

Hand Dryer Operating Instructions and Parts Manual

Recessed High-Speed ADA-compliant hand dryer

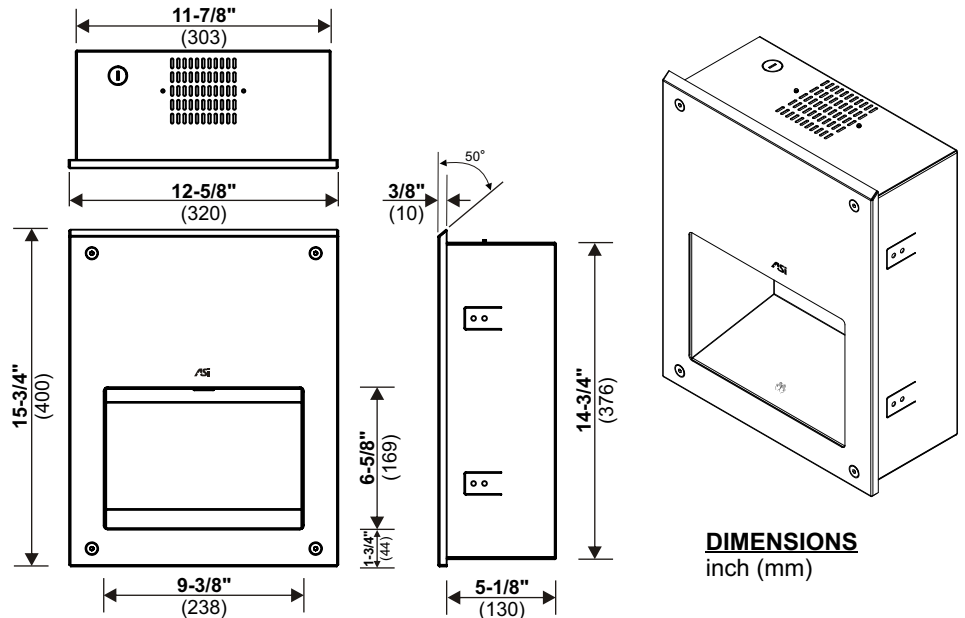


PLEASE CAREFULLY READ THROUGH THIS MANUAL BEFORE USING THE PRODUCT. OBSERVING ALL SAFETY INFORMATION, WARNINGS AND CAUTIONS WILL PROTECT YOURSELF AND OTHERS. PLEASE KEEP INSTRUCTIONS FOR FUTURE REFERENCE.



MODEL # 0198-MH-1

MODEL # 0198-MH-2



TECHNICAL SPECIFICATIONS

ITEM CATEGORY	PERFORMANCE DATA
Operating Voltage, 0198-MH-1	110-120 VAC, 50/60 Hz, 0.84-1.0kW
Operating Voltage, 0198-MH-2	208-240 VAC, 50/60 Hz, 0.84-1.0kW
Output Warm Air Volume	60 CFM [102 m ³ /h]
Output Warm Air Temp	131° ± 5°F {55° ± 2.8°C} MAX at ambient T = 77°F {25°C}
Output Air Speed	90 m/s [230 ft/s]
Air Stream Filter Protection	Active Carbon Filter, 3-3/4" W x 3-11/32" D x 3/8" T {95 x 85 x 10}, 10 Micron
Sound Pressure	66 dB-A @ 2m
Motor Type	0.67 HP, 29 krpm, Brush Type, Dual Ball Bearings
Motor Thermal Protection	110-120 VAC, Auto Resetting Thermostat turns unit off at 203°F {95°C}
Heater Element	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
Circuit Operation	Infrared Automatic, self adjusting
Sensor Range, 0198-MH-1	Standard 5-29/32" ± 25/32" {150 ± 20}
Sensor Range, 0198-MH-2	Standard 6-11/16" ± 25/32" {170 ± 20}
Timing Protection	60 seconds auto shut off
Timing Duration	1 second delayed turn off after last sensor read
Cover Type	18 gauge {0.047", [1.2]} thick 304 series stainless steel
Cover Finish	Satin on stainless steel
Net Weight	16.1 lbs {7.3 kg}
Shipping Weight	19.6 lbs {8.9 kg}
Unit Size	12-19/32" W x 15-3/4" H x 5-33/64" D {320 x 400 x 140}



0198-MH

Input	Model	Motor			Heater		Total	
		Vac	Inrush A(W)	Operating A (W)	Vac	Inrush / Operating A(W)	Inrush A(W)	Operating A(W)
110	0198-MH-1	110	5.73 (630)	3.82 (420)	110	3.82 (420)	9.55 (1050)	7.64 (840)
115	0198-MH-1	115	5.99 (689)	3.99 (459)	115	3.99 (459)	9.98 (1148)	7.99 (918)
120	0198-MH-1	120	6.25 (750)	4.17 (500)	120	4.17 (500)	10.42 (1250)	8.33 (1000)
208	0198-MH-2	208	2.71 (563)	1.81 (376)	208	1.81 (376)	4.51 (939)	3.61 (751)
220	0198-MH-2	220	2.86 (630)	1.91 (420)	220	1.91 (420)	4.77 (1050)	3.82 (840)
230	0198-MH-2	230	2.99 (689)	2.00 (459)	230	2.00 (459)	4.99 (1148)	3.99 (918)
240	0198-MH-2	240	3.13 (750)	2.08 (500)	240	2.08 (500)	5.21 (1250)	4.17 (1000)

Installation

See Installation Guide (IG) 1506011636
RWO required is 12-1/4" W x 15-3/16" H x 5-1/4" minimum [311 x 386 x 133]

IMPORTANT: Make sure there is no insulation between studs above RWO clear up to plenum.

1. Remove front panel using security wrench included in kit and retain security screws. Place cover aside with care to protect face finish until required in Step 8.
2. Remove four (4) pan head screws on the hand dryer chassis back plate corners using #2 Philips screw driver. Retain screws until required in Step 5.
3. Remove the motor assembly from the chassis. Grasp motor securely and lift entire chassis slightly up & over retainer hooks welded to housing back.
4. Install the chassis into the previously prepared RWO (By Others), following the instructions in the IG 1506011636, and install cable into KO bushing. Use screws supplied with unit (or other types suitable to wall conditions, by others) to fix the installation holes on both sides.
5. Grasp chassis & motor assembly retained in Step 3 and slightly lift to place over retainer hooks on housing back to hold unit in place while driving screws retained in Step 2, reinstalling in same corner base plate holes. Notice if the cable wire needs to be crossed over the motor assembly.
6. Refer to Circuit Diagram on page 5 of this Owner's Manual to match correct wire to terminal block on motor chassis. Pull stub cable through bushing (previously installed, Step 4) to allow clearance around hand drying chamber (to be installed permanently attached to front cover, in Step 8) and enough length to prep ends for terminal block insertion after routing through strain relief clamp on chassis. Clamp cable, prep ends of wires and insert correct wires into terminal block at locations L, N & G. Using a small flat blade screwdriver ensure each wire is properly secured with terminal block top lock screws. See Note B on IG 1506011636.

Connections: (see fig. 6 & refer to Circuit Diagram) **ENSURE BRANCH CKT BREAKER IS OFF!**

- 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 "G" or to the green screw marked "G". 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. Check power cable routing to make sure there is enough free loop to not pinch cable arranged to route clear around hand chamber in Step 6.
8. Fasten the front panel onto the chassis box using the security screws retained in Step 1 above using the security wrench. Retain wrench for any possible service access during dryer lifetime.
9. Record the unit S/N on this Owner Manual and give the Installation Guide, this Owner's Manual and the security wrench to Owner or Facility Manager.

this Owner Manual

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

Men / Women	46"	(1168)
Children 4-7 years	33"	(838)
Children 8-10 years	37"	(940)
Children 11-13 years	41"	(1041)
Children 14-16 years	45"	(1143)
Handicaped	40"	(1016)

- from top edge of hand chamber above finished floor (AFF)
See Mounting Template & Installation Guide (MT & IG)
1506011636 (Supplied with unit)

Reference	AFF (maximum)
2010 ADA Accessibility Standards	
Reach LIMIT (unrestricted)	

All Approaches	48"	(1219)
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IMPORTANT: Make sure there is no insulation in wall between studs up to plenum above RWO into which dryer will be installed and make sure the RWO framing provides clearance to ensure adequate air supply to dryer intake filter on housing top.

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.

Installation Kit Included (find in carton)

1. Wall box Installation Screws (M5x25 Philips pan head self threading) x 4 pcs
2. Nylon bushing x 1 pc
3. Crimp-on terminal wire tip x 3 pcs

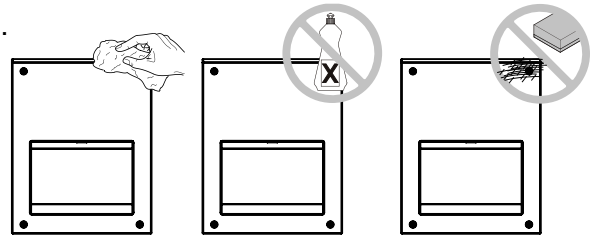
Service Tool Included (with installation kit)

- 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.

Cleaning and Maintenance

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

- Disconnect the electrical supply.
- Remove and retain the four (4) cover-mounting screws.
- Remove the cover.
- Clean all dust lint from the interior of the dryer.
- Remove and wash the air filter in warm mild soapy water, rinse completely and pat dry on clean rag before reinstalling.
- 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.



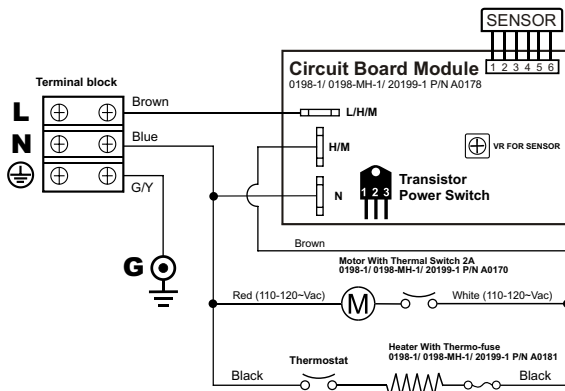
Warranty

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.

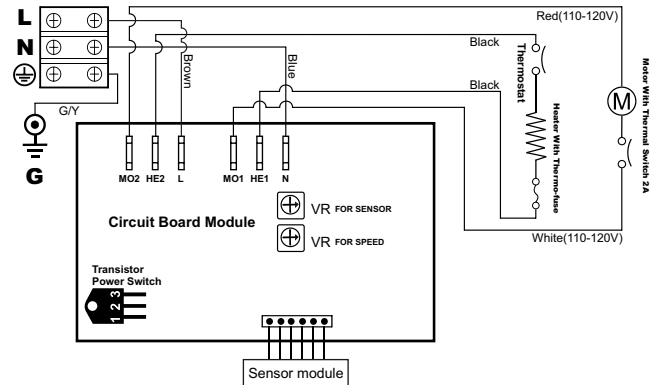
Circuit Diagram

0198-MH

110-120~Vac



208-240~Vac

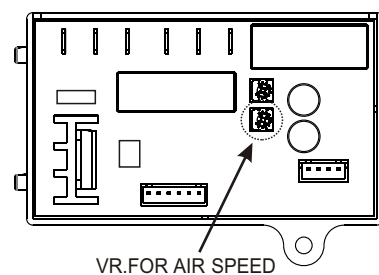


Sensor range adjustment For 110~120V Circuit Board Module

1. The range is 2" to 10" [51 to 254], standard setting is 5-19/32" \pm 25/32" [150 \pm 20].
2. Clockwise: Increases the sensing range(+)
3. Counterclockwise: Decreases the sensing range(-)
4. **DO NOT OVERTURN!**

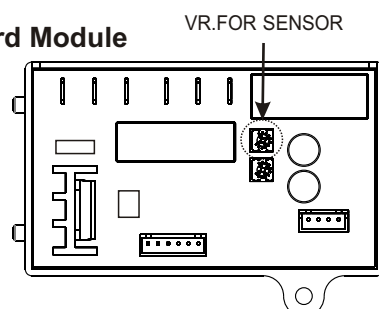
Warm air speed adjustment For 220~240V Circuit Board Module

1. Switch off the power, loosen the cover screws and remove the cover.
2. Use small Philips head screwdriver or plastic flat blade probe to turn VR shaft. Clock-wise [CW] to increase power to maximum (+) , turn tool gently [CCW] to reduce power as required(-) .



Sensor range adjustment For 220~240V Circuit Board Module

1. The range is 4" to 9" [100 to 230], standard setting is 6-11/16" [170 \pm 20].
2. Clockwise: Increases the sensing range(+)
3. Counterclockwise: Decreases the sensing range(-)
4. **DO NOT OVERTURN!**



Diagnostics and Remedies

Symptom	Corrective Actions for Initial Installation Failures
If the dryer will not run	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.
The dryer cycles by itself or runs constantly	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 and CBM.
The dryer makes a loud noise and does not run for a complete cycle	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 CBM has been damaged, replace CBM, IR sensor module and cable.
The dryer runs but air stream is low pressure and/or low velocity	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	Corrective Actions for In-Service Failures
If the dryer will not run	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.
The IR sensor only "sees" close range objects	For 208~240 V: Disconnect power from unit; disconnect heater element from circuit; check resistance (Ω) of element with multimeter. If Ω is off-scale infinitely large then replace element. If Ω is between 25 and 30 then check motor brushes for wear and replace them if remaining graphite is $\leq 25/64$ " [10]. If after reassembly and testing there is still no motor function then replace motor.
The heater gets hot but no air stream is produced	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, disconnect the power and remove the dryer cover. Taking suitable precautions to avoid shock hazard, reconnect the power and try carefully adjusting the sensitivity control (yellow shaft in blue box on CBM) to increase the sensing range. If problem persists, replace sensor and CBM.
The dryer only blows cold air during a full cycle	Disconnect the power. Remove the dryer cover and disassemble the blower-motor/fan housing. Replace the fan motor.
The air stream is low pressure and velocity	Disconnect the power. Remove the dryer cover and disassemble the blower-motor/fan housing. Test the thermostat for open circuit. Check the heater assembly for signs of burning or breakage. Damaged element must be replaced.
	Check the output nozzle for obstructions. If none are present, disconnect the power. Remove the dryer cover. Remove any dust/lint buildup from intake vent slots. Disassemble the blower-motor/fan housing. Check the motor brushes for worn condition ($\leq 25/64$ " [10] graphite remains) and replace them, if necessary.

Repair parts list

Key	Part #	Description	Qty	Key	Part #	Description	Qty
1	A0166	Blower housing - Upper	1	21	-	Screw M5x50,philips pan head	1
2	A0168	Motor rubber - Upper	1	22	-	Screw M4x18,philips pan head	1
3		Motor	1	23	-	Self threading screw M4x10, philips pan head	6
	A0170	0.67HP@120Vac					
	A0504	0.67HP@120Vac (240Vac)		24	-	Screw M5x8,philips pan head with external tooth lock washer	4
4	A0169	Motor rubber - Lower	1				
5		Heater assembly	1	25	-	Screw M5x10,philips pan head	3
	A0181	500W@120Vac, 28.8Ω		26	-	Screw M3x16,philips pan head	2
	A0249	500W@120Vac, 28.8Ω (240Vac)		27	-	Screw M4x10,philips pan head with external tooth lock washer	1
6	A0167	Blower housing - Lower	1				
7	A0327	Outlet rubber	1	28	-	Screw M3x8,philips pan head	2
8	A0180	Base plate	1	29	-	Screw M6x8,philips pan head	4
9	A0172	Blower mounting bracket	1	30	-	Screw M4x8,philips pan head	2
10		Circuit Board Module (CBM)	1	31	-	Screw M4x5,philips pan head	1
	A0178	110-120Vac		32	A0165	Security hex screw	4
	A0430	208-240Vac		33		Rating Label	1
11		Sensor module	1		A0330	0198-MH-1	
		110-120Vac (part of CBM)			A0331	0198-MH-2	
	A0259	208-240Vac		34		Label, Circuit Diagram	1
12	A0177	Sensor bracket	1		A0332	110-120Vac	
13	A0133	Mylar shield with LNG marked	1		A0502	208-240Vac	
14	A0010	Terminal block	1	35		CAUTION Branch Circuit Label	1
15	A0183	Nylon cable clamp	1		A0267	15A - 110-120Vac	
16	A0011	Grounding screw with cup	1		A0268	8A - 208-240Vac	
17	A0326	Recessed box	1	36		Timer terminal legend	1
18	A0328	Filter element 10 micron	1		A0503	110-120Vac	
19	A0325	Filter bracket	1		A0191	208-240Vac	
20	A0324	Cover, Stainless steel - Satin	1			(Following items provided in installation kit)	
				36	A0242	Crimp on wire tips for terminal block	3
				37	A0329	Housing installation screws, M5 x 25	4
				38	A0124	Security Hex Wrench	1
				39	A0146	Nylon Hole Bushing	1
				40	A0246	Motor brushes	2

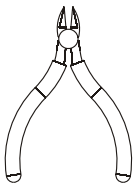
Assembly Diagram

Tools Req'd (Provided in kit)

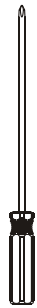


L-Wrench
Item 38

Tools Req'd (Not provided)



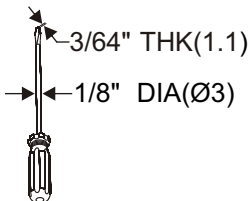
Wire cutter



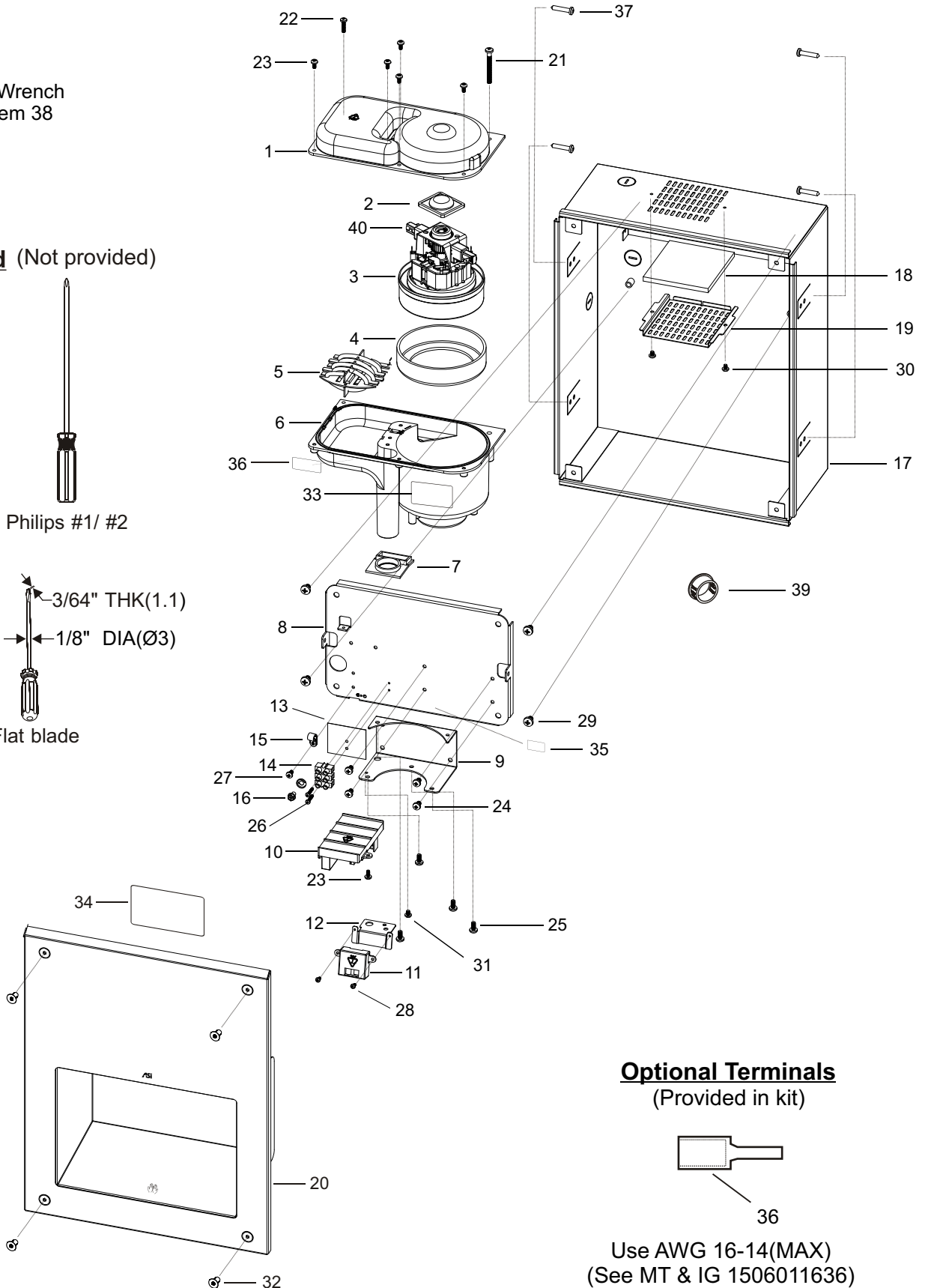
Philips #1/ #2



Crimp tool



Flat blade



Optional Terminals (Provided in kit)



36

Use AWG 16-14(MAX)
(See MT & IG 1506011636)