



John R. Kasich, Governor  
Mary Taylor, Lt. Governor  
Scott J. Nally, Director

5/29/2013

Certified Mail

Jay Amin  
Cleveland Circuit Corps. dba Instrumatics  
15516 Industrial Parkway  
Cleveland, OH 44135

No	TOXIC REVIEW
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MODELING SUBMITTED
No	SYNTHETIC MINOR TO AVOID TITLE V
No	FEDERALLY ENFORCABLE PTIO (FEPTIO)
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 1318007750  
Permit Number: P0112872  
Permit Type: Renewal  
County: Cuyahoga

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) Air Pollution Permit-to-Install and Operate (PTIO) which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**

**How to appeal this permit**

The issuance of this PTIO is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Josh Mandel," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission  
77 South High Street, 17th Floor  
Columbus, OH 43215

## **How to save money, reduce pollution and reduce energy consumption**

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and State tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: [www.ohioairquality.org/clean\\_air](http://www.ohioairquality.org/clean_air)

## **How to give us feedback on your permitting experience**

Please complete a survey at [www.epa.ohio.gov/dapc/permitsurvey.aspx](http://www.epa.ohio.gov/dapc/permitsurvey.aspx) and give us feedback on your permitting experience. We value your opinion.

## **How to get an electronic copy of your permit**

This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF on the Division of Air Pollution Control (DAPC) Web page, [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc) by clicking the "Search for Permits" link under the Permitting topic on the Programs tab.

If you have any questions, please contact Cleveland Division of Air Quality at (216)664-2297 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,



Michael W. Ahern, Manager  
Permit Issuance and Data Management Section, DAPC

Cc: CDAQ



**FINAL**

**Division of Air Pollution Control  
Permit-to-Install and Operate  
for  
Cleveland Circuit Corps. dba Instrumatics**

Facility ID:	1318007750
Permit Number:	P0112872
Permit Type:	Renewal
Issued:	5/29/2013
Effective:	5/29/2013
Expiration:	5/29/2023





**Division of Air Pollution Control**  
**Permit-to-Install and Operate**  
for  
Cleveland Circuit Corps. dba Instrumatics

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## Authorization

Facility ID: 1318007750  
Application Number(s): A0046780  
Permit Number: P0112872  
Permit Description: PTIO renewal for an electronic circuit board manufacturing process. The process consists of electroless and electrolytic plating tanks (P001), four drying and curing ovens (P002), and an electronic circuit board etching and fusing process (P003). The entire process is controlled by a KCH Hedron III packed bed scrubber with a remote circulation system. PTI 13-2572 was issued on 11/18/1992 for P002 and P003.  
Permit Type: Renewal  
Permit Fee: \$0.00  
Issue Date: 5/29/2013  
Effective Date: 5/29/2013  
Expiration Date: 5/29/2023  
Permit Evaluation Report (PER) Annual Date: July 1 - June 30, Due Aug 15

This document constitutes issuance to:

Cleveland Circuit Corps. dba Instrumatics  
15516 INDUSTRIAL PKWAY  
Cleveland, OH 44135

of a Permit-to-Install and Operate for the emissions unit(s) identified on the following page.

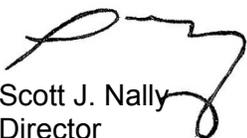
Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Cleveland Division of Air Quality  
2nd Floor  
75 Erieview Plaza  
Cleveland, OH 44114  
(216)664-2297

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (emissions unit(s)) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

  
Scott J. Nally  
Director



## Authorization (continued)

Permit Number: P0112872

Permit Description: PTIO renewal for an electronic circuit board manufacturing process. The process consists of electroless and electrolytic plating tanks (P001), four drying and curing ovens (P002), and an electronic circuit board etching and fusing process (P003). The entire process is controlled by a KCH Hedron III packed bed scrubber with a remote circulation system. PTI 13-2572 was issued on 11/18/1992 for P002 and P003.

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

<b>Emissions Unit ID:</b>	<b>P001</b>
Company Equipment ID:	Electronic Circuit Board Manufacturing
Superseded Permit Number:	.
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P002</b>
Company Equipment ID:	Ovens
Superseded Permit Number:	P0094802
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P003</b>
Company Equipment ID:	Etching and Fusing.
Superseded Permit Number:	P0094802
General Permit Category and Type:	Not Applicable



**Final Permit-to-Install and Operate**  
Cleveland Circuit Corps. dba Instrumatics  
**Permit Number:** P0112872  
**Facility ID:** 1318007750  
**Effective Date:** 5/29/2013

## **A. Standard Terms and Conditions**



**1. What does this permit-to-install and operate ("PTIO") allow me to do?**

This permit allows you to install and operate the emissions unit(s) identified in this PTIO. You must install and operate the unit(s) in accordance with the application you submitted and all the terms and conditions contained in this PTIO, including emission limits and those terms that ensure compliance with the emission limits (for example, operating, recordkeeping and monitoring requirements).

**2. Who is responsible for complying with this permit?**

The person identified on the "Authorization" page, above, is responsible for complying with this permit until the permit is revoked, terminated, or transferred. "Person" means a person, firm, corporation, association, or partnership. The words "you," "your," or "permittee" refer to the "person" identified on the "Authorization" page above.

The permit applies only to the emissions unit(s) identified in the permit. If you install or modify any other equipment that requires an air permit, you must apply for an additional PTIO(s) for these sources.

**3. What records must I keep under this permit?**

You must keep all records required by this permit, including monitoring data, test results, strip-chart recordings, calibration data, maintenance records, and any other record required by this permit for five years from the date the record was created. You can keep these records electronically, provided they can be made available to Ohio EPA during an inspection at the facility. Failure to make requested records available to Ohio EPA upon request is a violation of this permit requirement.

**4. What are my permit fees and when do I pay them?**

There are two fees associated with permitted air contaminant sources in Ohio:

PTIO fee. This one-time fee is based on a fee schedule in accordance with Ohio Revised Code (ORC) section 3745.11, or based on a time and materials charge for permit application review and permit processing if required by the Director.

You will be sent an invoice for this fee after you receive this PTIO and payment is due within 30 days of the invoice date. You are required to pay the fee for this PTIO even if you do not install or modify your operations as authorized by this permit.

Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. Unless otherwise specified, facilities subject to one or more synthetic minor restrictions must use Ohio EPA's "Air Services" to submit annual emissions associated with this permit requirement. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

**5. When does my PTIO expire, and when do I need to submit my renewal application?**

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is



very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

If a complete renewal application is submitted before the expiration date, Ohio EPA considers this a timely application for purposes of ORC section 119.06, and you are authorized to continue operating the emissions unit(s) covered by this permit beyond the expiration date of this permit until final action is taken by Ohio EPA on the renewal application.

**6. What happens to this permit if my project is delayed or I do not install or modify my source?**

This PTIO expires 18 months after the issue date identified on the "Authorization" page above unless otherwise specified if you have not (1) started constructing the new or modified emission sources identified in this permit, or (2) entered into a binding contract to undertake such construction. This deadline can be extended by up to 12 months, provided you apply to Ohio EPA for this extension within a reasonable time before the 18-month period has ended and you can show good cause for any such extension.

**7. What reports must I submit under this permit?**

An annual permit evaluation report (PER) is required in addition to any malfunction reporting required by OAC rule 3745-15-06 or other specific rule-based reporting requirement identified in this permit. Your PER due date is identified in the Authorization section of this permit.

**8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?**

If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions will no longer be applicable after issuance of the Title V permit: Section B, Term 1.b) and Section C, for each emissions unit, Term a)(2).

The PER requirements in this permit remain effective until the date the Title V permit is issued and is effective, and cease to apply after the effective date of the Title V permit. The final PER obligation will cover operations up to the effective date of the Title V permit and must be submitted on or before the submission deadline identified in this permit on the last day prior to the effective date of the Title V permit.

**9. What are my obligations when I perform scheduled maintenance on air pollution control equipment?**

You must perform scheduled maintenance of air pollution control equipment in accordance with OAC rule 3745-15-06(A). If scheduled maintenance requires shutting down or bypassing any air pollution control equipment, you must also shut down the emissions unit(s) served by the air pollution control equipment during maintenance, unless the conditions of OAC rule 3745-15-06(A)(3) are met. Any emissions that exceed permitted amount(s) under this permit (unless specifically exempted by rule) must be reported as deviations in the annual permit evaluation report (PER), including nonexempt excess emissions that occur during approved scheduled maintenance.



**10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?**

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the Cleveland Division of Air Quality in accordance with OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

If you have a malfunction, but determine that it is not a reportable malfunction under OAC rule 3745-15-06(B), it is recommended that you maintain records associated with control equipment breakdown or process upsets. Although it is not a requirement of this permit, Ohio EPA recommends that you maintain records for non-reportable malfunctions.

**11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?**

Yes. Under Ohio law, the Director or his authorized representative may inspect the facility, conduct tests, examine records or reports to determine compliance with air pollution laws and regulations and the terms and conditions of this permit. You must provide, within a reasonable time, any information Ohio EPA requests either verbally or in writing.

**12. What happens if one or more emissions units operated under this permit is/are shut down permanently?**

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31.

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting<sup>1</sup> a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emissions unit once the certification has been submitted to Ohio EPA by the authorized official.

You must comply with all recordkeeping and reporting for any permanently shut down emissions unit in accordance with the provisions of the permit, regulations or laws that were enforceable during the period of operation, such as the requirement to submit a PER, air fee emission report, or malfunction report. You must also keep all records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, for at least five years from the date the record was generated.

Again, you cannot resume operation of any emissions unit certified by the authorized official as being permanently shut down without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

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<sup>1</sup>Permittees that use Ohio EPA's "Air Services" can mark the affected emissions unit(s) as "permanently shutdown" in the facility profile along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).



**13. Can I transfer this permit to a new owner or operator?**

You can transfer this permit to a new owner or operator. If you transfer the permit, you must follow the procedures in OAC Chapter 3745-31, including notifying Ohio EPA or the local air agency of the change in ownership or operator. Any transferee of this permit must assume the responsibilities of the transferor permit holder.

**14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?**

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

**15. What happens if a portion of this permit is determined to be invalid?**

If a portion of this permit is determined to be invalid, the remainder of the terms and conditions remain valid and enforceable. The exception is where the enforceability of terms and conditions are dependent on the term or condition that was declared invalid.



**Final Permit-to-Install and Operate**  
Cleveland Circuit Corps. dba Instrumatics  
**Permit Number:** P0112872  
**Facility ID:** 1318007750  
**Effective Date:** 5/29/2013

## **B. Facility-Wide Terms and Conditions**



1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
  - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
    - (1) None.
  - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
    - (1) None.
2. The permittee shall comply with the following requirements for the packed bed scrubber at this facility:
  - a) Operational Restrictions
    - (1) Emissions units P001, P002, and P003 shall be vented to the packed bed scrubber control device with a control efficiency of 99% for particulate emissions at all times the emissions units are in operation.
    - (2) The static pressure drop across the scrubber shall be continuously maintained at a value not less than 2 or more than 9 inches of water across the packing.
    - (3) The water supply to the recirculation tank shall be maintained within the range of 0.5 to 2.0 gallons per minute.
    - (4) The scrubber water pressure shall be continuously maintained within the range of 15.0 to 22.0 psi.
    - (5) The pH of the scrubber liquor shall be maintained within the range of 4.0 to 9.0.
    - (6) The permittee shall follow the manufacturer's recommended maintenance, at the recommended intervals, on fresh solvent pumps, recirculating pumps, discharge pumps, and other liquid pumps, in addition to the exhaust system, scrubber fans, and motors associated with those pumps and fans.
    - (7) The scrubber internals and mist eliminators shall be cleaned at intervals sufficient to prevent buildup of solids or other fouling.
  - b) Monitoring and/or Recordkeeping Requirements
    - (1) The permittee shall collect and record the following information each day:
      - a. the pressure drop across the scrubber in inches of water, on a once-per-shift basis;
      - b. the liquid pH on a once-per-shift basis;



- c. the water supply rate to the recirculation tank, in gallons per minute, on a once-per-shift basis;
  - d. the scrubber water pressure, in pounds per square inch (psi), on a once-per-shift basis.
  - e. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.
- (2) The permittee shall properly operate, and maintain equipment to continuously monitor the static pressure drop across the scrubber (in inches of water), water supply rate for the recirculation tank (in gallons per minute), scrubber water pressure (in psi) and the pH for the scrubber employed for this emissions unit, while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

Whenever the monitored value for any parameter deviates from the range(s) or minimum limit(s) established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;
- d. the name(s) of the personnel who conducted the investigation; and
- e. the findings and recommendations.

In response to each required investigation to determine the cause of the deviation, the permittee shall take prompt corrective action to bring the control equipment parameters within the acceptable range(s), or at or above the minimum limit(s) specified in this permit, unless the permittee determined that a corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

- f. a description of the corrective action;
- g. the date the corrective action was completed;
- h. the date and time the deviation ended;
- i. the total period of time during which there was a deviation;



- j. the pressure drop, water supply rate for the recirculation tank, scrubber water pressure, and pH readings immediately after the corrective action(s) was/were implemented;
- k. the name(s) of personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

The range(s) and/or limit(s) for the pressure drop, water supply rate for the recirculation tank, scrubber water pressure, and pH are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Cleveland Division of Air Quality (CDAQ) or the appropriate Ohio EPA District Office. The permittee may request revisions to the permitted range or limit for the pressure drop, water supply rate for the recirculation tank, scrubber water pressure, or pH based upon information obtained during future performance tests that demonstrate compliance with the established PE, and VOC emission rates for this emissions unit. In addition, approved revisions to the range or limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

c) Reporting Requirements

- (1) The permittee shall submit an annual Permit Evaluation Report (PER) to the Cleveland Division of Air Quality by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit. It is recommended that the PER is submitted electronically through the Ohio EPA's "e-Business Center: Air Services" although PERs can be submitted via U.S. postal service or can be hand delivered.
- (2) The permittee shall identify the following information in the annual permit evaluation report:
  - a. each period of time (start time and date, and end time and date) when the pressure drop across the scrubber, water supply rate for the recirculation tank, scrubber water pressure, or pH was outside of the appropriate range or exceeded the appropriate limit established in this permit;
  - b. any period of time (start time and date, end time and date) when the emissions unit was in operation and the process emissions were not vented to the scrubber;
  - c. each incident described above in "a" or "b" where a prompt investigation was not conducted;
  - d. each incident of deviation described above in "a" or "b" where prompt corrective action(s), that would bring the pressure drop, water supply rate for the recirculation tank, scrubber water pressure, or pH into compliance with the acceptable range was determined to be necessary and were not taken; and



- e. each incident of deviation described above in “a” or “b” where proper records were not maintained for the investigation and/or corrective action(s), as identified in the monitoring and recordkeeping requirements of this permit.

d) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section C of these terms and conditions for P001, P002, and P003 shall be determined in accordance with the following methods:

- a. The permittee shall conduct, or have conducted, emission testing for the scrubber stack. The emission testing shall be conducted within 24 months of permit issuance.
  - i. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rates for particulate emissions, opacity, lead, and VOC emissions as specified in section C.
  - ii. The following test methods shall be employed to demonstrate compliance with the emission limitations: Methods 1 through 5 for particulates, Method 12 for lead, and Methods 25, 25A or 18 for VOCs, of 40 CFR Part 60, Appendix A. Visible emission reading, using USEPA Method 9, shall be performed during each test run.
  - iii. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility’s ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the Cleveland DAQ. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.
  - iv. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an “Intent to Test” notification to the Cleveland DAQ. The “Intent to Test” notification shall describe in detail the proposed test methods and procedures, the emission unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ’s refusal to accept the results of the emission test(s).
  - v. Personnel from the Cleveland DAQ shall be permitted to witness the tests, examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.



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- vi. A comprehensive written report on the results of the emissions test shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the tests. The permittee may request addition time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.



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## **C. Emissions Unit Terms and Conditions**



**1. P001, Electronic Circuit Board Manufacturing**

**Operations, Property and/or Equipment Description:**

Electronic circuit board manufacturing line. Line consists of electroless and electrolytic plating tanks. The process is controlled by a central KCH Hedron III packed bed scrubber with a remote circulation system.

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-17-07(A)	Visible particulate emissions (PE) from the scrubber stack shall not exceed 20% opacity as a six-minute average, except as provided by this rule.
b.	OAC rule 3745-17-11(B)	Particulate emissions (PE) shall not exceed 0.551 lb/hr from this emissions unit.

(2) Additional Terms and Conditions

a. The emissions from this emissions unit shall be vented to the packed bed scrubber control device with a control efficiency of 99% for particulate emissions at all times the emissions unit is in operation.



- c) Operational Restrictions
  - (1) See Section B. for the packed bed scrubber requirements.
- d) Monitoring and/or Recordkeeping Requirements
  - (1) See Section B. for the packed bed scrubber requirements.
- e) Reporting Requirements
  - (1) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA District Office or Local Air Agency by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit. It is recommended that the PER is submitted electronically through the Ohio EPA's "e-Business Center: Air Services" although PERs can be submitted via U.S. postal service or can be hand delivered.
- f) Testing Requirements
  - (1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:
    - a. Emissions Limitation:

Particulate emissions (PE) shall not exceed 0.551 lb/hr from this emissions unit.

Applicable Compliance Method:

If required, compliance shall be determined using Methods 1 through 5 of 40 CFR Part 60, Appendix A. Tests shall be completed per the guidelines located in Section B.
    - b. Emission Limitation:

Visible particulate emissions from the scrubber stack shall not exceed 20% opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the limitation for visible particulate emissions shall be determined through visible emissions observations performed in accordance U.S. EPA Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).
- g) Miscellaneous Requirements
  - (1) None.



**2. P002, Ovens**

**Operations, Property and/or Equipment Description:**

Four ovens used to dry and cure electronic circuit boards. The emissions unit is controlled by a central KCH Hedron III packed bed scrubber with a remote circulation system.

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) **Applicable Emissions Limitations and/or Control Requirements**

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 13-2572, issued 11/18/1992)	Organic compound (OC) emissions shall not exceed 0.88 lb/hr and 2.74 tons/year from this emissions unit.
b.	OAC rule 3745-17-07(A)	Visible particulate emissions from the scrubber stack shall not exceed 20% opacity as a six-minute average, except as provided by this rule.
c.	OAC rule 3745-17-11	Particulate emissions shall not exceed 0.551 lb/hr.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-21-07(M)(4)	The hourly VOC emission limitation specified by this rule is less stringent than the hourly OC emission limit established pursuant to OAC rule 3745-31-05(A)(3).  Volatile organic compound (VOC) emissions shall not exceed 15.0 lbs/day.

(2) Additional Terms and Conditions

a. The emissions from this emissions unit shall be vented to the packed bed scrubber control device with a control efficiency of 99% for particulate and organic emissions (OC) emissions at all times the emissions unit is in operation.

c) Operational Restrictions

(1) This emissions unit shall not operate more than 16 hours per day.

(2) See Section B. for the packed bed scrubber requirements.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain and record the following information each day when this emissions unit is in operation:

a. the total hours of operation for this emissions unit;

b. the VOC emissions, in lbs, as calculated using the following equation:

$$\text{VOC emissions} = (0.88 \text{ lbs of VOC/hour}) \times \text{d})(1)\text{a.}, \text{ the total hours of operation/day}.$$

\* The emission rate of 0.88 lb of VOC/hour is based on an August 1999 stack test result. Should a more accurate emission rate be developed in the future, the permittee shall use it, provided the emission rate is mutually agreeable between the Cleveland DAQ and Cleveland Circuit Corporation.

(2) See Section B. for the packed bed scrubber requirements

e) Reporting Requirements

(1) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA District Office or Local Air Agency by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit. It is recommended that the PER is submitted electronically through the Ohio EPA's "e-



Business Center: Air Services” although PERs can be submitted via U.S. postal service or can be hand delivered.

- (2) The permittee shall identify in the annual PER all days during which the hours of operation limitation was exceeded.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emissions Limitation:

Organic compound (OC) emissions shall not exceed 0.88 lb/hr from this emissions unit.

Applicable Compliance Method:

If required, compliance shall be determined using Methods 1 through 4 and 25 of 40 CFR Part 60, Appendix A. Testing shall be completed in accordance with the guidelines located in Section B.

b. Emissions Limitations:

OC emissions shall not exceed 2.74 tons per year from this emissions unit.

Applicable Compliance Method:

Compliance with the annual emission limitation shall be determined by summing the daily emissions determined in d)(1) for each calendar year and dividing by 2,000 lbs/ton.

c. Emissions Limitation:

VOC emissions shall not exceed 15.0 lbs/day.

Applicable Compliance Method:

Compliance shall be demonstrated through the recordkeeping requirements located in d)(1).

d. Emissions Limit:

Particulate emissions (PE) shall not exceed 0.551 lb/hr.

Applicable Compliance Method:

If required, compliance shall be determined using Methods 1 through 5 of 40 CFR Part 60, Appendix A. Testing shall be completed in accordance with the guidelines located in Section B.



e. Emission Limitation:

Visible particulate emissions (PE) from the scrubber stack shall not exceed 20% opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the limitation for visible particulate emissions shall be determined through visible emissions observations performed in accordance U.S. EPA Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

g) Miscellaneous Requirements

(1) None.



**3. P003, Etching and Fusing.**

**Operations, Property and/or Equipment Description:**

Electronic circuit board etching and fusing process. The emissions unit is controlled by a central KCH Hedron III packed bed scrubber with a remote circulation system.

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 13-2572, issued 11/18/1992)	Particulate emissions (PE) shall not exceed 0.29 lb/hr and 1.27 tons/year from this emissions unit.  Ammonia (NH <sub>3</sub> ) emissions shall not exceed 0.9 lb/hr and 3.9 tons/year from this emissions unit.  Lead (Pb) emissions shall not exceed 0.002 lb/hr and 0.0088 ton/year from this emissions unit.
b.	OAC rule 3745-17-07(A)	Visible particulate emissions from the scrubber stack shall not exceed 20% opacity, as a six-minute average, except as provided by this rule.



- (2) Additional Terms and Conditions
  - a. The emissions from this emissions unit shall be vented to the packed bed scrubber control device with a control efficiency of 99% for particulate emissions at all times this emissions unit is in operation.
- c) Operational Restrictions
  - (1) See Section B. for the packed bed scrubber requirements
- d) Monitoring and/or Recordkeeping Requirements
  - (1) See Section B. for the packed bed scrubber requirements
- e) Reporting Requirements
  - (1) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA District Office or Local Air Agency by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit. It is recommended that the PER is submitted electronically through the Ohio EPA's "e-Business Center: Air Services" although PERs can be submitted via U.S. postal service or can be hand delivered.
- f) Testing Requirements
  - (1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:
    - a. Emissions Limitation:  
Particulate Emissions (PE) shall not exceed 0.29 lb/hr.  
  
Applicable Compliance Method:  
If required, compliance shall be determined using Methods 1 through 5 of 40 CFR Part 60, Appendix A. Testing shall be completed in accordance with the guidelines located in Section B.
    - b. Emissions Limitation:  
PE shall not exceed 1.27 tons per year.  
  
Applicable Compliance Method:  
The annual emission limitation was established by multiplying the hourly emission rate by 8,760 hours of operation per year and dividing by 2,000 pounds per ton. Therefore, compliance with the annual emission limitation shall be assumed provided compliance is maintained with the pounds per hour limitation.



c. Emissions Limitation:

Ammonia (NH<sub>3</sub>) emissions shall not exceed 0.90 lb/hour.

Applicable Compliance Method:

Compliance with the emission limit was demonstrated based on the emission rate of 0.636 lb/hr previously obtained by July 1992 stack test data.

d. Emissions Limitation:

Ammonia emissions shall not exceed 3.9 tons/year.

Applicable Compliance Method:

The annual emission limitation was established by multiplying the hourly emission rate by 8,760 hours of operation per year and dividing by 2,000 pounds per ton. Therefore, compliance with the annual emission limitation shall be assumed provided compliance is maintained with the pound per hour limitation.

e. Emissions Limitation:

Lead (Pb) emissions shall not exceed 0.002 lb/hr.

Applicable Compliance Method:

If required, compliance shall be determined using Methods 1 through 4 and 12 of 40 CFR Part 60, Appendix A. Testing shall be completed in accordance with the guidelines located in Section B.

f. Emissions Limitation:

Lead emissions shall not exceed 0.0088 ton/year.

Applicable Compliance Method:

The annual emission limitation was established by multiplying the hourly emission rate by 8,760 hours of operation per year and dividing by 2,000 pounds per ton. Therefore, compliance with the annual emission limitation shall be assumed provided compliance is maintained with the pound per hour limitation.

g. Emissions Limitation:

Visible particulate emission (PE) from the scrubber stack shall not exceed 20% opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the limitation for visible particulate emissions shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9 and the procedures specified in OAC rule 374517-03(B)(1).



**Final Permit-to-Install and Operate**  
Cleveland Circuit Corps. dba Instrumatics  
**Permit Number:** P0112872  
**Facility ID:** 1318007750  
**Effective Date:** 5/29/2013

g) Miscellaneous Requirements

- (1) None.