

TEPCO MODEL M2000

OWNER - INSTALLATION MANUAL

10/87

137647-001

SPECIFICATIONS

Air Handling Capacity

M2000 = 2000 CFM Nominal

Power Requirements

1HP, 115/230V, 1PH	14.4/7.2 amps
1HP, 208-220/440V, 3PH	3.4/1.9 amps
1½HP, 115/230V, 1PH	18/9 amps
1½HP, 230/460V, 3PH	4.9/2.4 amps
2HP, 208/220/440V, 3PH	5.8/2.9 amps

Controls

Owner-supplied Off/On.

Cabinet Dimensions

58" Long x 24-1/4" Wide x 26-1/4" High.

Weight

201 lbs.

FILTERS

Pre-Filter

- 4" Pleated
- *2" Polyester in Metal Frame
- *Wraparound Module, 10 Sq. Ft.
- *Impinger
- *Aluminum Mesh

Main Filters

- 65% Micro-Glass Bag
- *95% Micro-Glass Bag
- *Texwood Filter Bag

* Optional.

PRINCIPLES OF OPERATION

The TEPCO M2000 consists of four basic components:

- 1) A cabinet for housing all components
- 2) A blower for moving the air
- 3) Electrical wiring
- 4) Collecting components.

The air in any room contains millions of particles of dust. The composition of the dust will vary depending on the environment. The dust may be in the form of smoke, airborne dirt from outside, small particles of grease or moisture. The size of the particles (or particulate) will range from as little as .03 micron to anything large enough to remain airborne in the air. (A micron is one millionth of a meter).

When the unit is turned on, the blower begins moving the air through the pre-filter section. The pre-filter collects the large dust and lint particles. The air then enters the main filter where the dust or smoke is trapped in the millions of fibers of the bag. The cleaned air then passes through the unit and back into the room.

NEW UNIT INSPECTION

Immediately upon receiving the unit, carefully examine the carton for damage during transit. If unit is damaged, contact the last carrier for filing a claim and contact your TEPCO Distributor.

While uncartoning the unit, look for concealed shipping damage. If there is damage, it should be reported to the last carrier for filing claim and contact your local TEPCO Distributor.

SUSPENSION MOUNTING

CAUTION: THE MAXIMUM WEIGHT OF THE MODEL M2000 IS 225 LBS. ANY MOUNTING ARRANGEMENT MUST BE ABLE TO SUPPORT THIS WEIGHT. FAILURE TO DETERMINE IF MOUNTING IS SUBSTANTIAL MAY RESULT IN DAMAGE OR INJURY WITHIN THE AREA.

The following are guidelines for installation however alternate methods may be equally adequate.

PREPARATION AND INSTALLATION

This Manual should be carefully read before starting the preparation and installation of the air cleaner.

The installation should conform to all local ordinances associated with building codes and electrical codes required for the unit. Authorities having jurisdiction should be consulted before installation is made. If there are no local codes, the installation should conform to the National Electrical Code.

For maximum air cleaning efficiency, your air cleaner should be located as specified by your TEPCO Distributor.

The unit can be either wall-mounted or chain-hung. Eyebolts are supplied with the unit.

NOTE: REMOVE THE CLEANING COMPONENTS FROM THE CABINET TO EASE HANDLING.

The following materials will be needed to suspend the unit from the ceiling:

- A. 2/0 chain minimum rated at 205 lbs. working load.
- B. 18 lap links.
- C. 6 - 3/8" diameter eye bolts with two nuts per bolt are supplied with the unit.
- D. 6 - 3" adjustable turnbuckles with eye bolts are frequently used.

CAUTION: NO LESS THAN FOUR CHAINS MAY BE USED TO SUSPEND UNIT FROM CEILING. CHAINS SHOULD NOT ANGLE FROM CEILING TO UNIT MORE THAN 15 DEGREES.

1. Remove the collector assemblies from the unit. This will reduce the weight to be lifted.
2. Drill 6 - 3/8" mounting holes, using the round indentations formed in the cabinet top panel for location.
3. Install the eye bolts using two nuts per bolt. The nuts should be tightened together to prevent loosening by vibration.
4. Secure the chain to the ceiling by wrapping chains around beam or joist and securing with a lap link (total of 6 chains).
5. Fasten the turnbuckles to the eye bolts at each corner of the unit using lap links. Fasten the remaining lap links to the free end of the turnbuckles.
6. Screw the turnbuckles out to approximately 1/2 full extension.
7. Raise unit up to chains and fasten lap links to chains. Adjust turnbuckles until unit is level.
8. Re-install the pre-filter and collector assemblies.

For alternate installation methods, contact your local TEPCO Distributor.

CAUTION: DO NOT TAKE CHANCES. IF YOU ARE UNSURE ABOUT THE PRECEEDING METHOD OR ANY OTHER METHOD, STOP THE INSTALLATION UNTIL YOU ARE SATISFIED THAT THE METHOD OR PROCEDURE IS CORRECT.

WIRING

The Model M2000 is equipped with an externally mounted junction box. See the enclosed Wiring Diagram at the rear of this manual for connection. Switching and motor starters are not supplied with the unit. All wiring must meet local National Electrical Codes.

UNIT OPERATION

After all wiring has been completed, switch the unit on. Note the rotation of the blower wheel. It should rotate in a clockwise direction. If the rotation is backward, it must be changed to give the proper air flow.

Rotation can be changed on single-phase units by re-wiring the internal motor hookup. Three-phase rotation can be changed by switching any two legs of the input voltage.

MAINTENANCE

Precision equipment such as your TEPCO Air Cleaner will require a minimum amount of maintenance to keep in good operating condition. All normal preventative maintenance can be done by you, or your local TEPCO Distributor may offer a maintenance and cleaning contract at a nominal charge. Contact him for details.

CAUTION: ALWAYS DISCONNECT THE POWER SOURCE BEFORE WORKING ON OR NEAR THE MOTOR OR ITS WIRING ASSEMBLY. IF THE POWER DISCONNECT POINT IS OUT OF SIGHT, LOCK IT IN THE PROPER POSITION AND TAG TO PREVENT UNEXPECTED APPLICATION OF POWER.

The Model M2000 cleaning components consist of a pre-filter and main filter.

The pre-filter and main filter are accessible through the access door allowing simple, fast replacement.

If your Model M2000 is equipped with an Impinger, it will need periodic inspection. It can be removed and checked easily each time the pre-filter is replaced.

Filters are changed according to the pressure across the filter. A magnahelic gauge and static pressure taps are available from TEPCO. A U-tube or slant gauge with a range of 0-2" water column can also be used to read filter pressure. Install pressure tap in "lo" side of the gauge.

MAIN FILTER	BOTH FILTERS CLEAN	CHANGE PRE-FILTER	RECOMMENDED FINAL
95%	.63	.85	1.0
65%	.51	.85	1.0

NOTE: These readings will vary slightly due to altitude & temp. Approx. 10% air flow reduction. Approx. 20% air flow reduction.

Upon installation of the unit, note the initial pressure reading. Check daily and replace pre-filter at the reading shown in the Table. Pressure should return to near the initial pressure reading. When the pressure reading, with new pre-filter, shows little improvement (less than 0.1") allow unit to run until recommended final pressure is reached. At that point, both pre-filter and main filter should be replaced.

Once a pattern has been established, the pre-filters can be replaced on a calendar basis with the main filter being replaced when the gauge reads as "Recommended Final" in the Table. For example, if the unit takes 6 weeks to go from 0.63 to 0.85, the pre-filter would then be replaced every 6 weeks until no change occurred in the pressure reading when the pre-filter is replaced. At that point, the unit would be allowed to run until 1.0 and both filters replaced.

NOTE: THE UNIT CAN CONTINUE TO RUN BEYOND THE 1.0 PRESSURE READING; HOWEVER, AIR FLOW WILL BE REDUCED FURTHER.

CAUTION: TO CHECK INTERNAL COMPONENTS, TURN POWER TO UNIT OFF.

CLEANING AND INSPECTION OF CABINET

After the dirty components have been removed, an inspection of the cabinet should be made. Remove all foreign debris and dirt accumulation inside the cabinet. Check for dirt accumulation on the blower wheel blades and clean if there is a buildup. Inspect all wiring for loose connections and cracked insulation.

Bearing on both blower and blower motor should be checked for sign of unusual wear.

Models having motors with oil cups require periodic inspection. Use SAE-20 non-detergent motor oil every six months. Motors with ball bearings do not require lubrication. Rubber gasketing should be checked twice a year. Aging occurs primarily due to ozone present in ambient air and eventually hardens the rubber and causes cracking and loss of seal. Contact your Tepco Distributor for replacement.

TROUBLESHOOTING

All TEPCO Air Cleaners are manufactured to give the user continued, trouble-free service. However, as with all mechanical equipment, breakdowns can occur.

Refer to the "Parts Ordering Information" section for replacement parts.

REPLACEMENT PARTS ORDERING INFORMATION

The following pages contain Exploded Views and Bill of Material for the Tepco Model M2000. Use these pages to determine the part numbers of items which are needed.

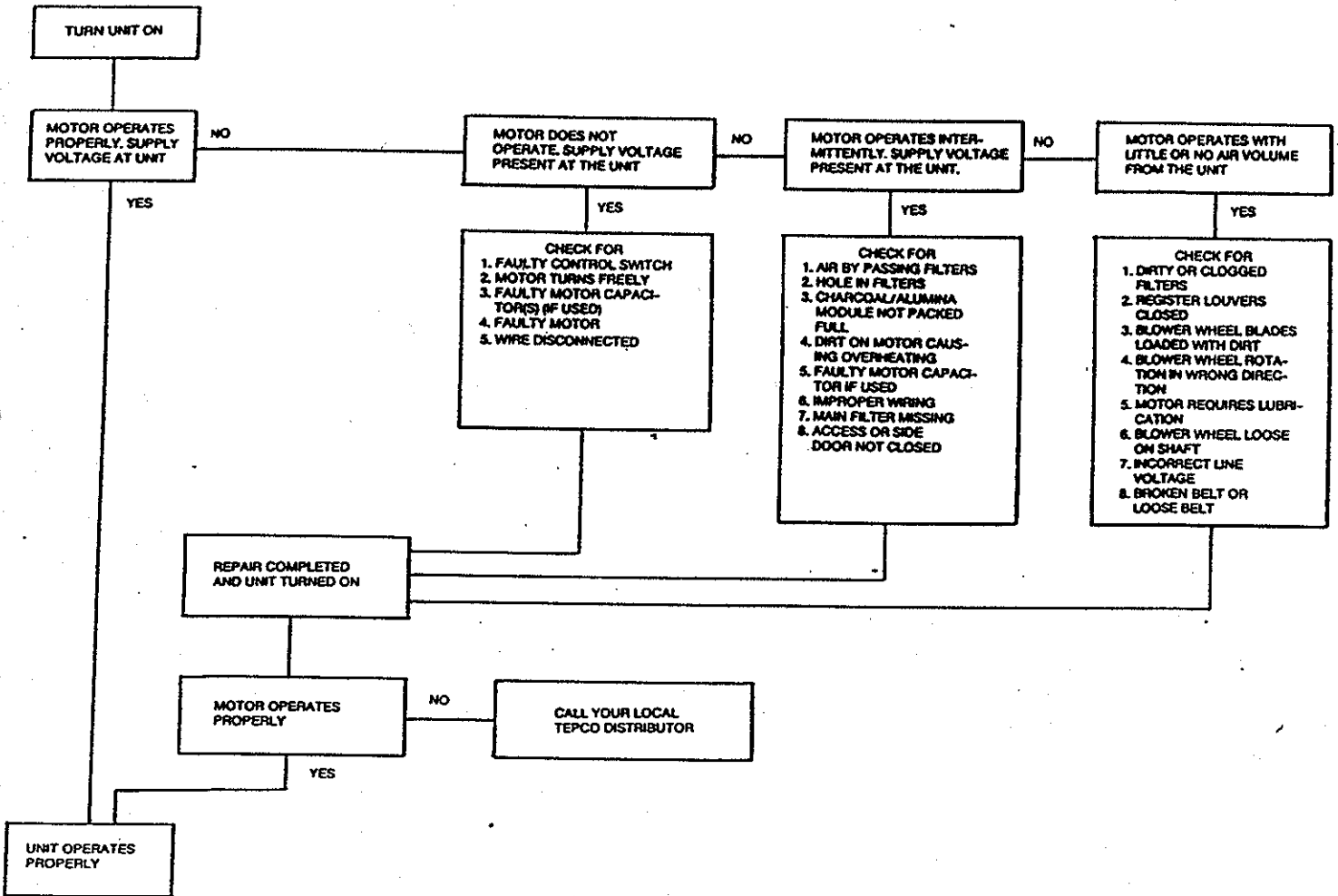
To order repair parts, contact your local TEPCO Distributor, or

TEPCO Division of Trion, Inc.
P.O. Box 760
Sanford, NC 27330-0760
(919) 775-2201

The following information will be required to insure accuracy in supplying your repair parts.

	<u>Located</u>
1. Unit Model Number	ID Plate Inside Door
2. Unit Serial Number	ID Plate Inside Door
3. Part Number and Description	Exploded Views

TROUBLESHOOTING PROCEDURE

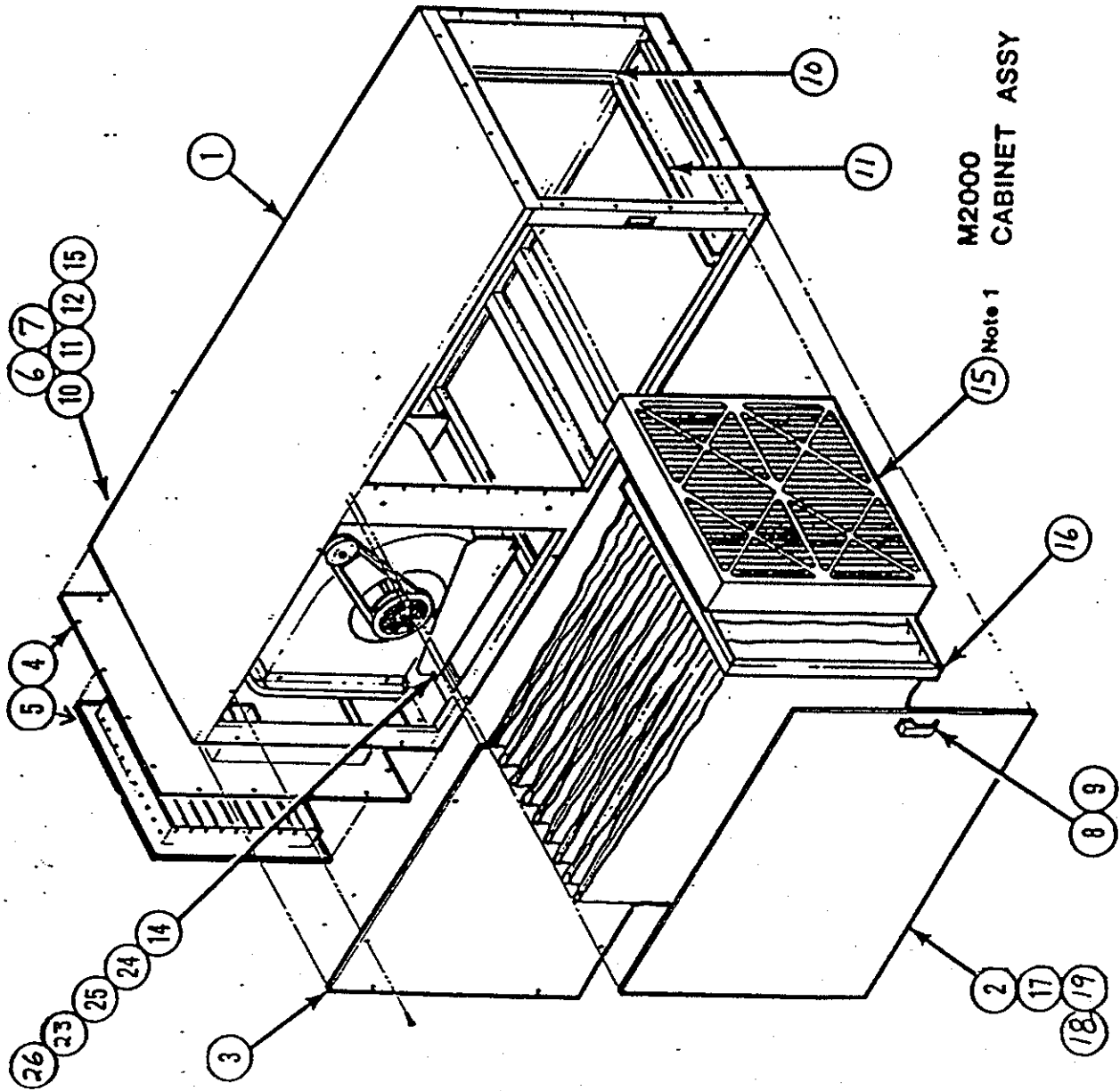


M2000 UNIT ASSEMBLY

<u>ITEM</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY. REQ.</u>
1	2-2000-9000-0	Cabinet Assembly, Welded	1
2	338746-001	Door	1
3	2000-9012-00	Side Panel	1
4	337652-001	Blower Panel	1
5	69000-0003-05	Outlet Grill or Register	1
6	60000-0008-01	Box, Electrical Connection	1
7	60000-0008-02	Cover	1
8	137616-001	Lift & Turn Latch	1
9	236936-001	"Tepco" Nameplate	1
10	224779-023	Gasket 1/2 x 1/2	4'
11	66000-0002-01	Grommet Strip	4'
12	2-2000-9041-00	Side Discharge Panel (not shown)	1 (1)
13	2000-9021-00	End Panel (not shown)	1 (1)
14	4-2000-1200-00	Motor/Blower Assembly	1
15a	69000-0001-97	4" Pleated Pre-filter	1 Std.
15b	237644-001	2" Polyester Pre-filter in Frame	1*
15c	224451-015	Aluminum Mesh 2" Pre-filter	1*
15d	2000-8003-00	Impinger	1*
15e	2-2000-8001-00	Wraparound Pre-filter Assembly	1*
16a	26-3000-6731	Filter Bag, 65%	1
16b	26-3000-9731	Filter Bag, 95%	1*
16c	26-3002-0001	Filter Bag, Texwood	1*
17	224779-020	Gasket 5/8 x 5/8	18'
18	224779-014	Gasket 1/2 x 3/16	2'
19	224779-028	Gasket 3/4 x 11/16	7'
20	2-2000-8000-00	Plenum, Source Capture	1*
21	2500-1000-10	Drain Plug Assembly	1*
22	137356-001	Wraparound Replacement Filter Media	1*
23	221235-307	Bolt, 1/4 x 20 x 1	4
24	120031-011	Washer, Flat	4
25	120033-009	Washer, Lock	4
26	62000-0011-02	Grommet	4

* Options

(1) For side discharge only



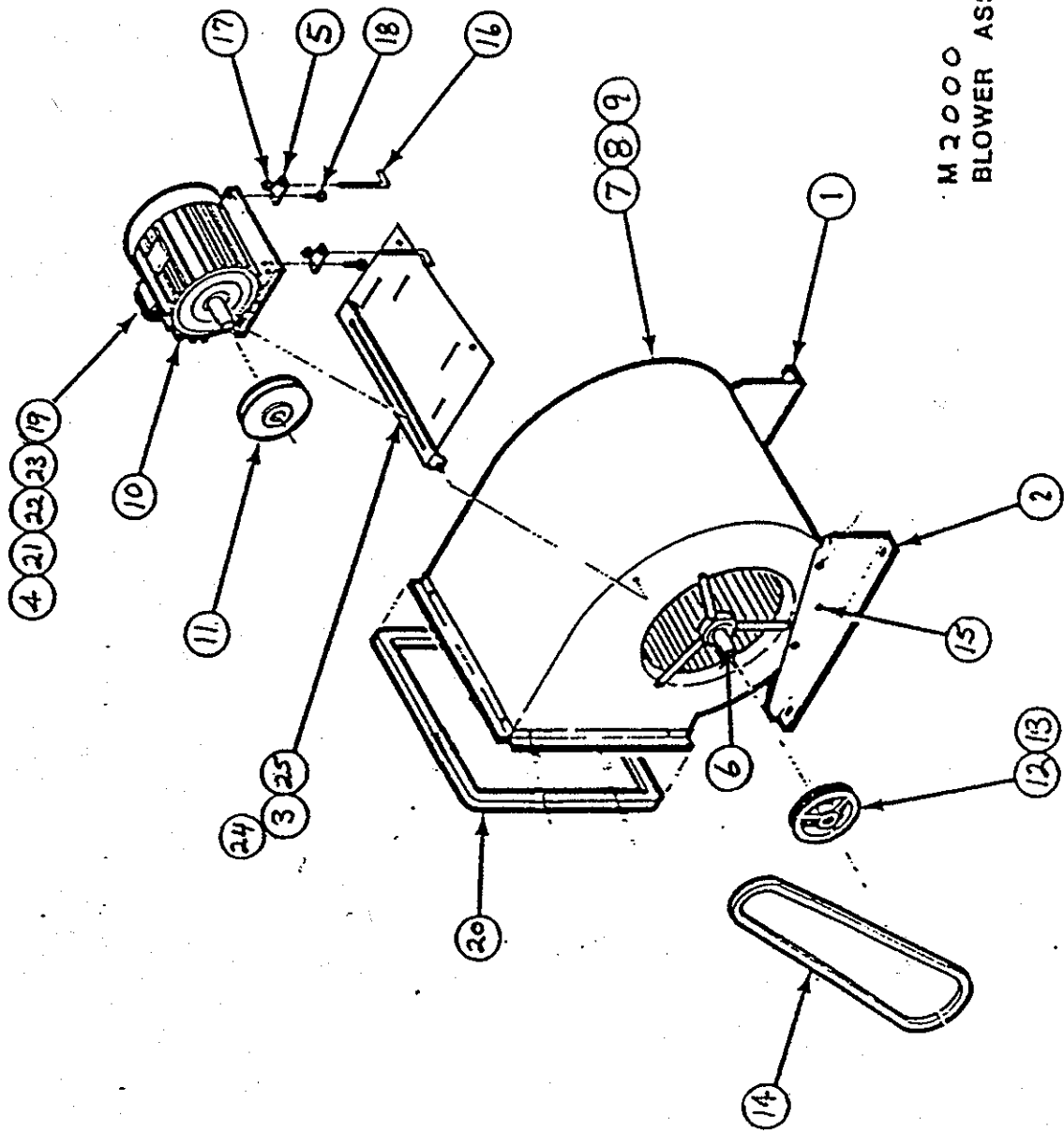
M2000
CABINET ASSY

15 Note 1

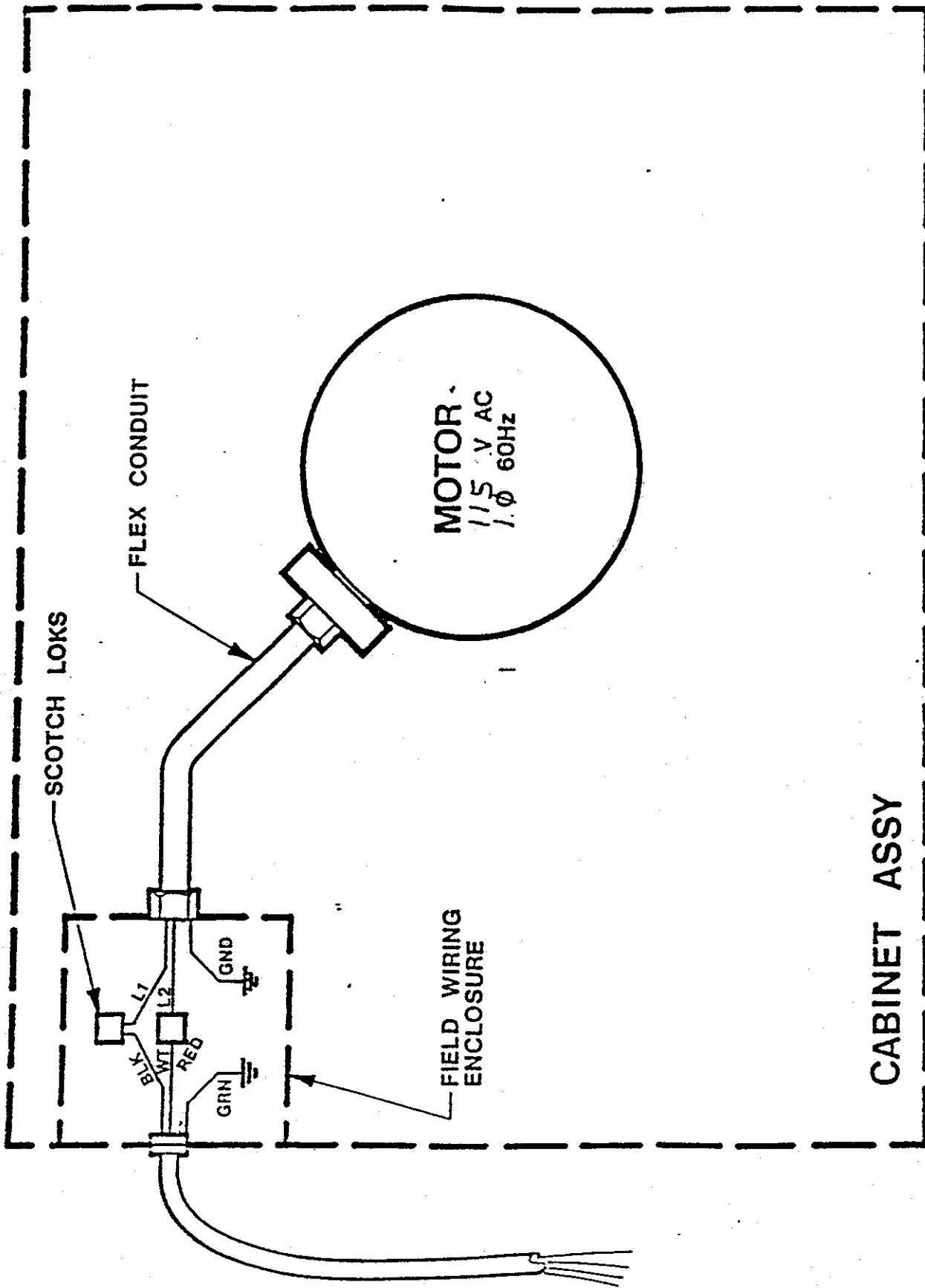
M2000 MOTOR/BLOWER ASSEMBLY

<u>ITEM</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY. REQ.</u>
1	12500-9001-0002	Blower Leg, Right	1
2	12500-9001-0001	Blower Leg, Left	1
3	2700-1200-03	Blower Rod, 1/4 Dia.	1
4a	22000-6000-0002	Wiring Assembly, 1PH	1 Std.
4b	22000-6000-0001	Wiring Assembly, 3PH	1*
5	137591-001	Backing Plate	2
6	62000-0003-05	Bearing, 3/4	2
7	1-2700-9023-00	Bracket, J-Bolt	2
8	2700-1200-04	Insulator	2
9	62000-0012-07	Blower & Wheel	1
10a	125740-003	Motor, 1HP, 115/230V, 1PH	1 Std.
10b	71071-2211-0001	Motor, 1HP, 208-220/440V, 3PH	1*
10c	71051-5000-0002	Motor, 1½HP, 115/230V, 1PH	1*
10d	71051-2011-0001	Motor, 1½HP, 230/460V, 3PH	1*
10e	124885-008	Motor, 2HP, 208-220/440V, 3PH	1*
11a	125699-003	Variable Pitch Sheave, 5/8 Bore	1 Std.
11b	125699-010	Variable Pitch Sheave, 2HP, 7/8 Bore	1*
12	1-1250-1200-07	Key, Shaft	1
13	124053-027	Pulley, Blower (3/4 Bore)	1
14a	220926-022	Belt, 4L360	1
14b	220926-024	Belt, 4L380 (2HP)	1*
15	137343-402	Screw	4
16	90000-0022-01	J-Bolt	2
17	90000-0003-01	Nut/Washer	8
18	137437-016	Bolt, Carriage	4
19	127258-001	Pigtail Connector	7
20	224779-003	Gasket, 1/8 x 1"	5'
21	121711-002	Connector, 90°	1
22	121707-002	Conduit	16"
23	92090-1000-10	Reducing Washer	2
24	123149-001	Elastic Stop Nut	2
25	62000-0008-03	Motor Mounting Bracket	1

* Options



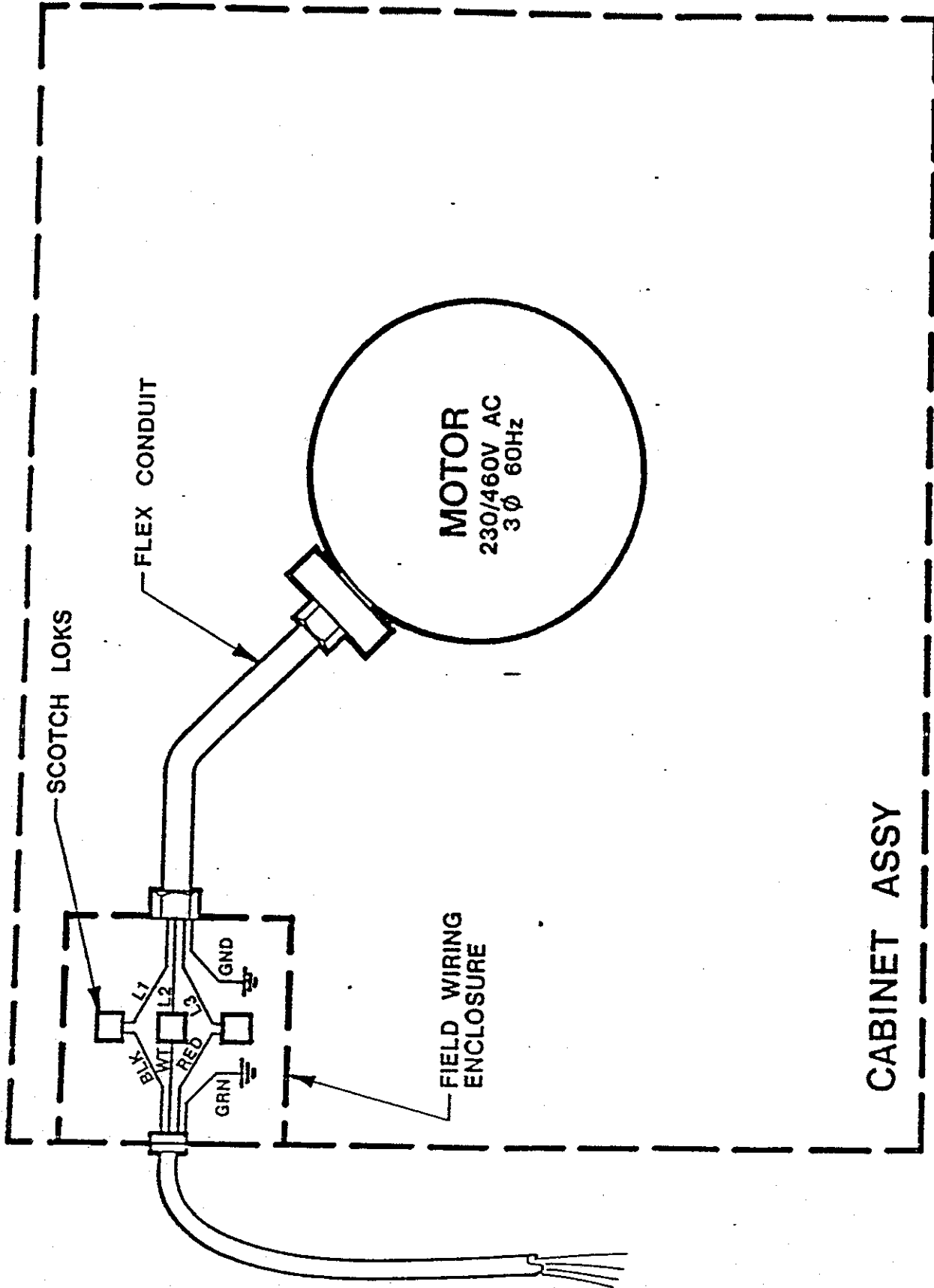
M 2000
BLOWER ASSY



CABINET ASSY

NOTES:

Voltage may be changed by rewiring Internal motor connections per manufacturer's instructions

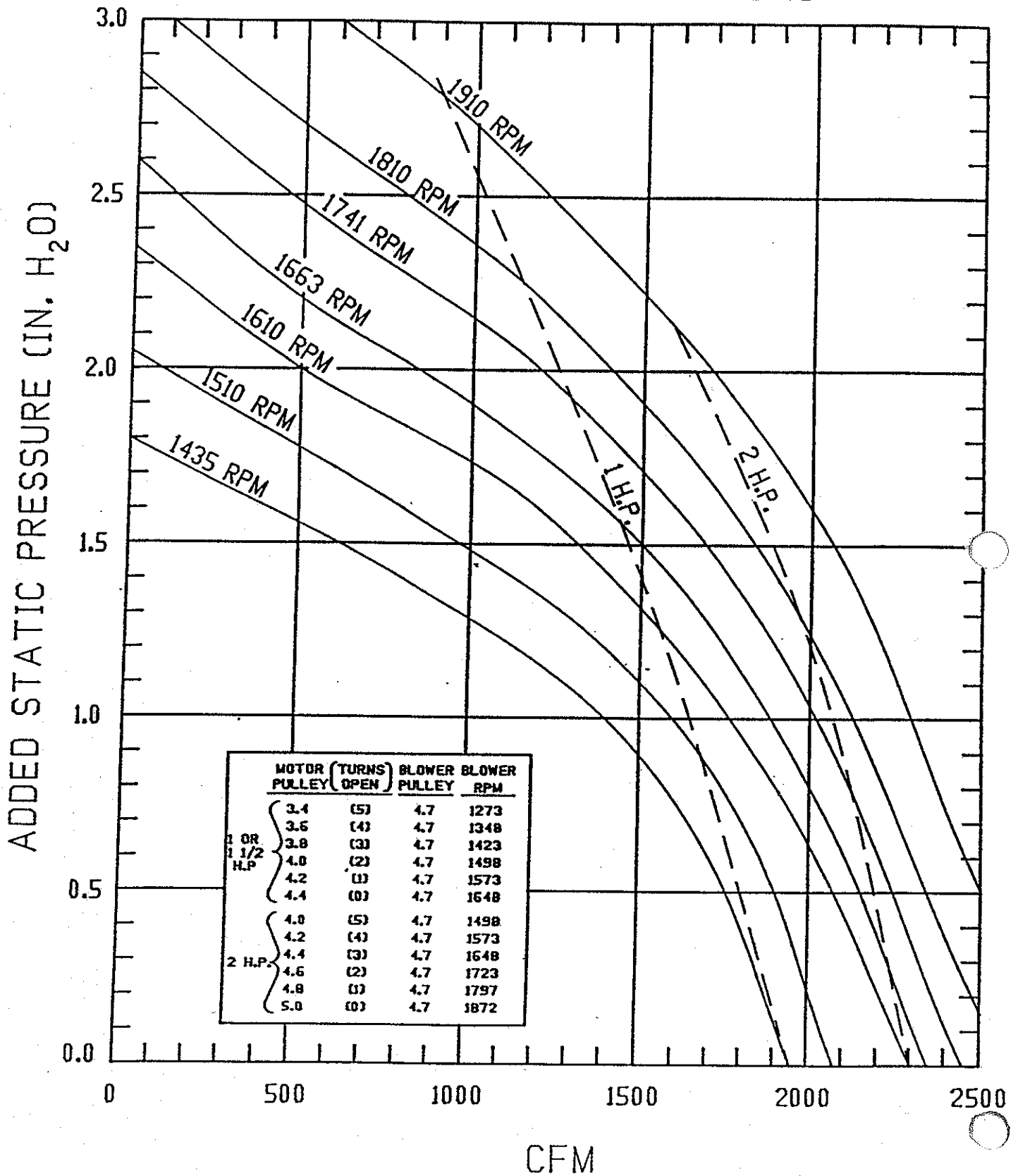


NOTES:

1. To reverse motor rotation, reverse any two (2) motor leads (L1, L2, L3).
2. Voltage may be changed by rewiring internal motor connections per manufacturer's instructions.

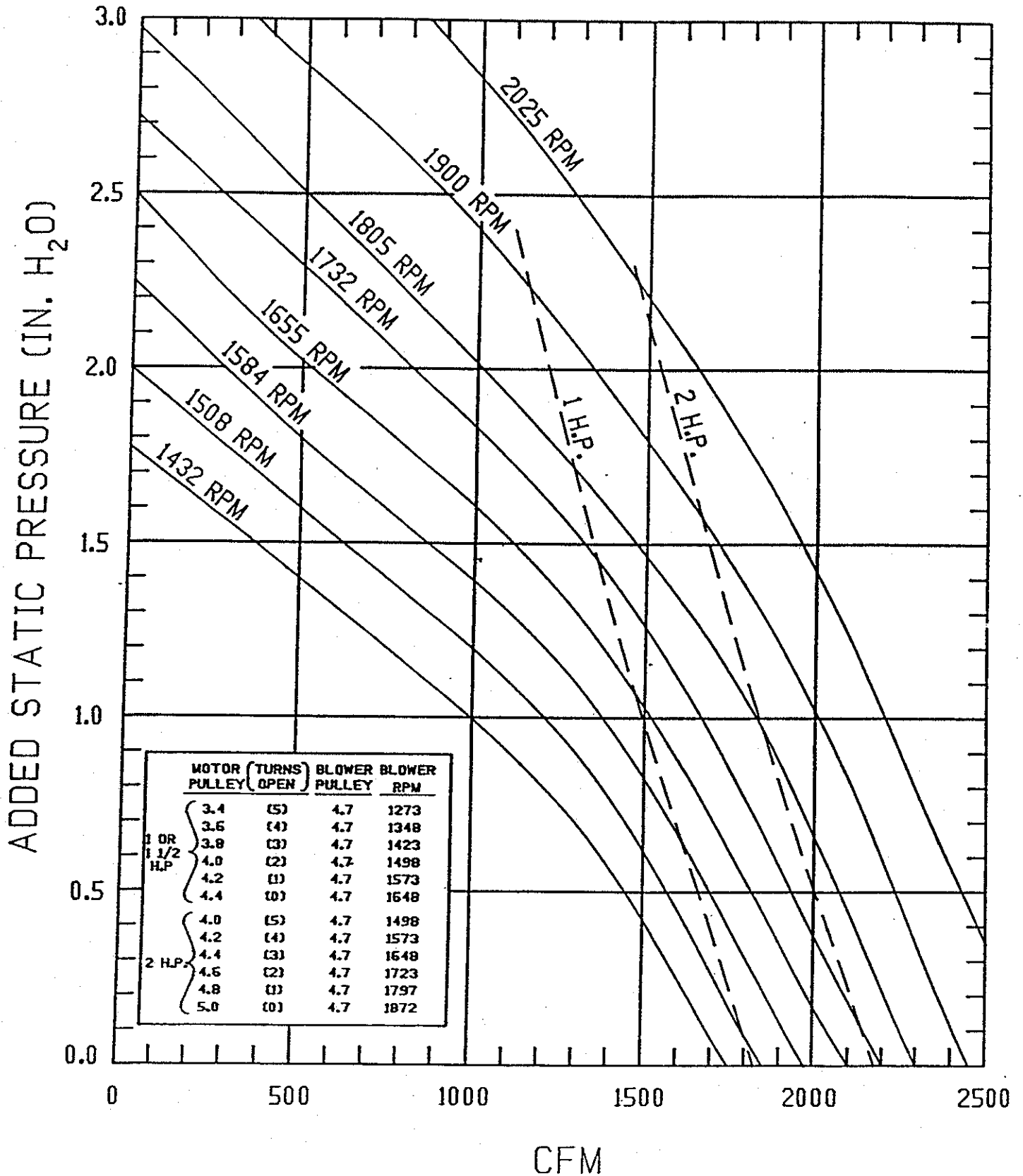
M2000

PREFILTER:4" PLEATED
 PRIMARY FILTER:65% BAG



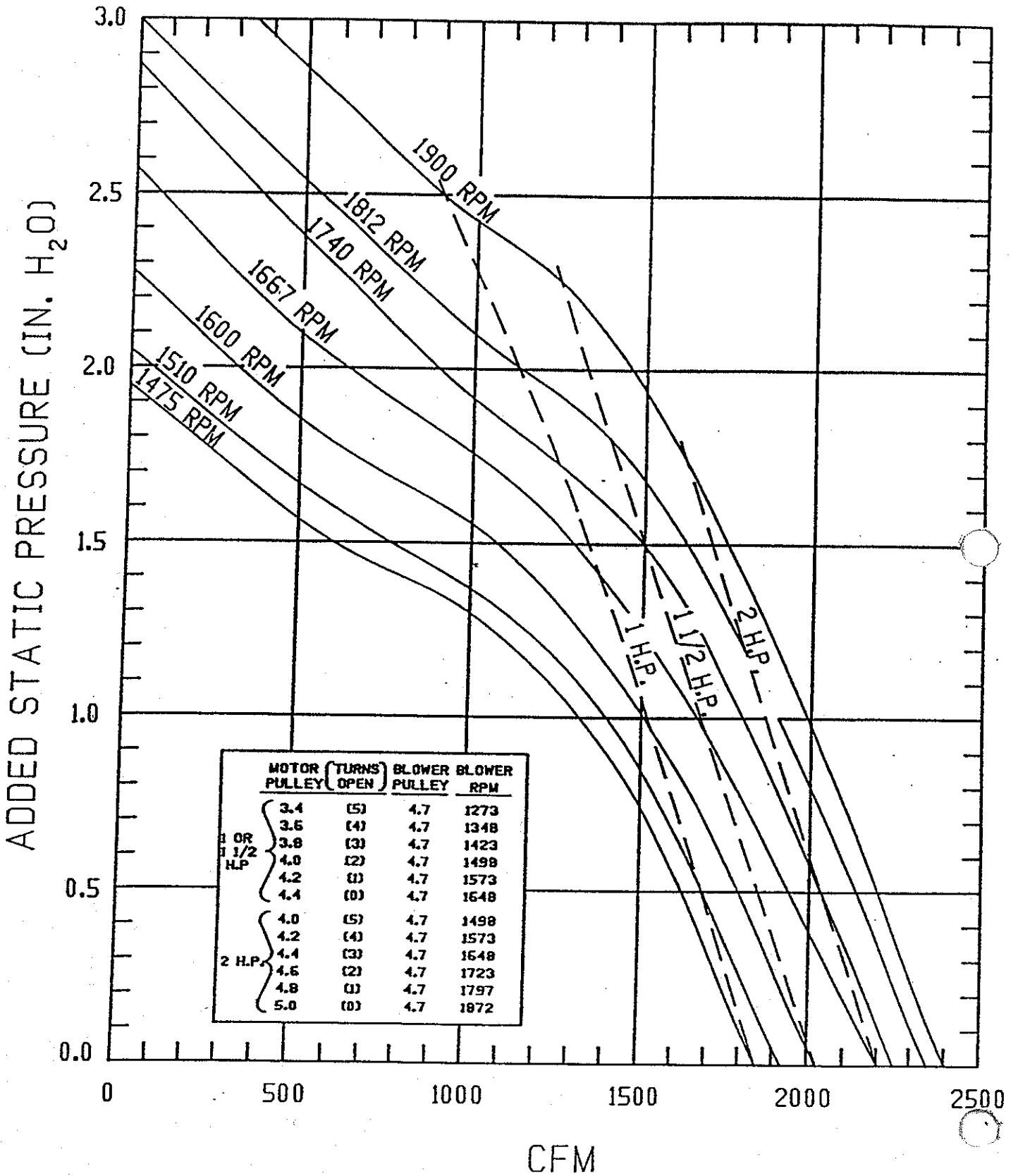
M2000

PRIFILTER:4" PLEATED
 PRIMARY FILTER:95% BAG



M2000

PREFILTER: 2" ALUMINUM MESH
 PRIMARY FILTER: 95% BAG FILTER (KOCH)



M2000

PREFILTER: 2" ALUMINUM MESH/IMPINGER
PRIMARY FILTER: 95% BAG

