ARCTIC FOX

ISO 9001 Registered

Fuel and Fluid Warmers for Maximum Cold Weather Productivity

OUT *FOX* THE *COLD*

WITH

SMARTER SOLUTIONS!!

PRODUCT CATALOG VOLUME 18

www.arctic-fox.com

B-500 10/13

Orion Registrar, Inc., USA
Certificate of Registration

This is to certify the Quality Management System of:

Arctic Fox, LLC
570 South 7th Street
Delano, Minnesota 55328
USA

Has been assessed by Orion Registrar and found to be in compliance with the following Quality Standard:

ISO 9001:2008

The Quality Management System is Applicable to:

Design and Manufacture of Fluid Heating System Components and Provider of Custom Tube and Metal Goods Fabrication Services.

The Registration period is from December 16, 2011 to December 15, 2014.
This registration is subject to the company maintaining its system to the required standard, and applicable exceptions, which will be monitored by Orion.
Client ID 00360-00001. Certificate ID A0000071-11.
EAC / NAICS / SIC Code(s): 17 18 / 332999 / 3399 3585

ANAB ACCREDITED

Carl M [illegible]
President

11/01/2011
Date

MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT IAF

Orion Registrar, Inc. ★ Arvada, Colorado ★ PO Box 745070 ★ 303-456-6010 ★ FAX 303-456-6681

To authenticate this certificate please visit www.orion4value.com

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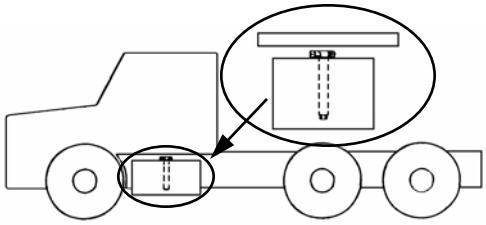
HOT FOX™ IN-LINE/IN-TANK FUEL WARMERS

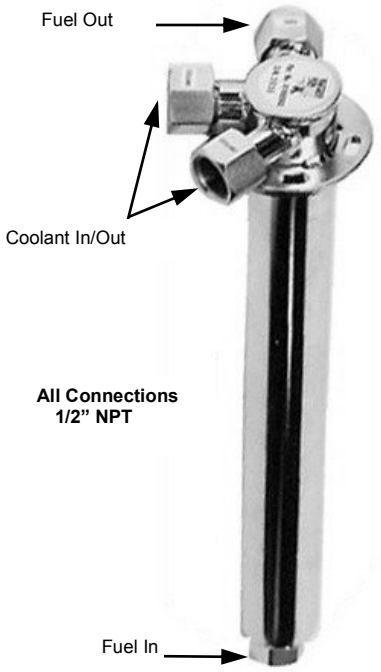
- **Lowest Profile 1-1/3" (34mm)**
- **Stainless Steel**
- **All Welded Construction**
- **Sizes for All Tanks**
- **Rotates for Easy Mounting**
- **Mounts in Vehicle Sending Gauge Opening**

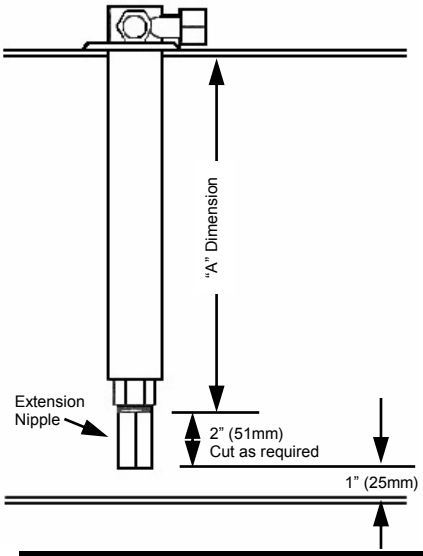
Get faster warming and cleaner installation with the HOT FOX™ fuel warmer from Arctic Fox. It truly is an in-line fuel warmer that installs in the fuel tank. The simple 1-1/2 inch (38mm) diameter stainless steel tube inserts into the tank through a standard USA fuel gauge sending unit opening. Coolant passages inside the tube surround the fuel standpipe to provide excellent heat rise. The internal fuel line features an exclusive spiral design to maximize heat exchange between warm coolant and cold fuel.

For most efficient heat transfer, choose the longest HOT FOX™ fuel warmer available for your tank diameter/depth. Each unit comes with a 2" (51mm) extension fitting: A-858. Special sizes are available upon request.



Low Profile Design
HOT FOX™ fits where other fuel warmers can't.





SELECTION CHART		"A" Dimension		
Tank Depth/Diameter	Part Number	No Spacer	1/2" (13mm) Spacer KT-875	1" (25mm) Spacer KT-877
08-10" / 203-245mm	HFG 08-10	7" / 178mm	6-1/2" / 165mm	6" / 152mm
10-12" / 245-305mm	HFG 10-12	9" / 229mm	8-1/2" / 216mm	8"/ 254mm
12-14" / 305-356mm	HFG 12-14	11" / 279mm	10-1/2" / 267mm	10" / 203mm
13-15" / 330-381mm	HFG 13-15	12" / 305mm	11-1/2" / 292mm	11" / 279mm
14-16" / 356-406mm	HFG 14-16	13" / 330mm	12-1/2" / 318mm	12" / 305mm
17-19" / 432-483mm	HFG 17-19	16" / 406mm	15-1/2" / 394mm	15" / 381mm
20-22" / 508-559mm	HFG 20-22	19" / 483mm	18-1/2" / 470mm	18" / 457mm
22-24" / 559-610mm	HFG 22-24	21" / 533mm	20-1/2" / 521mm	20" / 508mm
24-26" / 610-660mm	HFG 24-26	23" / 584mm	22-1/2" / 572mm	22" / 559mm
26-28" / 660-711mm	HFG 26-28	25" / 635mm	24-1/2" / 622mm	24" / 610mm
27-29" / 686-737mm	HFG 27-29	26" / 660mm	25-1/2" / 648mm	25" / 635mm

Heat Rise Data — **Coolant Temperature between 192°F / 89°C and 201°F / 94°C—Coolant flow at 5GPM/19LM**

HFG 13-15			HFG 20-22			HFG 27-29		
Fuel Flow GPM/LM	Temp In F/C	Temp Out F/C	Fuel Flow GPM/LM	Temp In F/C	Temp Out F/C	Fuel Flow GPM/LM	Temp In F/C	Temp Out F/C
0.17/0.6	+1.7/-17	69.5/21	0.19/0.7	-3.7/-20	84.3/29	0.21/0.8	0.0/-18	81.7/28
0.50/1.9	+2.6/-16	43.2/6	0.51/1.9	-3.7/-20	51.6/11	0.48/2.2	+1.8/-18	71.6/22
1.53/5.8	-0.7/-18	23.9/-5	1.44/5.5	-3.8/-20	34.2/1	1.57/6	2.2/-17	45.7/8
0.16/.6	-20.9/-29	60.9/16	0.20/0.8	-19.2/-28	67.8/20	0.24/1.1	-22.0/-30	66.2/19
0.50/1.9	-20.4/-29	19.2/-7	0.56/2.5	-19.9/-29	34.2/1	0.49/1.9	-21.1/-30	55.5/13
1.50/5.7	-20.3/-29	5.4/-15	1.59/6	-20.5/-29	16.8/-8	1.51/6.9	-20.1/-29	26.1/-3
0.22/0.8	-34.7/-37	37.8/3	0.16/0.6	-36.1/-38	78.9/26	0.17/0.6	-31.8/-35	67.2/20
0.52/1.9	-34.8/-37	9.5/-13	0.50/1.9	-36.0/-38	18.6/-7	0.54/2	-32.9/-36	37.2/3
1.44/5.5	-34.8/-37	-7.5/-22	1.48/5.6	-35.9/-38	-1.4/-19	1.60/6	-33.4/-36	10.8/-12

Recommendation: The HFG, TWHF, & SHFT Series HOT FOX™ fuel warmers can mount into an unused, standard USA fuel sending gauge opening. **For installations into non-reinforced gauge hole openings in tanks manufactured of 14 gauge (0.075"/1.9mm) and lighter steel or 0.100" /2.5mm and lighter aluminum, the appropriate adapter kit KT-826F, KT-827C, or KT-831 CS is suggested.** For extreme vibration applications and all applications involving horizontal mounting, the use of either A-1721, or A-2060 adapters is suggested, see page 7 for details.

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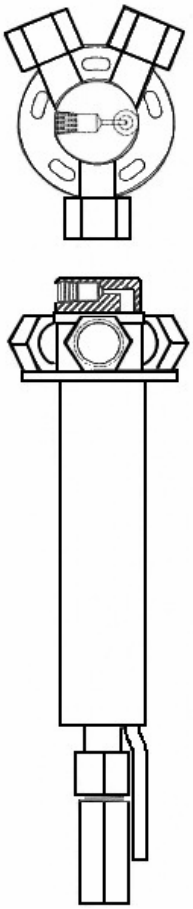
HOT FOX™ FUEL WARMER WITH AUXILIARY STANDPIPE

The Hot Fox™ fuel warmer with Auxiliary Standpipe from Arctic Fox combines heated fuel standpipes for main fuel and accessory fuel supply with an in-tank fuel warmer. The streamlined all stainless steel unit installs in the fuel tank through an unused, standard USA fuel gauge sending unit opening. Operators can now easily supply diesel fired coolant heaters, diesel fired cab heaters, and other auxiliary fuel requirements as well as the main engine fuel supply all in one package.

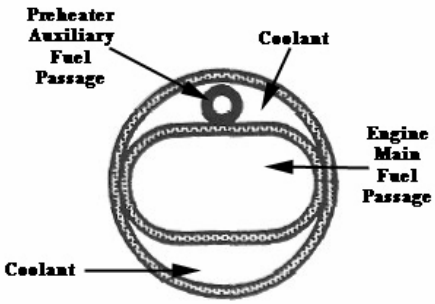
FEATURES AND BENEFITS:

- Supplies warm fuel for both main engine and fuel fired coolant pre-heaters, cab warmers, or other fuel dependent products.
- Available with 2mm or 4mm I.D. Auxiliary Fuel Tube to accommodate low or high fuel flow accessories.
- Stainless Steel Construction for durability and compatibility with all fuels and additives.
- Low Profile—2" (51mm) mounts on vehicles with reduced clearance between fuel tank and cab.

PART NUMBER	TANK DEPTH	COOLANT PORT SIZE	MAIN FUEL PORT SIZE	AUX FUEL PORT SIZE	AUX FUEL TUBE I.D.
TWHF 10-12 2mm	10-12" / 254-305mm	1/2" NPT	1/2" NPT	1/8" NPT	2mm
TWHF 12-14 2mm	12-14" / 305-356mm	1/2" NPT	1/2" NPT	1/8" NPT	2mm
TWHF 13-15 2mm	13-15" / 254-381mm	1/2" NPT	1/2" NPT	1/8" NPT	2mm
TWHF 14-16-2mm	14-16" / 356-406mm	1/2" NPT	1/2" NPT	1/8" NPT	2mm
TWHF 17-19 2mm	17-19" / 432-483mm	1/2" NPT	1/2" NPT	1/8" NPT	2mm
TWHF 20-22 2mm	20-22" / 508-559mm	1/2" NPT	1/2" NPT	1/8" NPT	2mm
TWHF 22-24 2mm	22-24" / 559-610mm	1/2" NPT	1/2" NPT	1/8" NPT	2mm
TWHF 24-26 2mm	24-26" / 610-660mm	1/2" NPT	1/2" NPT	1/8" NPT	2mm
TWHF 26-28 2mm	26-28" / 660-711mm	1/2" NPT	1/2" NPT	1/8" NPT	2mm
TWHF 27-29 2mm	27-29" / 686-737mm	1/2" NPT	1/2" NPT	1/8" NPT	2mm
TWHF 10-12 4mm	10-12" / 254-305mm	1/2" NPT	1/2" NPT	1/8" NPT	4mm
TWHF 12-14 4mm	12-14" / 305-356mm	1/2" NPT	1/2" NPT	1/8" NPT	4mm
TWHF 13-15 4mm	13-15" / 254-381mm	1/2" NPT	1/2" NPT	1/8" NPT	4mm
TWHF 14-16 4mm	14-16" / 356-406mm	1/2" NPT	1/2" NPT	1/8" NPT	4mm
TWHF 17-19 4mm	17-19" / 432-483mm	1/2" NPT	1/2" NPT	1/8" NPT	4mm
TWHF 20-22 4mm	20-22" / 508-559mm	1/2" NPT	1/2" NPT	1/8" NPT	4mm
TWHF 22-24 4mm	22-24" / 559-610mm	1/2" NPT	1/2" NPT	1/8" NPT	4mm
TWHF 24-26 4mm	24-26" / 610-660mm	1/2" NPT	1/2" NPT	1/8" NPT	4mm
TWHF 26-28 4mm	26-28" / 660-711mm	1/2" NPT	1/2" NPT	1/8" NPT	4mm
TWHF 27-29 4mm	27-29" / 686-737mm	1/2" NPT	1/2" NPT	1/8" NPT	4mm



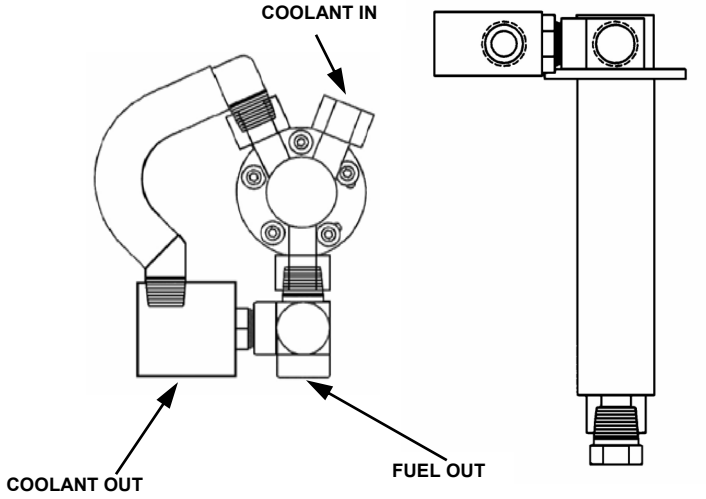
Recommendation: The HFG, TWHF, & SHFT Series HOT FOX™ fuel warmers can mount into an unused, standard USA fuel sending gauge opening. **For installations into non-reinforced gauge hole openings in tanks manufactured of 14 gauge (0.075"/1.9mm) and lighter steel or 0.100" /2.5mm and lighter aluminum, the appropriate adapter kit KT-826F, KT-827C, or KT-831 CS is suggested.** For extreme vibration applications and all applications involving horizontal mounting, the use of either A-1721, or A-2060 adapters is suggested see page 7 for details.



HOT FOX™ FUEL WARMER WITH SHUT-OFF THERMOSTAT

Get the fuel warming efficiency you desire and the thermostatic control you need in one factory assembled product. The Hot Fox™ Fuel Warmer with coolant Shut-Off Thermostat is the in-line fuel warmer that installs in the fuel tank through a standard USA fuel sending gauge opening and comes from the factory with a thermostat directly mounted to the heater.

Recommendation: The HFG, TWHF, & SHFT Series HOT FOX™ fuel warmers can mount into an unused, standard USA fuel sending gauge opening. **For installations into non-reinforced gauge hole openings in tanks manufactured of 14 gauge (0.075"/1.9mm) and lighter steel or 0.100" /2.5mm and lighter aluminum, the appropriate adapter kit KT-826F, KT-827C, or KT-831 CS is suggested.** For extreme vibration applications and all applications involving horizontal mounting, the use of either A-1721, or A-2060 adapters is suggested see page 7 for details.



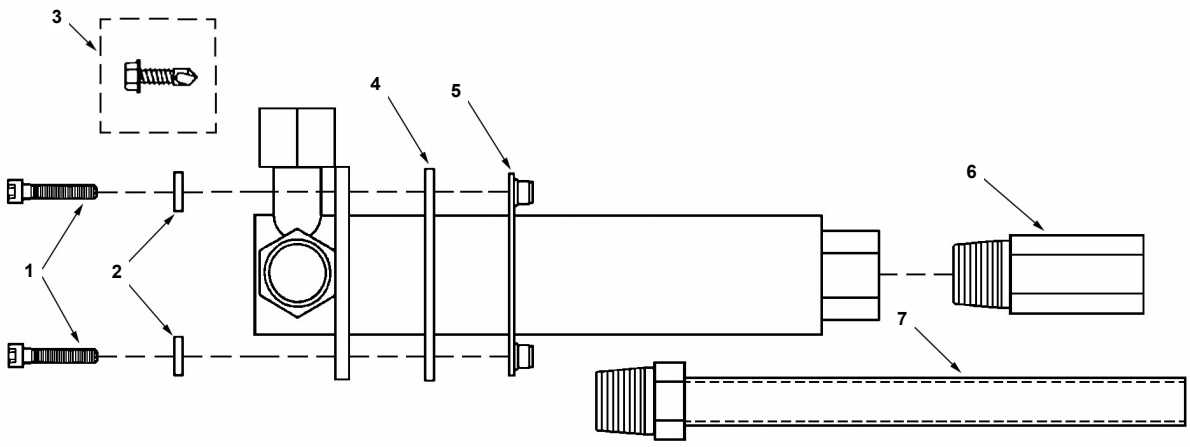
PART	TANK
SHFT-2512-10-12	10-12" /254-305mm
SHFT-2512-12-14	12-14" / 305-356mm
SHFT-2512-13-15	13-15" / 330-381mm
SHFT-2512-14-16	14-16" / 356-406mm
SHFT-2512-17-19	17-19" / 432-483mm
SHFT-2512-20-22	20-22" / 508-559mm
SHFT-2512-22-24	22-24" / 559-610mm
SHFT-2512-24-26	24-26" / 610-660mm
SHFT-2512-26-28	26-28" / 610-711mm
SHFT-2512-27-29	27-29" / 686-737mm

CAUTION: THE HOT FOX™ WITH SHUT-OFF THERMOSTAT REQUIRES IT'S OWN COOLANT LOOP—DO NOT PLUMB IN SERIES WITH ANY OTHER COOLANT DEPENDENT DEVICES.

NOTE: When installing a HOT FOX™ with SHUT-OFF THERMOSTAT an appropriate adapter kit MUST be used. See Page 7

HOT FOX™ FUEL WARMER REPLACEMENT PARTS

ITEM	QTY	DESCRIPTION	PART #
1	5	#10-32 UNF x 1.0 Cap Screw	A-857
2	5	Stainless Steel Washer	A-861
3	2	Self Drill / Tap Screw	A-608
4	1	HOT FOX™ Fuel Warmer Gasket	A-841
5	1	Back Up Plate / Template	A-834
6	1	1/2" NPT X 2.0" (51mm) Extension Nipple	A-858
7		HOT FOX™ Fuel Warmer Extension Nipple—1/2" NPT X 21" (533mm) Long	SP-1950
8		HOT FOX™ Fuel Warmer Hardware Kit (Includes items 1-6)	KT-834



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HOT FOX™ FUEL WARMER ADAPTER KITS

Adapter Kits Available for OEM & Aftermarket Applications Used to Simplify Some Installations
Recommended Use Of Adapter Kits

- When installing Hot Fox™ model heaters into a non-reinforced sending gauge opening.
- When installing Hot Fox™ model heaters in tanks less than 14 gauge, 0.075”/1.9mm steel or 0.100”/2.5mm aluminum.
- When installing Hot Fox™ model heaters into tank flanges.

Recommended Use Of A-1721 or A-2060 Adapters

- When installing Hot Fox™ model heaters on applications with extreme vibration.
- When installing Hot Fox™ model heaters horizontally.

Consider Using A Spacer Kit

- When sizing a Hot Fox™ model heater to a length that will reach to an inch off the tank bottom.
- When raising the Hot Fox™ model heater will allow easier connections or to route hoses around obstacles.

FLAT TANKS

KT-826F

Applications: Adapts standard Arctic Fox fuel warmer mount to Hot Fox™ mount.

KIT COMPONENTS

Adapter Plate 6”/152mm Square
(1) A-826
Backing Plates (2) A-2025
Clips (4) A-649
Gasket (1)—A-611
Mounting Bolts (12) - A-610
Template (1)—A-708

ROUND TANKS

KT-827C for 22”-29”/559-737mm Dia.
KT-831CS for 14”-21”/356-533mm Dia.

Applications: Adapts standard Arctic Fox fuel warmer mount to Hot Fox™ mount.

KIT COMPONENTS

Adapter Plate 6”/152mm Square (1)
A-827 for KT-827C
A-831 for KT-831CS
Backing Plates (2) A-1795
Clips (4) A-649
Gasket (1)—A-611
Mounting Bolts (12) - A-610
Template (1)—A-708

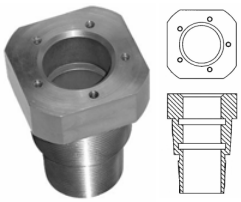
120mm Flange

KT-829K

Applications: Adapts Kenworth OEM 104.5mm B.C. Flange to Hot Fox™ mount.

KIT COMPONENTS

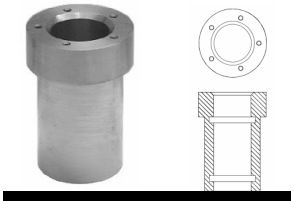
Adapter Plate (1) - A-829
Gasket (1) - A-811
Mounting Bolts (10) - A-856



Threaded Adapter
Fits 1-1/2” & 2” NPT Couplings

A-1721
(To –40° F/C)
Parts Included
(1) A-1792 Gasket
(2) A-1726 O-Ring

A-1721F
(To –90° F/ -67°/ C)
Parts Included
(1) A-1792 Gasket
(2) A-2758 O-Ring



Weld-In Adapter
For Fuel or Hydraulic Tanks

A-2060 (Steel)
A-2060-A (Alum.)
(To –40° F/C)
Parts Included
(1) A-1792 Gasket
(2) A-1726 O-Ring

A-2060F
A-2060-AF
(To –90° F/ -67°/C)
Parts Included
(1) A-1792 Gasket
(2) A-2758 O-Ring

A-870
Blank Plate

Application:
Use to cover tank opening if Hot Fox™ has been removed.

A-4607
Tapped Plate

Application:
Use to install an auxiliary standpipe in a standard USA sending gauge opening.

Center is tapped for 1/2” NPT

SPACER KITS

KT-875

Purpose: To raise HOT FOX™ fuel warmer flange 1/2” (13mm) above tank.

Parts Included:

- (5) A-863 #10-32 UNF socket head bolts
- (1) A-841 Gasket
- (1) A-875 1/2” (13mm) Spacer

KT-877

Purpose: To raise HOT FOX™ fuel warmer flange 1” (25mm) above tank. For Kenworth recessed gauge opening & misc. others

Parts Included:

- (5) A-869 #10-32 UNF socket head bolts
- (1) A-841 Gasket
- (1) A-877 1” (25mm) Spacer

SHUT-OFF THERMOSTATS

S-400T / S-440T
With A-289
Steel Tee

S-400ST / S-440ST
With A-284
Steel Street Tee

S-400HT / S-440HT
With A-289 Steel Tee
(2) 1/4x20 Mounting Holes

S-400BT / S-440BT
With A-289 Steel Tee
Mounting Bracket, (2) Bolts & Washers

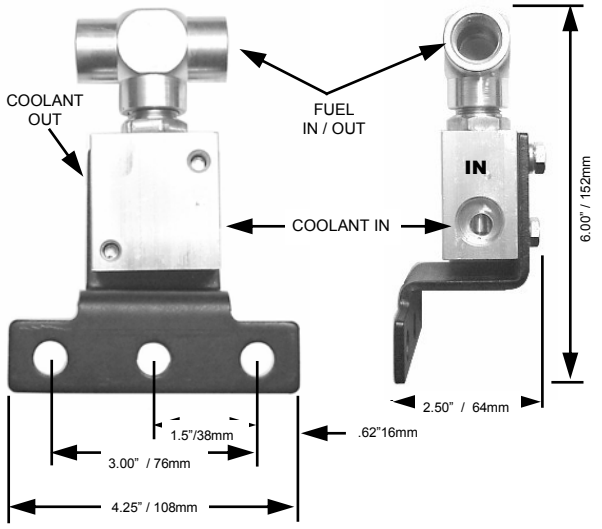
Used to control fuel temperature for any coolant type fuel warmer

- Model 400 stops coolant flow when fuel temperature through the Tee is approximately 78° to 95° F / 25° to 35° C
- Model 440 stops coolant flow when fuel temperature through the Tee is approximately 104° to 125° F / 40° to 52° C
- All fluid connections are 1/2" NPT

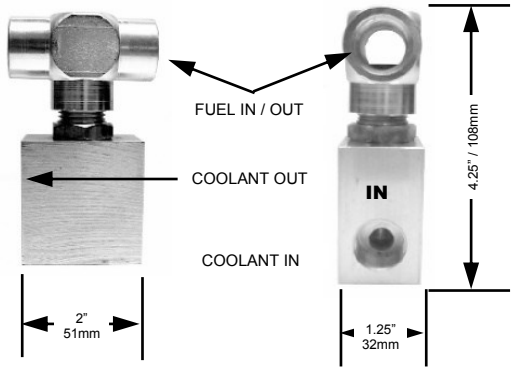
NOTE: Both models are coolant SHUT-OFF thermostats, any component or device connected in series with this product will NOT receive coolant once it is closed at the fuel temperatures shown.

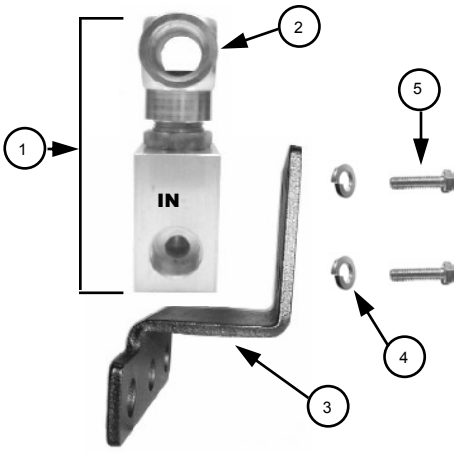
DIMENSIONS

S-400BT



S-400BT





S-400BT REPLACEMENT PARTS

ITEM	QTY.	DESCRIPTION	PART #
1	1	Shut-Off Thermostat Assembly	S-400HT
2	1	1/2" NPT Pipe Tee	A-289
3	1	Mounting Bracket	A-315
4	2	5/16" Split Lock Washer	A-317
5	2	5/16" UNC x 1.25" (32mm) Bolt	A-316

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ARCTIC FOX® IN-TANK FUEL & FLUID WARMERS

The original Arctic Fox® fuel warmer. This all stainless steel loop fits flat or curved tanks. Optional fuel standpipes are available. Heaters may be ordered factory assembled to fit any tank depth from 14" through 29" (356mm through 737mm). Custom built fluid warmers may be quoted for tanks under 14" (356mm) depth or over 29" (737mm) depth. A 5 year or 600,000 mile (1,000,000 kilometer) warranty is your assurance of trouble free operation.

ORDERING OPTIONS

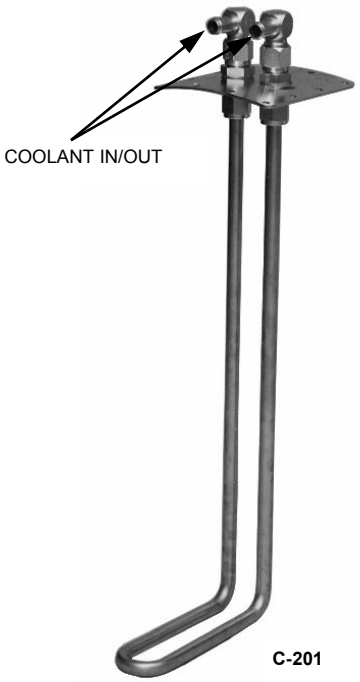
KIT WARMERS
Part Number Example—F-253P

F= Flat Tank up to 29" (737mm) Depth
C=Curved Tank From 22" to 29" (559mm to 737mm) Depth
CS=Curved Tank Through 21" (533mm) Depth
253= The 5 includes a fuel stand pipe use 0 for no stand pipe
P=Optional 1/2" (13mm) Female fitting

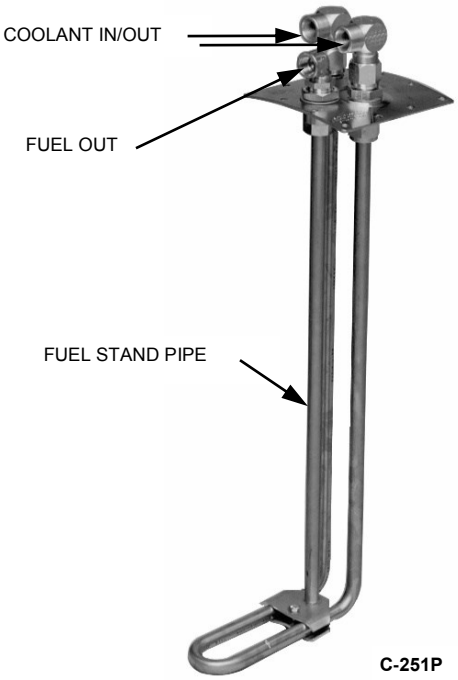
ASSEMBLED WARMERS
Part Number Example—F-253P-XX

F= Flat Tank up to 29" (737mm) Depth
C=Curved Tank From 22" to 29" (559mm to 737mm) Depth
CS=Curved Tank Through 21" (533mm) Depth
2**5**3= The 5 includes a fuel stand pipe use 0 for no stand pipe
P=Optional 1/2" (13mm) Female fitting
XX=Measure tank per instructions. Replace XX with dimension

NOTE: For tanks less than 14" (356mm) or over 29" (737mm) in depth, a custom part number will be assigned.
ALL MODELS REQUIRE 2-3/4" (70mm) CLEARANCE ABOVE THE TANK

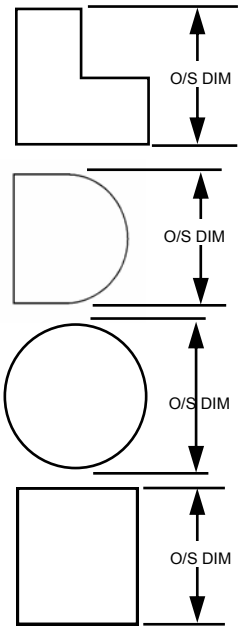


C-201



C-251P

WHERE TO MEASURE TANK

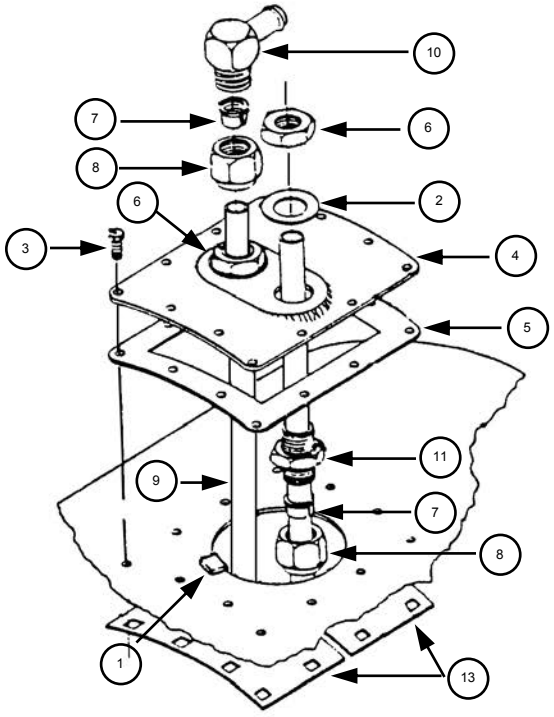


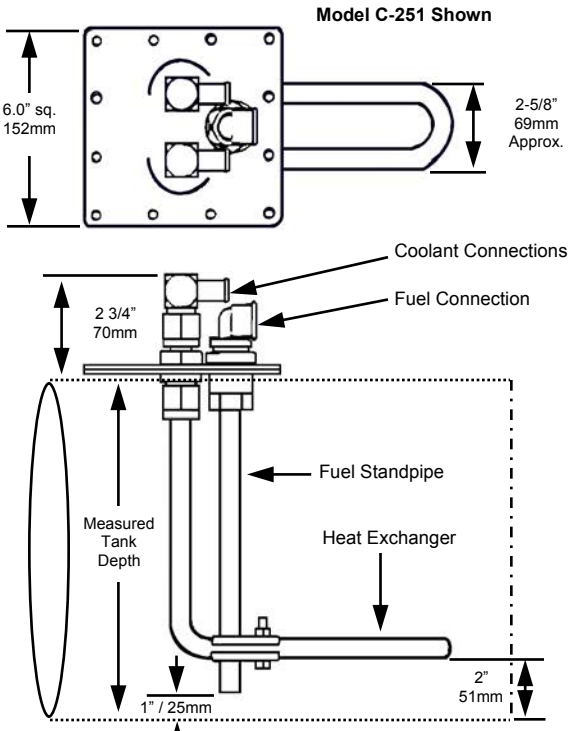
KIT WARMERS WITHOUT THERMOSTAT (FACTORY ASSEMBLY AVAILABLE)

PART	TANK DEPTH	COOLANT HOSE	FUEL
C-201	ROUND 22" THRU 29" (559mm THRU 737mm)	5/8" HOSE BARB	NO
C-201P	ROUND 22" THRU 29" (559mm THRU 737mm)	1/2" FEMALE PIPE THREAD	NO
C-251	ROUND 22" THRU 29" (559mm THRU 737mm)	5/8" HOSE BARB	YES
C-251P	ROUND 22" THRU 29" (559mm THRU 737mm)	1/2" FEMALE PIPE THREAD	YES
CS-201	ROUND 14" THRU 21" (356mm THRU 533mm)	5/8" HOSE BARB	NO
CS-201P	ROUND 14" THRU 21" (356mm THRU 533mm)	1/2" FEMALE PIPE THREAD	NO
CS-251	ROUND 14" THRU 21" (356mm THRU 533mm)	5/8" HOSE BARB	YES
CS-251P	ROUND 14" THRU 21" (356mm THRU 533mm)	1/2" FEMALE PIPE THREAD	YES
F-203	FLAT 14" THRU 29" (356mm THRU 737mm)	5/8" HOSE BARB	NO
F-203P	FLAT 14" THRU 29" (356mm THRU 737mm)	1/2" FEMALE PIPE THREAD	NO
F-253	FLAT 14" THRU 29" (356mm THRU 737mm)	5/8" HOSE BARB	YES
F-253P	FLAT 14" THRU 29" (356mm THRU 737mm)	1/2" FEMALE PIPE THREAD	YES

ARCTIC FOX® IN-TANK FUEL WARMERS

DIMENSIONAL AND REPLACEMENT PART INFORMATION





IN-TANK REPLACEMENT PARTS			
ITEM #	QTY.	DESCRIPTION	PART NO.
1	4	Retaining Clip—(Included in Installation Kit)	A-649
2	2	Copper Washer	A-616
3	12	Mounting Bolt—(Included in Installation Kit)	A-610
(a) 4	1	Curved 2-Hole Plate—See Option 4 Below for Flat Plate	A-415-2
5	1	Gasket—(Included in Installation Kit)	A-611
6	2	Locking Nut	A-628
7	4	Split Ring Ferrule	A-621
8	4	Compression Nut	A-639
9	1	Heat Exchanger Tube 28" / 711mm	A-600
(b) 10	2	5/8" Tube Fitting Elbow to 5/8" / 16mm Hose Barb (Includes 7 & 8) - See Option 10 Below for 1/2" NPT	A-613
11	2	Bushing (Includes 6, 7, & 8)	A-612
12	8	O-Ring Kit (Package Contains 4 Each White & Black O-Rings) - NOT SHOWN	A-617
(c) 13	2	Curved Back-Up Plate—See Option 13 Below for Flat Back-Up Plate	A-1795
(a) Option 4	1	Flat 2-Hole Plate	A-414-2
(b) Option 10	2	5/8" Tube Fitting Elbow to 1/2" Female NPT	A-619
(c) Option 13	2	Flat Back-Up Plate	A-2025
Misc.	N/A	Curved Cover Up Kit—22" Through 29" / 559mm Through 737mm Tanks	KT-1909
Misc.	N/A	Curved Cover Plate—22" Through 29" / 559mm Through 737mm Tanks	A-415-0
Misc.	N/A	Flat Cover Up Kit	KT-1911
Misc.	N/A	Flat Cover Up Plate	A-414-0
Misc.	N/A	Curved Cover Up Kit—Up To 22" / 559mm Tanks	KT-1910
Misc.	N/A	Curved Cover Up Plate—Up To 22" / 559mm Tanks	A-541-0

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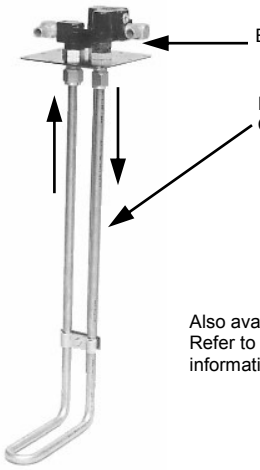
ARCTIC FOX® IN-TANK FUEL & FLUID WARMERS WITH BY-PASS THERMOSTAT

Save time and bother—this is the only fuel warmer you install and forget. Run coast to coast, border to border with fuel warming confidence because you are thermostatically protected. Fuel is warmed to the optimum operating temperature in cold weather with the proven Arctic Fox® fuel warmer in-tank design. An all mechanical thermostat integrated into the unit by-passes the fuel warming loop when fuel temperature reaches optimum operating temperature. This simple “hands off” design is the choice of trucking fleets who demand fool proof operation.

FEATURES AND BENEFITS

- By-passes coolant when fuel temperature reaches optimum operating temperature, allowing this fuel warmer to be plumbed in series with other components such as preheaters, air compressors, and cab heater lines, with out affecting coolant flow.
- Integral design fits all fuel tanks, simplifies plumbing and reduces fittings.
- Fully mechanical. No electrical components to cause maintenance problems.
- Maintains temperature levels which are recommended by engine manufacturers for electronic fuel systems, and helps keep the in-tank fuel within the recommended temperature limits for maximum horsepower.
- Works great with engine preheaters to maintain the “coolant loop”.



F-406-XX Shown
Also available with fuel standpipe. Refer to chart below for ordering information.

INSTALLATION HARDWARE REPLACEMENT PARTS

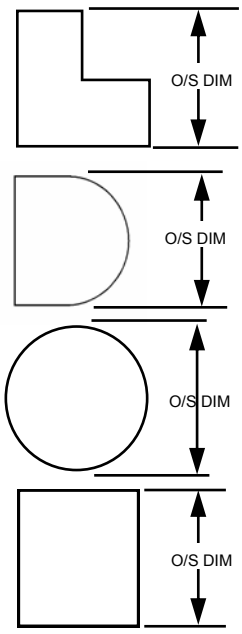
A-611 Gasket

Back Up Plate
A-1795 “C” Models
A-2025 “F” Models
A-1795 “CS” Models

A-610 Mounting Bolt

A-649 Tank Clip

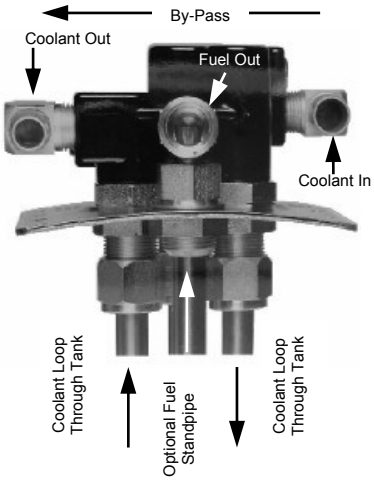
WHERE TO MEASURE TANK



ORDERING INFORMATION: ALL warmers are factory pre-assembled. Order warmers based upon outside tank dimension. Example C-406-XX—if tank outside dimension is 27” / 686mm, order C-406-27.

NOTE: WARRANTY IS VOID OF DISASSEMBLED

PART NUMBER	TANK DEPTH	COOLANT CONNECTION	FUEL STANDPIPE
C-406-XX	Round 22” thru 29” / 559 thru 737mm	5/8” Hose Barb	NO
C-407-XX	Round 22” thru 29” / 559 thru 737mm	3/4” Hose Barb	NO
C-456-XX	Round 22” thru 29” / 559 thru 737mm	5/8” Hose Barb	YES
C-457-XX	Round 22” thru 29” / 559 thru 737mm	3/4” Hose Barb	YES
CS-406-XX	Round 14” thru 21” / 356 thru 533mm	5/8” Hose Barb	NO
CS-407-XX	Round 14” thru 21” / 356 thru 533mm	3/4” Hose Barb	NO
CS-456-XX	Round 14” thru 21” / 356 thru 533mm	5/8” Hose Barb	YES
CS-457-XX	Round 14” thru 21” / 356 thru 533mm	3/4” Hose Barb	YES
F-406-XX	Flat 14” thru 29” / 356 thru 737mm	5/8” Hose Barb	NO
F-407-XX	Flat 14” thru 29” / 356 thru 737mm	3/4” Hose Barb	NO
F-456-XX	Flat 14” thru 29” / 356 thru 737mm	5/8” Hose Barb	YES
F-457-XX	Flat 14” thru 29” / 356 thru 737mm	3/4” Hose Barb	YES



IN-LINE FUEL WARMERS

MIDRANGER™

LINEHAULER™

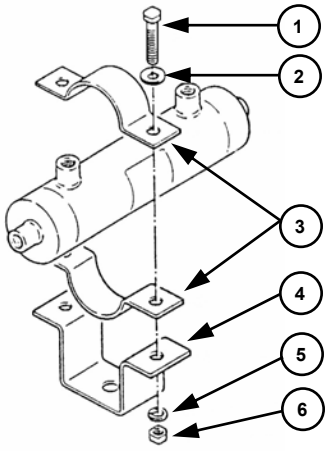
- A Model for Every Application
- Easy Installation
- Maintenance Free
- No Moving Parts
- 100% Stainless Steel Construction
- Optional Coolant Shut-Off Thermostat

In-line fuel warming is a proven, cost effective method of providing protection against stall-outs due to fuel waxing. Obtain the margin of safety you need in moderate cold weather. In extremely cold weather operation, in-line warmers may be combined with in-tank heaters to provide additional protection.

An advantage of in-line fuel warming is the flexibility of mounting locations. Installation is accomplished by simply routing fuel and coolant lines to the unit. Positioning the unit close to the fuel filter, assures maximum fuel warming efficiency and prevention of costly fuel freezing and clogging at the filter.

PART NUMBER	FUEL FLOW GPM/LPM	MOUNTING HARDWARE	CHECK VALVE See (1) Below	SHUT-OFF THERMOSTAT See (2) Below	DUEL FUEL INLET See (3) Below	ELECTRIC PREHEAT See (4) Below	FUEL PORT	COOLANT PORT
I-702	.1-.5 / .4-1.9	NO	NO	NO	NO	NO	3/8” NPT	3/8” NPT
I-702B	.1-.5 / .4-1.9	YES	NO	NO	NO	NO	3/8” NPT	3/8” NPT
I-703	.1-1.5 / .4-5.7	NO	NO	NO	NO	NO	3/8” NPT	1/2” NPT
I-703B	.1-1.5 / .4-5.7	YES	NO	NO	NO	NO	3/8” NPT	1/2” NPT
I-703BT	.1-1.5 / .4-5.7	YES	YES	78°-95°F 25°-35°C	NO	NO	1/2” NPT	1/2” NPT
I-703BTEH	.1-1.5 / .4-5.7	YES	YES	78°-95°F 25°-35°C	NO	120 VAC	1/2” NPT	1/2” NPT
I-704B	.1-1.5 / .4-5.7	YES	NO	NO	NO	NO	1/2” NPT	1/2” NPT
I-704BT	.1-1.5 / .4-5.7	YES	NO	78°-95°F 25°-35°C	NO	NO	1/2” NPT	1/2” NPT
I-704BTEH	.1-1.5 / .4-5.7	YES	NO	78°-95°F 25°-35°C	NO	120 VAC	1/2” NPT	1/2” NPT
I-705B	.1-1.5 / .4-5.7	YES	YES	NO	YES	NO	1/2” NPT	1/2” NPT
I-705BT	.1-1.5 / .4-5.7	YES	YES	78°-95°F 25°-35°C	YES	NO	1/2” NPT	1/2” NPT
I-706B	.1-1.5 / .4-5.7	YES	NO	NO	YES	NO	1/2” NPT	1/2” NPT
I-706BT	.1-1.5 / .4-5.7	YES	NO	78°-95°F 25°-35°C	YES	NO	1/2” NPT	1/2” NPT
I-714BT	.1-1.5 / .4-5.7	YES	NO	104°-125°F 40°-51°C	NO	NO	1/2” NPT	1/2” NPT
I-714BTEH-2	.1-1.5 / .4-5.7	YES	NO	104°-125°F 40°-51°C	NO	220/240 VAC	1/2” NPT	1/2” NPT
I-724BT	.1-1.5 / .4-5.7	YES	NO	104°-125°F 40°-51°C	NO	NO	1/2” NPT	1/2” NPT

1. Check valve required when mounting heater above top of fuel tank.
2. Allows automatic fuel temperature sensing and control, required for most electronic engines.
3. Allows for simplified dual draw plumbing when retrofitting single draw to dual draw systems.
4. Includes electric coolant pre-heat. 120 VAC cord set not included see page 14 to order, 220 VAC includes cord set.



IN-LINE BRACKET REPLACEMENT PARTS			
ITEM	QTY.	DESCRIPTION	PART NO.
1	4	3/8” unc x 1.0” Long Bolt	A-321
2	4	3/8” SAE Flat Washer	A-311
3	4	Half Moon Bracket	A-307
4	2	U-Bracket	A-308
5	4	3/8/” Split Lock Washer	A-310
6	4	3/8” UNC Hex Nut	A-309

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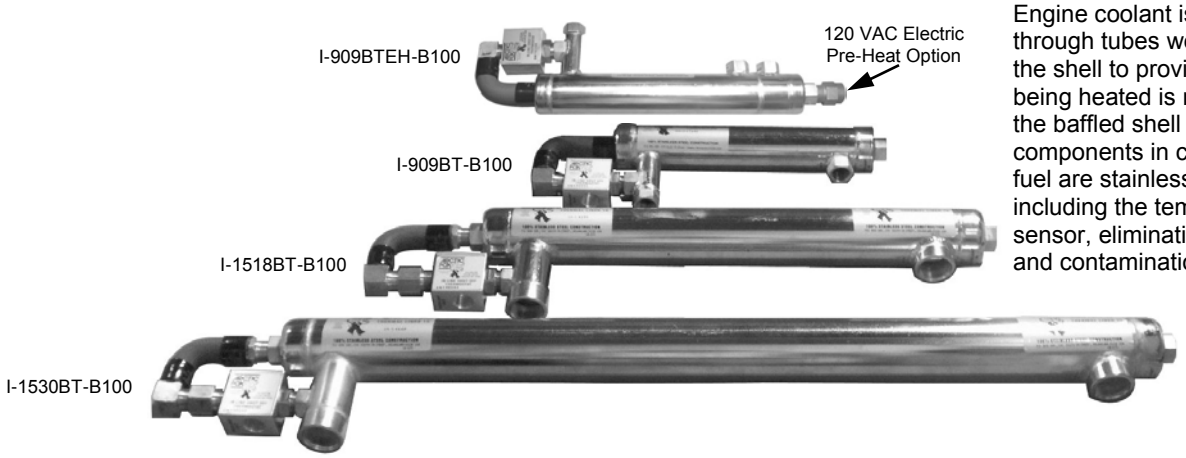
IN-LINE HEAT EXCHANGERS—Biodiesel

In-Line Fluid Warmers—B-100 Biodiesel Compatible



Engine coolant is routed through tubes welded inside the shell to provide heat. Fuel being heated is routed through the baffled shell side. All components in contact with the fuel are stainless steel, including the temperature sensor, eliminating corrosion and contamination of your fuel.

DIESEL FUEL & BIODIESEL BLENDS UP TO B-100

Arctic Fox leads the industry in diesel fuel warming—thousands of units have covered millions of miles in over-the-road and off-road equipment. Warmed diesel fuel does not gel in cold temperatures and in areas where low grade fuel is prevalent, heating raises the efficiency. Fuel flow of most automotive engines can be handled with one of these four In-Line fluid warmer sizes. Multiple units in parallel, serve the larger diesel fuel consumers like locomotives, huge haul trucks, and high horsepower oil field and mining equipment. Easy installation in the fuel line and a reasonable cost guarantees warm fuel for trouble free operation in cold climates. Integral, thermostatic control maintains optimum fuel temperature automatically.

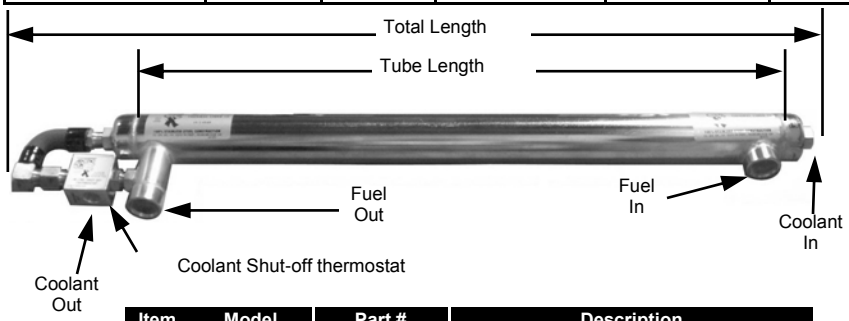
OTHER FLUIDS

The possibilities are endless to utilize these efficient in-line fluid warmers. Simple in-line installation means ultimate flexibility wherever engine coolant is available to recycle the valuable heat that would otherwise be lost.

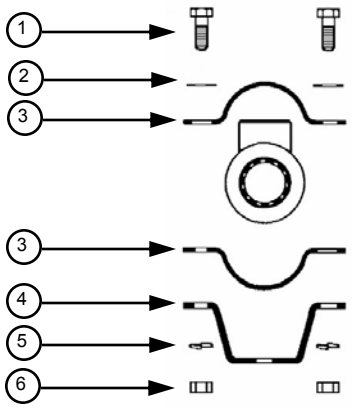
DIMENSIONAL & BRACKET REPLACEMENT PARTS INFORMATION

NOTE: All models made of 304 Stainless Steel—Maximum Coolant Operating Pressure 25 psi (172.4kPa)
Pre heat option does NOT include power cord—Contact Arctic Fox for proper cord to match your application

Part Number	Coolant Port	Fuel Port	Tube Length	Tube O.D.	Total Length	Surface Area	Pre Heat Option
I-909BT-B100	1/2” NPT	1/2” NPT	9.75”/248mm	2.0”/51mm	15.5”/394mm	100“²/645.2cm²	No
I-909BTEH-B100	1/2” NPT	1/2” NPT	9.75”/248mm	2.0”/51mm	18.5”/470mm	100“²/645.2cm²	120 VAC
I-1518BT-B100	1/2” NPT	1” NPT	18.0”/457mm	2.375”/60mm	25.5”/648mm	320”²/2064.5cm²	No
I-1530BT-B100	1/2” NPT	1” NPT	30.0”/762mm	2.375”/60mm	37.0”/940mm	532”²/3432.3cm²	No



NOTE: Bracket components listed below are included with each unit in the proper quantity to support the heat exchanger.



Item	Model	Part #	Description
1	All	A-321	3/8” UNC X 1.0” Long Bolt
2	All	A-311	3/8” SAE Flat Washer
3	I-909	A-307	Half Moon Bracket
	I-1518/ I-1530	A-1356	
4	I-909	A-308	U-Bracket
	I-1518/ I-1530	A-1361	
5	All	A-310	3/8” Split Lock Washer
6	All	A-309	3/8” UNC Nut

IN-LINE FUEL WARMERS

I-703BTEH—LINEHAULER FUEL WARMER
WITH THERMOSTAT AND ELECTRIC PREHEAT

- Includes fuel check valve and 120 volt electric pre-heat.
- Maximum current draw 1/2 amp.
- Cord set not included—See chart below for selection

I-704BTEH—LINEHAULER FUEL WARMER
WITH THERMOSTAT AND ELECTRIC PREHEAT

- Same as I-703BTEH above without the check valve

For fuel flow and heat rise data for both models,
see Midranger data on page 15

I-705B—LINEHAULER FUEL WARMER
WITH DUAL FUEL INLETS

- Includes check valve to eliminate drain back while changing fuel filter on systems with fuel warmer mounted above top of fuel tank.

I-706B LINEHAULER FUEL WARMER
WITH DUAL FUEL INLETS

- Same as I-705B less check valve.

I-705BT—LINEHAULER FUEL WARMER
WITH DUAL FUEL INLETS AND THERMOSTAT

- Includes check valve to eliminate drain back while changing fuel filter on systems with fuel warmer mounted above top of fuel tank.
- Automatically controls fuel temperature by stopping coolant flow when fuel temperature through the Tee is approximately 78° to 95° F / 25° to 35° C.

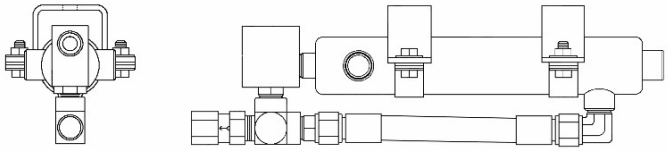
I-706BT—LINEHAULER FUEL WARMER
WITH DUAL FUEL INLETS AND THERMOSTAT

- Same as I-705BT less check valve

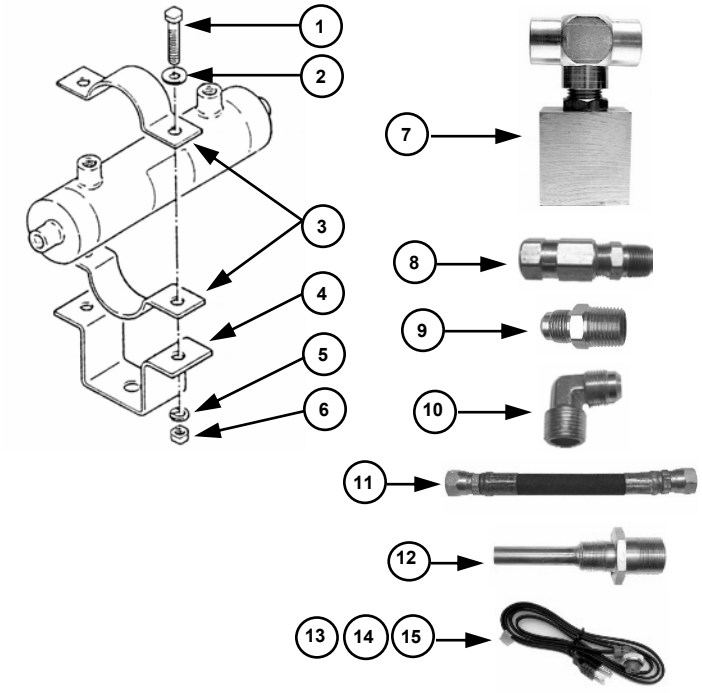
For fuel flow and heat rise data for all models,
see Linehauler data on page 15

LINEHAULER™ - With Electric Pre-Heat—I-704BTEH Shown

LINEHAULER™ - With Dual Fuel Inlets—I-705BT Shown



IN-LINE FUEL WARMER REPLACEMENT PARTS



ITEM	QTY.	DESCRIPTION	PART NO.
1	4	3/8” unc x 1.0” Long Bolt	A-321
2	4	3/8” SAE Flat Washer	A-311
3	4	Half Moon Bracket	A-307
4	2	U-Bracket	A-308
5	4	3/8/” Split Lock Washer	A-310
6	4	3/8” UNC Hex Nut	A-309
7	1	Thermostat with Tee	S-400T
8	1	Check Valve 1/2 “ NPT	A-335
9	1	Male Connector #8 x 1/2” NPT	A-287
10	1	Elbow #8 x 1/2” NPT	A-281
11	1	#8 Single Wire Braided Hose	A-703H-8
12	1	63W 120V Heat Element	A-120EK-1
13	1	Power Cord 10’ Threaded	EH10
14	1	Power Cord 10’ “Y”	EH10Y
15	1	Power Cord 14’ “Y”	EH14YK

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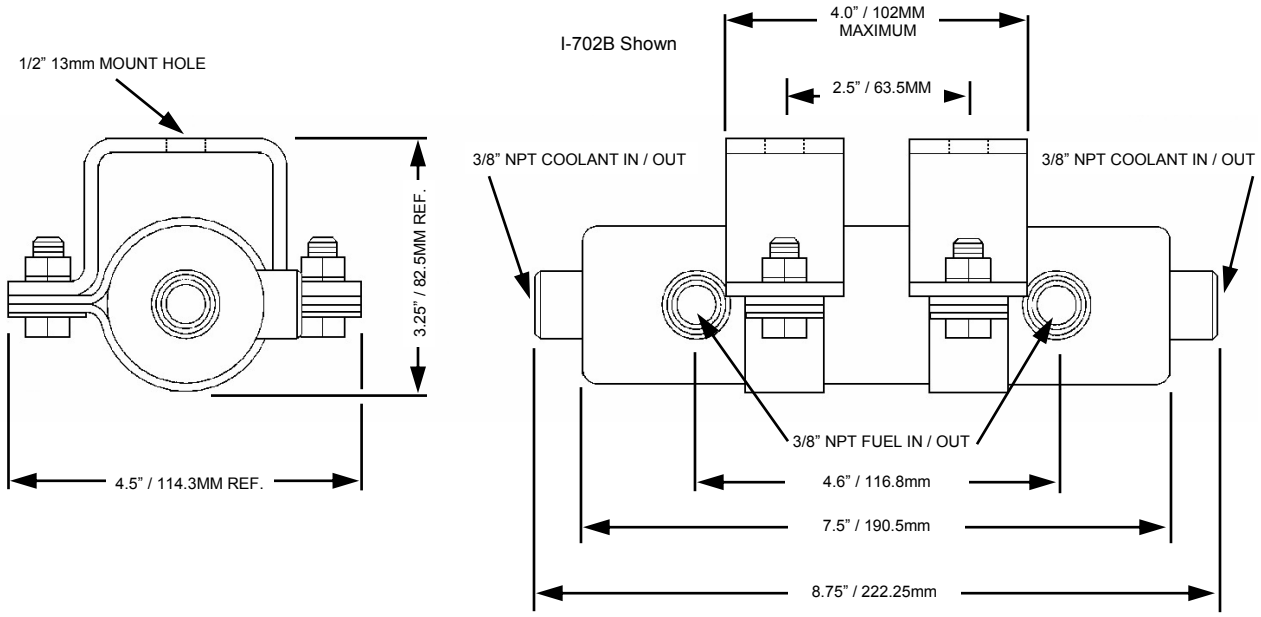
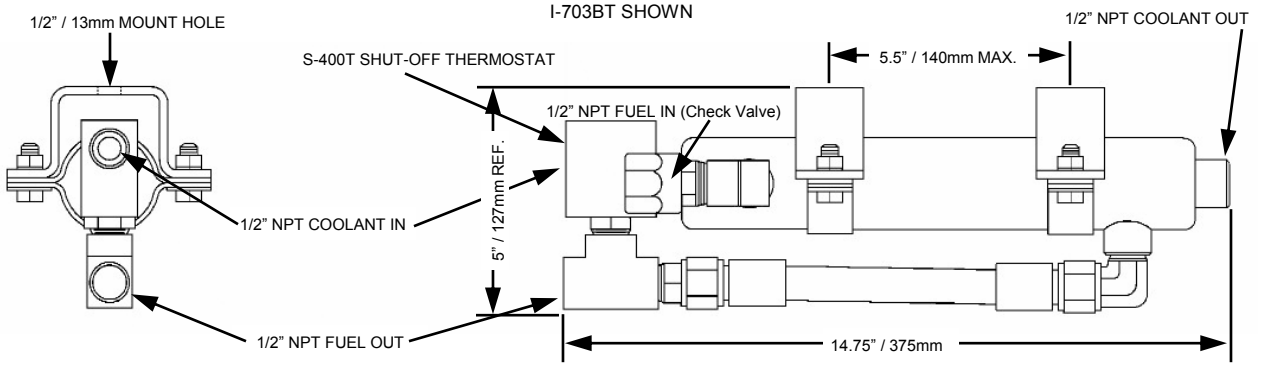
IN-LINE FUEL WARMERS

MIDRANGER™
DIMENSIONAL AND HEAT RISE DATA



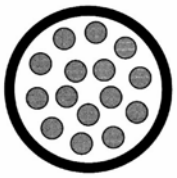
FUEL FLOW GPM/LPM	0.1/0.4	0.2/0.8	0.3/1.1	0.5/1.9	1.5/5.7	2.5/9.5
FUEL TEMP. IN °F / °C	FUEL TEMP. OUT °F / °C	FUEL TEMP. OUT °F / °C	FUEL TEMP. OUT °F / °C	FUEL TEMP. OUT °F / °C	FUEL TEMP. OUT °F / °C	FUEL TEMP. OUT °F / °C
+10 / -12	+99 / +37	+85 / +29	+75 / +24	+63 / +17	+38 / +3	+33 / +1
-20 / -29	+81 / +27	+66 / +19	+57 / +14	+35 / +2	+13 / -11	+5 / -15
-40 / -40	+71 / +22	+55 / +13	+42 / +6	+19 / -7	-7 / -22	-17 / -27

LINEHAULER™
DIMENSIONAL AND HEAT RISE DATA



FUEL FLOW GPM/LPM	0.1/0.4	0.2/0.8	0.3/1.1	0.5/1.9	1.5/5.7	2.5/9.5
FUEL TEMP. IN °F / °C	FUEL TEMP. OUT °F / °C	FUEL TEMP. OUT °F / °C	FUEL TEMP. OUT °F / °C	FUEL TEMP. OUT °F / °C	FUEL TEMP. OUT °F / °C	FUEL TEMP. OUT °F / °C
+10 / -12	+112 / +45	+100 / +38	+90 / +32	+72 / +22	+48 / +9	+39 / +4
-20 / -29	+95 / +35	+86 / +30	+78 +26	+59 / +15	+20 / -6	+10 / -12
-40 / -40	+86 / +30	+74 / +23	+61 / +16	+34 / +1	+2 / -17	-4 / -20

THERMAL LINER 15 FLUID WARMER



END VIEW—15 TUBE BUNDLE

Engine coolant or other warm fluid is routed through 15 tubes welded inside the housing to provide heat. Fluid being heated is routed through the baffled shell side. All stainless steel construction eliminates corrosion and contamination of your fuel or fluid.

ALTERNATIVE FUELS

Arctic Fox steps to the front in the alternative fuels market with an easy way to convert natural gas fuels to combustible energy sources. The efficiency of the 15 tube bundle raises the ultra cold natural gas to a useable temperature and raises the fuel pressure through the heating process. See SF-2587 series Thermal Liners on page 17 for maximum operating pressures up to 350 psi (2,413kPa).

DIESEL FUEL

Arctic Fox leads the industry in diesel fuel warming—thousands of units have covered millions of miles in over-the-road equipment. Warmed diesel fuel does not gel in cold temperatures and in areas where low grade fuel is prevalent, heating raises the efficiency while lowering emissions. Large off-highway equipment with 2-5 GPM / 8-19 LPM fuel flow can easily be handled with one of these three Thermal Liner fluid warmer sizes. In series, these units serve the largest diesel fuel consumers like locomotives and huge haul trucks. Easy installation in the fuel line (1/2" NPT or 1" NPT fittings), and a reasonable cost guarantees warm fuel for trouble free operation in cold climates.

OTHER FLUIDS

The possibilities are endless to utilize the efficient Thermal Liner fluid warmer design. Simple in-line installation means ultimate flexibility wherever engine coolant is available to recycle the valuable heat that would otherwise be lost.

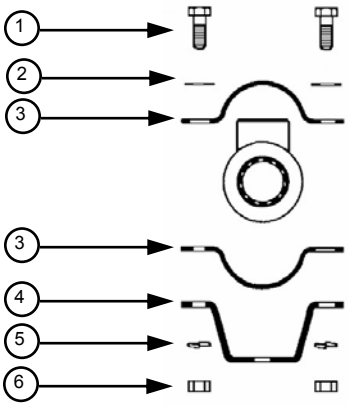
THERMAL LINER® 15 DIMESIONAL & BRACKET REPLACEMENT PARTS INFORMATION

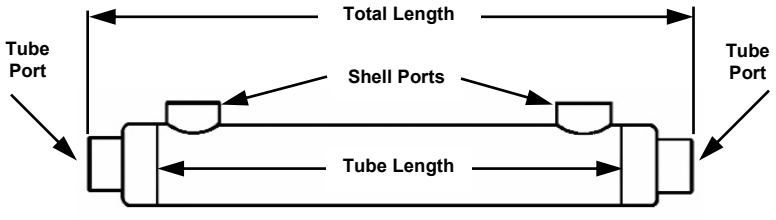
NOTE: All models made of 304 Stainless Steel—Maximum Operating Pressure 25 psi (172.4kPa) - OD 2.375" (60mm)

Part Number	Tube Port	Shell Port	Tube Length	Total Length	Surface Area
SF-1542-18	1/2" NPT	1/2" NPT	18.0"/457mm	22.0"/559mm	320 "²/2064.5cm²
SF-1542-24	1/2" NPT	1/2" NPT	24.0"/610mm	28.0"/711mm	426"²/2748.4cm²
SF-1542-30	1/2" NPT	1/2" NPT	30.0"/762mm	34.0"/864mm	532"²/3432.3cm²
SF-1562-18	1" NPT	1" NPT	18.0"/457mm	22.0"/559mm	320 "²/2064.5cm²
SF-1562-24	1" NPT	1" NPT	24.0"/610mm	28.0"/711mm	426"²/2748.4cm²
SF-1562-30	1" NPT	1" NPT	30.0"/762mm	34.0"/864mm	532"²/3432.3cm²
SF-5139-40	1-1/2" NPT	1" NPT	40.0"/1016mm	45.0"/1143mm	710"²/4580.6cm²
SF-5139-45	1-1/2" NPT	1" NPT	45.0"/1143mm	50.0"/1270mm	800"²/5161.3cm²
SF-5139-50	1-1/2" NPT	1" NPT	50.0"/1270mm	55.0"/1397mm	885"²/5709.7cm²
STT-2537*	1/2" NPT	1" NPT	30.0"/762mm	34.0"/864mm	532"²/3,432.3cm²
STT-2537-78-95**	1/2" NPT	1" NPT	30.0"/762mm	34.0"/864mm	532"²/3,432.3cm²

Item	Qty	Description	Part #
1	4	3/8" UNC X 1.0" Long Bolt	A-321
2	4	3/8" SAE Flat Washer	A-311
3	4	Half Moon Bracket	A-1356
4	2	U-Bracket	A-1361
5	4	3/8" Split Lock Washer	A-310
6	4	3/8" UNC Nut	A-309

*STT-2537 Has integral coolant shut-off thermostat (104°-125° F / 40°-52° C)
**STT-2537-78-95 Has integral coolant shutoff thermostat (78°-95° F / 25°-35° C)





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ALTERNATIVE FUEL HEAT EXCHANGERS—CNG

It is no longer necessary to apply an “off-the-shelf” heat exchanger to alternative fuel applications. Now you can choose ***heat exchangers designed for applications in alternative fuels.***

THE PROBLEM:

Natural gas is stored in tanks on board the vehicle at “tank pressures” ranging from 250 to 3600 psi (1720.7 to 24821.1kPa). A regulator is used to regulate this pressure to a value typically around 115psi (792.9kPa). As a result of the pressure drop through the regulator, the natural gas reaches temperatures nearing –200°F (-128° C). The Arctic Fox heat exchanger is utilized to prevent the natural gas from dropping below an acceptable temperature based on engine temperature and load. At low fuel rates, a thermostat may be required to prevent heating of the gas above an acceptable temperature.

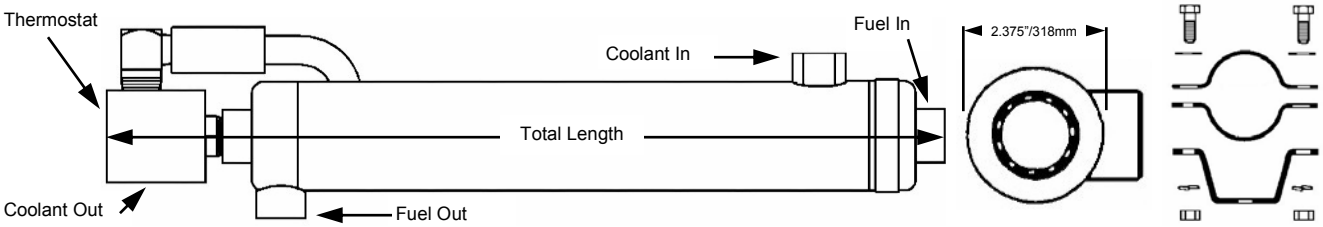
THE SOLUTION:

The high quality, 100% stainless steel heat exchangers from Arctic Fox, LLC. designed for CNG applications.

- Simple, compact design fits in areas with limited space
- 100% stainless steel construction for durability and fuel compatibility
- 350psi (2413kPa) working pressure, 100% independent lab certified
- Minimum burst pressure (destructive test) 6000psi (41369kPa)
- 15 tube heat exchanger maximizes heat transfer surface
- Integral thermostat option available (SFT models)
- Fuel ports can be:
  NPTF
  Swagelok (add 1 inch / 25.4mm to fuel port protrusion for Swagelok fittings)
  or custom

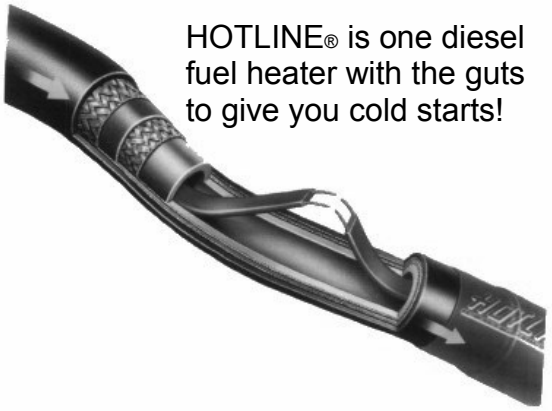
PART NUMBER	GAS PORT SIZE	COOLANT PORT SIZE	TUBE LENGTH	TOTAL LENGTH	SURFACE AREA	INTEGRAL THERMOSTAT
SF-2587-6	1/2” NPT	1/2” NPT	6.0”/152mm	10.0”/245mm	108”²/697cm²	NO
SF-2587-8	1/2” NPT	1/2” NPT	8.0”/203mm	12.0”/305mm	143”²/923cm²	NO
SF-2587-10	1/2” NPT	1/2” NPT	10.0”/254mm	14.0”/356mm	179”²/1155cm²	NO
SF-2587-12	1/2” NPT	1/2” NPT	12.0”/305mm	16.0”/406mm	214”²/1381cm²	NO
SFT-2587-1/2NPT-6	1/2” NPTF	1/2” NPT	6.0”/152mm	12.5”/318mm	108”²/697cm²	YES
SFT-2587-1/2NPT-8	1/2” NPTF	1/2” NPT	8.0”/203mm	14.5”/368mm	143”²/923cm²	YES
SFT-2587-1/2NPT-10	1/2” NPTF	1/2” NPT	10.0”/254mm	16.5”/419mm	179”²/1155cm²	YES
SFT-2587-1/2NPT-12	1/2” NPTF	1/2” NPT	12.0”/305mm	18.5”/469mm	214”²/1381cm²	YES
SFT-2587-6-SWGLK-X/XCP	1/2” Swagelok	See Note	6.0”/152mm	13.0”/330mm	108”²/697cm²	YES
SFT-2587-8-SWGLK-X/XCP	1/2” Swagelok	See Note	8.0”/203mm	15.0”/381mm	143”²/923cm²	YES
SFT-2587-10-SWGLK-X/XCP	1/2” Swagelok	See Note	10.0”/254mm	17.0”/432mm	179”²/1155cm²	YES
SFT-2587-12-SWGLK-X/XCP	1/2” Swagelok	See Note	12.0”/305mm	19.0”/483mm	214”²/1381cm²	YES

NOTE: For SFT-2587 with Swagelok fuel ports, coolant ports can be 1/2”, 5/8”, or 3/4” hose barb—substitute desired hose barb size for the X/X designation in the part number—Example: SFT-2587-SWGLK-3/4CP will have 3/4” hose barbs included in the hardware package.



WARNING: Maximum recommended service life for SF-2587 and SFT-2587 models is 6 years from the date of manufacture as labeled on the device. Replace with a new unit when the device has reached 6 years of service.

HOTLINE® ELECTRIC IN-LINE FUEL HEATER



HOTLINE® is one diesel fuel heater with the guts to give you cold starts!

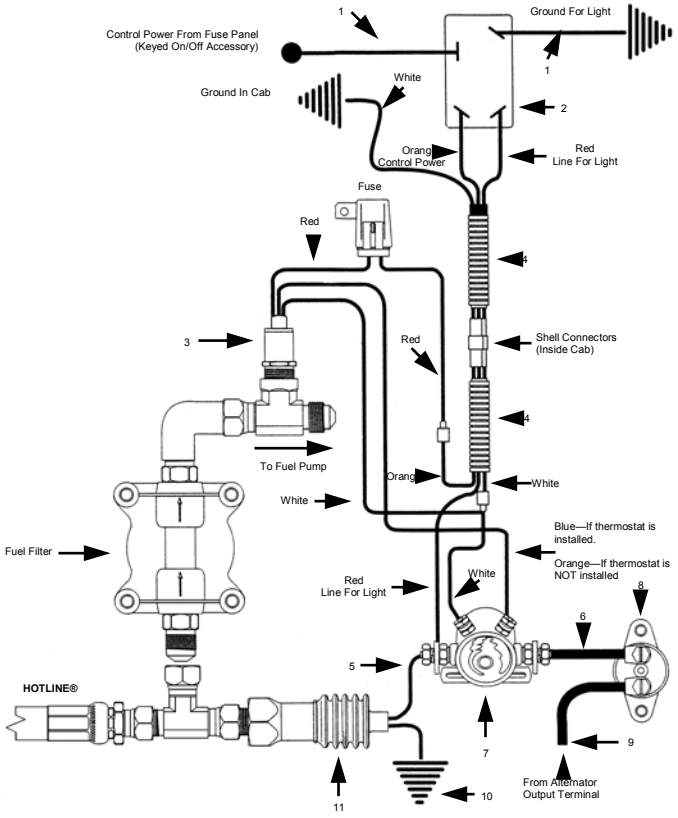
- Before starting, the HOTLINE® can thaw frozen diesel fuel in just 3 to 4 minutes, using only 2% of available battery capacity, *before* you start your engine.
- On the road simply flip a switch, and within 60 seconds, HOTLINE® will begin eliminating fuel waxing which causes power loss.
- Modular design allows for easy installation and service.
- Works in conjunction with coolant heaters for complete fuel system protection.
- All kits are complete with all electrical components and wiring harness.
- Optional thermostatic shut-off available.

POWER	600 WATT		450 WATT		300 WATT		150 WATT	
LENGTH	12 VOLT	24 VOLT	12 VOLT	24 VOLT	12 VOLT	24 VOLT	12 VOLT	24 VOLT
12' / 3.7m	D3085-1180	D3085-2180	D3085-1152	D3085-2152	D3085-1138	D3085-2138	N/A	N/A
8.5' / 2.6m	D3085-1168	D3085-2168	D3085-1146	D3085-2146	D3085-1133	D3085-2133	N/A	N/A
6.0' / 1.8m	N/A	N/A	D3085-1141	N/A	D3085-1130	D3085-2130	D3085-1126	D3085-2126
4.5' / 1.4m	N/A	N/A	N/A	N/A	D3085-1128	D3085-2128	D3085-1122	D3085-2122
2.0' / 0.6m	N/A	N/A	N/A	N/A	N/A	N/A	D3085-1118	D3085-2118
Max Current Draw (1)	45	23	31	16	21	11	10	5
Min Alternator Capacity *(2)	130	87	105	70	85	55	75	45

Optional Thermostatic Shut-Off Kit 12 & 24 Volt	Part Number	Off Temp	On Temp	Amp Draw
	D3065-2338	80°F / 27°C	55°F / 13°C	Negligible

(1) Current draw shown is maximum sustained amperage.

(2) Minimum alternator capacity is only a guideline. Total system load analysis is required for accurate battery/charging system specification. Refer to maximum sustained current draw and consult your vehicle manufacturer for advisement whenever adding any aftermarket auxiliary current load.



ITEM	DESCRIPTION	PART NUMBER
1	Black Jumper 14 Gauge	D3061-1677
2	12V Lighted Toggle Switch	D3061-1582
	24V Lighted Toggle Switch	D3061-1584
3	Optional Thermostat Kit-20" Long Wires	D3065-2338
4	3-Wire Harness Kit-206" Long	D3061-1735
5	Wire Jumper magnetic Switch-144" Long	D3065-2360
6	#10 Jumper Main Power-102" long	D3061-1664
7	12V Magnetic Switch	D3061-1573
	24V Magnetic Switch	D3061-1575
8	12V—60 Amp Circuit Breaker	D3061-1560
	24V—35 Amp Circuit Breaker	D3061-1565
9	#4 Jumper Main Power-47" Long	D3061-1638
10	Wire Jumper Mod. Ground-96" Long	D3065-2357
11	Insulating Boot	D3065-2284

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ELECTRIC FLUID RESERVOIR HEATERS

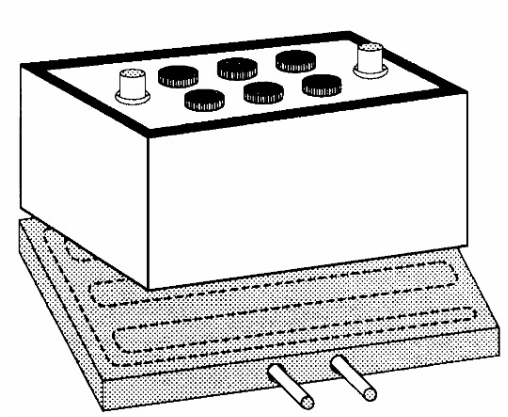
- Easy Peel-And-Stick application with pressure sensitive adhesive.
- May be installed in sub-zero temperatures.
- Mounts to any smooth, metal surface.
- No need to cut hoses, remove plugs, or lose anti-freeze or oil.
- Aluminum backing provides even heat distribution.
- Reduces pump cavitation, blown seals and burst hydraulic components.
- Reduces engine wear by improving the flow of engine oil.
- Models available in 120 and 220 VAC as well as 12 & 24 VDC.

DESCRIPTION				APPLICATION RANGE				
PART NUMBER	WATTS / VOLTS	AMP. DRAW	INCHES / MM	ENGINE OIL	DIESEL FUEL	WATER	HYDRAULIC OIL	POWER PLUG
EH-2801	125 120 AC	1	2.25 X 4 57 X 102	1.5-4 qt. 1.3-3.8L	N/A	5-20 gal. 18.9-75.7 L	1-10 gal. 3.8-37.9 L	3-Prong NEMA 5-15P
EH-2802	250 120 AC	2.1	3.5 X 4.5 89 X 114	4.5-12 qt. 4.3-11.4 L	N/A	24-45 gal. 90.9-170.3 L	10-30 gal. 37.9-113.6 L	3-Prong NEMA 5-15P
EH-2805	500 120 AC	4.2	5 X 7 127 X 178	3-6 gal. 11.4-22.7 L	40-60 gal. 151.4-227.1 L	50-100 gal. 189.2-378.5 L	20-50 gal. 75.7-189.3 L	3-Prong NEMA 5-15P
EH-2810	1000 120 AC	8.3	6 X 10.75 152 X 273	6.5-12 gal. 24.6-45.4 L	50-100 gal. 189.3-378.5 L	100-200 gal. 378.5-757 L	50-100 gal. 189.3-378.5 L	3-Prong NEMA 5-15P
EH-3201	125 220 AC	0.1	2.25 X 4 57 X 102	1.5-4 qt. 1.3-3.8 L	N/A	5-20 gal. 18.9-75.7 L	1-10 gal. 3.8-37.9 L	NONE
EH-3202	250 220 AC	1.1	3.5 X 4.5 89 X 114	4.5-12 qt. 4.3-11.4 L	N/A	24-45 gal. 90.9-170.3 L	10-30 gal. 37.9-113.6 L	NONE
EH-3205	500 220 AC	2.3	5 X 7 127 X 178	3-6 gal. 11.4-22.7 L	40-60 gal. 151.4-227.1 L	50-100 gal. 189.2-378.5 L	20-50 gal. 75.7-189.3 L	NONE
EH-3210	1000 220 AC	4.5	6 X 10.75 152 X 273	6.5-12 gal. 24.6-45.4 L	50-100 gal. 189.3-378.5 L	100-200 gal. 378.5-757 L	50-100 gal. 189.3-378.5 L	NONE
EH-2874	80 12 DC	6.7	1.5 X 8 38 X 203	N/A	N/A	3-12 gal. 11.4-45.4 L	.5-6 qt. .5-5.7 L	NONE
EH-3659	250 12 DC	20.8	5 X 5 127 X 127	N/A	N/A	24-45 gal. 90.9-170.3 L	10-30 gal. 37.9-113.6 L	NONE
EH-3660	350 12 DC	30.8	7 X 5 178 X 127	N/A	N/A	35-65 gal. 132.5-246.1 L	15-45 gal. 56.8-170.3 L	NONE
EH-4111	80 24 DC	3.4	4 X 1.5 101 X 38	N/A	N/A	3-12 gal. 11.4-45.4 L	.5-6 qt. .5-5.7 L	NONE
EH-4608	80 12 DC	6.7	3.25 X 1.75 83 X 45	N/A	N/A	3-12 gal. 132.5-246.1 L	.5-6 qt. .5-5.7 L	NONE
EH-6282	7 12 DC	0.6	1 X 2 25 X 51	Typical Application: spot heating for small valves or fittings				NONE

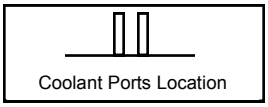
NOTE:

- When properly installed, heaters may be operated continuously if necessary.
- Typical operation time is three to five hours.
- Heaters may be used with a timer of the proper capacity to control operation time.
- Actual temperature of the fluid being heated cannot be calculated, and will vary with the fluid type, fluid volume, tank material and size, protection from heat loss, as well as climate conditions.

BATTERY HEATERS—BH-3100 SERIES

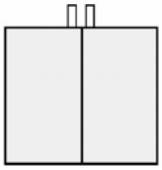


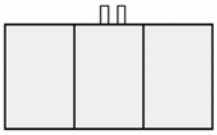
- Available for all group 31 battery configurations.
- Custom sizes quoted upon request.
- Utilizes heat energy from engine cooling system or diesel fired coolant heater.
- Increases available cold cranking amps.
- Reduces required battery charge time.
- Extends battery life.
- Durable stainless steel coolant tubes.
- Light weight aluminum heating plate.
- 1/2” NPT coolant connections.
- Simplified installation for most applications.

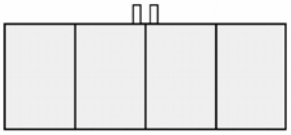


NOTE:
All models require minimum 1” / 25.4mm clearance above the batteries.

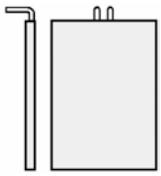
BH-3101


BH-3102

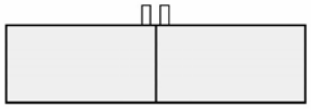

BH-3103


BH-3104

BH-3110


BH-3113

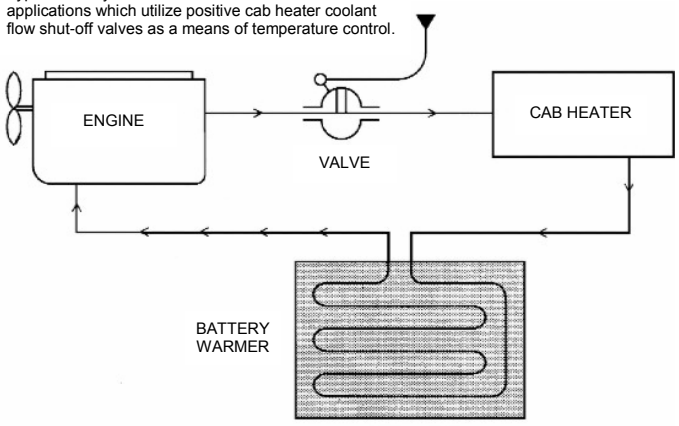
BH-3119


BH-3124

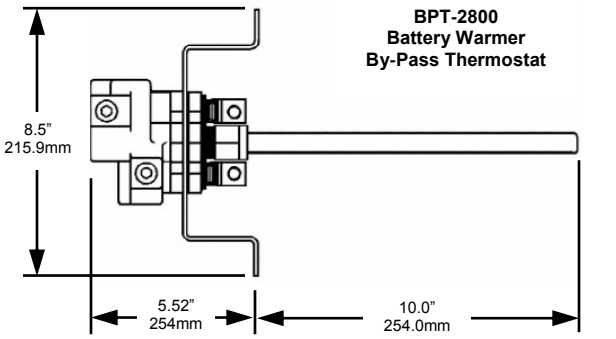
DIMENSIONAL INFORMATION		
PART NUMBER	**LENGTH INCHES/mm**	**WIDTH INCHES/mm**
BH-3101	12-7/8 / 327	6-5/8 / 168
BH-3102	13 / 330	13 / 330
Note: BH-3102—Both batteries may be placed parallel or perpendicular to the coolant ports.		
BH-3103	21 / 533	14 / 356
BH-3104	27 / 686	14 / 356
Note: BH-3104—All 4 batteries may be placed parallel or perpendicular to the coolant ports, or 2 either way.		
BH-3110	21-1/2 / 546	11 / 279
BH-3113	21-1/2 / 546	11 / 279
BH-3119	21 / 526	8-1/2 / 216
BH-3124	25-1/4 / 641	6-1/4 / 159

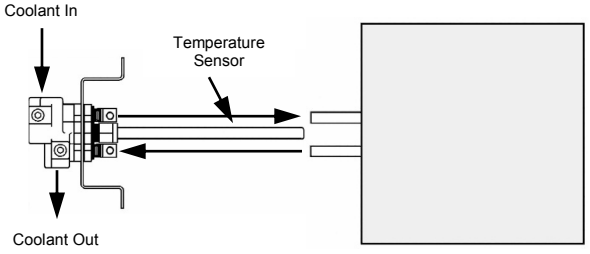
NOTE
IN SCHEMATIC BELOW, BATTERY WARMING IS DISCONTINUED WHEN CAB HEATER TEMPERATURE SWITCH IS OFF.

Typical battery heater coolant schematic for applications which utilize positive cab heater coolant flow shut-off valves as a means of temperature control.



BPT-2800
Battery Warmer
By-Pass Thermostat





Schematic for Battery Warmer with Optional By-Pass Thermostat

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HYDRAULIC FLUID WARMERS & ACCESSORIES

APPLICATIONS: Hydraulic Fluid—Water—Other Fluids
PRODUCT DESIGNS:
COOLANT to FLUID Heat Exchangers
Hydra Liner—Hydraulic Hot Fox—Mini Heat Exchanger—Custom Formed Tubes
Electric Warmers
120VAC, 240VAC, 12VDC, 24VDC—See Page 19

- Warm oil flows free.
- Reduce pump cavitation and resulting damage.
- Increase productivity—no more idle equipment or workers waiting for hydraulics to warm up.
- Versatile design allows for use on equipment for Logging, Construction, Mining, Waste Hauling, Utility and Maintenance Vehicles.

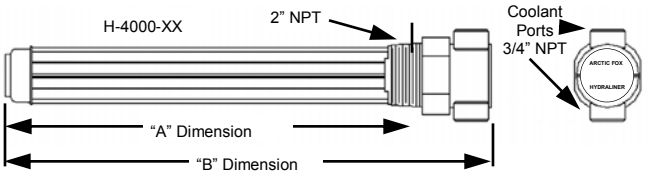
HYDRA LINER SERIES

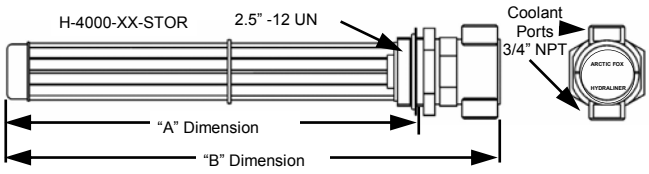
- All stainless steel construction.
- Large surface area exposed to fluid to maximize heat rise.
- Threads into standard 2" NPT female pipe thread or 2.5" Straight Thread O-Ring (STOR) coupling. (Listed Below)
- Excellent coolant flow capacity, utilizing 3/4" NPT coolant connections.
- 5-year—600,000 mile (965,000km) warranty.
- Install multiple units for larger tanks or faster heat rise.

PART NUMBER	"A" DIMENSION NOMINAL	"B" DIMENSION NOMINAL	SURFACE AREA NOMINAL	BTU/hr NOMINAL(1)	TYPICAL APPLICATION (AMBIENT AIR TEMP) TO –20°F / -29°C (2) **	TYPICAL APPLICATION (AMBIENT AIR TEMP) TO –40°F / -40°C (2) **
H-4000-8 H-4000-8-STOR	7 Inches 178mm	10 Inches 254mm	105 In² 8 dm²	Water 4,200 Oil 2,100	Up to 20 US gallons 76 Liters	Up to 8 US gallons 30 Liters
H-4000-12 H-4000-12-STOR	11 Inches 280mm	14 Inches 356mm	180 In² 12 dm²	Water 7,200 Oil 3,600	Up to 35 US Gallons 133 Liters	Up to 14 US gallons 53 Liters
H-4000-16 H-4000-16-STOR	15 Inches 381mm	18 Inches 457mm	250 In² 16 dm²	Water 10,000 Oil 5,000	Up to 50 US Gallons 190 Liters	Up to 19 US gallons 72 Liters
H-4000-20 H-4000-20-STOR	19 Inches 483mm	22 Inches 559mm	315 In² 20 dm²	Water 13,000 Oil 6,500	Up to 63 US Gallons 239 Liters	Up to 25 US gallons 90 Liters
H-4000-24 H-4000-24-STOR	23 Inches 584mm	26 Inches 660mm	385 In² 24 dm²	Water 16,000 Oil 8,000	Up to 77 US Gallons 292 Liters	Up to 30 US gallons 113 Liters

(1) Nominal BTU/hr based upon 180°F / 82°C Coolant flowing at 5 US Gallons / 19 Liters per minute.
Water—beginning temperature at +35°F / +2°C
Oil—ISO 32 Hydraulic Oil beginning temperature –20°F / -29°C.

(2) Actual temperature rise will be affected by factors such as coolant temperature and flow rate, specific heat capacity of fluids and air movement around reservoir.
**** Contact Arctic Fox Application Engineering for estimated temperature rise for your specific application.**



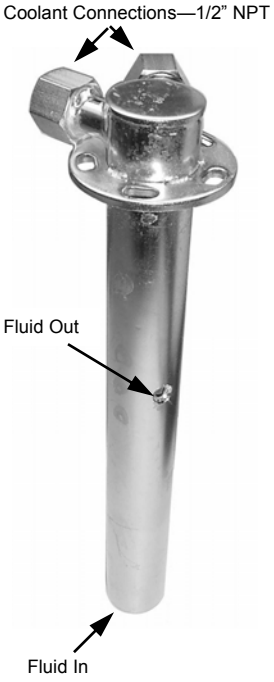


WELD ON TANK ADAPTERS

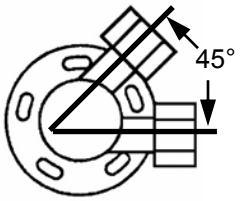
PART NUMBER	DESCRIPTION	APPLICATION
A-3228HD	Steel—Schedule 80 2" NPT Female Coupling	Preferred for most installations on steel tanks
A-3228AHD	Aluminum T-6061—Schedule 80 2" NPT Female Coupling	Preferred for most installations on aluminum tanks
A-3228HD-STOR	Steel—Combination 32 STOR & 2" NPT	May be used to install either design Hydra Liner
V6216	Steel—Half Coupling—32 STOR	Used when external tank clearance is limited
A-5878SSHD	Stainless Steel—Half Coupling—32 STOR	Used when external tank clearance is limited
IS43THCK	Stainless Steel—2" NPT Half Coupling 300#	Preferred for most installations on Stainless Steel Tanks
TWF-32	Steel—Flange 32 STOR	Used when external clearance is limited
TWF-32N	Steel—Flange 2" NPT	Used when external clearance is limited

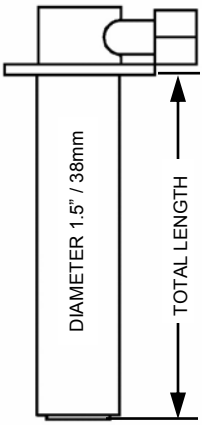
HOT FOX™ HYDRAULIC FLUID WARMER

Used on applications which require maximum heat exchangers in a concentrated area.
NOTE: For extreme cold weather applications, multiple hydraulic HOT FOX™ fluid warmers may be desired.



PART NUMBER	TOTAL LENGTH (INCH / MM)	MAXIMUM TANK CAPACITY (USG / L)
SHH-1844-09	8-1/4 / 210	8 / 30
SHH-1844-11	10-1/4 / 260	10 / 38
SHH-1844-12	11-1/4 / 286	12 / 45
SHH-1844-13	12-1/4 / 311	14 / 53
SHH-1844-16	15-1/4 / 387	17 / 64
SHH-1844-19	18-1/4 / 464	20 / 76
SHH-1844-21	20-1/4 / 514	22 / 83
SHH-1844-23	22-1/4 / 565	25 / 95
SHH-1844-25	24-1/4 / 616	28 / 106
SHH-1844-26	25-1/4 / 641	32 / 121





Recommendation: The HFG & SHH series HOT FOX™ warmers can mount into a standard USA fuel gauge sending unit opening.

For extreme vibration applications and all applications involving horizontal or tank bottom vertical mounting, the A-1721 or A-2060 shown below, is required.

NOTE: For installations into non-reinforced gauge hole openings or in tanks manufactured of 14 gauge (0.075" / 1.9mm) and lighter steel, or 0.100" / 2.5mm and lighter aluminum, the appropriate adapter kit KT-826F, KT-827C, or KT-831CS is suggested.

ROUND TANKS

KT-827C for 22"-29"/559-737mm Dia.
KT-831CS for 14"-21"/356-533mm Dia.

Adapts standard Arctic Fox fuel warmer mount to Hot Fox™ mount. Reinforces tank opening.

KIT COMPONENTS
Adapter Plate 6"/152mm Square (1)
A-827 for KT-827C
A-831 for KT-831CS
Backing Plates (2) A-1795
Clips (4) A-649
Gasket (1)—A-611
Mounting Bolts (12) - A-610
Template (1)—A-708

FLAT TANKS

KT-826F

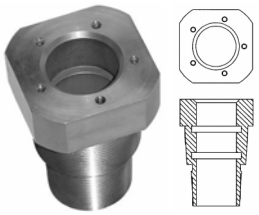
Adapts standard Arctic Fox fuel warmer mount to Hot Fox™ mount. Reinforces tank opening.

KIT COMPONENTS
Adapter Plate 6"/152mm Square (1) A-826
Backing Plates (2) A-2025
Clips (4) A-649
Gasket (1)—A-611
Mounting Bolts (12) - A-610
Template (1)—A-708

Threaded Adapter Fits 1-1/2" & 2" NPT Couplings

A-1721
(To –40° F/C)
Parts Included
(1) A-1792 Gasket
(2) A-1726 O-Ring

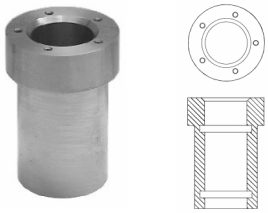
A-1721F
(To –90° F/ -67°/C)
Parts Included
(1) A-1792 Gasket
(2) A-2758 O-Ring

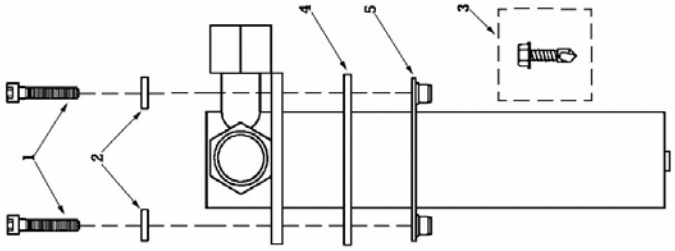


Weld-In Adapter For Fuel or Hydraulic Tanks

A-2060 (Steel)
A-2060-A (Alum.)
(To –40° F/C)
Parts Included
(1) A-1792 Gasket
(2) A-1726 O-Ring

A-2060F (Steel)
A-2060-AF (Alum.)
(To –90° F/ -67°/C)
Parts Included
(1) A-1792 Gasket
(2) A-2758 O-Ring





ITEM	QTY	DESCRIPTION	PART #
1	5	#10-32 UNF x 1.0 Cap Screw	A-857
2	5	Stainless Steel Washer	A-861
3	2	Self Drill / Tap Screw	A-608
4	1	HOT FOX™ Fuel Warmer Gasket	A-841
5	1	Back Up Plate / Template	A-834

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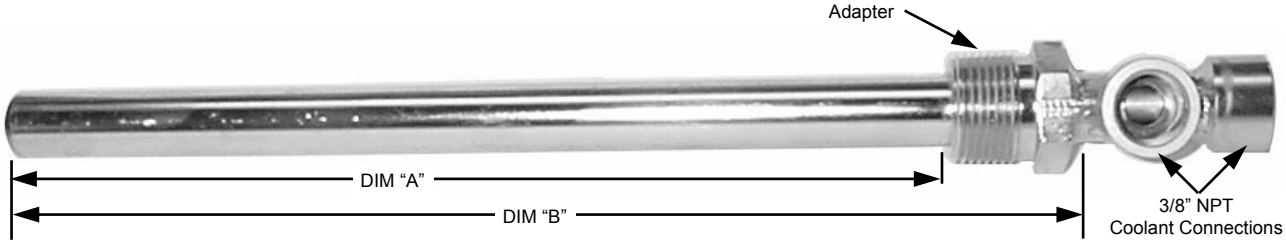
HYDRAULIC FLUID WARMERS & ACCESSORIES

MINI HEAT EXCHANGER

- Utilizes engine coolant for small reservoir applications
- Engine oil pans
- Small hydraulic reservoirs 1 to 5 gallons / 4-19 Liters

PART NUMBER	ADAPTER TYPE	TUBE DIAMETER	MATERIAL	DIM "A"	DIM "B"
H-2697-6SS	3/4" NPT	7/8" / 22mm	Stainless Steel	6" / 152mm	7" / 178mm
H-2697-8SS	3/4" NPT	7/8" / 22mm	Stainless Steel	8" / 203mm	9" / 229mm
H-2697-10SS	3/4" NPT	7/8" / 22mm	Stainless Steel	10" / 254mm	11" / 279mm



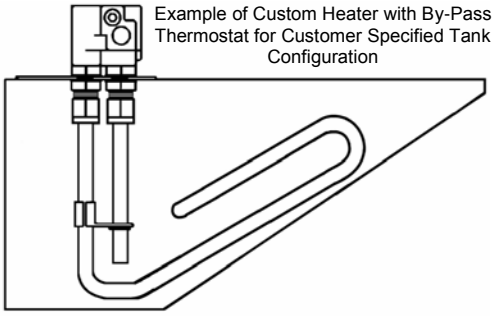
CUSTOM HEAT EXCHANGERS

1. Review the following questions—
   a. Exact dimensions and tank clearance (I.e. sketch, blueprint, IGES CAD file)? Tank and system capacity?
   b. Type of vehicle or machine?
   c. Type of fluid to be heated?
   d. Maximum allowable temperature of fluid to be heated? Is thermostat required?
   e. Total coolant capacity?
   f. Does equipment have a fuel fired coolant pre-heater? What BTU size capacity?
   g. Does application only require maintaining existing reservoir heat or will system be "cold soaked" and fluid temperature rise be required? Please note original fluid temperature and desired temperature after one hour of heating.
   h. Is tank pressurized or used on aerial man lift?

2. Fax or call Arctic Fox with above information
   Phone: (800) 654-5382 or (763) 972-2758—Fax: (763) 972-2873.

3. Arctic Fox will design and quote for this specific reservoir.

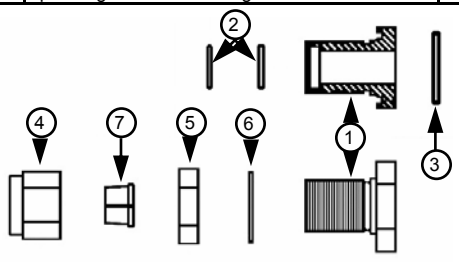
4. A design print and customer authorization will be sent to customer. If approved customer will indicate so by returning signed customer authorization form to Arctic Fox. After receipt of signed authorization, orders for the custom heat exchanger will be filled. Allow 4 to 6 weeks after receipt of signed authorization.


Example of Custom Heater with By-Pass Thermostat for Customer Specified Tank Configuration

A-1714 Mounting Plate Bushing with O-Ring

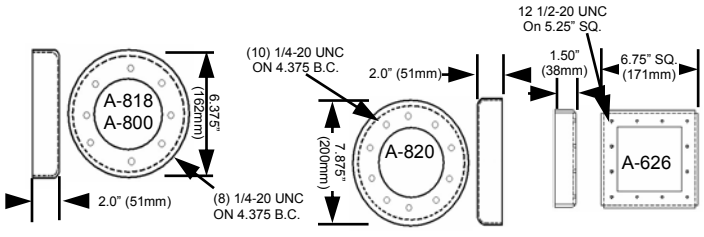
Used on applications where a reservoir is pressurized or when a heater is mounted below the fluid level. May be used instead of standard A-612 bushing to achieve seal under pressure.

ITEM	QTY.	DESCRIPTION	PART #
1	1	Hydraulic Bushing	A-1714
2		O-Ring kit—Package contains 4 White & 4 Black	A-617
3	1	O-Ring	A-1725
4	1	Compression Nut	A-639
5	1	Locking Nut	A-628
6	1	Copper Washer	A-616
7		Split Ring Ferrule—Package of 4	A-621



Fuel & Hydraulic Tank Weld-On Adapters

Part Number	Material	Cover Plate	Gasket	Mounting Bolt
A-626	Steel	A-414-0	A-611	A-610
A-818	Steel		A-801	A-610
A-800	Aluminum	A-802	A-801	A-610
A-820	Steel	A-822-0	A-821	A-610

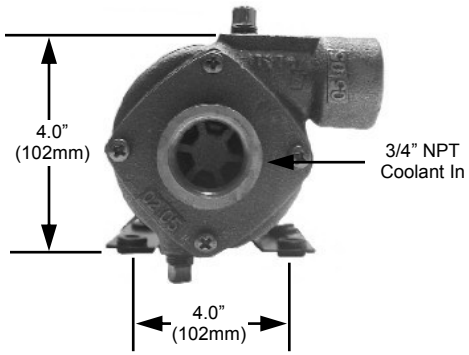


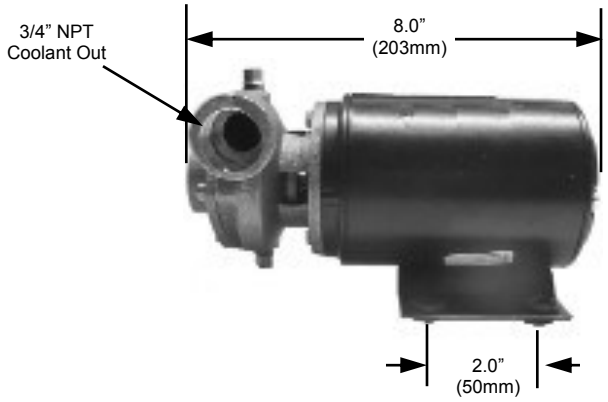
COOLANT CIRCULATION PUMP

Used to “boost” coolant flow in Arctic Fox™ Fuel & Fluid Temperature Management Systems, when multiple heat exchangers are installed or for remote tank installations that require long lengths of plumbing.

PART NUMBER	DESCRIPTION	AMP DRAW	RECOMMENDED TEMP RANGE	GPM/ LPM	PRESSURE PSI / BAR
A-1600-12V	12V DC Pump	8.5	to +20°F / -7°C	8 / 30	4 / .28
A-1600-24V	24V DC Pump	4.3	to +20°F / -7°C	8 / 30	4 / .28
A-1600-115V *	115V AC Pump	1.0	to +20°F / -7°C	8 / 30	4 / .28
A-4350-12V	12V DC Pump	10.1	to -40°F / -40°C	10 / 38	8 / .55
A-4350-24V	24V DC Pump	5.1	to -40°F / -40°C	10/ / 38	8 / .55

* Dimensions shown do not pertain to the A-1600-115V

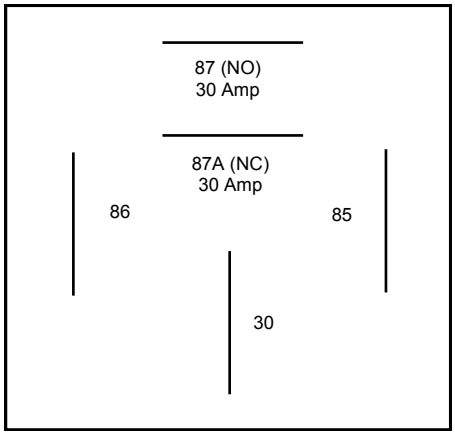




DC 12V & 24V RELAY & CONNECTOR BRACKET

Allows 12 and 24 volt DC pumps listed above to be operated with minimal current draw through a switch or other triggering mechanism.

PART NUMBER	DESCRIPTION
KT-1904	Relay & Connector Bracket for 12V DC System
KT-1941	Relay & Connector Bracket for 24V DC System
TERMINAL	**CONNECTION**
30	Battery + for negative ground systems Battery—for positive ground systems
85	Switch or triggering mechanism
86	Ground
87 (NO)	Brown pump wire on negative ground or insulated systems. Black pump wire for positive ground systems
87a (NC)	Normally closed contact—not used



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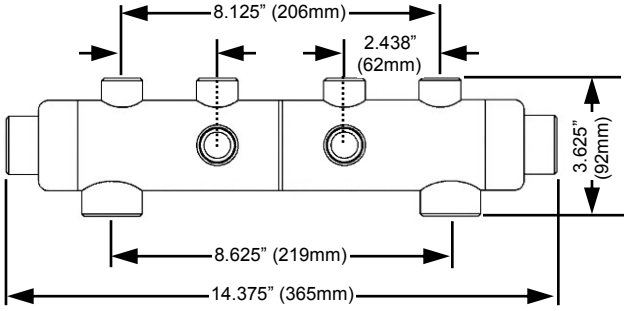
COOLANT MANIFOLDS

Used in Arctic Fox® Fuel & Fluid Temperature Management Systems to help distribution of coolant through multiple heat exchangers. May also be used to eliminate the use of multiple wye and tee fittings and to reduce the number of connections.

ST-1596—Dual Chamber, typically used on systems with up to a 50 thousand BTU coolant preheater.

Input Connections:
One 1” NPT inlet
One 1” NPT outlet
Three 1/2” NPT outlets.

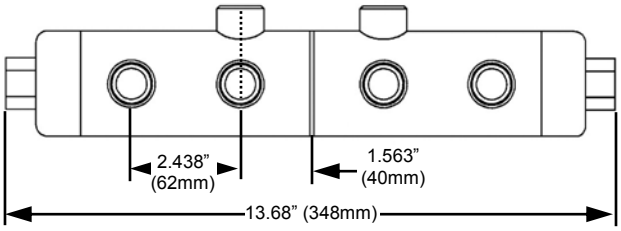
Output Connections:
One 1” NPT inlet
Three 1/2” NPT inlets
One 1” NPT outlet.



ST-1596SC—Dual Chamber, typically used on Scania vehicles.

Input Connections:
One 1/2” NPT inlet
Three 1/2” NPT outlets.

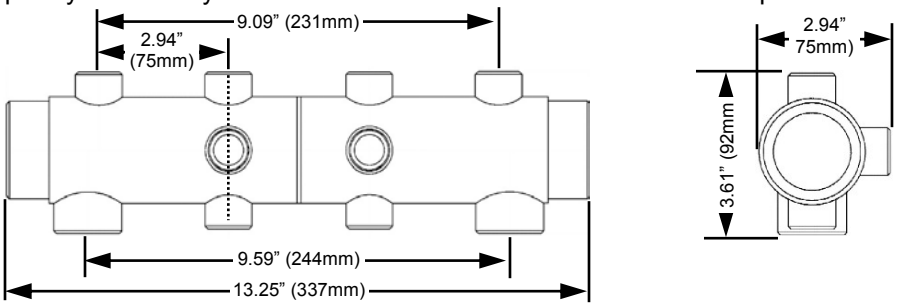
Output Connections:
Three 1/2” NPT inlets
One 1/2” NPT outlet.



ST-2520—Dual chamber, typically used on systems with a 80—100 Thousand BTU coolant preheater.

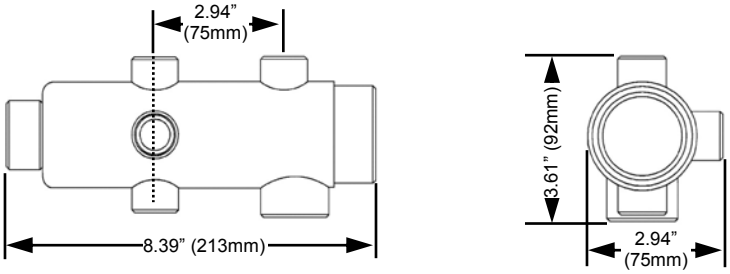
Input Connections:
One 1½” NPT Inlet
One 1” NPT outlet
Four 1/2” NPT outlets.

Output Connections:
One 1” NPT inlet
Four 1/2” NPT Inlets
One 1½” NPT outlet.



ST-2580—Single chamber, typically used in place of multiple Tee’s .

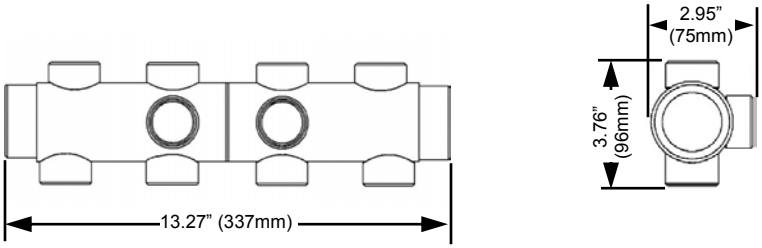
Connections:
One 1½” NPT
Two 1” NPT
Four 1/2” NPT ports.



ST-5136—Dual Chamber, typically used on systems with a 80-100 Thousand BTU coolant preheater.

Input Connections:
One 1½” NPT Inlet
Five 1” NPT outlets

Output Connections:
Five 1” NPT inlets
One 1½” NPT outlet

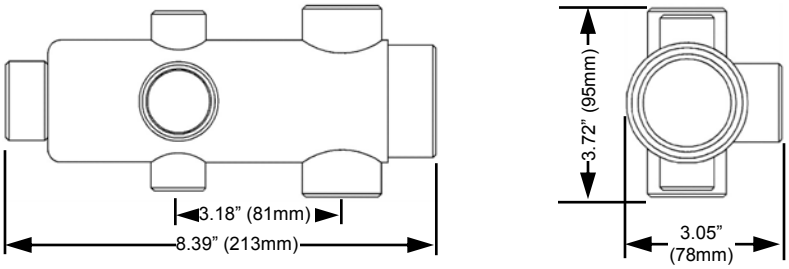


COOLANT MANIFOLDS

Used in Arctic Fox® Fuel & Fluid Temperature Management Systems to help distribution of coolant through multiple heat exchangers. May also be used to eliminate the use of multiple wye and tee fittings and to reduce the number of connections.

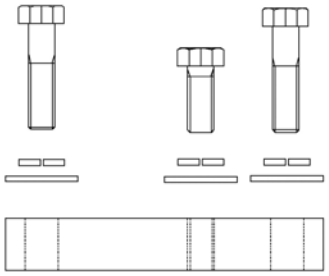
ST-5809—Single Chamber, typically used in place of multiple Tee's.

Connections:
One 1½" NPT,
Four 1" NPT
Two 1/2" NPT ports.



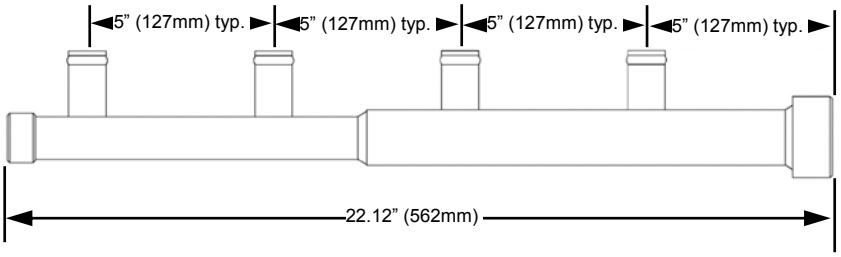
KT-5812—Used to mount ST-5809 manifold to 3500 series Caterpillar engines.

Kit Contents:
One Manifold Spacer Plate
Two M12 x 1.75 x50 Bolts
Two 1/2 x 13 x 2 Bolts
One 1/2 x 1.5 Bolt
Three 1/2 SAE Flat Washers
Three 1/2 SAE Spring Lock Washers
Two 1/2 UNC Nuts



A-5562—Single Chamber, vertical mount, typically used when multiple SF-5139 heat exchangers are used in parallel, or as an extension.

Connections:
One 1½" NPT inlet
Four 1" O.D Hose barb outlets
One 3/4 NPT outlet



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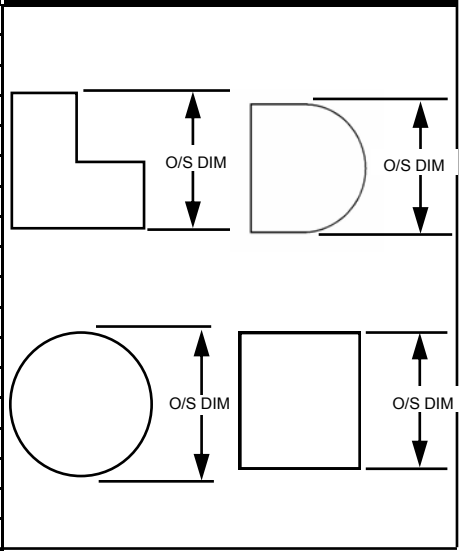
FUEL STANDPIPES—Dual & Single Draw

- Avoid costly road hazards, convert bottom draw to top draw
- Allows easy retrofitting to dual suction dual return
- Standpipe only or standpipe with return line provision
- Disperses hot return fuel within one or both tanks
- Complete systems available including tank standpipe units, fuel tee brackets, fittings and hose assemblies

Measure tank as shown. Model Number SP-1662 is a standpipe with Return Provision—specify curved or flat tank, refer to part number example and sizing chart to define the part number required for your application.

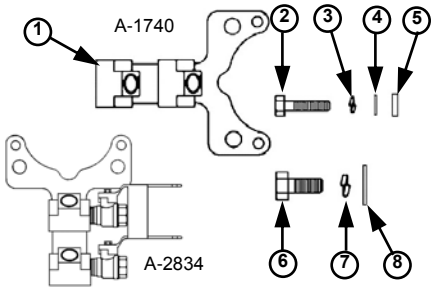
EXAMPLE: SP-1662-C-13 / Model # SP-1662 / C=Curved Tank—F=Flat Tank / 13=Tank depth from chart below

MEASURED OUTSIDE TANK DIMENSION	ORDER THIS TANK DEPTH
13” - 13-7/8” (330mm—353mm)	13
14” - 14-7/8” (356mm—379mm)	14
15” - 15-7/8” (381mm—404mm)	15
16” - 16-7/8” (406mm—429mm)	16
17” - 17-7/8” (432mm—455mm)	17
18” - 18-7/8” (457mm—480mm)	18
19” - 19-7/8” (483mm—506mm)	19
20” - 20-7/8” (508mm—531mm)	20
21” - 21-7/8” (533mm—556mm)	21
22” - 22-7/8” (559mm—582mm)	22
23” - 23-7/8” (584mm—607mm)	23
24” - 24-7/8” (610mm—633mm)	24
25” - 25-7/8” (635mm—658mm)	25
26” - 26-7/8” (660mm—683mm)	26
27” - 27-7/8” (686mm—709mm)	27
28” - 28-7/8” (711mm—734mm)	28
29” - 29-7/8” (737mm—760mm)	29
30” - 30-7/8” (762mm—785mm)	30



TRANSMISSION MOUNTED DUAL TEE BRACKET ASSEMBLY

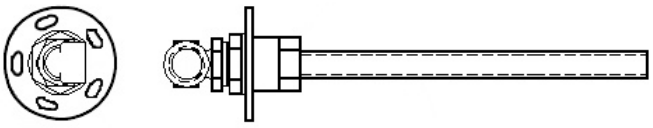
REF #	PART NUMBER	DESCRIPTION
1	A-1740 A-2834	Bracket kit includes reference numbers 1 through 8 Bracket with dual Tee & Shut-Off valves include reference numbers 1 through 8
2	A-1744	7/16” / 11mm UNC x 2” / 512mm long Grade 8 bolt (2)
3	A-1745	7/16” / 11mm Split Ring Lock Washer (2)
4	A-1746	7/16” / 11mm SAE Flat Washer (2)
5	A-1747	7/16” / 11mm I.D. x 1/4” / 6mm Thick Spacer (2)
6	A-1742	5/8” / 16mm UNC x 1-1/2” / 38mm Long Grade 8 Bolt (2)
7	A-1743	5/8” / 16mm Split Ring Lock washer (2)
8	A-1648	5/8” / 16mm SAE Flat Washer (8)
CAUTION: It is extremely important suction and return hoses to left and right fuel tanks be identical in I.D., length and installation elevation.		



SINGLE DRAW STANDPIPE KIT

PART NUMBER SP-1069

A non-heated standpipe which can be used as a suction standpipe or as a return fuel provision. Fits any size tank up to 29” / 737mm, can be cut to required length by installer. This assembly bolts into a standard USA fuel gauge sending unit size opening if available. Kit includes template and hardware to easily make additional tank opening when required. For those systems that require special applications we’ll design a standpipe with mounting hardware to supply diesel fuel to your fuel fired coolant or cab heater or refrigeration unit from your main fuel supply.



ITEM	QTY.	DESCRIPTION	PART #
1	5	#10-32 Allen head cap screw (Not Shown)	A-857
2	5	St. Steel Washer (Not Shown)	A-861
3	1	5/8” / 16mm x 1/2” NPT Elbow	A-609
4	2	Self-Drill-Tap Screw (Not Shown)	A-608
5	1	Standpipe Fitting	A-622B
6	1	Copper Washer	A-816
7	1	2.75” / 70mm O.D Standpipe Plate	A-1364
8	1	Gasket (Not Shown)	A-841
9	1	Backup Plate/Template (Not Shown)	A-834
10	1	Inverted Flare Gasket (Not Shown)	A-635
11	1	Standpipe 29”/737mm	A-624-29

COOLANT DAM® PRESSURE TESTER

DON'T DRAIN THE BLOCK FOR SIMPLE REPAIRS

- Changing Heater Hoses
- Changing Fan Sensors
- Changing Temperature Sensors
- Installing Shut-off Valves for:
  Fuel Warmers & Separators
- Replacing Cab Heater Cores
- Replacing Heater Control Valves
- Eliminates Tedious Hand Pumping
- Provides Continuous Pressure for Diagnostics
- Plus Many Other Uses

Model T-1000

Kit Includes:
T-1000 Assembly
T-1025 Adapter
A-462-2 Extension Hose
A-536 Discharge Hose
A-483 Hanger
A-467 Storage Case

HERE'S HOW

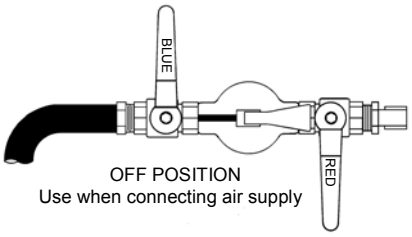
Using shop air, this ingenious, simple, new time-saving tool holds engine coolant inside the engine, with little or no coolant loss, even when pipe plugs, sensors, valves and other components are removed for replacement or repair.

First, the Coolant Dam® Pressure Tester creates a vacuum, holding coolant inside the engine. For many minor repairs there is no need to spend valuable shop time draining and refilling the cooling system.

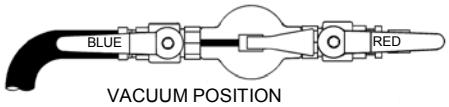
The unit quickly converts from vacuum to a pressure tester, up to the maximum pressure limit of the included pressure cap so repairs can be tested without tedious hand pumping or running the engine.

The Coolant Dam® Pressure Tester attaches to the coolant filler neck, a standard size adapter is included, and many other adapters are available for specific applications.

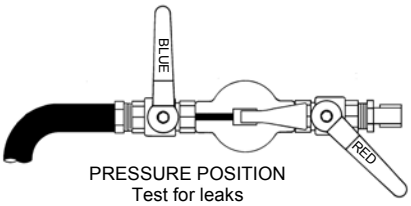
Air Requirements for Continuous Operation: 30 CFM at 120-150 PSI (.85 Cubic Meters at 8-10 Bar)



OFF POSITION
Use when connecting air supply



VACUUM POSITION
To retain coolant



PRESSURE POSITION
Test for leaks

SIMPLE TO USE

Install a male quick coupler fitting into the 1/4" NPT inlet port on the RED flow control valve. Attach the 3/4" / 19mm I.D. discharge hose to the exhaust port, barbed fitting on the blue valve. The Coolant Dam® is now ready for use.

TO RETAIN COOLANT IN THE ENGINE

1. Remove radiator cap.
2. Install Coolant Dam® on radiator neck using the appropriate adapter.
3. Route discharge hose into an open container to collect any minor amount of coolant expelled. **IMPORTANT: Secure hose to container or fixed object with the attached spring clip. Be sure the self-locking radiator cap provided is securely in place and locked onto the top of the Coolant Dam® .**
4. Close RED flow valve (position handle perpendicular to valve body)
5. Open BLUE flow control valve (position handle parallel to valve body)
6. Attach shop air hose to quick coupler on RED flow control valve. Slowly open the RED control valve until the maximum negative pressure reading is attained. You are now able to proceed with the repair. Once the repair is completed, close the RED flow control valve (position handle perpendicular to valve body).

TO PRESSURE TEST

1. Close both the RED and BLUE flow control valves (position handles perpendicular to valve body).
2. Slowly open the RED control valve until a positive pressure reading, equal to normal system pressure is attained.
3. Check for leaks.

NOTE: The instructions above are provided as general guidelines only. Before using the Coolant Dam®, please read the full instructions packaged with the product for additional operation instructions, cautionary and warning statements, product use tips and air flow requirements.

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COOLANT DAM® ADAPTERS & PLUGS

T—12027
To be used with T-1025 to test 32mm I.D. 16mm deep cooling system filler necks.

T-1020
Volvo
Fits vehicles using Volvo part number 1542591 radiator cap. (46x33mm Thread).

T-1024
Truck "B" Size

T-1025
Standard Automotive Size
Reversible seal fits 1" or 3/4" deep filler necks. Also fits late model Mercedes 1319.

T-1029
GMC-Freightliner-Western Star
Threaded, Non-Vented, Western Star cap part number 20009-0002.

T-1030
Transit Bus Adapter
Fits many Flexible, Crown, MCI, New Flyer, GM, MAN, SABB filler necks.

T-1034
Pop Off Pressure Adapter
Mounts to top of Coolant Dam® to test pop off pressure of truck "B" size cap.

T-1040
Volvo
Fits vehicles using Volvo part number 6794968 radiator cap. (63 x 3mm Thread).

T-1223
Volvo VN Series
Fits vehicles using Volvo part number 1674922.

T-1228
Ford E-350
International 7.3L
Fits vehicles using Cap # RS-103, F6DZ-8100A, 12R-16#, or 31406.

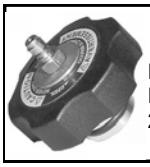
T-1229
Kenworth Vehicles using cap # N5349001.

T-1230
Volvo VN Series
2006 and newer
Fits vehicles using Volvo part number 20519046.

T-1233
Freightliner Columbia/ Cascadia
2008 & newer
Vehicles using cap # N9685001 or BHTN9685001 or BHTW3678001*

*Call for additional information regarding cap #BHTW3678001.

T-3000
Navistar (1996 & Newer)
Fits vehicles using Navistar part number 2039390C1 radiator cap.



T-3064
Freightliner Columbia
Fits vehicles using Freightliner part number 05-20763-000 radiator cap.

T-3030X
Caterpillar Adapter
(Off-Highway Equipment)
Call for information-Cat. #s 7N918, 7N5565, 6N1981, 1N3599.

Rubber Expansion Plugs—Used to temporarily plug coolant lines during component replacement

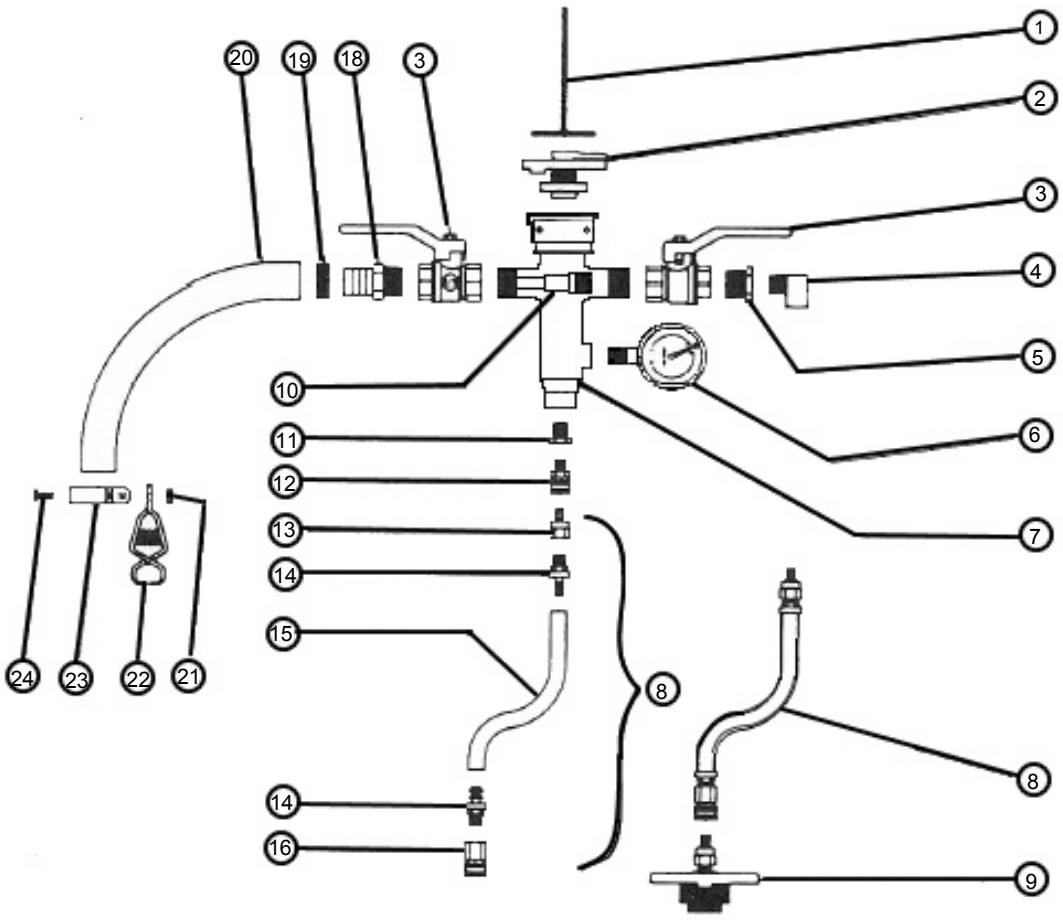
A-440—3/8"	A-444—5/8"	A-448—7/8"	A-449 Kit (1) ea 3/8" to 7/8"
A-441—7/16"	A-445—11/16"	A-451—1"	
A-442—1/2"	A-446—3/4"	A-452—1-1/8"	A-467—Case
A-443—9/16"	A-447—13/16"	A-453—1-1/4"	A-466-Foam Insert

For servicing Cummins ISX After-Treatment Injector (ATI) units

KT-T1000-CUMMINS-ISX-ATI
Kit includes:
(1) 3089567 coolant block plug
(2) 4918690 coolant line plugs
(1) A-6622 36" extension hose
(1) B-702 Work Instruction Sheet

Using the Coolant Dam in servicing the ATI is a labor and shop time saving tool. The coolant will not have to be drained, refilled, drained, and refilled as is happening now when the Coolant Dam is not used. Arctic Fox recommends that after complete service of the ATI, that you follow the Cummins ISX engine procedures for purging air from the coolant system before putting the engine under load.

COOLANT DAM® PRESSURE TESTER—SERVICE PARTS



ADAPTER SERVICE PARTS

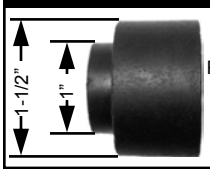
A-480—FEMALE COUPLER

A-482—MALE COUPLER

A-481—FEMALE NIPPLE

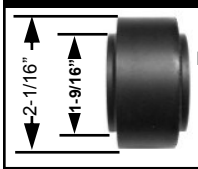
A-512—MALE NIPPLE

A-498-CAR RUBBER BUSHING



Replacement for T-1025 Adapter

A-489-TRUCK RUBBER BUSHING



Replacement for T-1024 Adapter

Item	Qty.	Description	Part #
1	1	Hanger Wire	A-483
2	1	Radiator Cap-Locking, 13 Pound	A-463
	1	Radiator Cap-Locking, 20 Pound	A-6336
3	1	1/2" Ball Valve (Blue Handle)	A-461-B
	1	1/2" Ball Valve (Red Handle)	A-461-R
4	1	1/4" 90 Degree Street Elbow	A-242
5	1	1/2" x 1/4" Steel Pipe Bushing	A-470
6	1	Pressure / Vacuum Gauge	A-460
7	1	COOLANT DAM Pressure Tester Housing	A-450
8	1	1/4" Extension hose (Includes 13, 14, 15, 16)	A-462-2
9	1	Head Kit	T-1025
10	1	Nozzle	A-477
11	1	1/4" x 1/8" Steel Pipe Bushing	A-472
12	1	1/8" BST Male Coupler	A-482
13	2	1/8: BST Female Nipple	A-481
14	2	1/4" x 1/8" Push on Hose End	A-462-3
15	1	1/2" O.D. x 14" (356mm) Long Hose	A-462-4
16	1	1/8" BST Female Coupler	A-480
18	1	3/4" Hose barb to 1/2" Male Pipe	A-652
19	1	Uni-Clamp	A-476
20	1	3/4" I.D. x 7' (2m) Long Discharge Hose	A-536
21	1	#8-32 KEPS Shake proof Nut	A-486
22	1	Spring Clip	A-485
23	1	Hose Band	A-484
24	1	#8-32 x 1/2" (13mm) Long Machine Screw	A-487

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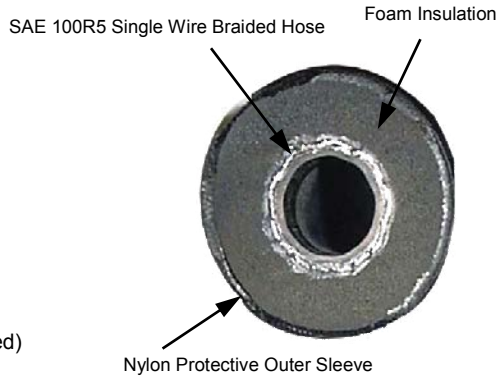
PRE-ASSEMBLED INSULATED, SLEEVED, COOLANT HOSES

Get the most out of your Coolant System Heating efforts by using pre-assembled tough insulated, sleeved coolant hoses made by Arctic Fox.

Wrapped in rugged nylon sleeve, with shrink wrapped ends and reusable fittings these insulated, sleeved coolant hoses outlast standard hoses under the toughest in-field conditions.

Benefits of using Arctic Fox Insulated, Sleeved, Coolant Hoses

- Minimize wasted energy, save up to 15% over non insulated hoses
- Save shop assembly time by buying pre-insulated sleeved hoses
- Leak proof JIC connectors on SAE 100R5 hose
- Bulk hose can be cut to length / finished with additional fittings
- Handles today's high HP/ high pressure cooling systems
- Can be shipped via UPS



Features of Pre-assembled Insulated, Sleeved, (SAE 100R5) Coolant Hoses

- Pre-assembled 50' length with reusable JIC fittings installed, (4 additional fittings included)
- Wrapped in Insultube seamless insulated foam tubing
- Environmentally protected by a dependable rugged nylon sleeve
- Hose ends are finished with heat shrink tubing for durability
- Additional heat shrink wrap shipped with hose assembly
- Temperature rated –40° to 220° F

PRE-ASSEMBLED INSULATED, SLEEVED, COOLANT HOSES					
Part Number	**Hose Type**	**Hose Size**	**Fitting Size**	**Hose Length**	**Protective/Insulated Sleeve**
A-10-600-PS	SAE 100R5	#10	A-1752-10	50ft. (600")	Yes
A-12-600-PS	SAE 100R5	#12	A-1753-12	50ft. (600")	Yes
A-16-600-PS	SAE 100R5	#16	A-1753-16	50ft. (600")	Yes
A-20-600-PS	SAE 100R5	#20	A-1753-20	50ft. (600")	Yes
A-24-600-PS	SAE 100R5	#24	A-1753-24	50ft. (600")	Yes

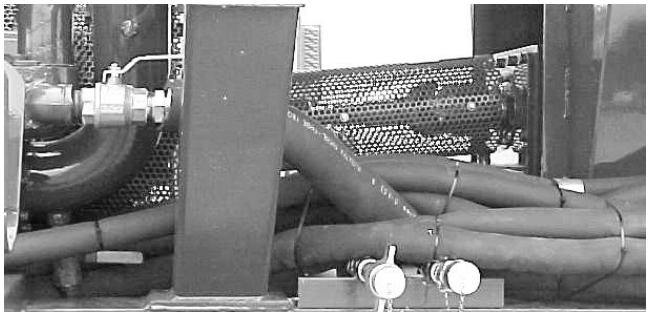
Note: 50' bulk hose is terminated on each end with reusable straight female JIC connectors. Includes hose identification labels, 4 extra loose fittings, and 4 ft. of heat shrink tube to cover installation of fittings on additional hose ends.
Order additional fittings appropriate for the correct size hose to make additional finished hose sections. See the Reusable Swivel Fitting chart below.

REUSABLE SWIVEL FITTINGS (FOR SAE 100R5 HOSE)				
Part Number	**Hose Size**	**Thread Size**	**Tube Size**	**Seat**
A-1752-10	#10	7/8"-14	5/8"	Dual (SAE 45° & JIC 37°)
A-1753-12	#12	1 1/16"-14	3/4"	JIC 37°
A-1753-16	#16	1 5/16"-12	1"	JIC 37°
A-1753-20	#20	1 5/8"-12	1 1/4"	JIC 37°
A-1753-24	#24	1 7/8"-12	1 1/2"	JIC 37°

PRE-ASSEMBLED INSULATED,SLEEVED,SILICONE COOLANT HOSES (Fittings are not included with insulated, sleeved, silicone coolant hoses)				
Part Number	**Hose Type**	**Hose Size**	**Hose Length**	**Protective/Insulated Sleeve**
A-525-600-PS	SAE 20R3	5/8"	50ft. (600")	Yes
A-530-600-PS	SAE 20R3	3/4"	50ft. (600")	Yes
A-3231-600-PS	SAE 20R3	1"	50ft. (600")	Yes

FUEL & COOLANT LINE INSULATION, HOSE & FITTINGS

- Prevent fuel from cooling off before reaching the engine
- Add to the efficiency of Arctic Fox® fuel warmers
- Help prevent hose chafing
- Improve performance of preheaters by maintaining heat in the system
- Effectively insulate cross-over lines
- Use with temperatures ranging from –40° F/C to + 220°F / 104°C
- 1/2" (13mm) wall thickness for easy installation



Arctic Fox insultube is the perfect companion product for Arctic Fox® fuel and fluid warmers. While the fuel heater keeps your fuel warm and prevents gelling or waxing, insultube insulates the fuel and coolant line to help maintain the optimum temperature. Protect that critical area between the fuel tank and engine with Arctic Fox insultube.

INSULTUBE

PART NUMBER	INSULTUBE I.D.	NOMINAL LENGTH
A-1710	1/2" / 13mm	6 feet / 2 meters
A-1711	5/8" / 16mm	6 feet / 2 meters
A-1712	3/4" / 19mm	6 feet / 2 meters
A-706	1-1/8" / 32mm	6 feet / 2 meters
A-720	1-1/8" / 32mm	125' Roll or 25' Increments
A-705	1-1/8" / 32mm	4 Pieces 6' each / 2 meters w/ tie straps
A-712	1-3/8" / 35mm	6 feet / 2 meters
A-721	1-3/8" / 35mm	125' Roll or 25' Increments
A-713	2-1/8" / 54mm	6 feet / 2 meters
A-1791	2-1/2" / 64mm	6 feet / 2 meters
A-714	3" / 76mm	6 feet / 2 meters

INSTALLATION AIDS

A-711	Heavy Duty Weather Resistant Tie Strap	14" / 356MM

SAE 100R5 Hose

Single wire braid—sold by the foot

PART NUMBER	HOSE SIZE	HOSE I.D.
A-1750-4	#4	0.19" / 4.8mm
A-1750-10	#10	0.50" / 12.7mm
A-1750-12	#12	0.62" / 15.7mm

PUSH-LOK Hose-Sold by the foot

A-2766		1/4" / 6.35mm
A-1660		3/8" / 9.53mm

COOLANT HOSE

PART NUMBER	HOSE I.D.	QUANTITY	MATERIAL	NOTES
A-532	5/8" / 16mm	Bulk (1)	Insulated Silicone	Includes A-720 Insultube
A-525	5/8" / 16mm	Bulk (1)	Silicone	
A-530	3/4" / 19mm	Bulk (1)	Silicone	
A-534	3/4" / 19mm	Bulk (1)	Insulated Silicone	Includes A-721 Insultube
A-3231	1" / 25mm	Bulk (1)	Silicone	

(1) All bulk hose sold in increments of 25 feet / 7.62 meters only

HOSE CLAMPS — EFFECTIVE DIAMETER

PART NUMBER	SIZE	MIN.	MAX.	STYLE
A-2020	4	7/32" / 5.6mm	5/8" / 15.8mm	Standard
A-520	10	9/16" / 14.3mm	1-1/16" / 26.9mm	Shielded
A-2869	10	9/16" / 14.3mm	1-1/16" / 26.9mm	Constant Torque
A-279	12	11/16" / 17.5mm	1-1/4" / 31.7mm	Shielded
A-3950	12	11/16" / 17.5mm	1-1/4" / 31.7mm	Constant Torque
A-3267-16	16	13/16" / 20.6mm	1-1/2" / 38.1mm	Shielded
A-3950-16	16	13/16" / 20.65mm	1-1/2" / 38.1mm	Constant Torque
A-3950-20	20	15/16" / 23.8mm	1-3/4" / 44.4mm	Constant Torque
A-3267-24	24	1-1/16" / 26.9mm	2" / 50.8mm	Shielded
A-3950-24	24	1-1/16" / 26.9mm	2" / 50.8mm	Constant Torque

NOTE: Use **ONLY** shielded or constant torque clamps on silicone hose

VALVES

BALL VALVE

PART NUMBER	NPT THREAD 1	NPT THREAD 2	NOTES
A-461	1/2"	1/2"	
A-2838	1/2"	1/2"	Male / Female
A-3696-12	3/4"	3/4"	
A-3696-16	1"	1"	
A-3696-24	1-1/2"	1-1/2"	

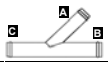
TRUCK VALVE—BRASS

PART NUMBER	I.D. HOSE SIZE 1	I.D. THREAD SIZE 1	THREAD SIZE 2	HANDLE
A-526	5/8" / 16mm	N/A	3/8" NPT	Tee
A-275	3/4" / 19mm	N/A	1/2" NPT	Round

WYES AND TEES

BEADED WYE—STEEL

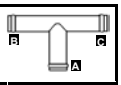
(won't crack like plastic)



PART NUMBER	DIM A	DIM B	DIM C
A-457	5/8"	5/8"	5/8"
A-459	3/4"	3/4"	3/4"

BEADED TEE—STEEL

(won't crack like plastic)



PART NUMBER	DIM A	DIM B	DIM C
A-2321	5/8"	5/8"	5/8"
A-2323	5/8"	7/8"	7/8"
A-3600	3/4"	3/4"	3/4"
A-2322	3/4"	7/8"	7/8"

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LITERATURE AND SALES AIDS

PRODUCT INFORMATION BROCHURES

BROCHURE NUMBER	DESCRIPTION
B-442	Coolant Dam® Pressure Tester Adapter Flyer
B-487	Fuel and Fluid Temperature Management System
B-500	Product Catalog
B-514	Capabilities Brochure
B-521	Battery Heater
B-569	Tube Fabrication
B-600	Hydra Liner
B-679	Pre-assembled Insulated, Sleeved Coolant Hoses
B-700	In-Line Fuel Warmers—Biodiesel Compatible (B100)

INSTALLATION BROCHURE NUMBER	DESCRIPTION
B-103	In-Tank Fuel Warmer—Non-Thermostat
B-104	In-Tank with By-Pass Thermostat
B-445	In-Line Fuel Warmer
B-458	Hot Fox™ Fuel Warmer
B-463	Hot Fox™ Fuel Warmer Adapter
B-481	Shut-Off Thermostat
B-511	Hot Fox™ Fuel Warmer with Auxiliary Standpipe
B-530	Electric Fluid Reservior Heater
B-575	Hydra Liner
B-608	Lectro Liner
B-640	Hydra Liner STOR models
B-597	HotLine™ Operators Manual
B-702	Cummins ISX After-Treatment Injector kit work instructions

RETURN GOODS POLICY—OVERSTOCK

Authorization must be obtained prior to any merchandise being returned. On an annual basis, up to 10% of the previous 12 months purchases may be returned for credit toward future orders, transportation charges prepaid. A 20% restocking charge will be assessed on all such transactions. All product must be in the original carton and be accompanied by reasonable proof of purchase.

MANUFACTURER'S RIGHTS RETAINED

Arctic Fox reserves the right to make changes in design or to make additions to or improvements upon any of its products at any time without incurring any obligation whatsoever to install the same or improve upon products previously manufactured.

WARRANTY AND RETURNS—DOMESTIC SALES ONLY

FUEL AND FLUID WARMER WARRANTY (COOLANT)

All Arctic Fox® warmers (other than engine oil pan heat exchangers and alternative fuel heat exchangers) using coolant are warranted against defects in materials and workmanship for a period of 5-years or 600,000 miles from the date of purchase by the user. This warranty does not cover warmers which are altered or used for a purpose other than that for which it was intended or used in a manner inconsistent with any instructions regarding its use. The exclusive remedy for any unit found to be defective under this warranty is limited to the repair or replacement of the defective unit without charge, and Arctic Fox® shall **NOT** be liable for any consequential or incidental damages, including labor.

ELECTRICAL COMPONENTS WARRANTY
HOTLINE®, ELECTRIC RESERVOIR WARMERS AND CAL RODS

All Arctic Fox® Electrical components are warranted for one year from date of sale to the original consumer against defects in workmanship and materials. The manufacturer's only obligation shall be to repair or replace at the manufacturer's option the product provided it is returned transportation prepaid to the factory within one year from date of sale to original consumer. Defects or failures due to incorrect installation, improper voltage, improper usage or handling, or by any other conditions beyond our control, as to any and all of which the manufacturer will be sole judge, are specifically excluded from this warranty. This warranty gives you specific legal rights. You may also have implied warranty rights which vary from state to state, or province to province, depending upon the location of your residence. No other liability of any kind, arising from the use of the product, whether defective or not, is assumed.

NON-HEATED STANDPIPE WARRANTY

All Arctic Fox® non-heated standpipes are warranted against defects in workmanship for a period of 5 years or 600,000 miles from the date of purchase by user. Tank flange mounting gaskets and installation accessories are warranted against defects for a period of 90 days. This warranty does not cover standpipes which are altered, installed or used in a manner inconsistent with any Arctic Fox® instructions regarding use or installation. The exclusive remedy for any unit found to be defective under this warranty is limited to the repair or replacement of the defective unit without charge, and Arctic Fox® shall **NOT** be liable for any consequential or incidental damages, including labor charges.

COOLANT DAM® PRESSURE TESTER WARRANTY

The Arctic Fox® COOLANT DAM® PRESSURE TESTER is warranted against defects in materials and workmanship for a period of one year from date of purchase by the user. This warranty does not cover tools which are altered or used for a purpose other than that for which it was intended or used in a manner inconsistent with any instructions regarding its use. The exclusive remedy for any unit found to be defective under this warranty is limited to the repair or replacement of the defective unit without charge, and Arctic Fox® shall **NOT** be liable for any consequential or incidental damages, including labor charges.

HOTLINE® WARRANTY

Arctic Fox® warrants the purchaser that the product shall be free from defects in materials and workmanship appearing under normal use and service. The product shall be warranted for a period of one year from the date of its sale to you. Your sole and exclusive remedy for any unit found to be defective under this warranty is limited to the repair or replacement of the defective unit without charge, and Arctic Fox® shall **NOT** be liable for any consequential or incidental damages, including labor.

ENGINE OIL PAN HEAT EXCHANGER WARRANTY

Arctic Fox® Oil pan heat exchangers using coolant as a heat source are warranted against defects in material and workmanship for a period of one year from the date of purchase. This warranty does not cover components which are altered, or used for a purpose other than that for which it was intended or used in a manner inconsistent with any instructions regarding its use. The exclusive remedy for any unit found to be defective under this warranty is limited to the repair or replacement of the defective unit without charge, and Arctic Fox® shall **NOT** be liable for any consequential or incidental damages, including labor charges. Any warranty exposure to Arctic Fox® LLC will not exceed the amount of the original purchase of the component from the manufacturer.

ALTERNATIVE FUELS HEAT EXCHANGER WITH AND WITHOUT THERMOSTAT WARRANTY

Limited warranty on heat exchanger (stainless steel weldment only) of 5 years or 600,000 miles (whichever comes first) from date of purchase. Limited warranty on thermostat of 2 years, or 200,000 miles (whichever comes first) from date of purchase.

WARRANTY RETURN PROCEDURE

In order to qualify for stated warranties, a Return Goods Authorization (RGA) number must be obtained from Arctic Fox® by calling (in USA) 1-800-654-5382 or 763-972-2758. The alleged defective unit must be returned to Arctic Fox® intact, postage or freight prepaid and Arctic Fox® will return the repaired or replaced unit postage or freight prepaid. Final determination of defects shall be made by Arctic Fox® in accordance with procedures established by Arctic Fox®. No agent, employee or representative of Arctic Fox® has any authority to bind any affirmation representation or warranty concerning Arctic Fox® products except as stated herein. There are no warranties that extend beyond the description of the express non-customer product warranty as stated. The warranty is in lieu of any other warranty, express or implied, and expressly excludes any warranty of merchantability or fitness for a particular purpose. To obtain performance of this limited warranty, the alleged defective product must be returned, together with reasonable proof of purchase, postage or freight prepaid, directly to (in USA):

Warranty Department
Arctic Fox, LLC
570 South 7th Street
Delano, MN 55328

Arctic Fox LLC—570 S 7th Street—Delano, Minnesota 55328 USA Phone: (800) 654-5382—Fax: (763) 972-2873—www.arctic-fox.com
Arctic Fox BV—Strijmaden 7—4703 RG–Roosendaal—The Netherlands—Phone: +31 165 55 9245—Fax: +31 165 54 9640—www.arctic-fox.eu

WARRANTY AND RETURNS—INTERNATIONAL SALES ONLY

FUEL AND FLUID WARMER WARRANTY(COOLANT)

All Arctic Fox® warmers (other than engine oil pan heat exchangers and alternative fuel heat exchangers) using coolant are warranted against defects in materials and workmanship for a period of 5-years or 1,000,000 kilometers from the date of purchase by the user. This warranty does not cover warmers which are altered or used for a purpose other than that for which it was intended or used in a manner inconsistent with any instructions regarding its use. The exclusive remedy for any unit found to be defective under this warranty is limited to the repair or replacement of the defective unit without charge, and Arctic Fox® shall **NOT** be liable for any consequential or incidental damages, including labor.

ELECTRICAL COMPONENTS WARRANTY
HOTLINE® , ELECTRIC RESERVOIR WARMERS AND CAL RODS

All Arctic Fox® Electrical components are warranted for one year from date of sale to the original consumer against defects in workmanship and materials. The manufacturer's only obligation shall be to repair or replace at the manufacturer's option the product provided it is returned transportation prepaid to the factory within one year from date of sale.to original consumer. Defects or failures due to incorrect installation, improper voltage, improper usage or handling, or by any other conditions beyond our control, as to any and all of which the manufacturer will be sole judge, are specifically excluded from this warranty. This warranty gives you specific legal rights. You may also have implied warranty rights which vary from state to state, or province to province, depending upon the location of your residence. No other liability of any kind, arising from the use of the product, whether defective or not, is assumed.

NON-HEATED STANDPIPE WARRANTY

All Arctic Fox® non-heated standpipes are warranted against defects in workmanship for a period of 5 years or 1,000,000 kilometers from the date of purchase by user. Tank flange mounting gaskets and installation accessories are warranted against defects for a period of 90 days. This warranty does not cover standpipes which are altered, installed or used in a manner inconsistent with any Arctic Fox® instructions regarding use or installation. The exclusive remedy for any unit found to be defective under this warranty is limited to the repair or replacement of the defective unit without charge, and Arctic Fox® shall **NOT** be liable for any consequential or incidental damages, including labor charges.

COOLANT DAM® PRESSURE TESTER WARRANTY

The Arctic Fox® COOLANT DAM® PRESSURE TESTER is warranted against defects in materials and workmanship for a period of one year from date of purchase by the user. This warranty does not cover tools which are altered or used for a purpose other than that for which it was intended or used in a manner inciconsistent with any instructions regarding its use. The exclusive remedy found to be defective under this warranty is limited to the repair or replacement of the defective unit without charge, and Arctic Fox® shall **NOT** be liable for any consequential or incidental damages, including labor charges.

ENGINE OIL PAN HEAT EXCHANGER WARRANTY

Arctic Fox® Oil pan heat exchangers using coolant as a heat source are warranted against defects in material and workmanship for a period of one year from the date of purchase. This warranty does not cover components which are altered, or used for a purpose other than that for which it was intended or used in a manner inconsistent with any instructions regarding its use. The exclusive remedy for any unit found to be defective under this warranty is limited to the reapair or replacement of the defective unit without charge, and Arctic Fox® shall **NOT** be liable for any consequential or incidental damages, including labor charges. Any warranty exposure to Arctic Fox® , LLC will not exceed the amount of the original purchase of the component from the manufacturer.

WARRANTY RETURN PROCEDURE

In order to qualify for stated warranties, a Return Goods Authorization (RGA) number must be obtained from Arctic Fox® by calling (in Europe) +31 165 55 9245 or (in USA) 1-800-654-5382 or 763-972-2758. The alleged defective unit must be returned to Arctic Fox® intact, postage or freight prepaid and Arctic Fox® will return the repaired or replaced unit postage or freight prepaid. Final determination of defects shall be made by Arctic Fox® in accordance with procedures established by Arctic Fox® . No agent, employee or representative of Arctic Fox® has any authority to bind any affirmation representation or warranty concerning Arctic Fox® products except as stated herein. There are no warranties that extend beyond the description of the express non-customer product warranty as stated. The warranty is in lieu of any other warranty, express or implied, and expressly excludes any warranty of merchantability or fitness for a particular purpose. To obtain performance of this limited warranty, the alleged defective product must be returned, together with reasonable proof of purchase, postage or freight prepaid, directly to:

(In USA) Warranty Department
Arctic Fox, LLC
570 South 7th Street
Delano, MN 55328

(In Europe) Warranty Department
Arctic Fox BV
Strijmaden 7
4703 RG
Roosendaal
The Netherlands

MANUFACTURERS RIGHTS RETAINED

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About Arctic Fox

Our 56,000 Sq. Ft. facility is centrally located near Minneapolis, Minnesota, USA.

Arctic Fox, LLC is a leading supplier of high quality components to the heavy-duty trucking and off-highway equipment markets. We make productivity possible under extreme cold weather conditions. Our products warm fuel and fluids and efficiently transfer that heat to your equipment when you need it most. Our fuel warmers reduce fuel gelling and eliminate plugged fuel filters, keeping trucks and other equipment moving in the coldest weather. Our products get people working sooner, reduce engine idling and fuel consumption, and help meet engine manufacturer warranty requirements. Warm fluid flows free thanks to heat from Arctic Fox!

Incorporated in 1979, Arctic Fox has grown to become one of the leading fuel and fluid warming manufacturers in North America. Our products and fuel system components are currently being installed on production vehicles by some of North America's largest truck producers, including Freightliner, Kenworth, Peterbilt, Navistar, Volvo Heavy Truck Corp., and Western Star. Our company also is a Fluid Heating System integrator for many off-highway OEM's, oil & gas, and military customers. We are continuing to forge new partnerships with other manufacturers to provide customers with a "single source" supplier for vehicle fluid heating systems.

As a global supplier, we opened a sales office and distribution warehouse in Roosendaal, The Netherlands in 1996. Arctic Fox has expanded to provide fluid heating products in Western Europe and in many of the world's harshest and coldest climates. We were the first U.S. manufacturer of fuel heating products to design and build products exclusively for Russian produced trucks. As markets expand and the global marketplace opens, Arctic Fox is positioned to extend our North American leadership and technical expertise to the rest of the world.

Since many of our OEM customers are consolidating suppliers, Arctic Fox extends our manufacturing capabilities to existing and new industries. Current capabilities include tube bending, tube end forming, tube fabrication, manual & robotic welding and brazing. We have the ability to take a project from start to finish with complete packaging and assembly capabilities. As a manufacturer, we now service a wide spectrum of customers from the medical industry, steel furniture, industrial floor sweeping and recreational vehicles. Located in the upper Midwest, our central U.S. location and The Netherlands warehouse, allows us to effectively service both coasts and points around the world.

ISO 9001 registration was achieved in early 1997. Arctic Fox was one of the first U.S. manufacturers of high quality fuel heaters and fabricated tube assemblies to achieve this coveted quality rating. Arctic Fox has made the commitment to be a supplier that consistently delivers quality products on time and at a fair price. We pride ourselves on meeting the high standards set by our customers.

Arctic Fox's corporate philosophy is to "treat customers, employees and suppliers how we would want to be treated," fairly, with respect and with an emphasis on superior customer service.

Thank you for the privilege to be of service to you.

The Arctic Fox LLC Team

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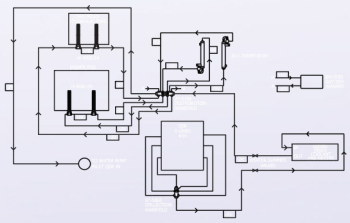
Customers Appreciate our Global Expertise for Equipment Heating Systems

They rely on our expertise to provide solutions that work regardless of the operator, weather, or site conditions.

Our Customers ask us to custom design heating systems that meet their special needs.



Design Engineering

Arctic Fox offers onsite training for installation and operation. Our experience, product quality and support ensure that your equipment will be up and running when you are!

Installation Training

Operator Training

We also offer complete System Kits for all of your fluid warming needs.

Complete Kits

Markets We Serve

ARCTIC FOX®

ISO 9001 Registered

P.O. Box 309—570 South 7th Street—Delano, MN 55328—USA

(800) 654-5382 0r (763) 972-2758—FAX (763) 972-2873

www.arctic-fox.com

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