HUBBELL
a **nudyne** company

SIGNATURE SERIES
CR

Packaged Instantaneous Circulation Water Heater

Full kW selection in all voltages, single or three phase, use for domestic water and boiler applications

Engineered for your specific application to meet your exact needs

Full selection of materials and controls to meet even the most demanding application

- Constructed with high grade materials to ensure long operating life
- Standard ASME Section IV unless otherwise specified
- Turn-key package is simple to specify and operate
- Factory wired electrical controls provide trouble-free installation and operation
- Instantaneous design reduces standby heat loss and lowers operating costs

Applications

Process systems, wash downs, aquariums, heat pump back up, aqua stadiums, high-powered boiler systems, freeze protection, shipboard, and much more.

Instantaneous water heater for naval, marine, and industrial applications

The Hubbell Signature CR is a highly reliable and easily maintained water heater designed for continuous operation in a commercial or industrial application. Each heater is constructed to meet the specific requirements of your system and is available in a full array of operating controls, materials, and design styles. Its compact, highly efficient design takes up minimal floor space, reduces operating costs, and is factory packaged with all operating controls.

Over 100 years of water heating expertise

Hubbell water heaters are the right choice for your commercial and industrial applications. We have water heating solutions for most energy sources with storage capacities from 1–10,000 gallons — all designed, engineered, and manufactured for reliability and longevity coupled with unparalleled support and service.

ASME H · Intertek · ISO 9001:2015 · MADE in the USA Buy American Act Compliant Contains Imported Components

Standard Equipment

GENERAL
Heavy duty 2" thick fiberglass type blanket insulation for maximum operating efficiency and minimal standby heat loss
Heavy gauge galvanized steel protective jacket keeps insulation in place to ensure high efficiency during operation
Horizontal configuration supported on heavy duty integrally welded steel supports for sturdy floor mounting
Full five (5) year Non Pro-Rated vessel warranty and one (1) year electrical component warranty
Bronze ASME rated combination temperature and pressure safety relief valve set at the vessel working pressure and 210°F

VESSEL CONSTRUCTION
Designed and built in strict accordance with the ASME Code Section IV and stamped, certified, and registered with the National Board of Boiler and Pressure Vessel Inspectors
All welded Stainless Steel pressure vessel
Designed for 150 psi working pressure and hydrostatically tested to 225 psi

All information is subject to change without notice. Consult factory for submittal drawings.

Standard Equipment

ELECTRICAL OPERATING CONTROLS
All electrical operating controls are factory sized, selected, wired, tested, and mounted in a NEMA 1 enclosure to ensure safe and reliable operation
Single point electrical connection for ease of installation
Fast acting power fuses rated at a maximum of 60 Amps protect each heating element branch circuit per NEC and UL requirements
Heavy duty resistive load type magnetic contactors with integrally mounted power fuse block assembly
Heavy duty low watt density 150# flange type incoloy 800 sheathed immersion heating element provides long service life
Factory installed flow switch prevents the element from energizing in low/no flow conditions
Fully adjustable temperature controller maintains accurate water temperature and is sized by the factory to control the appropriate number of heating element circuits
A high quality transformer provides fused 120V to the control circuit
A fully adjustable (100-240°F) safety hi-limit device with manual reset interrupts power to the control circuit in the event of over-temperature water

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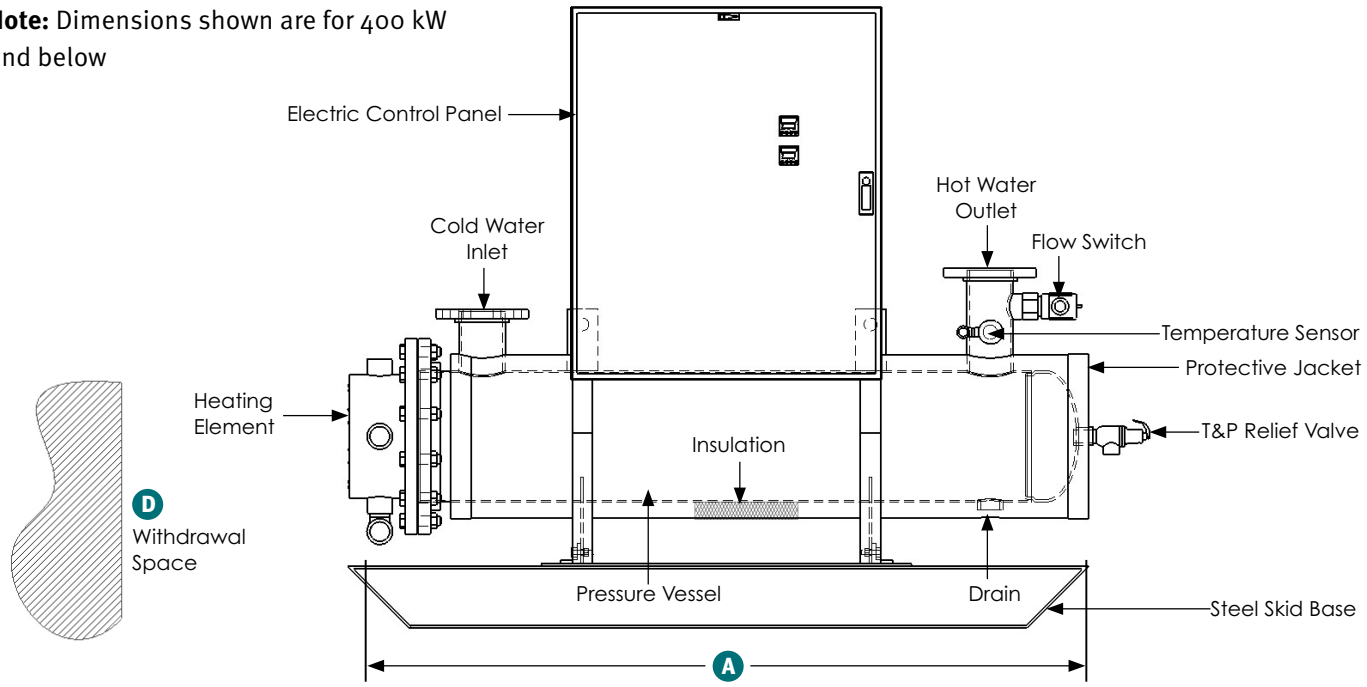
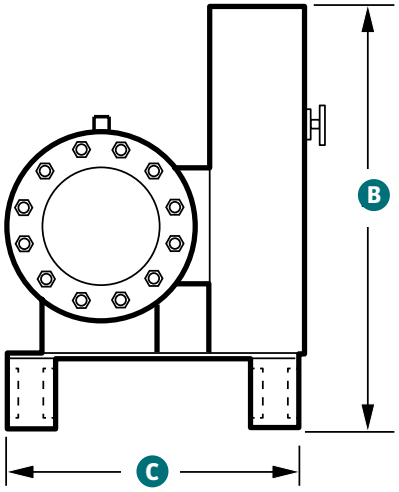
Dimensions

The kW selections below are shown for convenience. A full selection of kW ratings up to 1600 kW is available, enter the desired kW into the model number.

Note: Dimensions shown are for 400 kW and below



kW Rating	Approx. Dimensional Data (Inches)				Inlet/Outlet (Inches)
	A	B	C	D	
25	36	32	19	34	3/4 MNPT
100	60	48	24	50	2 MNPT
150	60	48	24	50	2 MNPT
200	72	54	30	62	2 MNPT
250	72	54	30	62	3 FLG
300	72	66	36	62	4 FLG
350	72	66	36	62	4 FLG
400	84	66	36	70	5 FLG
500	84	66	36	70	5 FLG
600	96	72	48	84	5 FLG
800	108	76	60	96	6 FLG
1200	108	76	60	96	6 FLG
1600	108	76	60	96	6 FLG



SIDE VIEW

Notes

Consult factory for vertical and wall mounted dimensions.

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General Specifications

The kW selections below are shown for convenience. A full selection of kW ratings up to 1600 kW is available, enter the desired kW into the model number.

kW Rating	Recovery Rate in GPM at F° Temperature Rise								Amperage Rating Three Phase				
	10°F ΔT	20°F ΔT	40°F ΔT	60°F ΔT	80°F ΔT	100°F ΔT	120°F ΔT	140°F ΔT	208V	240V	380V	415V	480V
25	17.1	8.5	4.3	2.8	2.1	1.7	1.4	1.2	69	60	38	35	30
100	68.2	34.1	17.1	11.4	8.5	6.8	5.7	4.9	278	241	152	139	120
150	102	51.2	25.6	17.1	12.8	10.2	8.5	7.3	417	361	228	209	181
200	136	68.2	34.1	22.7	17.1	13.6	11.4	9.7	556	482	304	279	241
250	171	85.3	42.7	28.4	21.3	17.1	14.2	12.2	695	602	380	348	301
300	205	102	51.2	34.1	25.6	20.5	17.1	14.6	834	723	456	418	361
350	239	119	59.7	39.8	29.9	23.9	19.9	17.1	973	843	532	487	421
400	273	136	68.2	45.5	34.1	27.3	22.7	19.5	1112	963	608	557	482
500	341	171	85.3	56.9	42.7	34.1	28.4	24.4	1390	1204	761	696	602
600	409	205	102	68.2	51.2	40.9	34.1	29.2	1667	1445	913	836	723
800	546	273	136	91	68.2	54.6	45.5	39	—	1927	1217	1114	963
1200	819	409	205	136	102	81.9	68.2	58.5	—	—	1825	1671	1445
1600	1092	546	273	182	136	109	91.0	78.0	—	—	—	—	1927

Signature CR Sizing Information

Variables to Solve For:

Step 1: Solve for the unknown using the formulas below.

kW Requirement:

_____GPM x _____°FΔT x 0.1465 = _____ kW

Temperature Rise:

_____kW x 6.824 ÷ _____GPM = _____°FΔT

Flow Rate:

kW x 6.824 ÷ _____°FΔT = _____ GPM

Step 2: Choose the CR model with the kW rating which meets the peak demand (GPM) of your system.

Step 3: Choose the voltage and phase power supply available. Note the total amperage draw of the unit and verify availability.

Electrical

$$\frac{\text{kW x 1000}}{\text{Volts}} \div 1.73 = \text{Amps 3 } \Phi$$

Note: Each branch circuit in the CR Model is typically rated at a maximum of 48 Amps and each circuit is operated as an independent temperature step.

Example: Signature CR250SST4 is 225 kW and 480V 3 Φ

$$\frac{250 \text{ x } 1000}{480}$$ 520 ÷ 1.73 = 301 Amps Total

301 ÷ 48 Amps max circuit rating = 6.3

Round up to 7 for the number of heating load temperature steps

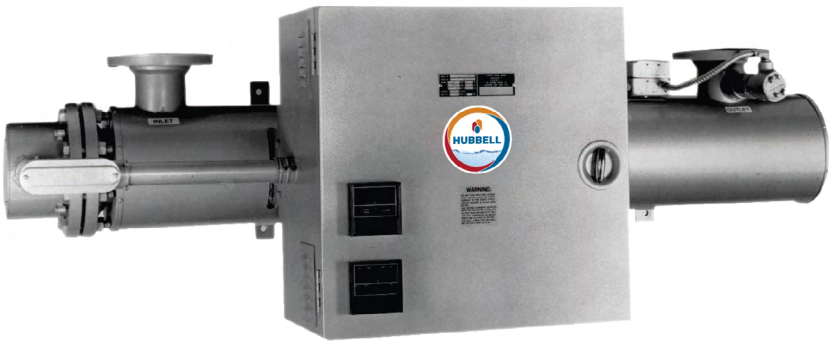
All information is subject to change without notice. Consult factory for submittal drawings.

Signature CR Model Number Designation

MODEL	kW	TANK	VOLTAGE / PHASE	OPTIONAL EQUIPMENT
CR	Enter desired kW	**SS** = Stainless steel 316L **CN** = 90/10 copper-nickel **BL** = Carbon steel *CN and SS tanks come standard with galvanneal jacket and fiberglass insulation.*	**R** = 208/3 **T** = 240/3 **T3** = 380/3 **T7** = 415/3 **T5** = 440/3 **T4** = 480/3 **T6** = 600/3	Write/type optional equipment code in the gray box below in alphabetical order. For multiple options separate codes with a dash (–). See options on page 7.
CR				–

Example: CR100SST4-E2-E3

A Hubbell Signature CR water heater rated at 100 kW with a stainless steel vessel. Electrical rating is 480 volt, three phase, 60 Hz with optional indicating lamps and audible alarm.



MODEL CR – WALL MOUNTED HORIZONTAL OPTION

MODEL CR – OPTIONAL VERTICAL CONFIGURATION

All information is subject to change without notice. Consult factory for submittal drawings.

Optional Equipment

Optional equipment must be called out using the codes in this section.

Controller

C5	Low Water Cutoff
C15	Non-Fused Disconnect Switch
C16	Fused Disconnect Switch
C20	Enable/Disable Relay (Specify Voltage)
C33	BACnet Communication Module with 6040/6050
C38	RS485 Communications Port for Remote Operation
C39	BACnet Communication with PLC Package
C49	Solid State Power Controllers for Increased Temperature Accuracy
C55	Low Temp Alarm Dry Contact
C56	High Temp Alarm Dry Contact
C59	Integrated PLC Control Package
C62	SCR Controls

Electrical

E2	Indicating Lamps (Specify Color and What it is Indicating)
E3	Audible Alarm (Specify Fault)
E8	Built-In Circuit Breaker with Safety Handle
E9	Alternate Element Sheath Material (Specify Incoloy, Stainless Steel, Monel, Steel, Teflon, or Titanium)

General

G1	Combination Temperature & Pressure Gauge: 3.5" Dial, 70°F - 250°F, 0 - 200 PSI, Tank Mounted
G3	Enclosure Heater (Specify Minimum Temperature Expected)
G9	Explosion Resistant Construction (Specify Class, Division, Group, and Temperature Class)
G15	Wall Hung Construction for Off the Floor Installation
G16	NEMA 4X Rating
G17	NEMA 4 Rating
G22	316L Stainless Steel Temperature and Pressure Relief Valve

Vessel

V5	Optional 200 PSI Working Pressure. If Other than 200, Use Code -V5-XX and Specify Pressure
V7	Electropolished Vessel
V8	Passivated Vessel
V9	Passivated/Electropolished Pressure Vessel
V23	304 Stainless Steel Protective Outer Jacket (Painted Upon Request)
V25	Field Removable 316L SS Jacket
V27	ASME Section VIII Div. 1 Construction

Please note: Optional equipment may impact overall dimensions and weight. Please request submittal drawing from factory. All orders will be on hold pending approval of submittal drawing.

Available Accessories

10-year Warranty: 10-year non pro-rated tank warranty, specify part number "VESSEL WARRANTY"

Fill out form below to order accessories.

Accessories Name _____ **Part #** _____

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