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HE-50/HE-51

DESCRIPTION:

Heat Exchanger (oil to air) with single fan. For use with B-130H and B-160H housings.

PERFORMANCE:

600 W with 50° delta T (48.6 kHU/minute). Refer to cooling chart for other delta T ratings.

HOSE LENGTH:

5 feet maximum (1.5 meters)

POWER REQUIREMENTS:

HE-50 110 - 120 VAC 50/60 Hz 3.2 Amps

HE-51 200 - 240 VAC 50/60 Hz 2.5 Amps

DIMENSIONS:

Width 4.5 inches (114 mm)

Length 8.5 inches (216 mm)

Height 4.2 inches (107 mm)

WEIGHT:

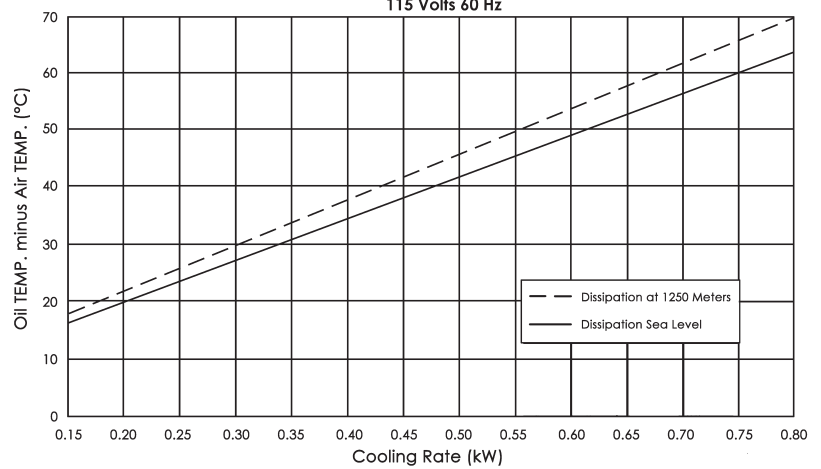
6.6 Pounds (3.0 kg)

MOUNTING:

Select mounting location where ambient temperature is low. Connect power cord to source that is energized whenever x-ray tube with heat exchanger is selected

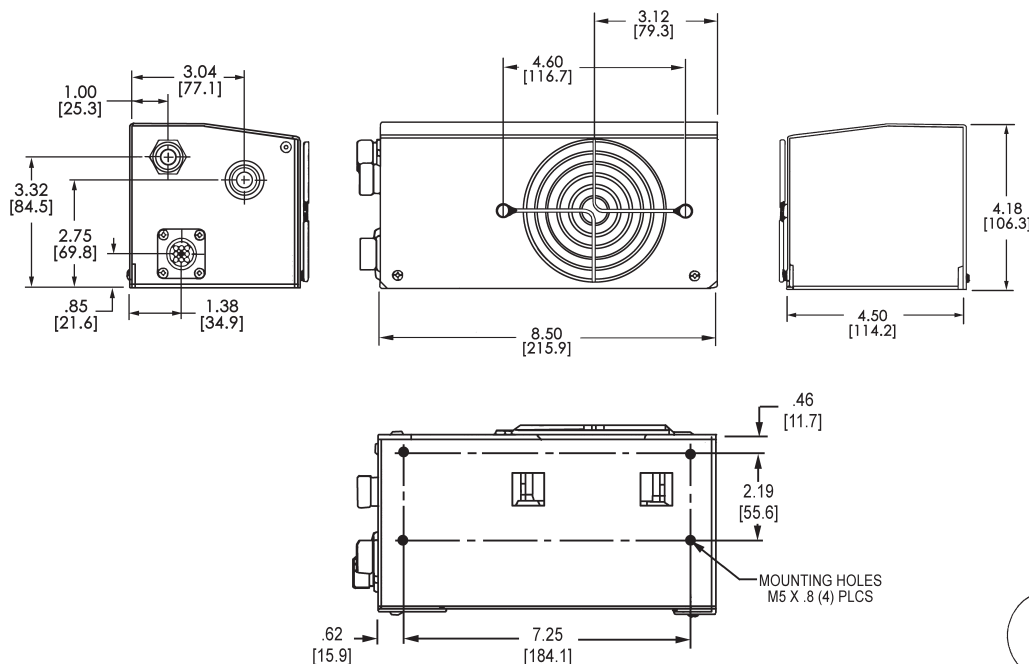


COOLING CHARACTERISTICS
Oil-Air (ΔT) vs. Cooling Rate
115 Volts 60 Hz

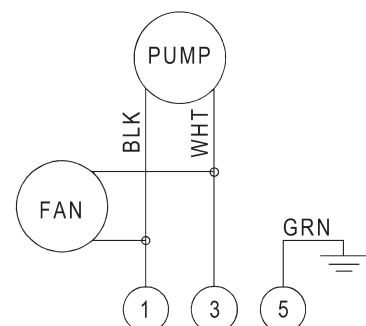


Outline Drawing

Dimensions are for reference only



Wiring Diagram





HE-100/HE-101

DESCRIPTION:

HE-100/101 Heat Exchanger (oil to air) for use with B-130H, B-150H, B-160H and B-180H housings. Oil pump is quiet centrifugal type.

PERFORMANCE:

1130 W with 50° delta T (91.5 KHU/minute). Refer to cooling chart for other delta T ratings.

The HE-100 provides less than 54 db of noise level. The pump noise has been reduced so that the 100 CFM fan is the only source of noise.

HOSE LENGTH:

30 inches minimum (0.75 meters), 40 feet maximum (12 meters). Quote desired length when ordering.

Note: Hose length's longer than 5 feet (1.5 m) require the IK-124 HE diaphragm kit.

POWER REQUIREMENTS:

HE-100	110 - 120 VAC	50/60 Hz	1.7 Amps
HE-101	220 - 230 VAC	50/60 Hz	1.5 Amps

FAIL SAFE DEVICE:

Thermal Switch - Located on housing, normally closed contacts. Open at 80°C. (Thermal switch is internal to B-130 housing.)

DIMENSIONS:

Width 9.625 inches (244 mm)
Length 9.125 inches (232 mm)
Height 4.75 inches (121 mm)

WEIGHT:

17.5 Pounds (7.94 kg)
21.7 Pounds (9.85 kg) with IK-124

MOUNTING:

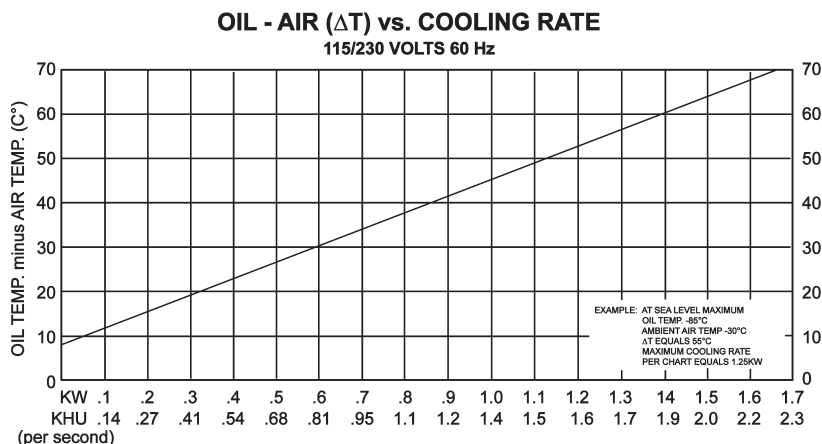
- Select mounting location where ambient temperature is low. Heat exchanger should be mounted so that hoses are not subject to stress, such as stretching, pinching or kinking.
- Heat exchanger is provided with threaded holes (10-32) in mounting stand-offs in base. Mounting surface should have access on "back" side for installation of heat exchanger mounting screws. Use #10 drill to drill 4 mounting holes. Use 4, #10 lockwashers and 4, 10-32 screws to mount heat exchanger. Screw length must be equal to thickness of mounting surface plus 3/16". Shim screws with #10 flat washers as necessary to achieve 3/16" available thread for screwing into the stand-offs in heat exchanger base.
- Connect power cord to power source appropriate to heat exchanger model (see power requirements). Source must be one that is energized whenever x-ray tube with heat exchanger is selected.
- Connect two black wires from housing thermal switch to generator interlocks. (B-130 housing - Thermal switch wires are in stator cable.).

CONNECTING OIL LINES WITH QUICK DISCONNECT FITTINGS:

To prevent air in housing from oil line quick disconnect fittings observe the following procedures.

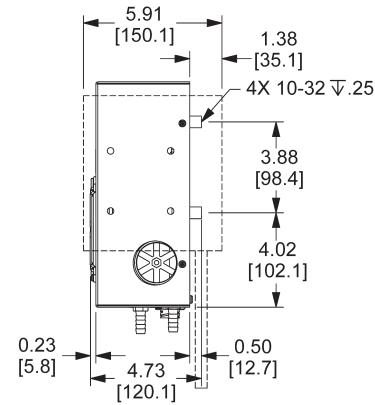
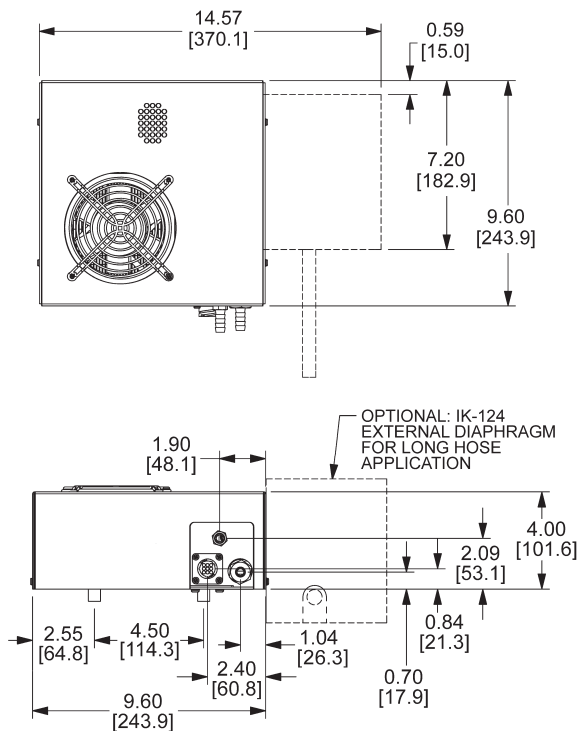
- Do not apply any side pressure on fittings such as from tie-wrapping to cable bundles or looping in tight circle.
- Dress heat exchanger hoses so that no kinking, pinching or pressure is exerted on them during any movements of the housing.
- Never run heat exchanger with fittings disconnected.
- Always** return heat exchanger with x-ray tube regardless of reason for return.

HE-100/HE-101 Cooling Characteristics



Outline Drawing

Dimensions are for reference only

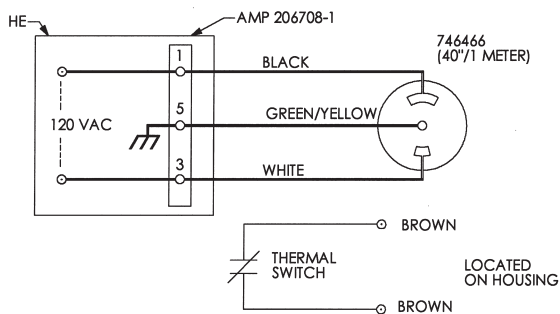


Three Conductor Cable

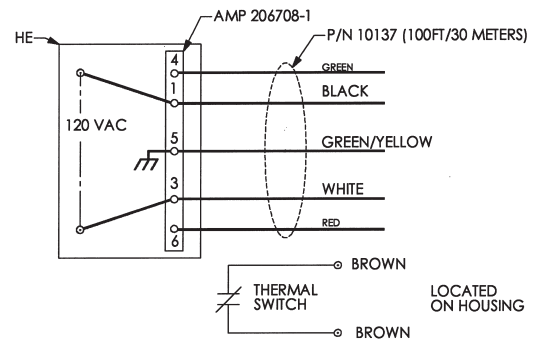
Wiring Diagram

Five Conductor Cable

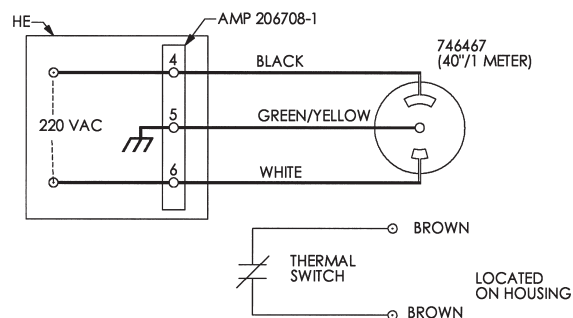
HE 100/HE 110 120VAC
THREE CONDUCTOR CABLE



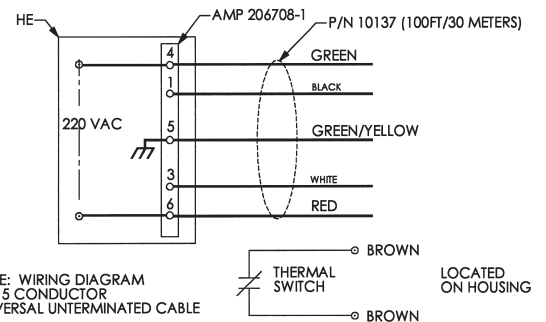
HE 100/HE 110 120VAC
FIVE CONDUCTOR CABLE



HE 101/HE 111 220VAC
THREE CONDUCTOR CABLE



HE 101/HE 111 220VAC
FIVE CONDUCTOR CABLE



NOTE: WIRING DIAGRAM FOR 5 CONDUCTOR UNIVERSAL UNTERMINATED CABLE



HE-110/HE-111

DESCRIPTION:

Heat Exchanger (oil to air) for use with B-130H, B-150H, B-160H and B-180H housings. Oil pump is gear type, somewhat noisy.

PERFORMANCE:

1000W with 50° delta T (81 KHU/minute).
Refer to cooling chart for other delta T ratings.

HOSE LENGTH:

30 inches minimum (0.75 meters), 40 feet maximum (12 meters). Quote desired length when ordering.

Note: Hose length's longer than 5 feet (1.5 m) require the IK-124 HE diaphragm kit.

POWER REQUIREMENTS:

HE-110	110 - 120 VAC	50/60 Hz	1.5 Amps
HE-111	220 - 230 VAC	50/60 Hz	1.0 Amps

FAIL SAFE DEVICE:

Thermal Switch - Located on housing, normally closed contacts. Open at 80°C. (Thermal switch is internal to B-130 housing.)

DIMENSIONS:

Width 9.625 inches (244 mm)
Length 9.125 inches (232 mm)
Height 4.75 inches (121 mm)

WEIGHT:

17.5 Pounds (7.94 kg)
21.7 Pounds (9.85 kg) with IK-124
U/L and CSA listed.

MOUNTING:

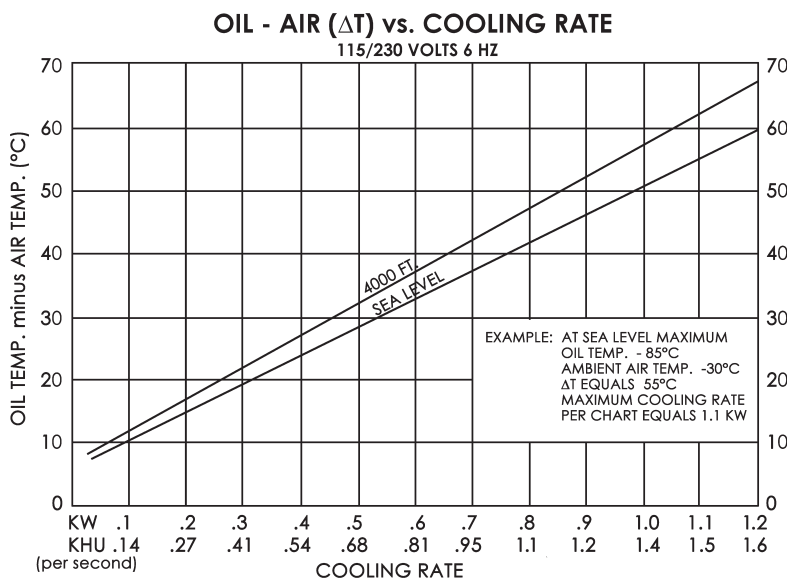
- Select mounting location where ambient temperature is low. Heat exchanger should be mounted so that hoses are not subject to stress, such as stretching, pinching or kinking.
- Heat exchanger is provided with threaded holes (10-32) in mounting stand-offs in base. Mounting surface should have access on "back" side for installation of heat exchanger mounting screws. Use #10 drill to drill 4 mounting holes. Use 4, #10 lockwashers and 4, 10-32 screws to mount heat exchanger. Screw length must be equal to thickness of mounting surface plus 3/16". Shim screws with #10 flat washers as necessary to achieve 3/16" available thread for screwing into the stand-offs in heat exchanger base.
- Connect power cord to power source appropriate to heat exchanger model (see power requirements). Source must be one that is energized whenever x-ray tube with heat exchanger is selected.
- Connect two black wires from housing thermal switch to generator interlocks. (B-130 housing - Thermal switch wires are in stator cable.)

CONNECTING OIL LINES WITH QUICK DISCONNECT FITTINGS:

To prevent air in housing from oil line quick disconnect fittings observe the following procedures.

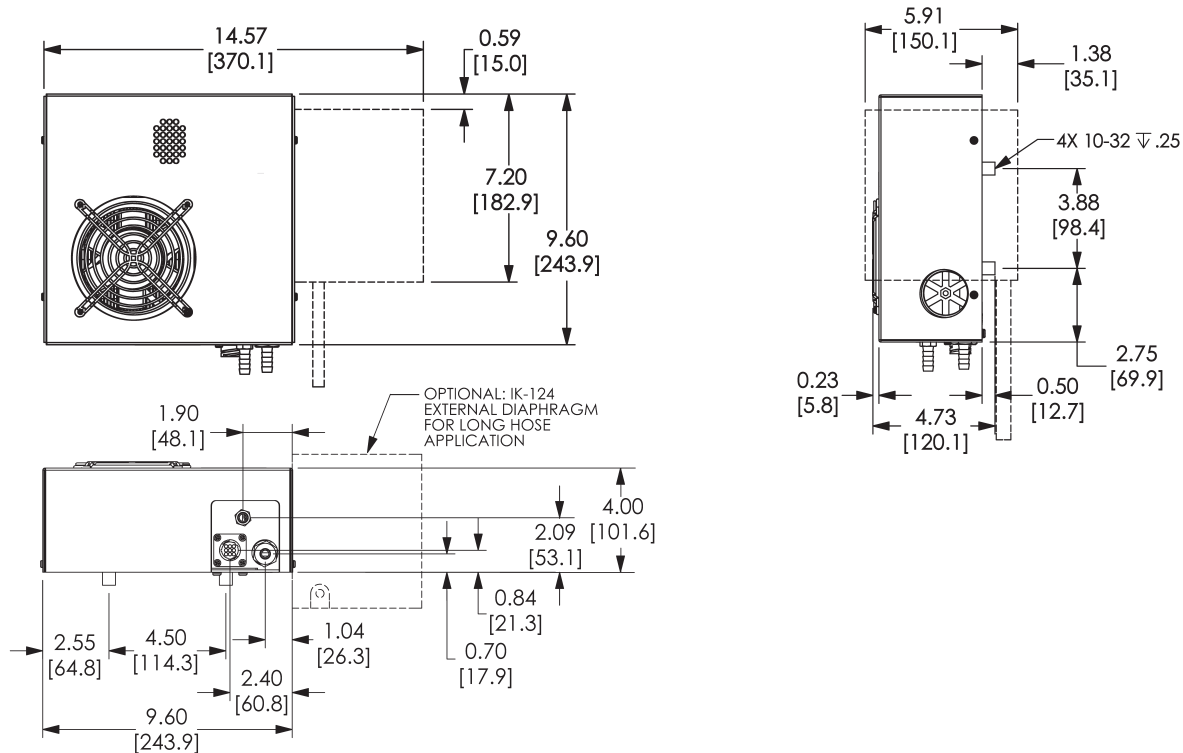
- Do not apply any side pressure on fittings such as from tie-wrapping to cable bundles or looping in tight circle.
- Dress heat exchanger hoses so that no kinking, pinching or pressure is exerted on them during any movements of the housing.
- Never run heat exchanger with fittings disconnected.
- Always** return heat exchanger with x-ray tube regardless of reason for return.

HE-110/HE-111 Cooling Characteristics



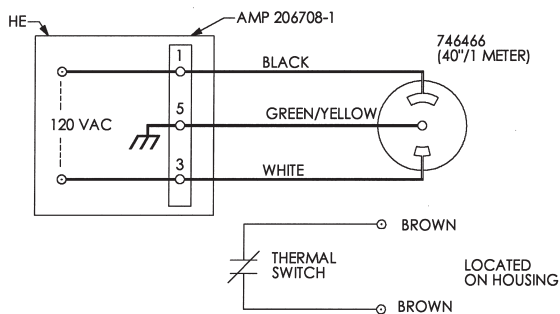
Outline Drawing

Dimensions are for reference only

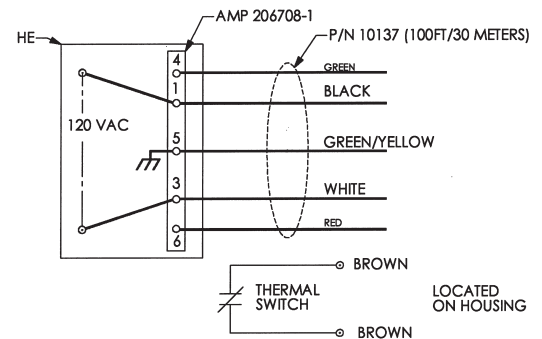


Wiring Diagram

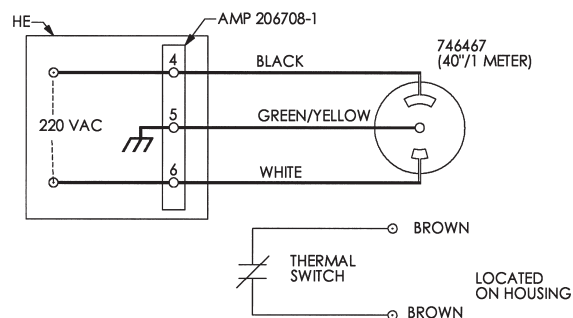
**HE 100/HE 110 120VAC
THREE CONDUCTOR CABLE**



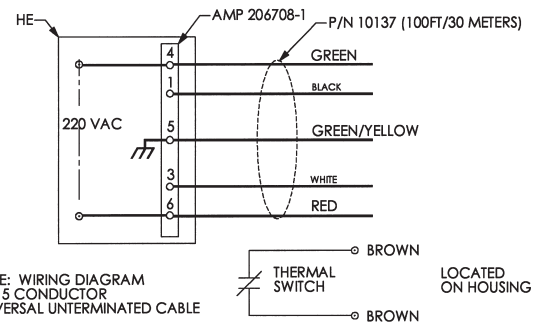
**HE 100/HE 110 120VAC
FIVE CONDUCTOR CABLE**



**HE 101/HE 111 220VAC
THREE CONDUCTOR CABLE**



**HE 101/HE 111 220VAC
FIVE CONDUCTOR CABLE**



NOTE: WIRING DIAGRAM FOR 5 CONDUCTOR UNIVERSAL UNTERMINATED CABLE



HE-320/HE-321

DESCRIPTION:

Heat Exchanger (oil to air) with single fan. For use with B-160H, B-180H and MAMRAD-105H housings. Oil pump is gear type.

PERFORMANCE:

2.4 kW with 50° delta T (194 kHU/minute). Refer to cooling chart for other delta T ratings.

HOSE LENGTH:

30 inches minimum (0.75 meters), 40 feet maximum (12 meters).

Note: Hose length's longer than 5 feet (1.5 m) require the IK-124 HE diaphragm kit.

POWER REQUIREMENTS:

HE-320	110 - 120 VAC	50/60 Hz	2.0 Amps
HE-321	220 - 230 VAC	50/60 Hz	1.2 Amps

FAIL SAFE DEVICE:

Flow Switch - Normally open contacts. Contacts closed with adequate oil flow.

DIMENSIONS:

Width 9.125 inches (232 mm)
Length 16 inches (406 mm)
Height 5.25 inches (133 mm)

WEIGHT:

26 Pounds (11.8 kg)

MOUNTING:

Select mounting location where ambient temperature is low.

Connect power cord to source that is energized whenever x-ray tube with heat exchanger is selected.

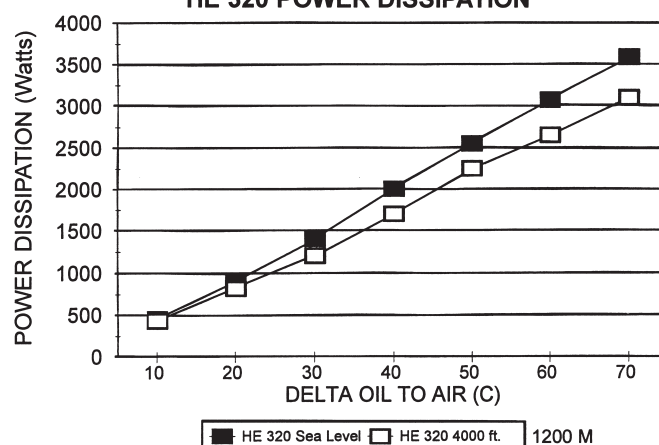
Connect flow switch and thermal switch on housing in series with existing exposure interlocks.

CONNECTING OIL LINES WITH QUICK DISCONNECT FITTINGS:

To prevent air in housing from oil line quick disconnect fittings observe the following procedures.

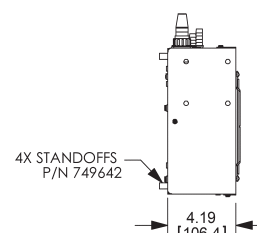
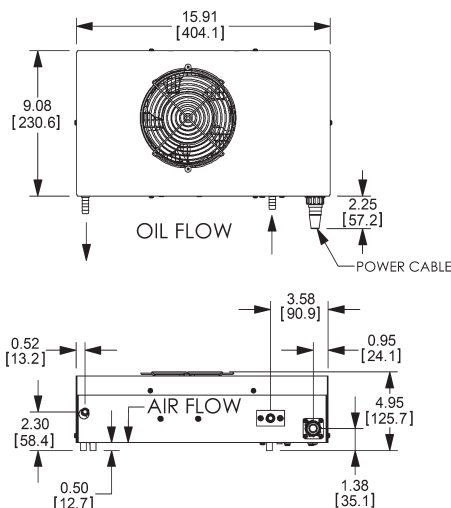
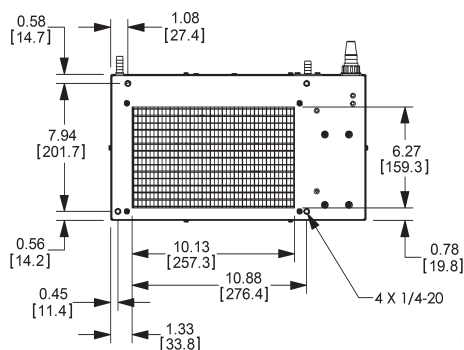
- Do not apply any side pressure on fittings such as from tie-wrapping to cable bundles or looping in tight circle.
- Never run heat exchanger with fittings disconnected.
- Always** return heat exchanger with x-ray tube regardless of reason for return.

COOLING CHARACTERISTICS HE 320 POWER DISSIPATION



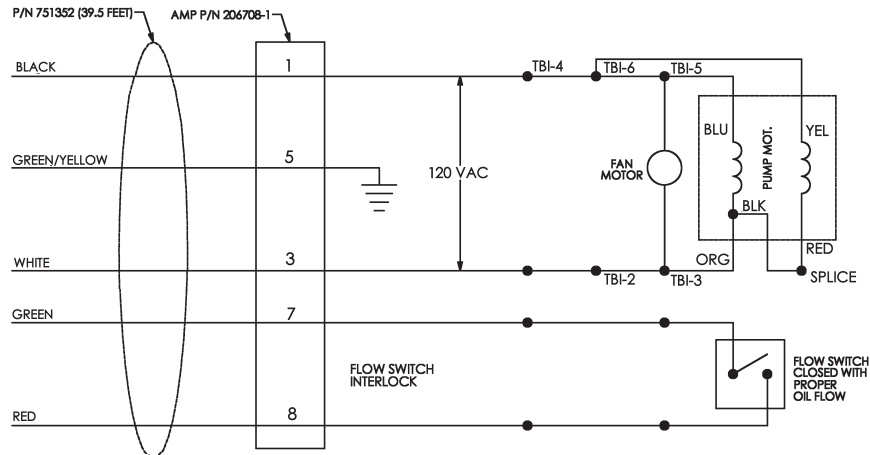
Outline Drawing

Dimensions are for reference only



Wiring Diagram

HE-320



HE-321

