

PURE WATER, CORROSIVE SOLUTION AND HIGH TEMPERATURE GAS APPLICATIONS

NWHMTSS, NWHIS and NWHOIS Series

- ✓ Screw Plug or Flanged Heater Design
- ✓ 3 - 14" Type 304 Stainless Steel Pipe Body, 150 Lb Construction
- ✓ 2 - 200 kW
- ✓ 120, 240 and 480V, 1 & 3 Phase
- ✓ General Purpose, Moisture Resistant/Explosion Resistant, Explosion Resistant or Moisture Resistant Terminal Enclosure
- ✓ 0.475" Dia. Stainless Steel or INCOLOY Sheath Elements (15 - 50 W/In²)
- ✓ With & Without Thermostat
- ✓ UL, CSA and Other Third Party Approval, Listing or Certification Available on Many Models

APPLICATIONS

Pure Water:

Heating of demineralized or de-ionized water that is highly aggressive to mild steel.

Mildly Corrosive Solutions:

Heat mildly corrosive solutions (pH5 to pH9) using stainless elements and a passivated stainless pipe body.

Highly Corrosive Solutions and Oils:

Low watt density INCOLOY sheath elements coupled with a passivated Stainless Steel pipe body provides long service life when heating highly corrosive solutions and sulfur laden oils.

Steam Superheating: Increase the enthalpy and quality of steam. Smaller units can be used to make up line losses in steam generating and distribution systems.

High Temperature Gas:

INCOLOY elements and a Stainless Steel vessel enhance safe operation to nearly 1400°F outlet gas temperature in air, gas or steam superheating applications.

FEATURES

Terminal Enclosures: Standard stock heater terminal enclosure E1 General Purpose. Moisture Resistant/Explosion Resistant E2, Explosion Resistant E3 or Moisture Resistant E4 Enclosures are available as assembly stock.

Elements: Sturdy 0.475" Dia. Stainless Steel or INCOLOY sheath elements provide superior strength and rigidity. OMEGALUX elements utilize high quality resistance wire for coil construction. The coil is surrounded with high purity magnesium oxide which is compacted to a dense solid to ensure high thermal conductivity and dielectric strength.

Corrosion Resistance: NWHMTSS, NWHIS and NWHOIS pipe bodies and all Stainless Steel heating elements are passivated to provide additional resistance to corrosion.

Flanges: Type 304 Stainless Steel flanges are standard on 3" and larger circulation heaters. Flange dimensions conform to ANSI B16.5 standards. Series NWHMTSS heaters utilize a Stainless Steel screw plug.

Vessels: Pipe body and nozzles are type 304 ASTM A312 ERW Stainless Steel pipe. The end disks are type 304 ASTM A240 Stainless Steel plate. Provided with thermal insulation and painted sheet metal jacket.

Baffle Assemblies: Internal baffle assemblies are provided for model GCHISB-18 heaters to increase the velocity of the air, gas or steam as it passes through the vessel. Increasing the velocity of the gas helps reduce the temperature of the element sheaths and the vessel walls in critical applications.

Wiring: Wiring terminals are spaced to provide proper arcing and creepage clearances per the NEC. Termination insulators provide electrical isolation between the terminals and the grounded metal sheath to enhance personnel safety and equipment service life. Heavy duty jumper straps and other terminal parts assure tight connections and an extra margin of current carrying capacity.



Controls: All stock and assembly stock heaters, Series MTSS, 03 and 06, come equipped with mechanical AR thermostats. These thermostats are suitable for most applications. Explosion-resistant and liquid-tight thermostats are provided on E2/E3 and E4 units, respectively. Individual product pages list other types of thermostats and controls available for each heater. For heaters listed without controls, refer to the Overview on Mechanical and Electrical Control Options in this section.

Precision Temperature Control and Control Panels: For larger kW heaters and precise control of gas temperatures in high temperature applications, OMEGALUX recommends the use of thermocouple sensors, electronic PID temperature controls and SCR power panels for circulation heater applications. The use of electronic and SCR controls will minimize overshoot and reduce the possibility of heater damage from overtemperature operation. Integral or remote mounted control panels with electronic controls and solid state (SCR) or contactor power controllers can be provided using virtually any combination of control devices. Consult the Controls section for details.

PURE WATER & MILDLY CORROSIVE SOLUTION APPLICATIONS

NWHMTSS Series

- 2½ NPT Stainless Steel Screw Plug Design
- 2½" Passivated Stainless Steel Pipe Body, 150 Lb Construction
- 3 - 18 kW
- 120, 240 and 480V, 1 & 3 Phase
- General Purpose, Moisture Resistant/Explosion Resistant Terminal Enclosure
- Three 0.475" Dia. Stainless Steel Sheath Elements (50 W/in²)
- Integral Thermostat (60 - 250°F)
- UL, CSA and Other Third Party Approval, Listing or Certification Available on Many Models

APPLICATIONS

Remote and Booster Heating of demineralized or de-ionized water and mildly corrosive solutions (pH5 to pH9).

FEATURES

Terminal Enclosure:

E1 General Purpose is standard. E2 enclosure available.

Elements:

Three Type 304 passivated Stainless Steel sheath elements.

Screw Plug:

2½" Type 304 Stainless Steel screw plug with ½" thermowell for thermostat bulb.

Vessel:

Pipe body and nozzles are type 304 ASTM A312 ERW Stainless Steel pipe. The end disks are type 304 ASTM A240 or A479 Stainless Steel plate. Provided with thermal insulation and 20 gauge painted sheet metal jacket.

Wiring:

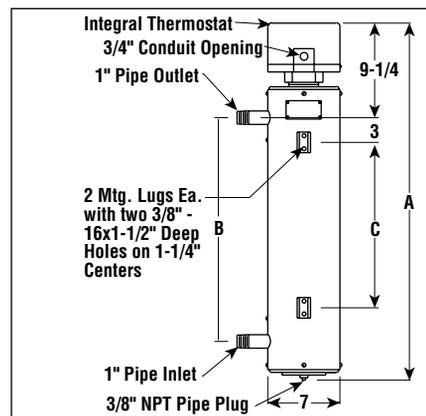
Convenient field wiring terminals are provided for easy installation.

Controls:

Stock and assembly stock heaters come equipped with integral thermostat.



Dimensions: inches
NWHMTS-03



Note: Add 2" to A dimension for E2 Enclosure.

kW	Volts	Ckt & Phase	Dimensions: in			Model No.	Wt. (lb)
			A	B	C		
3	120	1-1	21%	9%	—	NWHMTSS-03-003P-E1/120	15
3	240	1-1	21%	9%	—	NWHMTSS-03-003P-E1/240	15
3	240	1-3	21%	9%	—	NWHMTSS-03-003P-E1/240/3P	15
3	480	1-1	21%	9%	—	NWHMTSS-03-003P-E1/480	15
3	480	1-3	21%	9%	—	NWHMTSS-03-003P-E1/480/3P	15
4.5	240	1-1	21%	9%	—	NWHMTSS-03-04P5-E1/240	15
4.5	240	1-3	21%	9%	—	NWHMTSS-03-04P5-E1/240/3P	15
4.5	480	1-1	21%	9%	—	NWHMTSS-03-04P5-E1/480	15
4.5	480	1-3	21%	9%	—	NWHMTSS-03-04P5-E1/480/3P	15
6	240	1-1	34%	22½	16½	NWHMTSS-03-006P-E1/240	22
6	240	1-3	34%	22½	16½	NWHMTSS-03-006P-E1/240/3P	22
6	480	1-1	34%	22½	16½	NWHMTSS-03-006P-E1/480	22
6	480	1-3	34%	22½	16½	NWHMTSS-03-006P-E1/480/3P	22
9	240	1-1	34%	22½	16½	NWHMTSS-03-009P-E1/240	22
9	240	1-3	34%	22½	16½	NWHMTSS-03-009P-E1/240/3P	22
9	480	1-1	34%	22½	16½	NWHMTSS-03-009P-E1/480	22
9	480	1-3	34%	22½	16½	NWHMTSS-03-009P-E1/480/3P	22
12	240	1-1	57%	45%	39%	NWHMTSS-03-012P-E1/240	40
12	240	1-3	57%	45%	39%	NWHMTSS-03-012P-E1/240/3P	40
12	480	1-1	57%	45%	39%	NWHMTSS-03-012P-E1/480	40
12	480	1-3	57%	45%	39%	NWHMTSS-03-012P-E1/480/3P	40
15	240	1-1	57%	45%	39%	NWHMTSS-03-015P-E1/240	40
15	240	1-3	57%	45%	39%	NWHMTSS-03-015P-E1/240/3P	40
15	480	1-1	57%	45%	39%	NWHMTSS-03-015P-E1/480	40
15	480	1-3	57%	45%	39%	NWHMTSS-03-015P-E1/480/3P	40
18	240	1-1	57%	45%	39%	NWHMTSS-03-018P-E1/240	40
18	240	1-3	57%	45%	39%	NWHMTSS-03-018P-E1/240/3P	40
18	480	1-1	57%	45%	39%	NWHMTSS-03-018P-E1/480	40
18	480	1-3	57%	45%	39%	NWHMTSS-03-018P-E1/480/3P	40

Ordering Example:

NWHMTSS-03-009P-E1/480, 9 kW, 1 phase, 480V heater.

Ordering Information

To Order: Complete the Model Number using the Matrix provided.

Model
NWHMTSS

Pure Water and Mildly Corrosive Solution

Water Circulation Heater with Screw Plug
Stainless Steel Sheath — Stainless Steel Vessel

Code Number of Elements

03	Three
Code	kW
003P	3
04P5	4.5
006P	6
009P	9
012P	12
015P	15
018P	18

Code Terminal Enclosure

E1	General Purpose
E2	Moisture Resistant/Explosion Resistant

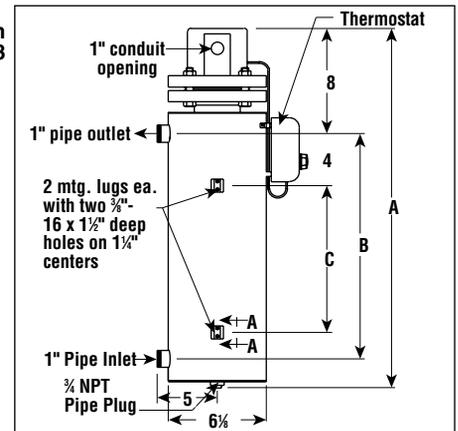
NWHMTSS 03 003P E1 Typical Model Number

PURE WATER AND MILDLY CORROSIVE SOLUTION APPLICATIONS

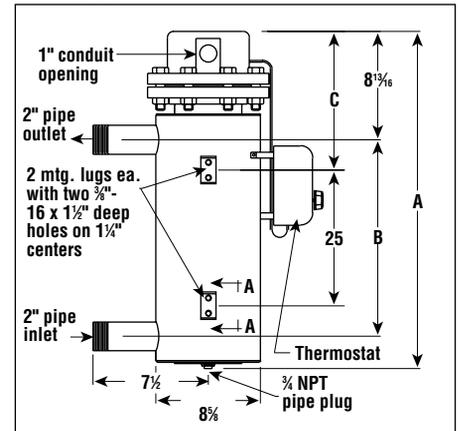
NWHIS Series

Dimensions: in
NWHIS-03

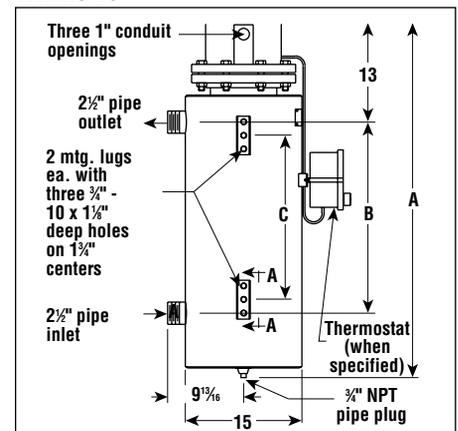
To Order							
kW	Volts	Ckt & Phase	Dimensions: in			Model No.	Wt. (lb)
			A	B	C		
Series 03—3", 150 lb, 304 Passivated Stainless Steel Vessel, 3 INCOLOY Elements (45 W/in²) with Side Mounted Thermostat (60 to 250°F)—1 NPT Pipe Inlet and Outlet							
6	240	1-3	32 ¹⁵ / ₁₆	22 ¹ / ₂	16 ¹ / ₂	NWHIS-03-006P-E1/240	70
6	480	1-3	32 ¹⁵ / ₁₆	22 ¹ / ₂	16 ¹ / ₂	NWHIS-03-006P-E1/480	70
12	240	1-3	42 ¹⁵ / ₁₆	32 ¹ / ₂	26 ¹ / ₂	NWHIS-03-012P-E1/240	80
12	480	1-3	42 ¹⁵ / ₁₆	32 ¹ / ₂	26 ¹ / ₂	NWHIS-03-012P-E1/480	80
18	240	1-3	55 ⁷ / ₁₆	45	39	NWHIS-03-018P-E1/240	98
18	480	1-3	55 ⁷ / ₁₆	45	39	NWHIS-03-018P-E1/480	98
Series 06—5", 150 lb, 304 Passivated Stainless Steel Vessel, 6 INCOLOY Elements (45 W/in²) with Side Mounted Thermostat (60 to 250°F)—2 NPT Pipe Inlet and Outlet							
24	240	2-3	41 ³ / ₄	30	11 ³ / ₄	NWHIS-06-024P-E1/240	140
24	480	1-3	41 ³ / ₄	30	11 ³ / ₄	NWHIS-06-024P-E1/480	140
30	240	2-3	48 ³ / ₄	37	14 ³ / ₄	NWHIS-06-030P-E1/240	155
30	480	1-3	48 ³ / ₄	37	14 ³ / ₄	NWHIS-06-030P-E1/480	155
40	240	2-3	60 ³ / ₄	48 ¹ / ₂	20 ³ / ₄	NWHIS-06-040P-E1/240	176
40	480	2-3	60 ³ / ₄	48 ¹ / ₂	20 ³ / ₄	NWHIS-06-040P-E1/480	176
50	480	2-3	73 ³ / ₄	61 ¹ / ₂	27 ³ / ₄	NWHIS-06-050P-E1/240	210
Series 18—8", 150 lb, 304 Passivated Stainless Steel Vessel, 18 INCOLOY Elements (45 W/in²)—2 1/2" NPT Pipe Inlet and Outlet							
50	240	3-3	45 ¹ / ₂	24 ¹ / ₁₆	27 ⁷ / ₁₆	NWHIS-18-050P-E1/240	396
50	480	3-3	45 ¹ / ₂	24 ¹ / ₁₆	27 ⁷ / ₁₆	NWHIS-18-050P-E1/480	396
75	240	3-3	53 ¹ / ₂	32 ¹ / ₁₆	29 ⁷ / ₁₆	NWHIS-18-075P-E1/240	414
75	480	3-3	53 ¹ / ₂	32 ¹ / ₁₆	29 ⁷ / ₁₆	NWHIS-18-075P-E1/480	414
100	240	3-3	60 ¹ / ₂	39 ¹ / ₁₆	36 ⁷ / ₁₆	NWHIS-18-100P-E1/240	425
100	480	3-3	60 ¹ / ₂	39 ¹ / ₁₆	36 ⁷ / ₁₆	NWHIS-18-100P-E1/480	425
125	240	3-3	67 ¹ / ₂	47 ¹ / ₁₆	43 ⁷ / ₁₆	NWHIS-18-125P-E1/240	470
125	480	3-3	67 ¹ / ₂	47 ¹ / ₁₆	43 ⁷ / ₁₆	NWHIS-18-125P-E1/480	470
150	240	3-3	77 ¹ / ₂	56 ¹ / ₁₆	53 ⁷ / ₁₆	NWHIS-18-150P-E1/240	535
150	480	3-3	77 ¹ / ₂	56 ¹ / ₁₆	53 ⁷ / ₁₆	NWHIS-18-150P-E1/480	535
175	240	3-3	86 ¹ / ₂	65 ¹ / ₁₆	62 ⁷ / ₁₆	NWHIS-18-175P-E1/240	625
175	480	3-3	86 ¹ / ₂	65 ¹ / ₁₆	62 ⁷ / ₁₆	NWHIS-18-175P-E1/480	625
200	240	3-3	96 ¹ / ₂	75 ¹ / ₁₆	72 ⁷ / ₁₆	NWHIS-18-200P-E1/240	705
200	480	3-3	96 ¹ / ₂	75 ¹ / ₁₆	72 ⁷ / ₁₆	NWHIS-18-200P-E1/480	705



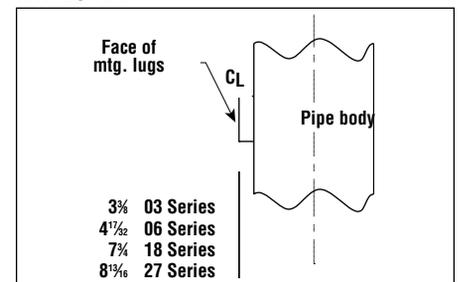
NWHIS-06



NWHIS-18



NWHIS-AA



Model	Pure Water and Mildly Corrosive Solution		
NWH IS	Water Circulation Heater		
	INCOLOY Elements — Stainless Steel Vessel		
Code	Number of Elements		
03	Three		
06	Six		
18	Eighteen		
Code	kW		
006P	6	040P	40
012P	12	050P	50
018P	18	075P	75
024P	24	100P	100
030P	30	125P	125
150P	150	175P	175
200P	200		
Code	Terminal Enclosure		
E1	General Purpose		
E2	Moisture Resistant/Explosion Resistant		
E3	Explosion Resistant		
E4	Moisture Resistant		
NWH	03	006P	E1
Typical Model Number			

Ordering Example:
NWHIS-18-050P-E1/240,
50 kW, 240V heater.

Note: Refer to the Controls section online for side mounted controls or control panels.

Ordering Information

To Order—Complete the Model Number using the Matrix provided.

CORROSIVE OIL & HIGHLY CORROSIVE SOLUTION APPLICATIONS

NWHOIS Series

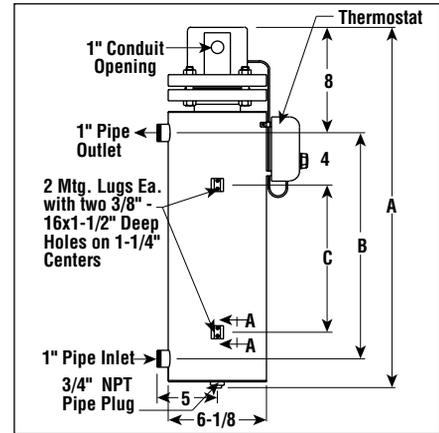
kW	Volts	Ckt & Phase	Dimensions: in			Model No.	Wt. (lb)
			A	B	C		
Series 03 — 3 inch, 150 lb 304 passivated stainless steel vessel, 3 INCOLOY elements (15 W/In²) with side mounted thermostat (60 to 250°F) — 1" NPT pipe inlet and outlet							
2	240	1-3	32 ¹⁵ / ₁₆	22 ¹ / ₂	16 ¹ / ₂	NWHOIS-03-002P-E1/240	70
2	480	1-3	32 ¹⁵ / ₁₆	22 ¹ / ₂	16 ¹ / ₂	NWHOIS-03-002P-E1/480	70
4	240	1-3	42 ¹⁵ / ₁₆	32 ¹ / ₂	26 ¹ / ₂	NWHOIS-03-004P-E1/240	80
4	480	1-3	42 ¹⁵ / ₁₆	32 ¹ / ₂	26 ¹ / ₂	NWHOIS-03-004P-E1/480	80
6	240	1-3	55 ⁵ / ₁₆	45	39	NWHOIS-03-006P-E1/240	98
6	480	1-3	55 ⁵ / ₁₆	45	39	NWHOIS-03-006P-E1/480	98
Series 06 — 5 inch, 150 lb 304 passivated stainless steel vessel, 6 INCOLOY elements (15 W/In²) with side mounted thermostat (60 to 250°F) — 2" NPT pipe inlet and outlet							
8	240	1-3	4 ¹ / ₄	30	11 ¹ / ₂	NWHOISR-06-008P-E1/240	140
8	480	1-3	4 ¹ / ₄	30	11 ¹ / ₂	NWHOISR-06-008P-E1/480	140
12	240	1-3	60 ¹ / ₄	48 ¹ / ₂	20 ¹ / ₂	NWHOISR-06-012P-E1/240	176
12	480	1-3	60 ¹ / ₄	48 ¹ / ₂	20 ¹ / ₂	NWHOISR-06-012P-E1/480	176
Series 06 — 5 inch, 150 lb 304 passivated stainless steel vessel, 6 INCOLOY elements (23 W/In²) with side mounted thermostat (60 to 250°F) — 2" NPT pipe inlet and outlet							
25	240	2-3	73 ³ / ₈	61 ¹ / ₂	27 ³ / ₈	NWHOIS-06-025P-E1/240	176
25	480	1-3	73 ³ / ₈	61 ¹ / ₂	27 ³ / ₈	NWHOIS-06-025P-E1/480	176
30	240	2-3	86 ³ / ₈	74 ³ / ₈	33 ³ / ₈	NWHOIS-06-030P-E1/240	240
30	480	1-3	86 ³ / ₈	74 ³ / ₈	33 ³ / ₈	NWHOIS-06-030P-E1/480	240

Ordering Example: NWHOISR-06-008P-E1/480, 8 kW, 480V heater.
Note: Refer to the Controls section online for side mounted controls or control panels.

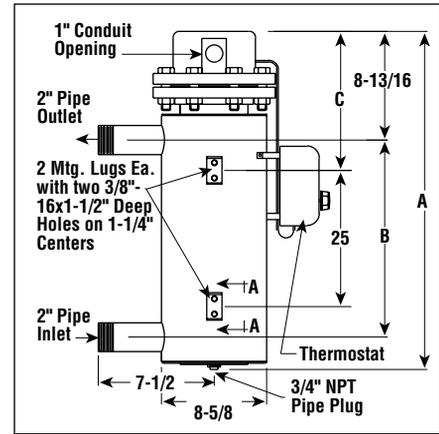
Ordering Information
 To Order — Complete the Model Number using the Matrix provided.

Model	Corrosive Oil and Highly Corrosive Solution	
NWHO	Oil Circulation Heater	
IS	INCOLOY Elements — Stainless Steel Vessel	
R	Reduced Watt Density	
Code	Number of Elements	
03	Three	
06	Six	
Code	kW	
002P	2	008P 8 030P 30
004P	4	012P 12
006P	6	025P 25
Code	Terminal Enclosure	
E1	General Purpose	
E2	Moisture Resistant/Explosion Resistant	
E3	Explosion Resistant	
E4	Moisture Resistant	
NWHOIS 03	002P E1	Typical Model Number

Dimensions (Inches)
NWHOIS-03



NWHOIS-06



NWHOIS-AA

