



DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
OFFICE OF STATEWIDE HOSPITAL PLANNING AND DEVELOPMENT

APPLICATION FOR HCAI SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0887

HCAI Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Water Control Corporation

Manufacturer's Technical Representative: Josh Petersen

Mailing Address: 7150 143rd Avenue NW, Ramsey, MN 55303

Telephone: (763) 427-9638

Email: josh.petersen@watercontrolinc.com

Product Information

Product Name: BP Series Booster Pump Systems

Product Model Number(s): See Attachment

Product Category: Other

Product Sub-Category: High-Capacity Ultrafiltration (HUF) Systems

General Description: Intelligent booster pump systems consisting of vertical pumps, manifolds, and a NEMA 12 control panel.

Mounting Description: Base Mounted Rigid

Tested Seismic Enhancements: Seismic enhancements made to the test units and/or modifications required to address anomalies during the tests shall be incorporated into the production units.

Applicant Information

Applicant Company Name: Manwill Engineering LLC

Contact Person: Derek Manwill

Mailing Address: PO Box 1194, Bend, OR 97709

Telephone: (541) 241-2102

Email: derek@manwillse.com

Title: President



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

Company Name: MANWILL ENGINEERING LLC

Name: Derek Manwill

California License Number: S6266

Mailing Address: PO Box 1194, Bend, OR 97709

Telephone: (541) 241-2102

Email: derek@manwillse.com

Certification Method

GR-63-Core

ICC-ES AC156

IEEE 344

IEEE 693

NEBS 3

Other (Please Specify): _____

Testing Laboratory

Company Name: ENVIRONMENTAL TESTING LABORATORIES, INC. (ETL)

Contact Person: Jeremy Lange

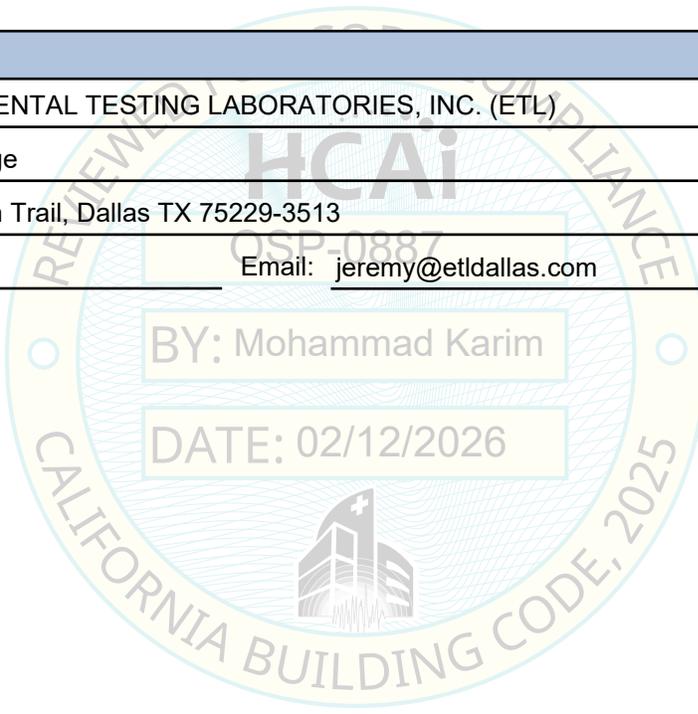
Mailing Address: 11034 Indian Trail, Dallas TX 75229-3513

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BY: Mohammad Karim

DATE: 02/12/2026





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Seismic Parameters

Certified Response Spectral Acceleration Factors:(F_p/W_p)

Horizontal (A Flx-H), $g = \underline{3.20}$ (A Rig-H), $g = \underline{2.15}$
 Vertical (A Flx-V), $g = \underline{1.68}$ (A Rig-V), $g = \underline{0.68}$

SDS (Design spectral response acceleration at short period, g) = 2.50 @ $z/h=0$; 2.00 @ $z/h=1$

H_f (Force amplification height factor) = 1 @ $z/h=0$; 3.5 @ $z/h=1$

R_u (Structure ductility reduction factor) = 1 @ $z/h=0$; 1.3 @ $z/h=1$

I_p (Importance factor) = 1.5

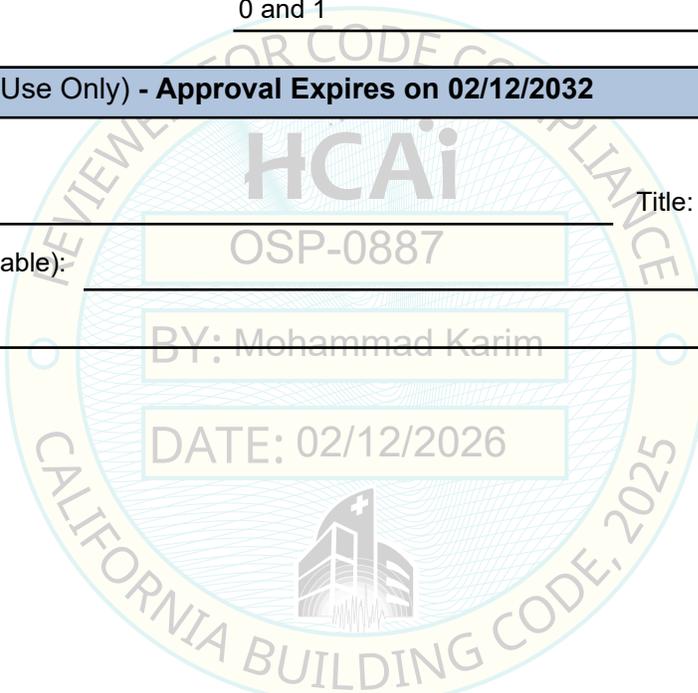
z/h (Height ratio factor) = 0 and 1

HCAI Approval (For Office Use Only) - Approval Expires on 02/12/2032

Date: 2/12/2026

Name: Mohammad Karim Title: Supervisor, Health Facilities

Condition of Approval (if applicable): OSP-0887



WATER CONTROL CORPORATION BP Series Booster Pump Systems

TABLE 1

Mounting: Base mounted rigid.	S _{DS} (g)	z / h	H _f / R _μ	A _{flx-h}	A _{rig-h}	A _{flx-v}	A _{rig-v}	I _p
	2.00	1	3.5 / 1.3	3.20	2.15	1.68	0.68	1.5
	2.50	0	1.0 / 1.0					

Product Construction: Carbon steel framing and base. Stainless steel manifolds. Cast iron pump head and base with all stainless steel for wetted parts. Carbon steel NEMA 12 control panel enclosures.

Options/Subcomponents: Quantity of 2, 3, or 4 pumps, 3-15hp each. 2-6in manifold diameter. 15-200gpm flow rate. 15-75psi pressure. E (basic), S (standard), or A (advanced) control panel. Control panel enclosures may contain any combination of subcomponents listed in Table 3. Total weight of the complete control panel must be less than or equal to the maximum weights listed for the selected enclosure in Table 2.

Weight: Weight listed below is total operating weight including water. Weights listed in product brochure are dry weights.

Nomenclature: See Attachment 4 for product nomenclature and available model numbers.

Substitutions: Subcomponents weighing less than 10-lb, electric motors, and base-mounted vertical pumps (vertical pumps up to 20hp only) may be substituted per CBC 1705A.14.3.1 Exceptions 5-7, provided they meet the five listed requirements in that section.

Model Number	Dimensions (in)			Max. Wt. (lb)	Description / Notes	Basis
	Depth	Width	Height			
BP Series Booster Pump Systems						
BPAE50-35-3X2-1	32	63	63	757	(2) 3hp 480V, 100gpm/35psi, 3in	UUT 1
BP*50-35-3X2-1	38	55	63	776	(2) 3hp 480V, 100gpm/35psi, 3in	INTERP
BP*50-35-3X2-2	38	55	63	825	(2) 3hp 240V, 100gpm/35psi, 3in	INTERP
BP*50-35-4X2-1	40	55	63	1,000	(2) 3hp 480V, 100gpm/35psi, 4in	INTERP
BP*50-35-4X2-2	40	55	63	1,058	(2) 3hp 240V, 100gpm/35psi, 4in	INTERP
BP*50-70-3X2-2	38	55	63	833	(2) 5hp 240V, 100gpm/70psi, 3in	INTERP
BP*100-35-4X2-2	40	55	63	872	(2) 5hp 240V, 200gpm/35psi, 4in	INTERP
BP*50-70-4X2-2	40	55	63	870	(2) 5hp 240V, 100gpm/70psi, 4in	INTERP
BP*50-70-3X2-1	38	55	63	868	(2) 5hp 480V, 100gpm/70psi, 3in	INTERP
BP*50-70-4X2-1	40	55	63	1,081	(2) 5hp 480V, 100gpm/70psi, 4in	INTERP
BP*100-35-4X2-1	40	55	63	910	(2) 5hp 480V, 200gpm/35psi, 4in	INTERP
BP*100-70-4X2-1	40	55	63	936	(2) 7.5hp 480V, 200gpm/70psi, 4in	INTERP
BP*100-70-4X2-2	40	55	63	974	(2) 7.5hp 240V, 200gpm/70psi, 4in	INTERP
BP*150-35-4X2-1	40	55	63	1,000	(2) 7.5hp 480V, 300gpm/35psi, 4in	INTERP
BP*150-35-4X2-2	40	55	63	1,058	(2) 7.5hp 240V, 300gpm/35psi, 4in	INTERP
BP*50-35-3X3-1	38	70	63	1,034	(3) 3hp 480V, 150gpm/35psi, 3in	INTERP
BP*50-35-4X3-1	40	70	63	1,341	(3) 3hp 480V, 150gpm/35psi, 4in	INTERP
BP*200-35-6X2-1	44	55	63	1,116	(2) 7.5hp 480V, 400gpm/35psi, 6in	INTERP
BP*150-70-4X2-1	40	55	63	1,081	(2) 10hp 480V, 300gpm/70psi, 4in	INTERP
BP*50-35-3X3-2	38	70	63	1,063	(3) 3hp 240V, 150gpm/35psi, 3in	INTERP
BP*50-35-4X3-2	40	70	63	1,398	(3) 3hp 240V, 150gpm/35psi, 4in	INTERP
BP*200-35-6X2-2	44	55	63	1,173	(2) 7.5hp 240V, 400gpm/35psi, 6in	INTERP
BP*50-70-3X3-2	38	70	63	1,110	(3) 5hp 240V, 150gpm/70psi, 3in	INTERP
BP*50-70-4X3-2	40	70	63	1,150	(3) 5hp 240V, 150gpm/70psi, 4in	INTERP
BP*100-35-4X3-2	40	70	63	1,121	(3) 5hp 240V, 300gpm/35psi, 4in	INTERP
BP*100-35-6X3-2	44	70	63	1,190	(3) 5hp 240V, 300gpm/35psi, 6in	INTERP
BP*50-70-3X3-1	38	70	63	1,161	(3) 5hp 480V, 150gpm/70psi, 3in	INTERP
BP*50-70-4X3-1	40	70	63	1,464	(3) 5hp 480V, 150gpm/70psi, 4in	INTERP
BP*100-35-4X3-1	40	70	63	1,172	(3) 5hp 480V, 300gpm/35psi, 4in	INTERP
BP*100-70-4X3-1	40	70	63	1,248	(3) 7.5hp 480V, 300gpm/70psi, 4in	INTERP
BP*100-35-6X3-1	44	70	63	1,241	(3) 5hp 480V, 300gpm/35psi, 6in	INTERP

TABLE 1 continues on the next page.

**WATER CONTROL CORPORATION
BP Series Booster Pump Systems**

TABLE 1 (CONTINUED)

Model Number	Dimensions (in)			Max. Wt. (lb)	Description / Notes	Basis
	Depth	Width	Height			
BP Series Booster Pump Systems (continued)						
BP*50-35-3X4-1	38	85	63	1,284	(4) 3hp 480V, 200gpm/35psi, 3in	INTERP
BP*100-70-6X3-1	44	70	63	1,317	(3) 7.5hp 480V, 300gpm/70psi, 6in	INTERP
BP*100-70-4X3-2	40	70	63	1,302	(3) 7.5hp 240V, 300gpm/70psi, 4in	INTERP
BP*200-70-6X2-1	44	55	63	1,318	(2) 15hp 480V, 400gpm/70psi, 6in	INTERP
BP*50-35-4X4-1	40	85	63	1,327	(4) 3hp 480V, 200gpm/35psi, 4in	INTERP
BP*50-35-3X4-2	38	85	63	1,325	(4) 3hp 240V, 200gpm/35psi, 3in	INTERP
BP*150-35-4X3-2	40	70	63	1,398	(3) 7.5hp 240V, 450gpm/35psi, 4in	INTERP
BP*150-35-4X3-1	40	70	63	1,341	(3) 7.5hp 480V, 450gpm/35psi, 4in	INTERP
BP*50-35-4X4-2	40	85	63	1,368	(4) 3hp 240V, 200gpm/35psi, 4in	INTERP
BP*100-70-6X3-2	44	70	63	1,370	(3) 7.5hp 240V, 300gpm/70psi, 6in	INTERP
BP*50-70-3X4-1	38	85	63	1,457	(4) 5hp 480V, 200gpm/70psi, 3in	INTERP
BP*50-70-3X4-2	38	85	63	1,385	(4) 5hp 240V, 200gpm/70psi, 3in	INTERP
BP*150-35-6X3-1	44	70	63	1,407	(3) 7.5hp 480V, 450gpm/35psi, 6in	INTERP
BP*50-70-4X4-2	40	85	63	1,427	(4) 5hp 240V, 200gpm/70psi, 4in	INTERP
BP*100-35-4X4-2	40	85	63	1,389	(4) 5hp 240V, 400gpm/35psi, 4in	INTERP
BP*100-35-6X4-2	44	85	63	1,466	(4) 5hp 240V, 400gpm/35psi, 6in	INTERP
BP*150-35-6X3-2	44	70	63	1,464	(3) 7.5hp 240V, 450gpm/35psi, 6in	INTERP
BP*200-35-6X3-1	44	70	63	1,487	(3) 7.5hp 480V, 600gpm/35psi, 6in	INTERP
BP*150-70-4X3-1	40	70	63	1,464	(3) 10hp 480V, 450gpm/70psi, 4in	INTERP
BP*50-70-4X4-1	40	85	63	1,499	(4) 5hp 480V, 200gpm/70psi, 4in	INTERP
BP*100-35-4X4-1	42	85	63	1,460	(4) 5hp 480V, 400gpm/35psi, 4in	INTERP
BP*150-70-6X3-1	44	70	63	1,530	(3) 10hp 480V, 450gpm/70psi, 6in	INTERP
BP*200-35-6X3-2	44	70	63	1,544	(3) 7.5hp 240V, 600gpm/35psi, 6in	INTERP
BP*100-35-6X4-1	44	85	63	1,537	(4) 5hp 480V, 400gpm/35psi, 6in	INTERP
BP*100-70-4X4-1	40	85	63	1,558	(4) 7.5hp 480V, 400gpm/70psi, 4in	INTERP
BP*100-70-6X4-1	44	85	63	1,636	(4) 7.5hp 480V, 400gpm/70psi, 6in	INTERP
BP*100-70-4X4-2	40	85	63	1,629	(4) 7.5hp 240V, 400gpm/70psi, 4in	INTERP
BP*100-70-6X4-2	44	85	63	1,707	(4) 7.5hp 240V, 400gpm/70psi, 6in	INTERP
BP*150-35-6X4-1	44	85	63	1,755	(4) 7.5hp 480V, 600gpm/35psi, 6in	INTERP
BP*200-70-6X3-1	44	70	63	1,795	(3) 15hp 480V, 600gpm/70psi, 6in	INTERP
BP*150-35-6X4-2	44	85	63	1,831	(4) 7.5hp 240V, 600gpm/35psi, 6in	INTERP
BP*200-35-6X4-1	44	85	63	1,867	(4) 7.5hp 480V, 800gpm/35psi, 6in	INTERP
BP*150-70-6X4-1	44	85	63	1,919	(4) 10hp 480V, 600gpm/70psi, 6in	INTERP
BP*200-35-6X4-2	44	85	63	1,945	(4) 7.5hp 240V, 800gpm/35psi, 6in	INTERP
BP*200-70-6X4-1	44	85	63	2,263	(4) 15hp 480V, 800gpm/70psi, 6in	INTERP
BPSE200-70-6X4-1	44	97	63	2,263	(4) 15hp 480V, 800gpm/70psi, 6in	UUT 2

End of TABLE 1. Notes, information, and seismic parameters are shown at the beginning of the table.

WATER CONTROL CORPORATION BP Series Booster Pump Systems

TABLE 2 - SUBCOMPONENTS

Mounting: Mounted within component.	S _{DS} (g)	z / h	H _f / R _μ	A _{flx-h}	A _{rig-h}	A _{flx-v}	A _{rig-v}	I _p
	2.00	1	3.5 / 1.3	3.20	2.15	1.68	0.68	1.5
	2.50	0	1.0 / 1.0					

Construction/Options: Model number uniquely identifies manufacturer, materials, and configuration of subcomponents.

Substitutions: Subcomponents weighing less than 10-lb, electric motors, and base-mounted vertical pumps (vertical pumps up to 20hp only) may be substituted per CBC 1705A.14.3.1 Exceptions 5-7, provided they meet the five listed requirements in that section.

Model Number	Dimensions (in)			Max. Wt. (lb)	Description / Notes	Basis
	Depth	Width	Height			
Type: Vertical Pump - Mfr: Grundfos						
PFC99340795	8.6	8.5	21.9	75	CRE 3-5, 1hp, 1Ph, 200-240V	EXTRAP
PFC99340796	8.6	8.5	24.0	80	CRE 3-8, 1.5hp, 1Ph, 200-240V	EXTRAP
PFC99340868	8.6	8.5	22.6	78	CRE 5-4, 1.5hp, 1Ph, 200-240V	EXTRAP
PFC99340869	8.6	9.3	24.4	83	CRE 5-5, 2hp, 1Ph, 200-240V	EXTRAP
PFC99340939	8.6	9.3	24.5	117	CRE 10-2, 2hp, 1Ph, 200-240V	EXTRAP
PFC99340970	8.6	10.8	29.2	145	CRE 10-4, 3hp, 3Ph, 440-480V	UUT 1
PFC99391956	11.7	13.3	31.7	152	CRE 10-4, 3hp, 3Ph, 200-240V	INTERP
PFC99076140	11.7	13.3	34.0	168	CRE 10-6, 5hp, 3Ph, 440-480V	INTERP
PFC99391957	11.7	13.3	34.0	163	CRE 10-6, 5hp, 3Ph, 200-240V	INTERP
PFC99076264	11.7	13.3	30.5	159	CRE 20-2, 5hp, 3Ph, 440-480V	INTERP
PFC99392158	11.7	13.3	30.5	157	CRE 20-2, 5hp, 3Ph, 200-240V	INTERP
PFC99076265	11.7	14.7	33.9	179	CRE 20-3, 7.5hp, 3Ph, 440-480V	INTERP
PFC99392159	14.4	15.6	34.8	262	CRE 20-3, 7.5hp, 3Ph, 200-240V	INTERP
PFC99076523	11.7	14.7	37.3	208	CRE 32-2-1, 7.5hp, 3Ph, 440-480V	INTERP
PFC99392744	14.4	15.6	38.2	222	CRE 32-2-1, 7.5hp, 3Ph, 200-240V	INTERP
PFC99076524	14.4	15.6	40.9	238	CRE 32-3-2, 10hp, 3Ph, 440-480V	INTERP
PFC99076534	11.7	14.7	36.7	222	CRE 45-1-1, 7.5hp, 3Ph, 440-480V	INTERP
PFC99392751	14.4	15.6	37.6	236	CRE 45-1-1, 7.5hp, 3Ph, 200-240V	INTERP
PFC99249174	14.4	15.6	45.1	297	CRE 45-2, 15hp, 3Ph, 440-480V	UUT 2
Type: Optical Level Switch - Mfr: Kobold						
NSD-6AUP1	0.8	0.8	1.8	<1		UUT 1
Type: Pressure Gauge - Mfr: Dwyer						
DWSGY-D10722N-GF	1.2	2.5	2.5	<1		UUT 1,2
Type: Pressure Transmitter - Mfr: Grundfos						
99970236	1.0	1.0	2.1	<1		UUT 1,2
Type: Check Valve - Mfr: Flomatic						
2434VFD	2.6	4.3	4.3	4		UUT 1
2435VFD	3.1	5.8	5.8	9		UUT 2
Type: Chlorine Sensore - Mfr: Water Control Corporation						
LENS-CL	1.7	1.7	11.0	<1		UUT 1
Type: Control Panel Enclosure - Mfr: Hoffman - Material: Carbon Steel						
CSD16128	8.0	12.0	16.0	18	UUT: 24-lb incl. contents	UUT 1,2
CSD302010	10.0	20.0	30.0	46	UUT: 83-lb incl. contents	UUT 1
CSD302410	10.0	24.0	30.0	53	UUT: 98-lb incl. contents	UUT 2

End of TABLE 2 - SUBCOMPONENTS. Notes, information, and seismic parameters are shown at the beginning of the table.

**WATER CONTROL CORPORATION
BP Series Booster Pump Systems**

TABLE 3 - CONTROL PANEL SUBCOMPONENTS

	S _{DS} (g)	z / h	H _f / R _μ	A _{flx-h}	A _{rig-h}	A _{flx-v}	A _{rig-v}	I _p
Mounting: Mounted within component.	2.00	1	3.5 / 1.3	3.20	2.15	1.68	0.68	1.5
	2.50	0	1.0 / 1.0					

Construction/Options: Model number uniquely identifies manufacturer, materials, and configuration of subcomponents.

Substitutions: Subcomponents weighing less than 10-lb may be substituted per CBC 1705A.14.3.1 Exception 7, provided they meet the five listed requirements in that section.

Model Number	Dimensions (in)			Max. Wt. (lb)	Description / Notes	Basis
	Depth	Width	Height			
Type: Uninterruptible Power Supply - Mfr: Phoenix Contact						
2320254	4.9	3.5	5.4	4.7		UUT 1
Type: Uninterruptible Power Supply - Mfr: Meanwell						
DUPS20	4.5	1.6	4.5	<1		UUT 2
Type: Power Supply - Mfr: Meanwell						
WDR-120-24	4.5	1.6	4.9	1.4		UUT 1
Type: Power Supply - Mfr: Delta						
DRP-24V120W2BN	4.6	1.6	4.9	1.4		UUT 2
Type: Battery Module - Mfr: Phoenix Contact						
1394729	4.3	2.0	5.6	4.2		UUT 2
Type: Battery Module - Mfr: Power Sonic						
PS-1208WL	3.8	1.0	2.4	<1		UUT 2
Type: Ethernet Switch - Mfr: Phoenix Contact						
1085254	3.6	0.9	4.8	<1		UUT 1
Type: Ethernet Switch - Mfr: N-Tron						
1005TX	3.9	1.0	4.4	<1		UUT 2
Type: Gateway - Mfr: Control Solutions						
BB3-7301	2.4	2.8	3.9	<1		UUT 1
Type: Gateway - Mfr: MSA						
FS-EZ4-MOD-BAC	2.7	1.1	4.0	<1		UUT 2
Type: Bluetooth Smartbox - Mfr: Halogen Systems						
BTSB-E	2.0	3.0	4.0	<1		UUT 1
Type: HMI Integrated PLC - Mfr: Horner Automation						
HE-XPLWE6	3.0	7.3	5.7	4	PLC	UUT 1
HE959ADC270	3.0	0.8	4.9	<1	Analog input	UUT 1
HE959CNX116	3.0	0.7	4.9	<1	PLC base	UUT 1
HE959DAC107	3.0	0.7	4.9	<1	Analog output	UUT 1
Type: HMI Integrated PLC - Mfr: Unitronics						
US7-B5-B1	4.0	8.3	5.9	1.3	PLC	UUT 2
URA-0004Y	2.8	0.5	3.9	<1	Analog output	UUT 2
URA-0800O	2.8	0.5	3.9	<1	Analog input	UUT 2
URB-TCP2	2.8	0.9	4.3	<1	PLC base	UUT 2
URD-1600-08	2.8	0.5	4.3	<1	Digital input	UUT 2
URD-0008CI	2.8	0.5	3.9	<1	Digital output	UUT 2

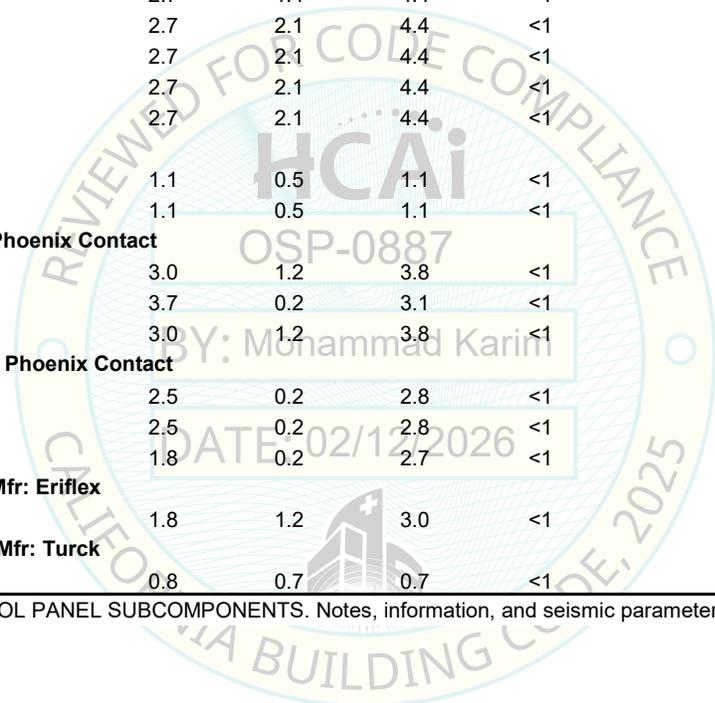
TABLE 3 - CONTROL PANEL SUBCOMPONENTS continues on the next page.

**WATER CONTROL CORPORATION
BP Series Booster Pump Systems**

TABLE 3 - CONTROL PANEL SUBCOMPONENTS (CONTINUED)

Model Number	Dimensions (in)			Max. Wt. (lb)	Description / Notes	Basis
	Depth	Width	Height			
Type: Molded Case Circuit Breaker - Mfr: ABB						
XT1NU3100AFF000XXX	2.8	3.0	5.1	2.4	Tested with extended handle	UUT 2
Type: Miniature Circuit Breaker - Mfr: ABB						
SU201M-K3	2.7	0.7	4.4	<1		UUT 1,2
SU201M-K4	2.7	0.7	4.4	<1		UUT 1,2
SU202M-K6	2.7	1.4	4.4	<1		UUT 1,2
SU203M-K6	2.7	2.1	4.4	<1		UUT 1
SU203M-K15	2.7	2.1	4.4	<1		UUT 1
SU203M-K20	2.7	2.1	4.4	<1		UUT 1
SU203M-K32	2.7	2.1	4.4	<1		UUT 2
Type: Relay - Mfr: IDEC						
RJ1S-CL-D24	1.1	0.5	1.1	<1		UUT 2
RJ2S-CL-D24	1.1	0.5	1.1	<1		UUT 2
Type: Relay Module - Mfr: Phoenix Contact						
2903308	3.0	1.2	3.8	<1		UUT 1
2966171	3.7	0.2	3.1	<1		UUT 1,2
2903315	3.0	1.2	3.8	<1		UUT 2
Type: Terminal Block - Mfr: Phoenix Contact						
3044636	2.5	0.2	2.8	<1		UUT 1,2
3044665	2.5	0.2	2.8	<1		UUT 1,2
3210567	1.8	0.2	2.7	<1		UUT 2
Type: Distribution Block - Mfr: Eriflex						
569020	1.8	1.2	3.0	<1		UUT 1,2
Type: Sensor Receptacle - Mfr: Turck						
FS 4.4-0.5	0.8	0.7	0.7	<1		UUT 1,2

End of TABLE 3 - CONTROL PANEL SUBCOMPONENTS. Notes, information, and seismic parameters are shown at the beginning of the table.



UUT 1

Manufacturer: Water Control Corporation
 Model number: BPAE50-35-3X2-1
 Unit function: Booster Pump System
 Serial number: N/A



Dimensions (in)			Weight (lb)	Res. Freq. (Hz)		
Depth	Width	Height		F-B	S-S	V
32.0	63.0	63.0	757	9.1	12.3	9.2

Code & criteria: 2025 CBC, ICC-ES AC156

Test laboratory: Environmental Testing Laboratory

Report: 25075TR1.0 (dated 2-10-26), tested on 1-5-26

S _{DS} (g)	z / h	H _f / R _μ	Spectral Accelerations (g)	
2.00	1	3.5 / 1.3	A _{FLX-H} = 3.20	A _{RIG-H} = 2.15
2.50	0	1.0 / 1.0	A _{FLX-V} = 1.68	A _{RIG-V} = 0.68

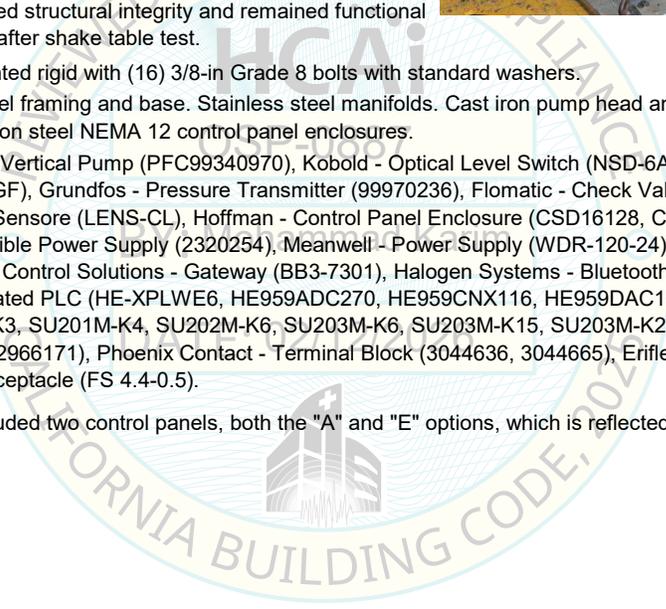
Importance Factor, I_p = 1.5: Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

Mounting: Base mounted rigid with (16) 3/8-in Grade 8 bolts with standard washers.

Construction: Carbon steel framing and base. Stainless steel manifolds. Cast iron pump head and base with all stainless steel for wetted parts. Carbon steel NEMA 12 control panel enclosures.

Subcomponents: Grundfos - Vertical Pump (PFC99340970), Kobold - Optical Level Switch (NSD-6AUP1), Dwyer - Pressure Gauge (DWSGY-D10722N-GF), Grundfos - Pressure Transmitter (99970236), Flomatic - Check Valve (2434VFD), Water Control Corporation - Chlorine Sensor (LENS-CL), Hoffman - Control Panel Enclosure (CSD16128, CSD302010), Phoenix Contact - Uninterruptible Power Supply (2320254), Meanwell - Power Supply (WDR-120-24), Phoenix Contact - Ethernet Switch (1085254), Control Solutions - Gateway (BB3-7301), Halogen Systems - Bluetooth Smartbox (BTSB-E), Horner Automation - HMI Integrated PLC (HE-XPLWE6, HE959ADC270, HE959CNX116, HE959DAC107), ABB - Miniature Circuit Breaker (SU201M-K3, SU201M-K4, SU202M-K6, SU203M-K6, SU203M-K15, SU203M-K20), Phoenix Contact - Relay Module (2903308, 2966171), Phoenix Contact - Terminal Block (3044636, 3044665), Eriflex - Distribution Block (569020), Turck - Sensor Receptacle (FS 4.4-0.5).

Testing notes: UUT 1 included two control panels, both the "A" and "E" options, which is reflected in the model number.



UUT 2

Manufacturer: Water Control Corporation
 Model number: BPSE200-70-6X4-1
 Unit function: Booster Pump System
 Serial number: N/A



Dimensions (in)			Weight (lb)	Res. Freq. (Hz)		
Depth	Width	Height		F-B	S-S	V
44.0	97.0	63.0	2,263	5.2	11.0	7.2

Code & criteria: 2025 CBC, ICC-ES AC156

Test laboratory: Environmental Testing Laboratory

Report: 25075TR1.0 (dated 2-10-26), tested on 1-5-26

S _{DS} (g)	z / h	H _f / R _μ	Spectral Accelerations (g)	
2.00	1	3.5 / 1.3	A _{FLX-H} = 3.20	A _{RIG-H} = 2.15
2.50	0	1.0 / 1.0	A _{FLX-V} = 1.68	A _{RIG-V} = 0.68

Importance Factor, I_p = 1.5: Unit was full of operating content during the shake table test. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.

Mounting: Base mounted rigid with (24) 3/8-in Grade 8 bolts with standard washers.

Construction: Carbon steel framing and base. Stainless steel manifolds. Cast iron pump head and base with all stainless steel for wetted parts. Carbon steel NEMA 12 control panel enclosures.

Subcomponents: Grundfos - Vertical Pump (PFC99249174), Dwyer - Pressure Gauge (DWSGY-D10722N-GF), Grundfos - Pressure Transmitter (99970236), Flomatic - Check Valve (2435VFD), Hoffman - Control Panel Enclosure (CSD16128, CSD302410), Meanwell - Uninterruptible Power Supply (DUPS20), Delta - Power Supply (DRP-24V120W2BN), Phoenix Contact - Battery Module (1394729), Power Sonic - Battery Module (PS-1208WL), N-Tron - Ethernet Switch (1005TX), MSA - Gateway (FS-EZ4-MOD-BAC), Unitronics - HMI Integrated PLC (US7-B5-B1, URA-0004Y, URA-0800O, URB-TCP2, URD-1600-08, URD-0008C1), ABB - Molded Case Circuit Breaker (XT1NU3100AFF000XXX), ABB - Miniature Circuit Breaker (SU201M-K3, SU201M-K4, SU202M-K6, SU203M-K32), IDEC - Relay (RJ1S-CL-D24, RJ2S-CL-D24), Phoenix Contact - Relay Module (2966171, 2903315), Phoenix Contact - Terminal Block (3044636, 3044665, 3210567), Eriflex - Distribution Block (569020), Turck - Sensor Receptacle (FS 4.4-0.5).

Testing notes: UUT 2 included two control panels, both the "S" and "E" options, which is reflected in the model number.

