



**Model: 09-6200-001X
Deicing Unit**



06/2024 – Rev. 10

**For Spare Parts, Operations & Service Manuals or Service Needs
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The Tronair Group of Companies: Tronair | DatcoMedia | Columbus Jack | Eagle | DAE | Malabar International

Tronair, Inc.
1 Air Cargo Pkwy East
Swanton, OH 43558

Phone: (419) 866-6301 | 800-426-6301
Web: www.tronair.com
Email: sales@tronair.com

REVISION	DATE	TEXT AFFECTED
01	02/2004	Major Revision
02	01/2005	pg 2 Modified table pg 3 Modified illustrations pg 8 Modified Item 9 part number pg 10 Modified item 8 and 18 part numbers pg 11 Modified illustration pg 12 Modified Item 34 part numbers
04	12/2009	Deleted To Recharge Waterlogged Surge Tank Modified Surge Tank part number in Parts Lists
05	07/2010	Revised engine
06	10/2010	Added CE marking and Declaration of Conformity
07	11/2022	Major revision
08	10/2023	Modified 4.4 Table for Wiring Diagrams and 5.4 Immersion Heater System
09	04/2024	Modified Parts Lists
10	06/2024	Modified Parts Lists

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This product can not be modified without the written approval of Tronair, Inc. Any modifications done without written approval voids all warranties and releases Tronair, Inc., its suppliers, distributors, employees, or financial institutions from any liability from consequences that may occur. Only Tronair OEM replacement parts shall be used.

1.0 PRODUCT INFORMATION

1.1 DESCRIPTION

The Model 09-6200-001X (Series) Deicer is intended to remove frost, ice, and snow from aircraft surfaces using any approved deicing fluid. Follow deicing fluid manufacturer's instructions for temperature and application techniques.

This deicer unit is trailer mounted and has a 55 gallon capacity tank. The diaphragm delivery pump is powered by a gasoline engine. The deicer has an insulated spray gun with a 50 foot hose. Heating of the deicing fluid is accomplished by an immersion heater with adjustable temperature control and waterproof NEMA 4 box.

1.2 MODEL & SERIAL NUMBER

Reference nameplate on unit

1.3 MANUFACTURER

TRONAIR, Inc.
1 Air Cargo Pkwy East
Swanton, Ohio 43558 USA

Telephone: (419) 866-6301 or 800-426-6301
Fax: (419) 867-0634
E-mail: sales@tronair.com
Website: www.tronair.com

2.0 SAFETY INFORMATION

2.1 USAGE AND SAFETY INFORMATION

To insure safe operations please read the following statements and understand their meaning. Also refer to your equipment manufacturer's manual for other important safety information. This manual contains safety precautions which are explained below. Please read carefully.



WARNING!

Warning is used to indicate the presence of a hazard that can cause **severe personal injury, death, and/or substantial property damage** if the Warning Notice is ignored.



CAUTION!

Caution is used to indicate the presence of a hazard, which will or can cause **minor personal injury or property damage** if the Caution Notice is ignored.

3.0 TRAINING

3.1 TRAINING REQUIREMENTS

The employer of the operator is responsible for providing a training program sufficient for the safe operation of the unit.

3.2 TRAINING PROGRAM

The employer provided operator training program should cover safety procedures concerning use of the unit in and around the intended aircraft at the intended aircraft servicing location.

3.3 OPERATOR TRAINING

The operator training should provide the required training for safe operation of the unit.

NOTE: Maintenance and Trouble Shooting are to be performed by a skilled and trained technician.

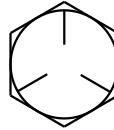
4.0 ASSEMBLY INSTRUCTIONS

4.1 GENERAL

This product should be assembled and/or repaired as applicable, using good workmanship practices and proper tools. Bolts and elastic stopnuts should be tightened to a torque not to exceed standards for Grade '5' bolts.

Bolt Torque	
Size	ft-lbs
5/16-24	20
3/8-24	35
1/2-20	85

SAE Classification -- Grade 5



Markings on top of bolt head indicate grade

All replacement parts must be the same as or equal to the original part supplied. See illustration above.

4.2 DEICER ASSEMBLY

Reference Deicer Unit Parts List & Illustrations to identify all parts and proceed with the following:

1. Remove packaging material from heater
2. Attach post weldment to towbar with fasteners
3. Attach guide support weldment to towbar with hardware
4. Raise frame and attach wheel assemblies to frame
5. Attach towbar to frame with hardware
6. Attach spray wand to hose

4.3 IMMERSION HEATER ELECTRICAL INSTALLATION

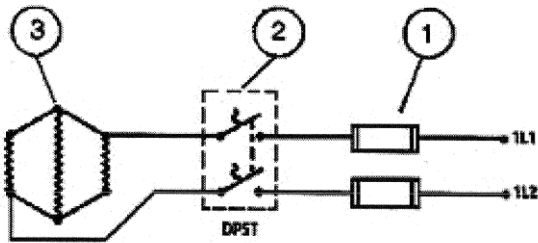
1. Reference **Section 4.5** for Wiring Diagrams.
2. All wiring should be done in accordance with the "National Electrical Code" and other state and local codes.
3. Refer to **Section 4.4** for the immersion heater specifications applicable to your unit. **Section 4.5** represent the corresponding wiring diagrams.
4. Because of vibration in shipment, terminal hardware may loosen. Re-tighten each nut to a maximum of 20 in-lbs.
5. Feeder wire line connections to be made directly to stud terminals. Use a ring terminal (T & B, AMP, etc.) for making these connections. It is essential that these connections be tight (20 in-lbs maximum). Ground connection (Color Coded "Green") supplied inside housing for ground wire.
6. The thermostat is not to be used as an "OFF" device; the use of a disconnect switch or circuit breaker is recommended.
7. The immersion heater cord end plug(s) are not supplied by Tronair due to the many different styles used. Please obtain locally.

4.4 TABLE FOR WIRING DIAGRAMS

Reference Section 5.5

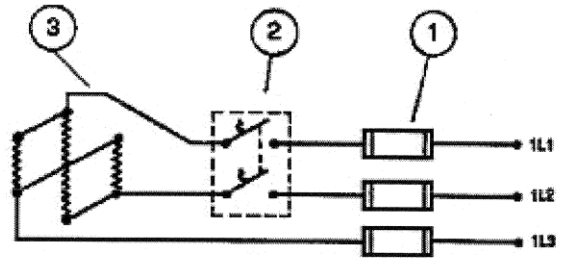
Deicer Model Number	Immersion Heater Specifications				
	Voltage	Phase	Kw	Amperes	Heating Time 60° - 180° F
09-6200-0010	200	3	3.7	10.7	3-1/2 Hours
	208	3	4.0	11.2	3 Hours
	220	3	4.5	11.8	2-3/4 Hours
	230	3	4.9	12.3	2-2/3 Hours
	240	3	5.4	13.0	2-1/2 Hours
09-6200-0011	220	1	4.5	20.5	2-3/4 Hours
	230	1	4.9	21.3	2-2/3 Hours
	240	1	5.4	22.5	2-1/2 Hours
09-6200-0014	380	3	4.5	6.9	2-3/4 Hours
	415	3	5.4	7.5	2-1/2 Hours
09-6200-0016	440	3	4.5	5.9	2-3/4 Hours
	480	3	4.5	5.4	2-1/2 Hours

4.5 WIRING DIAGRAMS



**(3) ELEMENT
1 PH PARALLEL
23 AMPS @ 220 VAC**

**Figure 0 - Wiring Hookup for Model:
09-6200-0011**



**(3) ELEMENT
3 PH DELTA
13 AMPS @ 200 VAC
8 AMPS @ 380 VAC
7 AMPS @ 440 VAC**

**Figure 3 - Wiring Hookup for Models:
09-6200-0010
09-6200-0014
09-6200-0016**

LEGEND for Figures

1. Facility fuses (Customer Item)
2. Thermostat switch provided with deicer and located in heating element junction box
3. Heater elements, terminal connections

5.0 OPERATION**5.1 SAFETY WARNINGS****WARNING!**

- High pressure and hot sprays can cause serious bodily injury.
- **BE SURE** To read operating instructions including those for both engine and pump prior to starting unit.
- **ALWAYS** Grasp gun firmly before starting to spray. During deicing operation, hold gun firmly and exercise care and caution in handling spray gun.
- **ALWAYS** Exercise care in towing trailer. When trailer is to be removed from towing vehicle, chock wheels of trailer prior to disconnecting.
- **NEVER** Put hand or fingers in front of gun or point gun at your body or at anyone else.
- **NEVER** Refuel gasoline tank while engine is running.
- **NEVER** Energize heater without assuring tank fluid level is above heater element.
- **NEVER** Operate system if there are any leaks because high pressure leaks can cause bodily harm.
- Perform periodic cleaning, maintenance and parts replacement in accordance with manufacturer's recommendations.

5.2 ENGINE SYSTEM

Refer to Appendix I

5.3 FLUID SYSTEM

Refer to Appendix II

**CAUTION!****Pump must never be run dry for greater than one minute.****5.3.1 Priming of Pump**

The pump must be primed by the following procedure:

1. With the tank level, fill one-quarter (1/4) full with fluid.
2. Start engine and allow pump to re-circulate fluid back to the tank, thereby forcing air from the pump and lines. Then place the hand gun in the tank opening and depress handle to remove air from the discharge hose.

5.3.2 To Clean Pump Suction Strainer

1. Shut off engine/pump.
2. Unplug immersion heater.
3. Close ball valve at tank outlet
4. Remove and clean screen from Y-strainer

5.4 IMMERSION HEATER SYSTEM**CAUTION!****Do not energize heater with tank fluid level below level of heater.**

Set heater temperature control, located inside NEMA 4 electrical box to the temperature specified by the deicing fluid's manufacturer specifications. Note that most SAE Type fluids (AMS 1424) should not be heated past 180° F.

5.5 TRAILER SYSTEM

- Exercise care when towing trailer. Maximum towing speed is 10 mph.
- When trailer is to be removed from towing vehicle, chock wheels prior to disconnecting as the trailer has no brakes.

6.0 MAINTENANCE

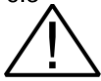
6.1 ENGINE SYSTEM

Refer to Appendix I.

6.2 FLUID SYSTEM

Refer to Appendix II.

6.3 IMMERSION HEATER SYSTEM



WARNING!

Be sure power is disconnected before doing any maintenance work!

1. Check line connection to make sure they are tight, free of oxide build-up, and that no dust or dirt build-up is present.
2. Check housing (inside) for rust, dirt, or dust. Remove if present, with steel wool (or equal) and thoroughly blow clean with dry, oil-free air.
3. Housing is moisture resistant, check condition of cover gasket. Replacements can be obtained from the factory.
4. Liquid immersed units should be removed from tank and checked for scale build-up. Clean as required. Scale can cause inefficiency and shortened the life of unit.
5. Thermal cycling may cause sealed joints to relax causing a leak. Tightening of threaded plug should stop leak. If not, remove heating unit and add sealing compound to threads and re-install.

6.4 TRAILER SYSTEM

Lubricate wheel bearings periodically with general purpose lithium bearing grease.

7.0 STORAGE

7.1 GENERAL

Prior to storage, drain tank, clean strainer screen, rinse with clean water and allow to dry. Store in dry area with fill lid open.

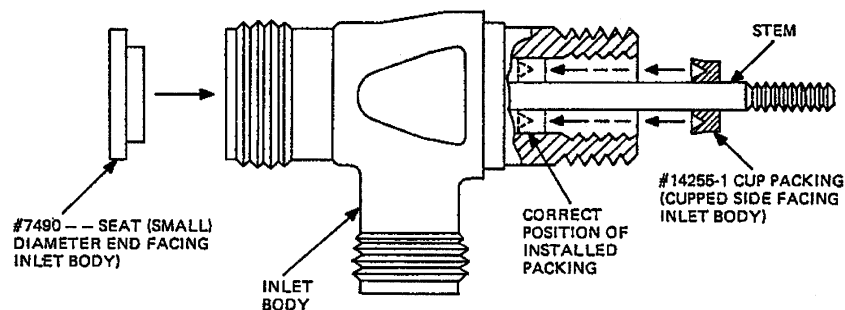
7.2 IMMERSION HEATER MAINTENANCE

During summer storage, the possibility of moisture absorption within the tubular insulation is possible; a megohm check should be made with minimum 500 VDC megohm meter. Prior to use, a check of each circuit for (1) minute should read a minimum of 10 megohms. Lower values may be acceptable - Consult Factory.

If a low megohm value exists, two alternative methods can be used. The better method is to remove the wiring and hardware, then bake in an oven between 250° F & 350° F overnight or until an acceptable reading is reached. The second method is to energize the unit at low voltage until the megohm is an acceptable reading.

8.0 INSTALLATION & REPLACEMENT PACKING #14255

HOW TO INSTALL #7490 -- VALVE SEAT AND REPLACE #14255-1 CUP PACKING



NOTE: Slide #14255-1 cup packing onto stem before inserting packing completely into inlet body, making sure cupped side of packing is facing inlet body.

CAUTION: Extra care should be taken to prevent damage to packing from threads on stem and inlet body.



SPRAYING SYSTEMS CO.
North Ave. at Schmale Rd., Wheaton, Ill. 60187
Telephone: 312 685-5000 / Telex No. 72-8409

FORM
11763-680

9.0 PROVISION OF SPARES

9.1 SOURCE OF SPARE PARTS

Spare parts may be obtained from the manufacturer:

TRONAIR, Inc.

1 Air Cargo Pkwy East

Swanton, Ohio 43558 USA

Telephone: (419) 866-6301 or 800-426-6301

Fax: (419) 867-0634

E-mail: sales@tronair.com

Website: www.tronair.com

For Spare Parts, Operations & Service Manuals or Service Needs:

Scan the QR code or visit Tronair.com/aftermarket



9.2 RECOMMENDED SPARE PARTS LISTS

Reference the following page(s) for Replacement Parts and Kits available.

10.0 IN-SERVICE SUPPORT

Contact Tronair, Inc. for technical services and information. See Section 1.3 – Manufacturer.

11.0 GUARANTEES/LIMITATION OF LIABILITY

Tronair products are warranted to be free of manufacturing or material defects for a period of one year after shipment to the original customer. This is solely limited to the repair or replacement of defective components. This warranty does not cover the following items:

- a) Parts required for normal maintenance
- b) Parts covered by a component manufacturers warranty
- c) Replacement parts have a 90-day warranty from date of shipment

If you have a problem that may require service, contact Tronair immediately. Do not attempt to repair or disassemble a product without first contacting Tronair, any action may affect warranty coverage. When you contact Tronair be prepared to provide the following information:

- a) Product Model Number
- b) Product Serial Number
- c) Description of the problem

If warranty coverage is approved, either replacement parts will be sent or the product will have to be returned to Tronair for repairs. If the product is to be returned, a Return Material Authorization (RMA) number will be issued for reference purposes on any shipping documents. Failure to obtain a RMA in advance of returning an item will result in a service fee. A decision on the extent of warranty coverage on returned products is reserved pending inspection at Tronair. Any shipments to Tronair must be shipped freight prepaid. Freight costs on shipments to customers will be paid by Tronair on any warranty claims only. Any unauthorized modification of the Tronair products or use of the Tronair products in violation of cautions and warnings in any manual (including updates) or safety bulletins published or delivered by Tronair will immediately void any warranty, express or implied.

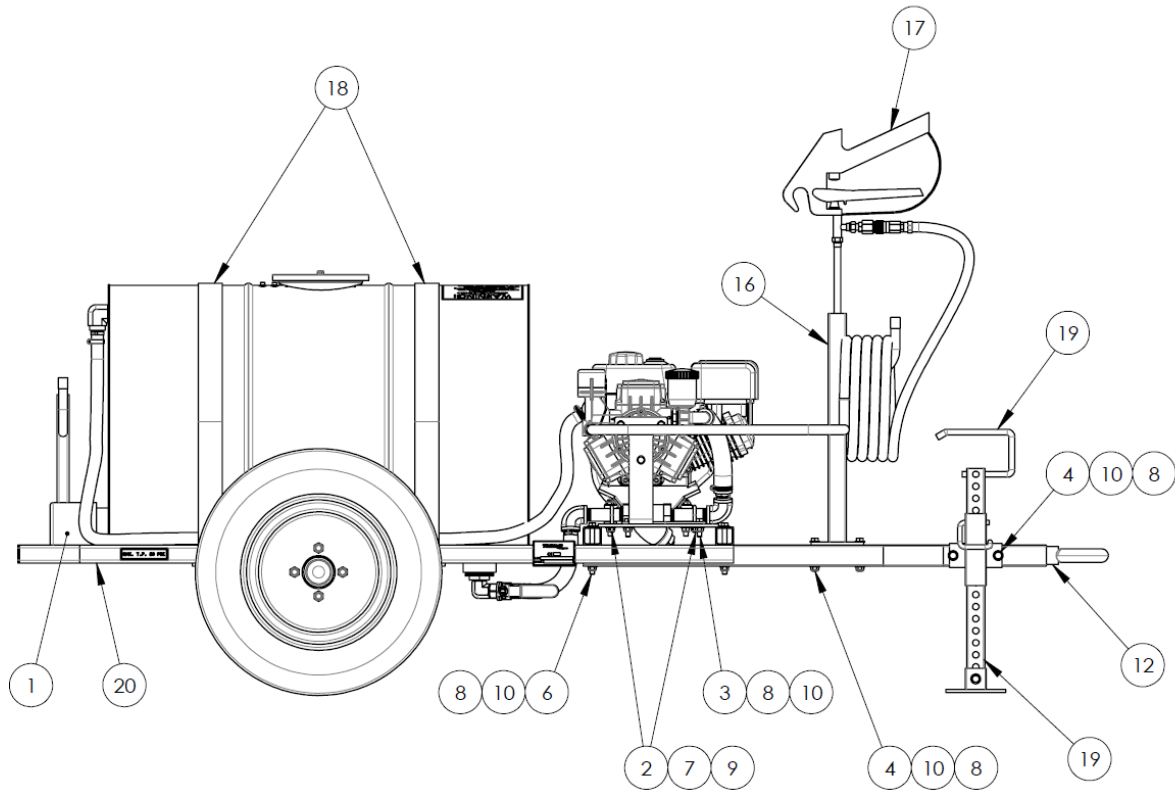
The obligations of Tronair expressly stated herein are in lieu of all other warranties or conditions expressed or implied. **Any unauthorized modification of the Tronair products or use of the Tronair products in violations of cautions and warnings in any manual (including updates) or safety bulletins published or delivered by Tronair will immediately void any warranty, express or implied and Tronair disclaims any and all liability for injury (WITHOUT LIMITATION and including DEATH), loss or damage arising from or relating to such misuse.**

12.0 APPENDICES

- APPENDIX I Hypro Gasoline Engines Manual
- APPENDIX II UDOR Diaphragm Pumps Manual
- APPENDIX III Declaration of Conformity

Parts List

When ordering replacement parts/kits, please specify model, serial number and color of your unit.



Parts List

When ordering replacement parts/kits, please specify model, serial number and color of your unit.

Item	Part Number	Description	Qty
1	SEE HEATER TABLE	IMMERSION HEATER	REF
2	G-1009-08	U-BOLT	2
3	G-1100-107512	BOLT, 3/8-24 X 1-1/4" HEX HD, GR 5	4
4	G-1100-107526	BOLT, 3/8-24 X 2-3/4" HEX HD GR 5	4
5	G-1100-107530	BOLT, 3/8-24 X 3.0" HEX HD GR 5	4
6	G-1100-107540	BOLT, 3/8-24 X 4.0" HEX HD GR 5	2
7	G-1202-1055	STOPNUT, 1/4-28 ELASTIC	4
8	G-1202-1075	STOPNUT, 3/8-24 ELASTIC	14
9	G-1250-1050N	FLATWASHER, 1/4 NARROW	4
10	G-1250-1070N	FLATWASHER, 3/8 NARROW	33
11	H-1206	CAP, END	2
12	Z-1035-00	WELDMENT, TOWBAR	1
13	Z-1036	ASSEMBLY, WHEEL	2
16	Z-1041-00	WELDMENT, POST	1
17	Z-1042	WAND ASSEMBLY	1
18	Z-1043	ASSEMBLY, STRAP	2
19	Z-1111-00	SUPPORT ASSEMBLY	1
20	Z-5512-00	WELDMENT, FRAME	1
14	K-1253	KIT, BEARING SEAL REPLACEMENT; consists of:	
	G-1301-03	PIN, COTTER (1/8 X 1-1/2" LONG)	1
	H-1155-01	DUST CAP	1
	H-1559-01	BEARINGS	2
	H-1561-01	GREASE SEAL	1
15	K-1255	KIT, HUB REPLACEMENT; consists of:	
	G-1202-1095	STOPNUT, 1/2-20	4
	G-1230-01	AXLE NUT	1
	G-1250-1090N	FLATWASHER, 1/2"	4
	G-1301-03	PIN, COTTER (1/8 X 1-1/2" LONG)	1
	H-1335	IDLER HUB	1

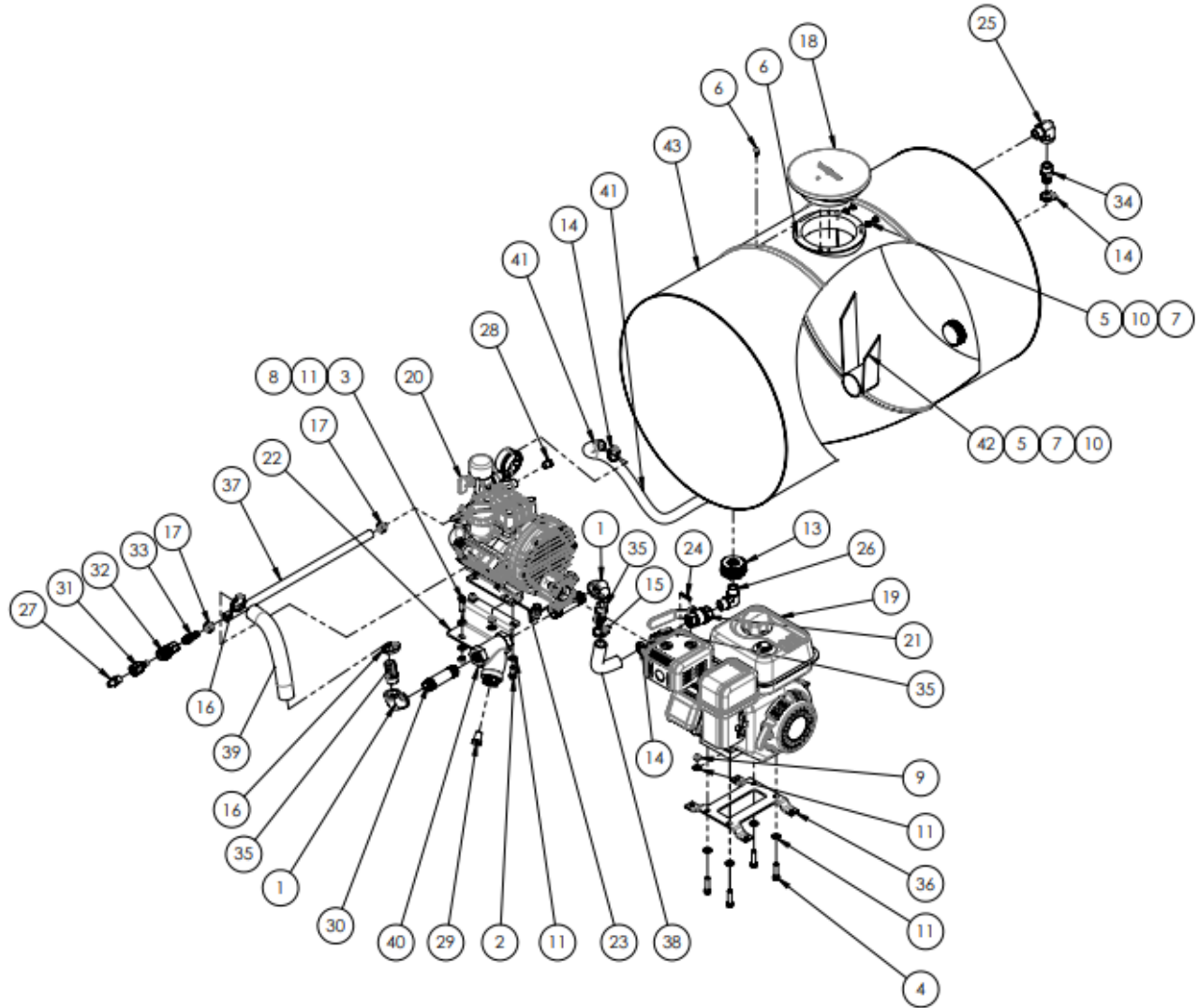
Immersion Heaters Parts List

See **Section 4.4** for Heater Specifications and **Section 4.5** for appropriate for wiring.

Tronair Model	Heater Part Number	Description
09-6200-0010	EC-1003	200 to 240 VAC 3 Phase
09-6200-0011	EC-1190	220 to 240 VAC 1 Phase
09-6200-0014	EC-1191	380/415 VAC 3 Phase
09-6200-0016	EC-1192	440/480 VAC 3 Phase

Parts List

When ordering replacement parts/kits, please specify model, serial number and color of your unit.



Parts List

When ordering replacement parts/kits, please specify model, serial number and color of your unit.

Item	Part Number	Description	Qty
1	484-01212	ELBOW CONNECTOR 90° 3/4 NPT FEMALE	2
2	G-1100-107510	BOLT, 3/8-24 X 1.0" HEX HD GR 5	4
3	G-1100-107512	BOLT, 3/8-24 X 1-1/4" HEX HD, GR 5	4
4	G-1100-107514	BOLT, 3/8-24 X 1-1/2" HEX HD GR 5	4
5	G-1151-105210	SCREW, 1/4-20 X 1.0" LG SOCKET HD CAP	4
6	G-1178-103006	SCR, #10 PAN HD CR REC TPG	6
7	G-1202-1050	STOPNUT, 1/4-20 ELASTIC	4
8	G-1202-1075	STOPNUT, 3/8-24 ELASTIC	8
9	G-1203-1075	JAMNUT, 3/8-24 ELASTIC	4
10	G-1250-1050N	FLATWASHER, 1/4 NARROW	8
11	G-1250-1070N	FLATWASHER, 3/8 NARROW	24
12	H-1103	FILL WELL, RADIUS	1
13	H-1110	BUSHING	1
14	H-1426-04	HOSE CLAMP - 0.50" - 1.25"	3
15	H-1426-04	HOSE CLAMP - 0.50" - 1.25"	1
16	H-1426-07	HOSE CLAMP - 1.00" - 2.00"	2
17	H-1516-13	CLAMP, TWO EAR HOSE	2
18	H-3765	FILLWELL, MODIFIED	2
19	H-5011	ENGINE, POWERPRO 6.5 HP	1
20	H-5294	PUMP, DIAPHRAGM	1
21	HC-1425-04	VALVE, BALL	1
22	J-8847	MOUNTING BRACKET	1
23	J-8848	MOUNTING BRACKET	1
24	J209-01-001.35	KEY, 3/16 SQ. X 1.35" LG	1
25	N-2200-14-S	ELBOW, STREET	1
26	N-2201-11-S	ELBOW, MALE PIPE	1
27	N-2203-06-B	NIPPLE, PIPE	1
28	N-2206-04-S	PLUG, HEX HEAD	1
29	N-2206-05-S	PLUG, HEX HEAD	1
30	N-2237-05-32	NIPPLE, GALVANIZED PIPE	2
31	N-2401-03-B	PLUG, FEMALE THD	1
32	N-2402-033-B	SOCKET, FEMALE THD	1
33	N-2412-15	CONNECTOR, STRAIGHT MALE	1
34	N-2412-22	CONNECTOR, STRAIGHT MALE	1
35	N-2412-23	CONNECTOR, STRAIGHT MALE	3
36	S-4321	ENGINE MOUNTING BRACKET	1
37	TF-1055-08-600	HOSE	1
38	TF-1143-12-07.5	HOSE, LOW PRESSURE	1
39	TF-1143-16-09.0	HOSE, LOW PRESSURE	1
40	WC-1004	STRAINER, Y 3/4" NPT	1
41	WC-1041-05-82	HOSE, LOW PRESSURE	1
42	Z-2242	WELDMENT, HEATER SUPPORT	1
43	Z-6075	WELDMENT, DRUM	1

Parts List

When ordering replacement parts/kits, please specify model, serial number and color of your unit.

Item	Part Number	Description	Qty
	K-2219	KIT, DRUM REPLACEMENT	
N/S	K-1993	KIT, FILLWELL REPLACEMENT ; consists of:	
	G-1178-103006	SCREW, #10 PAN HEAD CROSS RECESS TPG.	4
	H-1103	FILLWELL, PVC	1
N/S	K-1253	KIT, BEARING SEAL REPLACEMENT ; consists of:	
	G-1301-03	PIN, COTTER (1/8 X 1-1/2" LONG)	1
	H-1155-01	DUST CAP	1
	H-1559-01	BEARINGS	2
	H-1561-05	SEAL, GREASE	1
N/S	K-1255	KIT, HUB REPLACEMENT ; consists of:	
	G-1202-1095	STOPNUT, 1/2-20 ELASTIC	4
	G-1230-01	NUT, AXLE (1"-14 UNS THD)	1
	G-1250-1090N	FLATWASHER, 1/2 NARROW	4
	G-1301-03	PIN, COTTER (1/8 X 1 1/2" LONG)	1
	H-1335	HUB, IDLER	1
N/S	K-5586	KIT, DIAPHRAGM REPLACEMENT	
N/S	K-5587	KIT, PUMP VALVE REPLACEMENT	



APPENDIX I

Hypro Gasoline Engines Manual



APPENDIX II

UDOR Diaphragm Pump Manual



APPENDIX III

Declaration of Conformity



EU Declaration of Conformity

Model Number(s) 09-6200-0010, 09-6200-0011, 09-6200-0014, 09-6200-0016

Product Type/Name: Deicing Unit

Serial Number(s): Enter serial number(s)

Declaration: Tronair has assessed the equipment described above against the Essential Health and Safety Requirements of one or more Directives. Based on this assessment, the equipment described above is deemed to comply with the directive(s) listed below.

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Directives: European Machinery Directive 2006/42/EC

Markings: 

The technical documentation for the machinery is available from:

Mr. Joel Nunn
34 Epirus Road, SW6 7UH, London, UK
Email: jnunn@tronair.com

Location of Issue: Tronair, 1 Air Cargo Parkway East, Swanton, OH 43558

Certificate: EU_DoC_09-6200-0010, 09-6200-0011, 09-6200-0014, 09-6200-0016

Identification of person empowered to sign on behalf of the Manufacturer:


Quality Assurance Representative

Enter a date
Date

