

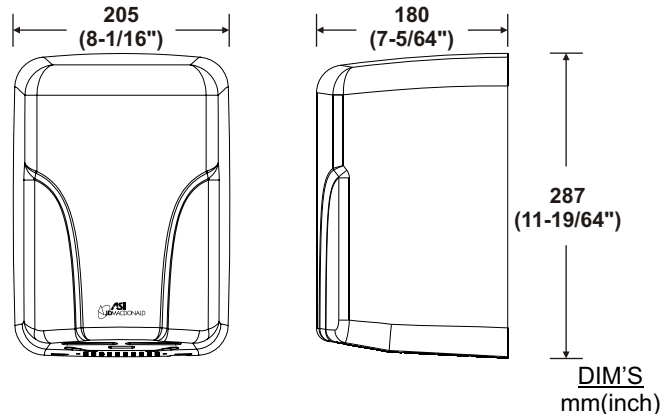
# Hand Dryer **Operating Instructions and Parts Manual** Surface-mounted High-Speed hand dryer

**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 : TURBO-DRI**

## Patented

- 10-0197-2 - White
- 10-0197-2-93 - Satin Stainless Steel
- 10-0197-2-92 - Polished stainless steel



## TECHNICAL SPECIFICATIONS

ITEM CATEGORY	PERFORMANCE DATA
Operating Voltage, 0197-2	220-240VAC, 50/60Hz, 5.84A, 1.4KW
Output Warm Air Volume	67-99m <sup>3</sup> /h [39-58CFM], adjustable by owner
Output Warm Air Temp	60°C when ambient Temp = 25°C. MAX adjustable by owner
Output Air Speed	144mph (211ft/s) [64.3m/s {231.4km/h}] - 210mph (308ft/s) [94m/s {338km/h}], adjustable by owner
Motor Type	700W, 14000-18000rpm, adjustable, brush type, dual ball bearings
Motor Thermal Protection	Auto resetting thermostat turns unit off at 95°C
Heater Element	Range adjustable by owner, 400-700W
Heater Thermal Protection	Auto resetting thermostat turns heater element off at 85°C, resets at 75°C, thermal cut-off at 142°C
Drying Time	Less than 15 seconds
Standby-Power	Less than 0.5W
Circuit Operation	Infrared automatic, self adjusting
Sensor Range	100mm to 230mm, adjustable; standard 170mm ± 20mm
Timing Protection	60 seconds auto shut off
Timing Duration	1 seconds delayed turn off after last sensor read
Sound Level	MIN 63.0dB-A to 68.6dB-A MAX @ 2m, adjustable by owner
Cover Type	16gauge [.063", 1.6mm] thick drawn steel or 304 series stainless steel
Cover Finish	Porcelain enamel on steel or bright or satin on stainless steel
Net Weight	5.8kg
Shipping Weight	6.2kg
Unit Size	205mm W x 287mm H x 180mm D [8-1/16" x 11-19/64" x 7-5/64"]

Input	Model	Motor			Heater		Total	
VAC	Nº	Vac	Inrush A(W)	Operating A (W)	Vac	Operating A(W)	Inrush A(W)	Operating A(W)
220	0197-2	220	4.00 (882)	2.67 (588)	220	2.67 (588)	6.67 (1470)	5.34 (1176)
230	0197-2	230	4.19 (964)	2.80 (643)	230	2.80 (643)	6.99 (1607)	5.60 (1286)
240	0197-2	240	4.38 (1050)	2.92 (700)	240	2.92 (700)	7.30 (1750)	5.84 (1400)

## General safety information

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

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

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

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

-- **NOTE:** Do not install dryer over washbasin --

## Installation - IMPORTANT - READ COMPLETELY BEFORE STARTING INSTALLATION PROCEDURE

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 inches (610mm) on center.
3. Remove and retain 2 cover screws and cover.
4. a. **For in-wall (concealed) power supply -**  
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  $\varnothing 5/16"$  ( $\varnothing 8$ ) Diameter x 1-3/8" (35mm) deep if using wall anchors supplied with unit. Install supplied 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  $\varnothing 1/4$  inch (M6) screws at length that will ensure 1 inch (25 mm) min. stud penetration. For masonry walls use expansion bolts or anchors for  $\varnothing 1/4$  inch (M6) screws to ensure penetration 1/4 inch (6mm) 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 " $\oplus$ " or to the green screw marked " $\oplus$ ".  
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. Do not over-tighten screws.

## Installation Kit Included (find in carton)

1. Self-Threading screws (1/4" x 1-1/2") x 4 pcs.
2. Plastic expansion anchor Ø5/16" x 1-3/8" (Ø8 x 35) x 4 pcs.
3. Metal Washer (3/8" x 7/8"x 1/16") x 4 pcs.
4. Nylon bushing x 4 pcs.

## Service Tool Included (with installation kit)

Security hex wrench 4 mm x 1 pc.

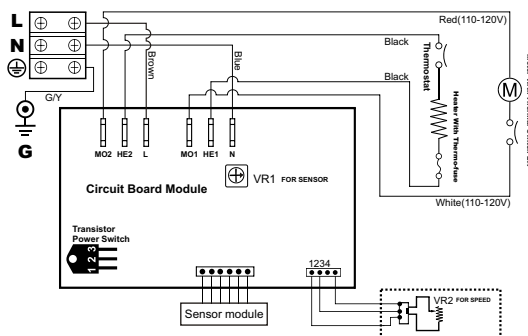
➤ Please unpack the unit and check the quantity of the above tool and kit.

## Recommended mounting heights - from bottom edge of dryer above finished floor (AFF) SEE TEMPLATE 08031731

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

## Circuit Diagram

Supply:220-240VAC, 50/60Hz



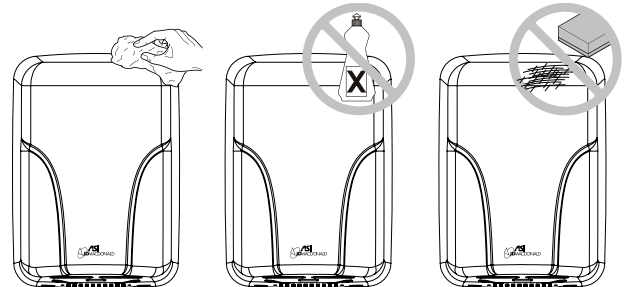
## Operation

- 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.

## Cleaning and Maintenance

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

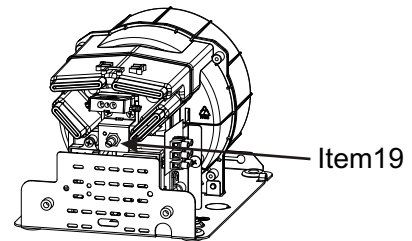
- Disconnect the electrical supply.
- Remove the two cover-mounting screws.
- Remove the cover.
- Clean all dust lint from the interior of the dryer.
- Wipe the cover with a damp cloth and mild cleaning solution. Do not Soak. Never use abrasives to clean the cover.
- Replace the cover. Do not over tighten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



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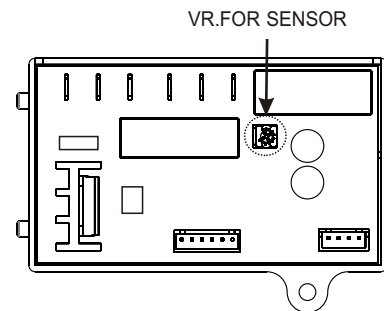
## Warm air speed adjustment

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

1. The range is 4" to 9" [100 mm to 230 mm], standard setting is 7" [170 mm ± 20 mm].
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. Adjust the VR to make sure it is not set too low.
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 and VR component 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 or disconnect heater element from circuit; check resistance ( $\Omega$ ) of element with multimeter. If $\Omega$ is off-scale infinitely large then replace element. If $\Omega$ is between 18 and 22 then check motor brushes for wear and replace them if remaining graphite is $\leq 25/64$ " [10mm]. If after reassembly and testing there is still no motor function then replace motor. 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 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. Check VR for speed setting. Disassemble the blower-motor/fan housing. Check the motor brushes for worn condition ( $\leq 25/64$ " [10 mm] graphite remains) and replace them, if necessary.

## Repair parts list

Key	Part #	Description	Qty	Key	Part #	Description	Qty
1		Cover	1	26	A0133	Mylar shield with <b>LNG</b> marked	1
	A0434	Steel - Porcelain Enamel ASI-JD		27	A0010	Terminal block	1
	A0435	Stainless Steel - Bright ASI-JD		28	A0414	Base plate	1
	A0436	Stainless Steel - Satin ASI-JD		29		CAUTION label	1
2		Rating Label	1		A0132	240Vac - 8A	
	A0439	0197A-2		30	A0011	Grounding screw with cup	1
	A0440	0197A-2-92		31	A0001	Rubber grommet -Base	4
	A0441	0197A-2-93		32	A0028	Metal washer	4
3	A0123	Security hex screw	2	33	A0029	Nylon bushing	4
4	A0124	Security hex screw wrench	1	34	-	Self threading screw 1/4"x1-1/2", 4 philips pan head	
5	A0438	Label, Circuit Diagram	1				
6	A0068	CAUTION DISCON PWR label	1	35	-	Self threading screw M4x12, 4 philips pan head	4
7	A0176	Cable protector	1				
8	A0407	Blower housing - Upper	1	36	-	Self threading screw M4x10, 5 philips pan head	5
9	A0029	Motor rubber - Large	1				
10	A0147	Motor - 1HP@120Vac	1	37	-	Screw M3x8, philips pan head	2
11	A0202	Motor rubber - Small	1	38	-	Screw M5x10, philips pan head	3
12	A0408	Blower housing - Below	1	39	-	Screw M4x10, philips pan head with external tooth lock washer	1
13		Heater assembly					
	A0409	700W@120Vac, 20.6Ω	1	40	-	Screw M3x16, philips pan head	2
14	A0411	Air Outlet	1	41	-	Screw M4x12, philips pan head	2
15	A0170	Sensor bracket	1	42	-	Screw M4x8, philips pan head	2
16	A0129	Sensor module	1				
17	A0130	Sensor protector	1				
18	A0063	Sensor rubber seal	1				
19	A0283	Variable resistance (VR)	1				
20	A0412	VR bracket	1				
21	A0149	VR mounting nut	1				
22		Circuit Board Module (CBM)	1				
	A0437	208-240Vac					
23	A0276	CBM terminal legend label	1				
24	A0413	Air outlet bracket	1				
25	A0183	Nylon cable clamp	1				

## Assembly Diagram

