



**DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION  
FACILITIES DEVELOPMENT DIVISION**

**APPLICATION FOR HCAI SPECIAL SEISMIC  
CERTIFICATION PREAPPROVAL (OSP)**

OFFICE USE ONLY

**APPLICATION #: OSP-0476**

**HCAI Special Seismic Certification Preapproval (OSP)**

Type:  New  Renewal

**Manufacturer Information**

Manufacturer: Getinge Disinfection

Manufacturer's Technical Representative: Richard Fransson

Mailing Address: Ljungadalsgatan 11, Växjö, Småland 352 56

Telephone: \_\_\_\_\_ Email: richard.fransson@getinge.com

**Product Information**

Product Name: Transformers

Product Type: Transformers – Dry Type

Product Model Number: 9100&GEW

General Description: Powder coated carbon steel frame with Galvanized Carbon Steel enclosure, transformer and switch.

Mounting Description: Rigid, Floor Mounted

Tested Seismic Enhancements: None

**Applicant Information**

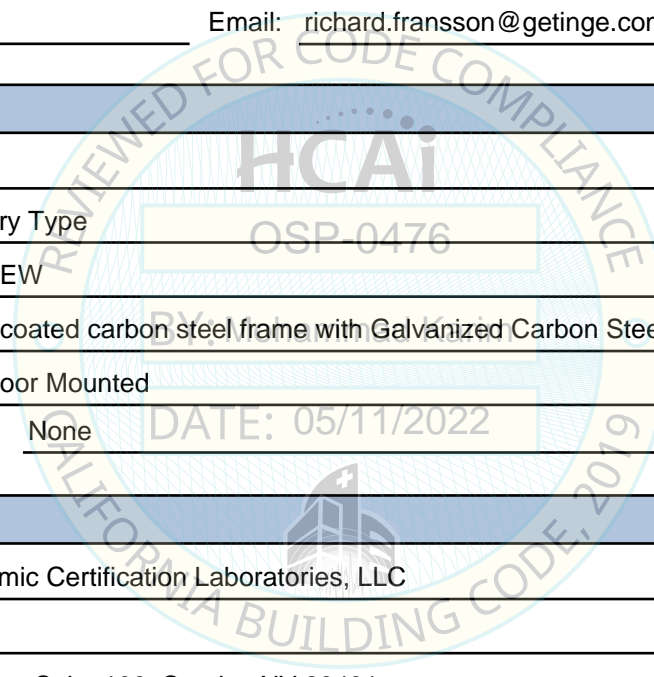
Applicant Company Name: Dynamic Certification Laboratories, LLC

Contact Person: Kelly Laplace

Mailing Address: 1315 Greg Street, Suite 109, Sparks, NV 89431

Telephone: (775) 358-5085 Email: Kelly@shaketest.com

Title: Business Manager





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**California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)**

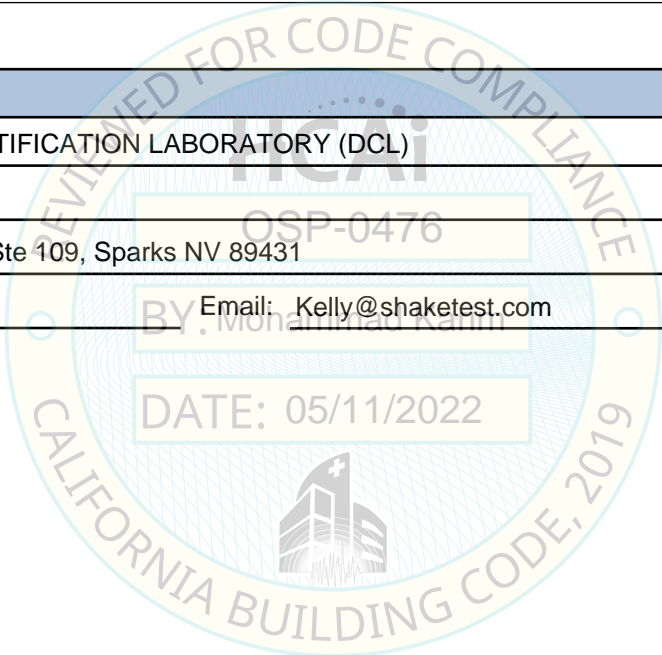
Company Name: THE VMC GROUP  
Name: Kenneth Tarlow California License Number: S2851  
Mailing Address: 980 9th Street, 16th Floor, Sacramento, CA 95814  
Telephone: (832) 627-2214 Email: ken.tarlow@thevmcgroup.com

**Certification Method**

GR-63-Core     ICC-ES AC156     IEEE 344     IEEE 693     NEBS 3  
 Other (Please Specify): \_\_\_\_\_

**Testing Laboratory**

Company Name: DYNAMIC CERTIFICATION LABORATORY (DCL)  
Contact Person: Kelly Laplace  
Mailing Address: 1315 Greg St., Ste 109, Sparks NV 89431  
Telephone: (775) 358-5085 Email: Kelly@shaketest.com





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**Seismic Parameters**

Design Basis of Equipment or Components ( $F_p/W_p$ ) = 1.80

SDS (Design spectral response acceleration at short period, g) = 2.5

$a_p$  (Amplification factor) = 1.0

$R_p$  (Response modification factor) = 2.5

$\Omega_0$  (System overstrength factor) = 2.0

$I_p$  (Importance factor) = 1.5

$z/h$  (Height ratio factor) = 1

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

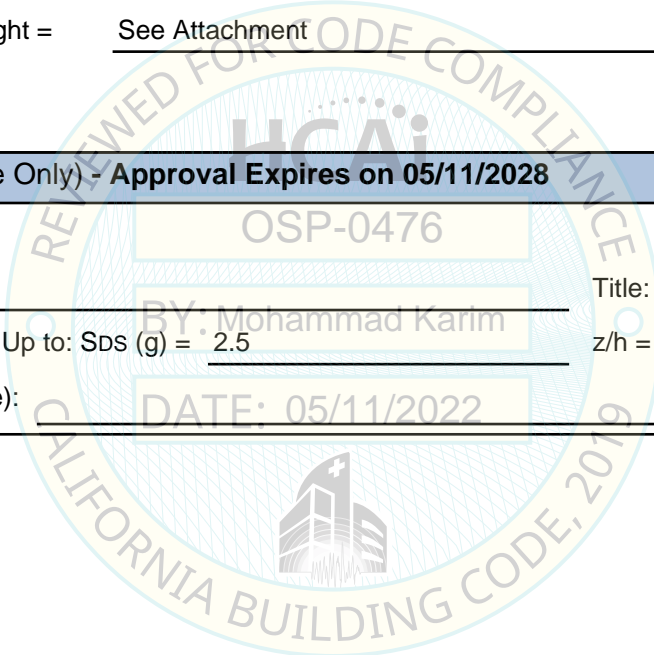
**HCAI Approval (For Office Use Only) - Approval Expires on 05/11/2028**

Date: 5/11/2022

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: SDS (g) = 2.5 z/h = 1

Condition of Approval (if applicable): DATE: 05/11/2022

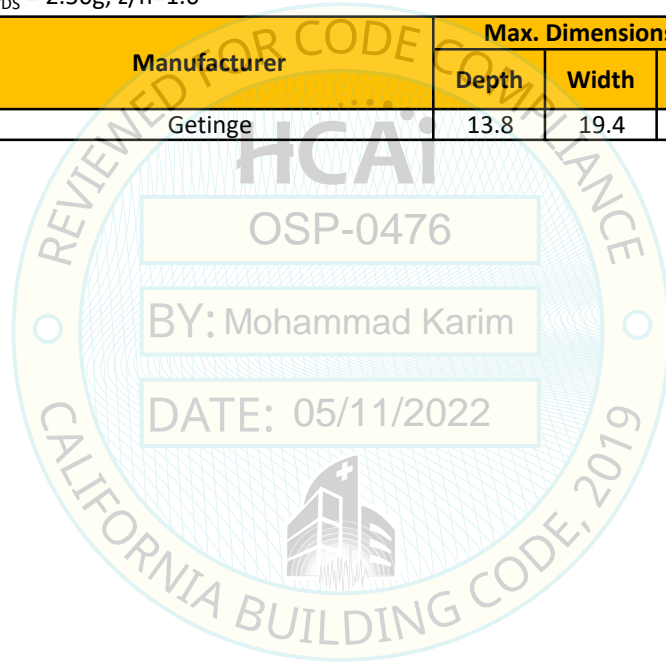


**Special Seismic Certification**  
**Table 1 - Certified Components - Transformer**



**DCL Project Number:** 83236-2201  
**Manufacturer:** Getinge  
**Product Line:** Transformer  
**Mounting Configuration:** Rigid Base Mount  
**Test Levels:**  $S_{DS} = 2.50g, z/h=1.0$

| Model Number | Manufacturer | Max. Dimensions (in) |       |        | Max. Weight (lb.) | Unit   |
|--------------|--------------|----------------------|-------|--------|-------------------|--------|
|              |              | Depth                | Width | Height |                   |        |
| 9100&GEW     | Getinge      | 13.8                 | 19.4  | 48.5   | 211               | UUT-01 |



**Special Seismic Certification**  
**Table 2 - Certified Subcomponents - Frame**

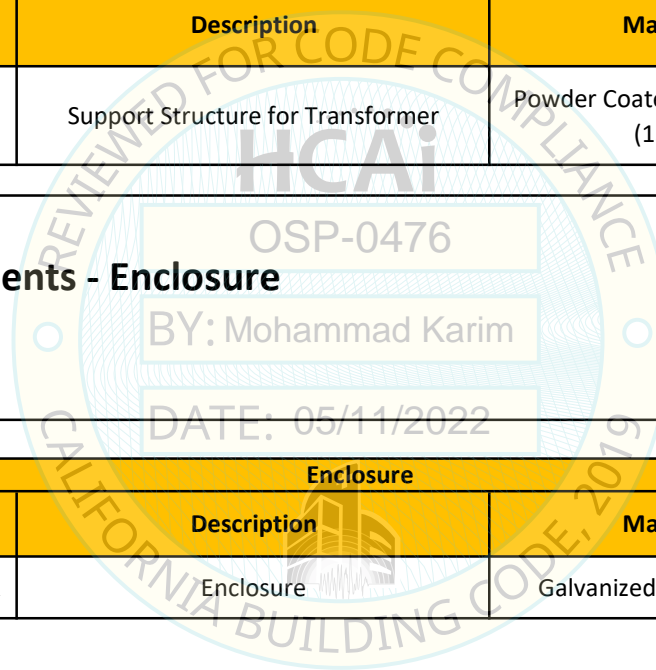


DCL Project Number: 83236-2201

Certified seismic level :  $S_{DS} = 2.50g, z/h=1.0$

| Frame                               |              |                                   |                                      |                 |       |        |        |
|-------------------------------------|--------------|-----------------------------------|--------------------------------------|-----------------|-------|--------|--------|
| Model                               | Manufacturer | Description                       | Material                             | Dimensions (in) |       |        | Unit   |
|                                     |              |                                   |                                      | Depth           | Width | Height |        |
| Custom Weld Assembly<br>(501972500) | Tarmetec     | Support Structure for Transformer | Powder Coated Carbon Steel<br>(1312) | 13.8            | 17.6  | 48.8   | UUT-01 |

**Special Seismic Certification**  
**Table 3 - Certified Subcomponents - Enclosure**



DCL Project Number: 83236-2201

Certified seismic level :  $S_{DS} = 2.50g, z/h=1.0$

| Enclosure |                      |             |                         |                 |       |        |        |
|-----------|----------------------|-------------|-------------------------|-----------------|-------|--------|--------|
| Model     | Manufacturer         | Description | Material                | Dimensions (in) |       |        | Unit   |
|           |                      |             |                         | Depth           | Width | Height |        |
| TPK/6000  | Transformator Teknik | Enclosure   | Galvanized Carbon Steel | 9.4             | 12.9  | 20.5   | UUT-01 |

**Special Seismic Certification**  
**Table 4 - Certified Subcomponents - Transformer**

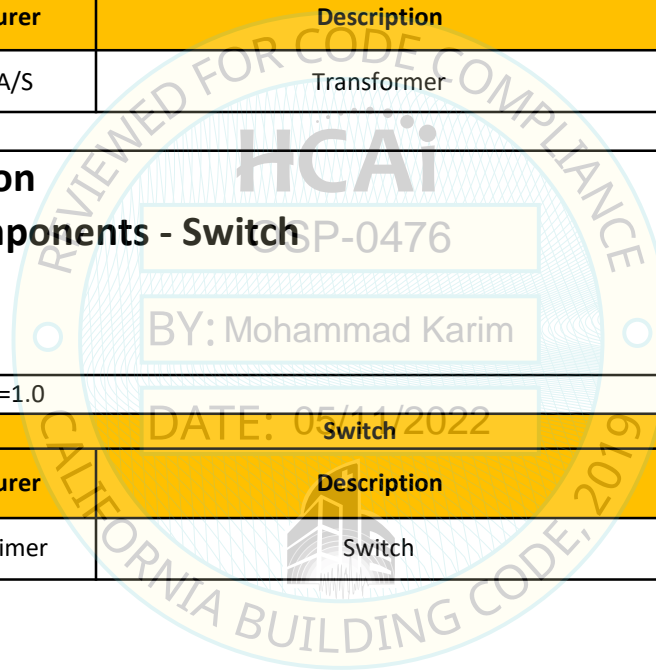


DCL Project Number: 83236-2201

Certified seismic level :  $S_{DS} = 2.50g, z/h=1.0$

| Transformer      |              |             |                               |        |
|------------------|--------------|-------------|-------------------------------|--------|
| Model            | Manufacturer | Description | Material                      | Unit   |
| DT 15834-1 15/44 | Dantrafo A/S | Transformer | Iron Core with Copper Winding | UUT-01 |

**Special Seismic Certification**  
**Table 5 - Certified Subcomponents - Switch**



DCL Project Number: 83236-2201

Certified seismic level :  $S_{DS} = 2.50g, z/h=1.0$

| Switch |                |             |               |        |
|--------|----------------|-------------|---------------|--------|
| Model  | Manufacturer   | Description | Material      | Unit   |
| KG32   | Kraus & Naimer | Switch      | Polyamide/ABS | UUT-01 |

**Special Seismic Certification**  
**Table 6 - Tested Units**

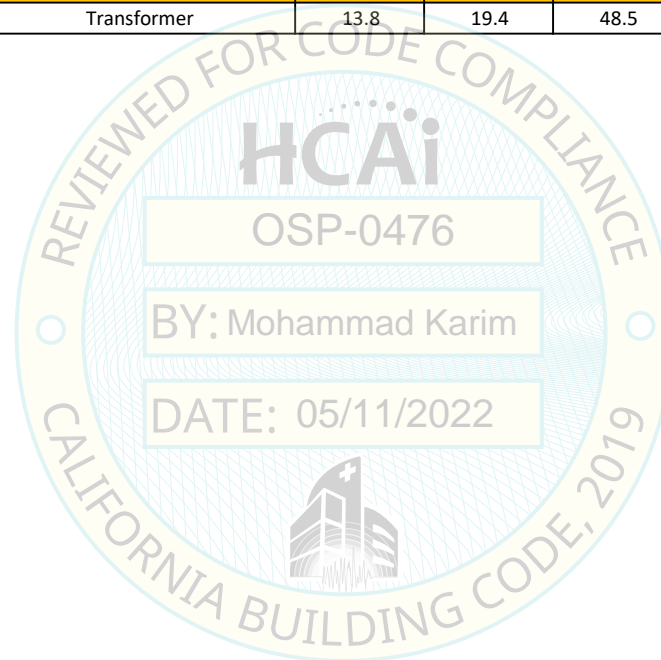


DCL Project Number: 83236-2201

Manufacturer: Getinge

Product Line: Transformer

| Model Number | Manufacturer | Description | Dimensions (in) |       |        | Weight (lb.) | Mounting Configuration | Sds (g) z/h=1 | Unit   |
|--------------|--------------|-------------|-----------------|-------|--------|--------------|------------------------|---------------|--------|
|              |              |             | Depth           | Width | Height |              |                        |               |        |
| 9100&GEW     | Getinge      | Transformer | 13.8            | 19.4  | 48.5   | 211          | Rigid Base Mount       | 2.50          | UUT-01 |





# UUT-01 UNIT UNDER TEST (UUT) Summary Sheet



**DCL Project Number:** 83236-2201

**Manufacturer:** Getinge

**Product Line:** Transformer

**Model Number:** 9100&GEW

**Product Construction Summary:**

Powder coated carbon steel frame with galvanized carbon steel enclosure

**Options / Component Summary:**

Frame, enclosure, transformer, and switch

**Note:** The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained.

**UUT Properties**

| Operating Weight (lb) | Dimensions (inches) |       |        | Lowest Natural Frequency (Hz) |           |          |
|-----------------------|---------------------|-------|--------|-------------------------------|-----------|----------|
|                       | Depth               | Width | Height | Front-Back                    | Side-Side | Vertical |
| 211                   | 13.8                | 19.4  | 48.5   | 11.5                          | 14.5      | 22.0     |

**Seismic Test Parameters**

| Building Code | Test Criteria | Sds (g) | z/h | Ip  | Aflx-H (g) | Arig-H (g) | Aflx-V (g) | Arig-V (g) |
|---------------|---------------|---------|-----|-----|------------|------------|------------|------------|
| CBC 2019      | ICC-ES AC156  | 2.50    | 1.0 | 1.5 | 4.00       | 3.00       | 1.67       | 0.67       |

**Unit Mounting Description:**

The unit was rigidly attached to the shake table interface plate with (4) 1/2" diameter Grade 5 bolts, with (2) bolts on each side, spaced 10 1/4" apart. The transformer was bolted to the custom welded frame assembly using (4) 3/8" Grade 5 bolts spaced 16 3/4" inches apart vertically and 9 7/8" horizontally.



Overall view of UUT-01