



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT  
FACILITIES DEVELOPMENT DIVISION

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

OFFICE USE ONLY

APPLICATION #: OSP-0396-10

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

Type:  New  Renewal

**Manufacturer Information**

Manufacturer: Rockwell Automation

Manufacturer's Technical Representative: Richard Sheppard

Mailing Address: 760 Beta Drive, Suite A-D, Mayfield Village, OH 44143

Telephone: (440) 604-8448 Email: rsheppard@ra.rockwell.com

**Product Information**

Product Name: PowerFlex 400 Adjustable Frequency AC Drive

Product Type: Variable Frequency Drive

Product Model Number: See Attachments

(List all unique product identification numbers and/or part numbers)

General Description: Wall mounted Variable Frequency Drives that control AC motors. Seismic enhancements made to the test units prior to testing shall be incorporated into the production units.

Mounting Description: Rigid wall mount

**Applicant Information**

Applicant Company Name: W.E. Gundy & Associates, Inc.

Contact Person: Travis Soppe SE

Mailing Address: 250 Bobwhite Ct, Suite 100, Boise, ID 83706

Telephone: (208) 342-5898 Ext. 115 Email: tsoppe@wegai.com

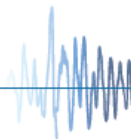
I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2013.

Signature of Applicant:  Date: 4/30/2014

Title: Vice President Company Name: W.E. Gundy & Associates, Inc.

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"

STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY  
OSH-FD-759 (REV 6/14/13)



osHPD

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FACILITIES DEVELOPMENT DIVISION**

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

Company Name: W.E. Gundy & Associates, Inc.

Name: Travis Soppe, SE California License Number: S6115

Mailing Address: 250 Bobwhite Ct, Suite 100, Boise, ID 83706

Telephone: (208) 342-5898 Ext. 115 Email: tsoppe@wegai.com

**Supports and Attachments Preapproval**

- Supports and attachments are preapproved under OPM- \_\_\_\_\_  
(Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)
- Supports and attachments are not preapproved

**Certification Method**

- Testing in accordance with:  ICC-ES AC156
- Other (Please Specify): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Testing Laboratory**

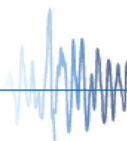
Company Name: QualTech NP Laboratory

Contact Name: Dan Mikow, Senior Principal Engineer

Mailing Address: 4600 E Tech Drive, Cincinnati, OH 45245

Telephone: (513) 528-7900 Email: dmikow@curtisswright.com

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**Seismic Parameters**

Design in accordance with ASCE 7-10 Chapter 13:  Yes  No

Design Basis of Equipment or Components ( $F_p/W_p$ ) = 1.875

$S_{DS}$  (Design spectral response acceleration at short period, g) = 2.50

$a_p$  (In-structure equipment or component amplification factor) = 2.5

$R_p$  (Equipment or component response modification factor) = 6.0

$\Omega_0$  (System overstrength factor) = 2.5

$I_p$  (Importance factor) = 1.5

$z/h$  (Height factor ratio) = 1.0

Equipment or Component Natural Frequencies (Hz) = See Attachments

Overall dimensions and weight (or range thereof) = See Attachments

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15:  Yes  No

Design Basis of Equipment or Components ( $V/W$ ) = \_\_\_\_\_

$S_{DS}$  (Design spectral response acceleration at short period, g) = \_\_\_\_\_

$S_{D1}$  (Design spectral response acceleration at 1 second period, g) = \_\_\_\_\_

R (Response modification coefficient) = \_\_\_\_\_

$\Omega_0$  (System overstrength factor) = \_\_\_\_\_

$C_d$  (Deflection amplification factor) = \_\_\_\_\_

$I_p$  (Importance factor) = 1.5

Height to Center of Gravity above base = \_\_\_\_\_

Equipment or Component Natural Frequencies (Hz) = \_\_\_\_\_

Overall dimensions and weight (or range thereof) = \_\_\_\_\_

Tank(s) designed in accordance with ASME BPVC, 2010:  Yes  No

**List of Attachments Supporting Special Seismic Certification**

Test Report(s)  Drawings  Calculations  Manufacturer's Catalog

Other(s) (Please Specify): SE Certification Letter

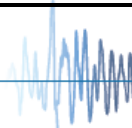
**OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2019**


Signature:  Date: 9/9/2014

Print Name: M. R. Karim Title: SHFR

Special Seismic Certification Valid Up to :  $S_{DS}$  (g) = 2.5  $z/h$  = 1.0

Condition of Approval (if applicable): \_\_\_\_\_



									
<b>ROCKWELL POWERFLEX 400 AC DRIVE CERTIFIED PRODUCT LINE MATRIX</b>									
ID/Catalog Number	Horsepower (HP)	Drive Frame Size	Voltage Rating	Width (in)	Depth (in)	Height (in)	Mounting Bolts (A307)	Service Weight (lbs)	Representative UUT
CB400B4600IE-003	3	C	460	9	10	46	8 - 1/4"	50	extrapolated
CB400B4600IE-005	5	C	460	9	10	46	8 - 1/4"	50	extrapolated
CB400B4600IE-007	7.5	C	460	9	10	46	8 - 1/4"	51	UUT-1
CB400B4600IE-010	10	C	460	9	10	46	8 - 1/4"	55	interpolated
CB400B4600IE-015	15	C	460	11	10	50	8 - 1/4"	70	interpolated
CB400B4600IE-020	20	C	460	11	10	50	8 - 1/4"	75	interpolated
CB400B4600IE-025	25	D	460	13	11	55	8 - 1/4"	90	interpolated
CB400B4600IE-030	30	D	460	13	11	55	8 - 1/4"	105	interpolated
CB400B4600IE-040	40	D	460	13	11	55	8 - 1/4"	110	interpolated
CB400B4600IE-050	50	E	460	45	14	50	6 - 3/8"	255	interpolated
CB400B4600IE-060	60	E	460	45	14	50	6 - 3/8"	264	UUT-2
CB400B4600IE-075	75	E	460	45	14	50	6 - 3/8"	340	extrapolated
CB400B46004E-003	3	C	460	24	16	36	4 - 3/8"	170	extrapolated
CB400B46004E-005	5	C	460	24	16	36	4 - 3/8"	170	extrapolated
CB400B46004E-007	7.5	C	460	24	16	36	4 - 3/8"	215	extrapolated
CB400B46004E-010	10	C	460	24	16	36	4 - 3/8"	220	UUT-3
CB400B46004E-015	15	C	460	24	16	36	4 - 3/8"	225	interpolated
CB400B46004E-020	20	C	460	24	16	36	4 - 3/8"	230	interpolated
CB400B46004E-025	25	D	460	30	16	36	4 - 3/8"	265	interpolated
CB400B46004E-030	30	D	460	30	16	36	4 - 3/8"	285	interpolated
CB400B46004E-040	40	D	460	30	16	36	4 - 3/8"	285	interpolated
CB400B46004E-050	50	E	460	36	16	72	4 - 3/8"	540	interpolated
CB400B46004E-060	60	E	460	36	16	72	4 - 3/8"	540	interpolated
CB400B46004E-075	75	E	460	36	16	72	4 - 3/8"	673	UUT-4

## ROCKWELL POWERFLEX 400 AC DRIVE CERTIFIED SUBCOMPONENT MATRIX



Identification Number	Manufacturer	Description	Weight (lbs)	Representative UUT
<b>AC Drive</b>				
22C-D6P0N103	A-B	Powerflex 400, 3HP	8	extrapolated
22C-D010N103	A-B	Powerflex 400, 5HP	8	extrapolated
22C-D012N103	A-B	Powerflex 400, 7.5HP	9	UUT-1
22C-D017N103	A-B	Powerflex 400, 10HP	10	UUT-3
22C-D022N103	A-B	Powerflex 400, 15HP	16	interpolated
22C-D030N103	A-B	Powerflex 400, 20HP	17	interpolated
22C-D038N103	A-B	Powerflex 400, 25HP	31	interpolated
22C-D045N103	A-B	Powerflex 400, 30HP	31	interpolated
22C-D060N103	A-B	Powerflex 400, 40HP	34	interpolated
22C-D072N103	A-B	Powerflex 400, 50HP	102	interpolated
22C-D088N103	A-B	Powerflex 400, 60HP	102	UUT-2
22C-D105A103	A-B	Powerflex 400, 75HP	113	UUT-4
<b>Bypass Contactor</b>				
100-C16D10	A-B	Contact, 30A, 115VAC Coil	1	UUT-1 / UUT-3
100-C23D10	A-B	Contact, 32A, 115VAC Coil	1	interpolated
100-C37D00	A-B	Contact, 50A, 115VAC Coil	1	interpolated
100-C43D00	A-B	Contact, 63A, 115VAC Coil	1	interpolated
100-C72D00	A-B	Contact, 72A, 115VAC Coil	3	interpolated
100-C85D00	A-B	Contact, 85A, 115VAC Coil	3	UUT-2
100-D115ED11	A-B	Contact, 160A, 115VAC Coil	3	interpolated
100-D140ED11	A-B	Contact, 220A, 115VAC Coil	9	UUT-4
<b>Main Disconnect - NEMA 1</b>				
194R-J30-1753	A-B	Fused Disconnect Switch, 3 Pole, 30A	2	UUT-1
194R-J60-1753	A-B	Fused Disconnect Switch, 3 Pole, 60A	3	interpolated
194R-J100-1753	A-B	Fused Disconnect Switch, 3 Pole, 100A	5	UUT-2
194R-J200-1753	A-B	Fused Disconnect Switch, 3 Pole, 200A	8	extrapolated

## ROCKWELL POWERFLEX 400 AC DRIVE CERTIFIED SUBCOMPONENT MATRIX



Identification Number	Manufacturer	Description	Weight (lbs)	Representative UUT
<b>Motor Protector - NEMA 4</b>				
140M-D8E-C16	A-B	Motor Protector, 3P, 600V, 10-16 Amps	1	UUT-3
194R-NJ200P3	A-B	Fused Main Disconnect, 200A	11	UUT-4
<b>Input Line Reactor</b>				
RL-00803	MTE	Line Reactor, 5%, 5Hp (1321-3R8-C)	11	extrapolated
RL-01202	MTE	Line Reactor, 3%, 7.5Hp (1321-3R12-B)	10	UUT-1
RL-01802	MTE	Line Reactor, 3%, 10Hp (1321-3R18-B)	12	UUT-3
RL-02502	MTE	Line Reactor, 3%, 15Hp (1321-3R25-B)	14	interpolated
RL-03502	MTE	Line Reactor, 3%, 20/25Hp (1321-3R35-B)	16	interpolated
RL-04502	MTE	Line Reactor, 3%, 30Hp (1321-3R45-B)	28	interpolated
RL-05502	MTE	Line Reactor, 3%, 40Hp (1321-3R55-B)	27	interpolated
RL-08002	MTE	Line Reactor, 3%, 50/60Hp (1321-3R80-B)	51	UUT-2
RL-10002	MTE	Line Reactor, 3%, 75Hp (1321-3R100-B)	51	UUT-4
<b>Selector Switch</b>				
800FP-HM42	A-B	Selector Switch, 4 Position, Knob Lever	1	UUT-1 - UUT-4
<b>Overload Relay - NEMA I</b>				
193-EEDB	A-B	Overload Relay, 3.2-16A Adjustable	1	UUT-1
193-EEFB	A-B	Overload Relay, 9-45A Adjustable	1	interpolated
193-EEGB	A-B	Overload Relay, 18-90A Adjustable	1	UUT-2
193-EEVF	A-B	Overload Relay, 60-120A Adjustable	2	extrapolated

## ROCKWELL POWERFLEX 400 AC DRIVE CERTIFIED SUBCOMPONENT MATRIX



Identification Number	Manufacturer	Description	Weight (lbs)	Representative UUT
<b>Control Transformer</b>				
TB-69300	Acme	Transformer, Control, 50VA	4	UUT-1
TB-69301	Acme	Transformer, Control, 100VA	4	interpolated
TB-69302	Acme	Transformer, Control, 150VA	7	interpolated
TA-2-81203	Acme	Transformer, Control, 3kVA	70	UUT-4
I497A-A12-M6-3-N	A-B	Transformer, Control, 1.5kVA	3	UUT-3
I497A-A13-M6-3-N	A-B	Transformer, Control, 2kVA	3	interpolated
I497-E-BASX-3-N	A-B	Transformer, Control, 250VA	11	UUT-2
<b>Suppressor</b>				
I00-FSV136	A-B	Suppressor, 0.56-136VAC, Varistor Module	<1	UUT-1 / UUT-2
<b>Auxiliary Contact</b>				
I00-SA11	A-B	Auxiliary Contact - 1NO/1NC	<1	UUT-1 - UUT-4
<b>HIM - NEMA 4</b>				
22-HIM-C2S	A-B	HIM, Door mounted	1	UUT-3 / UUT-4
<b>Air Conditioner - NEMA 4</b>				
IQ1800VS-126	Icecube	Icecube Air Conditioner	47	UUT-3
IQ3000VS-126	Icecube	Icecube Air Conditioner	55	interpolated
IQ8000V16-126	Icecube	Icecube Air Conditioner	105	UUT-4
<b>Enclosures - NEMA 4</b>				
CSD362416	Hoffman	Enclosure, NEMA 4, 36"h x 24"w x 16"d	90	UUT-3
CSD363016	Hoffman	Enclosure, NEMA 4, 36"h x 30"w x 16"d	102	interpolated
CSD723616	Hoffman	Enclosure, NEMA 4, 72"h x 36"w x 16"d	228	UUT-4

Notes:

UUT-1

**UNIT UNDER TEST (UUT)  
SUMMARY SHEET**



**Mounting Details:** Wall mounted with (8) 1/4"- A307 Bolts.



**Manufacturer:** Rockwell Automation

**Product Line:** Powerflex 400 Variable Frequency Drives

**Identification Number:** CB400B46001E-007

**UUT Function:** Drives are used to control motors for commercial applications.

**UUT Description:** The unit is comprised of a carbon steel enclosed drive.

**UUT Component Description:** Carbon steel enclosure housing an AC drive (22C-D012N103), bypass contactor (100-C16D10), main disconnect (194R-J30-1753), line reactor (RL-01202), selector switch (100FP-HM42), overload relay (193-EEDB), transformer (TB-69300), supressor (100-FSV136), and auxillary contact (100-SA11)

**UUT PROPERTIES**

Weight (lb)	Dimensions (inches)			Natural Fequency (Hz)		
	Enclosure Width	Enclosure Depth	Enclosure Height	FB	SS	V
51	8.9"	9.6"	45.8"	N/A	N/A	N/A

**SEISMIC TEST PARAMETERS**

Test Criteria	S <sub>DS</sub> (g)	z / h	I <sub>p</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
ICC-ES AC156 2012	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Note: The drive and internal components maintained structural integrity and functionality after the ICC-ES AC156 Test.



UUT-2

# UNIT UNDER TEST (UUT) SUMMARY SHEET



**Mounting Details:** Wall mounted with (6) 3/8"- A307 Bolts.



**Manufacturer:** Rockwell Automation

**Product Line:** Powerflex 400 Variable Frequency Drives

**Identification Number:** CB400B46001E-060

**UUT Function:** Drives are used to control motors for commercial applications.

**UUT Description:** The unit is comprised of a carbon steel enclosed drive.

**UUT Component Description:** Carbon steel enclosure housing an AC drive (22C-D088N103), bypass contactor (100-C85D00), main disconnect (194R-J100-1753), line reactor (RL-08002), selector switch (100FP-HM42), overload relay (193-EEGB), transformer (1497-E-BASX-3-N), supressor (100-FSV136), and auxillary contact (100-SA11)

### UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Fequency (Hz)		
	Enclosure Width	Enclosure Depth	Enclosure Height	FB	SS	V
264	42.4"	14.0"	41.0"	N/A	N/A	N/A

### SEISMIC TEST PARAMETERS

Test Criteria	S <sub>DS</sub> (g)	z / h	I <sub>p</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
ICC-ES AC156 2012	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Note: The drive and internal components maintained structural integrity and functionality after the ICC-ES AC156 Test.

UUT-3

UNIT UNDER TEST (UUT)  
SUMMARY SHEET



Mounting Details: Wall mounted with (4) 3/8"- A307 Bolts.



**Manufacturer:** Rockwell Automation

**Product Line:** Powerflex 400 Variable Frequency Drives

**Identification Number:** CB400B46004E-010

**UUT Function:** Drives are used to control motors for commercial applications.

**UUT Description:** The unit is comprised of a carbon steel enclosed drive.

**UUT Component Description:** NEMA4 carbon steel enclosure (CSD362416) housing an AC drive (22C-D017N103), bypass contactor (100-C16D10), motor protector (140M-D8E-C16), line reactor (RL-01802), selector switch (100FP-HM42), transformer (1497A-A12-M6-3-N), HIM (22-HIM-C2S), auxillary contact (100-SA11), and air conditioner (IQ1800VS-126)

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Fequency (Hz)		
	Enclosure Width	Enclosure Depth	Enclosure Height	FB	SS	V
220	24.0"	16.0"	36.0"	N/A	N/A	N/A

SEISMIC TEST PARAMETERS

Test Criteria	S <sub>DS</sub> (g)	z / h	I <sub>p</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
ICC-ES AC156 2012	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Note: The drive and internal components maintained structural integrity and functionality after the ICC-ES AC156 Test.

UUT-4

UNIT UNDER TEST (UUT)  
SUMMARY SHEET



Mounting Details: Wall mounted with (4) 3/8"- A307 Bolts.



Manufacturer: Rockwell Automation

Product Line: Powerflex 400 Variable Frequency Drives

Identification Number: CB400B46004E-075

UUT Function: Drives are used to control motors for commercial applications.

UUT Description: The unit is comprised of a carbon steel enclosed drive.

UUT Component Description: NEMA4 carbon steel enclosure (CSD723616) housing an AC drive (22C-D005A103), bypass contactor (100-D140ED11), motor protector (194R-NJ200P3), line reactor (RL-10002), selector switch (100FP-HM42), transformer (TA-2-81203), HIM (22-HIM-C2S), auxillary contact (100-SA11), and air conditoner (IQ8000V16-126)

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Fequency (Hz)		
	Enclosure Width	Enclosure Depth	Enclosure Height	FB	SS	V
673	46.3"	16.0"	72.0"	N/A	N/A	N/A

SEISMIC TEST PARAMETERS

Test Criteria	S <sub>DS</sub> (g)	z / h	I <sub>P</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
ICC-ES AC156 2012	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Note: The drive and internal components maintained structural integrity and functionality after the ICC-ES AC156 Test.