

# PERMIT BOOK

STATE OF MISSOURI



## DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

### PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: 102009-009 Project Number: 2009-09-013

Parent Company: Modine Manufacturing Company

Parent Company Address: 1500 DeKoven Avenue, Racine, WI 53403

Installation Name: Modine Manufacturing Company

Installation Address: 822 Industrial Drive, Trenton, MO 64683

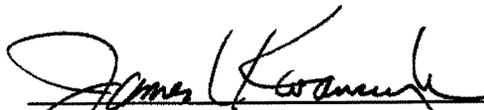
Location Information: Grundy County, S9, T61N, R24W

Application for Authority to Construct was made for:  
The installation of two new core assembly/fin machines. This review was conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

- 
- Standard Conditions (on reverse) are applicable to this permit.
- Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

OCT 28 2009

EFFECTIVE DATE

  
\_\_\_\_\_  
DIRECTOR OR DESIGNEE  
DEPARTMENT OF NATURAL RESOURCES

## STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

**You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review.** In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the departments' Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available not more than 60 days but at least 30 days in advance of this date. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

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Permit No.	
Project No.	2009-09-013

**SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

*The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."*

Modine Manufacturing Company  
Grundy County, S9, T61N, R24W

1. Modine Manufacturing Company shall keep the lubricant oil, PS-1815, in sealed containers whenever the materials are not in use. Modine Manufacturing Company shall provide and maintain suitable, easily read, permanent markings on all inks, solvent and cleaning solution containers used with this equipment.
2. Annual VOC Emission Limit
  - A. Modine Manufacturing Company shall emit less than 250.0 tons of VOC in any 12-month period from the entire installation while operating at this site.
  - B. Modine Manufacturing Company shall demonstrate compliance with special condition 3.A. using the record keeping sheet found in their Intermediate Operating Permit (Permit # OP2007-069).
3. Record Keeping Requirement  
Modine Manufacturing Company shall maintain all records required by this permit for five years and make them available to any Missouri Department of Natural Resources personnel upon request.
4. Reporting Requirement  
Modine Manufacturing Company shall report to the Air Pollution Control Program Enforcement Section P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedances of the limitations imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE  
SECTION (6) REVIEW

Project Number: 2009-09-013  
Installation ID Number: 079-0004  
Permit Number:

Modine Manufacturing Company  
822 Industrial Drive  
Trenton, MO 64683

Complete: September 15, 2009

Parent Company:  
Modine Manufacturing Company  
1500 DeKoven Avenue  
Racine, WI 53403

Grundy County, S9, T61N, R24W

REVIEW SUMMARY

- Modine Manufacturing Company has applied for authority to construct two new core assembly/fin machines
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment but only in trace amounts less than the Screen Modeling Action Levels (SMAL)
- None of the New Source Performance Standards (NSPS) apply to the proposed equipment.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) or currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment.
- No air pollution control equipment is being used in association with the new equipment.
- This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of VOC are above de minimis levels.
- This installation is located in Grundy County, an attainment area for all criteria air pollutants.
- This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2].

- Ambient air quality modeling was not performed for this review. No model is currently available which can accurately predict ambient ozone concentrations caused by this installation's VOC emissions.
- Emissions testing is not required for the equipment.
- An Intermediate Operating Permit amendment is required for this installation within 90 days of equipment startup.
- Approval of this permit is recommended with special conditions.

### INSTALLATION DESCRIPTION

Modine Manufacturing Company operates a radiator production facility in Trenton, Missouri (S9, T61N, R24W). The unconditioned potential emissions of volatile organic compounds (VOCs) and hazardous air pollutants (HAPs) are greater than their respective major source thresholds for construction permitting and limited in their intermediate operating permit to 100 tons per year for VOC and 10.0 tons per year for individual HAPs, and 25.0 tons per year for combined HAPs.

The following permits have been issued to Modine Manufacturing Company from the Air Pollution Control Program.

Permit Number	Description
0177-005	Soldering Dip Pots
0782-003-007	Hard Tube Mill
0384-004	Hard Tube Mill
0685-001	Production Line Modification
0986-010	Hard Tube Mill & Beta Welder
1086-007	Hard Tube Mill
1286-005	Beta-Weld Operation
0387-002	Beta-Weld Operation
0188-001	Welded Tube Mill
0388-005	Beta-Weld Machine
1191-015	Automatic Solder Pour Line Installation
0894-026	Nocolok Brazing Oven
1296-015	Aluminum Paint Booth
0997-030	Addition of One Aluminum Area Fin Machine and Two Aluminum Presses
0298-018	Spray Paint Booth
0398-003	One Aluminum Truck Radiator Fin Machine
0798-028	Beta-Weld Operation
1098-019	Oil Fogging Operating
0199-005	Two Seaming Stations and One Welding Station
0599-007	New Aluminum Fin Machine
1299-012	New Radiator Production Line
012000-018	Installation of a New Aluminum Fin Machine
082000-013	Installation of a Burn-Off Oven for Powder Paint Hooks
112003-004	Installation of a New Aluminum Fin Machine
082004-018	Installation of a New Aluminum Fin Machine

082005-009	Installation of New Fin Machine, Welding Operations, and Test Station.
072008-013	Installation of a New Radiator Core Builder with associated Fin Machine

## PROJECT DESCRIPTION

Modine Manufacturing Company is adding two new core assembly/fin machines to their existing Metal Forming Operations (ID # 88). The fin machine will be used to form fin components out of aluminum coil stock. The maximum hourly design rate (MHDR) of the new equipment is 400 feet of aluminum fins per minute. A lubricant oil, PS-1815, is used during the production of the aluminum fins and all its components are considered to be Volatile Organic Compounds (VOC). A test was run to calculate the application rate of the PS-1815. The application rate was found to be 1.56 lb of lubricant per hour at a production rate of 128 feet of aluminum fins per minute. To find the MHDR of the PS-1815 the application rate that was found during the test was scaled up to 4.875 lb of lubricant per hour based on the MHDR of the fin machines. Formed fins will then be supplied to the core matrix builder machine, along with other components such as formed tubes, header plates and side components, where the heat exchanger cores will be assembled.

In previous construction permits there is mention of a 100 ton per year PM<sub>10</sub> limit in the Intermediate Operating permit. The 2007 Intermediate Operating permit renewal does not have a 100 ton per year PM<sub>10</sub> limit. It appears that in permit number 0398-003 the existing PM<sub>10</sub> potential emissions (PTE) were reported wrong. The PM<sub>10</sub> PTE reported in permit number 0398-003 was 193 ton per year and in the previous permit the PM<sub>10</sub> PTE was 19.3 ton per year. This appears to be just a typing mistake. After going through the permit history of 079-0004 the PTE of the entire installation should be no greater than 54.95 ton per year of PM<sub>10</sub>.

Currently Modine Manufacturing Company holds an Intermediate operating permit that limits the entire installation to less than 100 tons per year of VOC. The Potential Emissions of this project are greater than 40 tons per year of VOC. If Modine Manufacturing Company chooses to relax their permit 100 tons per year limit by obtaining a Part 70 operating permit the installation would be a major source for VOC and this project would be a major modification and subject to Prevention of Significant Deterioration (PSD) permitting. This permit will give the installation a 250.0 ton per year VOC limit. These limits ensure that if Modine Manufacturing Company ever changed to their Intermediate operating permit to a Part 70 operating permit Modine Manufacturing Company would need to amend this permit's special conditions to emit more than 250.0 tons of VOC. The limits within Modine Manufacturing Company's Intermediate operating permit (Permit # OP2007-069) will continue to be enforced. The record keeping will be done using the recording keeping associated with Permit # OP2007-069.

## EMISSIONS/CONTROLS EVALUATION

The emission factors and control efficiencies used in this analysis were obtained from the Material Safety Data Sheet provide by the applicant. Potential emissions of the

application represent the potential of the new equipment, assuming continuous operation (8760 hours per year.) The following table provides an emissions summary for this project.

Table 1: Emissions Summary (tons per year)

Pollutant	Regulatory De Minimis Levels	*Existing Potential Emissions	Existing Actual Emissions (2008 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM <sub>10</sub>	15.0	54.95	2.78	N/A	N/A
SO <sub>x</sub>	40.0	0.06	0.00	N/A	N/A
NO <sub>x</sub>	40.0	13.0	4.02	N/A	N/A
VOC	40.0	<100.0	51.76	42.71	<250.0
CO	100.0	2.80	3.32	N/A	N/A
HAPs	10.0/25.0	<10.0/25.0	0.00	N/A	<10.0/25.0

N/A = Not Applicable; N/D = Not Determined

\*Existing Potential Emissions were taken from Permit # 072008-013

### PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of VOC are above de minimis levels.

### APPLICABLE REQUIREMENTS

Modine Manufacturing Company shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

### GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110  
The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an Emissions Inventory Questionnaire (EIQ) is required June 1 for the previous year's emissions.
- *Operating Permits*, 10 CSR 10-6.065
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-3.090

## STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

\_\_\_\_\_  
Gerad Fox  
Environmental Engineer

\_\_\_\_\_  
Date

### PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated September 3, 2009, received September 8, 2009, designating Modine Manufacturing Company as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Northeast Regional Office Site Survey, not received.
- Material Safety Data Sheet for PS-1815

Mr. Jesse Nickrand  
Environmental Engineer  
Modine Manufacturing Company  
822 Industrial Drive  
Trenton, MO 64683

RE: New Source Review Permit - Project Number: 2009-09-013

Dear Mr. Nickrand:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files.

Operation in accordance with these conditions, your new source review permit application and with your amended operating permit is necessary for continued compliance.

The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact Gerad Fox, at the Departments' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

**AIR POLLUTION CONTROL PROGRAM**

Kendall B. Hale  
New Source Review Unit Chief

KBH:gfl

Enclosures

c: Northeast Regional Office  
PAMS File: 2009-09-013

Permit Number: