

**MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
AIR QUALITY DIVISION**

March 21, 2024

PERMIT TO INSTALL
383-08A

ISSUED TO
Linear Motion, LLC

LOCATED AT
628 North Hamilton
Saginaw, Michigan 48602

IN THE COUNTY OF
Saginaw

STATE REGISTRATION NUMBER
B3607

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environment, Great Lakes, and Energy. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: February 23, 2024	
DATE PERMIT TO INSTALL APPROVED: March 21, 2024	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

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COMMON ACRONYMS

AQD	Air Quality Division
BACT	Best Available Control Technology
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
COMS	Continuous Opacity Monitoring System
Department/department/EGLE	Michigan Department of Environment, Great Lakes, and Energy
EU	Emission Unit
FG	Flexible Group
GACS	Gallons of Applied Coating Solids
GC	General Condition
GHGs	Greenhouse Gases
HVLP	High Volume Low Pressure*
ID	Identification
IRSL	Initial Risk Screening Level
ITSL	Initial Threshold Screening Level
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
MAERS	Michigan Air Emissions Reporting System
MAP	Malfunction Abatement Plan
MSDS	Material Safety Data Sheet
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standard for Hazardous Air Pollutants
NSPS	New Source Performance Standards
NSR	New Source Review
PS	Performance Specification
PSD	Prevention of Significant Deterioration
PTE	Permanent Total Enclosure
PTI	Permit to Install
RACT	Reasonable Available Control Technology
ROP	Renewable Operating Permit
SC	Special Condition
SCR	Selective Catalytic Reduction
SNCR	Selective Non-Catalytic Reduction
SRN	State Registration Number
TBD	To Be Determined
TEQ	Toxicity Equivalence Quotient
USEPA/EPA	United States Environmental Protection Agency
VE	Visible Emissions

*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 psig.

POLLUTANT / MEASUREMENT ABBREVIATIONS

acfm	Actual cubic feet per minute
BTU	British Thermal Unit
°C	Degrees Celsius
CO	Carbon Monoxide
CO ₂ e	Carbon Dioxide Equivalent
dscf	Dry standard cubic foot
dscm	Dry standard cubic meter
°F	Degrees Fahrenheit
gr	Grains
HAP	Hazardous Air Pollutant
Hg	Mercury
hr	Hour
HP	Horsepower
H ₂ S	Hydrogen Sulfide
kW	Kilowatt
lb	Pound
m	Meter
mg	Milligram
mm	Millimeter
MM	Million
MW	Megawatts
NMOC	Non-Methane Organic Compounds
NO _x	Oxides of Nitrogen
ng	Nanogram
PM	Particulate Matter
PM10	Particulate Matter equal to or less than 10 microns in diameter
PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
pph	Pounds per hour
ppm	Parts per million
ppmv	Parts per million by volume
ppmw	Parts per million by weight
psia	Pounds per square inch absolute
psig	Pounds per square inch gauge
scf	Standard cubic feet
sec	Seconds
SO ₂	Sulfur Dioxide
TAC	Toxic Air Contaminant
Temp	Temperature
THC	Total Hydrocarbons
tpy	Tons per year
µg	Microgram
µm	Micrometer or Micron
VOC	Volatile Organic Compounds
yr	Year

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**
2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy, P.O. Box 30260, Lansing, Michigan 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**
3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to Rule 210 (R 336.1210), operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**
4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**
5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to Rule 219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of Rule 219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy. **(R 336.1219)**
6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**
7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal condition or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**
8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.
9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of Rule 301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with Rule 303 (R 336.1303). **(R 336.1301)**
 - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
 - b) A visible emission limit specified by an applicable federal new source performance standard.
 - c) A visible emission limit specified as a condition of this Permit to Install.
12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in Rule 370(2). **(R 336.1370)**
13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001. **(R 336.2001)**

EMISSION UNIT SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Flexible Group ID
EUSCANNER14	A 6-foot vertical scanner with oil quench. The process is equipped with an electric induction ring and quenches for heat treating.	FGHEATTREAT
EUSCANNER15	A 10-foot vertical scanner with oil quench. The process is equipped with an electric induction ring and quenches for heat treating.	FGHEATTREAT
EUHEATTREAT	The heat treat process equipped with three gas-fired furnaces with integral quench tanks; two gas-fired endothermic gas generators; two draw furnaces (one electric and one gas-fired); and one parts washer.	FGHEATTREAT
EUPGBBLASTER	The Pangborn Rotoblast System controlled by a 1,095 scfm Wheelabrator dust collector.	NA
EUWHLBLASTER	The Wheelabrator Tumbblast Chamber and a hand sand blaster controlled by a 4,250 scfm Pulsaire dust collector.	NA
EUPLATING	Two plating lines controlled by a cross-flow scrubber and mist eliminator system. This includes a copper plating line and black oxide plating line.	NA
EUPAINTBOOTH	One coating booth used to coat metal parts utilizing HVLP applications with fabric filters.	NA
EUNITRICPASS	Nitric Acid Passivation Line used for cleaning steel parts, consisting of four tanks.	FGPASSIVATION
EUCITRICPASS	Citric Acid Passivation Line used for cleaning steel parts, consisting of seven tanks.	FGPASSIVATION
EUPARTSWASHER1	One parts washer utilizing solvent to clean steel parts.	FGPARTSWASHER
EUPARTSWASHER2	One parts washer utilizing solvent to clean steel parts.	FGPARTSWASHER
EUPARTSWASHER3	One parts washer utilizing solvent to clean steel parts.	FGPARTSWASHER
EUPARTSWASHER4	One parts washer utilizing solvent to clean steel parts.	FGPARTSWASHER
EUPARTSWASHER5	One parts washer utilizing solvent to clean steel parts.	FGPARTSWASHER
EUPARTSWASHER6	One parts washer utilizing solvent to clean steel parts.	FGPARTSWASHER
EUPARTSWASHER7	One parts washer utilizing solvent to clean steel parts.	FGPARTSWASHER
EUPARTSWASHER8	One parts washer utilizing solvent to clean steel parts.	FGPARTSWASHER

Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1291.

**EUPGBBLASTER
EMISSION UNIT CONDITIONS**

DESCRIPTION

A Pangborn Rotoblast system to remove scale from heat treated metal parts.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

A 1,095 scfm Wheelabrator dust collector.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. PM	0.2 pph	Hourly	EUPGBBLASTER	GC 13	R 336.1331
2. PM	0.015 gr/scf	Hourly	EUPGBBLASTER	GC 13	R 336.1331

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate EUPGBBLASTER unless the associated dust collector is installed, maintained, and operated in a satisfactory manner. (R 336.1205, R 336.1224, R 336.1225, R 336.1331, R 336.1910)

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

NA

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

EUWHLBLASTER EMISSION UNIT CONDITIONS
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DESCRIPTION

A Wheelabrator Tumbler system to remove scale from heat treated metal parts.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

A 4,250 scfm Pulsair dust collector.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. PM	0.6 pph	Hourly	EUWHLBLASTER	GC 13	R 336.1331
2. PM	0.015 gr/scf	Hourly	EUWHLBLASTER	GC 13	R 336.1331

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate EUWHLBLASTER unless the associated dust collector is installed, maintained, and operated in a satisfactory manner. (R 336.1205, R 336.1224, R 336.1225, R 336.1331, R 336.1910)

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

NA

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

**EUPLATING
 EMISSION UNIT CONDITIONS**

DESCRIPTION

Two plating lines including a copper plating line and black oxide plating line. The plating lines are controlled by a cross-flow scrubber and mist eliminator system.

Flexible Group: NA

POLLUTION CONTROL EQUIPMENT

Each plating line is controlled by a cross-flow scrubber and mist eliminator system.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Copper ¹	0.04 pph	Hourly	EUPLATING	SC V.1, SC VI.1, SC VI.3., SC VI.4	R 336.1224, R 336.1225

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate EUPLATING unless a malfunction abatement plan (MAP) as described in Rule 911(2), is implemented and maintained for the packed bed wet scrubber systems with mist eliminator. The MAP shall, at a minimum, specify the following:
 - a) A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
 - b) An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures. The MAP shall include procedures to measure the liquid flowrate to each scrubber, a minimum of once per year, to verify that the liquid flowrate is within manufacturer’s specifications for the scrubber spray nozzles.
 - c) A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1224, R 336.1225, R 336.1910, R 336.1911)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate any plating line of EUPLATING unless the associated scrubber and mist eliminator system installed, maintained, and operated in a satisfactory manner. Proper operation includes but is not limited to maintaining pump discharge pressure within a range of 5 to 15 inch of water column as specified by the manufacturer or a pressure drop range specified in the MAP. **(R 336.1224, R 336.1225, R 336.1910)**
2. The permittee shall equip and maintain each packed bed wet scrubber system with mist eliminator in EUPLATING with a pump discharge pressure gauge. **(R 336.1224, R 336.1225, R 336.1910)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Upon request of the AQD District Supervisor, the permittee shall verify the copper emission rates from EUPLATING, by testing at owner's expense, in accordance with 40 CFR Part 63 Subparts A. The permittee shall notify the AQD District Supervisor in writing of the intention to conduct a performance test, at least 60 calendar days before the test is scheduled to begin, in accordance with 40 CFR 63.347(d). Stack testing procedures and the location of stack testing ports shall be in accordance with the applicable federal Reference Methods, 40 CFR Part 63, Appendix A;. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 90 days following the last date of the test.¹ **(R 336.1224, R 336.1225, R 336.1941, 40 CFR Part 63 Subparts A)**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205, R 336.1224, R 336.1225)**
2. The permittee shall monitor, in a satisfactory manner, the pump discharge pressure or a pressure drop range specified in the MAP for each of the four recirculation pumps associated with the packed bed wet scrubber system with mist eliminator in EUPLATING on a continuous basis. For the purpose of this condition, "on a continuous basis" is defined as an instantaneous data point recorded at least once every 15 minutes. **(R 336.1224, R 336.1225, R 336.1910)**
3. The permittee shall keep, in a satisfactory manner, records of the pressure drop range or readings of both the pump discharge pressure and visual verification of return water flow to the holding tanks for the packed bed wet scrubber system with mist eliminator in EUPLATING on a continuous basis. For the purposes of this condition, "on a continuous basis" is defined as an instantaneous data point recorded at least once every 15 minutes. The permittee may record block average values for 15 minute or shorter periods calculated from all measured data values during each period. **(R 336.1224, R 336.1225, R 336.1910)**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification of the black oxide line in EUPLATING authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of the Black Oxide tank portion of EUPLATING. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV1	32	49.3	R 336.1225, 40 CFR 52.21 (c) & (d)
2. SV2	32	49.3	R 336.1225, 40 CFR 52.21 (c) & (d)
3. SV3	34	49.3	R 336.1225, 40 CFR 52.21 (c) & (d)
4. SV4	44	49.3	R 336.1225, 40 CFR 52.21 (c) & (d)

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

**EUPAINTBOOTH
 EMISSION UNIT CONDITIONS**

DESCRIPTION

One coating booth used to coat metal parts utilizing HVLP applications with fabric filters.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Fabric filters for particulate control.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. VOC	2.0 tpy	12-month rolling time period as determined at the end of each calendar month	EUPAINTBOOTH	SC VI.3, SC VI.4	R 336.1225, R 336.1702(a)
2. VOC	10 lb/day	Calendar Day	Coatings and clean-up solvents in EUPAINTBOOTH	SC VI.5	R 336.1702(a)
3. Ethylbenzene (CAS No. 100-41-4) ¹	0.09 tpy	12-month rolling time period as determined at the end of each calendar month	EUPAINTBOOTH	SC VI.6	R 336.1225

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall capture all waste materials and shall store them in closed containers. The permittee shall dispose of all waste materials in an acceptable manner in compliance with all applicable state rules and federal regulations. **(R 336.1224, R 336.1225, R 336.1702(a))**
2. The permittee shall dispose of spent filters in a manner which minimizes the introduction of air contaminants to the outer air. **(R 336.1224, R 336.1370(1))**
3. The permittee shall handle all VOC and/or HAP containing materials, including coatings, reducers, solvents and thinners, in a manner to minimize the generation of fugitive emissions. The permittee shall keep containers covered at all times except when operator access is necessary. **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1702(a))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate EUPAINTBOOTH unless all respective exhaust filters are installed, maintained and operated in a satisfactory manner. **(R 336.1224, R 336.1301, R 336.1910)**
2. The permittee shall equip and maintain EUPAINTBOOTH with HVLP or comparable technology with equivalent transfer efficiency. For HVLP applicators, the permittee shall keep test caps available for pressure testing. **(R 336.1702(a))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall determine the VOC content, water content and density of any coating material, as applied and as received, using federal Reference Test Method 24. Upon prior written approval by the AQD District Supervisor, the permittee may determine the VOC content from manufacturer's formulation data. If the Method 24 and the formulation values should differ, the permittee shall use the Method 24 results to determine compliance. **(R 336.1205, R 336.1225, R 336.1702)**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1224, R 336.1225, R 336.1702)**
2. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each cleanup and coating material, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1224, R 336.1225, R 336.1702)**
3. The permittee shall keep the following information on a calendar month basis for EUPAINTBOOTH
 - a) Gallons (with water) of each coating material used.
 - b) VOC content (minus water and with water) of each coating as applied.
 - c) VOC mass emission calculations determining the monthly emission rate in tons per calendar month.
 - d) VOC mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.

The permittee shall keep the records using mass balance, or an alternative method and format acceptable to the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205, R 336.1225, R 336.1702(a))**

4. The permittee shall keep the following information on a calendar month basis for the use of purge and clean-up solvents associated with EUPAINTBOOTH:
 - a) Gallons of each solvent used and reclaimed.
 - b) VOC content, in pounds per gallon, of each solvent used.
 - c) VOC mass emission calculations determining the monthly emission rate in tons per calendar month.
 - d) VOC mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.

The permittee shall keep the records using mass balance, or an alternative method and format acceptable to the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205, R 336.1225, R 336.1702(a))**

5. The permittee shall keep the following information on a calendar day basis for EUPAINTBOOTH
 - a) Gallons (with water) of each coating material and purge and clean-up solvent used.
 - b) VOC content (minus water and with water) of each material used, as applied.

- c) VOC mass emission calculations for both the coating materials and purge and clean-up materials determining the monthly emission rate in pounds per calendar day.

The permittee shall keep the records using mass balance, or an alternative method and format acceptable to the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205, R 336.1225, R 336.1702(a))**

- 6. The permittee shall keep the following information on a calendar month basis for EUPAINTBOOTH
 - a) Gallons (with water) of each ethylbenzene (CAS No. 100-41-4) containing material used.
 - b) Ethylbenzene content of each ethylbenzene (CAS No. 100-41-4) containing material used.
 - c) Ethylbenzene (CAS No. 100-41-4) mass emission calculations determining the monthly emission rate in tons per calendar month.
 - d) Ethylbenzene (CAS No. 100-41-4) mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.

The permittee shall keep the records using mass balance, or an alternative method and format acceptable to the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request.¹ **(R 336.1225)**

VII. REPORTING

- 1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification of the emission units in EUPAINTBOOTH authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUPAINTBOOTH. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

FLEXIBLE GROUP SPECIAL CONDITIONS

FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGHEATTREAT	All heat treat processes at the facility	EUSCANNER14, EUSCANNER15, EUHEATTREAT
FGPASSIVATION	Passivation pre-treatment processes including a citric acid passivation line and nitric acid passivation line.	EUCITRICPASS, EUNITRICPASS
FGPARTSWASHER	Eight (8) parts washers utilizing solvent to clean steel parts.	EUPARTSWASHER1, EUPARTSWASHER2, EUPARTSWASHER3, EUPARTSWASHER4, EUPARTSWASHER5, EUPARTSWASHER6, EUPARTSWASHER7, EUPARTSWASHER8

**FGHEATTREAT
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

All heat-treat processes and equipment at the facility.

Emission Unit: EUHEATTREAT, EUSCANNER14, EUSCANNER15

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. PM	16.0 tpy	12-month rolling time period as determined at the end of each calendar month	FGHEATTREAT	SC VI.1, SC VI.2, SC VI.3	R 336.1205, R 336.1331

II. MATERIAL LIMIT(S)

Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Quench Oil	3,650 gallons	12-month rolling time period as determined at the end of each calendar month	FGHEATTREAT	SC VI 2	R 336.1205, R 336.1331

* The net quench oil usage is defined as the amount of quench oil added to FGHEATTREAT to bring the quench oil levels up to starting levels less any amount of quench oil reclaimed, disposed of, or spilled/cleaned up.

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. (R 336.1224, R 336.1225, R 336.1702)

2. The permittee shall record and calculate the particulate (oil mist) emission rate from FGHEATTREAT for each calendar month, using a material balance for quench oil usage (Appendix I). All monthly quench oil purchased or monthly usage rate to replenish lost quench oil (column A), amount of spent oil sent off-site for recycling (column B), amount of spent oil or sludge sent off-site for disposal (column C), amount of oil spilled (column D) and oil emission calculation (column E) records shall be kept on file for a period of at least five years and made available to the Department upon request. **(R 336.1205, R 336.1331)**
3. Monthly particulate emissions from FGHEATTREAT shall be calculated by multiplying the oil emission rate (or column E in gallons/month) by the density of quench oil from its Material Safety Data Sheet kept on file. The particulate emissions in lbs/month divided by 2000 will determine the monthly particulate emissions in tons per month. This monthly particulate emission rate will be added to the preceding 11-month total particulate emission rate to determine a 12-month rolling particulate emission rate in tons per year (tpy). **(R 336.1205, R 336.1331)**

VII. REPORTING

2. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification of the emission units in FGHEATTREAT authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUSCANNER14 and EUSCANNER15. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

FGPASSIVATION EMISSION UNIT CONDITIONS

DESCRIPTION

Passivation pre-treatment processes including a citric acid passivation line and nitric acid passivation line.

Emission Unit: EUCITRICPASS, EUNITRICPASS

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. (R 336.1205(3), R 336.1224, R 336.1225)
2. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period records of the amounts of acid added to EUNITRICPASS and EUCITRICPASS each month and 12-month rolling time period. The permittee shall keep all records on file and make them available to the Department upon request. (R 336.1205(3), R 336.1224, R 336.1225)

VII. REPORTING

3. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification of the emission units in FGPASSIVATION authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUNITRICPASS and EUCITRICPASS. (R 336.1201(7)(a))

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

**FGPARTSWASHER
EMISSION UNIT CONDITIONS**

DESCRIPTION

Eight (8) parts washers utilizing solvent to clean steel parts.

Emission Unit: EUPARTSWASHER1, EUPARTSWASHER2, EUPARTSWASHER3, EUPARTSWASHER4, EUPARTSWASHER5, EUPARTSWASHER6, EUPARTSWASHER7, EUPARTSWASHER8

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. VOC	2.5 tpy	12-month rolling time period as determined at the end of each calendar month	FGPARTSWASHER	SC VI.3	R 336.225, R 336.702

II. MATERIAL LIMIT(S)

1. The permittee shall not use more than net 608 gallons of cleaning solvent in FGPARTSWASHER per 12-month rolling time period. **(R 336.1224, R 336.1225, R 336.1702(a))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. Cleaned parts in FGPARTSWASHER shall be drained for no less than 15 seconds or until dripping ceases. **(R 336.1225, R 336.1702(a), R 336.1707(3)(b))**
2. The permittee shall perform routine maintenance on FGPARTSWASHER as recommended by the manufacturer. **(R 336.1225, R 336.1702(a))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. FGPARTSWASHER shall be equipped with a device for draining cleaned parts. **(R 336.1225, R 336.1702(a), R 336.1707(3)(b))**
2. FGPARTSWASHER shall be equipped with a cover and the cover shall be closed whenever parts are not being handled in the cold cleaner. **(R 336.1224, R 336.1225, R 336.1702(a), R 336.1707(3)(a), R 336.1910)**
3. The cover of FGPARTSWASHER shall be mechanically assisted if the Reid vapor pressure of the solvent is more than 0.3 psia or if the solvent is agitated or heated. **(R 336.1225, R 336.1702(a), R 336.1707(3)(a), R 336.1910)**
4. FGPARTSWASHER must be designed such that the ratio of the freeboard height to the width of the cleaner is equal to or greater than 0.7. **(R 336.1224, R 336.1225, R 336.1702(a), R 336.1707(2)(a))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1224, R 336.1225, R 336.1702)**
2. The permittee shall maintain the following information on file for FGPARTSWASHER: **(R 336.1225, R 336.1702(a), R 336.1707(2))**
 - a) A serial number, model number, or other unique identifier.
 - b) The date the unit was installed, manufactured or that it commenced operation.
 - c) The air/vapor interface area.
 - d) The Reid vapor pressure of each solvent used.
3. The permittee shall keep the following information for FGPARTSWASHER:
 - a) Gallons (with water) of each solvent used on a monthly basis and, if applicable, reclaimed.
 - b) VOC mass emission calculations determining the monthly emission rate in tons per calendar month.
 - c) VOC mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.The permittee shall keep the records using mass balance or an alternate method and format acceptable to the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205, R 336.1702(a))**
4. The permittee shall maintain written operating procedures for FGPARTSWASHER. These written procedures shall be posted in an accessible, conspicuous location near each cold cleaner. **(R 336.1910, R 336.1707(4))**
5. As noted in Rule 707(3)(c), if applicable, an initial demonstration that the waste solvent is a safety hazard shall be made prior to storage in non-closed containers. If the waste solvent is a safety hazard and is stored in non-closed containers, verification that the waste solvent is disposed of so that not more than 20 percent, by weight, is allowed to evaporate into the atmosphere shall be made on a monthly basis. **(R 336.1225, R 336.1702(a), R 336.1707(3)(c))**
6. The permittee shall keep records of cleaning solvent used in FGPARTSWASHER in gallons on monthly and 12-month rolling time periods. Records shall be kept in a format acceptable to the AQD District Supervisor, kept on file, and made available to the Department upon request. **(R 336.1224, R 336.1225, R 336.1702)**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of FGPARTSWASHER. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

FGFACILITY CONDITIONS

DESCRIPTION

The following conditions apply source-wide to all process equipment including equipment covered by other permits, grand-fathered equipment, and exempt equipment.

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Each Individual HAP	Less than 9 tpy	12-month rolling time period as determined at the end of each calendar month.	FGFACILITY	SC VI.2	R 336.1205(3)
2. Aggregate HAPs	Less than 22.5 tpy	12-month rolling time period as determined at the end of each calendar month.	FGFACILITY	SC VI.2	R 336.1205(3)

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1224, R 336.1225, R 336.1702)**
2. The permittee shall keep, in a satisfactory manner, individual and aggregate HAP emission calculations determining the annual emission rate of each in tons per 12-month rolling time period as determined at the end of each calendar month, as required by SC I.1 and I.2. For the first month following permit issuance, the

calculations shall include the summation of emissions from the 11-month period immediately preceding the issuance date. For each month thereafter, calculations shall include the summation of emissions for the appropriate number of months prior to permit issuance plus the months following permit issuance for a total of 12 consecutive months. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(3))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

APPENDIX I

**Linear Motion, LLC
Saginaw, Michigan**

PLANT QUENCH-OIL BALANCE FOR YEAR _____

<u>Month</u>	A ⁽¹⁾ <u>Purchased</u> (Gallons/Month)	B ⁽²⁾ <u>Reclaimed</u> (Gallons/Month)	C ⁽³⁾ <u>Disposed</u> (Gallons/Month)	D ⁽⁴⁾ <u>Spill/Clean-Up</u> (Gallons/Month)	E ⁽⁵⁾ <u>Emission</u> (Gallons/Month)
Jan.					
Feb.					
Mar.					
April					
May					
June					
July					
August					
Sept.					
Oct.					
Nov.					
Dec.					

(1) New oil purchased to replenish lost quench oil.

(2) Spent oil transported to off-site reclaimer.

(3) Oil in sludge generated from tank cleaning; sent to off-site disposal facility.

(4) Oil lost to spill or used for clean-up.

(5) Oil emission: $E = A - B - C - D$.

Note: A, B, C, and D are the amounts or volumes of liquid oil only and should not include any solid content or residues.

PLANT QUENCH-OIL BALANCE FOR YEAR _____

<u>Month</u>	A ⁽¹⁾ <u>Purchased</u> (Gallons/Month)	B ⁽²⁾ <u>Reclaimed</u> (Gallons/Month)	C ⁽³⁾ <u>Disposed</u> (Gallons/Month)	D ⁽⁴⁾ <u>Spill/Clean-Up</u> (Gallons/Month)	E ⁽⁵⁾ <u>Emission</u> (Gallons/Month)
Jan.					
Feb.					
Mar.					
April					
May					
June					
July					
August					
Sept.					
Oct.					
Nov.					
Dec.					

(1) New oil purchased to replenish lost quench oil.

(2) Spent oil transported to off-site reclaimer.

(3) Oil in sludge generated from tank cleaning; sent to off-site disposal facility.

(4) Oil lost to spill or used for clean-up.

(5) Oil emission: $E = A - B - C - D$.

Note: A, B, C, and D are the amounts or volumes of liquid oil only and should not include any solid content or residues.