

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK

CITY OF PORTLAND

BUILDING INSPECTION

PERMIT

Permit Number: 081159

ISSUED

Please Read Application And Notes, If Any, Attached

This is to certify that GREATER PORTLAND TRANSIT DISTRICT/LaPlante Electric /

has permission to Install 1 Emergency Generator in Portland Transit's garage

AT 91 ST JOHN ST

068 B012001

CITY OF PORTLAND

provided that the person or persons, firm or corporation accepting this permit shall comply with all of the provisions of the Statutes of this State and of the Ordinances of the City of Portland regulating the construction, maintenance and use of buildings and structures, and of the application on file in this department.

Apply to Public Works for street line and grade if nature of work requires such information.

Notification of inspection must be given and when permission procured before this building or part thereof is altered or closed-in. 24 HOUR NOTICE IS REQUIRED.

A certificate of occupancy must be procured by owner before this building or part thereof is occupied.

OTHER REQUIRED APPROVALS

Fire Dept. [Signature]
Health Dept.
Appeal Board
Other

[Signature]

Director - Building & Inspection Services

PENALTY FOR REMOVING THIS CARD

City of Portland, Maine - Building or Use Permit Application

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716


Permit No: 08-1155	Issue Date: 10/9/08	CBL: 068 B012001
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Location of Construction: 91 ST JOHN ST	Owner Name: GREATER PORTLAND TRANSIT	Owner Address: 89 ST JOHN ST	Phone:
Business Name:	Contractor Name: LaPlante Electric /Michael Laplante	Contractor Address: P.O. Box 971 Portland	Phone 2077612446
Lessee/Buyer's Name	Phone:	Permit Type: Generator	Zone: I-Mb

Past Use: Commercial - "Greater Portland Transit"	Proposed Use: Commercial - "Greater Portland Transit" - Install 1 Emergency Generator in Portland Transit bus garage	Permit Fee: \$970.00	Cost of Work: \$95,000.00	CEO District: 2
		FIRE DEPT: <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Denied	INSPECTION: <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Denied Use Group: S-1/B Type: 2C IMC-2003 IBC-2003	

Proposed Project Description: Install 1 Emergency Generator in Portland Transit bus garage	Signature: <i>[Signature]</i>	Signature: <i>[Signature]</i>
PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)		
Action: <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied		
Signature: _____ Date: _____		

Permit Taken By: ldobson	Date Applied For: 09/12/2008	Zoning Approval
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<p>1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.</p> <p>2. Building permits do not include plumbing, septic or electrical work.</p> <p>3. Building permits are void if work is not started within six (6) months of the date of issuance. False information may invalidate a building permit and stop all work..</p>	<p>Special Zone or Reviews</p> <p><input type="checkbox"/> Shoreland</p> <p><input type="checkbox"/> Wetland</p> <p><input type="checkbox"/> Flood Zone</p> <p><input type="checkbox"/> Subdivision</p> <p><input type="checkbox"/> Site Plan</p> <p>Maj <input type="checkbox"/> Minor <input type="checkbox"/> MM <input type="checkbox"/></p> <p>Date: <i>9/15/08</i></p>	<p>Zoning Appeal</p> <p><input type="checkbox"/> Variance</p> <p><input type="checkbox"/> Miscellaneous</p> <p><input type="checkbox"/> Conditional Use</p> <p><input type="checkbox"/> Interpretation</p> <p><input type="checkbox"/> Approved</p> <p><input type="checkbox"/> Denied</p> <p>Date: <i>9/15/08</i></p>	<p>Historic Preservation</p> <p><input checked="" type="checkbox"/> Not in District or Landmark</p> <p><input type="checkbox"/> Does Not Require Review</p> <p><input type="checkbox"/> Requires Review</p> <p><input type="checkbox"/> Approved</p> <p><input type="checkbox"/> Approved w/Conditions</p> <p><input type="checkbox"/> Denied</p> <p>Date: <i>[Signature]</i></p>
			

CERTIFICATION

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the application is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

SIGNATURE OF APPLICANT ADDRESS DATE PHONE

RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE DATE PHONE

City of Portland, Maine - Building or Use Permit

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No: 08-1155	Date Applied For: 09/12/2008	CBL: 068 B012001
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Location of Construction: 91 ST JOHN ST	Owner Name: GREATER PORTLAND TRANSIT	Owner Address: 89 ST JOHN ST	Phone:
Business Name:	Contractor Name: LaPlante Electric /Michael Laplante	Contractor Address: P.O. Box 971 Portland	Phone (207) 761-2446
Lessee/Buyer's Name	Phone:	Permit Type: Generator	

Proposed Use: Commercial - "Greater Portland Transit" - Install 1 Emergency Generator in Portland Transit bus garage	Proposed Project Description: Install 1 Emergency Generator in Portland Transit bus garage
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Dept: Zoning	Status: Approved with Conditions	Reviewer: Marge Schmuckal	Approval Date: 09/15/2008
Note: Emergency devices are exempt from meeting maximum noise requirements. This is an emergency generator Ok to Issue: <input checked="" type="checkbox"/>			
1) This generator is for temporary use only. If this generator use becomes permanent in the future, separate permits shall be required and maximum noise requirements shall be met.			
2) This permit is being approved on the basis of plans submitted. Any deviations shall require a separate approval before starting that work.			
Dept: Building	Status: Approved with Conditions	Reviewer: Chris Hanson	Approval Date: 09/17/2008
Note: Need to know how generator is mounted --exhausted thru roof? # of feet --bucket and alarm details Ok to Issue: <input checked="" type="checkbox"/>			
1) Permit approved based on the plans submitted and reviewed w/owner/contractor, with additional information as agreed on and as noted on plans.			
2) Separate permits are required for any electrical, plumbing, or HVAC systems. Separate plans may need to be submitted for approval as a part of this process.			
3) Installation shall comply with 2003 International Mechanical Code and State of Maine Oil and Solid Fuel Board Laws and Rules			
Dept: Fire	Status: Approved	Reviewer: Capt Greg Cass	Approval Date: 09/15/2008
Note: Ok to Issue: <input checked="" type="checkbox"/>			



General Building Permit Application

If you or the property owner owes real estate or personal property taxes or user charges on any property within the City, payment arrangements must be made before permits of any kind are accepted.

Location/Address of Construction: <u>Greater Portland Transit BUS GARAGE</u>		
Total Square Footage of Proposed Structure/Area		Square Footage of Lot
Tax Assessor's Chart, Block & Lot Chart# Block# Lot# <u>68</u> <u>B</u> <u>12</u>	Applicant * <u>must be owner, Lessee or Buyer</u> * Name Address City, State & Zip	Telephone:
Lessee/DBA (If Applicable)	Owner (if different from Applicant) Name <u>Greater Portland Transit</u> Address City, State & Zip	Cost Of Work: \$ <u>95,000.00</u> C of O Fee: \$ _____ Total Fee: \$ <u>970</u>
Current legal use (i.e. single family) <u>Greater Portland Transit</u> If vacant, what was the previous use? _____ Proposed Specific use: _____ Is property part of a subdivision? _____ If yes, please name _____ Project description: <u>Install 1- emergency generator in Portland Transit Bus Garage</u>		
Contractor's name: <u>LAPLANTE Electric</u> Address: <u>P.O. Box 971</u> City, State & Zip: <u>Portland, Me 04104</u> Telephone: <u>207-761-2446</u> Who should we contact when the permit is ready: <u>Michael LaPlante</u> Telephone: <u>207-761-2446</u> Mailing address: <u>P.O. Box 971, Portland, Me 04104</u>		

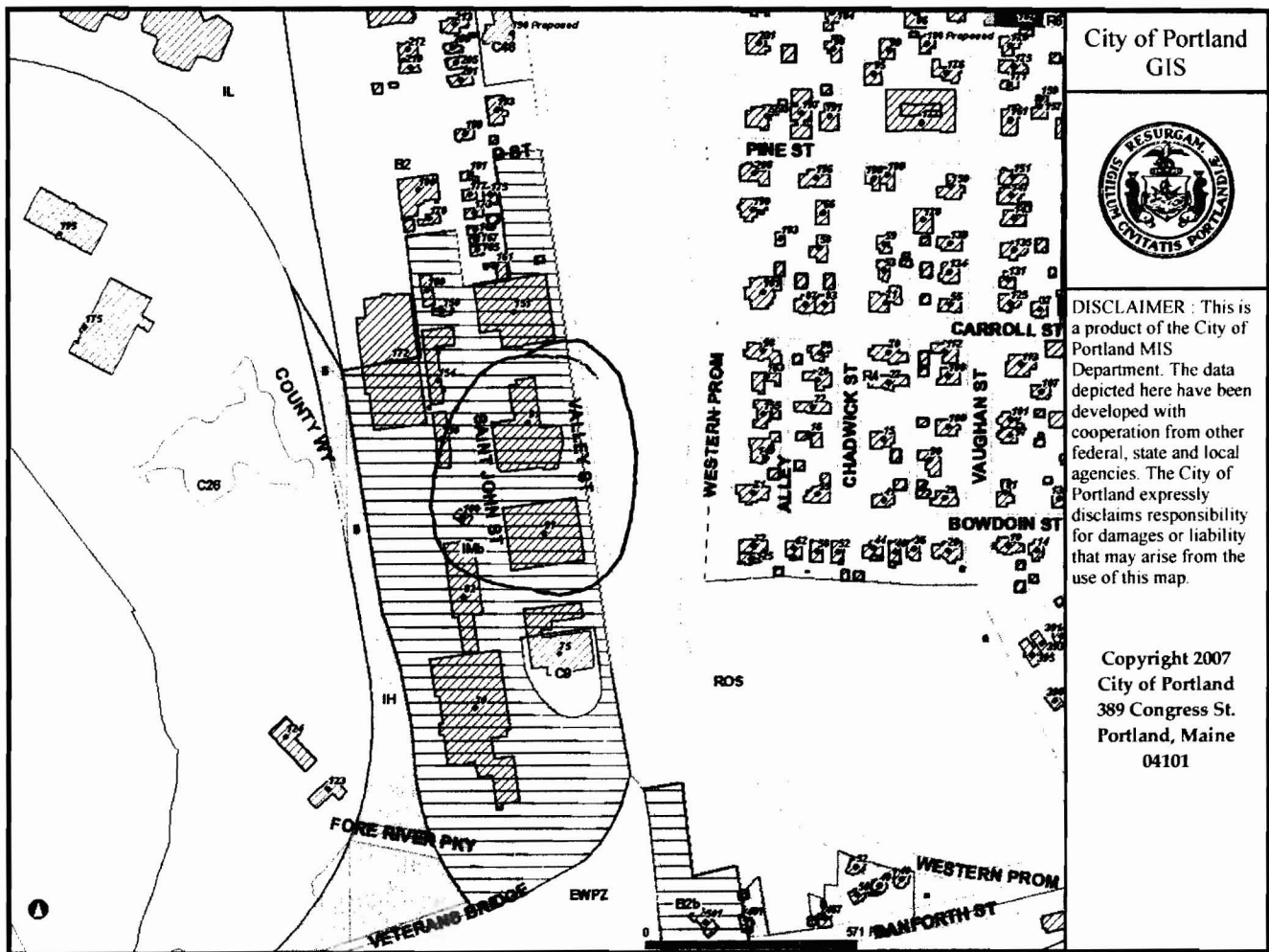
Please submit all of the information outlined on the applicable Checklist. Failure to do so will result in the automatic denial of your permit.

In order to be sure the City fully understands the full scope of the project, the Planning and Development Department may request additional information prior to the issuance of a permit. For further information or to download copies of this form and other applications visit the Inspections Division on-line at www.portlandmaine.gov, or stop by the Inspections Division office, room 315 City Hall or call 874-8703.

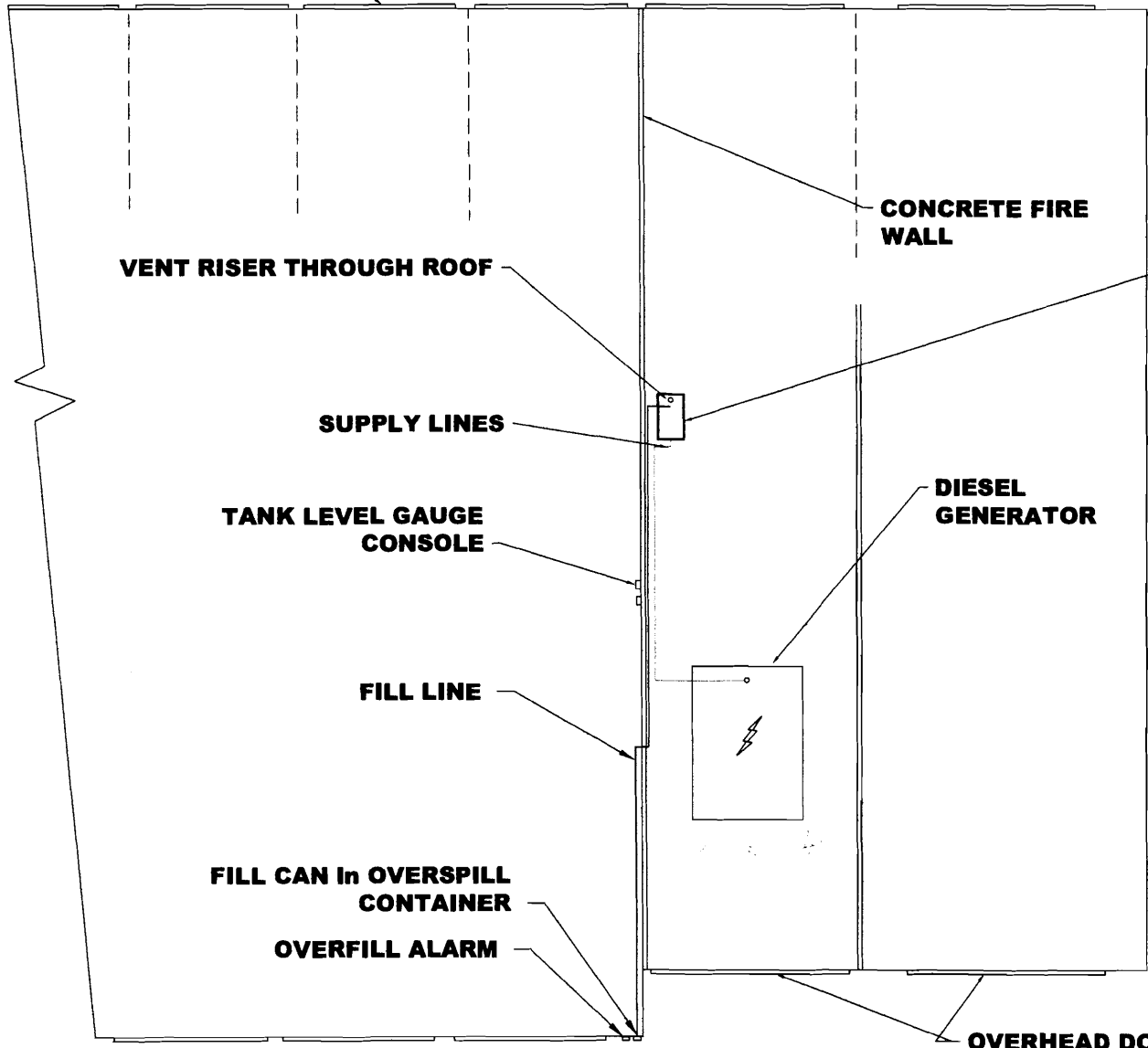
I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Code Official's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

Signature: Michael LaPlante Date: Sept. 12, 2008

This is not a permit; you may not commence ANY work until the permit is issue



METRO BUS GARAGE MAIN BLDG



**280 gal UL-142
DOUBLEWALL
ABOVEGROUND
DIESEL SUPPLY TANK
LOCATED INSIDE
BUILDING**

**DIESEL
GENERATOR**

SEP 12 2008

SCALE
1" = 20'

COPYRIGHT © 2008



PORTLAND PUMP COMPANY
FUEL SYSTEM SPECIALISTS

PO BOX 1180 SCARBOROUGH, MAINE 04070
PH: 207-883-4317 FAX: 207-883-1418
WWW.PORTLANDPUMP.COM

PREPARED FOR
**METRO BUS GARAGE
PORTLAND, ME
GENERATOR SUPPLY TANK**

Revisions

DWN BY:	CW
SCALE:	Shown
DATE:	08/08/08
Drawn:	1580

Transmittal Form

Mister Sparky

Division of LaPlante Electric Inc.

P.O.Box 971

Portland, Maine 04104

207-761-2446

Date: Oct. 6, 2008

Company: City of Portland

Attn: Chris Hanson

From: Michael LaPlante

Project name: Portland Metro Generator

OCT 6 2008

Regarding: Portland Metro Bus Garage Generator Drawings

We are sending you:

As requested

Attached

Under separate cover

Copies

Date

Description

1

Oct. 6, 2008

Data "A" exhaust

1

Oct. 6, 2008

Data "B" anchoring

1

Oct. 6, 2008

Data "C" Tank & Alarm

For your:

Records

Use and information

Approval

Review and comment

Use and distribution

Memo: _____

Via:

Overnight mail

Mail

Hand delivered

Fax

Remarks: _____

Telefax no.: _____

Copies to: Chris Hanson

Number of pages (including this page): 13

Michael LaPlante

Signed:



DATA (A)

DATA

A



Timothy W
Angell/Distributors/Cummins
10/01/2008 01:48 PM

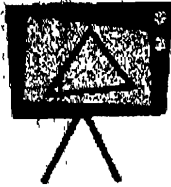
To Charles R Pike/Distributors/Cummins@Cummins
cc
bcc
Subject Re: Exhaust System

Charlie,
I did the calculations and it looks like 5" pipe will work with this exhaust system, per your supplied drawing.
I calculate total back pressure to be 20 inches water column. The generator specifies 41 inches to be maximum back pressure.

Regards,

Tim Angell
Power Systems Engineer
Cummins Northeast Inc.
100 Allied Drive
Dedham, MA 02026
Ph: 781-751-1248
Fax: 781-329-4428
email: timothy.w.angell@Cummins.com
Charles R Pike/Distributors/Cummins

OCT 1 9 2008



Charles R
Pike/Distributors/Cummins
10/01/2008 10:02 AM

To Timothy W Angell/Distributors/Cummins@Cummins
cc
Subject Exhaust System

Tim,

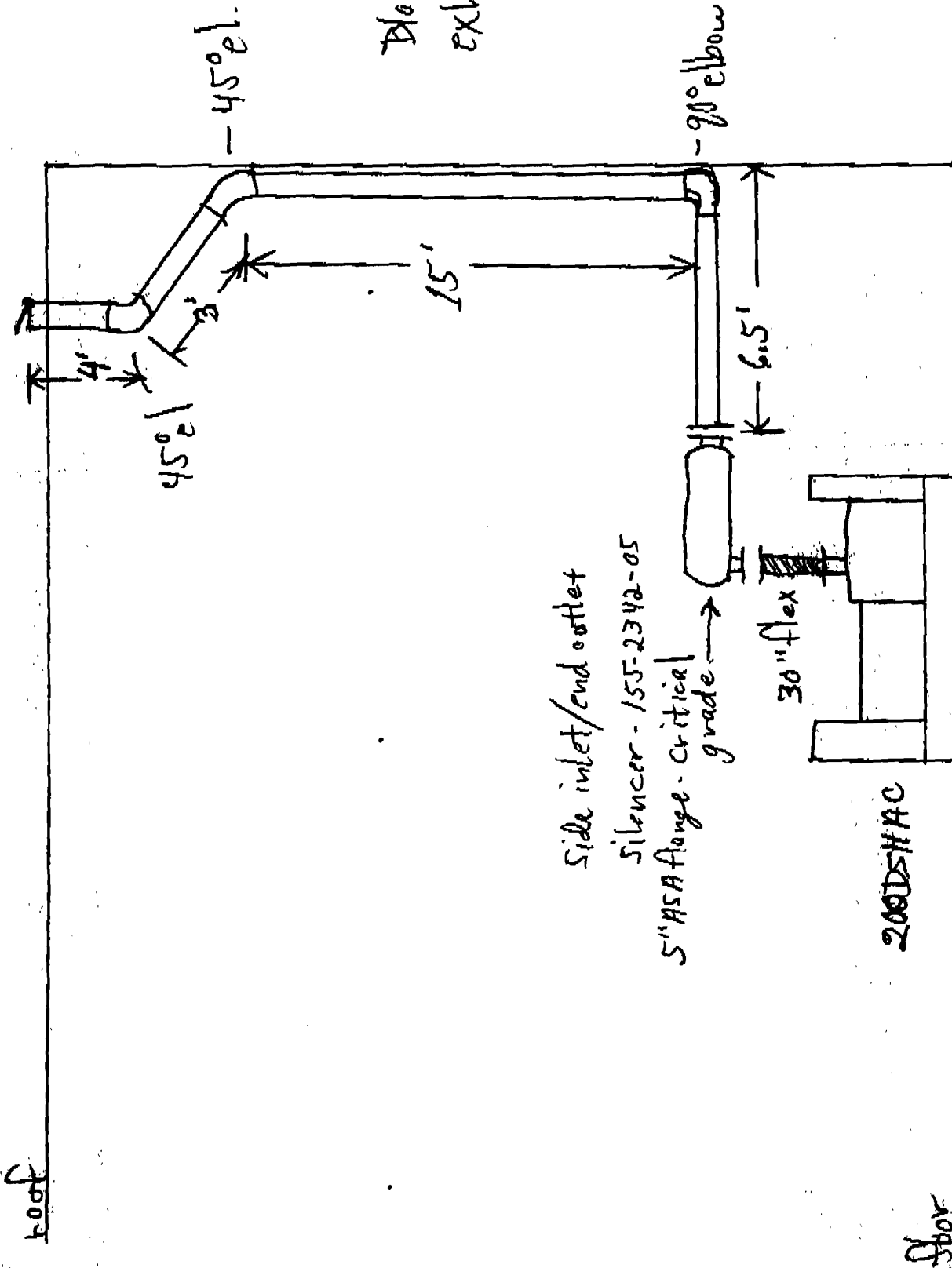
Working on a project with an electrical contractor, standby power, design build type, no engineer. The attached is the layout for the exhaust system. I will be supplying the 5" flex, and the 5" ASA flanged, side inlet/end outlet, silencer. The mechanical contractor needs to know what size black iron pipe he should use for the exhaust run. Your thoughts?

[attachment "Portland Metro.tif" deleted by Timothy W Angell/Distributors/Cummins]

Charlie

Black iron
exh. piping

TOP



Side inlet/end outlet

Silencer - 15J-2342-05

5" ASA flange - critical
grade

30" flex

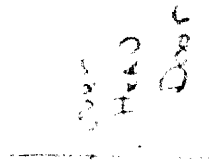
200DS/HAC

Bottom

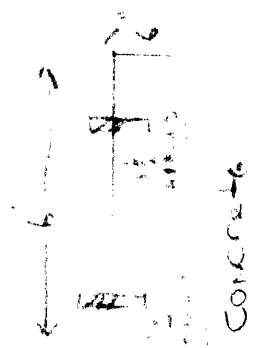
DATA (B)

Metro

Side View



007 0

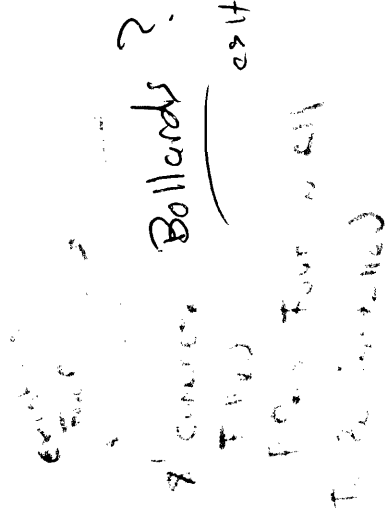


Concrete

(a)

Floor
Orbit

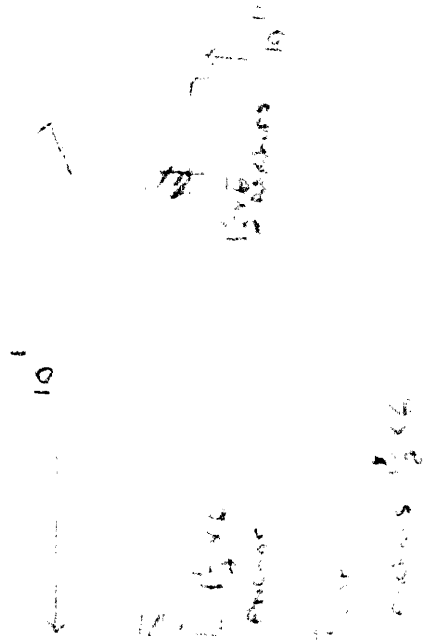
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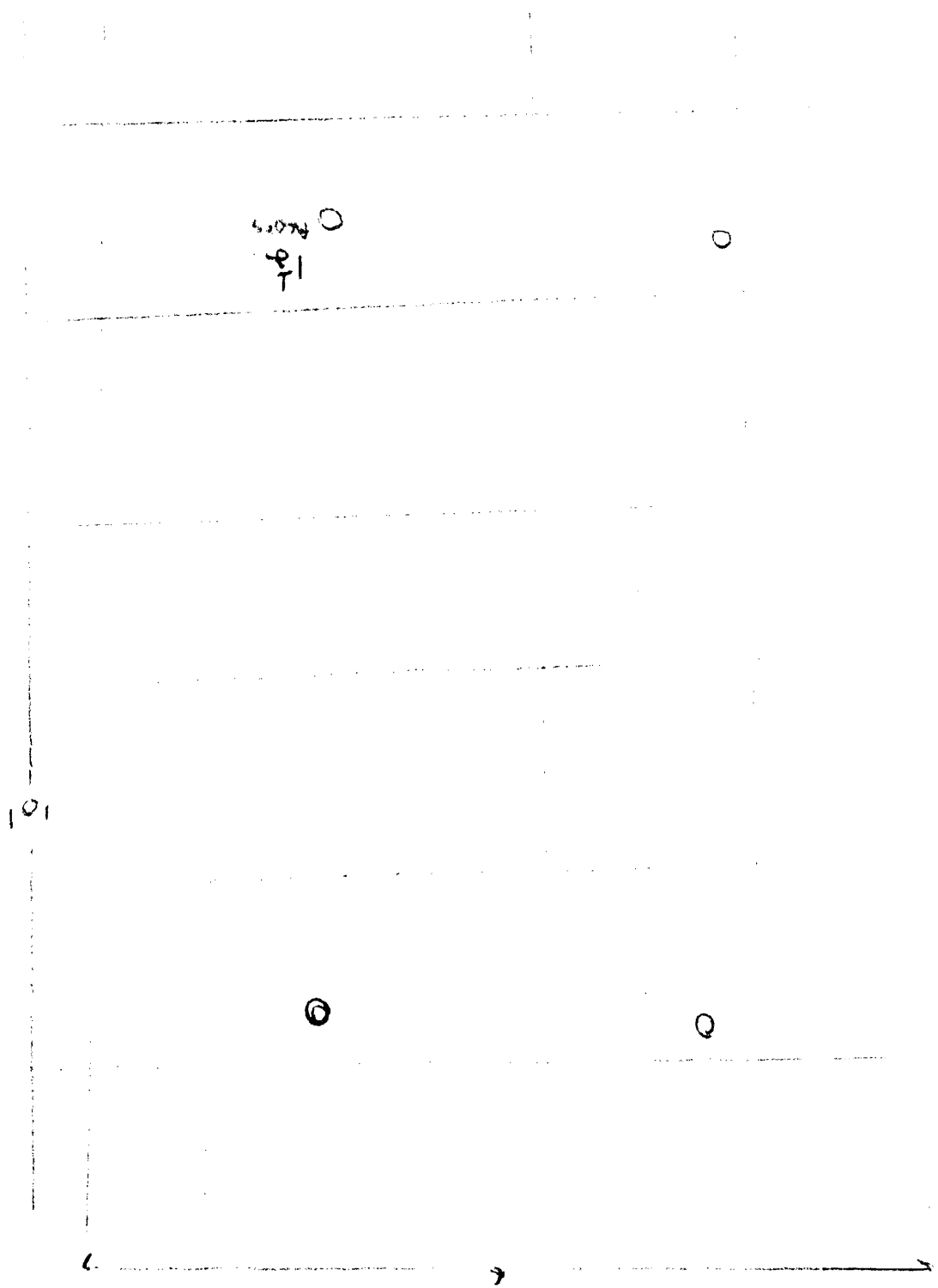


Metro

12

SINK
SINK





3000 POUND
CONCRETE MIX

#5 REBAR
INSTALLED ONE FOOT ON CENTER

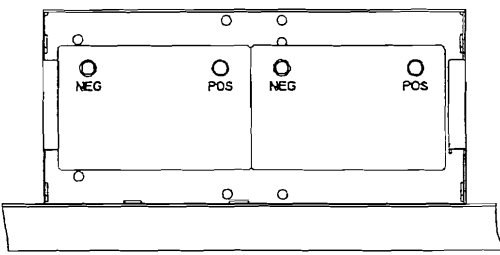
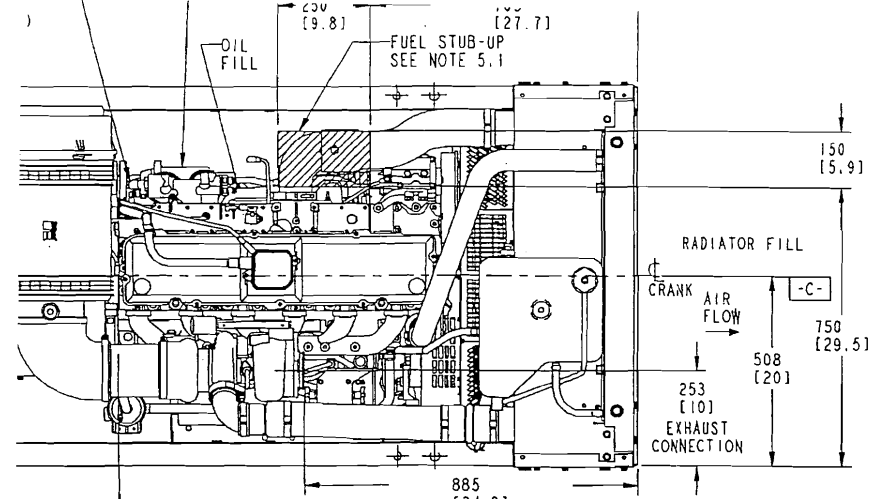
Top View

3
x
1
0

1
ft
cross

212	.86 [101.8]	1289 [51.0]	1561 [3442.0]
213	2586 [101.8]	1289 [51.0]	1561 [3442.0]

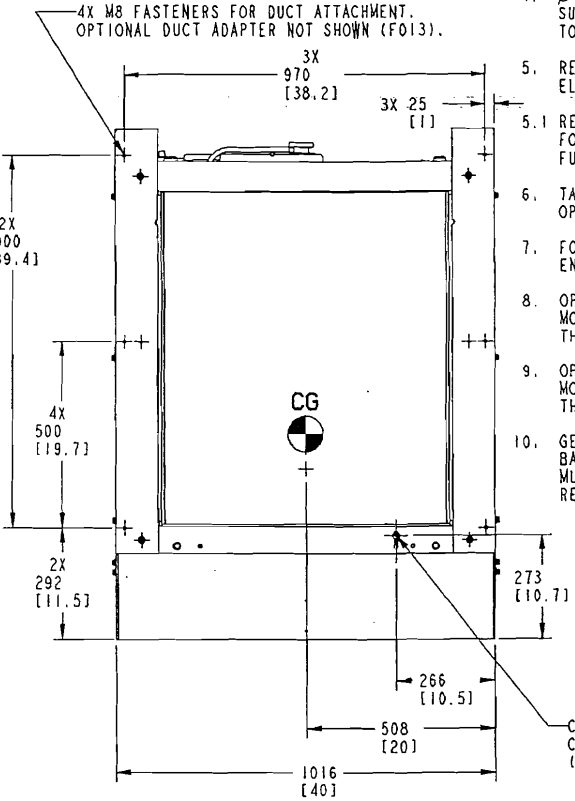
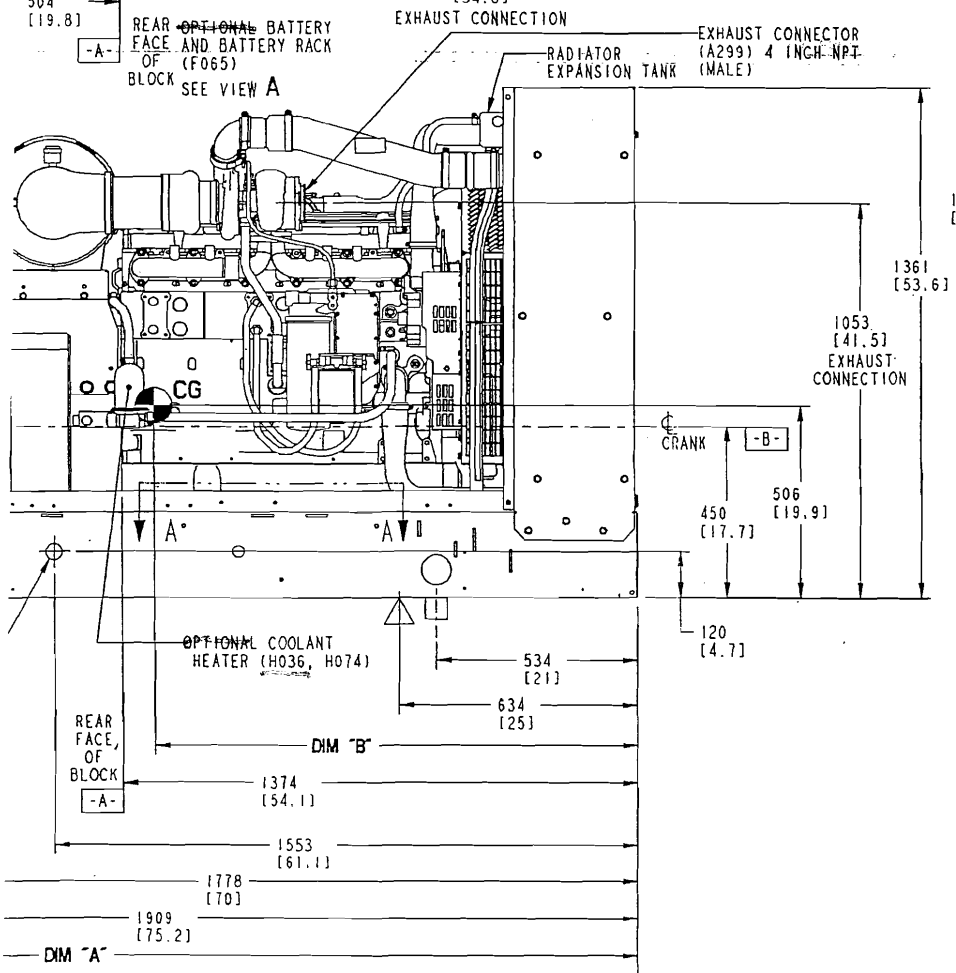
FR0260051	D	I	REVISED PER ECOM
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SECTION A-A
SCALE 1/4
SEE NOTE 10

NOTES:

- DIMENSIONS SHOWN IN [] ARE IN INCHES.
- Ø20.7 [.81] HOLES MARKED BY \triangle ARE FOR 4 POINT ISOLATION MOUNTING OR SECURING TO MOUNTING SURFACE.
- GENSET SUPPLIED WITH FLEXIBLE FUEL LINES THAT CAN BE CONNECTED TO ENGINE INTERFACE POINTS.
- FUEL RETURN LINE: 960 [38] LONG WITH 3/4-16 45° SAE (MALE) TERMINATION.
- FUEL SUPPLY LINE: 1020 [40] LONG WITH 7/8-14 45° SAE (MALE) TERMINATION.
- Ø25.4 [1.0] HOLES MARKED \square ARE FOR SUB BASE FUEL TANK ATTACHMENT OR SECURING TO MOUNTING SURFACE.
- REFER TO CIRCUIT BREAKER OUTLINE DRAWING FOR ELECTRICAL STUB-UP AREA FOR SPECIFIC BREAKERS.
- REFER TO SUBBASE FUEL TANK OUTLINE DRAWING FOR ELECTRICAL STUB-UP AREA AVAILABLE WITH FUEL TANKS.
- TABULATED WEIGHT AND CG IS FOR SET WITH NO OPTIONS.
- FOR ENTRANCE BOX APPLICATIONS SEE APPLICABLE ENTRANCE BOX OUTLINE DRAWING.
- OPTIONAL ENTRANCE BOX (NOT SHOWN) WILL BE MOUNTED ON THE RIGHT SIDE AS VIEWED FROM THE CONTROL.
- OPTIONAL BREAKER BOX (NOT SHOWN) WILL BE MOUNTED ON THE LEFT SIDE AS VIEWED FROM THE CONTROL UNLESS OTHERWISE SPECIFIED.
- GENSET REQUIRES TWO BATTERIES. POSITION BATTERIES IN THE ORIENTATION SHOWN. CABLES MUST BE CONNECTED IN PARALLEL TO THE RESPECTIVE BATTERY POST TERMINALS.

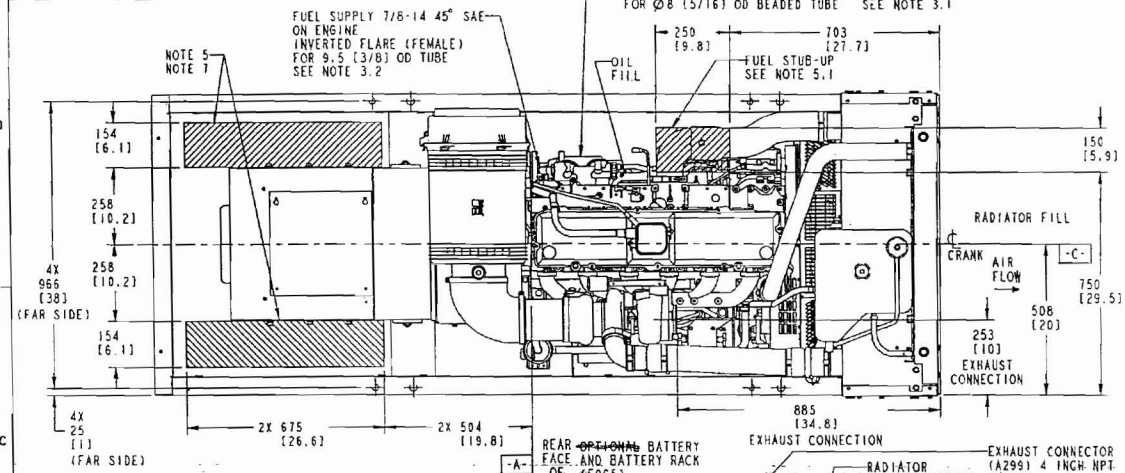


HOUSING READY SKID BASE

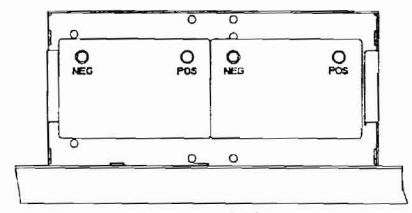
662
104.8)

DO NOT SCALE PRINT	TOLERANCE UNLESS OTHERWISE SPECIFIED	REV	DATE	BY	DATE	DESCRIPTION OR MATERIAL	QTY
1 ± .1	1/16	1	06-10-05	B. McLAUGHLIN	06-10-05	CUMMINS POWER GENERATION	1
.1 ± .008	.001	2	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
.01 ± .001	.0005	3	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
1/16 ± .001	1/32	4	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
1/8 ± .001	1/16	5	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
1/4 ± .001	1/8	6	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
1/2 ± .001	1/4	7	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
1 ± .001	1/2	8	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
2 ± .001	1	9	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
3 ± .001	1.5	10	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
4 ± .001	2	11	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
5 ± .001	2.5	12	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
6 ± .001	3	13	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
7 ± .001	3.5	14	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
8 ± .001	4	15	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
9 ± .001	4.5	16	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
10 ± .001	5	17	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
11 ± .001	5.5	18	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
12 ± .001	6	19	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
13 ± .001	6.5	20	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
14 ± .001	7	21	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
15 ± .001	7.5	22	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
16 ± .001	8	23	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
17 ± .001	8.5	24	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
18 ± .001	9	25	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
19 ± .001	9.5	26	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
20 ± .001	10	27	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
21 ± .001	10.5	28	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
22 ± .001	11	29	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
23 ± .001	11.5	30	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
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25 ± .001	12.5	32	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
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30 ± .001	15	37	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
31 ± .001	15.5	38	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
32 ± .001	16	39	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
33 ± .001	16.5	40	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
34 ± .001	17	41	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
35 ± .001	17.5	42	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
36 ± .001	18	43	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
37 ± .001	18.5	44	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
38 ± .001	19	45	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
39 ± .001	19.5	46	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
40 ± .001	20	47	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
41 ± .001	20.5	48	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
42 ± .001	21	49	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
43 ± .001	21.5	50	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
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45 ± .001	22.5	52	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
46 ± .001	23	53	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
47 ± .001	23.5	54	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
48 ± .001	24	55	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
49 ± .001	24.5	56	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
50 ± .001	25	57	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
51 ± .001	25.5	58	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
52 ± .001	26	59	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
53 ± .001	26.5	60	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
54 ± .001	27	61	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
55 ± .001	27.5	62	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
56 ± .001	28	63	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
57 ± .001	28.5	64	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
58 ± .001	29	65	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
59 ± .001	29.5	66	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
60 ± .001	30	67	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
61 ± .001	30.5	68	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
62 ± .001	31	69	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
63 ± .001	31.5	70	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
64 ± .001	32	71	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
65 ± .001	32.5	72	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
66 ± .001	33	73	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
67 ± .001	33.5	74	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
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70 ± .001	35	77	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
71 ± .001	35.5	78	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
72 ± .001	36	79	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
73 ± .001	36.5	80	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
74 ± .001	37	81	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
75 ± .001	37.5	82	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
76 ± .001	38	83	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
77 ± .001	38.5	84	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
78 ± .001	39	85	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
79 ± .001	39.5	86	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
80 ± .001	40	87	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
81 ± .001	40.5	88	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
82 ± .001	41	89	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
83 ± .001	41.5	90	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
84 ± .001	42	91	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
85 ± .001	42.5	92	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
86 ± .001	43	93	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
87 ± .001	43.5	94	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
88 ± .001	44	95	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
89 ± .001	44.5	96	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
90 ± .001	45	97	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
91 ± .001	45.5	98	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
92 ± .001	46	99	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
93 ± .001	46.5	100	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
94 ± .001	47	101	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
95 ± .001	47.5	102	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
96 ± .001	48	103	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
97 ± .001	48.5	104	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
98 ± .001	49	105	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
99 ± .001	49.5	106	06-10-05	A. JAMA	06-10-05	GENSET OUTLINE (F179)	1
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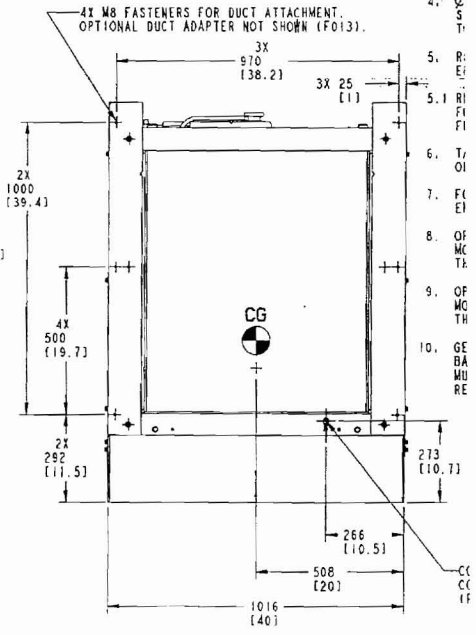
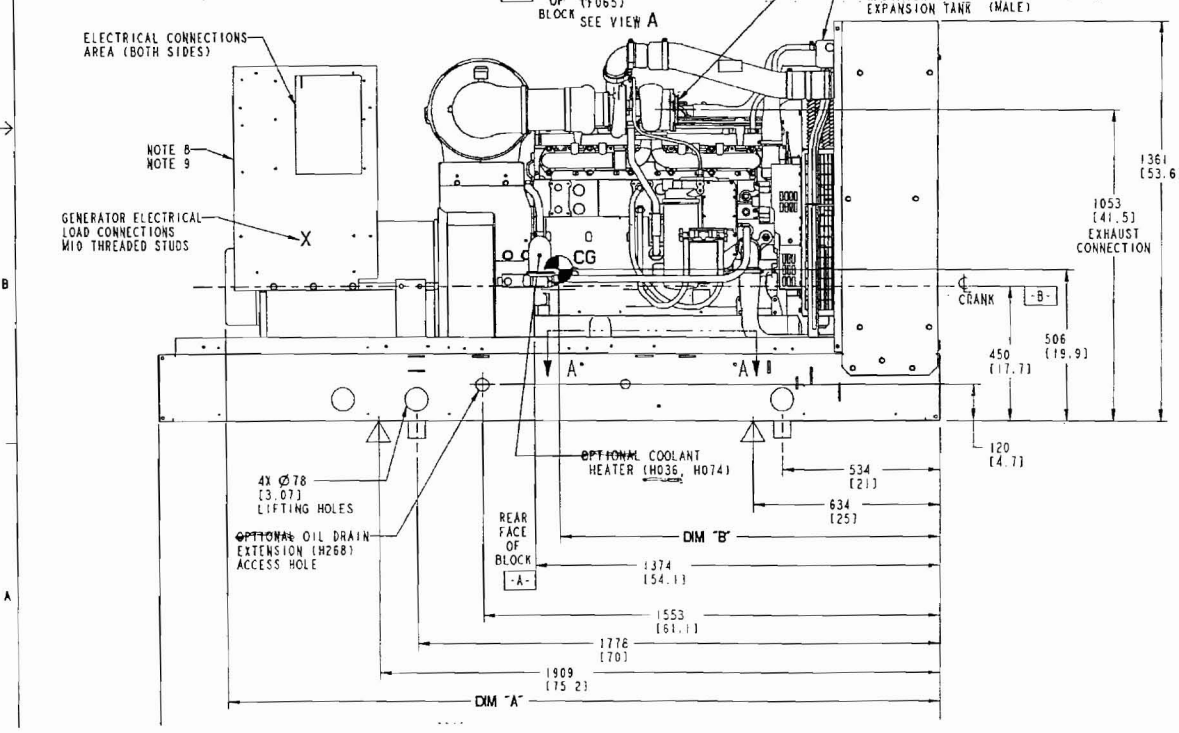
0500_4303 6 **Pro/ENGINEER** 5 **METRIC DWG**



TABULATION			
ALT DATA SH #	DIM "A"	DIM "B"	GEN SET NET WEIGHT kg LB
212	2586 [101.8]	1289 [51.0]	1561 [3442.0]
213	2586 [101.8]	1289 [51.0]	1561 [3442.0]



SECTION A-A
SCALE 1/4
SEE NOTE 10



- NOTES:
1. B
 2. C
 3. C
 - 3.1 F
 - 3.2 F
 4. C
 5. R
 - 5.1 R
 6. T
 7. F
 8. O
 9. M
 10. G

NO	REV	DATE	BY	CHKD	APP'D	DESCRIPTION
1	1	10/1/00	B. MCLAUGHLIN			ISSUED FOR PRODUCTION
2	1	10/1/00	B. MCLAUGHLIN			ISSUED FOR PRODUCTION
3	1	10/1/00	B. MCLAUGHLIN			ISSUED FOR PRODUCTION

DATA ©

CONTAINMENT SOLUTIONS

5150 Jefferson Chemical Road • Conroe, Texas 77301-6834
Phone (800) 537-4730 • Fax: (936) 756-7766 • Website: www.containmentsolutions.com

Lube Cube® Oil Tanks

... The best solution for storage of new and used lubrication oils. Lube Cube tanks have provided reliable storage of flammable and combustible liquids for more than 10 years.



Lube Cubes Offer:

- lower installed costs than underground tanks,
- better space utilization than cylindrical aboveground tanks
- lower operating costs than 55 gallon drums
- Rectangular shape allows up to 20% more storage volume in a given space than comparable cylindrical tanks

Lube Cubes are designed for easy and convenient installation:

- Indoors
- In service bays
- Basements
- Outdoors next to buildings

All tanks are UL 142 listed and meet fire code requirements, including NFPA 30, for flammable and combustible liquid storage

Lube Cubes are available:

- As either single or double-wall tanks (Double-wall tanks are UL listed as integral secondary containment and therefore do not require dikes for leak containment.)
- Available nationally, from seven manufacturing facilities
- Standard sizes from 60 to 20,000 gallons

Standard Features:

- UL 142 listed
- Skid mounted for easy installation
- Shop primed exterior
- NPT fittings with PVC plugs
- Single-wall – 5 (plus emergency vent opening)
- Double-wall – above fittings (plus emergency vent and inspection opening)
- Lifting lugs

Options:

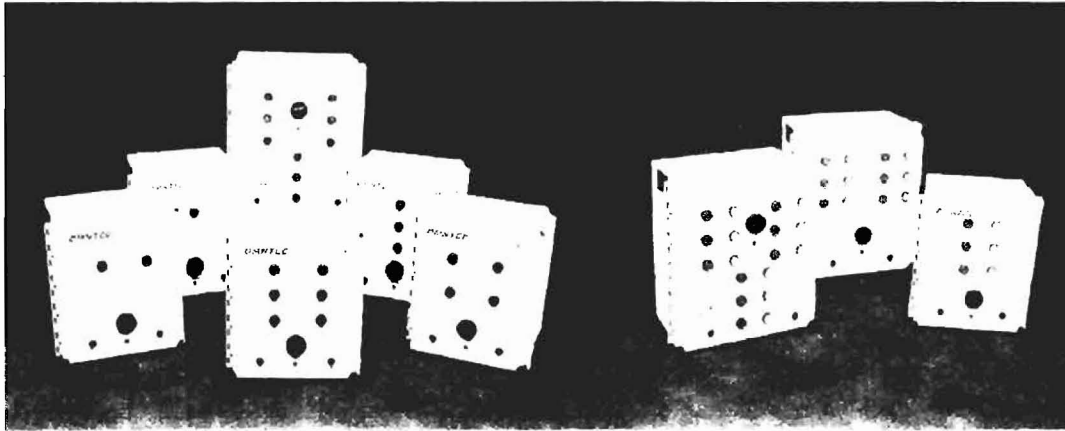
- Industrial epoxy coating (red standard)
- Special colors, coatings and interior linings available upon request
- Seven (7) gallon spill box
- Custom sizes
- Stainless steel construction
- Interior coatings
- Equipment packages
- Compartments available
- Custom dimensions and equipment packages available upon request

007 0 000

OMNTEC®

Leak Detection Systems

Part Numbers:



LU-series
LPD-series
LS-ASC
LWF
L-R-1
L-series
PDS
PDWF
PDWS

Description

OMNTEC's LU and LPD leak-detection and overflow-alarm systems provide continuous, accurate monitoring in a variety of applications. Typical applications are reservoirs, sumps, dry interstitial spaces and dispenser pans. These easy-to-install controllers alarm for in tank levels and leak conditions. The LU controllers are capable of accepting up to 9 sensors for high level and leak detection. The LPD controllers are capable of accepting up to 9 sensors for in tank levels and product distinguishing leak detection. The electro-optic sensors used with these controllers allow users to easily cycle all sensors through a simulated leak, with the press of a single button. This feature eliminates the need to remove the sensor from its location.

An alarm condition is visually signaled by a dedicated LED indicator, which remains lit until the alarm condition is corrected. Alarm conditions are audibly annunciated via a 95-decibel piezoelectric pulsing horn. RA-series remote annunciators add high-level remote audio-visual alarms without the need for external AC power.

The LU-SP series controllers accommodate a variety of special applications. In addition, LU-OW systems are available for use with Oil Water Separators.

The NEMA 4X rating of the LU and LPD series controllers indicates a weatherproof, corrosion-resistant product. These controllers are ruggedly constructed to provide reliable and cost-effective performance.

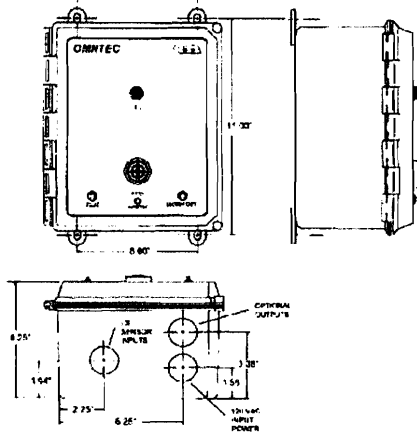
Features

- NEMA 4X weatherproof, corrosion-resistant
- Remote sensor testing
- Acknowledge switch
- Test switch
- System detect light
- Easily installed
- Low-voltage remote annunciator outputs
- Relay outputs (See Specifications)
- LED indicators rated MTBF 11 years
- Specific sensor LED
- Inputs accept either high level, caution level or leak sensors
- Low level alarm (LPD controllers only)
- Distinguishes liquid hydrocarbons from water (LPD controllers only)
- Removable sensor input connectors
- U.L. listed
- Third-party certified
- Cost effective
- Modified controllers for special applications

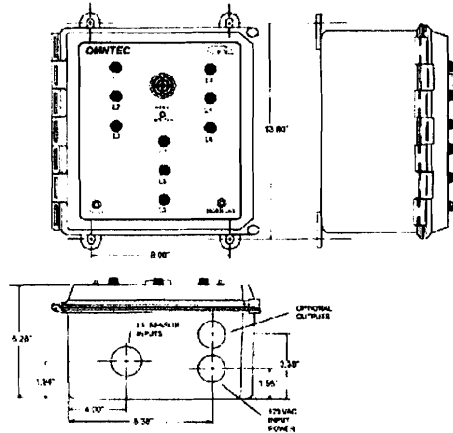
OMNTEC®

LU1

LU2, LU3, LU4, LU6 and L1PD2 dimensions are same as LU1

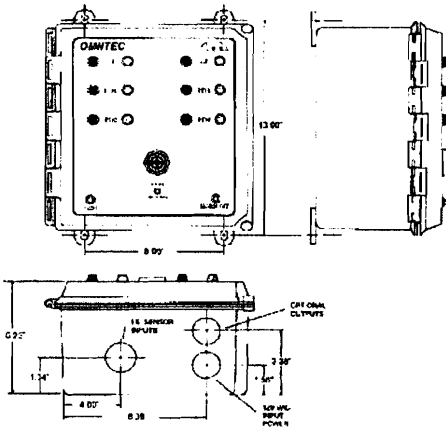


LU9



L2PD4

L3PD6 dimensions are same as L2PD4



Note: Current published specifications are subject to change without notification.

Verify specifications with manufacturer.

For additional information consult factory or pricelist.

Specifications

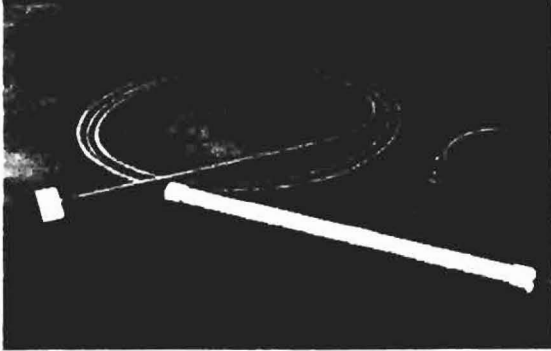
Enclosure:	NEMA 4X	
Power Input:	85-125 VAC, 47-440 Hz 16 watts maximum	
Power to Sensor:	2 VDC @ 13 mA Intrinsically safe for Class I, Group D hazardous locations	
Sensor Cable:	Shielded 22 AWG with drain wire (OMNTEC EC-4 or EC-12) Maximum length 2,000 feet	
Audio-visual Controls:	Audible alarm: 95 dB pulsing horn Red lights: High level alarm (L-Series) Liquid-leak alarm (LWF and LS-ASC) Low level alarm (L-Series) Amber Light: Water-leak alarm (PD-Series) Green light: Power is on (system detecting) Horn-off button: Silences horn (auto time-out also included) Test button: Tests entire system electronics, from sensors to control panel	
Response Time:	Immediate	
Relay Outputs:	SPST normally open dry contact 1.25 amp, 120 VAC Switches when an alarm condition occurs (1 per sensor up to LU3)	
Low-voltage Outputs:	12 VDC	
Operating Temperature:	0 to 140° F	
Compatible Sensors*:	L-1-Series L-2-Series LS-ASC LWF PDS PDWF PDWS	For high liquid level For high liquid level and caution level or high liquid level and low liquid level For liquid-leak detection in both under- ground and aboveground applications For double-wall dry interstice of Xerxes 4-foot fiberglass tanks For double-wall fiberglass dry interstice For product distinguishing liquid-leak detection For double-wall fiberglass dry interstice For double-wall steel dry interstice
* Additional sensor applications available with SP and OW controllers		
Accessories:	RA-1* RA-2* RA-3* RA-4* RA-NYS	
* Number denotes number of tanks or alarms		
Weight:	LU1—5 lb. LU2—6 lb. LU3—6 lb. LU4—6 lb. LU6—6 lb. LU9—9 lb.	L1PD2 — 6 lb. L2PD4 — 9 lb. L3PD6 — 9 lb.
Approvals:	U.L. listed 5L04 Third-party certified	

For technical information:



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Leak-Detection Sensors

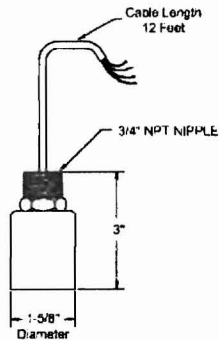


OMNTEC sensors are most known for their ease of installation, reliability, cost-effectiveness and remote testability. Electro-optic technology provides accurate and continuous monitoring. Ruggedly constructed, these solid-state sensors are UL listed and Third-party certified. A distinguishing feature of OMNTEC sensors is that they can be tested remotely with the press of a single button.

LS-ASC

General Purpose Sensor
Sensor for Double-Wall Steel Tanks

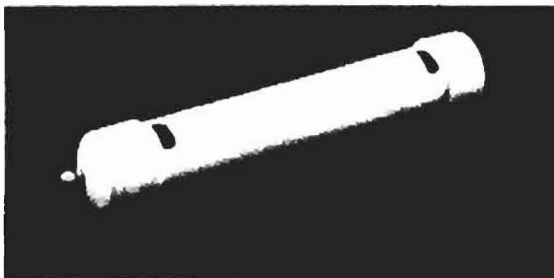
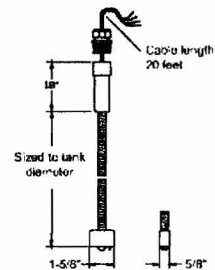
The LS-ASC nondistinguishing sensor was designed to accommodate a variety of applications. With its convenient size and ability to detect liquids at any angle, the LS-ASC sensor is the ideal sensor for sumps, dispenser pans, containment areas and annular spaces of double-wall steel tanks. For product distinguishing use part number PDS for general purpose or PDWS for double-wall steel tanks.



LWF

Sensor for Dry Double-Wall Fiberglass Tanks

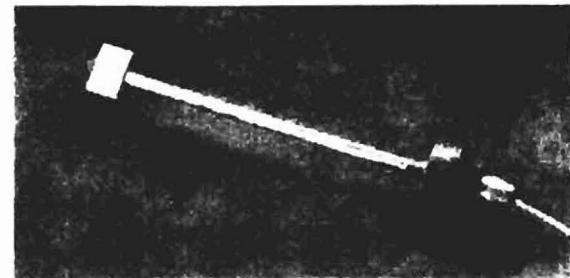
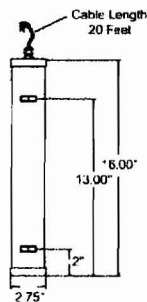
The LWF nondistinguishing sensor was designed to fit into the annular space of dry double-wall fiberglass tanks. With its slim, compact shape and flexible snake-like shaft, the LWF can easily be installed and removed from grade. (When ordering, the part number will denote tank diameter.) For product distinguishing use part number PDWF.



L-R-1

Sensor for Brine-Filled Double-Wall Tanks

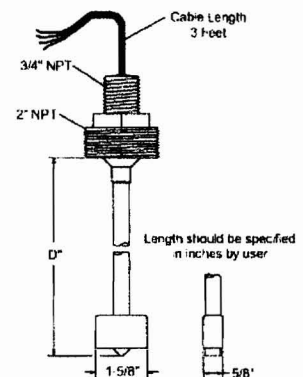
The dual-point L-R-1 sensor is designed for double-wall brine-filled fiberglass tanks. This sensor is made of non-metallic corrosion-resistant materials. An alarm is activated to signal changes in reservoir-liquid level beyond acceptable limits (high or low).



L-Series

Product-Level Sensor

The L-series sensors are designed to provide product-level alarms for high, caution or low product levels. L-series sensors can be remotely tested without removal. This sensor is available with multiple alarm points.

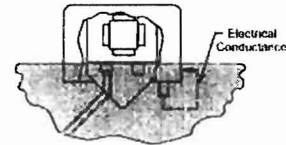
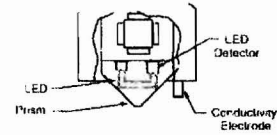


Sensor Specifications

Power Consumption:	2 VDC @ 13mA
Sensor Cable:	Shielded 22 AWG with drain wire (2000ft maximum) (OMNTEC EC-4 or EC-12)
Principles of Operation:	
Normal Condition:	Normally closed beam of light
Alarm Condition:	Normally closed beam of light opens (refracts)
Water Condition:	Conductivity electrode
	(PDS, PDWS and PDWF only)
Response Time:	Immediate
Operating Temperature:	-15 to 140° F
Approvals:	UL-listed, Third Party Approved

Electro-optic Technology
with Conductivity for Product Distinguishing

Dry Condition

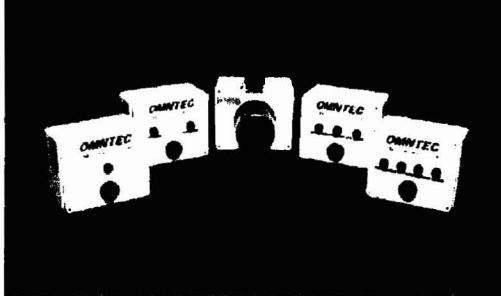


Wet Condition

SENSOR	APPLICATION	CONTROLLER	PRODUCT DISTINGUISHING
LS-ASC	leak sensor *	LU	NO
LWF	doubewall dry fiberglass	LU	NO
L-1-L,S,D	high level	LU or LPD	NO
PDWF	doubewall dry fiberglass	LPD	YES
PDS	leak sensor *	LPD	YES
L-R-1	reservoir	LPD	NO

* Liquid leak-detection sensors for areas such as doublewall steel tanks, sumps, containment areas, and dispensers pans.

Remote Annunciators



Features

- Easily installed
- No external power required
- Tests remotely
- NEMA 4X weatherproof, corrosion-resistant
- LED indicators rated MTBF 11 years
- High-decibel audible alarm
- U.L. listed
- Cost effective

Enclosure: NEMA 4X (W) 6.75" x (H) 5.50" x (D) 3.75"

Power Input: 12 VDC @ 200 mA maximum

Audio-visual Controls:

Audible alarm (RA-Series):	95 dB pulsing horn
Audible alarm (RA-NYS):	110 dB pulsing horn
Red lights:	Liquid-high level alarm
Horn-off button on controller:	Silences horn

Response Time: Immediate

Operating Temperature: 0 to 140° F

Compatible Controllers:

LPD-Series
LU-Series

Wire: 22 AWG minimum

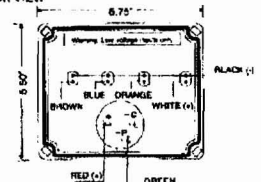
Weight: 1 lb.

Approvals: U.L. listed 5L04

FRONT VIEW



BACK VIEW



OMNTEC®

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