



Hand Dryer Operating Instructions and Parts Manual

Surface-mounted ADA-compliant hand dryer



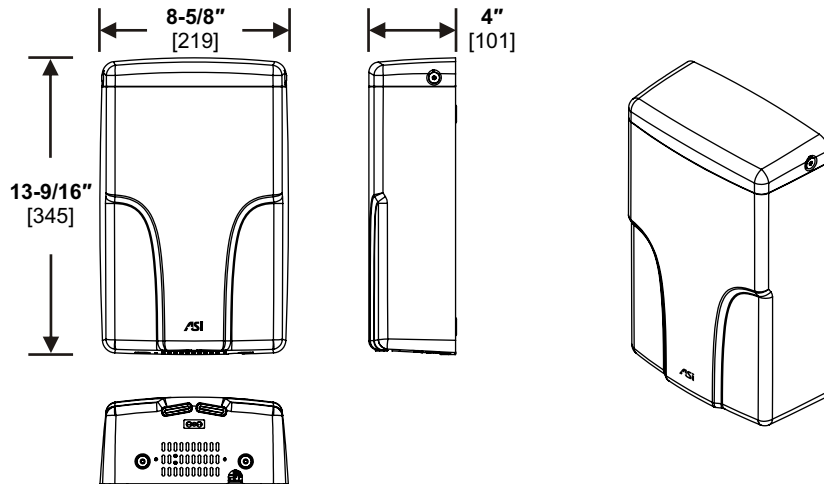
PLEASE CAREFULLY READ THROUGH THIS MANUAL BEFORE USING THE PRODUCT. OBSERVING ALL SAFETY INFORMATION, WARNINGS AND CAUTIONS WILL PROTECT YOURSELF AND OTHERS. PLEASE KEEP INSTRUCTIONS FOR FUTURE REFERENCE.



MODEL # 0196-1

MODEL # 0196-2

MODEL # 0196-3



DIM'S
inch[mm]

Patented

TECHNICAL SPECIFICATIONS

ITEM CATEGORY	PERFORMANCE DATA
Operating Voltage, 0196-1	120 VAC, 50/60 Hz, 1.0 kW
Operating Voltage, 0196-2	240 VAC, 50/60 Hz, 1.0 kW
Operating Voltage, 0196-3	277 VAC, 60 Hz, 1.0 kW
Output Warm Air Volume	32 - 42 CFM {55 - 72 m ³ /h}, Adjustable by Owner
Output Warm Air Temp	131°F {55°C} at ambient T = 77°F {25°C}, MAX, Adjustable by Owner
Output Air Speed	208 mph (305 ft/s) [93 m/s {335 km/h}] 257 mph (378 ft/s) [115 m/s {414 km/h}], Adjustable by Owner
Sound Pressure	68 to 73.8 dB-A @ 2m, Adjustable by Owner
Motor Type	0.67 HP, 16 - 29 krpm, Adjustable, Brush Type, Dual Ball Bearings
Motor Thermal Protection	120 VAC, Auto Resetting Thermostat turns unit off at 203°F {95°C} 240 VAC, Auto Resetting Thermostat turns unit off at 203°F {95°C}
Heater Element	ON/ OFF Heating options; Range Adjustable by Owner, 325 - 500 W
Heater Thermal Protection	Auto Resetting Thermostat turns heater element off at 185°F {85°C}, Resets at 167°F {75°C}, Thermal cut-off at 288°F {142°C}
Drying Time	Less than 15 seconds
Standby Power	Less than 0.5W
Circuit Operation	Infrared Automatic, self adjusting
Sensor Range	Standard 6-11/16" ± 25/32" [170 ± 20] , Adjustable, range 3-15/16" to 9-1/16" [100 to 230]
Timing Protection	60 seconds auto shut off
Timing Duration	2 seconds delayed turn off after last sensor read
Cover Type	18 gauge (.047" [1.2]) thick drawn steel or 304 series stainless steel
Cover Finish	Powder coating white or matte black on steel or satin on stainless steel
Net Weight	9.3 lbs {4.2 kg}
Shipping Weight	10.4 lbs {4.7 kg}
Unit Size	8-5/8" W x 13-9/16" H x 4" D [219 x 345 x 101]

Input	Model	Motor			Heater		Total	
		Vac	Inrush A(W)	Operating A (W)	Vac	Operating A(W)	Inrush A(W)	Operating A(W)
110	0196 1	110	5.73 (630)	3.82 (420)	110	3.82 (420)	9.55 (1050)	7.64 (840)
115	0196 1	115	5.99 (689)	3.99 (459)	115	3.99 (459)	9.98 (1148)	7.99 (918)
120	0196 1	120	6.25 (750)	4.17 (500)	120	4.17 (500)	10.42 (1250)	8.33 (1000)
208	0196 2	208	2.71 (563)	1.81 (376)	208	1.81 (376)	4.51 (939)	3.61 (751)
220	0196 2	220	2.86 (630)	1.91 (420)	220	1.91 (420)	4.77 (1050)	3.82 (840)
230	0196 2	230	2.99 (689)	2.00 (459)	230	2.00 (459)	4.99 (1148)	3.99 (918)
240	0196 2	240	3.13 (750)	2.08 (500)	240	2.08 (500)	5.21 (1250)	4.17 (1000)
277	0196 3	240	3.13 (750)	2.08 (500)	240	2.08 (500)	5.21 (1250)	4.17 (1000)

Installation

NOTE: All Dim's Inch [mm]

1. Make sure power supply breaker is switched off. Installation must be carried out in accordance with the current edition of the local wiring regulations code having jurisdiction. Installation should be performed only by a qualified electrician.
2. Place template against wall at desired height (see mounting height recommendations) and mark locations of 4 mounting holes and wire service entry at knockout (KO) location.
Note: For two or more dryers, dryers should be no closer than 24" [610] on center.
3. Remove and retain two (2) Main cover screws and Main cover.
4. a. **For in-wall (concealed) power supply - (See MT & IG 1705120001)**
Provide supply wire to KO location according to local code and attach securely to chassis at KO with appropriate strain relief connector (not supplied).
b. **For Surface Mounted Conduit (exposed) power supply -**
Provide appropriate conduit to entry location according to local code and attach securely to chassis with correct strain relief connector (not supplied).
5. Drill four (4) holes at locations A, B, C and D of 5/16" Diameter x 1-3/8" deep [Ø8 x 35] if using wall anchors (not supplied). Install anchors flush with wall face, or install other fastening system suitable for wall conditions (not supplied). Attach dryer to wall. For wood wall/studs, use 1/4" dia. (M6) screws at length that will ensure 1" [25] min. stud penetration. For masonry walls, use expansion bolts or anchors (not supplied) for 1/4" dia (M6) screws to ensure penetration 1/4" [6] deeper than anchor. Shim if necessary to ensure base plate is flat against wall.
6. Connect supply and ground wires to terminal block where indicated or connect supply wires to terminal block where indicated and connect ground wire to base plate with ground screw.

Connections:

- A. Connect the live wire (colored Brown, Red or Black) to the terminal block marked "L".
- B. Connect the neutral wire (colored Black, Blue, White or Grey) or connect the second live wire (colored Red or Orange) to the terminal block marked "N".
- C. Connect the ground wire to the terminal block marked "⊕" or to the green screw marked "⊕".
Bare grounding (earth) wires should be sleeved with green and yellow or green tubing.

Colors of live and neutral wires depend on voltage of supply service and requirements of Building and Electrical Code having jurisdiction.

7. Replace cover and reinstall screws retained in Step 3 above. Do not over-tighten screws.

Installation Kit Included (find in carton)

1. Self-Threading screws 1/4" x 1-1/2" [M6 x 38] x 4 pcs
2. Metal Washer 3/8" I.D. x 7/8" O.D. x 1/16" thick [Ø10 x Ø22 x 1.6] x 4 pcs
3. Nylon bushing x 4 pcs
4. Crimp-on terminal wire tip x 3 pcs

Service Tool Included (with installation kit)

Security hex driver 4 mm x 1 pc (5/32" pin-hex will work if tool is lost)



Please unpack the unit and check the quantity of the above tool and kit.

General safety information

⚠ WARNING This product is intended for installation by a qualified service person. Use AWG NO. 12 solid conductor for wiring.

⚠ DANGER Failure to properly ground unit could result in severe electrical shock and/or death.

⚠ WARNING Disconnect power at the service breaker before installing or servicing.

⚠ WARNING All units must be supplied with a 3-wire service. The ground wire must be connected to the dryer's backplate.

Recommended mounting heights

NOTE: All Dim's Inch [mm]

Men	50"	[1270]
Women	47"	[1194]
Children 4-7 years	35"	[889]
Children 8-10 years	39"	[991]
Children 11-13 years	43"	[1092]
Children 14-16 years	47"	[1194]
Handicaped	40"	[1016]

- from bottom edge of dryer above finished floor (AFF)
See Mounting Template & Installation Guide (MT & IG)
1705120001 (Supplied with unit)

Reference ADAAG Reach LIMIT (unrestricted)	AFF (maximum)	
All Approaches	48"	[1219]

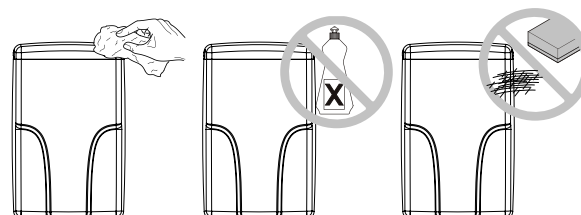
Operation

- Shake excess water from hands.
 - Place hands under the nozzle and dryer automatically starts operation.
 - Rub hands lightly and rapidly under the nozzle.
 - Dryer stops when hands are removed from sensor zone or if maximum time is reached.
 - Sensor Adjustment , Heat On-Off and Air Speed Control. See sensor range adjustment section on page 4
- DO NOT OVERTURN!**

Cleaning and Maintenance

Periodic cleaning of the unit is recommended to ensure optimum performance.

- Disconnect the electrical supply.
- Remove the two cover-mounting screws.
- Remove the cover.
- Clean all dust lint from the interior of the dryer.
- Wipe the cover with a damp cloth and mild cleaning solution. Do not Soak. Never use abrasives to clean the cover.
- Replace the cover. Do not over tighten the screws.



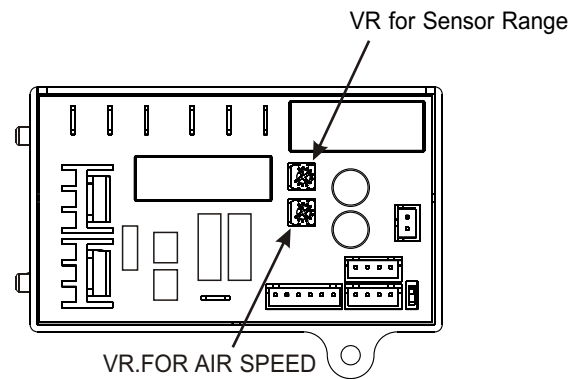
As a safety precaution before performing any maintenance that requires removal of cover elements make sure circuit breaker and power to unit is OFF.

Sensor range adjustment

- 1.The range is 3-15/16" to 9-1/16" [100 to 230], standard setting is 6-11/16" \pm 25/32" [170 \pm 20].
- 2.Clockwise(cw): Increases the sensing range(+)
- 3.Counterclockwise(ccw): Decreases the sensing range(-)
- 4.Use small Phillips head screwdriver or plastic flat blade probe to turn VR shaft on Circuit Board Module(CBM). **DO NOT OVERTURN!**

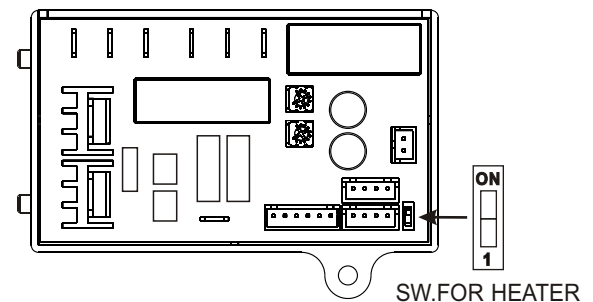
Warm air speed adjustment

Use small Philips head screwdriver or plastic flat blade probe to turn VR shaft. Turn CW to increase power to maximum (+), Turn tool gently CCW to reduce power as required(-).

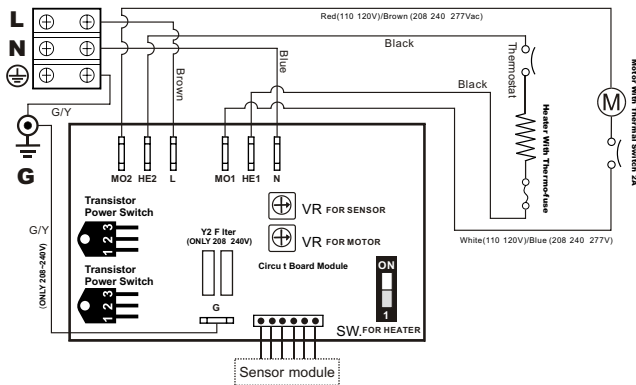


Heater Element Switch ON/ OFF

- 1.Adjust the heater switch on the PCB with a small plastic or wood flat blade probe.
- 2.Slide the switch to "ON" : Enables heater on.
- 3.Slide the switch to "1" : Disables heater.

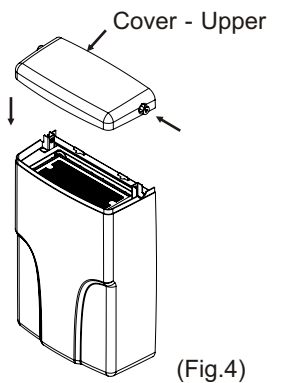
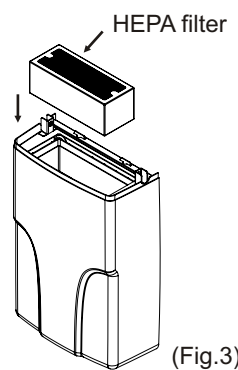
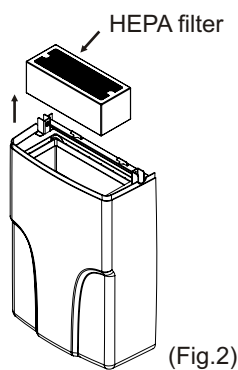
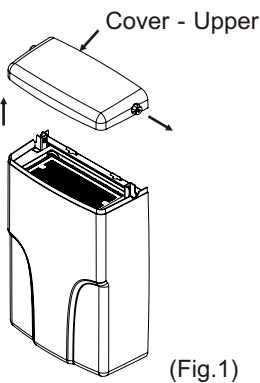


Circuit Diagram



How to Change the HEPA Filter

1. Remove and retain the cover and the two (2) Top Cover screws. (Fig.1)
2. Remove the old filter and dispose the old filter appropriately. (Fig.2)
3. Install a new filter with white HEPA side up. (Fig.3)
4. Replace the Top Cover and fasten the screws. Do not over tighten. (Fig.4)



Warranty

All of our dryers are designed and manufactured to provide years of dependable performance. Component parts are guaranteed to be free of defects in material and workmanship for a period of **Five (5)** years from date of original invoice. This guarantee will be honored provided that the dryer is installed and maintained in accordance with the instructions. Parts damaged during the installation are the purchaser's responsibility. **ASI's** warranty covers defects exclusively, and only liability for the replacement of defective parts will be accepted. This warranty does not cover wear and tear, or misuse and abuse. Transportation, freight costs and labor are also excluded. Defective parts must be returned prepaid, accompanied by the unit serial number, to the point of purchase. This warranty is granted solely to the original purchaser of the unit and is subject to registration.



Diagnostics and Remedies

Symptom
If the dryer will not run
The dryer cycles by itself or runs constantly
The dryer makes a loud noise and does not run for a complete cycle
The dryer runs but air stream is low pressure and/or low velocity

Corrective Actions for Initial Installation Failures
First ensure that the breaker supplying the dryer is operational. If it is, disconnect the power and remove the dryer cover. Taking suitable precautions to avoid shock hazard, reconnect the power and check for Voltage at the terminal block. Verify that connections are made correctly.
Ensure that there is no obstruction on or in front of the IR sensor. Clean any dirt or debris off the sensor lens. If problem persists, replace sensor.
Ensure that the supply Voltage is correct. Dryer will make a loud humming noise if the input Voltage is too high. Verify Voltage requirement on unit rating label and correct supply as required. If circuit board module (CBM) as been damaged, replace CBM, IR sensor module.
Ensure that the supply Voltage is correct. Dryer will run weakly if the input Voltage is too low. Verify Voltage requirement on unit rating label and correct supply as required.

Symptom
If the dryer will not run
The IR sensor only "sees" close range objects
The heater gets hot but no air stream is produced
The dryer only blows cold air during a full cycle
The air stream is low pressure and velocity

Corrective Actions for In-Service Failures
First ensure that the breaker supplying the dryer is operational. If it is, disconnect the power and remove the dryer cover. Replace the CBM and IR sensor module. Taking suitable precautions to avoid shock hazard, reconnect the power and check for Voltage at the terminal block.
Ensure that there is no obstruction on or in front of the IR sensor. Clean any dirt or debris off the sensor lens. Check VR for sensor range setting, If problem persists, disconnect the power and remove the dryer cover and Replace CBM, IR sensor module.
Disconnect the power. Remove the dryer cover. Check VR for speed setting. Rotate the Motor Speed VR (See circuit diagram) from Min to Max to observe any change. Disassemble the blower- motor/ fan housing. Replace the fan motor. Reassemble.
Disconnect the power. Remove the dryer cover and check/ ensure heater SW is ON. Disassemble the blower-motor/fan housing. Test the thermostat for open circuit. Check the heater element for signs of burning or breakage. Damaged element must be replaced.
Check the output nozzle for obstructions. Loosen the top access cover captive screws to disengage and lift off the top access cover. Check the HEPA filter for lint & debris blockages; replace if necessary. If none are present, disconnect the power. Remove the dryer main cover. Remove any dust/lint buildup from intake vent slots. Check VR for speed setting. Disassemble the blower-motor/fan housing. Check the motor brushes for worn condition ($\leq 1\text{-}3/16\text{'}$ [30 mm] graphite remains) and replace them, if necessary.

Repair parts list

Key	Part #	Description	Qty	Key	Part #	Description	Qty
1		Cover - Upper	1	19	A0379	Air Outlet	1
	A0375	Steel - Powder coating (white)		20	A0380	Blower mounting bracket	1
	A0376	Stainless steel - Satin		21		Circuit Board Module (CBM)	1
	A0399	Steel - Powder coating (matte black)			A0321	110-120Vac v4.0	
2	A0398	Flat head security hex screw	2		A0322	208-240Vac v4.0	
3	A0389	Label, Circuit Diagram	1		A0323	277Vac v4.0	
4		Cover	1	22	A0259	Sensor module	1
	A0373	Steel - Powder coating (white)		23	A0320	Terminal label v4.0	1
	A0374	Stainless steel - Satin		24	A0381	Sensor bracket	1
	A0400	Steel - Powder coating (matte black)		25	A0012	Nylon cable clamp	1
5		Rating label	1	26	A0010	Terminal block	1
	A0386	0196-1		27	A0112	Mylar shield with LNG marked	1
	A0387	0196-2		28	A0382	Base plate	1
	A0388	0196-3		29		Caution Branch Circuit label	1
	A0395	0196-1-93			A0267	15A - 120Vac	
	A0396	0196-2-93			A0268	8A - 240Vac/ 277Vac	
	A0397	0196-3-93		30	-	Self threading screw 1/4"x1-1/2", philips pan head	4
	A0401	0196-1-41					
	A0402	0196-2-41		31	A0029	Nylon bushing	4
	A0403	0196-3-41		32	A0028	Metal washer	4
6	A0099	Security hex cap head 1/4"-20 x 5/8" screw with lock washer	2	33	A0001	Rubber grommet -Base	4
7	A0176	Cable protector	1	34	-	Self threading screw M4x10, philips pan head	8
8	A0068	CAUTION label	3	35	-	Screw M5x10,philips pan head	2
9	A0383	HEPA Filter	1	36	-	Screw M4x10,philips pan head with external tooth lock washer	1
10	A0384	HEPA Filter Box	1				
11	A0385	HEPA Filter Box - gasket	1	37	-	Screw M3x16,philips pan head	2
12	A0377	Blower housing - Upper	1	38	-	Screw M3x8,philips pan head	2
13	A0251	Motor rubber - Upper	1	39	-	Screw M4x10, philips pan head	1
14		Motor	1	40	A0011	Grounding screw with cup washer	1
	A0390	0.67HP@120Vac		41	A0242	Crimp-on wire tips for terminal block	3
	A0391	0.67HP@240Vac	1	42	A0124	L-Wrench	1
15	A0246	Motor brushes	2	43	-	Self threading screw M4x8, philips pan head	4
16	A0168	Motor rubber - Lower	1				
17	A0378	Blower housing - Lower	1				
18		Heater assembly	1				
	A0249	500W@120Vac,28.8Ω					
	A0250	500W@240Vac,115.2Ω					

Assembly Diagram

Tools Req'd



L-Wrench
Item 42

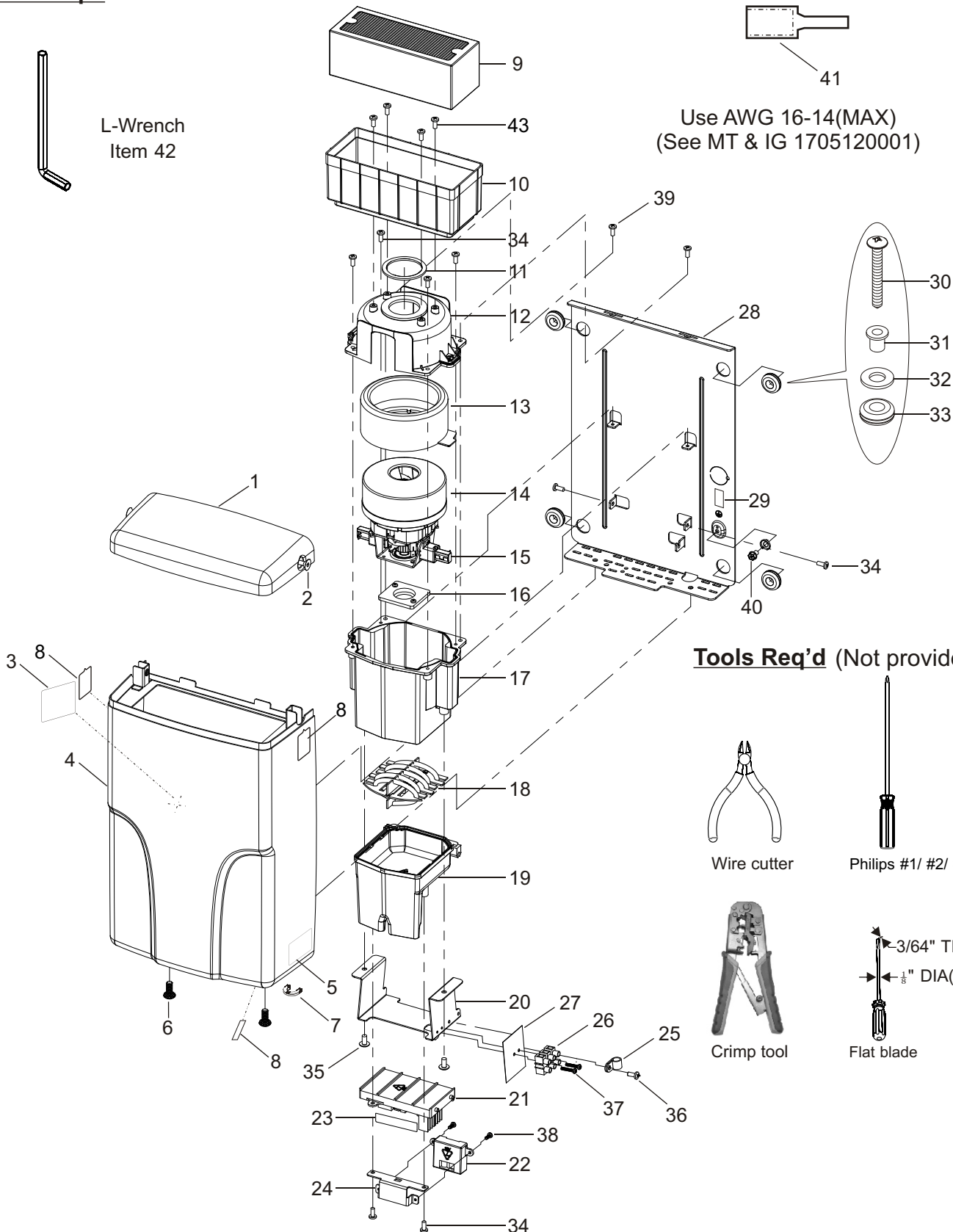
Optional Terminals

(Provided in kit)

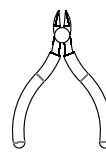


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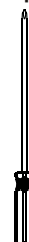
Use AWG 16-14(MAX)
(See MT & IG 1705120001)



Tools Req'd (Not provided)



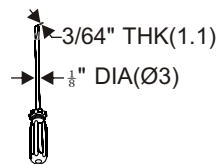
Wire cutter



Phillips #1/ #2/ #3



Crimp tool



Flat blade