HUBBELL
a **nudyne** company

Shipboard Electric Water Heater

6–119 gallon capacity, up to 58 kW in all three phase voltages, over 12 kW in all single phase voltages

HydraStone cement lining provides longer tank life

Marine Approvals

- United States Coast Guard (USCG) conformance and American Bureau of Shipping (ABS) Type Approved
- USCG conformance and ABS Type Approval eliminates costly delays and uncertainties during ship inspection

Mounting Systems

- Heavy-duty legs secure the tank to deck
- Removable side-sway bulkhead attachment points provide added mounting integrity
- The entire mounting system is integrally welded to tank for maximum stability and safety
- Polyurethane foam insulation reduces heat loss
- Built-in heat trap lowers operating costs
- Built to meet your exact needs
- Numerous options available for specialized applications
- Full five (5) year Non Pro-rated tank warranty is standard
- Full ten (10) year Non Pro-rated tank warranty can be specified for extended protection

Applications

To come.

SEAFARE SERIES

MSE

A long lasting, trouble-free water heater

The Hubbell Seafare MSE water heater is specifically designed for marine use and is in USCG conformance and is ABS Type Approved. By utilizing deck and removable bulkhead mounting supports, the water heater is securely fastened to the ship structure. The tank is constructed of steel and internally lined with HydraStoneTM cement to ensure tank longevity. The lining, copper-silicon threaded tank openings and a built-in heat trap device all ensure an energy efficient water heater that is resistant to the highly corrosive effects of hot water.

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.

hubbellheaters.com **sales@hubbellheaters.com** **203.378.2659**

Heater Specifications

Tank	HydraStone Cement Lined Steel
Capacities	6–119 gallons
Orientation	Vertical
Voltages	208–600 Volt
Phases	1Φ or 3Φ
Inlet Size	Below 40 kW: ¾" Female NPT 40 kW and over: 1-½" Male NPT
Outlet Size	Below 40 kW: ¾" Male NPT 40 kW and over: 1-½" Male NPT
Drain Size	¾" GHT
Relief Valve Size	¾" Female NPT
Relief Valve Type	T&P, 210°F, 150 psi
Thermostat Range	Surface: 110–170°F Immersion: 100–190°F
Hi-Limit	190°F Manual Reset
Design WP	150 psi
Design TP	300 psi
Elements	Incoloy Sheathed
Insulation	2" Polyurethane Foam 3" Polyurethane Foam is optional
Tank Warranty	
Standard	5 year Non Pro-Rated
Optional	10 year Non Pro-Rated
Electrical Warranty	1 Year
Jacket	High Impact Colorized Composite
Finish	White and Black
Marine Classificatioins	ABS Type Approved

Standard Equipment

- ½" thick HydraStone cement lining
- Removable bulkhead attachment points
- Heavy-duty Integrally welded leg supports for deck mounting
- Magnetic contactor(s) are heavy duty resistive load type rated for 200,000 cycles
- Low voltage control circuit (fused) transformer (Units over 240 volt)
- Power circuit fuse protection (units over 48 amp)
- Non-ferrous solid copper-silicon threaded openings for maximum corrosion resistance
- Incoloy sheathed immersion heating elements
- Built-in heat trap to improve operating efficiency (¾" inlet/outlet models only)
- Surface thermostat 110–170°F range
- Immersion thermostat (100–190°F) furnished as standard when required due to high recovery versus storage ratio
  - On 80–119 gallon heaters over 15 kW
- Hi-limit cut out safety feature with manual reset button
  - Surface standard on heaters less than 40 kW
  - Immersion standard on heaters 40 kW and above
- 1-½" Male NPT inlet/outlet connections (standard on heaters 40 kW and above)
- ASME/CSA rated temperature and pressure relief valve set at 150 psi, 210°F
- 2" thick polyurethane foam insulation
- High impact non-corroding colorized composite protective jacket
- Cold water inlet diffuser with drain valve

kW and Amperage Selection Charts

6 Gallon kW and Amperage *(Amperage shown in chart below indicates available models)*

kW	Recovery (GPH)	1 Phase Voltages				3 Phase Voltages				
		208	240	277	480	208	240	380	480	600
	53			47				20	16	13

20 Gallon kW and Amperage *(Amperage shown in chart below indicates available models)*

kW	Recovery (GPH)	1 Phase Voltages				3 Phase Voltages				
		208	240	277	480	208	240	380	480	600
13	53			47				20	16	13

30 and 40 Gallon kW and Amperage *(Amperage shown in chart below indicates available models)*

kW	Recovery (GPH)	1 Phase Voltages				3 Phase Voltages				
		208	240	277	480	208	240	380	480	600
12.5	51		52				30			12
13	53			47				20	16	13
14	57				29					
15	62	72				42				
16	66		67				39			
17	70			61				26	20	16
20	82		83				48			
21	86			76					25	20
26	107									25
27	111			97					33	

30U, 40U and 50U Gallon kW and Amperage *(Amperage shown in chart below indicates available models)*

kW	Recovery (GPH)	1 Phase Voltages				3 Phase Voltages				
		208	240	277	480	208	240	380	480	600
12.5	51				26					12
13	53			47					16	13
14	57	67	58			39	34			
15	62				31					
16	66			58				24	19	
17	70	82				47				
19	78		79	69			46	29	23	
23	94		96				55			

55 and 65 Gallon kW and Amperage *(Amperage shown in chart below indicates available models)*

kW	Recovery (GPH)	1 Phase Voltages				3 Phase Voltages				
		208	240	277	480	208	240	380	480	600
12.5	51		52		26		30			12
13	53			47				20	16	13
14	57	67	58		29	39	34			
15	62	72			31	42				
16	66		67	58	33		39	24	19	
17	70	82		61		47		26	20	16
18	74	87				50				
19	78		79	69	40		46	29	23	
20	82		83				48	30		
21	86	101		76		58			25	20
23	94		96				55			
24	98		100				58	37		
25	103				52					
26	107									25
27	111			97					33	
29	119	139	121			81	70			
31	127				65					
32	131			116				49	39	
35	144	168				97				
38	156		158	137			92	58	46	
46	189		192				111			

80, 100 and 120 Gallon kW and Amperage

(Amperage shown in chart below indicates available models)

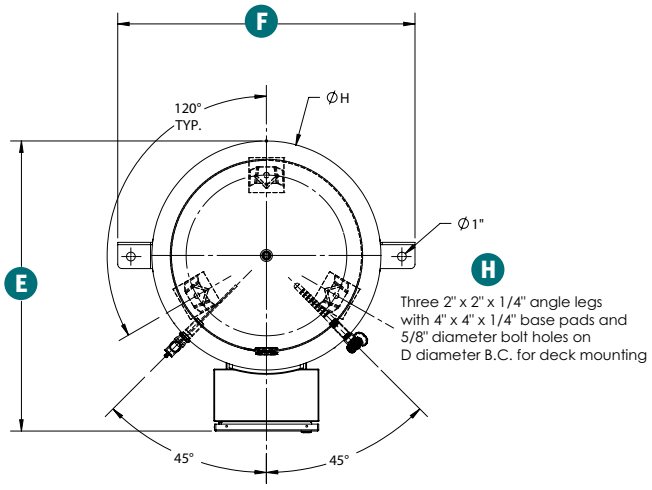
kW	Recovery (GPH)	1 Phase Voltages				3 Phase Voltages				
		208	240	277	480	208	240	380	480	575
12.5	51		52		26		30	19		12
13	53			47	27			20	16	13
14	57	67	58		29	39	34			
15	62	72	63		31	42	36			
16	66		67	58	33		39	24	19	
17	70	82		61		47		26	20	16
18	74	87				50				
19	78		79	69	40		46	29	23	18
20	82		83	72	42		48	30	24	
21	86	101		76		58			25	20
22	90									
23	94	111	96			64	55	35		
24	98		100		50		58			
25	103			90	52			38	30	24
26	107									25
27	111	130		97		75			33	
29	119	139	121		60	81	70			
30	123		125				72	46		
31	127				65					30
32	131	154		116		89		49	39	
35	144	168				97				
36	148		150				87	55		
38	156		158	137	79		92	58	46	
39	160									38
41	168			148					49	
43	176	207	179			119	104			
46	189		192		96		111			
48	197			173				73	58	
52	213	250				145				
57	234		238	206			137		69	
58	238							88		

Notes:

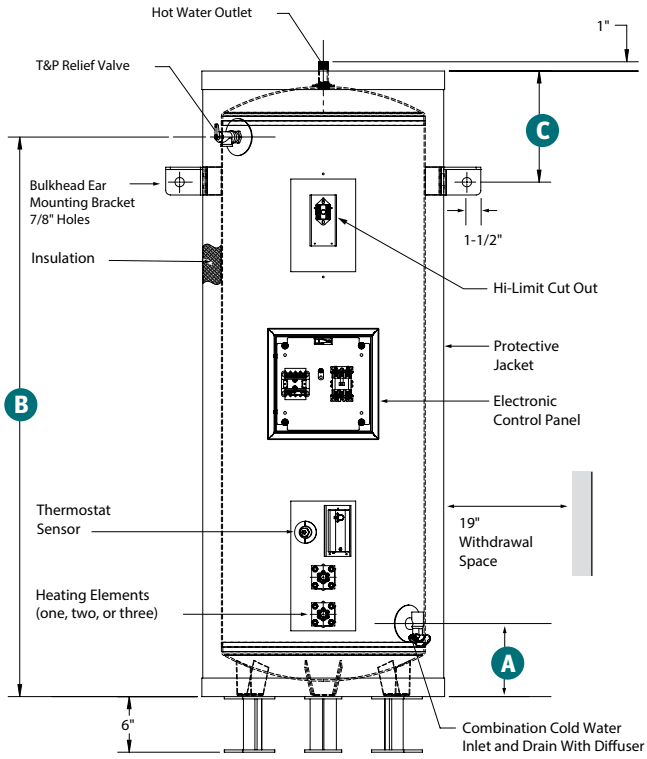
1. Units 40 kW and over are supplied with 1-½" Male NPT inlet/outlet connections and immersion hi-limit.
2. For alternative voltages, including 220, 415, 440, 460 volt, please consult factory for available kW selection.

Dimensions

Note: On models with 1-½" inlet and outlet connections, the cold water inlet is located 45° left of front center line, the drain valve is located 45° right of front center line and the relief valve is located 55° right of front center line.



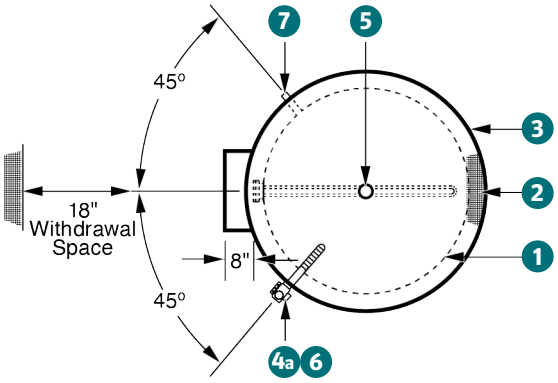
TOP VIEW



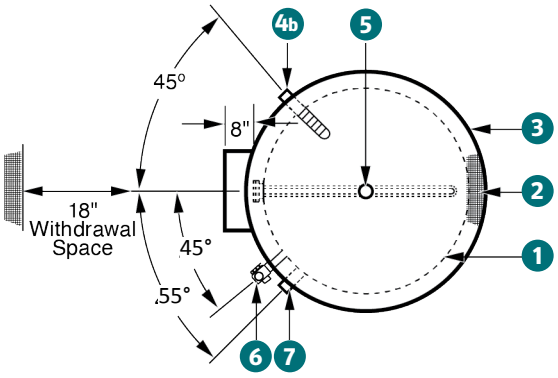
FRONT VIEW

Seafare MSE Dimensional Data

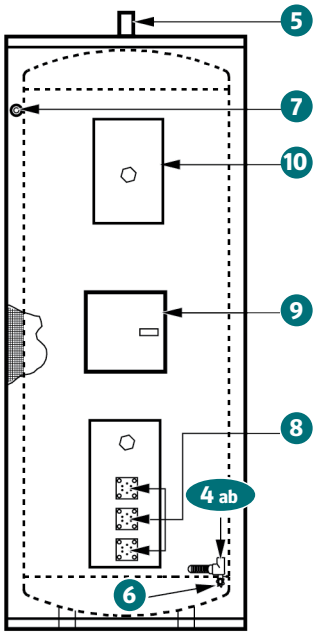
Storage Capacity	Maximum kW Input	Dimensions (Inches)								Shipping Weight (lbs.)
		Overall Diameter	Overall Height	Deck to Inlet A	Deck to T&P B	Bulkhead Mounting Dimension C	Bolt Circle D	Total with Control Panel	Total with Mounting Brackets	
6	3	15	17.5	5	12.5	None	None			120
10	10	20	27	13	21	None	13			155
19	10	20	39	13	33S	None	13			195
30	15	20	47.5	13	40	12	13			225
40	15	20	64.75	13	57	12	13			315
50	58	22.75	57	13	49	12	15			330
65	58	26	54	14	46	12	18			395
80	58	26	64	14	57	12	18			430
100	58	26	75.5	14	68	12	18			460
119	58	28	75.25	14	68	12	20			510
40	58	26	39	13	30	None	18			320



TOP VIEW – 3/4" INLET/OUTLET MODELS



TOP VIEW – 1 1/2" INLET/OUTLET MODELS



FRONT VIEW

Diagram Key

Number	Description
1	HydraStone cement lined tank
2	Polyurethane foam insulation
3	Corrosion resistant jacket
4A	Cold water inlet ¾" models
4B	Cold water inlet 1-½" models
5	Hot water outlet
6	Drain connection ¾" GHT
7	Relief valve connection ¾"
8	Heating element(s)
9	Electrical control panel
10	Hi-limit / upper panel

Formulas to Solve For:

Recovery

GPH x _____°FΔT x 0.00244 = kW

kW x 410 ÷ GPH = _____°FΔT

kW x 410 ÷ _____°FΔT = GPH

Note: 1 kW will heat 4.1 GPH at a 100 °FΔT

Electrical

$\frac{\text{kW x 1000}}{\text{Volts}}$ ÷ 1.73 = Amps 3 Φ

$\frac{\text{kW x 1000}}{\text{Volts}}$ = Amps 1 Φ

Notes:

1. Storage tank rated for 150 psi WP
2. ASME rated T&P relief valve shipped loose
3. Built-in heat trap supplied in hot water outlet (¾" inlet/outlet models only)
4. All electrical controls are factory wired and tested
5. Exact size and location of electrical control panel varies depending upon model

Seafare MSA Model Number Designation

MODEL	MODEL NUMBER	STYLE	*See charts on pages 3-5* UPPER kW	LOWER kW	TANK	VOLTAGE / PHASE	OPTIONAL EQUIPMENT
MSE 2" Foam Insulation **MSM** 3" Foam Insulation	20* 30 40 55 65 80 100 120	*Leave blank for standard* **A** = ASME*** **U** = Under counter† **H** = Horizontal††	Element bank 0–57 kW (typically 0) Not available in 19 Gallon capacity heaters	Element bank 12.5–58 kW	**SL** = HydraStone cement lined **CN** = Solid 90/10 Copper Nickel **SS** = Stainless steel 316L	**RS** = 208/ **S** = 240/ **W** = 277/ **T4S** = 480/ **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 (–).

Example: MSE120–0–45SLT4

Hubbell model MSE marine water heater with a storage capacity of 119 Gallons with 45 KW in the lower element bank. Storage tank is lined with HydraStone cement and the electrical controls operate at 480 V, 3 phase, 60 Hz power.

Important notes:

*20 gallon is not available with 3" foam insulation
***ASME models have slightly different dimensions, consult factory
†Available in 30, 40 and 50 gallon sizes only
††For 20 or 30 gallon capacity, see Endurance EH/SEH brochure

Optional Equipment *Optional equipment must be called out in the written specifications, use the codes below.*

Controller

C1 Immersion thermostat (100-190°F)
C2 Low range immersion thermostat (30-110°F)
C3 Immersion adjustable 100-240°F safety hi-limit cut out with manual reset
C10 Fused power circuits
C15 Non-fused disconnect switch
C35 BACnet communication module with T1000 digital controller

Electrical

E1 Fused low voltage transformer

General

G1 Combination temperature and pressure gauge: 3.5" dial, 70-250 F, 0-200 PSI, tank mounted
G9 Explosion resistant construction. (Specify Class, Division, Group, Temperature Class)
G25 Outdoor weather package (304 SS Jacket and 6" legs, NEMA 4X Electrical housing (& mixing valve housing on EMV)

Vessel

V5 Alternate working pressure (please specify)
V10 1-½" Male NPT inlet and outlet water connections
V11 2" Inlet / outlet connections
V15 Additional ¾" FNPT tappings
V16 Additional 1-½" FNPT tappings

Please note: Optional equipment may impact overall dimensions and weight. Please request submittal drawing from factory.

Available Accessories *(Fill out form below to order accessories.)*

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

Accessories Name _____ **Part #** _____

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