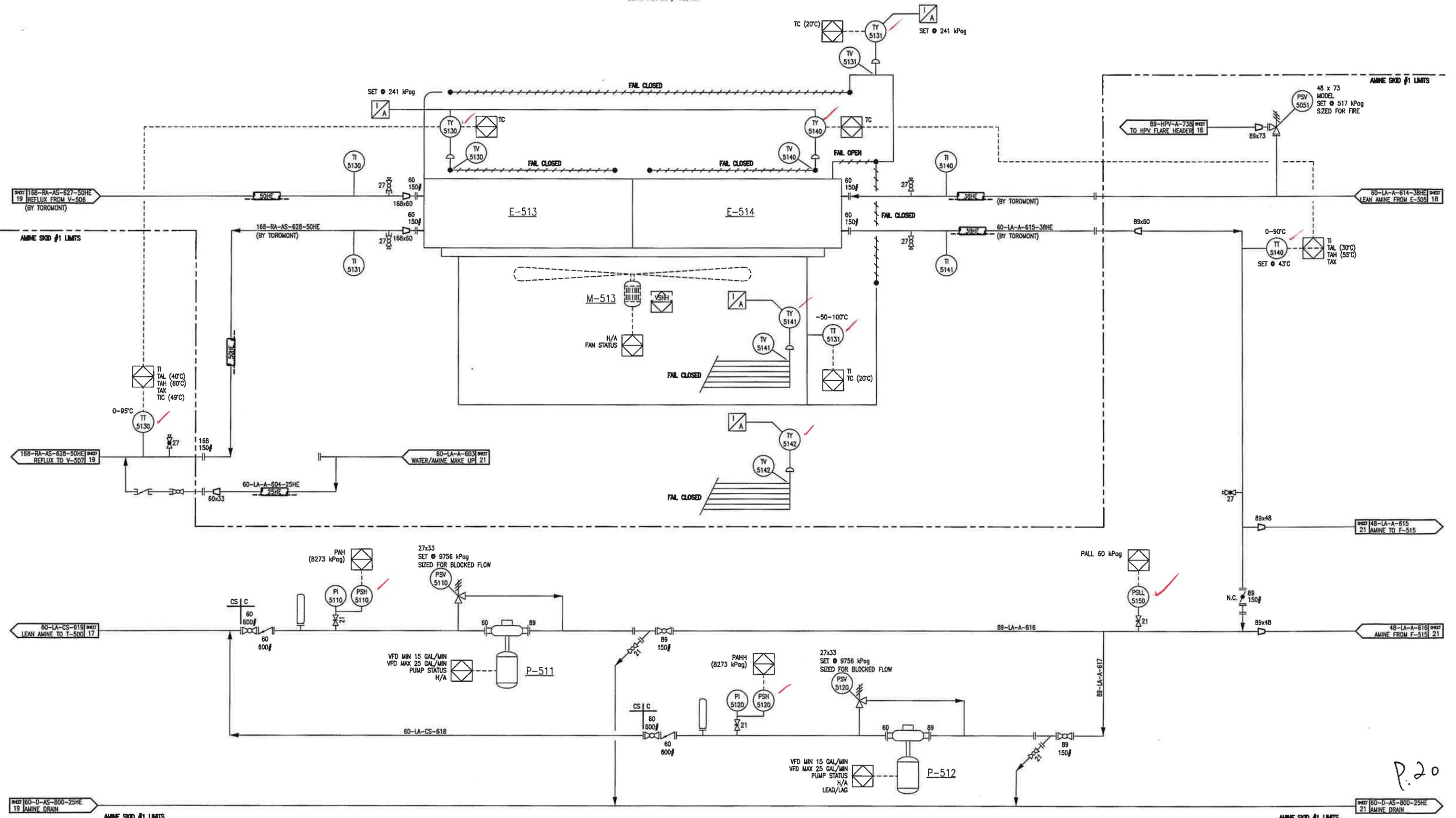


P.19

E-513/E-514
AMINE REFLUX CONDENSER/LEAN AMINE COOLER
 VENDOR: TOROMONT
 MAKE/MODEL: AXH/60ZF-R
 LEAN REFLUX M.A.W.P.: 1034 kPag @ 149°C
 LEAN AMINE M.A.W.P.: 1034 kPag @ 149°C
 DUTY: 44.4 kW / 166 kW

M-513
ELECTRIC MOTOR
 7.5 kW @ 1800RPM, 460V/3ø/60Hz

P-511/512
AMINE CHARGE PUMPS
 VENDOR: TOROMONT
 MAKE/MODEL: FMC TRIPLEX PLINGER PUMP/M1218
 M.A.W.P.: 10342 kPag
 c/w 37.3 kW @ 1180 RPM, 460V/3ø/60Hz (VFD)



P.20

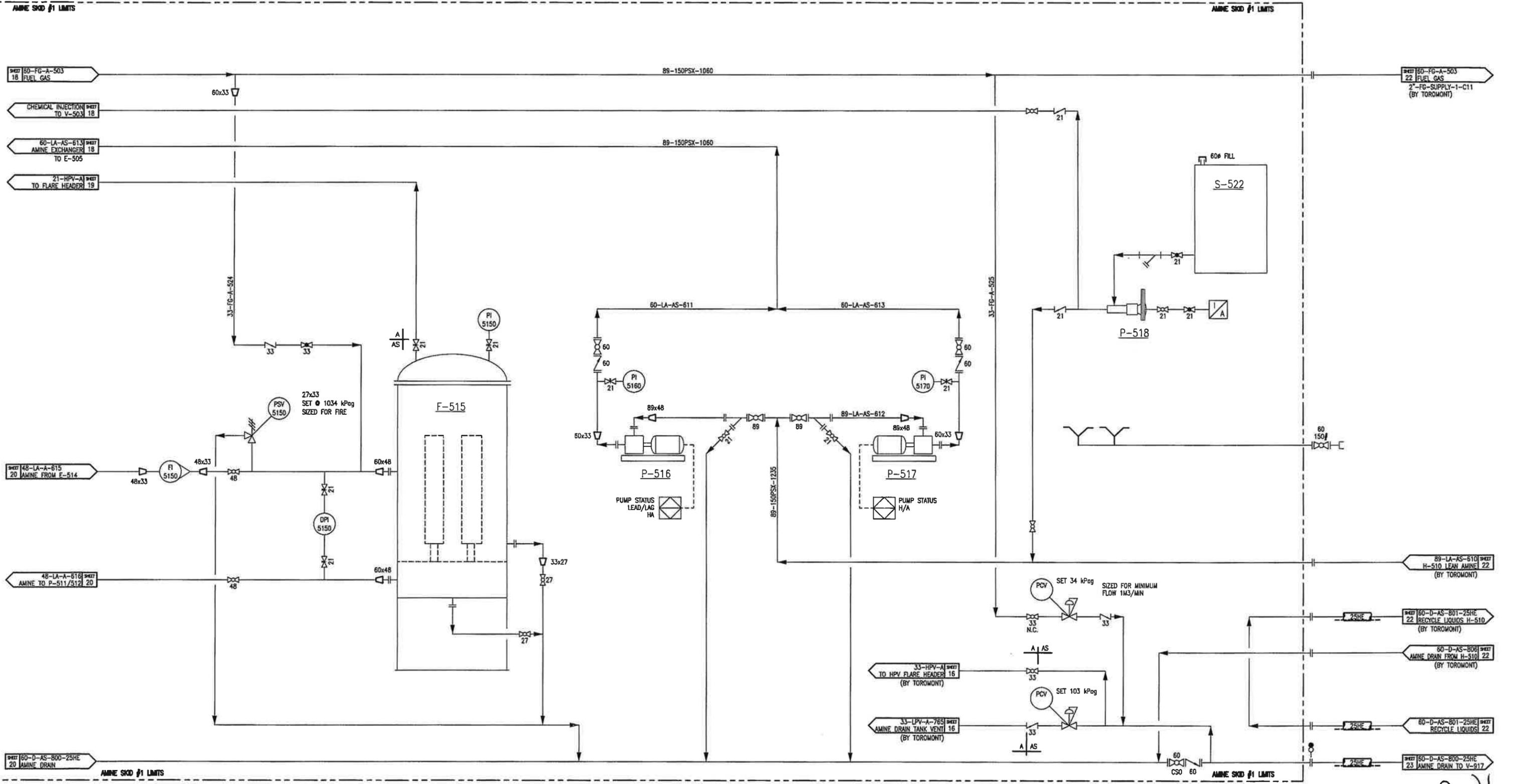
AMINE SKID #1 LIMITS

F-515
AMINE CHARCOAL FILTER
 VENDOR: TOROMONT
 MODEL: CCF30-BC-SH-2F-CS
 SIZE: 762mm OD x 2375mm S/S
 M.A.W.P.: 1034 kPag @ -29°C/93°C
 C.A.: 3.2mm

P-516/517
AMINE BOOSTER PUMPS
 VENDOR: TOROMONT
 MAKE/MODEL: DEAN CENTRIFUGAL/CNV 1" x 1.5" x 6
 c/w 3.73 kW @ 3500 RPM, 460V/3ø/60Hz

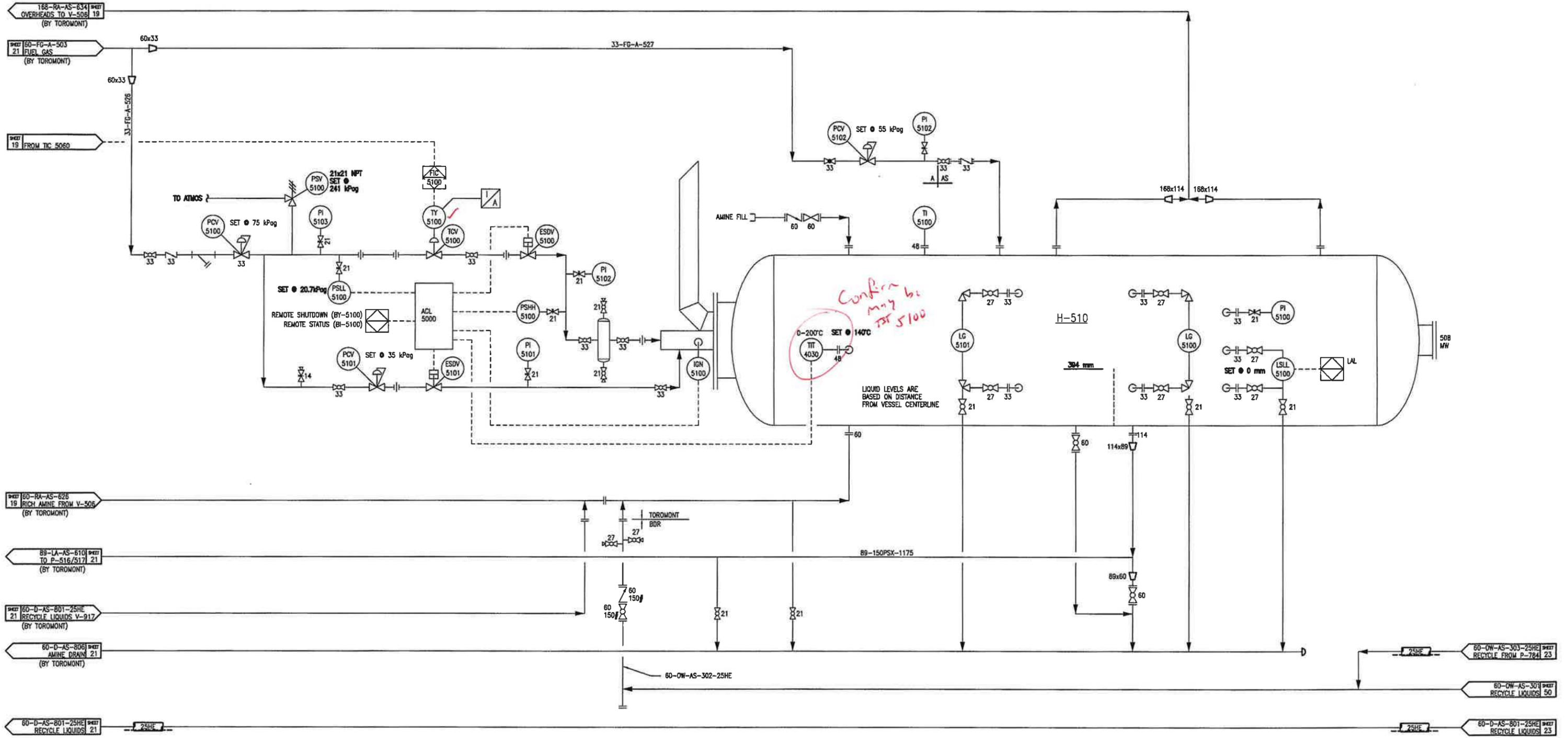
P-518
CHEMICAL INJECTION PUMPS
 VENDOR: TOROMONT
 MAKE/MODEL: CYS/SERIES 51. 1/4" PLUNGER
 CAPACITY: 4.55-9.1 L/DAY

S-522
CORR. INHIBITOR TANK
 VENDOR: TOROMONT
 MAKE: TPS
 SIZE 250L



P. 21

H-510
 AMINE REBOILER
 VENDOR: TOROMONT
 SIZE: 1372mm O.D. x 7315mm S/S
 M.A.W.P.: 517kPag @ -29°C/149°C
 DUTY: 382 kW
 FIRETUBE: 405mm O.D. x 11582mm LONG U-TUBE



P-784
MAKE-UP TRANSFER PUMP
 VENDOR: NATIONAL PROCESS EQUIPMENT
 MAKE/MODEL: DEANLINE CLASS 20 / 1-1/2 x 1-1/2 DL
 CAPACITY: 83 LPM @ 1.2m
 MOTOR: 1.5HP/460V/3@/60Hz

S-915
AMINE MAKE UP TANK
 VENDOR: ARGO
 CAPACITY: 100BBL
 SIZE: 3251mm O.D. x 2133mm HIGH
 DOUBLE WALLED (38 INSUL.)
 D.P. 16 oz PRESS/0.4 oz VAC

H-915
IMMERSION HEATER
 VENDOR: ARGO
 MAKE/MODEL: 1MX1302F3X-00J
 DUTY 2kW

S-916
WATER MAKE UP TANK
 VENDOR: ARGO
 CAPACITY: 100BBL
 SIZE: 3251mm O.D. x 2133mm HIGH
 DOUBLE WALLED (38 INSUL.)
 D.P. 16 oz PRESS/0.4 oz VAC

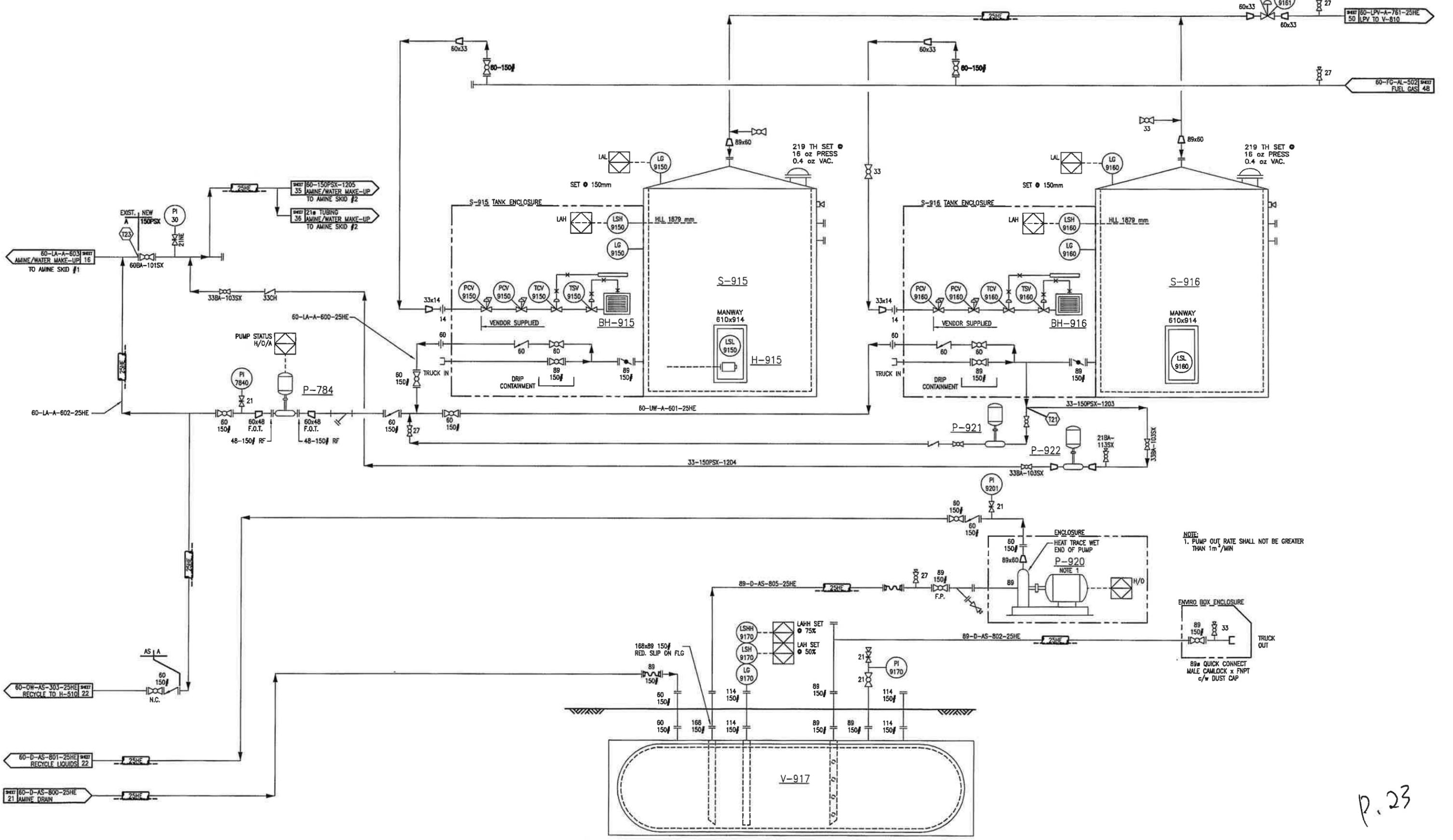
BH-915/916
RADIANT HEATER
 VENDOR: ARGO
 MAKE/MODEL: CISCAN/ 12"x24"
 C/W START CABLES

V-917
AMINE DRAIN TANK
 VENDOR: ZCL/TANKLIFE
 CAPACITY: 25 BBL U/G DOUBLE WALL TANK
 SIZE: 1256 mm O.D. x 3517 mm LG.

P-920
AMINE DRAIN TANK PUMP
 VENDOR: NATIONAL PROCESS EQUIPMENT
 MAKE/MODEL: FLOMAX 15 / 3" x 3" (SELF PRIMING)
 CAPACITY: 397 LPM
 MOTOR: 7.5HP/460V/3@/60Hz

P-921
METERING PUMP
 VENDOR: MILTON ROY
 MAKE/MODEL: RH1153XSESEMZNN
 CAPACITY: 10.6 LPH
 MOTOR: 1/4 H.P. @ 1725 RPM 460/3/60

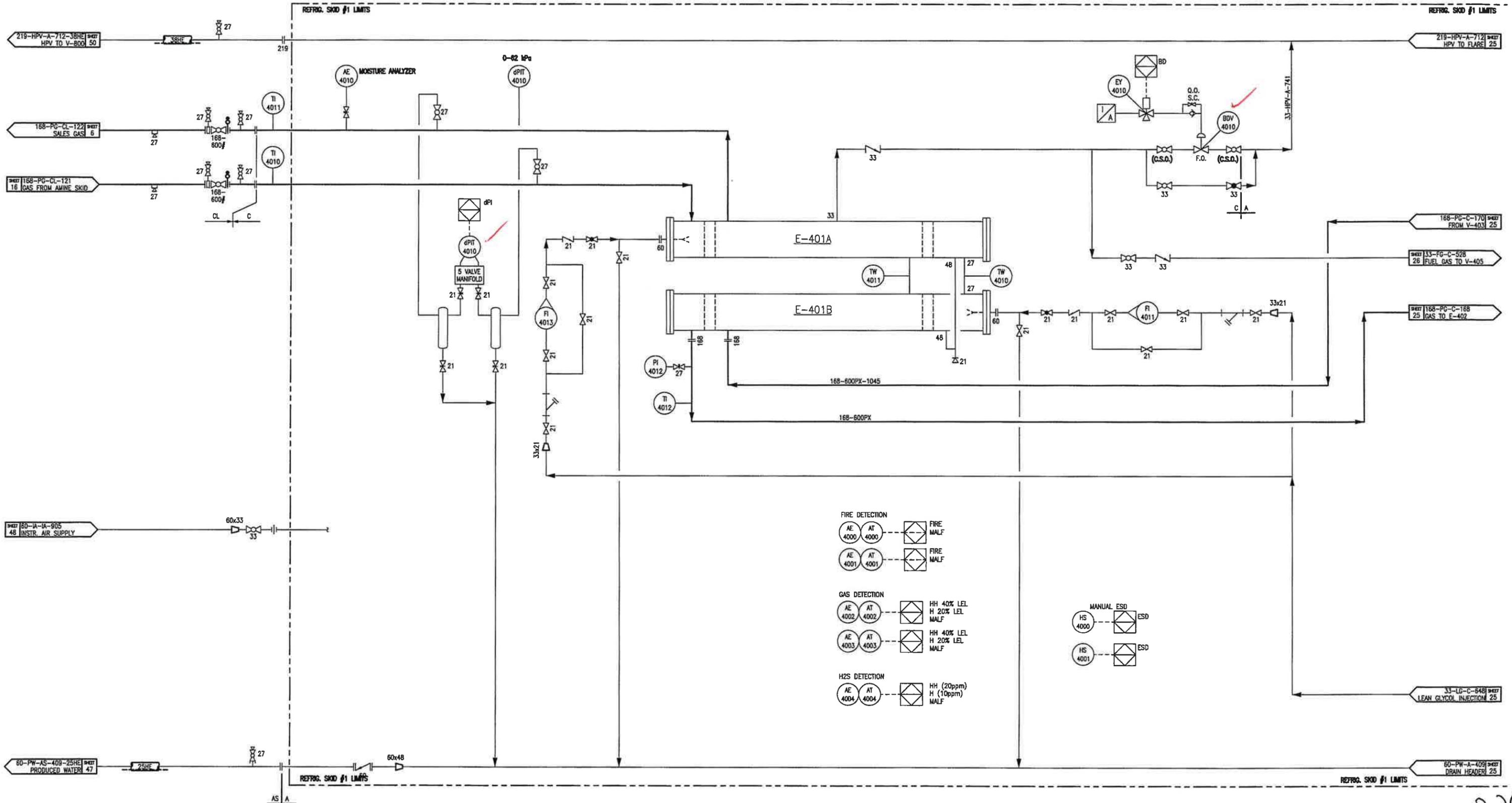
P-922
METERING PUMP
 VENDOR: MILTON ROY
 MAKE/MODEL: RH1153XSESEMZNN
 CAPACITY: 10.6 LPH
 MOTOR: 1/4 H.P. @ 1725 RPM 460/3/60



NOTE:
 1. PUMP OUT RATE SHALL NOT BE GREATER THAN 1m³/MIN

ENVRO BOX ENCLOSURE
 89 150#
 33
 TRUCK OUT
 89# QUICK CONNECT MALE CAMLOCK x FNPT c/w DUST CAP

E-401A/B
GAS/GAS EXCHANGER
 VENDOR: TOROMONT
 SIZE: 324mm O.D. x 9144mm T/L
 D.P. SHELLSIDE: 9756 kPa @ -29°C/66°C
 D.P. TUBESIDE: 9756 kPa @ -29°C/66°C
 DUTY: 553 KW PER UNIT



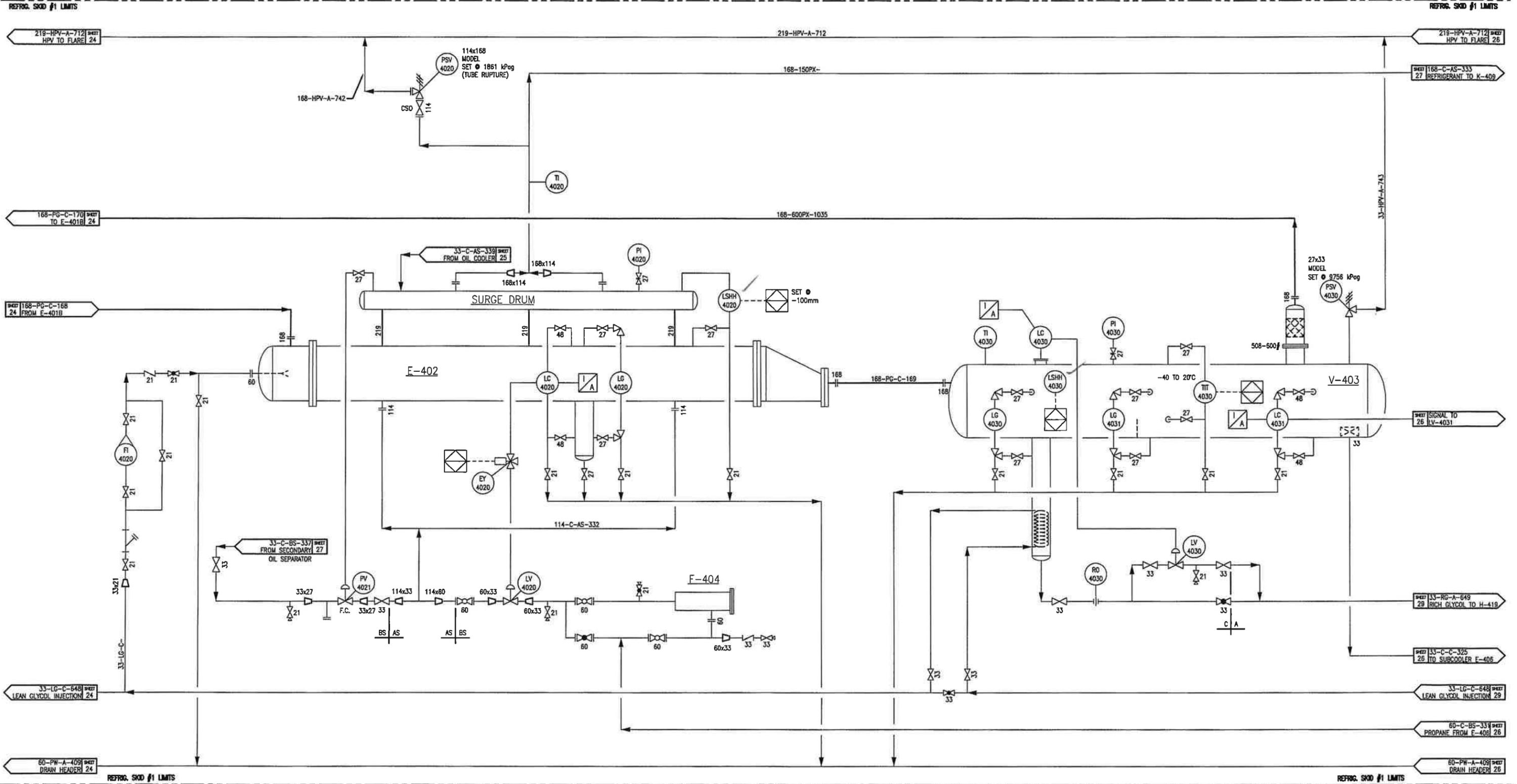
- FIRE DETECTION**
- AE 4000 AT 4000 --- FIRE MALF
 - AE 4001 AT 4001 --- FIRE MALF
- GAS DETECTION**
- AE 4002 AT 4002 --- HH 40% LEL
H 20% LEL
MALF
 - AE 4003 AT 4003 --- HH 40% LEL
H 20% LEL
MALF
- H2S DETECTION**
- AE 4004 AT 4004 --- HH (20ppm)
H (10ppm)
MALF

- MANUAL ESD**
- HS 4000 --- ESD
 - HS 4001 --- ESD

E-402
GAS CHILLER
 VENDOR: TOROMONT
 SIZE: 356 O.D. x 6096mm T/L
 SURGE DRUM: 406mm x 4877mm OAL
 D.P. SHELL SIDE: 1861 kPag @ -29°C/66°C
 D.P. TUBESIDE: 9756 @ -29°C/66°C

F-404
REFRIGERANT FILTER/DRYER
 MAKE/MODEL: SPORLAN/C40016-P
 D.P.: 3448 kPag
 ELEMENT: (4) RC-10098

V-403
LOW TEMP. SEPARATOR
 VENDOR: TOROMONT
 SIZE: 1067mm ID x 3048 S/S
 D.P.: 9757 kPag @ -29°C/66°C
 C.A.: 1.6mm

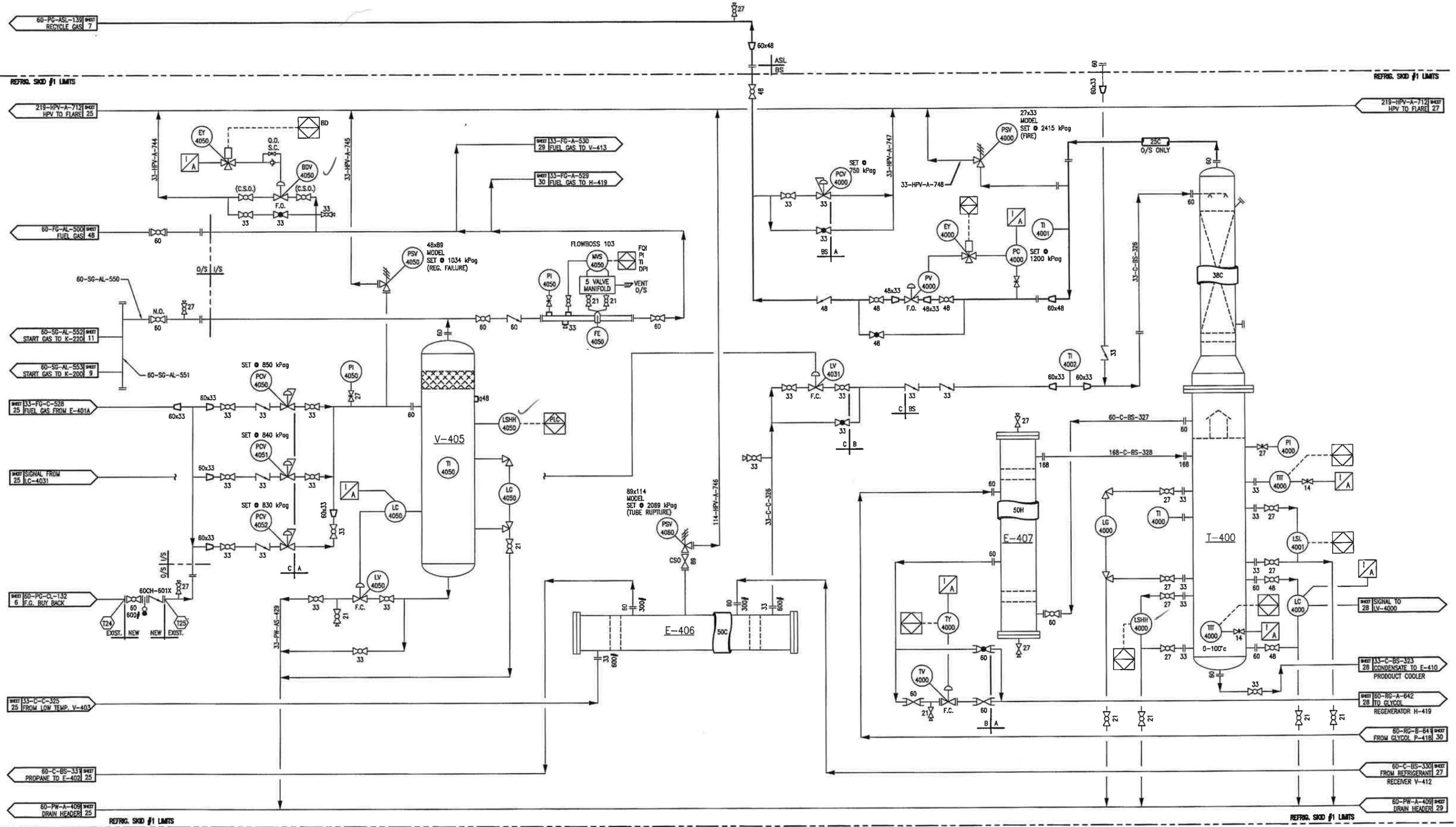


V-405
FUEL GAS SCRUBBER
 VENDOR: TOROMONT
 SIZE: 324mm O.D. x 1524mm S/S
 D.P.: 1034 kPag @ -28°C/66°C
 C.A.: 1.6mm

E-406
PROPANE SUBCOOLER
 VENDOR: TOROMONT
 SIZE: 168 mm O.D. x 4367 T/L
 M.A.W.P. SHELLSIDE: 2069 kPag @ -29°C/66°C
 DUTY: 15.6 KW

E-407
STABILIZER REBOILER
 VENDOR: TOROMONT
 SIZE: 273mm O.D. x 1829mm T/L
 M.A.W.P. SHELLSIDE: 1882 kPag @ -29°C/148°C
 M.A.W.P. TUBESIDE: 2415 @ -29°C/250°C
 DUTY: 35.11 KW

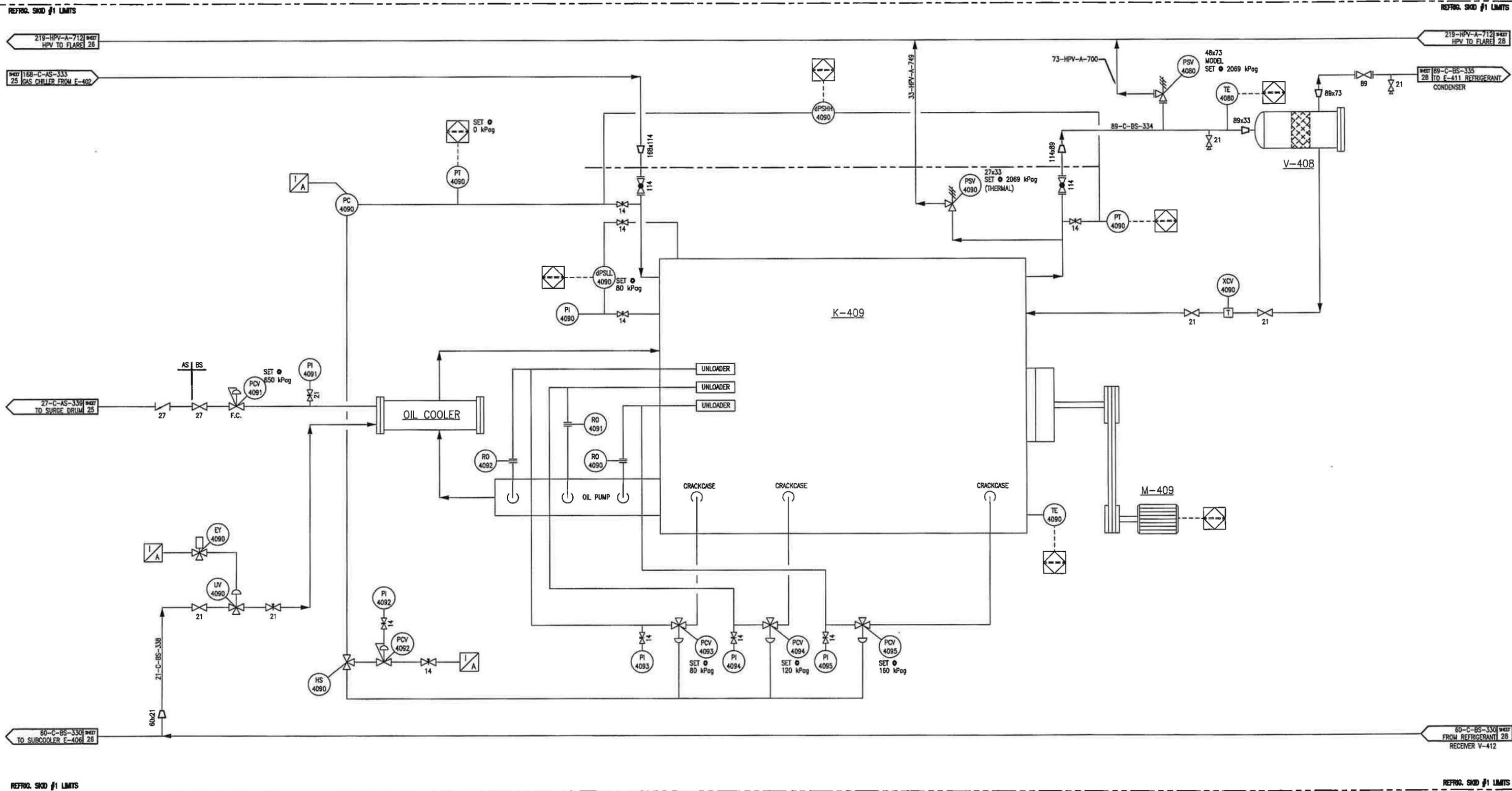
I-400
DEETHANIZER COLUMN
 VENDOR: TOROMONT
 SIZE: 275/324 O.D. x 10873mm S/S
 DP: 2415 kPa @ -29°C/204°C
 C.A.: 3.2mm



V-408
SECONDARY OIL SEPARATOR
 VENDOR: TOROMONT
 MAKE/MODEL: CHILCON/COSM-0700
 SIZE: 324mm ID x 1092mm S/S
 D.P.: 2758 kPag @ -29°C/121°C

K-409
REFRIGERATION COMPRESSOR
 VENDOR: TOROMONT
 MAKE/MODEL: MYCOM/P8WB
 SUCTION PRESSURE: 80-225 kPag
 DISCHARGE PRESSURE: 1457 kPag

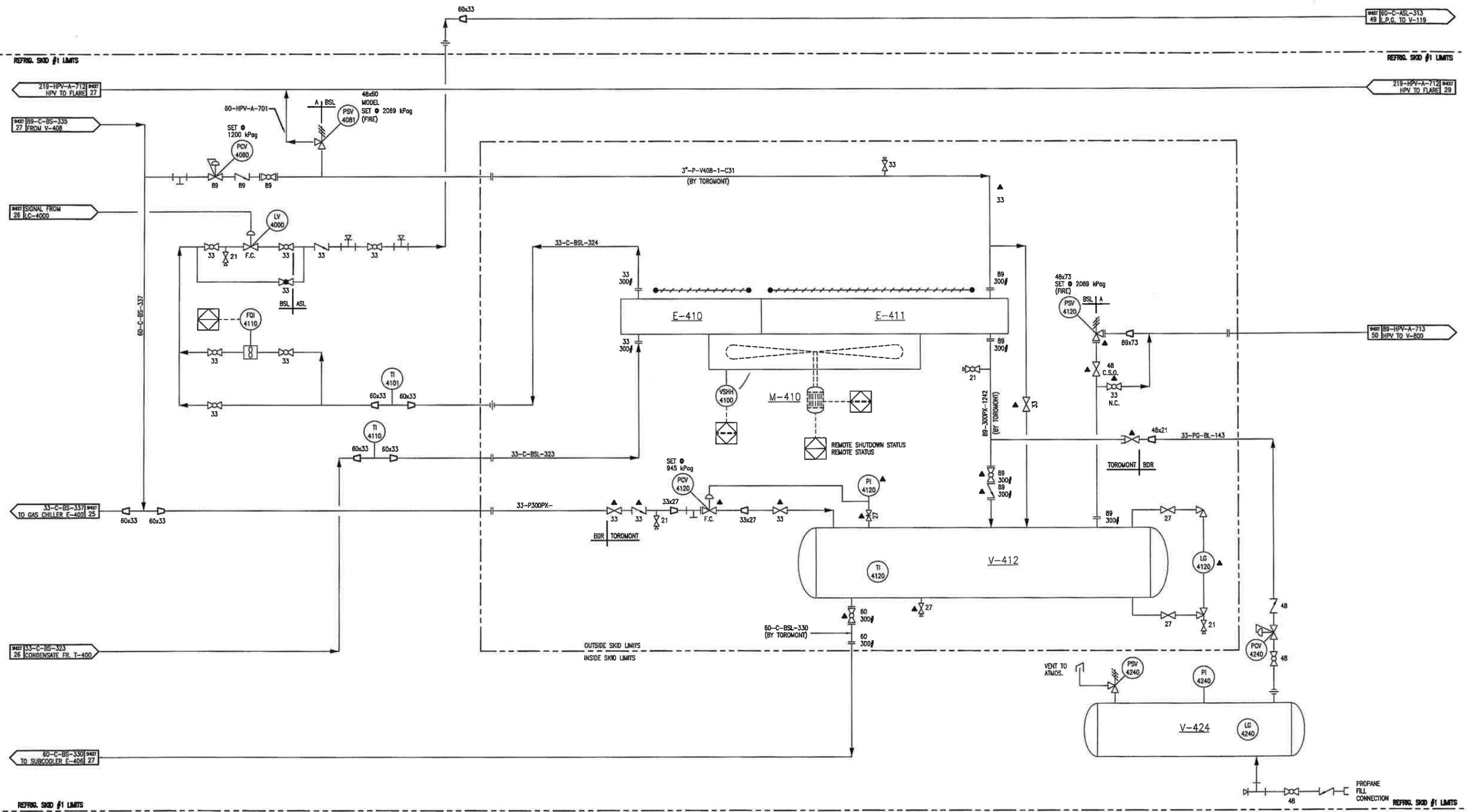
M-409
ELECTRIC MOTOR
 150HP/480V/3ø/60HZ



E-410/E-411
 REFRIGERANT CONDENSER/PRODUCT COOLER
 VENDOR: TOROMONT
 MAKE/MODEL: ACE/E-108-15
 E-410 D.P.: 2758 kPag @ -29°C/20°F C
 DUTY: 23.2 kW
 E-411 D.P.: 2089 kPag @ -29/148°F C
 DUTY: 250.1 kW

V-412
 REFRIGERANT RECEIVER
 VENDOR: TOROMONT
 SIZE: 610mm I.D x 3658 S/S
 D.P.: 2069 kPag @ -29/148°C
 C.A. 1.8mm

V-424
 PROPANE TANK
 VENDOR:
 SIZE:
 CAPACITY:

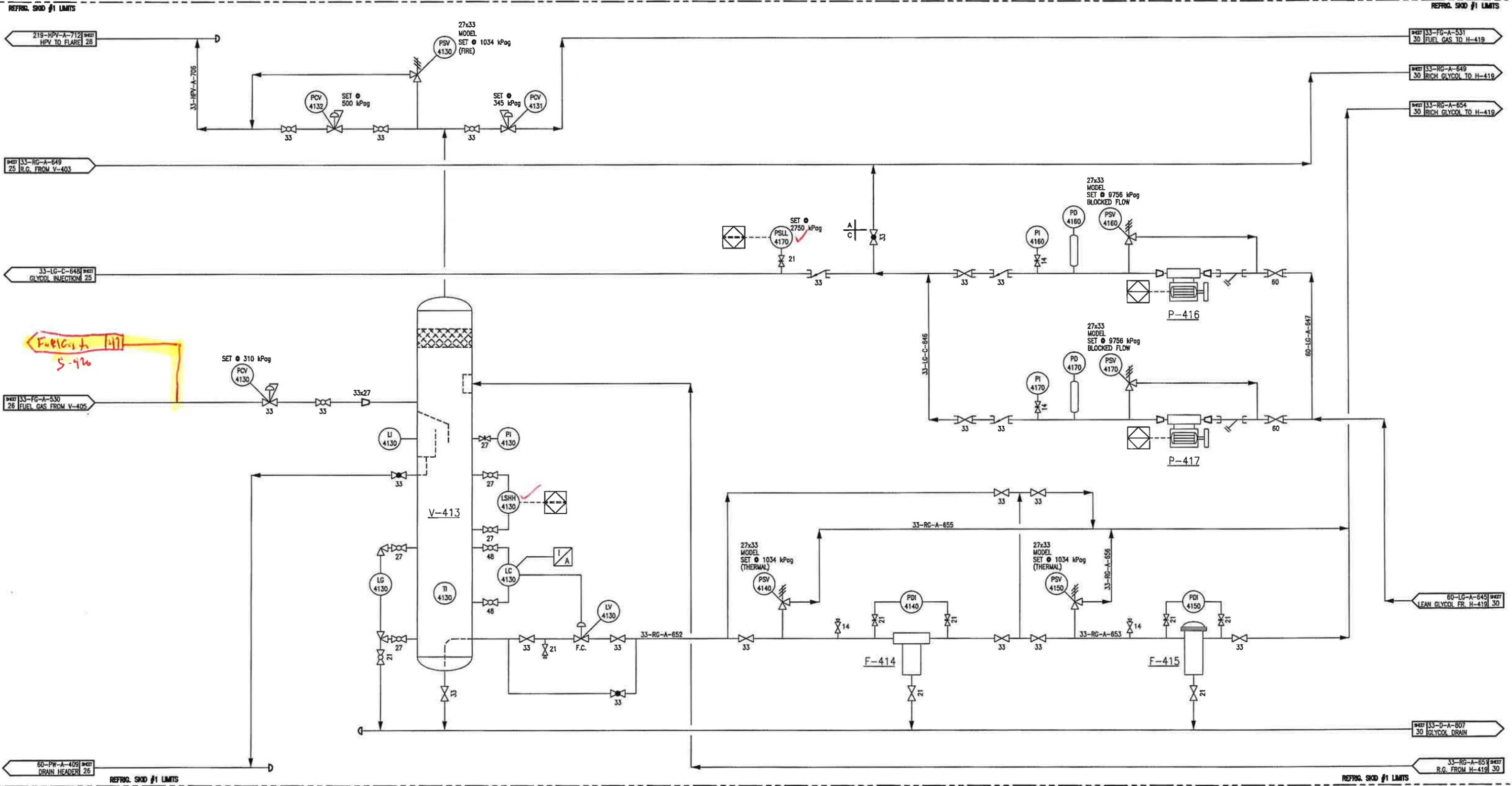


V-413
 GLYCOL FLASH TANK
 VENDOR: TOROMONT
 SIZE: 324mm O.D. x 1524mm S/S
 D.P.: 1034 kPag @ -29°C/77°C
 C.A.: 1.6mm

F-414
 GLYCOL FILTER
 VENDOR: TOROMONT
 MAKE/MODEL: WEIR/181-678CBIN
 D.P.: 1207 kPag @ 121°C

F-415
 CARBON FILTER
 VENDOR: TOROMONT
 MAKE/MODEL: FILTER SOLUTIONS/FS-1-1122-CS
 SIZE: 324 O.D. x 758mm S/S
 D.P.: 1034 kPag @ 106°C

P-416/417
 GLYCOL INJECTION PUMP
 VENDOR: TOROMONT
 MAKE/MODEL: DAVID BROWN UNION/SX3
 MAX. FLOW: 7.9L/min @ 7587kPag
 D.P.: 1034 kPag @ 106°C
 C.W.: 2.2kW XP 3/60/40/230V



S-453
GLYCOL TANK

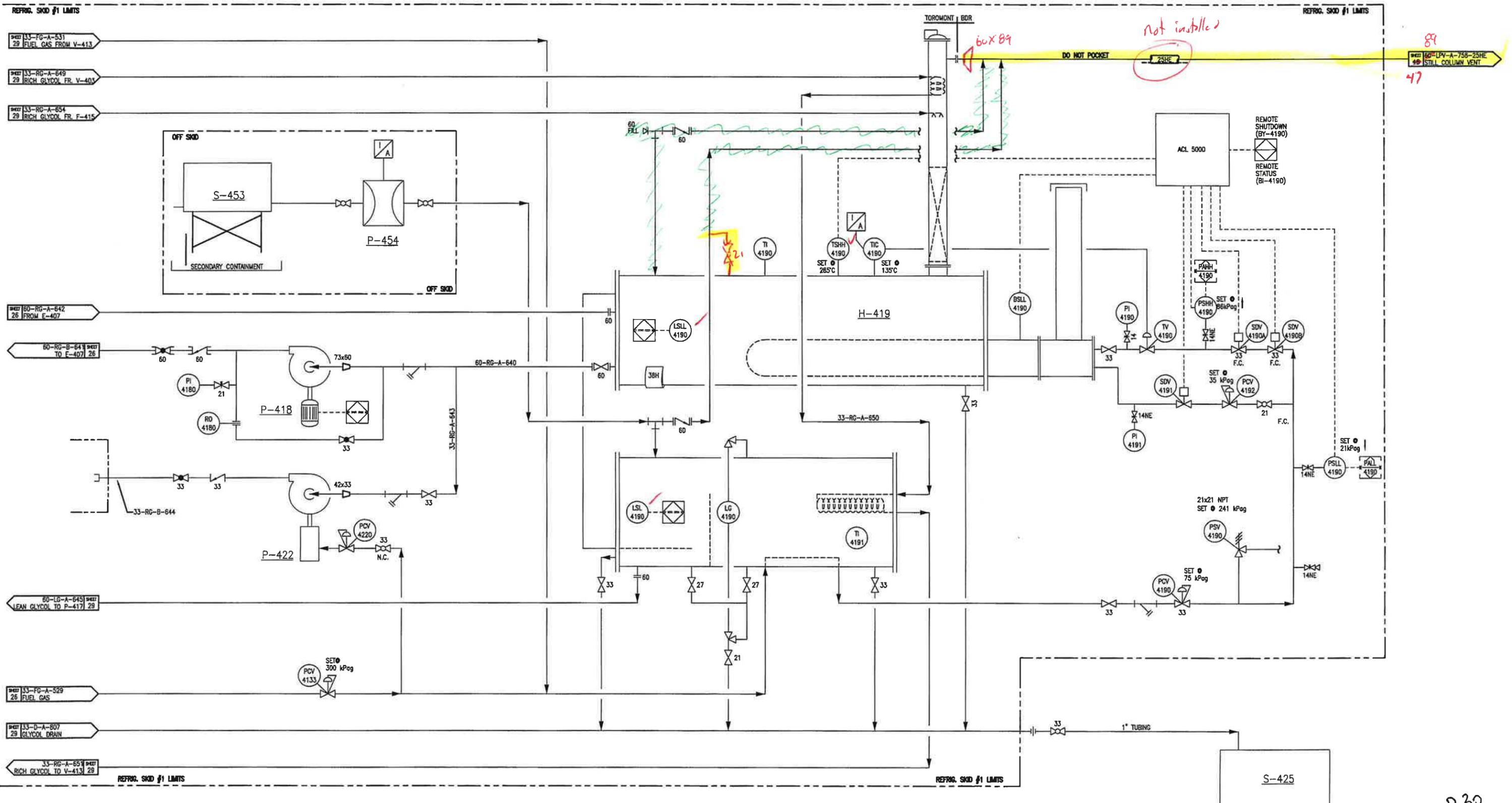
P-454
GLYCOL MAKE UP PUMP

P-422
GLYCOL PUMP
VENDOR: TOROMONT
MAKE/MODL: PRICE/CD100-A1-425-P
SIZE: 1x1-1/4x5
C/W 4AM-FRV-13C

P-418
GLYCOL PUMP
VENDOR: TOROMONT
MAKE/MODL: CARVER/BC 2-1/2x 2"x7"
MAX. FLOW: 283 LPM @ 10.6m HEAD
c/w 1.11 kW 3/60/460V

H-419
GLYCOL REGENERATOR
VENDOR: TOROMONT
MAKE/MODL: PETRO TECH/TBA
REGEN: 762mm O.D. x 3657mm LG
SURGE: 609mm O.D. x 3048mm LG
DUTY: 146 kW

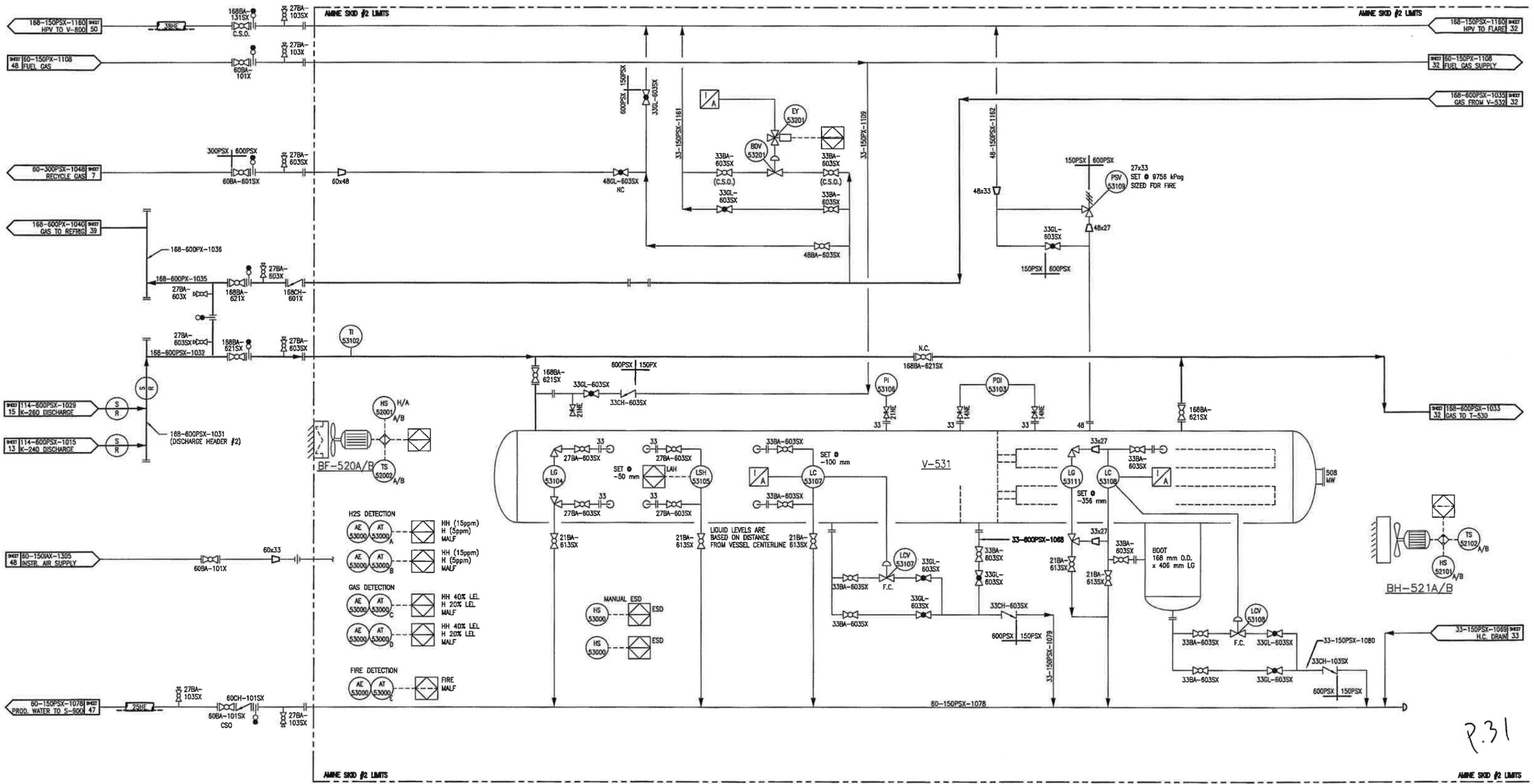
S-425
GLYCOL DRAIN TANK



BF-550A/B
BUILDING FAN
VENDOR: TOROMONT
MAKE/MODEL: TBD

V-531
INLET FILTER COALESCER
VENDOR: TOROMONT
SIZE: 762mm ID x 3048mm S/S
M.A.W.P.: 9755 kPag @ -28°C/65°C
Cl: 3.2mm

BH-551A/B
BUILDING HEATER
VENDOR: TOROMONT
MAKE/MODEL: TBD



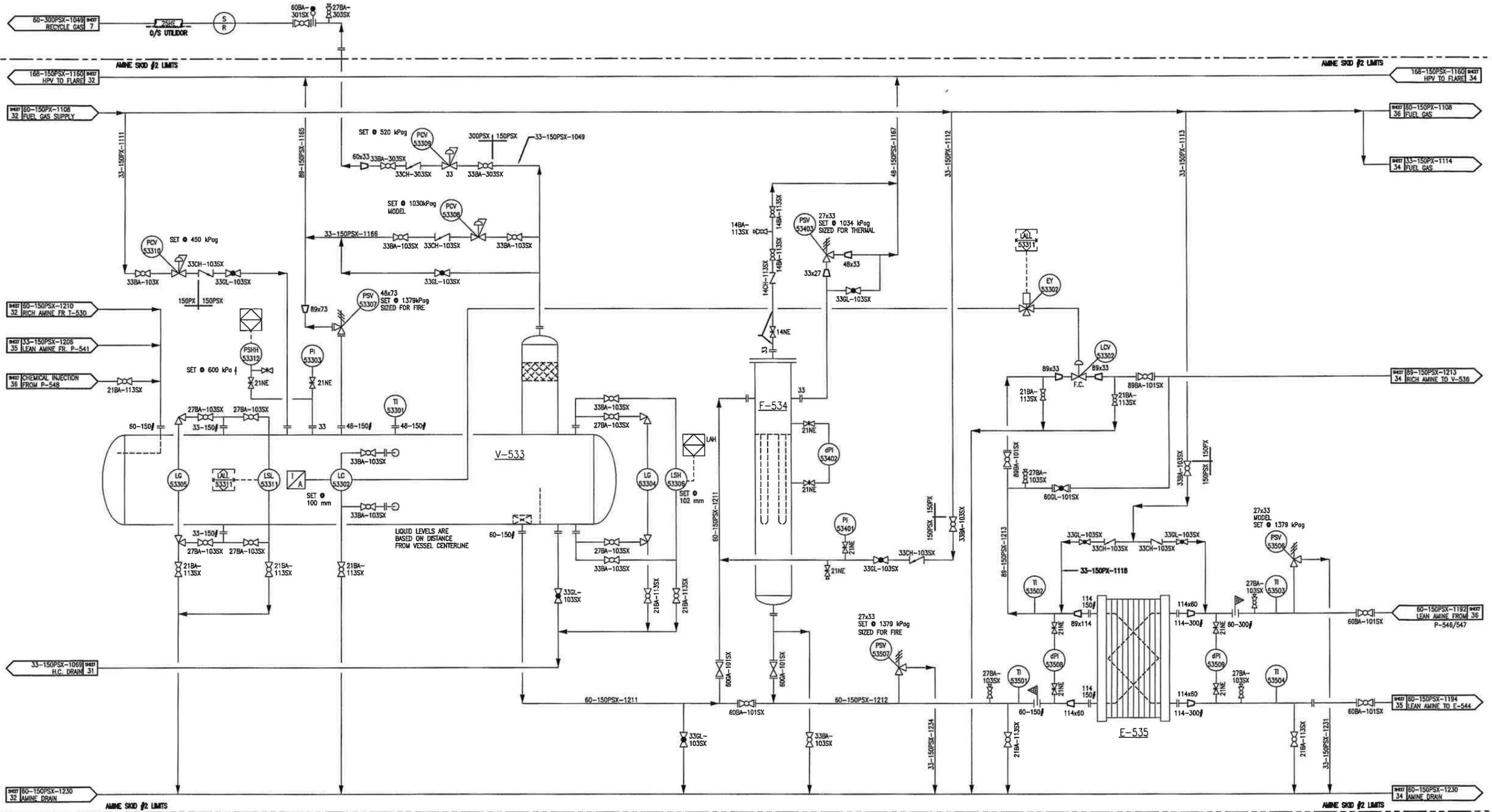
P.31

AMINE SKID #2 LIMITS

V-533
AMINE FLASH DRUM
 VENDOR: TOROMONT
 610mm OD x 1829mm S/S
 M.A.W.P.: 1379 kPag @ -29°C/93°C
 CA: 3.2mm

F-534
RICH AMINE FILTER
 VENDOR: TOROMONT
 MAKE: ESS BG-L2-2F-S1-CS-200
 SIZE: 219mm OD x 846mm S/S
 M.A.W.P.: 1379 kPag @ -29°C/93°C
 CA: 3.2mm

E-535
LEAN/RICH AMINE EXCHANGER
 VENDOR: TOROMONT
 MAKE: VEX-46-SS-FS-1-50
 M.A.W.P.: 1379 kPag @ -29/149°C
 PLATE MTRL: 316LSS
 PROCESS DUTY: 221 KW



E-543/E-544
AMINE REFLUX CONDENSER/LEAN AMINE COOLER

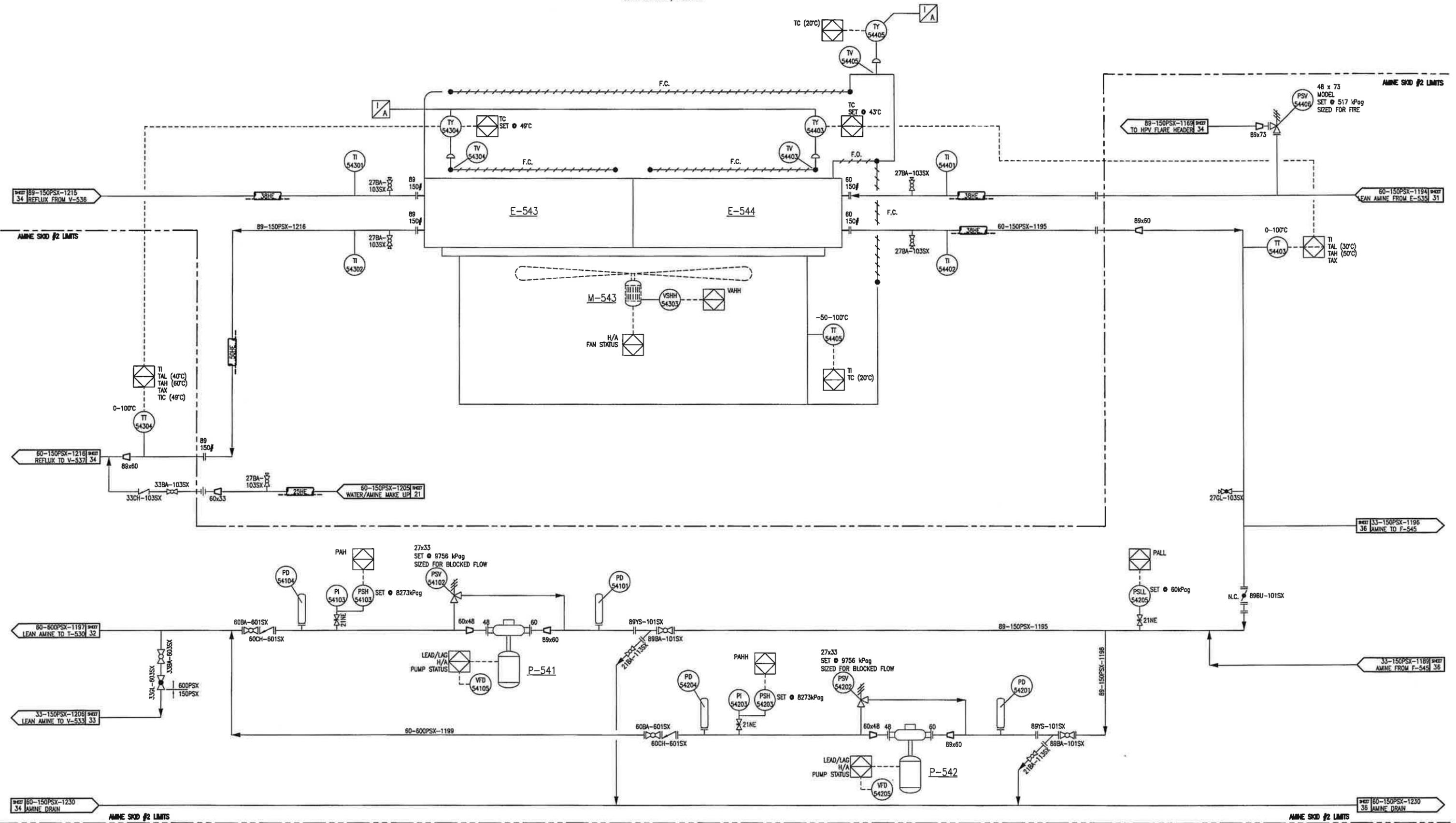
VENDOR: TOROMONT
 MAKE/MODEL: AXH/72H
 LEAN REFLUX M.A.W.P.: 1034 kPag @ 149°C
 LEAN AMINE M.A.W.P.: 1034 kPag @ 149°C
 DUTY: 136.7 kW / 103.4 kW

M-543
ELECTRIC MOTOR

11.2 kW @ 1800RPM, 460V/3ø/60Hz TEFC

P-541/542
AMINE CHARGE PUMPS

VENDOR: TOROMONT
 MAKE/MODEL: FMC TRIPLEX PLINGER PUMP/MOB14
 M.A.W.P.: 12756 kPag
 c/w 11.2 kW @ 1180 RPM, 460V/3ø/60Hz (VFD) TEFC

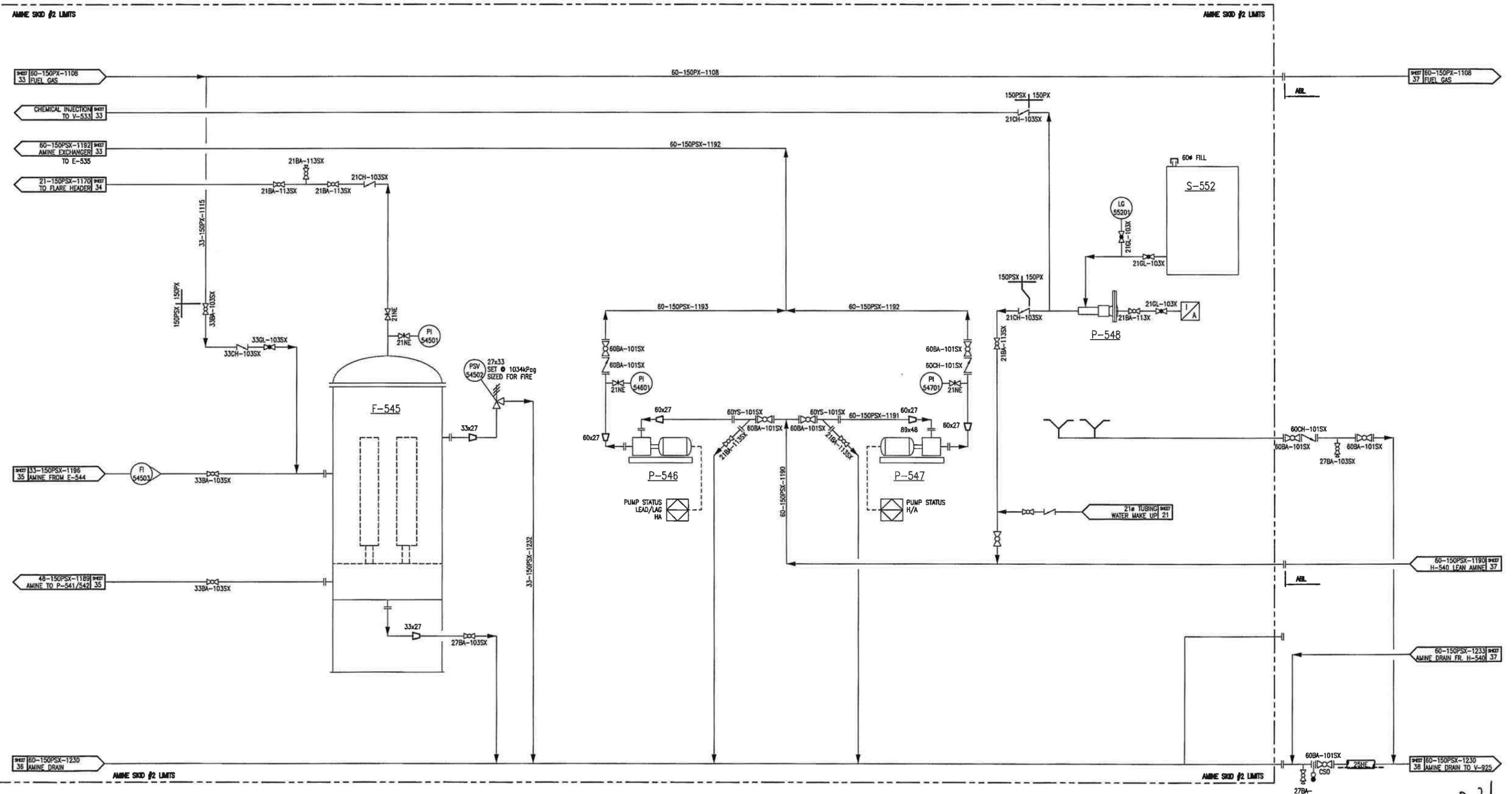


F-545
 AMINE CHARCOAL FILTER
 VENDOR: TOROMONT
 MODEL: CCF12-2C-44L
 SIZE: 324mm OD x 1454mm S/S
 M.A.W.P.: 1034 kPag @ -29°C/107°C
 C.A.: 3.2mm

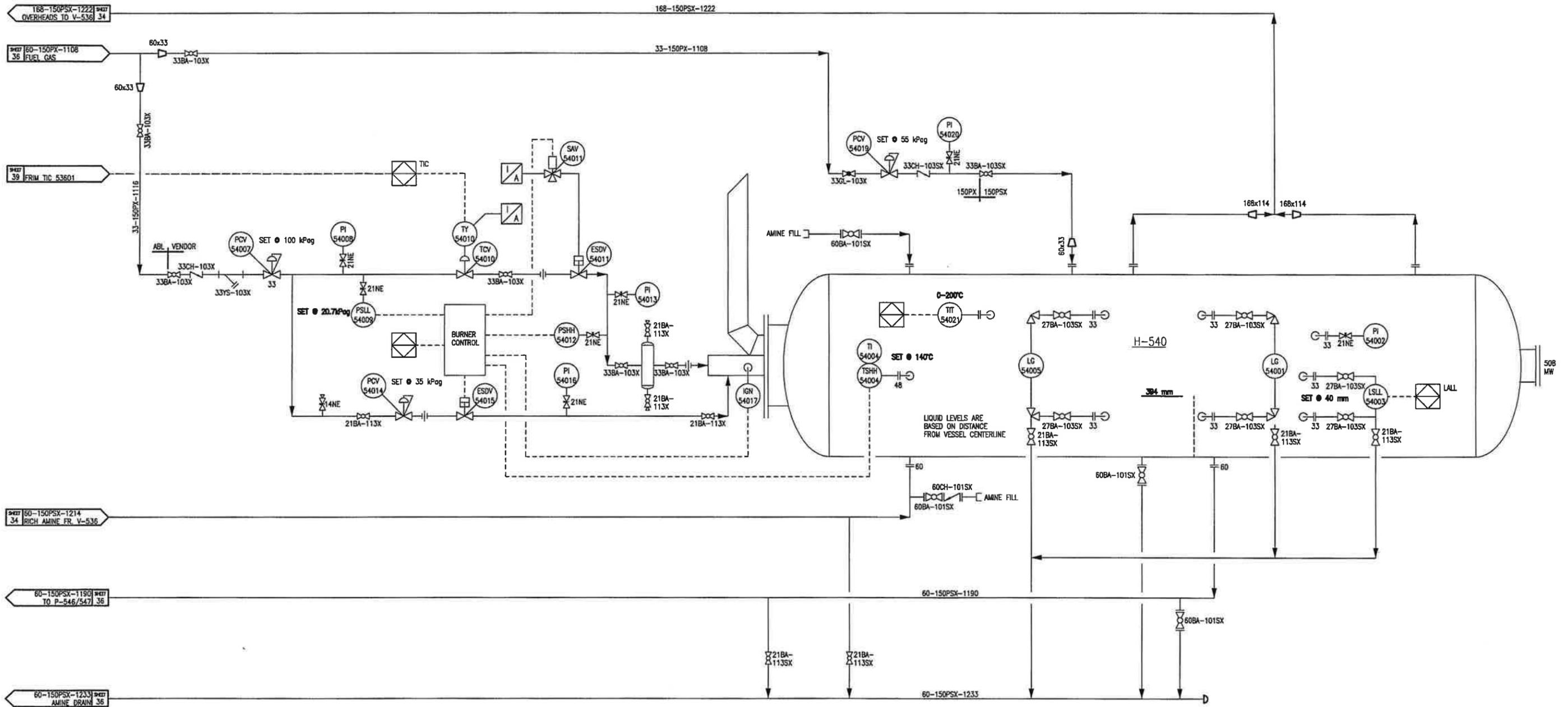
P-546/547
 AMINE BOOSTER PUMPS
 VENDOR: TOROMONT
 MAKE/MODEL: DEAN CENTRIFUGAL 3/4DL
 c/w 1.1 kW @ 3500 RPM, 460V/3ø/60Hz XP

P-548
 CHEMICAL INJECTION PUMP
 VENDOR: TOROMONT
 MAKE/MODEL: CVS/SERIES 51. 1/4" PLUNGER
 CAPACITY: 4.55-9.1 L/DAY

S-552
 CORR. INHIBITOR TANK
 VENDOR: TOROMONT
 MAKE: TES
 SIZE 30L

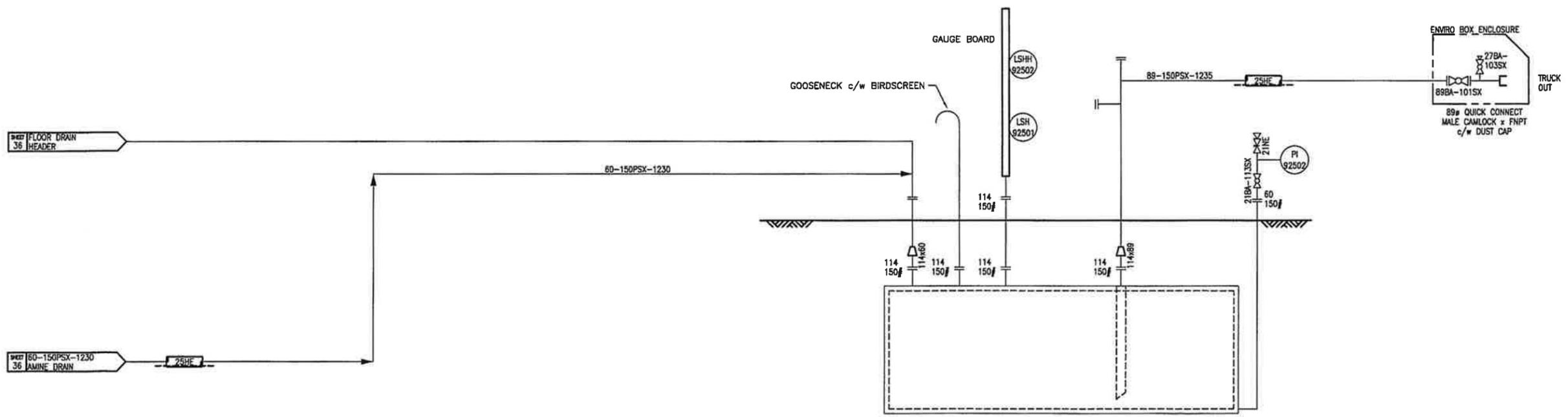
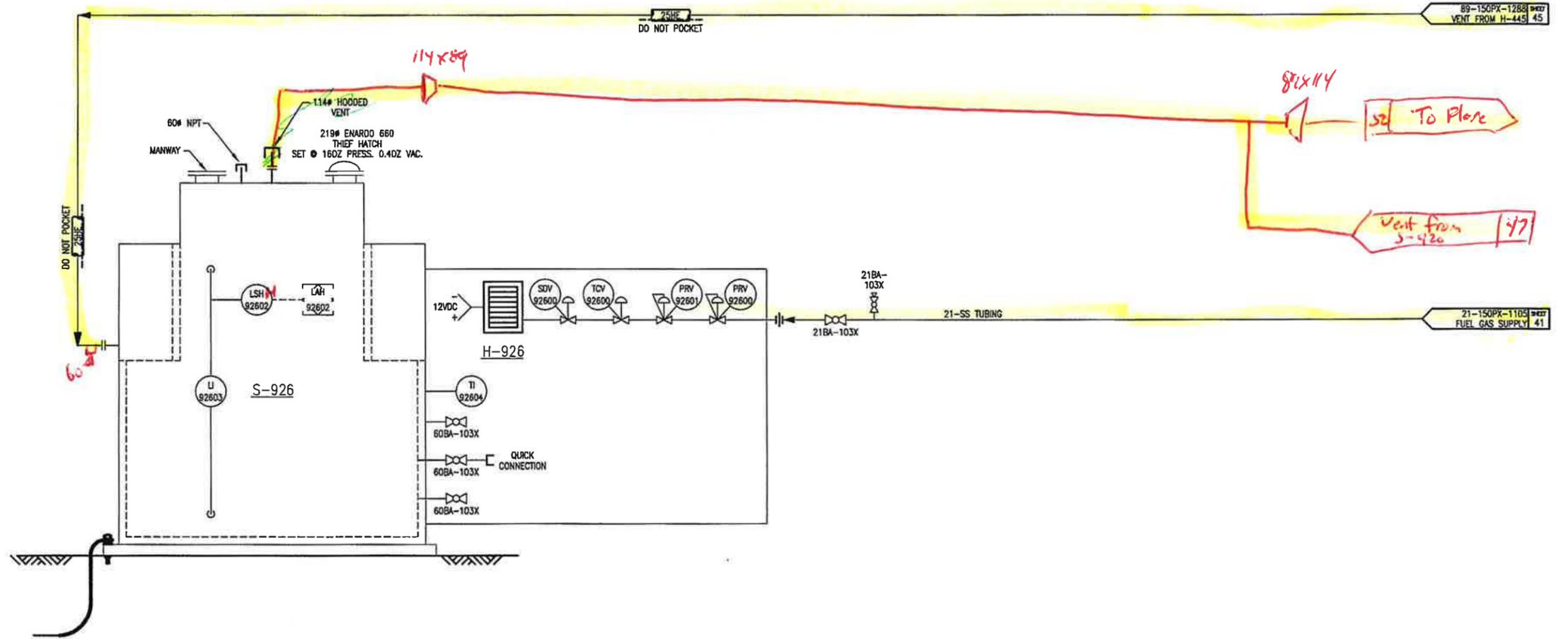


H-540
 AMINE REBOILER
 VENDOR: TOROMONT
 SIZE: 1372mm O.D. x 6096mm S/S
 M.A.W.P.: 517kPag @ -29°C/149°C
 DUTY: 293 kW
 FIRETUBE: 406mm O.D. x 9144mm LONG U-TUBE



S-926
 STILL COLUMN VENT TANK
 50 bbl DOUBLE WALLED
 INTERNALLY COATED

V-925
 AMINE DRAIN TANK
 VENDOR: WESTEEL
 CAPACITY: 15.7BBL (2500L) U/G DOUBLE WALL TANK
 SIZE: 1219mm I.D. x 2164 mm LG.

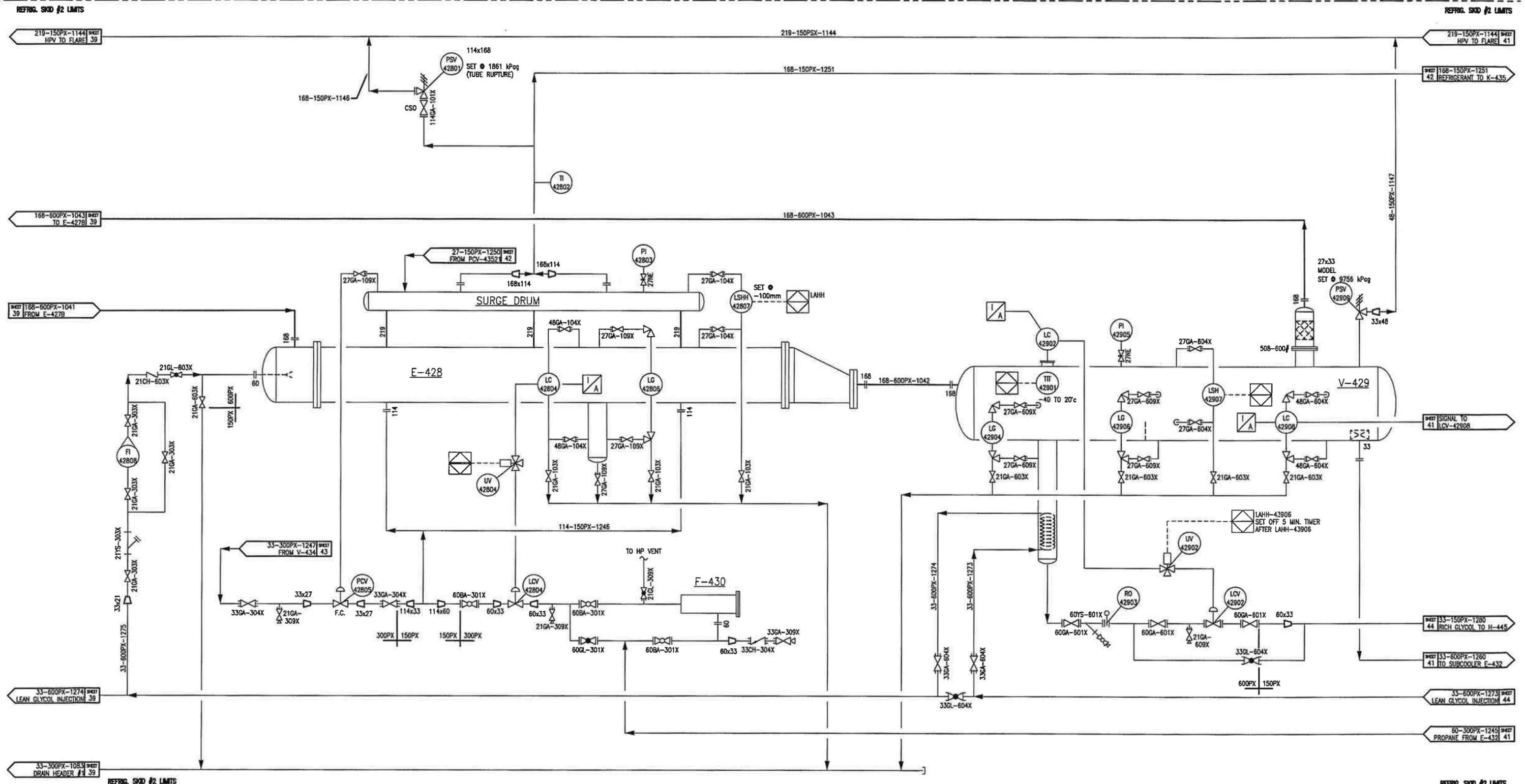


P.38

E-428
GAS CHILLER
 VENDOR: TOROMONT
 SIZE: 356 O.D. x 6096mm T/L
 SURGE DRUM: 406mm x 4877mm GAL
 D.P. SHELL SIDE: 1861 kPag @ -29°C/65°C
 D.P. TUBESIDE: 9756 @ -29°C/65°C

F-430
REFRIGERANT FILTER/DRYER
 MAKE/MODEL: SPORLAN/C40016-P
 D.P.: 3448 kPag
 ELEMENT: (4) RC-10098

V-429
LOW TEMP. SEPARATOR
 VENDOR: TOROMONT
 SIZE: 1067mm ID x 3048 S/S
 D.P.: 9756 kPag @ -29°C/65°C
 C.A.: 1.6mm

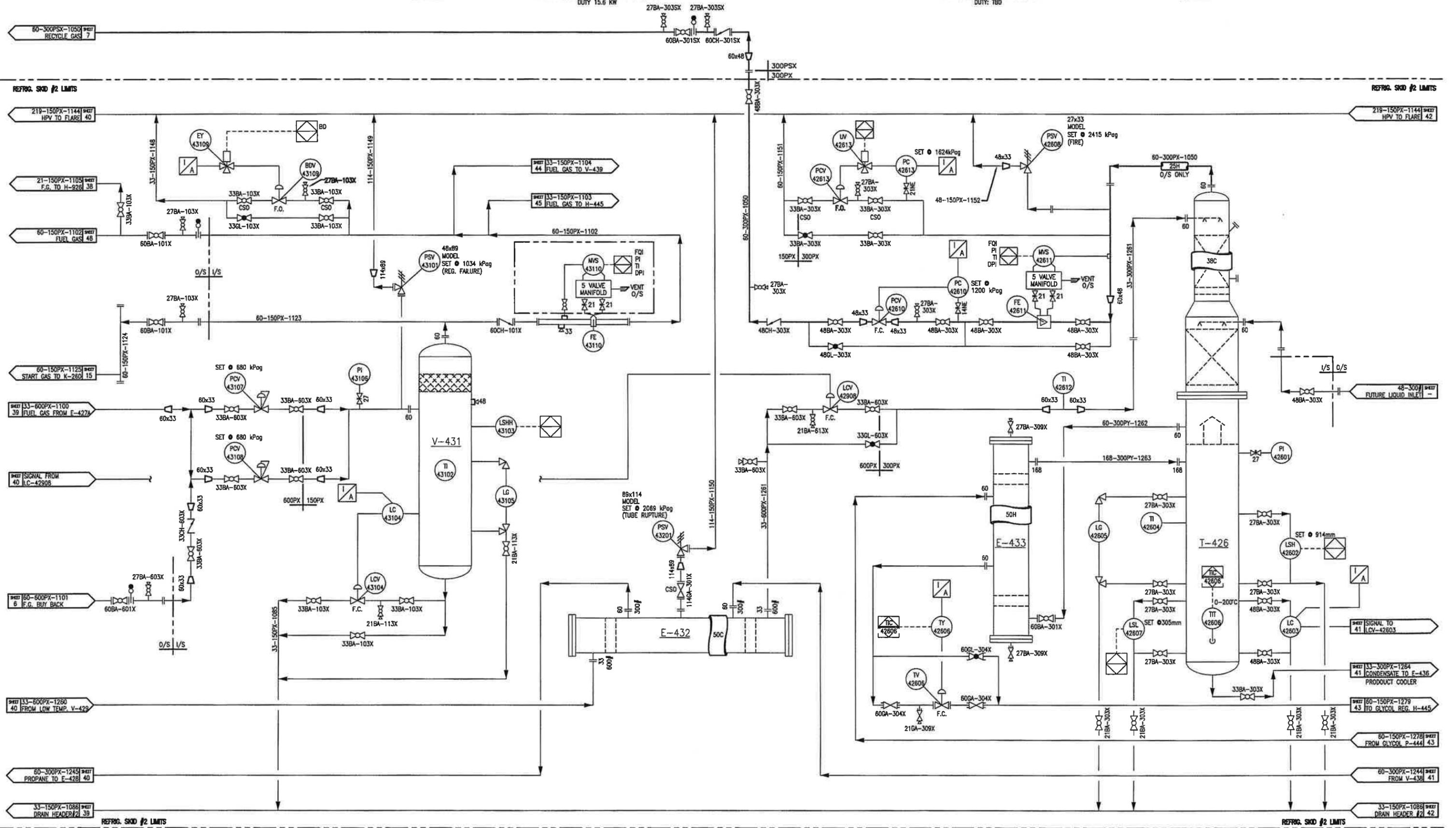


V-431
FUEL GAS SCRUBBER
 VENDOR: TOROMONT
 SIZE: 324mm O.D. x 1524mm S/S
 D.P.: 1034kPag @ -29°C/66°C
 C.A.: 1.6mm

E-432
PROPANE SUBCOOLER
 VENDOR: TOROMONT
 SIZE: 168 mm O.D. x 4267 T/L
 M.A.W.P. SHELLSIDE: 2069 kPag @ -29°C/121°C
 M.A.W.P. TUBESIDE: 9756 kPag @ -29°C/65°C
 DUTY: 15.6 KW

E-433
STABILIZER REBOILER
 VENDOR: TOROMONT
 SIZE: 219mm O.D. x 1524mm T/L
 M.A.W.P. SHELLSIDE: 1861 kPag @ -29°C/148°C
 M.A.W.P. TUBESIDE: 2415 @ -29°C/121°C
 DUTY: TBD

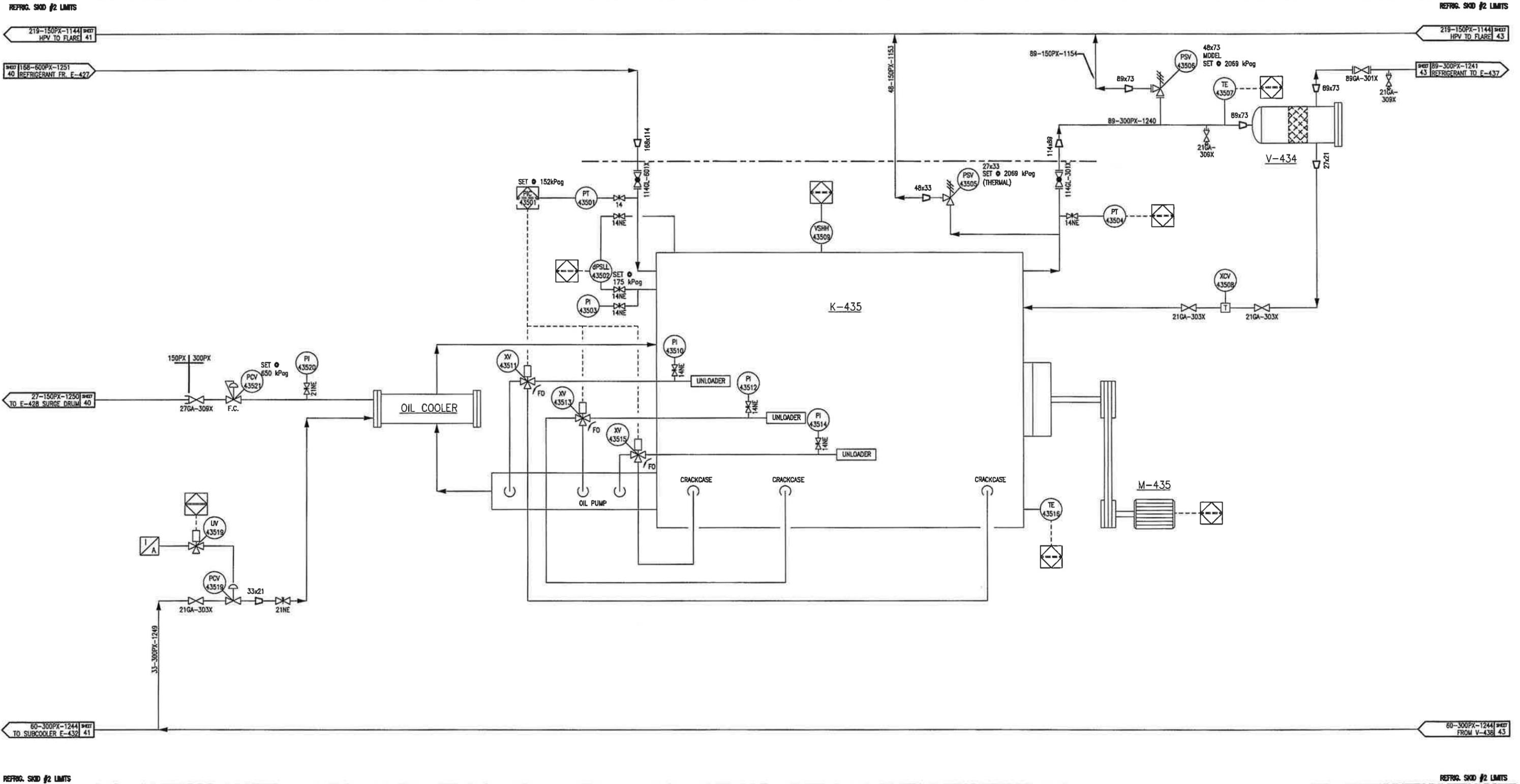
T-426
DEETHANIZER COLUMN
 VENDOR: TOROMONT
 SIZE: 219/324 O.D. x 10973mm S/S
 DP: 2415 kPa @ -29°C/204°C
 C.A.: 1.6mm



V-434
SECONDARY OIL SEPARATOR
 VENDOR: TOROMONT
 MAKE/MODEL: CHILCON/COSM-070T
 SIZE: 324mm ID x 1092mm S/S
 D.P.: 2758 kPag @ -29°C/204°C

K-435
REFRIGERATION COMPRESSOR
 VENDOR: TOROMONT
 MAKE/MODEL: MYCOM/PBWB
 SUCTION PRESSURE: 80-225 kPag
 DISCHARGE PRESSURE: 1457 kPag
 MAX FLOW RATE: 2611 KGS/HR

M-935
ELECTRIC MOTOR
 SIEMENS RGZEESDX
 112KW @ 1800 RPM
 3/60/460 TEFC

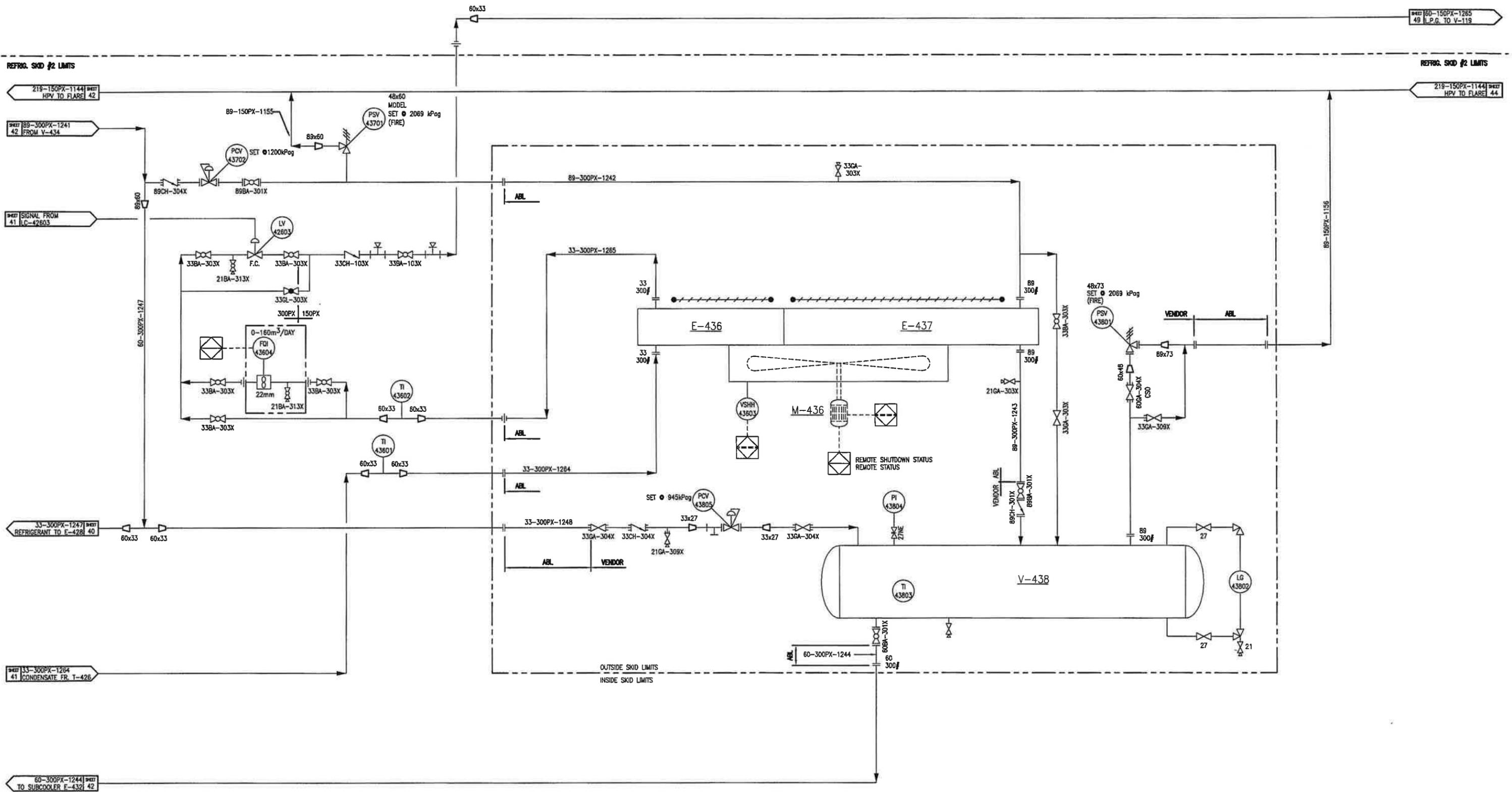


E-436/E-437
PRODUCT COOLER/REFRIGERANT CONDENSER

MAKE/MODEL: ACE/E-108-16
 E-436 D.P.: 2758 kPag @ -29°C/204°C
 DUTY: 29 kW
 E-411 D.P.: 2069 kPag @ -29/149°C
 DUTY: 286 kW

V-438
REFRIGERANT RECEIVER

VENDOR: TOROMONT
 SIZE: 610mm LD x 3658 S/S
 D.P.: 2069 kPag @ -29/149°C
 C.A. 1.6mm



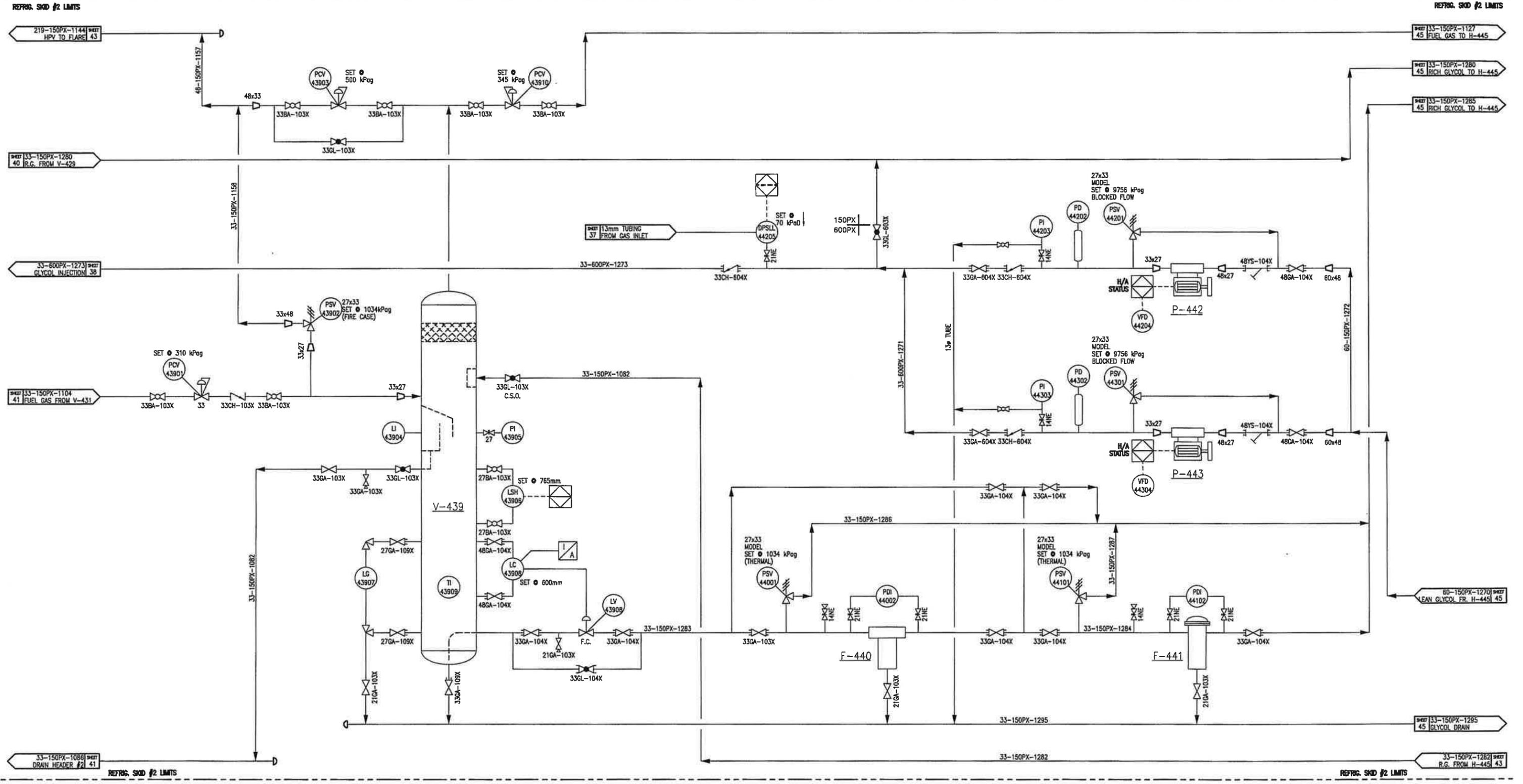
P.43

V-439
GLYCOL FLASH TANK
 VENDOR: TOROMONT
 SIZE: 324mm O.D. x 1524mm S/S
 D.P.: 1034 kPag @ -28°C/77°C
 C.A.: 1.6mm

F-440
GLYCOL FILTER
 VENDOR: TOROMONT
 MAKE/MODEL: FPS / FV-F05788DUB-1
 D.P.: 1207 kPag @ 121°C

F-441
CARBON FILTER
 VENDOR: TOROMONT
 MAKE/MODEL: FPS / FS-1-1122-CS
 SIZE: 324 O.D. x 758mm S/S
 D.P.: 1034 kPag @ 106°C

P-442/P-443
GLYCOL INJECTION PUMPS
 VENDOR: TOROMONT
 MAKE/MODEL: FMC / M0406
 MAX. FLOW: 4.13L/min @ 7586kPag
 C/W: 1.5 kW 3/80/460V VFD - TEFC MOTOR

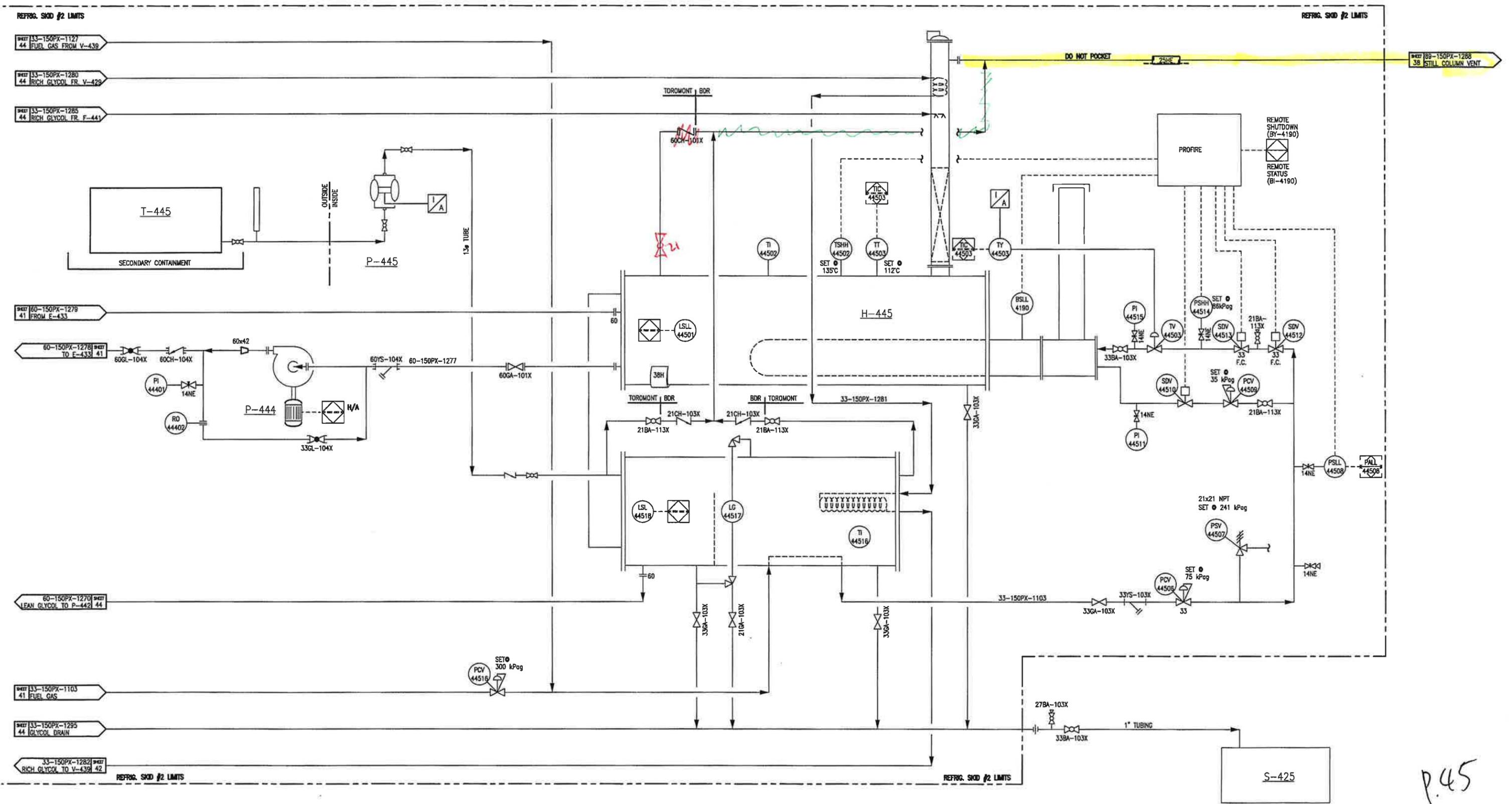


P-444
 GLYCOL PUMP
 VENDOR: TOROMONT
 HIGH TEMP ALLWEILER NTW H32-160/01
 DESIGN FLOW: 283 LPM @ 10.8m HEAD
 c/w 1.5 kW 3/60/460V XP

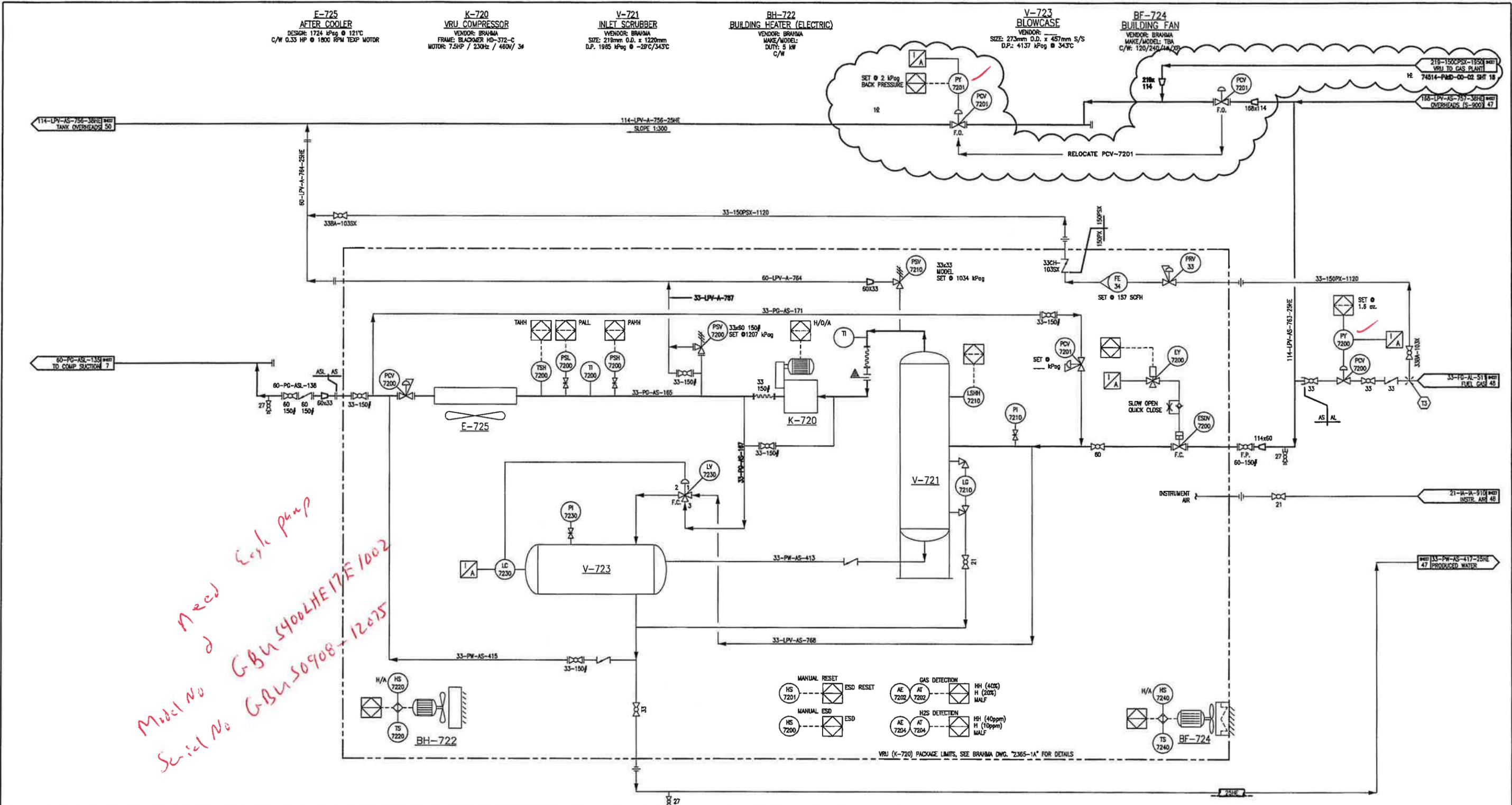
P-445
 GLYCOL MAKE UP PUMP
 VENDOR: TOROMONT

H-445
 GLYCOL REGENERATOR
 VENDOR: TOROMONT
 MAKE/MODRL: PETRO TECH/TBA
 REGEN: 762mm O.D. x 3657mm LG
 SURGE: 609mm O.D. x 3048mm LG
 DUTY: 146 kW

S-425
 GLYCOL DRAIN TANK
 VENDOR: TOROMONT



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NOTES	REFERENCE DRAWINGS	REV.	DATE	BY	DESCRIPTION	CHK'D	APP'D	CLIENT	ENGINEERING & PERMIT STAMPS	BY	DATE
		9A	11.07.12	CA	CONVERTED TO GALLEON TITLEBLOCK					CA	11.07.12
		8	10.10.18	CAF	PHASE II EXPANSION GENERAL REVISIONS						
		8	10.10.15	CAF	PHASE II EXPANSION						
		7	10.09.21	CAF	POST CONSTRUCTION						
		6	10.05.03	CAF	GENERAL REVISIONS						
		5	10.07.20	CAF	REVISED AS PER CLIENTS REMARKS						
		4	10.07.01	CAF	ISSUED FOR CONSTRUCTION	PC					
		3	10.05.06	JG	ISSUED FOR CLIENT REVIEW						
		2		ASA	POST CONSTRUCTION REVISION						
		9B	11.08.21	FE	ISSUED FOR REVIEW (MRC JOB# 11844)						

DRAWN:	CA	11.07.12
CHECKED:		
DESIGN:		
APPROVED:		
CLIENT:		
MRC JOB No.:	11844	
CADNAME:	7614-P&ID-046	

MILLENNIA Resource Consulting	
KAKUT 14-12 GAS PLANT LSD 14-12-75-3 W6M	
PIPING & INSTRUMENTATION DIAGRAM	
SCALE/PLOT SCALE	DRAWING NAME
NTS	74514-P&ID-046
REV.	9B

K-700A/B
ROTARY SCREW AIR COMPRESSOR
 VENDOR: EAGLE
 MAKE/MODEL: ROTA NOVA/NK-60
 SPEED: 762 RPM
 OPERATING PRESSURE: 862 kPa
 CAPACITY: 68 SCFM @ 862kPa
 c/w: 20HP/230-460V/3#/60Hz TEFC

F-701
AIR PRE-FILTERS
 VENDOR: EAGLE
 MAKE/MODEL: DELTECH/DF100-B-8-DG
 c/w POP UP DIFFERENTIAL INDICATOR
 CAPACITY: 100 SCFM

D-702
AIR DRYER
 VENDOR: EAGLE
 MODEL: EADR-50
 RATING: 80 SCFM @ 689 kPag
 DESIGN PRESS: 1378 kPag @ 93°C
 120 VAC

F-703
AIR AFTER FILTER
 VENDOR: EAGLE
 MAKE/MODEL: DELTECH/DF100-Y-8-G
 c/w POP UP DIFFERENTIAL INDICATOR
 CAPACITY: 100 SCFM

V-704
WET AIR RECEIVER
 VENDOR: EAGLE
 SIZE: 762mm O.D. x 2134mm
 CAPACITY: 240 GALLON
 DESIGN PRESSURE: 1379kPag @ 232°C

BH-705
BUILDING HEATER
 VENDOR: EAGLE

BF-706
EXHAUST FAN
 VENDOR: EAGLE
 115V/1#/60Hz

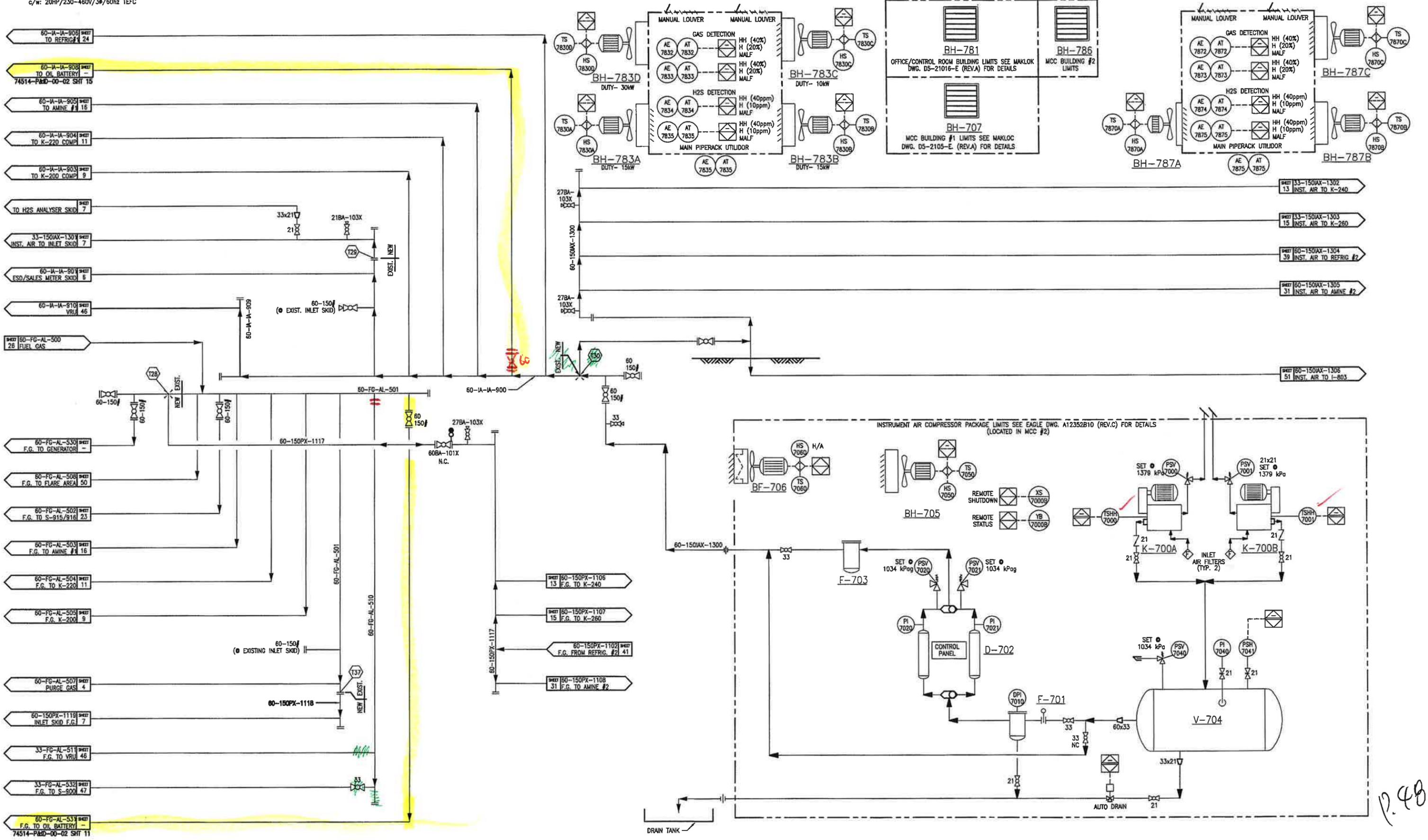
BH-707
BUILDING HEATER (ELECTRIC)
 VENDOR: MAKLOC
 MAKE/MODEL: CARRIER/ 2 TON SPLIT HVAC
 DUTY: 15 kW

BH-781
BUILDING HEATER (ELECTRIC)
 VENDOR: MAKLOC
 MAKE/MODEL: CARRIER/ 2 TON SPLIT HVAC
 DUTY: 15 kW

BH-783A/B/C/D
BUILDING HEATER (ELECTRIC)

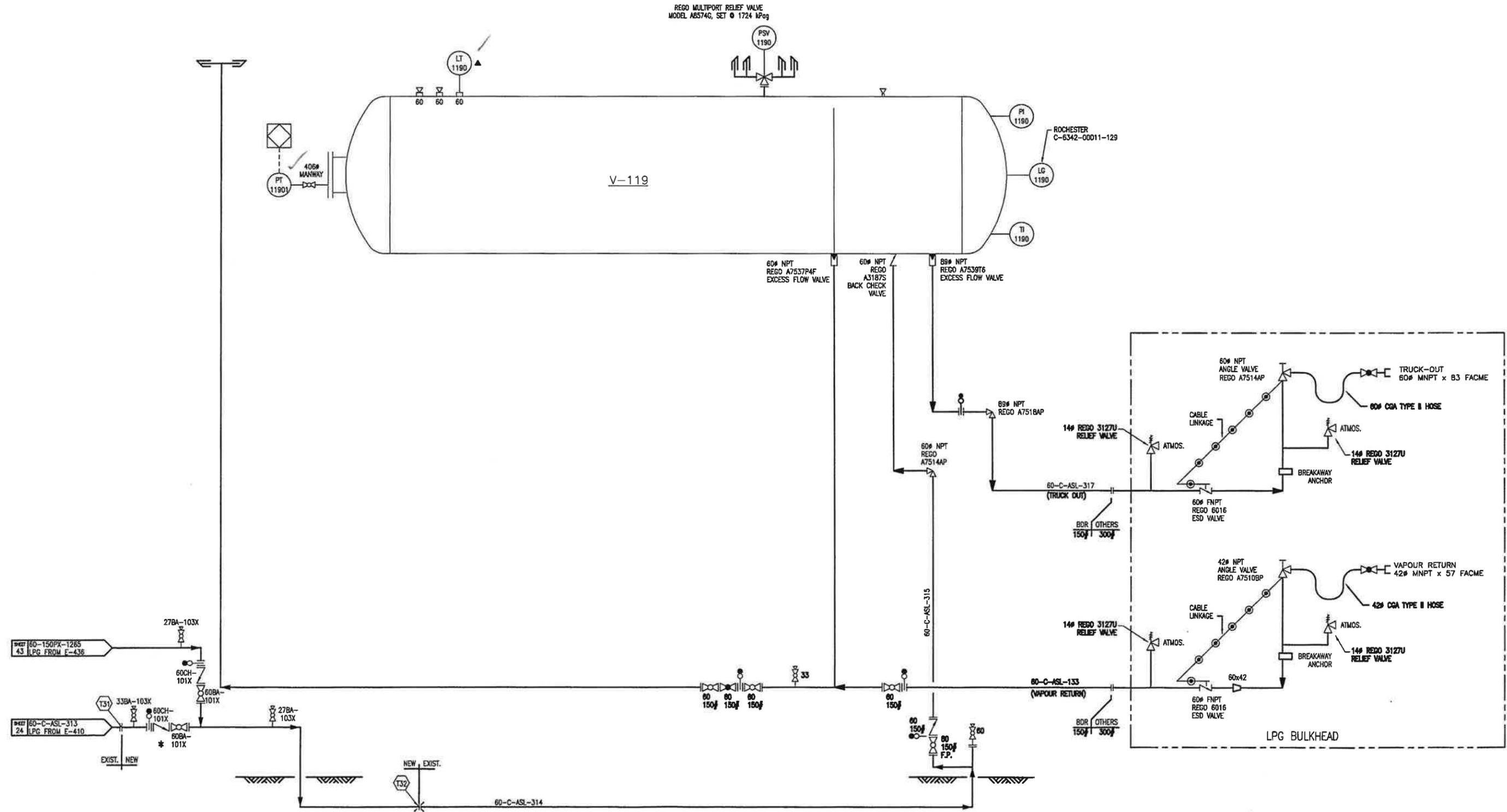
BH-786
BUILDING HEATER (ELECTRIC)
 DUTY: 20kW

BH-787 A/B/C
UTILIDOOD HEATER (ELECTRIC)
 DUTY: 20kW

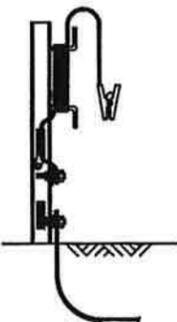


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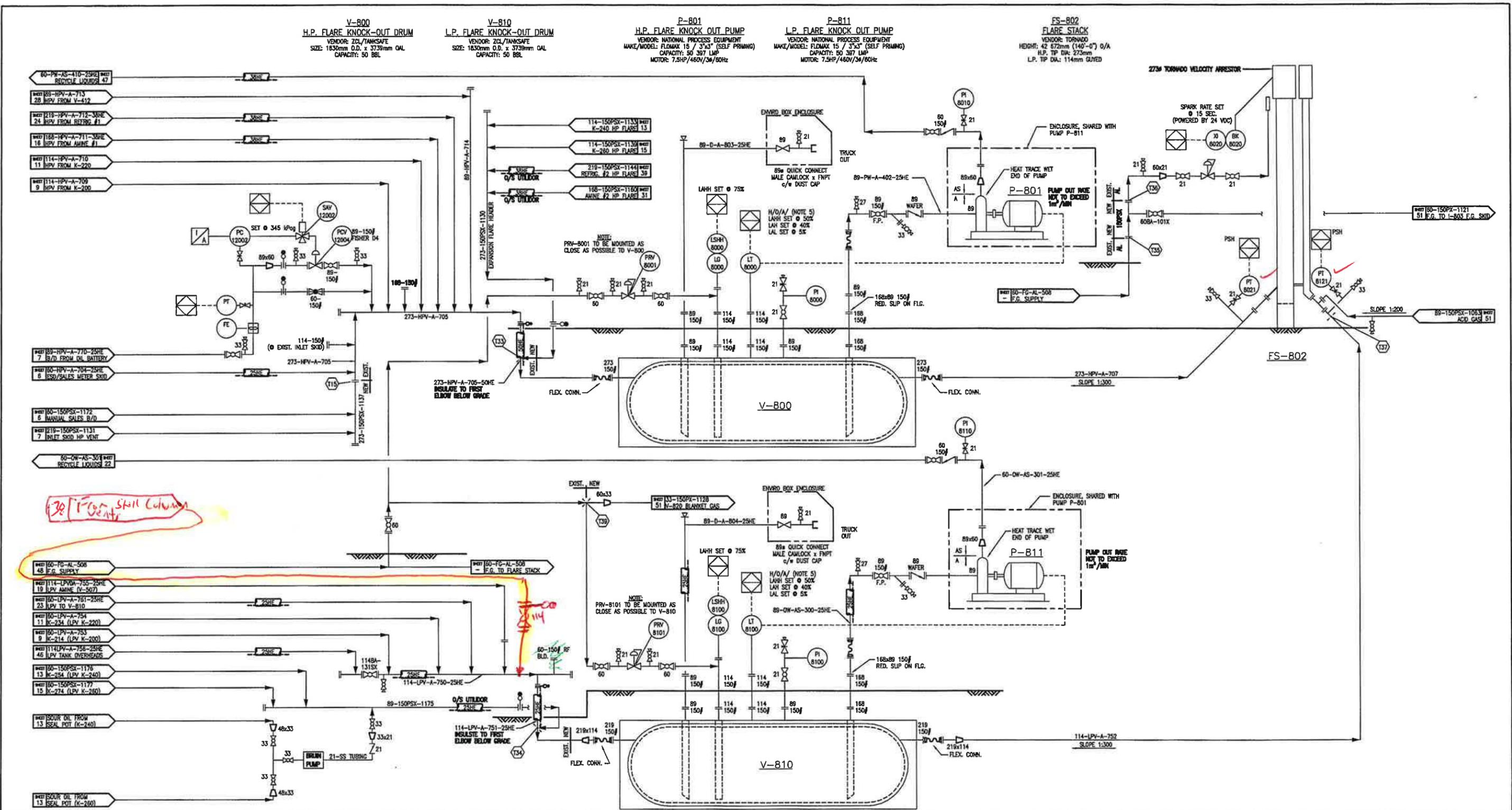
V-119
 LPG STORAGE BULLET
 2743 I.D. x 18174 S/S
 MAWP INT.: 1724 kPag
 DESIGN TEMP.: 46°C
 CAPACITY: 113.4 m³



SCULLY_GROUNDHOG
 TRUCK
 GROUNDING SYSTEM



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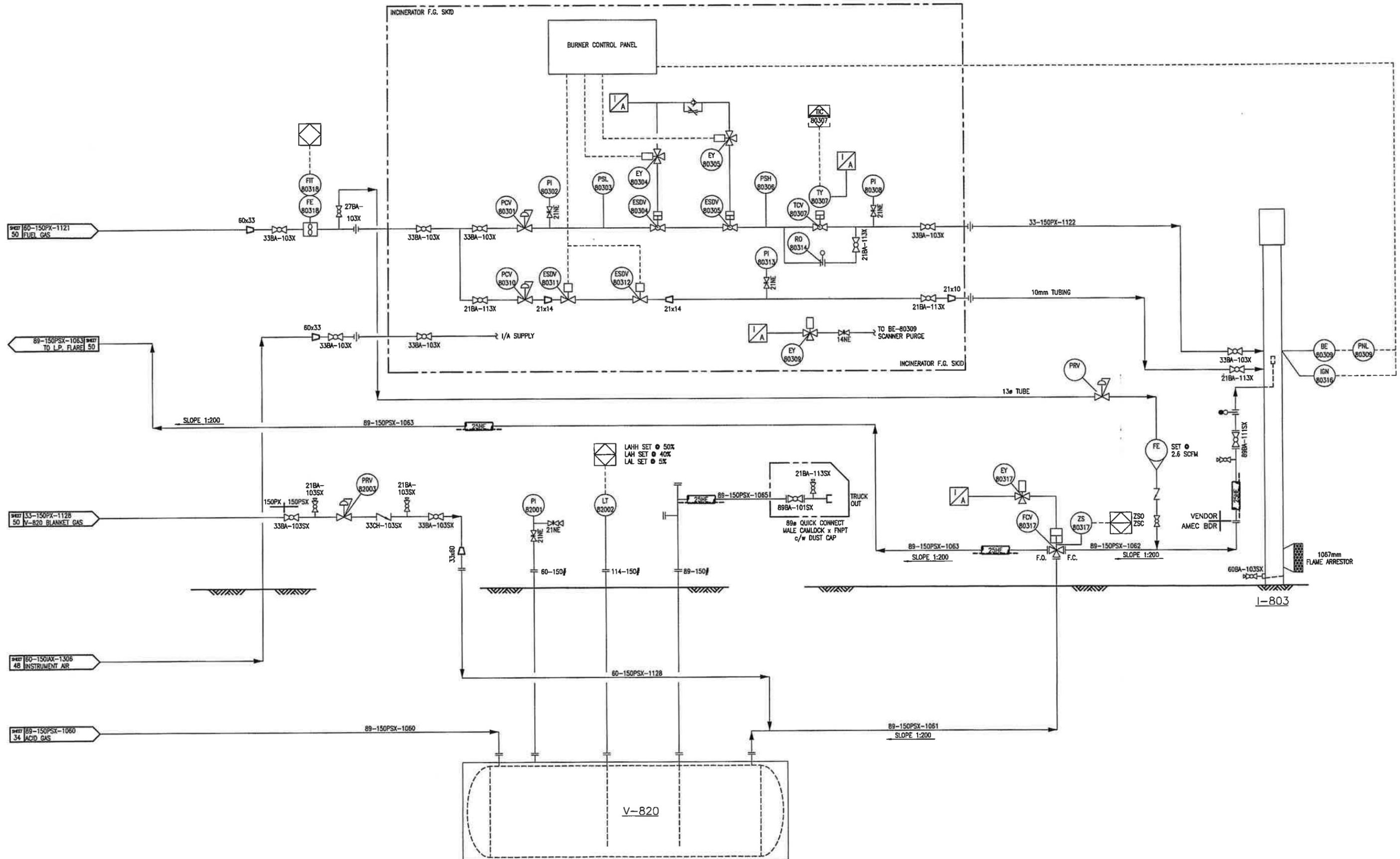


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		9B	11.08.21	FE	ISSUED FOR REVIEW (MRC JOB# 11844)						


GALLEON ENERGY
MILLENNIA
 Resource Consulting
KAKUT 14-12 GAS PLANT
 LSD 14-12-75-3 WGM
PIPING & INSTRUMENTATION DIAGRAM
 MRC JOB No.: 11844
 CADNAME: 7654-P&ID-050
 SCALE/PLOT SCALE: NTS
 DRAWING NAME: 74514-P&ID-050
 REV. 9B

V-820
 INCINERATOR KNOCK-OUT DRUM
 VENDOR: TNT OILFIELD MANUFACTURING
 SIZE: 914mm O.D. x 1829mm S/S
 INTERNALLY COATED

I-803
 ACID GAS INCINERATOR
 VENDOR: TORNADO TECHNOLOGIES CANADA
 SIZE: 762mm O.D. x 3962mm HIGH



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