



# Hand Dryer Operating Instructions and Parts Manual

Recessed High-Speed ADA-compliant hand dryer

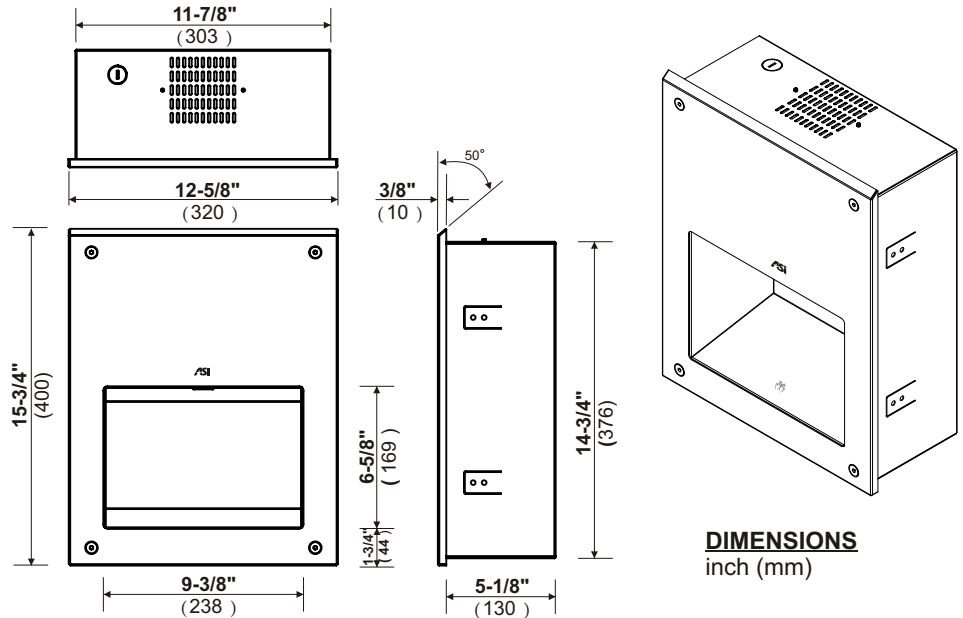


PLEASE CAREFULLY READ THROUGH THIS MANUAL BEFORE USING THE PRODUCT. OBSERVING ALL SAFETY INFORMATION, WARNINGS AND CAUTIONS WILL PROTECT YOURSELF AND OTHERS. PLEASE KEEP INSTRUCTIONS FOR FUTURE REFERENCE.



**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 <sup>3</sup> /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 275°F {135°C}<br>208-240 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                 | Standard 5-29/32" ± 25/32" {150 ± 20 mm}  |
| Timing Protection            | 60 seconds auto shut off  |
| Timing Duration              | 1 second delayed turn off after last sensor read  |
| Cover Type                   | 18 gauge {.047", 1.2 mm} 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}  |

| Input |           | Motor |             |                 | Heater |                         |              | Total          |  |
|-------|-----------|-------|-------------|-----------------|--------|-------------------------|--------------|----------------|--|
| VAC   | Ne        | 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 3 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 "⊕" 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. 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 the Registration Card and give the Installation Guide, this Owner's Manual, Registration Post Card and the security wrench to Owner or Facility Manager.

**Recommended mounting heights**

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

- from top edge of hand chamber above finished floor (AFF)

See Mounting Template & Installation Guide (MT & IG)  
1506011636 (Supplied with unit)

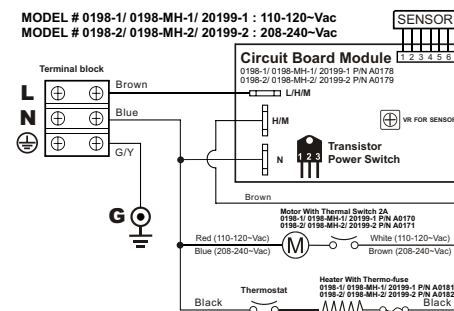
Reference AFF (maximum)  
**2010 ADA Accessibility Standards**  
Reach LIMIT (unrestricted)

All Approaches 48" (1219 mm)

**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.

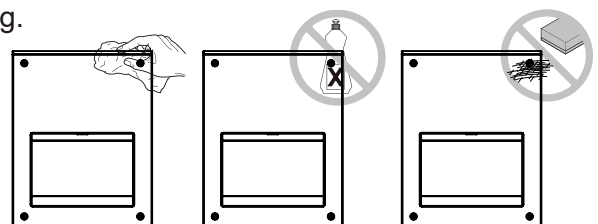
**Circuit Diagram**



**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.

### 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.

### 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.*

**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.



## Diagnosics 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.   |
| 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.   |
| 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. Verify that air intake filter is not blocked.   |
| 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                      | 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.   |
| The heater gets hot but no air stream is produced                  | Disconnect the power. Remove the dryer cover. Check VR for speed setting Disassemble the blower- motor/ fan housing. Replace the fan motor. Reassemble.   |
| The dryer only blows cold air during a full cycle                  | 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.  |
| The air stream is low pressure and velocity                        | 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 and clean or replace air intake filter. Check VR for speed setting. Disassemble the blower-motor/fan housing. Check the motor brushes for worn condition ( $\leq 1\text{-}3/16"$ [30 mm] 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,<br>philips pan head                 | 6   |
|     | A0170  | 0.67HP@120Vac                  |     |     |        |   |     |
|     | A0171  | 0.67HP@240Vac                  |     | 24  | -      | Screw M5x8,philips pan head<br>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   |
|     | A0182  | 500W@240Vac, 115.2Ω            |     | 27  | -      | Screw M4x10,philips pan head<br>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   |
|     | A0179  | 208-240Vac                     |     | 33  |        | Rating Label  | 1   |
| 11  |        | Sensor module (part of CBM)    | 1   |     | A0330  | 0198-MH-1   |     |
| 12  | A0177  | Sensor bracket                 | 1   |     | A0331  | 0198-MH-2   |     |
| 13  | A0133  | Mylar shield with LNG marked   | 1   | 34  | A0332  | Label, Circuit Diagram  | 1   |
| 14  | A0010  | Terminal block                 | 1   | 35  |        | CAUTION Branch Circuit Label                                    | 1   |
| 15  | A0183  | Nylon cable clamp              | 1   |     | A0267  | 15A-120Vac  |     |
| 16  | A0011  | Grounding screw with cup       | 1   |     | A0268  | 8A-240Vac   |     |
| 17  | A0326  | Recessed box                   | 1   |     |        | (Following items provided in installation kit)                  |     |
| 18  | A0328  | Filter element 10 micron       | 1   | 36  | A0242  | Crimp on wire tips for terminal block                           | 3   |
| 19  | A0325  | Filter bracket                 | 1   | 37  | A0329  | Housing installation screws, M5 x 25                            | 4   |
| 20  | A0324  | Cover, Stainless steel - Satin | 1   | 38  | A0124  | Security Hex Wrench   | 1   |
|     |        |                                |     | 39  | A0146  | Nylon Hole Bushing  | 1   |



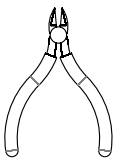
## Assembly Diagram

### Tools Req'd (Provided in kit)

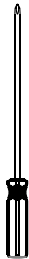


L-Wrench  
Item 38

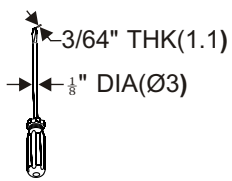
### Tools Req'd (Not provided)



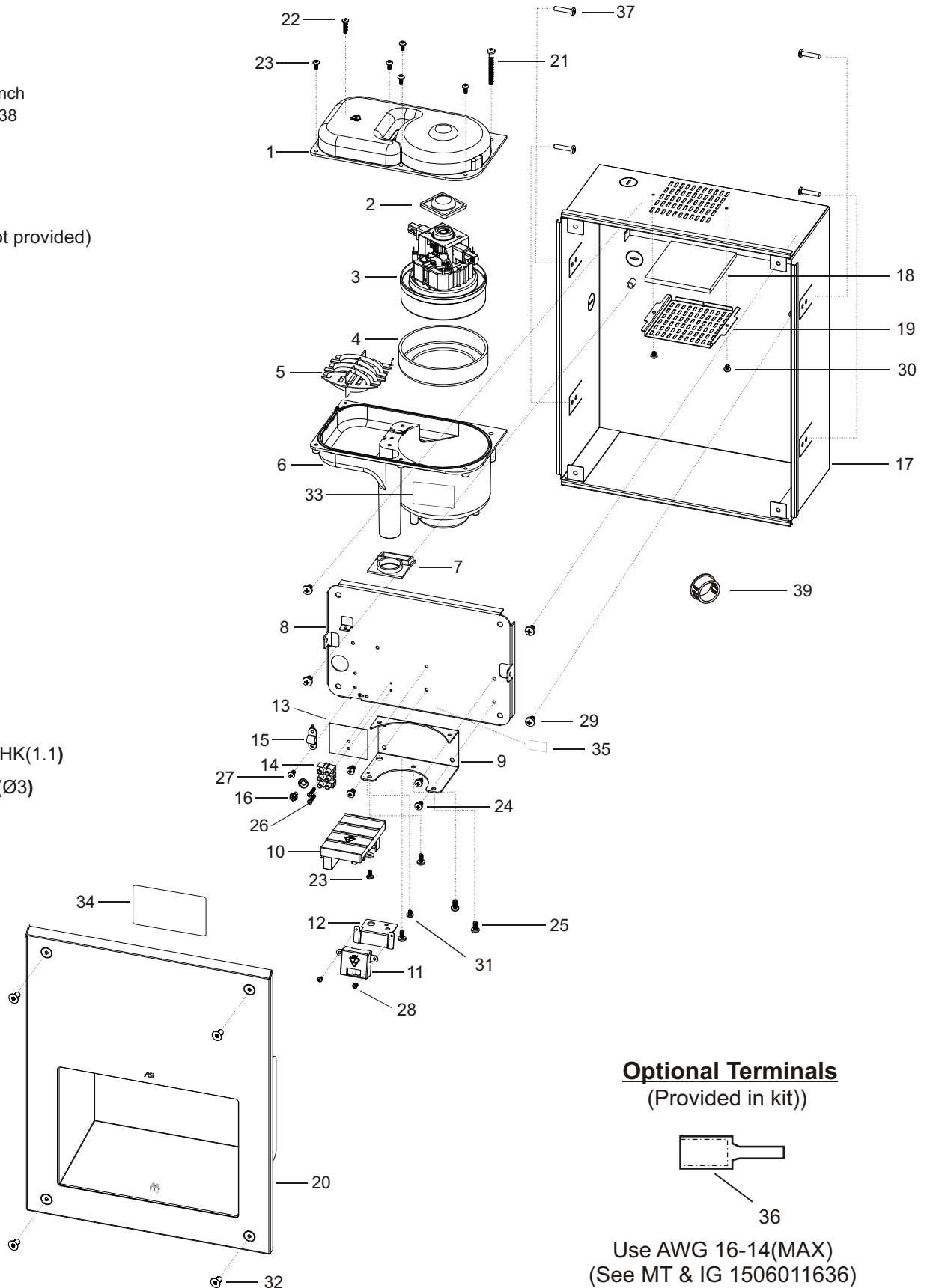
Wire cutter



Philips #1/ #2



Flat blade



### Optional Terminals (Provided in kit)



36

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

