

-STATE OF MISSOURI



PERMIT BOOK

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: **102007-002** Project Number: 2007-08-006

Parent Company: Modine Manufacturing Company

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

Installation Name: Modine Manufacturing Company

Installation Address: 211 Sunset Drive, PO Box 636, Camdenton, MO 65020

Location Information: Camden County, S38N, T26, R17W

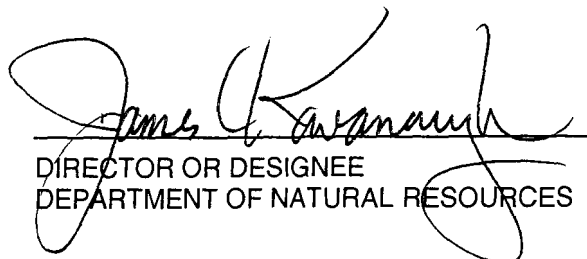
Application for Authority to Construct was made for:
Addition of three fin machines to Source #44. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

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

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

OCT - 1 2007

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 department's 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 with 15 days after the actual start up of this (these) air contaminant source(s).

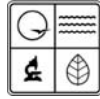
A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

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

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REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW

Project Number: 2007-08-006
Installation ID Number: 029-0009
Permit Number:

Modine Manufacturing Company
211 Sunset Drive, PO Box 636
Camdenton, MO 65020

Complete: July 30, 2007

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

Camden County, S38N, T26, R17W

REVIEW SUMMARY

- Modine Manufacturing Company has applied for authority to add three fin machines to Source #44.
- Hazardous Air Pollutant (HAP) emissions are not expected from the proposed equipment.
- 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 (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of VOCs are below de minimis levels.
- This installation is located in Camden 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 since potential emissions of the application conditioned to de minimis levels.

- Emissions testing is not required for the equipment.
- Revision to the Intermediate Operating Permit application is required for this installation within 30 days of equipment startup.
- Approval of this permit is recommended without special conditions.

INSTALLATION DESCRIPTION

Modine Manufacturing Company (Modine) manufactures heat exchangers at its plant in Camdenton, Missouri. Pre-manufactured aluminum tubes are cut to the required length and sent on for further assembly. Aluminum flat stock is stamped and/or formed to produce a fin that is then combined with the tube to create a heat transfer core. The stamping/forming operations use an evaporative lubricant. The assembled core then goes through a fluxing operation and a metal-to-metal bonding operation to bond the core together. The cores are then further assembled with tanks and fittings that are welded onto the unit. The completed unit is then hydrostatically leak-tested, repaired if necessary, dried, painted and shipped to customer.

Modine submitted an Intermediate Operating Permit application on January 17, 2007, which is currently under technical review. This installation is a major source under construction permits for VOCs and HAPs. The following permits have been issued to Modine Manufacturing Company from the Air Pollution Control Program.

Permit Number	Description
0595-014	Modification to an existing aqueous cleaning line and the removal of an open top vapor degreaser
0497-027	Addition of Nocolok brazing process equipment
1197-020	Addition of aluminum metal processing equipment including presses, mills, and fin machines
0698-004	Installation of additional metal processing equipment including presses, mills, and fin machines
0798-019	Construction of aluminum processing equipment including presses, mills, and fin machines
0998-018	Construction of new flushing operation
042002-005	Addition fin stamping/forming machines, 20 additional MIG welders and 20 additional TIG welders
012004-002	Installation of an aluminum fin machine

PROJECT DESCRIPTION

Modine Manufacturing Company has applied for authority to add three (3) new aluminum fin machines. The machines are used to form fin components out of aluminum coil stock. Forming operations utilize vanishing lubricant oil containing a high flash petroleum solvent fraction. This oil is comprised entirely of VOCs and is emitted during forming operations into the production area without dedicated ventilation (no stack). There is no debottlenecking associated with the addition of the fin machines.

EMISSIONS/CONTROLS EVALUATION

Emissions from the new fin machine were estimated using a mass balance approach. Lubricant usage rates are based on study performed in April of 1997 on a single fin machine. For potential emissions, the maximum design lubricant usage is estimated at two times the actual usage rate. This maximum usage rate for each of the three machines is 1.53 pounds per hour of lubricant. All of the lubricant is assumed to evaporate and be emitted to the atmosphere as VOC

Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year). Existing potential emissions previously stated in Permit No. 012004-002 do not account for all existing and operating emission units at the Modine facility. Previous Emissions Inventory Questionnaires (EIQs) have several pieces of equipment that were not taken into account when calculating the existing installation's potential-to-emit. For this review, an evaluation of each pollutant was made to indicate whether or not it is major for construction permits. Modine has applied for an Intermediate Operating Permit, which will limit the emissions of each pollutant to less than 100 tons per year. Existing actual emissions were taken from the 2006 Emissions Inventory Questionnaire (EIQ). The following table provides an emissions summary for this project.

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2006 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM ₁₀	15.0	<250	1.78	N/A	N/A
SO _x	40.0	<250	0.13	N/A	N/A
NO _x	40.0	<250	21.72	N/A	N/A
VOC	40.0	>250	14.91	20.1	N/A
CO	100.0	<250	18.25	N/A	N/A
HAPs	10.0/25.0	>10.0/25.0	N/D	N/A	N/A

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

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of VOCs are at 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 April 1 for the previous year's emissions.
- *Operating Permits*, 10 CSR 10-6.065
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *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 (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted without special conditions.

Susan Heckenkamp
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated July 24, 2007, received July 30, 2007, designating Modine Manufacturing Company as the owner and operator of the installation.
- Material Safety Data Sheets.
- Site Survey, completed August 15, 2007

Mr. Edward Besaw
Environmental Engineer
Modine Manufacturing Company
211 Sunset Drive, PO Box 636
Camdenton, MO 65020

RE: New Source Review Permit - Project Number: 2007-08-006

Dear Mr. Besaw:

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 revised 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 Susan Heckenkamp at the department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or (573) 751-4817.

Thank you for your time and attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale
New Source Review Unit Chief

KBH:shl

Enclosures

c: Southwest Regional Office
PAMS File 2007-08-006

Permit Number: