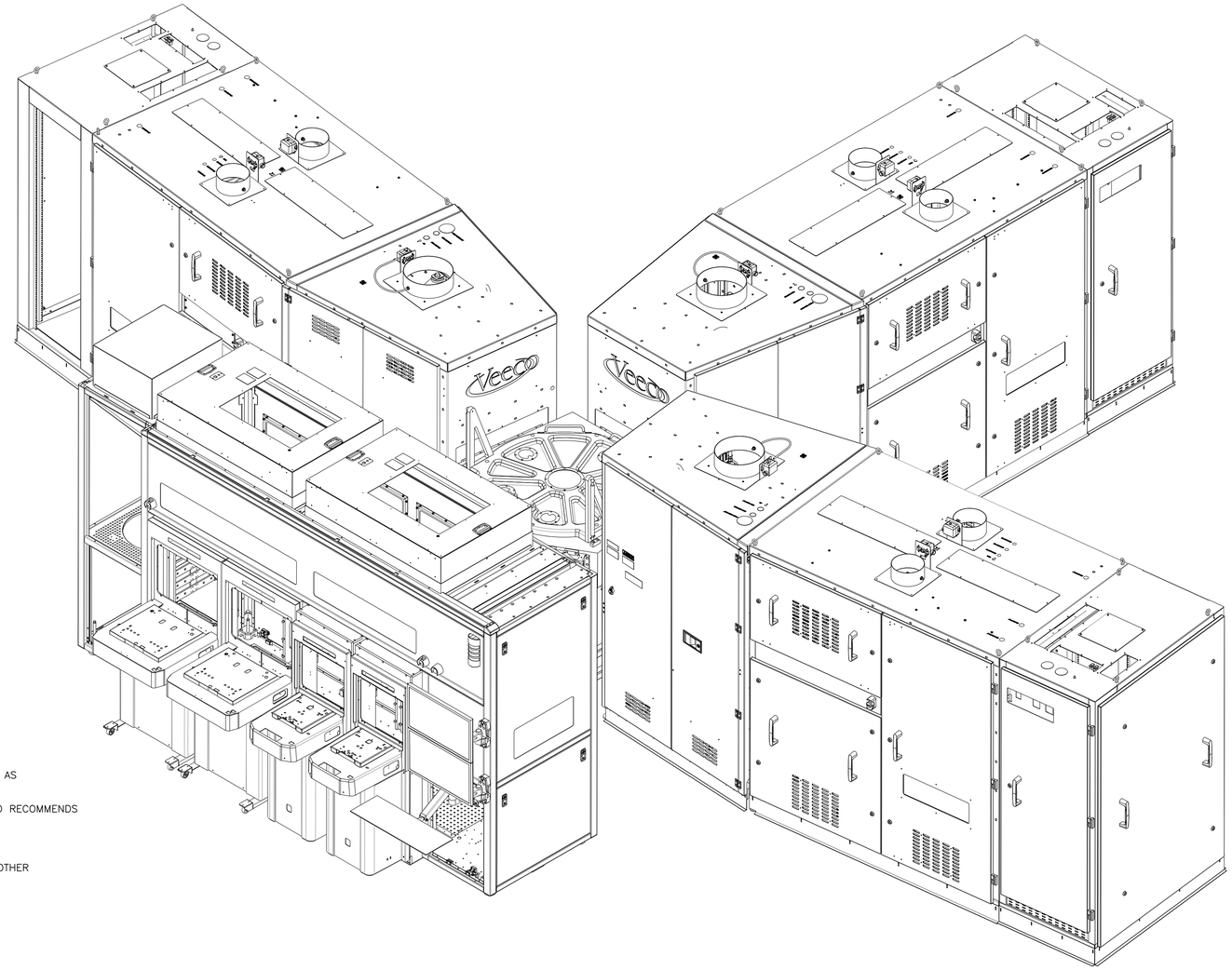
REV	ECM	ZONE	DESCRIPTION	DATE	CHANGED BY	APPVD. BY
A	46530	–	INITIAL RELEASE	05/18/21	NJJ	RSM

MAIN SYSTEM
SHOWING C3 CONFIGURATION



NOTES:

1. ALL GASSES AND WATER SUPPLIED TO THE VEECO SYSTEM MUST BE INDEPENDENTLY REGULATED.

2. PRESSURE REQUIREMENTS TO BE MEASURED AT THE BULKHEAD LOCATION.

3. SYSTEM OPERATION TEMPERATURE IS TO BE 19–30°C WITH RELATIVE HUMIDITY FROM 25%–75% (NON–CONDENSING).

4. PIPING & CONNECTIONS:

   THE CUSTOMER FACILITY PIPING MUST PROVIDE THE REQUIRED PRESSURES AND FLOWRATES AT THE SYSTEM INLET BULKHEAD AS INDICATED IN TABLES 1 & 2.
   THE PIPING CONNECTION TO THE SYSTEM MUST NOT PRESENT LIMITING PRESSURE DROPS DUE TO FRICTIONAL LOSSES.
   THE CUSTOMER MUST MAKE THE NECESSARY PRESSURE–DROP CALCULATIONS FOR THE FACILITY PIPING TO BE USED. VEECO RECOMMENDS SMOOTH (10 RA MAX) INTERNAL–WALL, HIGH–PURITY GRADE 316 STAINLESS STEEL TUBING.

5. WATER QUALITY: (SEE TABLE 6)

   WARNING! DE–IONIZED OR DISTILLED WATER IS CORROSIVE TO METALS AND CANNOT BE USED. ALSO ETHYLENE GLYCOL OR OTHER ANTI–FREEZE MIXTURES CANNOT BE USED DUE TO THEIR HIGH VISCOSITY COMPARED TO WATER.

   THE QUALITY OF THE SUPPLIED FACILITY COOLING WATER MUST MEET THE FOLLOWING SPECIFICATIONS:

PARTICULATE:	SUPPLY FILTERED TO 10 MICRONS.
HARDNESS:	– 60 PPM MAXIMUM (CALCIUM & MAGNESIUM CARBONATES).
SILICA:	– 60 PPM MAXIMUM
TDS (TOTAL DISSOLVED SOLIDS):	– 800 PPM MAXIMUM
PH VALUE:	– MAINTAIN SLIGHTLY ALKALINE SOLUTION BETWEEN 7.5–8.5PH
CONDUCTIVITY:	– LESS THAN 2000 µS/CM
CORROSION:	– USE CORROSION INHIBITORS TO MINIMIZE THE NEGATIVE EFFECTS OF CORROSION. (NITRIDE BORATE OR SODIUM NITRIDE IS COMMON.)
BIOCIDES:	– USE NON_CHLORIDE BASED BIOCIDAL ADDITIVES (BACTERIALCIDE, ALGAECIDE) TO KILL MICROORGANISMS AND PREVENT THEIR GROWTH.

6. AC POWER QUALITY MUST COMPLY WITH THE STANDARDS OUTLINED IN SEMIF47 (VOLTAGE SAG IMMUNITY) AND EN 50160 (POWER QUALITY MEASUREMENT). SEE TABLE 3.

7. REFERENCE VEECO DRAWING FEA17000 AS NEEDED FOR DESIGNING SEISMIC BRACKETS TO ANCHOR THE SYSTEM.

8. CUSTOMER RESPONSIBLE FOR SUPPLYING FACILITY PROCESS PUMP INTERCONNECT TUBING FROM THE SYSTEM BULKHEAD TO THE ABATEMENT SYSTEM PER LOCAL REQUIREMENTS. SYSTEM INTERCONNECT BULKHEAD FITTING KF–40.

9. ALL DIMENSIONS ARE IN INCHES[MILLIMETERS].

10. MACHINE OPERATION AVAILABLE UPTO 5000FT (1524M).

11. REFER VEECO PART NUMBER 1331446 FOR FORK LIFT LOCATIONS OF CRITICAL MODULES FOR SHIPPING AND INTEGRATION PURPOSE

TITLE: FOOTPRINT, PROPEL 300

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VEECO TURBODISC OPERATIONS
394 ELIZABETH AVENUE
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UNITED STATES of AMERICA
MAKING A MATERIAL DIFFERENCE

UNLESS OTHERWISE SPECIFIED
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FILLETS R.015 FINISH 125
THIRD ANGLE PROJECTION

TOLERANCES (EXCEPT AS NOTED)
DECIMAL .XX ±.1/4
.XXX ±.1/8
.XXXX ±.1/16
FRACTIONAL ±1/64
ANGULAR ±1/2°

INTERPRET DRAWING PER ASME Y14.5M–2009

DWG. NO. FP17000

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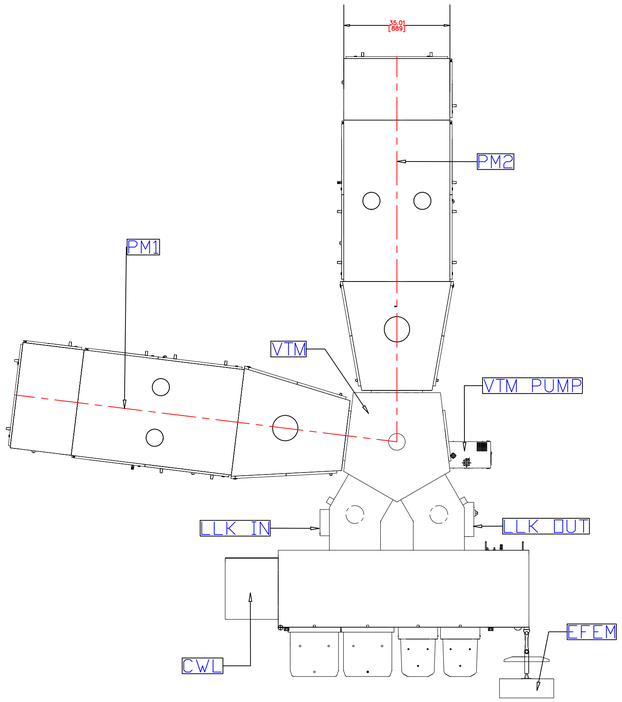
NJJ	NJJ	RSM	RSM	1	12

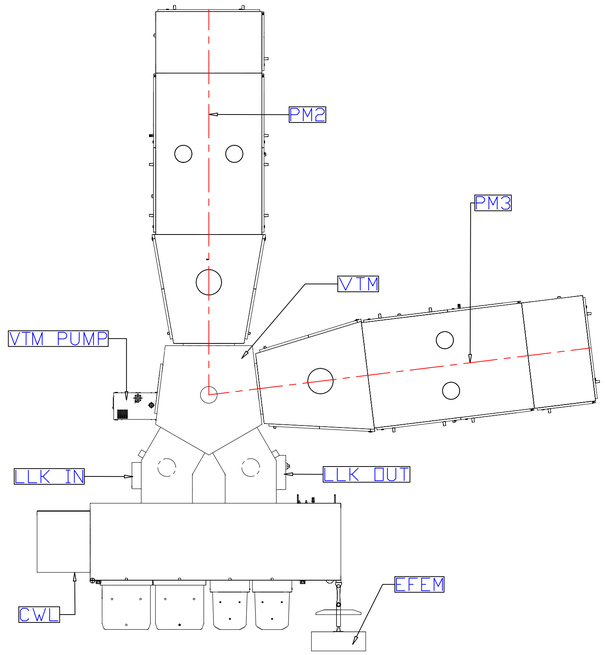
MAIN SYSTEM TOP VIEW

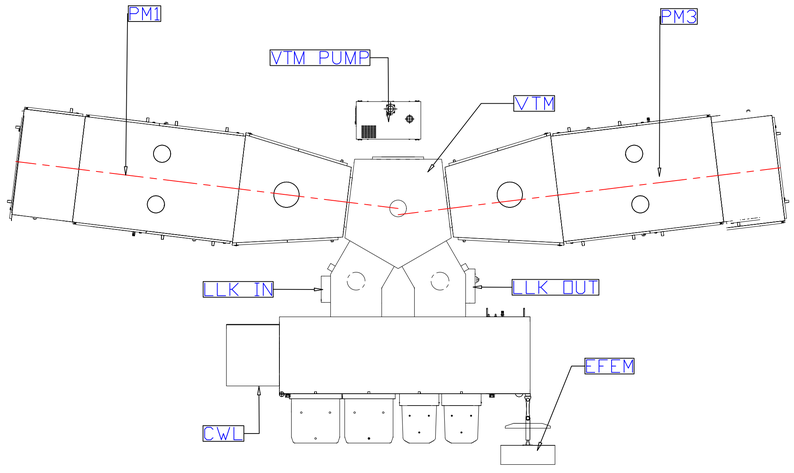
C2 CONFIGURATIONS

LEGEND:

ECA – ELECTRONICS AND CONTROLS ASSEMBLY
SDA – SOURCE DELIVERY ASSEMBLY
RHA – REACTOR HOUSING ASSEMBLY
PM – PROCESS MODULE
VTM – VACUUM TRANSFER MODULE
EFEM – EQUIPMENT FRONT END MODULE
RCA – REACTOR CART ASSEMBLY
LLK – LOAD LOCK
CWL – CARRIER WAFER LOADER







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MAIN SYSTEM TOP VIEW

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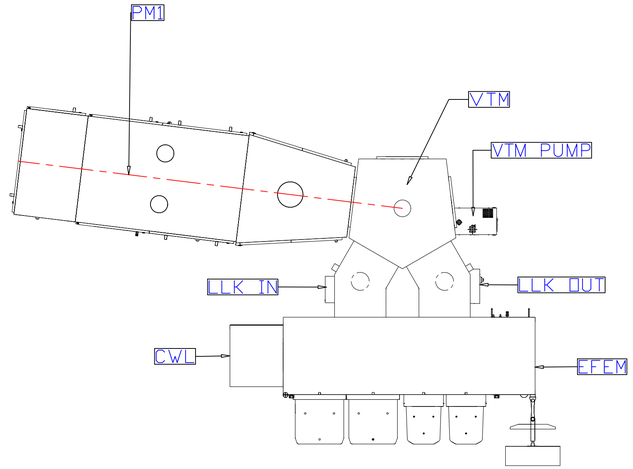

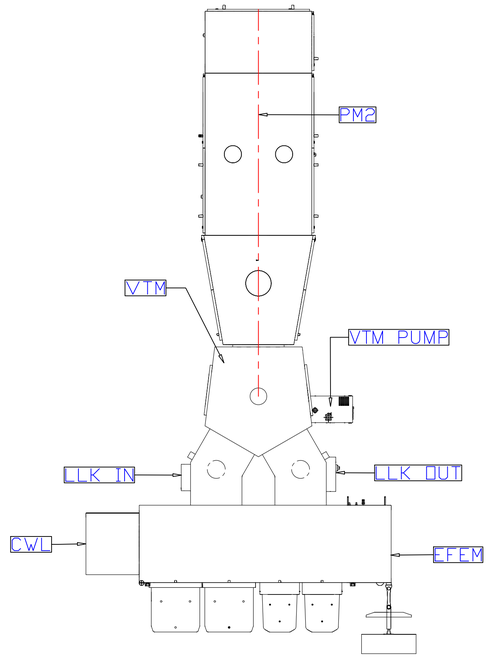

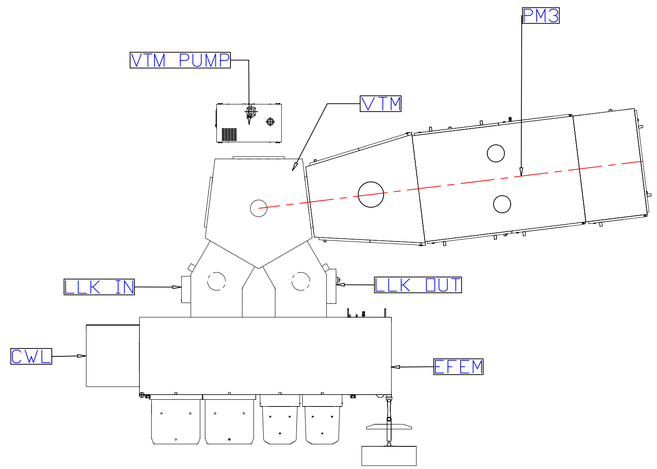

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TABLE 1 – GAS SPECIFICATIONS AT SYSTEM INLET BULKHEAD							
#	MODULE	GAS INPUTS	ESTIMATED FLOW [SLM]**	MIN. SUPPLY PRESSURE***,****	MAX. SUPPLY PRESSURE***,****	BULKHEAD FITTING TYPE***	PURITY
1	PM 1,2,3 (PER MODULE)	PURIFIED NH3	52	65PSIG [4.48BAR]	150PSIG [10.34BAR]	1/2" TUBE	<5 PPB H2O
2		PURIFIED N2	175	75PSIG [5.17BAR]	150PSIG [10.34BAR]	1/2" VCR FEMALE	<5 PPB H2O
3		PURIFIED H2	255	60PSIG [4.14BAR]	150PSIG [10.34BAR]	1/2" TUBE	<5 PPB H2O
4		DOPANT #1	5.1	50PSIG [3.45BAR]	150PSIG [10.34BAR]	1/4" TUBE	<5 PPB H2O
5		DOPANT #2	0.1	50PSIG [3.45BAR]	150PSIG [10.34BAR]	1/4" TUBE	<5 PPB H2O
6		HOUSE N2 TO PNEUMATICS	30	86PSIG [5.93BAR]	145PSIG [10.0BAR]	1/4" COMPRESSION	<-70 C DEW PT
7		PURIFIED N2 FOR PUMP	24	60PSIG [4.14BAR]	145PSIG [10.0BAR]	1/4" COMPRESSION	<10 PPB H2O
8		SPARE 1	–	–	–	–	–
9		SPARE 2	–	–	–	–	–
10	VTM-AFI	PURIFIED N2	300	80PSIG [2.07BAR]	145PSIG [10.0BAR]	1/2" VCR MALE	<10 PPB H2O
11		HOUSE N2	350	86PSIG [5.93BAR]	145PSIG [10.0BAR]	3/8" COMPRESSION	<-70 C DEW PT

* CUSTOMER PROCESS MAY REQUIRE DIFFERENT FLOW
** MAX FLOW IS DEFINED AS THE SUM OF THE FLOWS OF ALL PRIMARY MFC'S WHEN FULLY OPEN
*** SUPPLY LINES ARE ASSUMED TO BE THE SAME SIZE AS THE BULKHEADS.
**** PRESSURE VALUES DO NOT INCLUDE PURIFIER PRESSURE DROP.

TABLE 2 - WATER SPECIFICATION					
MODULE	NOMINAL FLOW (LPM)	SUPPLY PRESSURE	MIN. SUPPLY RETURN DELTA PRESSURE	SUPPLY TEMPERATURE	FITTING
PM 1,2,3 (PER MODULE)	72	60 PSIG [4.14 BAR]	40 PSI [27.6 BAR]	18-20 °C	1" COMPRESSION
VTM	19	40 PSIG [2.75 BAR]	10 PSI [0.68 BAR]	18-20 °C	3/8" COMPRESSION

TABLE 3 – ELECTRICAL REQUIREMENTS SEE NOTE 6 & TOP VIEW		
PARAMETER	REQUIREMENT	
	PM 1,2,3 (PER MODULE)	VTM
VOLTAGE	380 VAC±10%	208 VAC±10%
MAIN BREAKER	100 A	125 A
FREQUENCY	50/60 Hz	50/60 Hz
WIRING REQUIRED	3 WIRES + GROUNG	2 WIRES + GROUND
SHORT CIRCUIT RATING (SCCR)	30 KA	10 KA

TABLE 4 – INTERNAL TEMPERATURE AND VENTILATION REQUIREMENTS							
MODULE	STACK	MAXIMUM INTERNAL CABINET TEMP (°C)	EFFECTIVE VOLUME (FT^3)	REQUIRED VENTILATION (CFM)	PURPOSE	PORT SIZE (DIA)	VENTILATION REQUIREMENT
PM 1,2,3 (PER MODULE)	SDA	35	97	386-485	ABATEMENT UNINTENDED RELEASE	8"(2X)	4-5 AIR EXCH/MIN; SEMI S2-0712b R16-6.31
PM 1,2,3 (PER MODULE)	RHA	35	114	300	ABATEMENT UNINTENDED RELEASE	12"(1X)	125% PUMP MAX VOLUME FLOW RATE: SEMI S2-0712b SECTION 22.1.3; TABLE R16

TABLE 5 – APPROX MODULE WEIGHTS (PER MODULE)	
MODULE	UNCRATED WEIGHT (kg)
SDA+ ECA+RHA (PM1, 2, 3)	2246
FILTER CART (PM 1, 2, 3)	115
HEAT EXCHANGER (PM 1, 2, 3)	95
RCA (PM1, 2, 3)	780
PROCESS PUMP 1, 2, 3	480
VTM PUMP	75
AFI (EFEM)	1615
VTM	1080
AFI (CWL)	270

TABLE 6 - TEMPERATURE BATH WATER QUALITY SPECIFICATION

ITEM	STANDARD VALUE
PH (25℃)	6.0 to 8.0
ELECTRIC CONDUCTIVITY (25℃) (μ S/cm)	100 to 300
CHLORIDE ION (mgCl-/L)	50 OR LESS
SULPHATE ION ($mgSO_4^{2-}$/L)	50 OR LESS
ACID CONSUMPTION (PH4.8) ($mgCaCO_3$/L)	50 OR LESS
TOTAL HARDNESS ($mgCaCO_3$/L)	70 OR LESS
CALCIUM HARDNESS($mgCaCO_3$/L)	50 OR LESS
ION SILICA ($mgSiO_2$/L)	30 OR LESS
IRON (mgFe/L)	0.3 OR LESS
COPPER (mgCu/L)	0.1 OR LESS
SULPHIDE IONS (mgS^{2-}/L)	NONE DETECTED
AMMONIUM ION ($mgNH_4^+$/L)	0.1 OR LESS
RESIDUAL CHLORIDE (mgCl/L)	0.3 OR LESS
FREE CARBON ($mgCO_2$/L)	4.0 OR LESS
FILTRATION (μm)	5 OR LESS

BATH LIQUID	TEMP. RANGE	REMARKS
WATER	5~60℃	
ETHYLENEGLYCOL-WATER SOLUTION	0~60℃	CONCENTRATION OF ETHYLENEGLYCOL MUST BE LOWER THAN 50%

TABLE 7 – EXHAUST ABATEMENT					
#	MODULE	EXHAUST NAME	PORT SIZE/LOCATION	PURPOSE	MAX PORT BACKPRESSURE
1	PM 1,2,3 (PER MODULE)	PROCESS EXHAUST	KF 40	PROCESS ABATEMENT	1.5 PSIG
2	VTM PUMP	PROCESS EXHAUST	KF 25	PROCESS ABATEMENT	AMBIENT PRESSURE. EXHAUST VENTED TO ATMOSPHERE

TABLE 8 - VACUUM SPECIFICATION				
MODULE	NOMINAL FLOW (SCFM)	SUPPLY PRESSURE (PSIG)	SUPPLY TEMPERATURE	FITTING
AFI	2.8	-13.1 TO -8.7	27-15 °C	10mm PUSH FITTING

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MAKING A MATERIAL DIFFERENCE

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THIRD ANGLE PROJECTION

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INTERPRET DRAWING PER ASME Y14.5M-2009

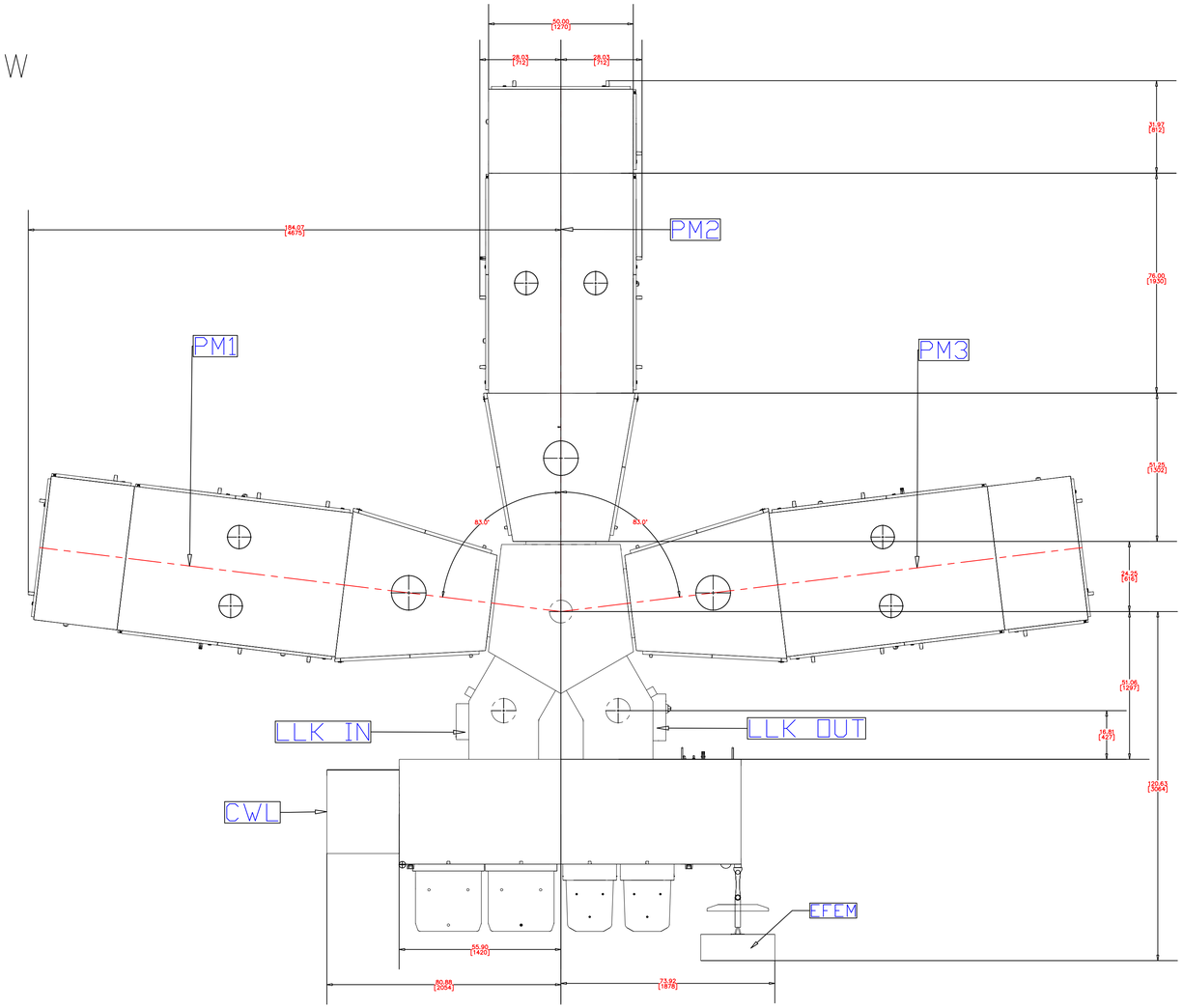
DWG. NO. FP17000

SIZE D | DATE: 04/26/2021 | SCALE: N/A | REV. A

ENG. NJJ | DWN. NJJ | CHKR. RSM | APVD. RSM | SHEET 4 OF 12

MAIN SYSTEM TOP VIEW

C3 CONFIGURATION



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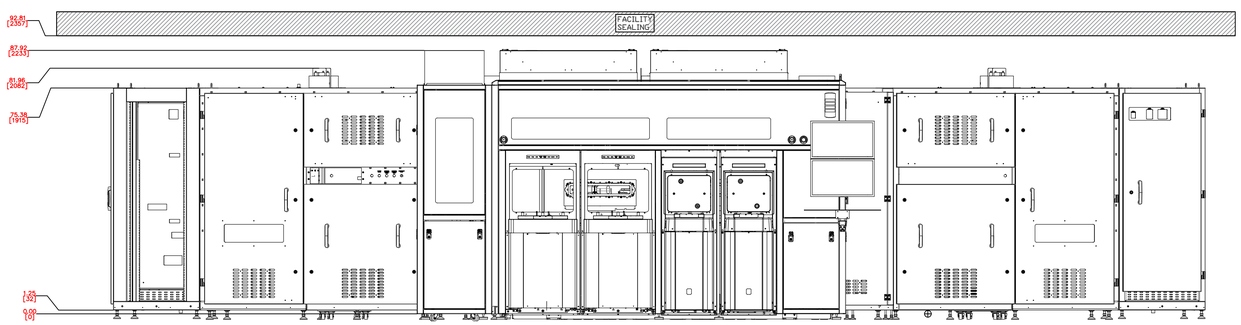
MAIN SYSTEM FRONT VIEW



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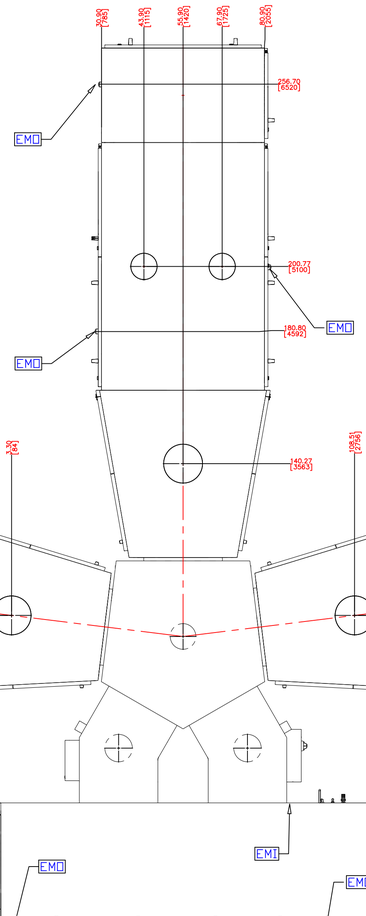
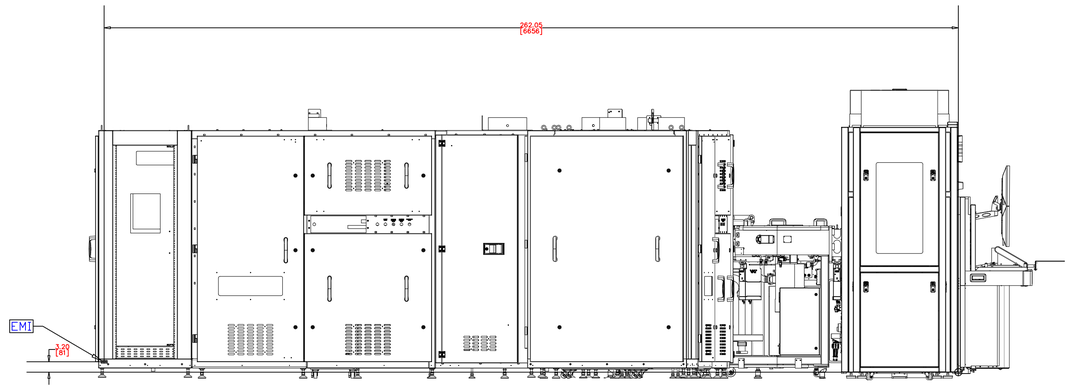
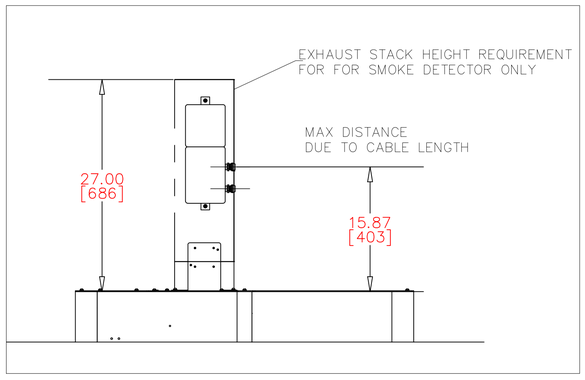
NJJ	NJJ	RSM	RSM	5	12

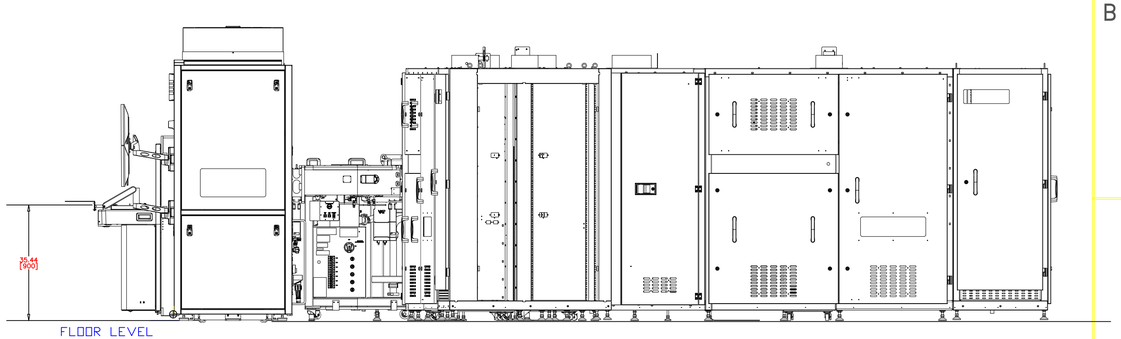
MAIN SYSTEM TOP VIEW

CABINET EXHAUST VENTILATION









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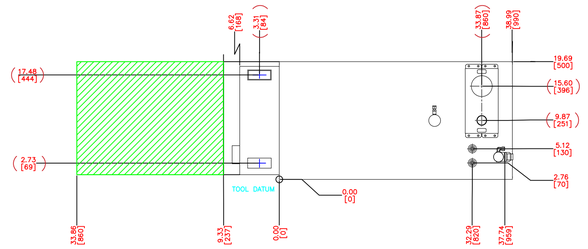
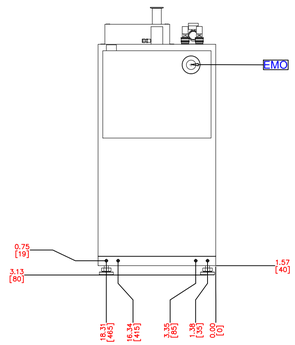
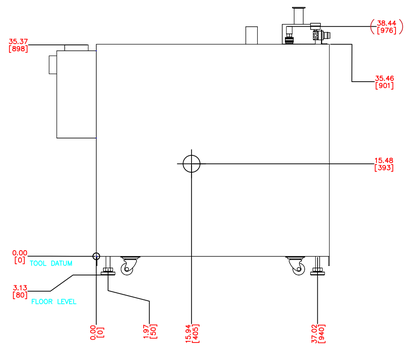
PROCESS PUMP
(FOR PM1, PM2, PM3)



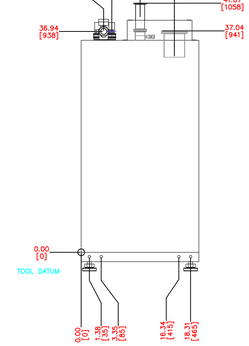
TOP VIEW



LEFT VIEW



FRONT VIEW



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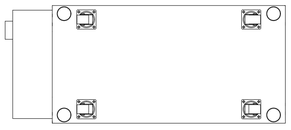
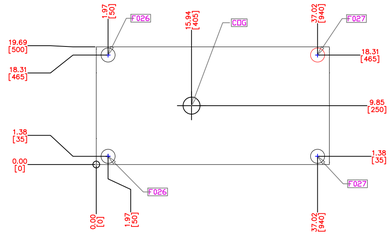


BOTTOM VIEW



BOTTOM VIEW SEEN FROM TOP

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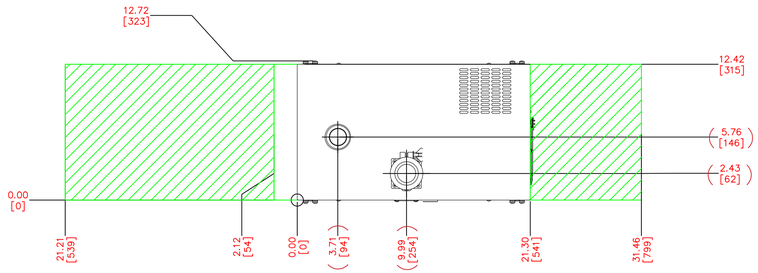
VTM PUMP



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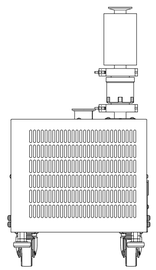
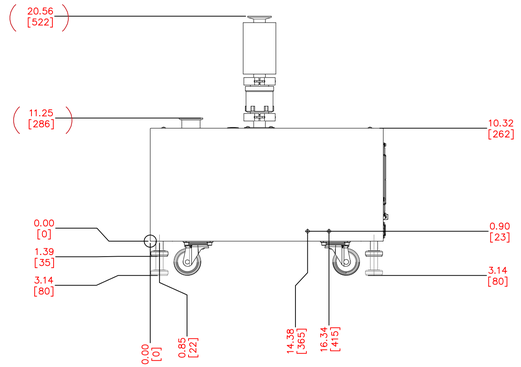
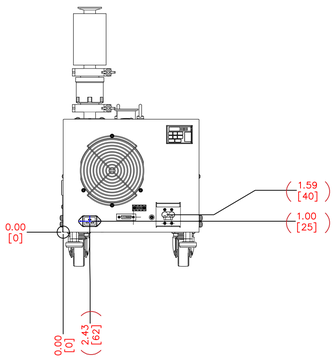


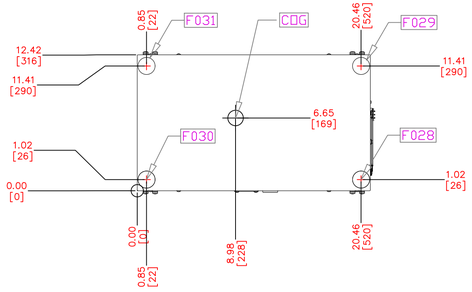
LEFT VIEW



FRONT VIEW



RIGHT VIEW



BOTTOM VIEW

TITLE: FOOTPRINT, PROPEL 300

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VEECO TURBODISC OPERATIONS
394 ELIZABETH AVENUE
SOMERSET, N.J. 08873-1203
UNITED STATES of AMERICA

MAKING A MATERIAL DIFFERENCE

UNLESS OTHERWISE SPECIFIED
ALL DIMENSIONS ARE IN INCHES
BREAK SHARP EDGES & DEBURR

TOLERANCES (EXCEPT AS NOTED)
DECIMAL .XX ±.1/4
.XXX ±.1/8
.XXXX ±.1/16
FRACTIONAL ±1/64
ANGULAR ±1/2°

FILLETS R.015 FINISH 125

THIRD ANGLE PROJECTION

INTERPRET DRAWING PER ASME Y14.5M–2009

DWG. NO. FP17000

SIZE D

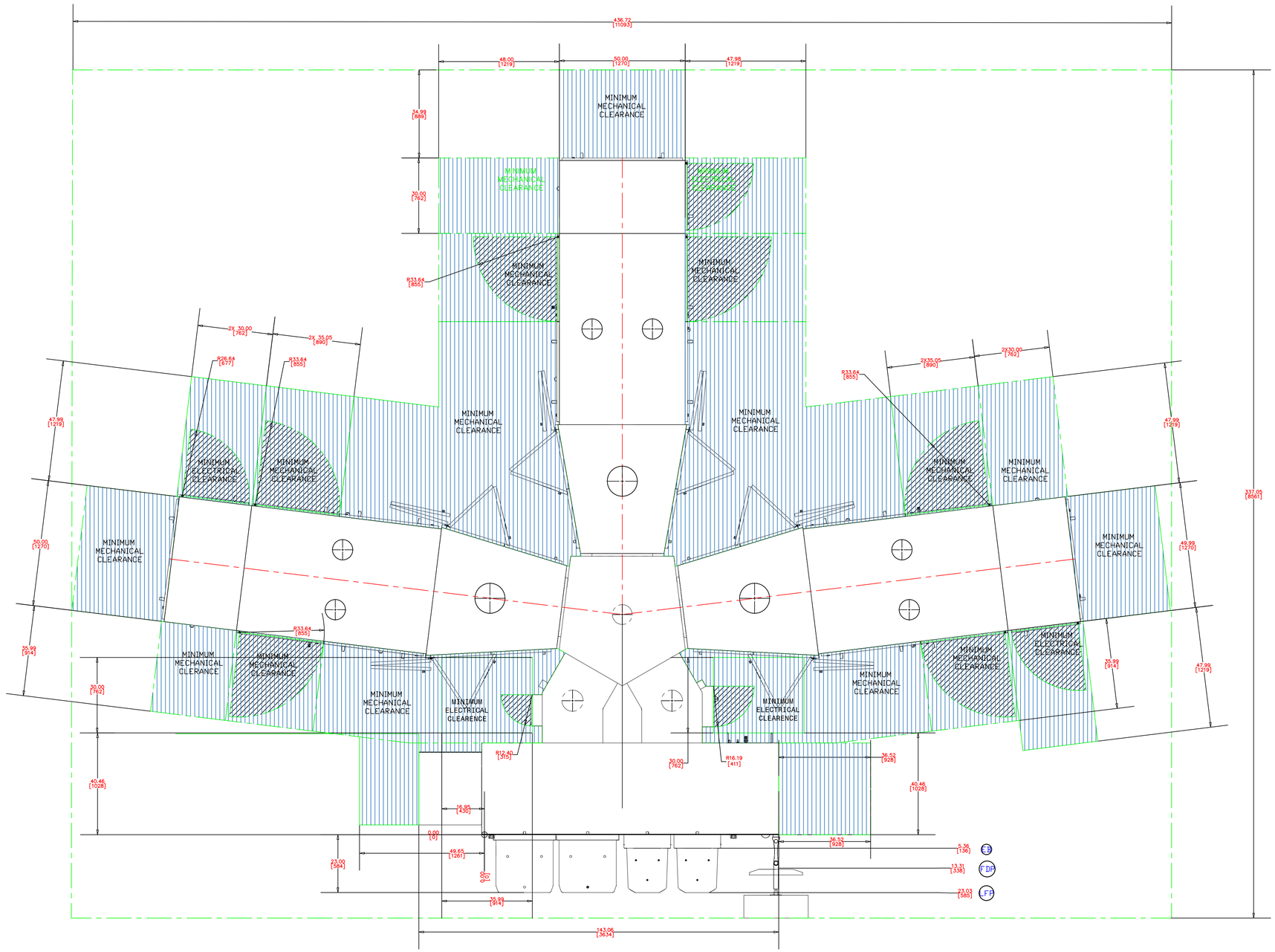
DATE: 04/26/2021

SCALE: N/A

REV. A

ENG.	DWN.	CHKR.	APVD.	SHEET	OF
NJJ	NJJ	RSM	RSM	8	12

EQUIPMENT CLEARANCE /FALL PROTECTION

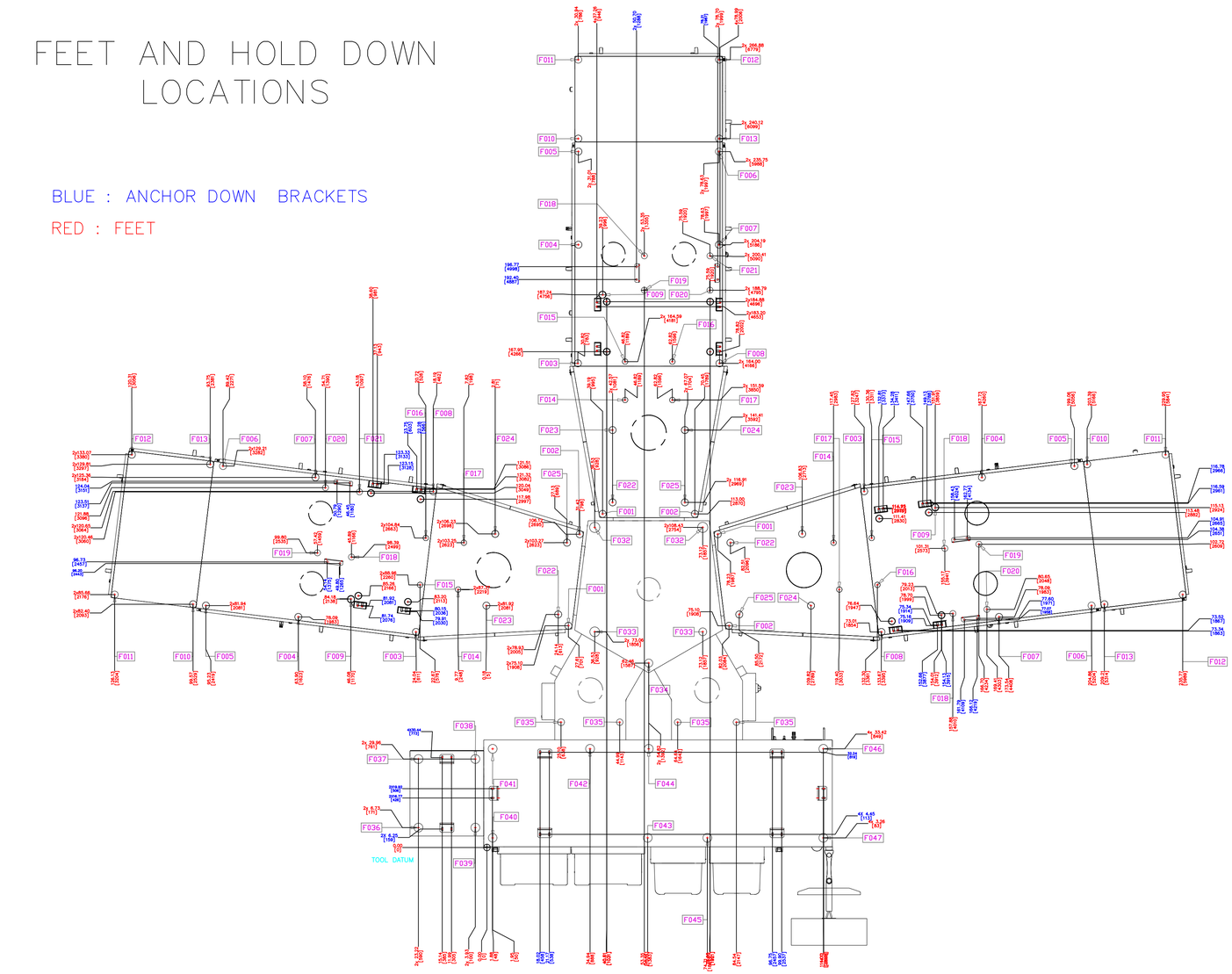


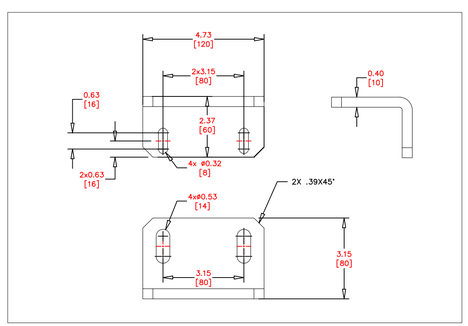
TITLE:	FOOTPRINT, PROPEL 300
	CAD GENERATED DRAWING – NO MANUAL REVISIONS PERMITTED
VEECO AND THE VEECO LOGO ARE EITHER REGISTERED TRADEMARKS OR TRADEMARKS OF VEECO INSTRUMENTS INC. IN THE UNITED STATES AND/OR OTHER COUNTRIES	VEECO TURBODISC OPERATIONS 394 ELIZABETH AVENUE SOMERSET, N.J. 08873-1203 UNITED STATES of AMERICA MAKING A MATERIAL DIFFERENCE
UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS ARE IN INCHES BREAK SHARP EDGES & DEBURR FILLETS R.015 FINISH 125 V THIRD ANGLE PROJECTION	TOLERANCES (EXCEPT AS NOTED) DECIMAL .XX ±.1/4 .XXX ±.1/8 .XXXX ±.1/16 FRACTIONAL ±1/64 ANGULAR ±1/2°
INTERPRET DRAWING PER ASME Y14.5M–2009	DWG. NO. FP17000
SIZE D	DATE: 04/26/2021 SCALE: N/A
REV. A	
ENG. NJJ	DWN. NJJ
CHKR. RSM	APVD. RSM
SHEET 1	OF 9

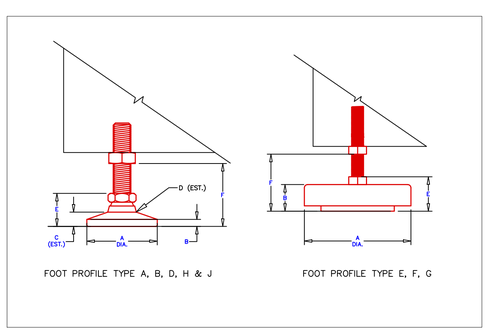
FEET AND HOLD DOWN LOCATIONS

BLUE : ANCHOR DOWN BRACKETS

RED : FEET







FOOT PROFILE TYPE A, B, D, H & J

FOOT PROFILE TYPE E, F, G

TOOL FOOT PROFILES

Foot Profile Type	A (Ø) (mm)	B (mm)	C (EST.) (mm)	D (Ø EST.) (mm)	E (mm)	F (mm)	G Bolt Diameter & Thread Pitch (in or mm)	Jam Nut Provided	Foot Used as Seismic Restraint	Comments
A	60.5	7.5	17.8	26.7	44.5	63.5	5/8"-11 UNC 2A	Y	Y	VENDOR: ATLAS CASTERS VENDOR PART NUMBER: LV6311-SS-SS DIMENSIONS "B", "C", "D" IS MEASURED FROM VENDOR 3D CAD MODEL. LEVELING NUT THICKNESS IS MEASURED FROM VENDOR 3D CAD MODEL
B	47.6	7	14	25.4	28.575	72.2	1/2-13 UNC 2A	Y	Y	VENDOR:McMASTER CARR VENDOR PART NUMBER: 6111K33 DIMENSIONS "B", "C", "D" IS MEASURED FROM VENDOR 3D CAD MODEL. LEVELING NUT THICKNESS IS MEASURED FROM VENDOR 3D CAD MODEL
C	-	-	-	-	-	-	-	-	N	CASTERS ARE USED
D	60.5	7.5	17.8	26.5	44.5	78.5	11/16-12 UNS 2A	Y	Y	VENDOR: ATLAS CASTERS VENDOR PART NUMBER: LV6812-SS-SX DIMENSIONS "B", "C", "D" IS MEASURED FROM VENDOR 3D CAD MODEL. LEVELING NUT THICKNESS IS MEASURED FROM VENDOR 3D CAD MODEL
E	60	17	-	-	27	-	M16X2.0	Y	N	
F	40	13	-	-	20	-	M10 X 1.5	Y	N	
G	76	20	-	-	41	59	M16X2.0	N	N	VENDOR PART NUMBER: BNRSV-70/4 M16x200
H	60.5	7.5	17.8	26.7	44.5	63.5	5/8"-11 UNC 2A	Y	Y	ATLAS PART NUMBER: LV6311-SS-SX
J	47.5	5.5	11.5	25	33.5	50.8	1/2-13 UNC 2A	Y	Y	ATLAS PART NUMBER: LV5013-SS-SX

TABLE 9 TOOL FOOT LOADING

EQUIPMENT COMPONENT	FOOT ID	QTY	FOOT PROFILE TYPE	LOAD DRY MASS PER FOOT (KG)	LOAD WET MASS PER FOOT (KG)
PM 1 (RHA)	F001	1	A	66	66
PM 2 (RHA)	F001	1	A	66	66
PM 3 (RHA)	F001	1	A	66	66
PM 1 (RHA)	F002	1	A	95	95
PM 2 (RHA)	F002	1	A	95	95
PM 3 (RHA)	F002	1	A	95	95
PM 1 (SDA)	F003	1	A	173	173
PM 2 (SDA)	F003	1	A	173	173
PM 3 (SDA)	F003	1	A	173	173
PM 1 (SDA)	F004	1	A	128	138
PM 2 (SDA)	F004	1	A	128	138
PM 3 (SDA)	F004	1	A	128	138
PM 1 (SDA)	F005	1	A	42	52
PM 2 (SDA)	F005	1	A	42	52
PM 3 (SDA)	F005	1	A	42	52
PM 1 (SDA)	F006	1	A	100	110
PM 2 (SDA)	F006	1	A	100	110
PM 3 (SDA)	F006	1	A	100	110
PM 1 (SDA)	F007	1	A	280	290
PM 2 (SDA)	F007	1	A	280	290
PM 3 (SDA)	F007	1	A	280	290
PM 1 (SDA)	F008	1	A	368	368
PM 2 (SDA)	F008	1	A	368	368
PM 3 (SDA)	F008	1	A	368	368
PM 1 (SDA)	F009	1	A	254	254
PM 2 (SDA)	F009	1	A	254	254
PM 3 (SDA)	F009	1	A	254	254
PM 1 (ECA)	F010	1	A	230	230
PM 2 (ECA)	F010	1	A	230	230
PM 3 (ECA)	F010	1	A	230	230
PM 1 (ECA)	F011	1	A	197	197
PM 2 (ECA)	F011	1	A	197	197
PM 3 (ECA)	F011	1	A	197	197
PM 1 (ECA)	F012	1	A	145	145
PM 2 (ECA)	F012	1	A	145	145
PM 3 (ECA)	F012	1	A	145	145
PM 1 (ECA)	F013	1	A	168	168
PM 2 (ECA)	F013	1	A	168	168
PM 3 (ECA)	F013	1	A	168	168
PM 1 (FILTER CART)	F014	1	B	33.8	33.8
PM 2 (FILTER CART)	F014	1	B	33.8	33.8
PM 3 (FILTER CART)	F014	1	B	33.8	33.8
PM 1 (FILTER CART)	F015	1	B	33.1	33.1
PM 2 (FILTER CART)	F015	1	B	33.1	33.1
PM 3 (FILTER CART)	F015	1	B	33.1	33.1
PM 1 (FILTER CART)	F016	1	B	24.2	24.2
PM 2 (FILTER CART)	F016	1	B	24.2	24.2
PM 3 (FILTER CART)	F016	1	B	24.2	24.2
PM 1 (FILTER CART)	F017	1	B	23.9	23.9
PM 2 (FILTER CART)	F017	1	B	23.9	23.9
PM 3 (FILTER CART)	F017	1	B	23.9	23.9
PM 1 (HEX)	F018	1	C	26.2	26.2
PM 2 (HEX)	F018	1	C	26.2	26.2
PM 3 (HEX)	F018	1	C	26.2	26.2
PM 1 (HEX	F019	1	C	21.3	21.3
PM 2 (HEX)	F019	1	C	21.3	21.3
PM 3 (HEX)	F019	1	C	21.3	21.3
PM 1 (HEX)	F020	1	C	25.8	25.8
PM 2 (HEX)	F020	1	C	25.8	25.8
PM 3 (HEX	F020	1	C	25.8	25.8
PM 1 (HEX)	F021	1	C	21.7	21.7
PM 2 (HEX)	F021	1	C	21.7	21.7
PM 3 (HEX)	F021	1	C	21.7	21.7
PM 1 (RCA)	F022	1	D	209	216
PM 2 (RCA)	F022	1	D	209	216
PM 3 (RCA)	F022	1	D	209	216
PM 1 (RCA)	F023	1	D	181	188
PM 2 (RCA)	F023	1	D	181	188
PM 3 (RCA)	F023	1	D	181	188
PM 1 (RCA)	F024	1	D	181	188
PM 2 (RCA)	F024	1	D	181	188
PM 3 (RCA)	F024	1	D	181	188
PM 1 (RCA)	F025	1	D	209	216
PM 2 (RCA)	F025	1	D	209	216
PM 3 (RCA)	F025	1	D	209	216
PROCESS PUMP 1	F026	2	E	144.4	144.4
PROCESS PUMP 2	F026	2	E	144.4	144.4
PROCESS PUMP 3	F026	2	E	144.4	144.4
PROCESS PUMP 1	F027	2	E	95.6	95.6
PROCESS PUMP 2	F027	2	E	95.6	95.6
PROCESS PUMP 3	F027	2	E	95.6	95.6
VTM PUMP	F028	1	F	17	17
VTM PUMP	F029	1	F	14	14
VTM PUMP	F030	1	F	24	24
VTM PUMP	F031	1	F	20	20
VTM	F032	2	H	140	140
VTM	F033	2	H	180	180
VTM	F034	1	H	200	200
VTM	F035	4	J	60	65
AFI(CWL)	F036	1	G	67.5	67.5
AFI(CWL)	F037	1	G	67.5	67.5
AFI(CWL)	F038	1	G	67.5	67.5
AFI(CWL)	F039	1	G	67.5	67.5
AFI (EFEM)	F040	1	G	200	200
AFI (EFEM)	F041	1	G	170	170
AFI (EFEM)	F042	1	G	150	150
AFI (EFEM)	F043	1	G	215	215
AFI (EFEM)	F044	1	G	170	170
AFI (EFEM)	F045	1	G	230	230
AFI (EFEM)	F046	1	G	200	200
AFI (EFEM)	F047	1	G	280	280
PM 3 (FILTER CART)	F017	1	B	23.9	23.9
PM 1 (HEX)	F018	1	C	26.2	26.2
PM 2 (HEX)	F018	1	C	26.2	26.2
PM 3 (HEX)	F018	1	C	26.2	26.2
PM 1 (HEX	F019	1	C	21.3	21.3
PM 2 (HEX)	F019	1	C	21.3	21.3
PM 3 (HEX)	F019	1	C	21.3	21.3
PM 1 (HEX)	F020	1	C	25.8	25.8
PM 2 (HEX)	F020	1	C	25.8	25.8
PM 3 (HEX	F020	1	C	25.8	25.8
PM 1 (HEX)	F021	1	C	21.7	21.7
PM 2 (HEX)	F021	1	C	21.7	21.7
PM 3 (HEX)	F021	1	C	21.7	21.7
PM 1 (RCA)	F022	1	D	209	216
PM 2 (RCA)	F022	1	D	209	216
PM 3 (RCA)	F022	1	D	209	216
PM 1 (RCA)	F023	1	D	181	188
PM 2 (RCA)	F023	1	D	181	188
PM 3 (RCA)	F023	1	D	181	188
PM 1 (RCA)	F024	1	D	181	188
PM 2 (RCA)	F024	1	D	181	188
PM 3 (RCA)	F024	1	D	181	188
PM 1 (RCA)	F025	1	D	209	216
PM 2 (RCA)	F025	1	D	209	216
PM 3 (RCA)	F025	1	D	209	216
PROCESS PUMP 1	F026	2	E	144.4	144.4
PROCESS PUMP 2	F026	2	E	144.4	144.4
PROCESS PUMP 3	F026	2	E	144.4	144.4
PROCESS PUMP 1	F027	2	E	95.6	95.6
PROCESS PUMP 2	F027	2	E	95.6	95.6
PROCESS PUMP 3	F027	2	E	95.6	95.6
VTM PUMP	F028	1	F	17	17
VTM PUMP	F029	1	F	14	14
VTM PUMP	F030	1	F	24	24
VTM PUMP	F031	1	F	20	20
VTM	F032	2	H	140	140
VTM	F033	2	H	180	180
VTM	F034	1	H	200	200
VTM	F035	4	J	60	65
AFI(CWL)	F036	1	G	67.5	67.5
AFI(CWL)	F037	1	G	67.5	67.5
AFI(CWL)	F038	1	G	67.5	67.5
AFI(CWL)	F039	1	G	67.5	67.5
AFI (EFEM)	F040	1	G	200	200
AFI (EFEM)	F041	1	G	170	170
AFI (EFEM)	F042	1	G	150	150
AFI (EFEM)	F043	1	G	215	215
AFI (EFEM)	F044	1	G	170	170
AFI (EFEM)	F045	1	G	230	230
AFI (EFEM)	F046	1	G	200	200
AFI (EFEM)	F047	1	G	280	280

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TOLERANCES (EXCEPT AS NOTED)
DECIMAL .XX ±.1/4
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.XXXX ±.1/16
FRACTIONAL ±1/64
ANGULAR ±1/2°

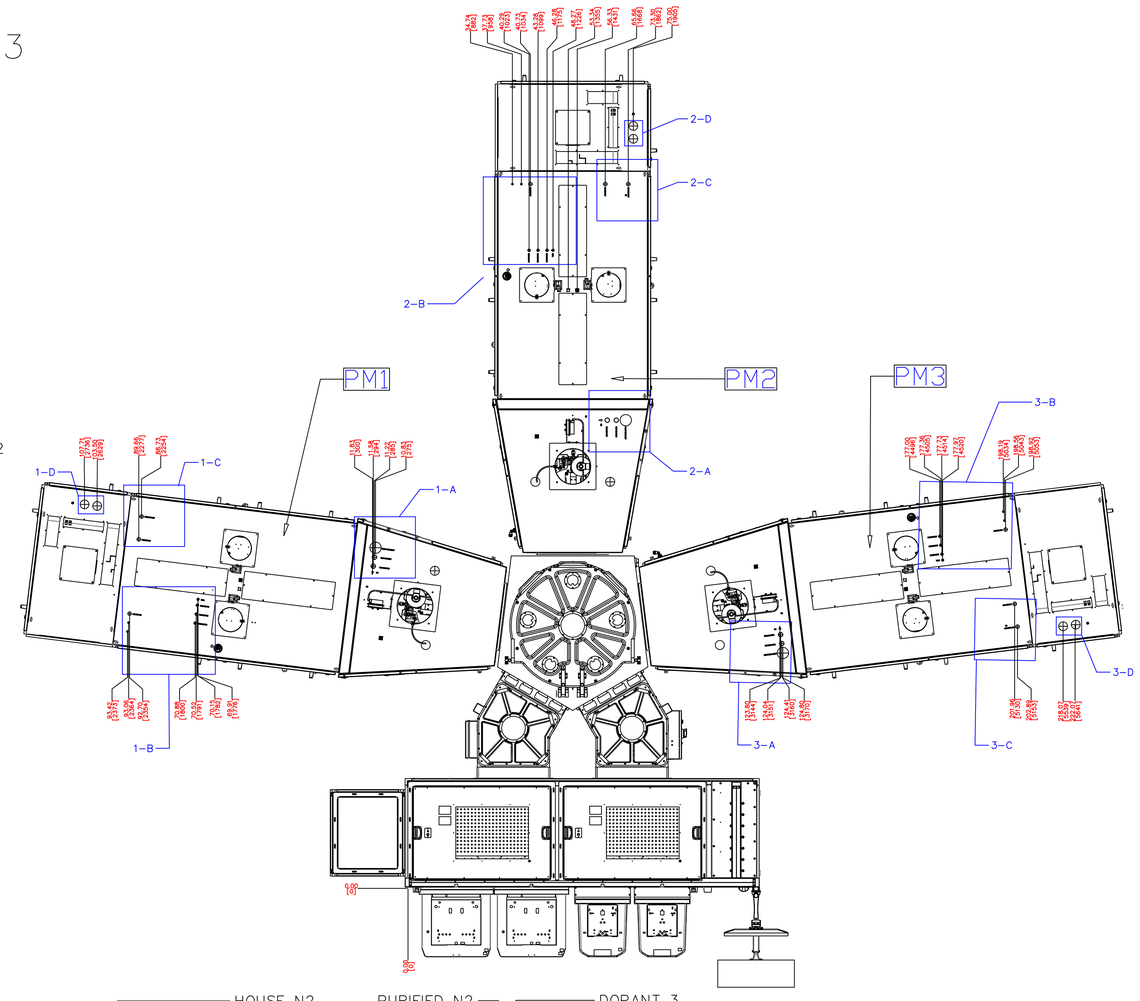
INTERPRET DRAWING PER ASMEI Y14.5M-2009

DWG. NO. FP17000

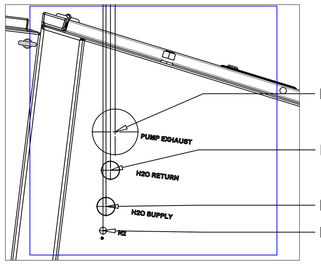
SIZE D | DATE: 04/26/2021 | REV. A | SCALE: N/A

ENG. NJJ | DWN. NJJ | CHKR. RSM | APVD. RSM | SHEET 10 OF 12

FACILITY INLET
TOP FEED FOR PM 1, 2, 3



DETAIL 1-A



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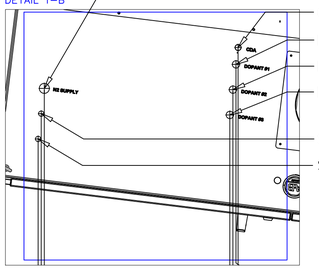
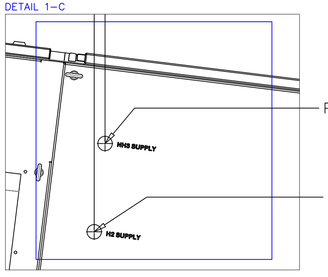
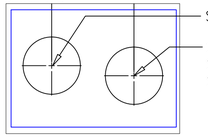


DETAIL 1-C



DETAIL 1-D



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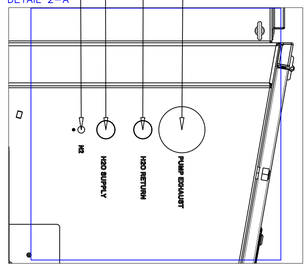

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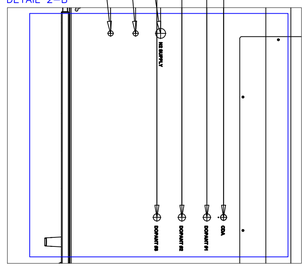
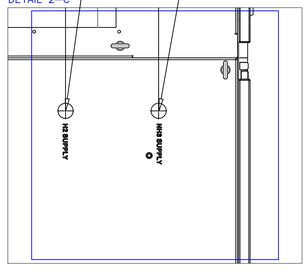
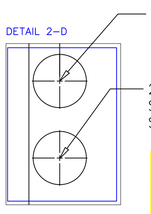


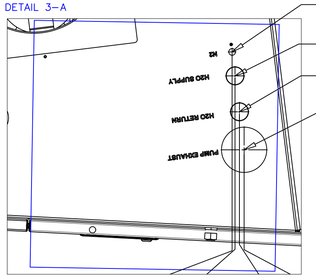
DETAIL 2-C



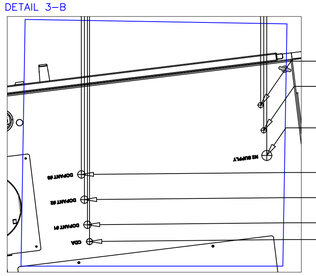
DETAIL 2-D



DETAIL 3-A



DETAIL 3-B



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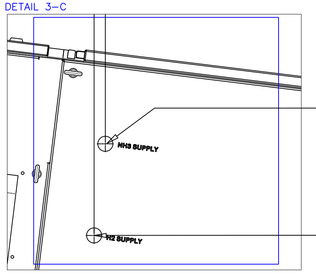
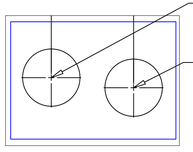


DETAIL 3-D



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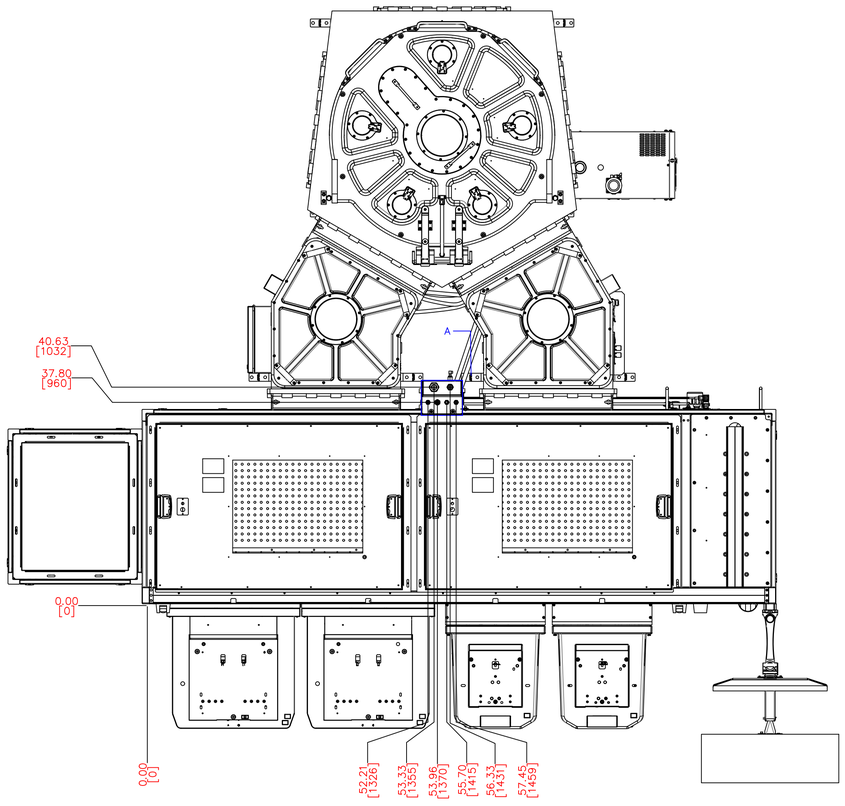
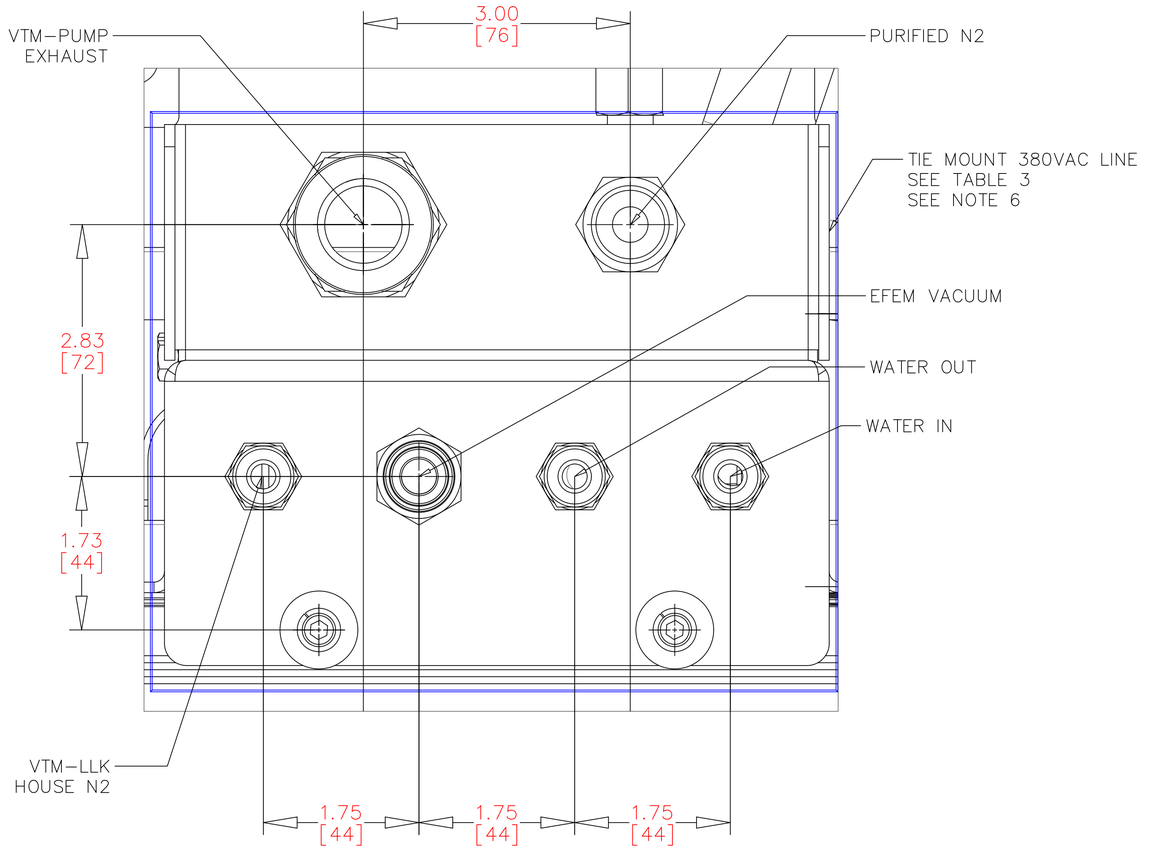
UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS ARE IN INCHES BREAK SHARP EDGES & DEBURR	TOLERANCES (EXCEPT AS NOTED) DECIMAL .XX ±.1/4 .XXX ±1/8 .XXXX ±.1/16 FRACTIONAL ±1/64 ANGULAR ±1/2°
FILLETS R.015 FINISH 125	INTERPRET DRAWING PER ASME Y14.5M–2009
THIRD ANGLE PROJECTION	DWG. NO. FP17000
	SIZE D DATE: 04/26/2021 SCALE: N/A REV. A
	ENG. NJJ DWN. NJJ CHKR. RSM APVD. RSM SHEET 11 OF 12

FACILITY INLET
TOP FEED FOR VTM–AFI





DETAIL A

TITLE:	FOOTPRINT, PROPEL 300		
CAD GENERATED DRAWING – NO MANUAL REVISIONS PERMITTED			
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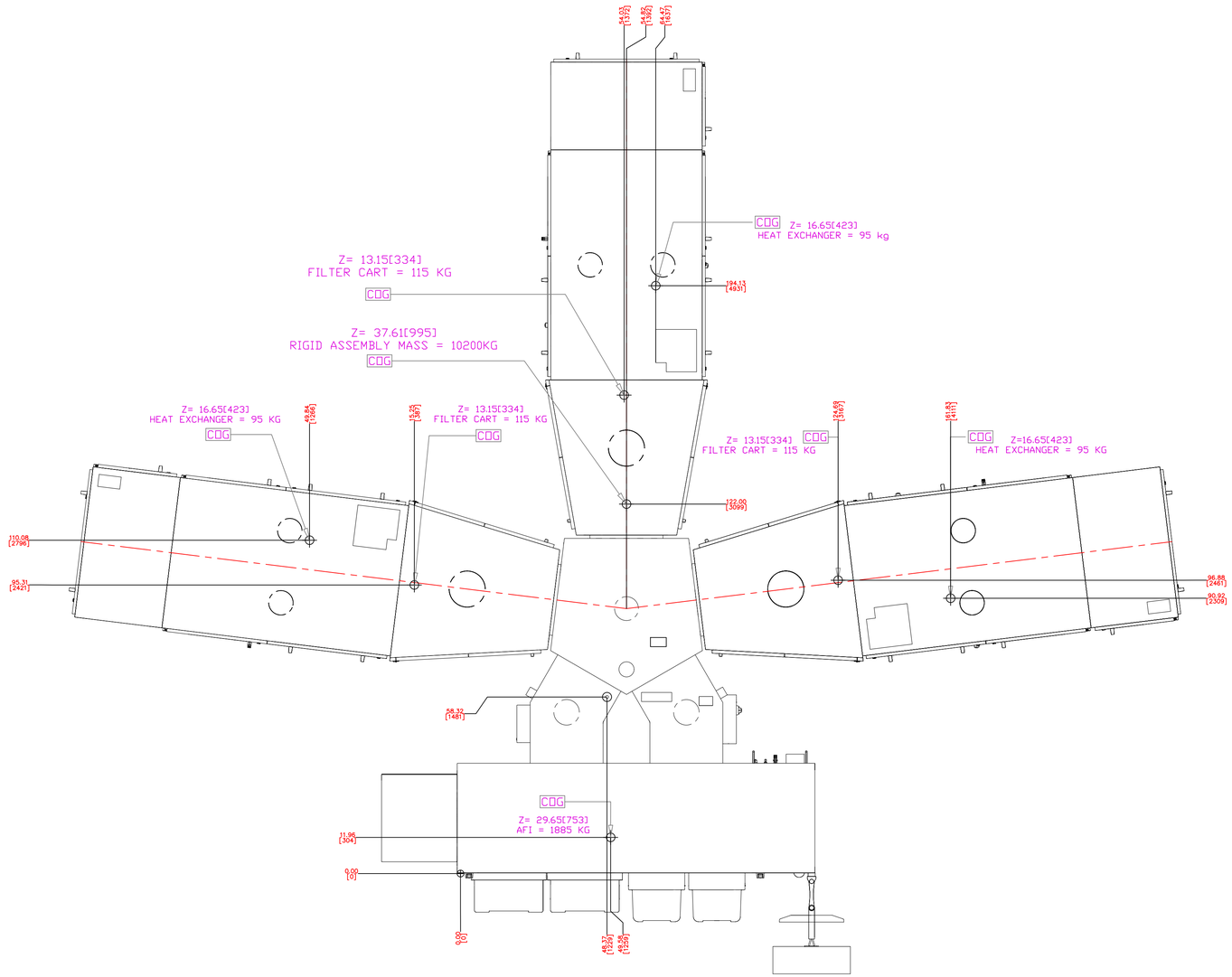
UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS ARE IN INCHES BREAK SHARP EDGES & DEBURR; FILLETS R.015; FINISH 125; THIRD ANGLE PROJECTION	TOLERANCES (EXCEPT AS NOTED): DECIMAL .XX ±1/4, .XXX ±1/8, .XXXX ±1/16; FRACTIONAL ±1/64; ANGULAR ±1/2°	INTERPRET DRAWING PER ASME Y14.5M–2009	DWG. NO. FP17000
SIZE D	DATE: 04/26/2021	SCALE: N/A	REV. A
ENG. NJJ	DWN. NJJ	CHKR. RSM	APVD. RSM
SHEET 12 OF 12			

MAIN SYSTEM BOTTOM VIEW
SEEN FROM TOP

**OPENING IS FOR ELECTRICAL BOTTOM FEEDS



TITLE: FOOTPRINT, PROPEL 300

CAD GENERATED DRAWING – NO MANUAL REVISIONS PERMITTED

VEECO TURBODISC OPERATIONS
394 ELIZABETH AVENUE
SOMERSET, N.J. 08873-1203
UNITED STATES of AMERICA

MAKING A MATERIAL DIFFERENCE

UNLESS OTHERWISE SPECIFIED
ALL DIMENSIONS ARE IN INCHES
BREAK SHARP EDGES & DEBURR
FILLETS R.015 FINISH 125
THIRD ANGLE PROJECTION

TOLERANCES (EXCEPT AS NOTED)
DECIMAL .XX ±.1/4
.XXX ±.1/8
.XXXX ±.1/16
FRACTIONAL ±1/64
ANGULAR ±1/2°

INTERPRET DRAWING PER ASME Y14.5M–2009

DWG. NO. FP17000

SIZE D | DATE: 04/26/2021 | REV. A
SCALE: N/A

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