CHATTA NOOGA

Alan Frazier <afrazier@chattanooga.gov>

Walmart #04692 Air Pollution Permit Application

2 messages

Grabmiller, Diane <Diane.Grabmiller@aptim.com> Mon, Nov 17, 2025 at 12:22 PM
To: Alan Frazier <afrazier@chattanooga.gov>
Cc: Walmart EPM Support <walmartepmsupport@aptim.com>

Hello Alan,

Please see attached Installation and Operating Permit Application for Walmart Neighborhood Market #4692 located at 4150 Ringgold Road, East Ridge, TN.

Also attached is Walmart/APTIM Partnership agreement for your records.

Thank you,

DIANE GRABMILLER

Licensing Support Specialist

APTIM | Licensing Support

O 877 829 5505

D 913 317 3583

F 225 987 8573

E WalmartEPMSupport@aptim.com

APTIM

8725 Rosehill Road, Suite 450

Lenexa, KS 66215

APTIM Environmental & Infrastructure, LLC as agent for Walmart Inc.

2 attachments

04692 - AQ - NOS - Application - 11172025.pdf
19086K

Walmart-APTIM Agreement with POA_2025.pdf
924K

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afrazier@chattanooga.gov <afrazier@chattanooga.gov> Mon, Nov 17, 2025 at 12:28 PM
To: Diane.Grabmiller@aptim.com, Diane.Grabmiller@aptim.com

Your message

To: Diane.Grabmiller@aptim.com
Subject: Walmart #04692 Air Pollution Permit Application
Sent: 11/17/25, 12:22:51 PM EST

was read on 11/17/25, 12:28:13 PM EST

BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR CERTIFICATE OF OPERATION

FORM E001
03/2011

1. Name of Company Wal-Mart Stores East, LP. 2. NAICS Code: 45110
(If corporation or LLC, name on file with Tennessee Secretary of State Corporate Records Division)

3. Company Official to Contact: Diane Grabmiller 4. Phone No. 877.829.5505

5. Mailing Address: 8725 Rosehill Road, Suite 450, Lenexa, KS 66215
Street or P.O. Box *City* *State* *Zip Code*

6. Physical Location
(If different from line 5) 4150 Ringgold Road East Ridge TN 37412
Street *City* *State* *Zip Code*

7. Application for:
☑ Installation Permit ☐ Initial Certificate of Operation ☐ Renewal Certificate of Operation

Previous Installation Permit or Certificate of Operation No.: _____

8. Type of equipment for which application is made:

☑ Process Equipment (Form E010 or Form E010A)	☐ Previously Submitted	☐ Attached
☑ Fuel Burning Equipment (Form E011)	☐ Previously Submitted	☑ Attached
☐ Incineration Equipment (Form E012)	☐ Previously Submitted	☐ Attached
☐ Minor Pollution Source (Form E014)	☐ Previously Submitted	☐ Attached

(Less than 1000 lbs/yr and less than 10 lbs/day total uncontrolled contaminant emissions)

The following forms are filed with this application:

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NOV 17 2025
Chattanooga-Hamilton County
Air Pollution Control Bureau

9. Equipment Name:
~~Generator 1~~ Volvo Penta Generator Engine

10. If application is for a Certificate of Operation (Initial or Renewal), are there any changes since previous application concerning equipment or operation which might:

A. Increase, decrease, or alter process materials, fuel, refuse type, etc.? ☐ Yes ☑ No

B. Increase, decrease, or alter emissions or emission points? ☐ Yes ☑ No

11. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lb/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1,000 Btu/hr, (Item 7C on Form E011): ~~7.6 MMBtu/Hr~~ 51.5 gal/hr · 7.05 lb/gal = 363.1 lb/hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail completed form to:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
2034 Hamilton Place Blvd., Suite 300
Chattanooga, TN 37421

This form must be completely filled out before it will be processed

Diane Grabmiller
Name

Licensing Support
Title

11/17/2025
Date

BASIC APPLICATION FOR EQUIPMENT / AIR POLLUTION PERMIT OR CERTIFICATE OF OPERATION

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03/2011

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6. Physical Location
(If different from line 5) 4150 Ringgold Road East Ridge TN 37412
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☐ Incineration Equipment (Form E012)	☐ Previously Submitted	☐ Attached
☐ Minor Pollution Source (Form E014)	☐ Previously Submitted	☐ Attached

(Less than 1000 lbs/yr and less than 10 lbs/day total uncontrolled contaminant emissions)

The following forms are filed with this application:

RECEIVED
NOV 17 2025
Chattanooga-Hamilton County Air Pollution Control Bureau

9. Equipment Name: ~~Generator 1~~ Volvo Penta Generator Engine

10. If application is for a Certificate of Operation (Initial or Renewal), are there any changes since previous application on the equipment or operation which might:

A. Increase, decrease, or alter process materials, fuel, refuse type, etc.? ☐ Yes ☑ No

B. Increase, decrease, or alter emissions or emission points? ☐ Yes ☑ No

11. Process Weight, lb/hr, (Item 6 on Form E010), Incineration Rate, lb/hr, (Item 3C on Form E012), or Fuel Burning Rate, 1,000 Btu/hr, (Item 7C on Form E011): ~~7.6 MMBtu/Hr~~ 51.5 gal/hr · 7.05 lb/gal = 363.1 lb/hr

This is to certify that I am familiar with operations concerning this equipment and the information provided on this application is true and complete to the best of my knowledge:

Mail completed form to:
CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU
2034 Hamilton Place Blvd., Suite 300
Chattanooga, TN 37421

This form must be completely filled out before it will be processed

Diane Grabmiller
Name
Licensing Support
Title
11/17/2025
Date

January 15, 2025

RE: Walmart / APTIM Partnership for Managing Permitting Requirements

To Whom It May Concern:

This letter is to inform you that Walmart Inc. has contracted with APTIM Environmental & Infrastructure, LLC (APTIM) to manage ***environmental related permit renewals*** for an indefinite period of time. Environmental permitting, registration, and notification responsibilities are being handled by APTIM.

Please note: Submittals that do not come from APTIM should not be returned to APTIM, these should be sent back to the original party who submitted them.

Walmart has provided the attached limited Power of Attorney which provides APTIM the authority to sign applications as an agent for Walmart Inc. and its subsidiaries.

Any future correspondence, permits and associated **renewal** invoices for ***environmental related items*** should be provided to:

APTIM Licensing Support
8725 Rosehill Road, Suite 450
Lenexa, KS 66215

If you have any additional questions, please contact APTIM at the following:
Phone: 877-829-5505
Fax: 225-987-8573
Email: walmartepmsupport@aptim.com

Thank you,
APTIM Licensing Support

SPECIAL POWER OF ATTORNEY

We, **EMMA WADDELL**, Senior Vice President and U.S. Chief Ethics and Compliance Officer, and **SARAH LITTLE**, Assistant Secretary, acting on behalf of **WALMART INC.,** in its own capacity, and in its capacity as parent corporation of wholly-owned subsidiaries **SAM'S WEST, INC., SAM'S REAL ESTATE BUSINESS TRUST, SAM'S EAST, INC., WAL-MART REALTY CO., WAL-MART PROPERTY CO., WAL-MART STORES EAST, LP, WAL-MART LOUISIANA, LLC., WAL-MART STORES TEXAS, LLC., WAL-MART STORES ARKANSAS, LLC., WALMART FULFILLMENT SERVICES, LLC., BONOBOS INC, NEW MOOSEJAW LLC,** and **WAL-MART REAL ESTATE BUSINESS TRUST (collectively, the "SUBSIDIARIES"),** do hereby appoint **APTIM ENVIRONMENTAL & INFRASTRUCTURE, LLC.,** of 4171 Essen Lane, Baton Rouge, Baton Rouge Parrish, Louisiana, as our attorney in fact to act in our place for the purpose of signing and processing the following on behalf of WALMART INC. and SUBSIDIARIES:

(i) All documents required by any governmental agency regarding new environmental permits and renewal of existing environmental permits required for WALMART INC. or SUBSIDIARIES;

(ii) All documentation required to update the corporate records on file with governmental agencies identifying the Officers authorized to sign documents on behalf of WALMART INC. or SUBSIDIARIES; and

We further grant to our attorney in fact full authority to act in any manner both proper and necessary to the exercise of the foregoing powers, including the full power of substitution and revocation, and ratify every act that they may lawfully perform in exercising those powers. This power of attorney is granted for the period beginning on the execution date below until December 31, 2025.

Executed on 1/15, 2025, at Bentonville, Arkansas.

Emma Waddell
SVP, U.S. Chief Ethics and Compliance Officer

Sarah Little
Assistant Secretary

STATE OF ARKANSAS COUNTY OF BENTON

On January 15th, 2025, before me, Branda Leach, Notary Public, personally appeared **EMMA WADDELL** and **SARAH LITTLE**, acting on behalf of **WALMART INC.,** who proved to me on the basis of satisfactory evidence to be the persons whose names are subscribed to the within instrument and acknowledged to me that they executed the same in their authorized capacities, and that by their signatures on the instrument the persons, or entity upon behalf of which the persons acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of Arkansas that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature of Notary Public

My Commission expires: 09/01/2032

BRANDA LEACH
BENTON COUNTY
NOTARY PUBLIC -- ARKANSAS
My Commission Expires 09/01/2032
Commission No. 12720527

2222 Rosa Parks Blvd., Suite 150
Nashville, TN 37228
T: 615.255.2288

November 17, 2025

Chattanooga-Hamilton County Air Pollution Control Bureau (Bureau)
CBL Center II
2034 Hamilton Place Blvd., Suite 300
Chattanooga, TN 37421

Subject: Basic Application for Fuel Burning Equipment

Brown and Caldwell, on behalf of Wal-Mart Stores East, LP, is submitting this application for Installation and Operation Permits for one stationary diesel-fuel-fired electric generator (diesel generator) to be located at 4150 Ringgold Road, East Ridge, Hamilton County, TN 37412 (facility).

The diesel generator is equipped with a Volvo Penta engine that has a maximum power rating of 685 kilowatts mechanical (kWm) for standby operation and 625 kWm for prime power operation. The diesel generator's engine is certified to comply with U.S. EPA Tier 4 Final emissions limits in Title 40 Part 60, Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines). The diesel generator will be used for readiness testing, true emergency, and prime power operation. While the diesel generator is not expected to run year-round, no operational restrictions are requested because facility-wide potential emissions are below federal major source thresholds.

There is an existing gasoline dispensing facility (GDF) located at the facility. At the Bureau's request in an electronic mail message to Brown and Caldwell on 11/5/2025, the GDF's emissions were not included in the facility-wide potential emissions calculations or the application forms.

The required air pollution control forms, diesel generator specification sheet, and emissions calculations are attached for your review.

The generator equipment has been on site as of 7/14/2025. The generator will not be fueled or commissioned until the permits are in place.

Based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Very truly yours,

Brown and Caldwell

Beau Bartholomew
Project Manager
Brown and Caldwell

Diane Grabmiller
Licensing Support
APTIM Environmental & Infrastructure, LLC
as agent for Walmart Inc.

Attachments (5):

1. Form E001 (Installation)
2. Form E001 (Operation)
3. Form E011
4. Manufacturer Generator Specifications
5. Emissions Calculations
6. EATS Diagram
7. Engine Data Sheets
8. EPA Certificate of Confirmity

FUEL BURNING EQUIPMENT APPLICATION
A separate form must be filed for each stack or emission point.

FORM E011
01/2001

1. Name of Company: Wal-Mart Stores East, LP.
As shown on Line 1 of Form E001

2. Equipment Name: ~~Generator 1~~ Volvo Penta Generator Engine
As shown on Line 9 of Form E001

3. Stack Designation: One stack per engine, Stack 1
If there is more than one stack at this location, provide a written or numeric designation to identify each stack.

4. Control Equipment Data:

- ☐ Emissions Uncontrolled
- ☐ Electrostatic Precipitator (File Form E104)
- ☐ Baghouse (File Form E102)
- ☐ Inertial Separators (File Form E105)
- ☐ Wet Collecting Device (File Form E103)
- ☒ Other (Specify): Selective Catalytic Reduction (SCR)

5. Control Equipment Efficiency:
Enter the control equipment efficiency for each pollutant emitted by this equipment as determined on the appropriate Form E102, E103, E104, E105, E107, or enter zeros if "A" is checked in Item 4.

Pollutant	% Efficiency
Particulates	
PM_{10}	
SO_x	
NO_x	90%
CO	
VOC	
Other:	

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NOV 17 2025
Chattanooga-Hamilton County Air Pollution Control Bureau

6. Emissions Estimation: *File Form E110 for each fuel used*

Please refer to Attachment 5 for emissions calculations

		Fuel No.1	Fuel No.2	Fuel No.3
Particulate Matter (Form E110, Item 6)	Uncontrolled	Lbs/hr	Lbs/hr	Lbs/hr
	Actual[1]	Lbs/hr	Lbs/hr	Lbs/hr
	Estimated[2]	Lbs/hr	Lbs/hr	Lbs/hr
SO_x (Form E110, Item 7)	Uncontrolled	Lbs/hr	Lbs/hr	Lbs/hr
	Actual[1]	Lbs/hr	Lbs/hr	Lbs/hr
	Estimated[2]	Lbs/hr	Lbs/hr	Lbs/hr
PM_{10}	Uncontrolled	Lbs/hr	Lbs/hr	Lbs/hr
	Actual[1]	Lbs/hr	Lbs/hr	Lbs/hr
	Estimated[2]	Lbs/hr	Lbs/hr	Lbs/hr
NO_x (Form E110, Item 9E)	Uncontrolled	ppm	ppm	ppm
	Actual[1]	ppm	ppm	ppm
	Estimated[2]	ppm	ppm	ppm
Other Air Contaminants (Specify)	Uncontrolled	Lbs/hr	Lbs/hr	Lbs/hr
	Actual[1]	Lbs/hr	Lbs/hr	Lbs/hr
	Estimated[2]	Lbs/hr	Lbs/hr	Lbs/hr

1. *Submit stack test report with full details.*
2. *Estimate the emissions using the formula below*

$$\text{Estimated Emissions (lbs/hr, ppm)} = \frac{\text{100\%-Control Efficiency (\%)}}{\text{100\%}} \times \text{Uncontrolled Emissions}$$

Company Name: Wal-Mart Stores East LP. Equipment Name: Generator 1

7. Equipment Data:

Manufacturer of Equipment: ~~Blue Star~~ Volvo Penta

Date of Manufacture: 2024 Date of Installation: To be determined (TBD)

Boiler No.		Fuel Type	Rated Capacity 10^6 BTU/hr. Input	Type of Firing	Fuel Consumption			Percent Content		Heating Content of Fuel	(%) Excess Air
					Ave.	Max.	Annual	Sulfur	Ash		
Generator 1	Primary: Normal Operating Fuel(s)		*Please refer to Attachment 5 for Emissions Calculations*								
	Standby: Fuel(s) used in emergency only										
	Primary: Normal Operating Fuel(s)										
	Standby: Fuel(s) used in emergency only										

a. If more than one boiler per stack, list a separate code number to represent each individual boiler,
b. List all fuels used.
c. Give rated or maximum input capacity, whichever is greater.
d. Specify the type of firing for each fuel used.
e. Indicate consumption of each fuel used in tons/hr, gal/hr, or ft^3/hr.
f. Indicate annual consumption of each fuel used in tons/yr, gal/yr, or ft^3/yr.
g. The average sulfur and ash content of each fuel must be included – This information may be obtained from the fuel supplier.
h. Indicate the heating content of each fuel in BTU/ton, BTU/gal, or BTU/ft^3 – This information may be obtained from the fuel supplier.

	Space Heating	Process Heating	Other (Describe)
Percent (%)of Load Used			

8. Emissions Impact:

Those emissions indicated in Item 6 mat at times under normal operating conditions cause (check one or more):

☐	Odors	☐	Health Effects
☐	Eye Irritations	☐	Other nuisances outside of plant property
☐	Property Damage	☒	No environmental damage

9. Emission Point Data: *Please refer to attached Manufacturer's Spec Sheets*

Stack Height (emission point) above ground:	12.5 Ft
Ground Elevation above sea level at stack base:	715 Ft
Stack Diameter:	3.9 Ft
Volume of gas discharged into atmosphere:	~~4,866 Cfm~~ 3981 cfm
Gas exit temperature:	~~903°F~~ 862°F

10. Average Equipment Operating Time:

Daily:	24	Hours
Weekly:	7	Days
Yearly:	52	Weeks

This is to certify that I am familiar with the operations concerning this equipment and that the information provided on this application is true and complete to the best of my knowledge. ***This form must be completely filled out before it will be processed.***

Mail to:
CHATTANOOGA-HAMILTON
COUNTY AIR POLLUTION
CONTROL BUREAU
2034 Hamilton Place Blvd. Suite 300
Chattanooga, TN 37421

Company Official
Diane Grabmiller
APTIM Environmental & Infrastructure, LLC
as agent for Walmart Inc.

Title Licensing Support

Date 11/17/2025

Do not write below this line

Engineer Approval

Lbs/hr Allowable particulate emissions

Lbs/10^6 BTU allowable SO_x emissions

ppm allowable NO_x emissions

UTM Coordinate of Company: EW NS

This form corresponds to permit number:

Special Notations:

Walmart 2023
RavenVolt 625kW Non-FDEP
Generator Project Submittal

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NOV 17 2025
Chattanooga-Hamilton County
Air Pollution Control Bureau

Table 1
Equipment Inventory
Walmart, Inc. - Store Number 04692 - East Ridge, TN

Engines			
Equipment	**Make**	**Model**	**Horsepower**
Generator (Tier 4 Final)	Blue Star	VD625-02FT4	932

HVAC Equipment [1]			
Equipment Number	**Make**	**Model**	**Heat Input (Btu/hr)**
RTU1	Lennox	SGC060H4	150,000
RTU2	Lennox	SGC060H4	150,000
RTU3	Lennox	SGC036H4BT2G	105,000
RTU4	Lennox	SGC036H4BT2G	105,000
RTU5	Lennox	SGC240H4	480,000
RTU6	Lennox	SGC120H4MH2G	240,000
RTU7	Lennox	SGC120H4MH2G	240,000
RTU8	Lennox	SGC060H4	150,000
RTU9	Lennox	SGC120H4MH2G	240,000
AHU	Munters	HCUC6030AAD	800,000
Heat Pump (Electric)	Lennox	MPB030S4S-1P	0
		HVAC Total Heat Input	2,660,000

Bakery Oven [1]			
Equipment	**Make**	**Model**	**Heat Input (Btu/hr)**
Bakery Oven	Baxter	MOV500G2	300,000

Footnotes

[1] *HVAC and Bakery equipment represent an average Walmart store and may not be an exact representation.*

[2] *A gasoline dispensing facility is located at the facility but was not included in the emissions calculations at the request of the Bureau.*

Table 2
Facility Wide Emissions Summary
Walmart, Inc. - Store Number 04692 - East Ridge, TN

Source	Actual Emissions[1]							
	NO_x	SO_2	CO	PM	PM_{10}	$PM_{2.5}$	VOC	HAP
	(tons/yr)							
Bakery Oven	1.29E-01	7.73E-04	1.08E-01	9.79E-03	9.79E-03	9.79E-03	7.09E-03	2.43E-03
HVAC Equipment	1.14E+00	6.85E-03	9.59E-01	8.68E-02	8.68E-02	8.68E-02	6.28E-02	2.16E-02
Generator (Tier 4 Final)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total Actual	**1.3**	**0.01**	**1.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.02**

[1] Actual emissions from bakery oven, HVAC equipment and fire pump engine conservatively assumed to be equal to potential emissions.

Source	Potential Emissions							
	NO_x	SO_2	CO	PM	PM_{10}	$PM_{2.5}$	VOC	HAP
	(tons/yr)							
Bakery Oven	1.29E-01	7.73E-04	1.08E-01	9.79E-03	9.79E-03	9.79E-03	7.09E-03	2.43E-03
HVAC Equipment	1.14E+00	6.85E-03	9.59E-01	8.68E-02	8.68E-02	8.68E-02	6.28E-02	2.16E-02
Generator (Tier 4 Final)	4.43E+00	~~5.05E+00~~ 0.05	2.32E+01	1.98E-01	1.98E-01	1.98E-01	1.26E+00	5.67E-02
Total Potential	**5.7**	~~5.1~~ 0.036	**24.2**	**0.3**	**0.3**	**0.3**	**1.3**	**0.08**

Table 7
Generator Actual Emissions Calculations
Walmart, Inc. - Store Number 04692 - East Ridge, TN

Generator Specifications		
Generator Manufacturer, Model Number	Blue Star, VD625-02FT4	
EPA Family Name	SVPXL16.1CDC	
Engine Manufacturer and Model Number	Volvo Penta TWD1683GE	
Engine Model Year	2025	
EPA Certificate Number	SVPXL16.1CDD	
Power Rating (kWm)/(HP) [1]	685	932
Fuel Consumption (gal/hr)	55.5	
Fuel Higher Heating Value (Btu/gal)	137,000	
Fuel Consumption (MMBtu/hr)	7.6	
Operating Hours (hr/yr)	0.0	
Sulfur Content of Fuel (%) [2]	0.0015	

Criteria Pollutant Emissions Calculations								
Pollutant	Emission Factor (g/bhp)	Emission Factor (g/kWm)	Emission Factor (lb/MMBtu)	Number of Engines [3]	Emission Rate (g/hr)	Emission Rate (lb/hr)	Emission Rate (lb/year)	Emission Rate (ton/year)
NO_x [4]	0.50	0.67	--	1 / 2	917.90	2.02	0.00	0.00
SO_2 [5]	1.12E+00	--	1.52E-01		1,045.01	2.30	0.00	0.00
CO [4]	2.60	3.50	--		4,795.00	10.57	0.00	0.00
PM [4], [6]	0.02	0.03	--		41.10	0.09	0.00	0.00
VOC [4]	0.14	0.19	--		260.30	0.57	0.00	0.00

Greenhouse Gas Pollutant Emissions Calculations						
Pollutant	Emission Factor (lb/MMBtu)	Number of Engines [3]	Emission Rate (g/hr)	Emission Rate (lb/hr)	Emission Rate (lb/year)	Emission Rate (ton/year)
CO_2 [7]	163.05	1 / 2	1,124,709.72	2479.57	0.00	0.00
CH_4 [7]	0.01		45.62	0.10	0.00	0.00
N_2O [7]	1.32E-03		9.12	0.02	0.00	0.00
CO_2e [8]	--		1,128,405.02	2,487.72	0.00	0.00

Global Warming Potential Multipliers [9]	
CO_2	1
CH_4	28
N_2O	265

Hazardous Air Pollutant Emissions Calculations [10]								
Pollutant	Emission Factor (g/bhp)	Emission Factor (g/kWm)	Emission Factor (lb/MMBtu)	Number of Engines [3]	Emission Rate (g/hr)	Emission Rate (lb/hr)	Emission Rate (lb/year)	Emission Rate (ton/year)
Benzene	5.74E-03	7.81E-03	7.76E-04	1 / 2	5.35	1.18E-02	0.00	0.00E+00
Toluene	2.08E-03	2.83E-03	2.81E-04		1.94	4.27E-03	0.00	0.00E+00
Xylenes	1.43E-03	1.94E-03	1.93E-04		1.33	2.93E-03	0.00	0.00E+00
Formaldehyde	5.84E-04	7.94E-04	7.89E-05		0.54	1.20E-03	0.00	0.00E+00
Acetaldehyde	1.87E-04	2.54E-04	2.52E-05		0.17	3.83E-04	0.00	0.00E+00
Acrolein	5.83E-05	7.93E-05	7.88E-06		0.05	1.20E-04	0.00	0.00E+00
Naphthalene	9.62E-04	1.31E-03	1.30E-04		0.90	1.98E-03	0.00	0.00E+00
Total PAH	1.57E-03	2.13E-03	2.12E-04		1.46	3.22E-03	0.00	0.00E+00
Total	1.26E-02	1.72E-02	1.70E-03		11.75	2.59E-02	0.00	0.00E+00

Conversions	
grams/pound	453.59
grams/kilogram	1,000
pounds/ton	2,000
Btu/MMBtu	1,000,000

Footnotes

[1] *Standby and prime power ratings were provided by vendor. The higher power rating for standby was used for calculating emissions.*

[2] *Based on assumption only Ultra Low Sulfur Diesel having 15 ppm sulfur content will be used as required by 40 CFR § 1090.305(b).*

[3] ~~*Emission factors are multiplied by a factor of two to calculate emissions from two engines.*~~

[4] *Emissions are calculated based on U.S. EPA Tier 4 Final emission factors provided in 40 CFR Part 1039.101(b).*

[5] *Emission factor calculated using formula in Table 3.4-1 of AP-42 Chapter 3.4 (lb/MMBtu = % sulfur in fuel x 1.01 x 100).*

[6] *PM, PM_{10} and $PM_{2.5}$ emissions are assumed to be equal and represent the sum of filterable and condensable particulate matter.*

[7] *Calculated with distillate fuel oil emission factors in Table 1 of U.S. EPA Emission Factors for Greenhouse Gas Inventories, Rev. January 2025. Factors were converted from kilograms and grams per MMBtu to pounds per MMBtu.*

[8] *To calculate CO_2e emissions, the emission rates for CO_2, CH_4 and N_2O were multiplied by their respective Global Warming Potentials.*

[9] *100-Year Global Warming Potential values were taken from Table 11 of U.S. EPA Emission Factors for Greenhouse Gas Inventories, Rev. January 2025.*

Table 8
Generator Potential Emissions Calculations
Walmart, Inc. - Store Number 04692 - East Ridge, TN

Generator Specifications		
Generator Manufacturer, Model Number	Blue Star, VD625-02FT4	
EPA Family Name	SVPXL16.1CDC	
Engine Manufacturer and Model Number	Volvo Penta TWD1683GE	
Engine Model Year	2025	
EPA Certificate Number	SVPXL16.1CDD	
Power Rating (kWm)/(HP) [1]	685	932
Fuel Consumption (gal/hr)	55.5	51.5
Fuel Higher Heating Value (Btu/gal)	137,000	
Fuel Consumption (MMBtu/hr)	7.6	7.056
Operating Hours (hr/yr) [2]	8,760	
Sulfur Content of Fuel (%) [3]	0.0015	

685 kW = 918.60 hp
$51.5 \frac{gal}{hr} \cdot 0.137 \frac{MMBtu}{gal} = 7.0555$ MMBtu/hr

Criteria Pollutant Emissions Calculations

Pollutant	Emission Factor (g/bhp)	Emission Factor (g/kWm)	Emission Factor (lb/MMBtu)	Number of Engines [4]	Emission Rate (g/hr)	Emission Rate (lb/hr)	Emission Rate (lb/year)	Emission Rate (ton/year)
NO_x [7]	0.50	0.67	--	1	458.95	1.01	8,863.52	4.43
SO_2 [6]	5.61E-01	--	1.52E-01 ← 0.001577		~~522.50~~	~~1.15~~	~~10,090.91~~	~~5.05~~
CO [8]	2.60	3.50	--		2,397.50	5.29	46,301.95	23.15
PM [6] [7]	0.02	0.03	--		20.55	0.05	396.87	0.20
VOC [5]	0.14	0.19	--		130.15	0.29	2,513.53	1.26

"Not to exceed" standards (multiply by 1.25)

NO_x: $685 kW \cdot 1.25 \cdot 0.67 \frac{g}{kW \cdot hr} \cdot \frac{1 lb}{453.592379}$
$= 1.265$ lb/hr & 5.540 tons/yr @ 8,760 hr/yr

CO: $685 kW \cdot 1.25 \cdot 3.50 \frac{g}{kW \cdot hr} \cdot \frac{1 lb}{453.592379}$
$= 6.607$ lb/hr & 28.939 tons/yr @ 8,760 hr/yr

PM: $685 kW \cdot 1.25 \cdot 0.03 \frac{g}{kW \cdot hr} \cdot \frac{1 lb}{453.592379}$
$= 0.057$ lb/hr & 0.248 ton/yr @ 8,760 hr/yr

Greenhouse Gas Pollutant Emissions Calculations

Pollutant	Emission Factor (lb/MMBtu)	Number of Engines [3]	Emission Rate (g/hr)	Emission Rate (lb/hr)	Emission Rate (lb/year)	Emission Rate (ton/year)
CO_2 [6]	163.05	1	562,354.86	1,239.79	10,860,531.70	5,430.27
CH_4 [5]	0.01		22.81	0.05	440.53	0.22
N_2O [8]	1.32E-03		4.56	0.01	88.11	0.04
CO_2e [9]	--		564,202.51	1,243.86	10,896,214.63	5,448.11

Global Warming Potential Multipliers [10]	
CO_2	1
CH_4	28
N_2O	265

Hazardous Air Pollutant Emissions Calculations [11]

Pollutant	Emission Factor (g/bhp)	Emission Factor (g/kWm)	Emission Factor (lb/MMBtu)	Number of Engines [4]	Emission Rate (g/hr)	Emission Rate (lb/hr)	Emission Rate (lb/year)	Emission Rate (ton/year)
Benzene	2.87E-03	3.91E-03	7.76E-04	1	2.68	5.90E-03	51.69	2.58E-02
Toluene	1.04E-03	1.41E-03	2.81E-04		0.97	2.14E-03	18.72	9.36E-03
Xylenes	7.14E-04	9.72E-04	1.93E-04		0.67	1.47E-03	12.86	6.43E-03
Formaldehyde	2.92E-04	3.97E-04	7.89E-05		0.27	6.00E-04	5.26	2.63E-03
Acetaldehyde	9.33E-05	1.27E-04	2.52E-05		0.09	1.92E-04	1.68	8.39E-04
Acrolein	2.92E-05	3.97E-05	7.88E-06		0.03	5.99E-05	0.52	2.62E-04
Naphthalene	4.81E-04	6.55E-04	1.30E-04		0.45	9.88E-04	8.66	4.33E-03
Total PAH	7.85E-04	1.07E-03	2.12E-04		0.73	1.61E-03	14.12	7.06E-03
Total	6.31E-03	8.58E-03	1.70E-03		5.88	1.30E-02	113.50	5.67E-02

VOC = $685 kW \cdot 0.19 \frac{g}{kW \cdot hr} \cdot \frac{1 lb}{453.592379}$
$= 0.359$ lb/hr & 1.571 tons/yr @ 8,760 hr/yr

SO_x: $51.5 \frac{gal}{hr} \cdot (0.144 \cdot 0.0015) \frac{lb}{gal}$
$= 0.011$ lb/hr & 0.049 ton/yr @ 8,760 hr/yr

Conversions	
grams/pound	453.59
grams/kilogram	1,000
pounds/ton	2,000
Btu/MMBtu	1,000,000

PM-Rule 10.7: $0.25 \frac{gr}{ft^3} \cdot 3,981 \frac{ft^3}{min} \cdot \frac{529.67°R}{1,321.67°R} \cdot \frac{1 lb}{7,000 gr} \cdot 60 \frac{min}{hr} = 3.419$ lb/hr

NO_x-Rule 2.4 (300 ppm): $3,981 \cdot (1.587288199 \cdot 1.000294447.734.26111111)^{-1}$
$= 3.415$ lb/hr

NO_x: $685 kW \cdot 1.25 \cdot 0.67 \frac{g}{kW \cdot hr} \cdot \frac{1 lb}{453.592379} \cdot 21,907.21522 \cdot 1.000294447 \cdot 734.26111111 \cdot \frac{1}{3,981} \cdot \frac{1}{46.0055}$
$= 111.1$ ppm

SO_2-Rule 13.1 (500 ppm):
$3,981 \cdot (0.683918694 \cdot 1.000294447 \cdot 734.26111111)^{-1}$
$= 7,925$ lb/hr

Footnotes

[1] *Standby and prime power ratings were provided by vendor. The higher power rating for standby was used for calculating emissions.*

[2] *Reserved*

[3] *Based on assumption only Ultra Low Sulfur Diesel having 15 ppm sulfur content will be used as required by 40 CFR § 1090.305(b).*

[4] *100-Year Global Warming Potential values were taken from Table 11 of U.S. EPA Emission Factors for Greenhouse Gas Inventories, Rev. January 2025.*

~~[5] *Emission factors are multiplied by a factor of two to calculate emissions from two engines.*~~

[5] *Emissions are calculated based on U.S. EPA Tier 4 Final emission factors provided in 40 CFR Part 1039.101(b).*

[6] *Emission factor calculated using formula in Table 3.4-1 of AP-42 Chapter 3.4 (lb/MMBtu = % sulfur in fuel x 1.01 x 100).*

[7] *PM, PM_{10} and $PM_{2.5}$ emissions are assumed to be equal and represent the sum of filterable and condensable particulate matter.*

[8] *Calculated with distillate fuel oil emission factors in Table 1 of U.S. EPA Emission Factors for Greenhouse Gas Inventories, Rev. January 2025. Factors were converted from kilograms and grams per MMBtu to pounds per MMBtu.*

[9] *To calculate CO_2e emissions, the emission rates for CO_2, CH_4 and N_2O were multiplied by their respective Global Warming Potentials.*

[10] *100-Year Global Warming Potential values were taken from Table 11 of U.S. EPA Emission Factors for Greenhouse Gas Inventories, Rev. January 2025.*

[11] *Emission factors from Table 3.4-3 and Table 3.4-4 of AP-42 Section 3.4 were used to calculate Hazardous Air Pollutant emissions.*

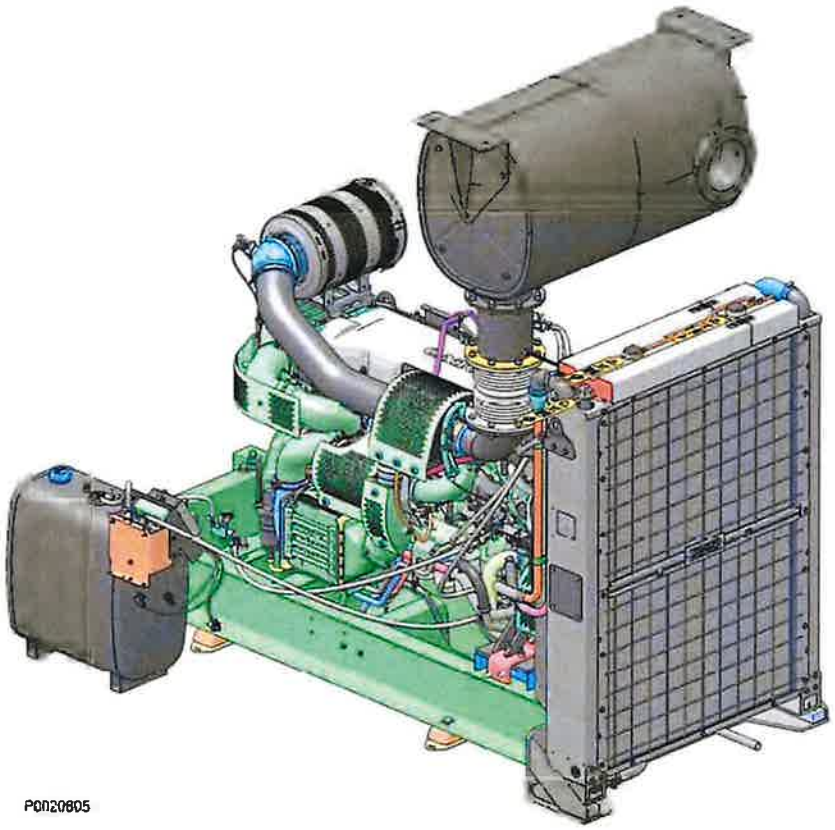
Table 9
Stack Exhaust Calculations
Walmart, Inc. - Store Number 04692 - East Ridge, TN

Stack Exhaust Calculations		
Length (ft)	4.7 12.5?	
Width (ft)	8.0	
Area (ft^2)	37.6	11.946
Effect radius (ft)	2.0	1.95
Effective diameter (ft)	3.9	
Exhaust flow rate (ft^3/minute)	4,866.0	3,981
Exhaust velocity (ft/sec)	2.2	5.554

Formula and Conversions	
Area	πr^2
r	$\sqrt{A \div \pi}$
D	2r
60	seconds per minute

EATS

System Description



P0020805

Exhaust aftertreatment technology is used to comply with mandatory Tier 4 Final and Stage IV standards. All installation requirements must be followed for the system to comply with emission regulations.

The technology is based on treating exhaust gases with an additive before they pass through the catalytic converter. The additive – AdBlue®/DEF solution – reacts with the oxides of nitrogen (NOx) and converts them into nitrogen and water, which occur naturally in our environment.

The additive is a solution of 32.5% urea in water. The solution must comply with the ISO-22241 standard. The additive used by the technology has different names in different markets, such as DEF or AdBlue®(1).

IMPORTANT!

Failure to follow these instructions when installing an emissions-certified engine is a violation of Federal and Californian legislation (40 CFR 1068.105 (b)). The penalty is a fine or other punishment pursuant to the Clean Air Act.

IMPORTANT!

If the engine is installed for use in the USA such that the engine decal with information on emission control is difficult to read during routine engine maintenance, a similar decal must be affixed to the machine pursuant to U.S 40 CRF 1068.105.

NOTICE! For use in environments with extremely high concentrations of airborne sodium (NA) and potassium (K), contact Volvo Penta Sales Engineering Industrial for advice.

1. . AdBlue® is a registered trademark of the Verband der Automobilindustrie e.V. (VDA)

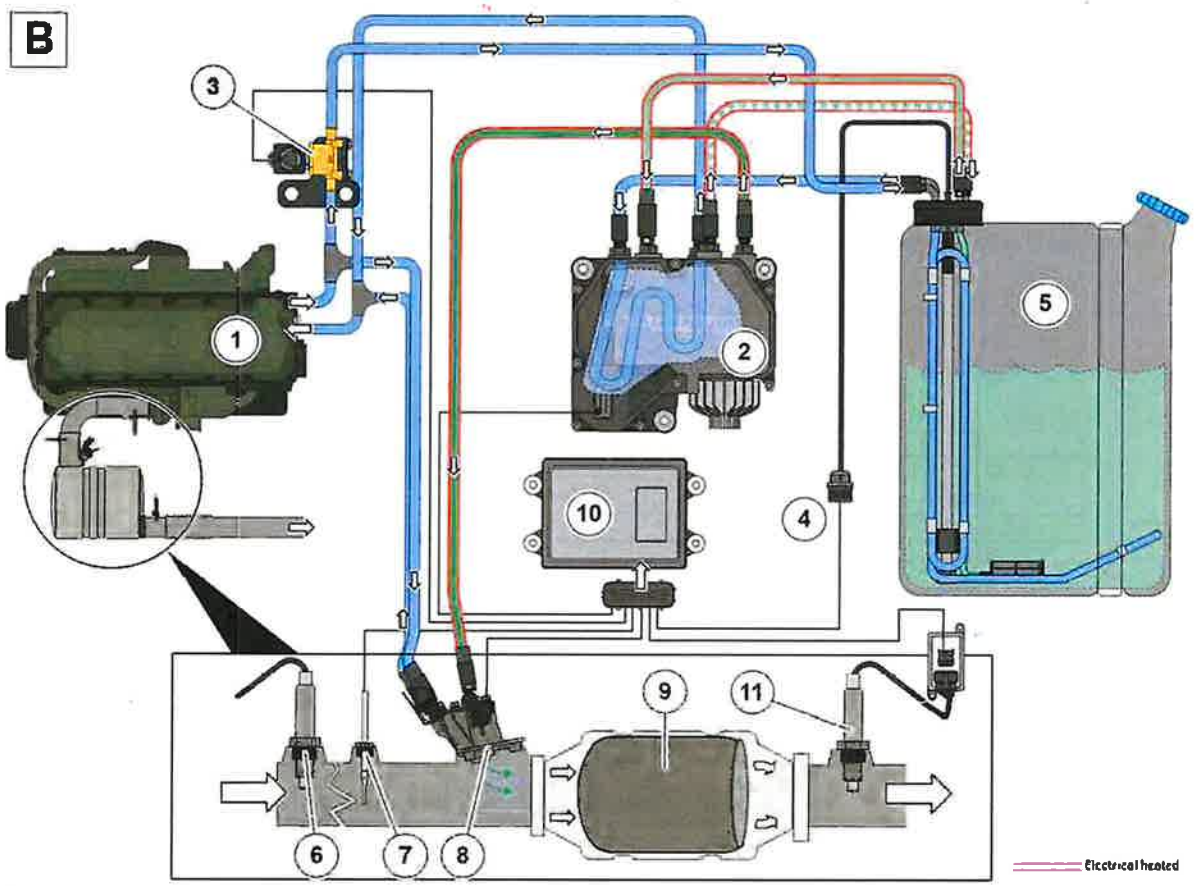
Overview

When the engine is started, the ACM checks that the AdBlue®/DEF tank level sensor indicates a sufficient amount of solution in the tank.

Solution temperature; if the temperature in the tank falls below 10°C (50°F), a solenoid valve opens allowing hot engine coolant to pass through a heating coil in the tank. The AdBlue®/DEF hoses are heated electrically at 5°C (41°F). When the solution in the tank reaches 15°C (59°F), the solenoid valve closes and heating stops.

The pump builds up a pressure in the hoses between the pump and the AdBlue®/DEF dosage valve. The solution is injected into the exhaust gases before they reach the silencer. The NOx sensors measure the level of nitric oxide (NOx) in the exhaust gases upstream and downstream of the catalytic converter. If emissions exceed the approved level, a warning lamp lights up on the instrument panel and a fault code is stored.

Flowchart



P0019848

1 Engine
2 Pump, high flow system
3 Solenoid valve, tank heating
4 Sensor connector, ULS unit
5 AdBlue®/DEF tank
6 NOx sensor (upstream of catalytic converter)
7 Temperature sensor
8 Dosage valve, high flow system
9 Silencer with catalytic converter
10 ACM (control module)
11 NOx sensor (downstream catalytic converter)

VOLVO PENTA TWD1683GE	Document No 23776347	Issue Index 07

Important

This Technical Data Sheet and the corresponding installation instructions provide important information to ensure the installed engine will operate according to the design specification in the Volvo Penta application for certification.

Requirements marked with ⚠ are considered as critical for exhaust emissions compliance according to the design specification in the Volvo Penta application for certification.

Failing to follow and meet these instructions and requirements when installing a certified engine in a piece of nonroad equipment for use in the United States violates U.S. federal law (40 CFR 1068.105(b)), subject to fines or other penalties as described in the Clean Air Act.

General

In-line four stroke turbocharged diesel engine with direct injection.
Rotation direction, anti-clockwise viewed towards flywheel.

Number of cylinders			6
Displacement, total		litre in³	16.12 983.8
Firing order			1-5-3-6-2-4
Bore		mm in	144 5.67
Stroke		mm in	165 6.50
Compression ratio			16.8:1
Wet weight w/o EATS	Engine only	kg lb	1810 3990
	Engine incl. cooling system and air filtration system	kg lb	2090 4606
	Engine incl. cooling system, air filtration system, and frame	kg lb	2620 5776
Wet weight EATS only	EATS (XL Urea Tank, 185 Liters)	kg lb	255 562
	EATS (L Urea Tank, 70 Liters)	kg lb	226 498

Performance			rpm	1500	1800
Prime Power		without fan	kW hp	590 802	626 851
		with fan	kW hp	570 775	596 811
Standby Power		without fan	kW hp	647 880	685 932
		with fan	kW hp	627 853	655 891
COP Power		without fan	kW hp	443 602	470 639
		with fan	kW hp	428 581	447 608
Torque at:	Prime Power		Nm lbft	3756 2770	3321 2449
	Standby Power		Nm lbft	4119 3036	3634 2680
Total mass moment of inertia, J (mR^2)			kgm^2 $lbft^2$	2.50 59.3	
Derating due to altitude - see Technical Diagrams					

685 kW × 1 hp / 0.7456998716 kW
= 918.600 hp

VOLVO PENTA TWD1683GE	Document No 23776347	Issue Index 07

Fuel system			rpm	1500	1800
Prime Power Specific **fuel** consumption at:	25%	g/kWh lb/hph	221 0.358	230 0.373
	50%	g/kWh lb/hph	199 0.323	206 0.334
	75%	g/kWh lb/hph	191 0.309	196 0.317
	100%	g/kWh lb/hph	191 0.309	195 0.315
% DEF consumption at: (Compare to Fuel consumption by Volyme)	25%	%	3.7	3.9
	50%	%	5.2	4.9
	75%	%	7.0	6.8
	100%	%	6.6	6.2
Standby Power Specific **fuel** consumption at:	25%	g/kWh lb/hph	219 0.355	226 0.366
	50%	g/kWh lb/hph	196 0.318	204 0.331
	75%	g/kWh lb/hph	191 0.310	194 0.315
	100%	g/kWh lb/hph	193 0.313	196 0.318
% DEF consumption at: (Compare to Fuel consumption by Volume)	25%	%	3.8	4.0
	50%	%	5.9	4.7
	75%	%	6.7	6.7
	100%	%	6.4	5.9

$196 \frac{g}{kW \cdot hr} \cdot 685\ kW \cdot \frac{1\ gal}{7.05\ lb} \cdot \frac{1\ lb}{453.592\ g} = 41{,}985 \frac{gal\ diesel\ fuel}{hr}$

CO2 emission declaration	rpm	1500	1800
Carbon dioxide (CO_2) emissions determined during the EU type approval process, NRSC-D2.	g/kWh	634	651

Fuel system

		rpm	1500	1800
Fuel to conform to	EN590:2013 ASTM D 975 1-D and 2-D EN15940:2016 (GTL/HVO) SS-155435:201 (MK1)			
System supply flow at:		litre/h US gal/h	177.0 46.8	195.0 51.5
Fuel supply line max restriction (Measured at fuel inlet connection)		kPa psi	-20.0 -2.9	-20.0 -2.9
Fuel supply line max pressure, engine stopped		kPa psi	16.5 2.4	16.5 2.4
System return flow		litre/h US gal/h	25.0 6.6	25.0 6.6
Fuel return line max restriction (Measured at fuel return connection)		kPa psi	20.0 2.9	20.0 2.9
Maximum allowable inlet fuel temp (Measured at fuel inlet connection)		°C °F	60 140	60 140
Prefilter / Water separator micron size		µ	30	
Fuel filter micron size		µ	5	
Governor type/make, standard		Volvo / EMS 2.4		
Injection pump type/make		Unit Injector Delphi		

VOLVO PENTA	Document No	Issue Index
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Intake and exhaust system			rpm	1500	1800
Air consumption at: (+25°C and 100kPa)	Prime Power		m^3/min	43	48
			cfm	1519	1695
	Standby Power		m^3/min	46	51
			cfm	1589	1801

⚠ See front page for important information

Max allowable air intake restriction including piping		kPa	3	3
		psi	0.4	0.4
Air filter restriction clean Volvo Penta filter		kPa	2.3	2.5
		psi	0.3	0.4
Heat rejection to exhaust at:	Prime Power	kW	383	436
		BTU/min	22350	24909
	Standby Power	kW	448	495
		BTU/min	25477	28150
Exhaust gas temperature after turbine at:	Prime Power	°C	484	432
		°F	813	810
	Standby Power	°C	464	461
		°F	867	862

⚠ See front page for important information

Max allowable back pressure in exhaust line (after turbine)	Prime Power	kPa	20	20
		psi	2.9	2.9
Pipe dimension Ø: 200 mm	Standby Power	kPa	20	20
		psi	2.9	2.9

⚠ See front page for important information

Max allowable temperature drop between turbine and SCR muffler inlet	Prime Power	Δ°C	10	10
		Δ°F	18	18
	Standby Power	Δ°C	10	10
		Δ°F	18	18
SCR muffler pressure drop (at exhaust max Power)	Standby Power	kPa	10	10
		psi	1.5	1.5
Exhaust gas flow at: (temp and pressure after turbine at max Power)	Standby Power	m^3/min	104.0	113.0
		cfm	3673	3991

VOLVO PENTA

TWD1683GE

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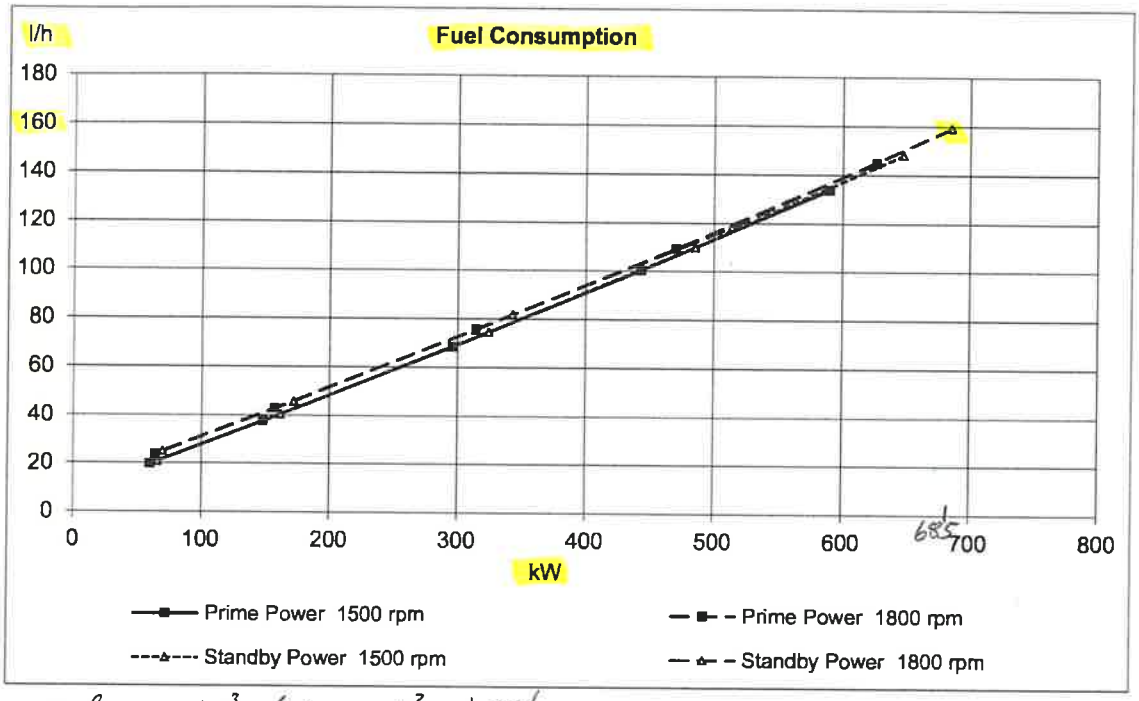
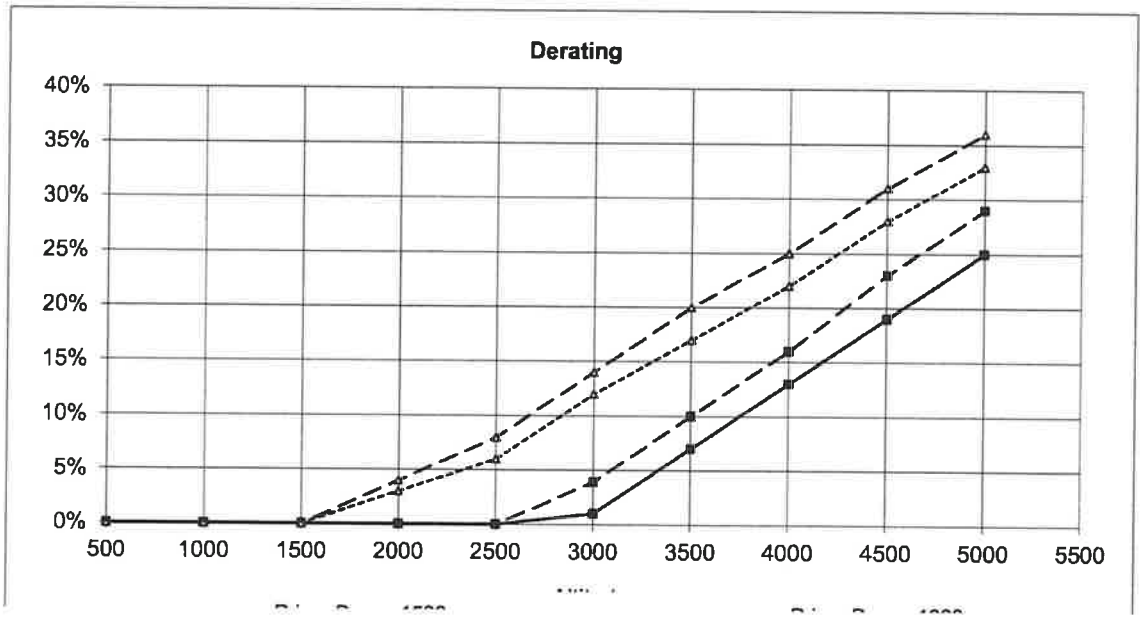
Performance	Power (kW)	Rpm
Prime Power	590	1500
Prime Power	626	1800
Standby Power	647	1500
Standby Power	685	1800

Sensors Alarm	Signal	Range	Alarm switch	Alarm Level	Derating level	Condition/Delay	Derating
Boost pressure	0,5-4,5 V	50-600 kPa	N/A				
Boost temperaure	50-0 kΩ	-40° - 130 °C	N/A				
Coolant level switch	Digital		Alarm when closed				
Coolant temperature	50-0 kΩ	-40° - 140 °C	N/A				
Crankcase pressure	0,5-4,5 V	0-15 kPa	N/A				
Engine Speed Cam	Frequency		N/A				
Engine Speed Crank	Frequency		N/A				
Exhaust gas temp			N/A				
Oil level sensor			N/A				
Oil temperature	50-0 kΩ	-40° - 140 °C	N/A				
Piston cooling switch	Digital		Alarm when closed				
Water In fuel switch	Digital		Alarm when closed				

VOLVO PENTA TWD1683GE	Document No 23776347	Issue Index 07



$159 \frac{l}{hr} \cdot 1 \frac{dm^3}{l} \cdot \left(\frac{1\,in.}{0.254\,dm}\right)^3 \cdot \frac{1\,gal}{231\,in.^3} = 42.003\ gal/hr < 51.5\ gal/hr$



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
2025 MODEL YEAR
CERTIFICATE OF CONFORMITY
WITH THE CLEAN AIR ACT

OFFICE OF TRANSPORTATION AND AIR QUALITY
ANN ARBOR, MICHIGAN 48105

Certificate Issued To: **AB Volvo Penta**
(U.S. Manufacturer or Importer)

Certificate Number: **SVPXL16.1CDD-001**

Effective Date: 06/13/2024

Expiration Date: 12/31/2025

Byron J. Bunker, Division Director
Compliance Division

Issue Date: 06/13/2024

Revision Date: N/A

Model Year: 2025
Manufacturer Type: Original Engine Manufacturer
Engine Family: SVPXL16.1CDD

Mobile/Stationary Indicator: Both
Emissions Power Category: kW>560
Fuel Type: Diesel
After Treatment Devices: Ammonia Slip Catalyst, Selective Catalytic Reduction
Non-after Treatment Devices: Electronic Control, Smoke Puff Limiter

Pursuant to Section 111 and Section 213 of the Clean Air Act (42 U.S.C. sections 7411 and 7547) and 40 CFR Parts 60 and 1039, and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following engines, by engine family, more fully described in the documentation required by 40 CFR Parts 60 and 1039 and produced in the stated model year.

This certificate of conformity covers only those new compression-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Parts 60 and 1039 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Parts 60 and 1039.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 1068 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Parts 60 and 1039. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void *ab initio* for other reasons specified in 40 CFR Parts 60 and 1039.

This certificate does not cover engines sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

CHATTANOOGA

Alan Frazier <afrazier@chattanooga.gov>

FW: Question for your Air Guy / Vovlo Penta

2 messages

Beau Bartholomew <BBartholomew@brwncald.com> Tue, Nov 18, 2025 at 5:17 PM
To: "afrazier@chattanooga.gov" <afrazier@chattanooga.gov>

Alan,

Please see the below response from our engineer.

Thanks!

Beau

From: Molly Lydick <molly.lydick@ravenvolt.com>
Sent: Tuesday, November 18, 2025 3:56 PM
To: Beau Bartholomew <BBartholomew@BrwnCald.com>
Cc: Michael Cantaloube <MCantaloube@BrwnCald.com>
Subject: RE: Question for your Air Guy / Vovlo Penta

Beau,

Note back:

The Volvo Engine was T4F Certified with the Exhaust Aftertreatment installed. The Exhaust Aftertreatment is required & part of the factory package from Volvo. Thanks.

Thank you,

Molly

ravenvolt
An ABM Company

Molly Lydick | Retail Operations Manager

a: 2715 Ronald Reagan Blvd Suite 100 | Cumming, GA 30041

t: (615) 686-9431 w: www.RavenVolt.com

molly.lydick@ravenvolt.com

From: Beau Bartholomew <BBartholomew@BrwnCald.com>
Sent: Tuesday, November 18, 2025 3:44 PM
To: Molly Lydick <molly.lydick@ravenvolt.com>
Cc: Michael Cantaloube <MCantaloube@BrwnCald.com>
Subject: Question for your Air Guy / Vovlo Penta

Molly,

I have a regulator asking if the engine was tier 4 final certified without the Exhaust aftertreatment system or if that was required to reach the tier 4 final certification standards?

Could you ask your air guy if he knows? Or if he can ask volvo penta?

Thanks!

Beau Bartholomew

Senior Project Manager

Brown and Caldwell | Milwaukee

T 414.203.2908 | BBartholomew@BrwnCald.com

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Alan Frazier <afrazier@chattanooga.gov> Wed, Nov 19, 2025 at 9:22 AM
To: Beau Bartholomew <BBartholomew@brwncald.com>
Cc: molly.lydick@ravenvolt.com, MCantaloube@brwncald.com

Beau,

Thank you for your fast response. That was exactly what I needed to know.

Kind regards,
Alan

J. Alan Frazier, P.E.
Engineering Manager
Chattanooga-Hamilton County
Air Pollution Control Bureau
CBL Center II
2034 Hamilton Place Blvd., Suite 300
Chattanooga, TN 37421-6127
Direct: 423.643.5978
Cell: 423.718.1479
Main: 423.643.5970
afrazier@chattanooga.gov
apcb.org
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