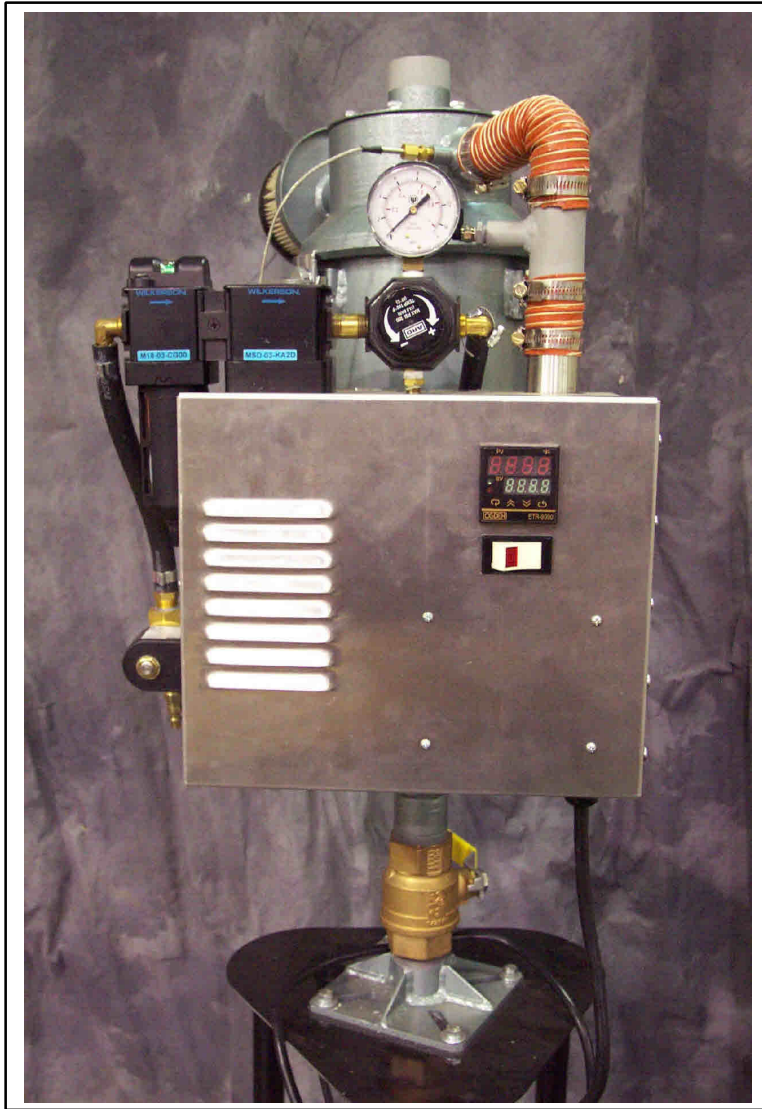


Thoreson-McCosh Inc
Compressed Air Dryer



INSTRUCTION MANUAL

IB200602

THORESON-McCOSH INC
1885 Thunderbird St. Troy MI. 48084
Phone 1-248-362-0960
Fax 1-248-362-5270
sales@thoresonmccosh.com
parts@thoresonmccosh.com

Thoreson-McCosh Inc

FORWARD

The information contained in this Instruction Manual is provided to you for the maintenance of your Thoreson-McCosh equipment.

Also included in this manual are operating instructions, a service parts list, and wiring diagrams. Please file this manual for future use.

For additional information, please contact:

THORESON-McCOSH Inc.

1885 Thunderbird Street

Troy, MI 48084

Phone: (248) 362-0960

Facsimile: (248) 362-5270

sales@thoresonmccosh.com

parts@thoresonmccosh.com

CUSTOMER RECORDS

Upon receipt of your Thoreson-McCosh equipment, it is very important that you complete the table below. The information will be needed to best serve you when you call the Thoreson-McCosh Service Department with questions or to order replacement parts. The information is located on the Serial Tag on the unit and inside the door of the control box.

Model Name _____

Serial No. _____

Wiring Diagram No. _____

Insert No. _____

Program No. _____

Layout No. _____

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SECTION 1: THORESON-MCCOSH PRODUCT WARRANTY

Thoreson-McCosh warrants each product of its manufacture to be free from defects in material and workmanship for a period of 30 months (2-1\2) year from the date of delivery to the original purchaser. Thoreson-McCosh's obligation under this warranty is limited to repairing or replacing any part returned to the Thoreson-McCosh factory with transportation charges prepaid, and which, on examination by Thoreson-McCosh, shall disclose to Thoreson-McCosh's satisfaction to have been defective.

The purchaser must notify Thoreson-McCosh of such defects and promptly deliver the defective part(s) in accordance with Thoreson-McCosh's shipping instructions, delivery prepaid. Parts will be replaced F.O.B. Thoreson-McCosh factory, by Thoreson-McCosh, and will be invoiced to the purchaser with "credit on return of defective part", if the part is returned within fifteen (15) days after shipment of replacement part. Thoreson-McCosh is not liable for installation or cost to install the replacement part or removal of the defective part.

Thoreson-McCosh is not responsible for any failure of its product due to improper use, installation, or operation. Thoreson-McCosh shall not assume any expense or liability for repairs made to any Thoreson-McCosh unit or equipment outside Thoreson-McCosh's own factory unless specifically agreed to in writing by Thoreson-McCosh.

Equipment and accessories furnished by us, but manufactured by others, are guaranteed to the extent of the original manufacturer's guarantee to Thoreson-McCosh, if that guarantee exceeds one (1) year.

It is expressly understood that Thoreson-McCosh is not responsible for damage and/or injury caused to buildings, contents, products, or persons by reason of installation or use of any of our products. Thoreson-McCosh shall not be liable for loss, damage or expenses arising directly or indirectly from, or being consequential or incidental to, the use of its products or from any other cause.

The above warranty supersedes, and is in lieu of all other warranties expressed or implied; and no person, agent, representative or dealer is authorized to give any warranties on behalf of Thoreson-McCosh, not to assume for Thoreson-McCosh any other liability in connection with Thoreson-McCosh products.

SECTION 2: INTRODUCTION

SECTION 2.1: QUICK START

Your Thoreson-McCosh dryer was thoroughly tested prior to shipment and checked to insure that its performance is up to specifications. Upon arrival in your plant, the unit should be carefully inspected for physical damage, which might have occurred in transportation. Should any damage be observed, it should be reported to the carrier at the earliest possible time.

1. Uncrate equipment.
2. Clean drying hopper. All hoppers are shipped with a light coat of oil.
3. Connect power. 115/1/60. 15 amp service
4. Connect compressed air to the units requiring compressed air. 3 P.S.I. minimum, 15 P.S.I. maximum.
5. Connect Air hoses. The smaller diameter red process hose connects from the dryer to the diffuser on the hopper.
6. Visually inspect drying system.
7. Fill hopper with material.
8. Begin drying, giving first batch of material sufficient residence time before beginning to use material (typically 3 to 4 hours). Check with resin manufacturer.

SECTION 2.2: POWER CONNECTIONS

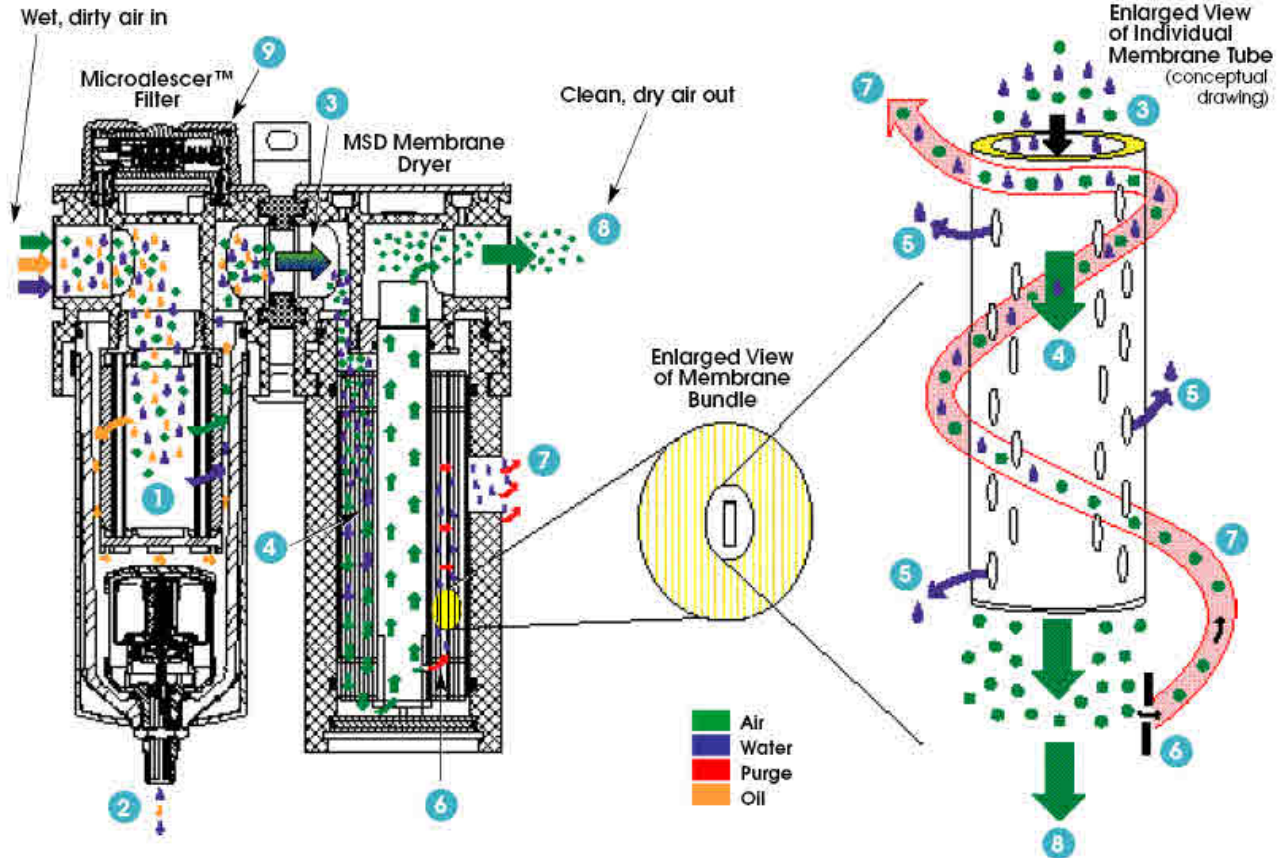
The unit is supplied with a standard 115/1/60 power cord rated for at least 15 amps. This unit must have a properly connected ground.

SECTION 2.3: UNITS WITH COMPLETE DRYING HOPPER

Clean the inside of your hopper thoroughly to avoid contamination of plastic resin to be processed. Install the hopper cone mounting plate to the feed throat of your molding machine, being sure that it is well secured.

SECTION 3: COMPRESSED AIR DRYER METHOD OF OPERATION

How the Wilkerson MSD membrane dryer functions



To achieve optimum performance and high quality compressed air for your application, it is imperative to install a Wilkerson Microalescer™ filter with automatic drain. The coalescing-filter prevents dirt particles and oil and water aerosols from contaminating the membrane. This drawing illustrates a typical clean, dry air system.

How it Works:

Dirty saturated air enters the Wilkerson coalescing micro-filter (1) where solid particles, liquids and aerosol contaminants are efficiently trapped. The coalesced oil and water is then discharged through the float-type automatic drain. (2)

The clean, saturated compressed air now enters the dryer (3) and goes into the module (4) that consists of a densely packed bundle of hollow fiber membranes. As the compressed air flows through the membranes, the water vapor diffuses through the walls of the membrane. (5) A portion of the dried air from the outlet of the cartridge (6) is diverted and expanded to atmospheric pressure for use as purge air.

The counter flow purge air then sweeps over the outer surface of the hollow membrane fibers, removing the water molecules, where they are vented to atmosphere (7). Clean, dry air is now supplied to the application. (8)

The principle of membrane dryer operation is very elementary. Saturated air has a higher partial vapor pressure than dry air. As a result, there is a constant migration of water molecules through the membrane (5) walls from inside the hollow fiber membrane, where you have wet compressed air, to outside, into the lower partial vapor pressure of the purge air stream.

The MSD membrane air dryer is designed to operate continuously—24 hours per day, 7 days per week. The only maintenance required is changing the coalescing filter element when the standard pressure differential indicator (9) shows red. Due to our innovative quick disconnect bowl design, element change out is less than five minutes.

SECTION 4: DRYER CONTROLS

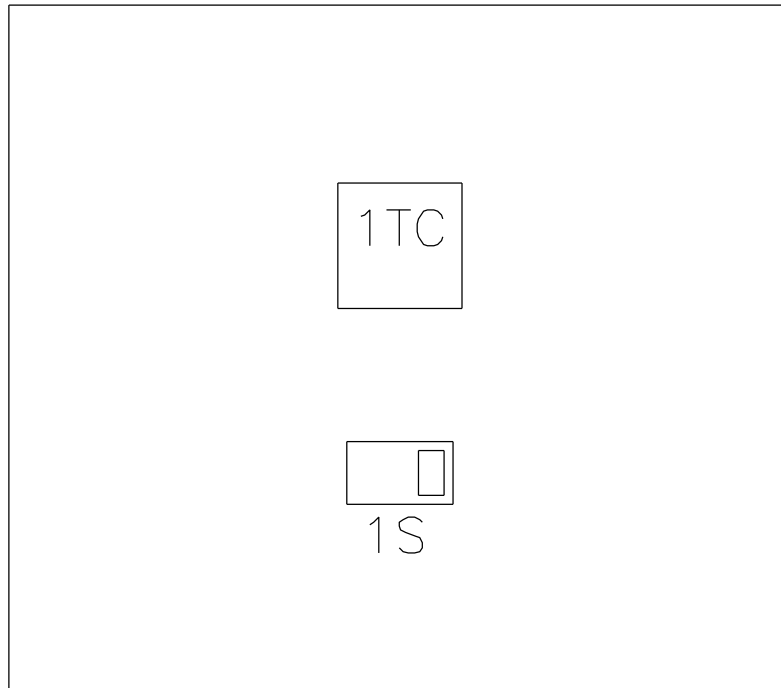


FIGURE 4.1: DRYER CONTROLS

SECTION 4.1: TURNING THE DRYER ON

To turn the dryer on, turn the Unit Off/On switch to the On position.

SECTION 4.2: CHANGING THE TEMPERATURE SET POINT

The dryer comes standard with a digital temperature control. The control displays the actual Process temperature and the Process temperature set point. To increase or decrease the temperature, push the up or down indicators on the face of the control, until it displays the desired temperature set point. The Process temperature set point can be selected from 0 to 400°F. The unit is shipped with normal factory defaults. To deviate from the normal settings, refer to the Temperature Control literature included in the Dryer Instruction Manual. We recommend that the normal factory settings be used. Failure to use these settings, can result in damage to the unit. Consult the service department before making changes.

SECTION 4.3: DRYER COMPONENTS

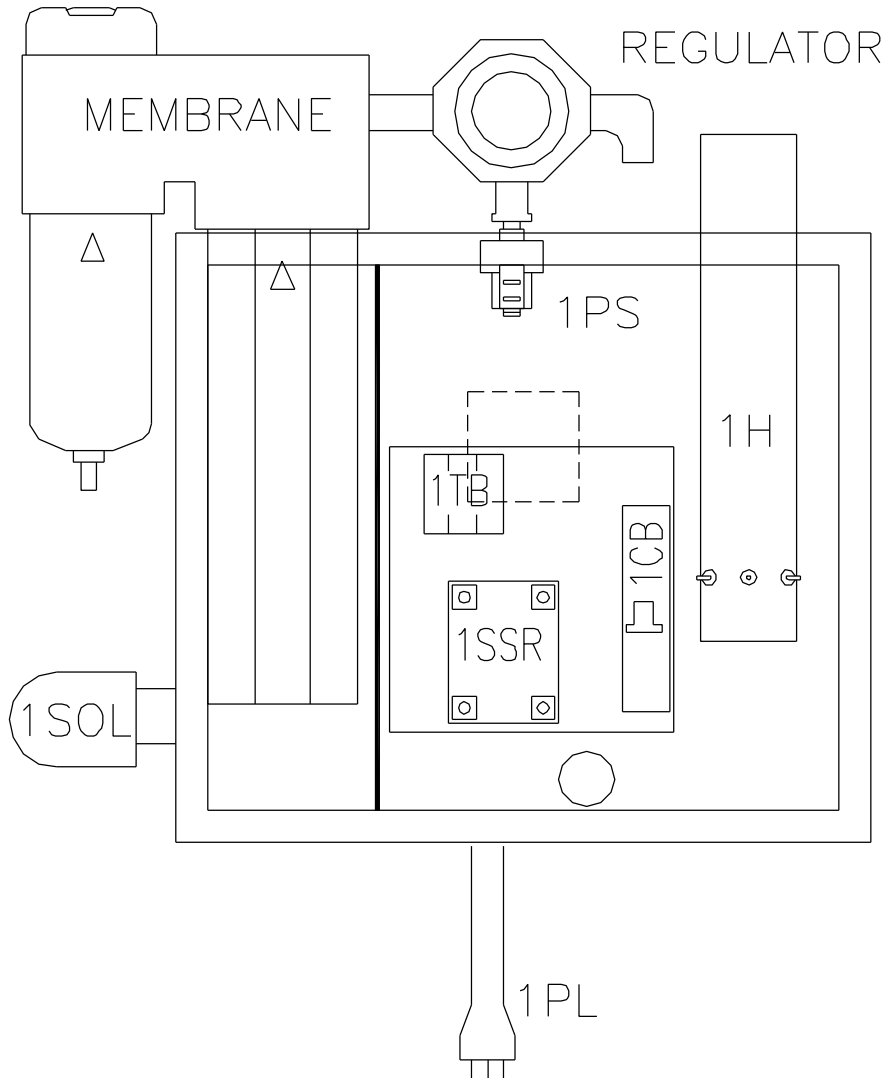


FIGURE 4.2 DRYER COMPONENTS

- | | |
|--------------------|--------------------------|
| 1) Membrane\Filter | MSD-03-CA2D |
| 2) Regulator | IR27231-300 3/8 |
| 3) 1PS | pressure switch |
| 4) 1SOL | 3/8 solenoid |
| 5) 1H | 1.4 kw Heater |
| 6) 1SSR | solid state relay, 25amp |
| 7) 1CB | circuit breaker |

SECTION 5 PRELIMINARY TD DRYER CHECKS

SECTION 5.1: VISUALLY CHECK DRYING SYSTEM

Check dryer hoses and hopper. Be sure that delivery hose is in good condition. The Hopper lid should be in place and well sealed. .

SECTION 5.2: CHECK DRYING HOPPER INLET TEMPERATURE

At the hopper air inlet, the drying temperature should match the recommended temperature specified by the material supplier. In general, as hot as possible without allowing thermal degradation or discoloration of the material being processed. If the hopper inlet temperature is lower than the dryer discharge, the dryer temperature setpoint should be increased to compensate for the temperature drop in the process air flow hose.

SECTION 5.3: CHECK THE HOPPER TEMPERATURE DISTRIBUTION

Let dryer run for 3 - 4 hours. Air/material temperature in the hopper should be uniform around the hopper at any level, and hot (within 15°F/ 9°C of inlet temperature) up to 80% of the full hopper height when material is being added at the designed drying rate. Under static drying conditions (no new material added to hopper) the discharge temperature should approach inlet temperature after approximately 4-5 hours of operation. Should these checks show that the heat is not progressing upward through the hopper, the dryer should be checked for low airflow.

SECTION 6 MAINTENANCE

SECTION 6.1 FILTERS

The filter should be checked weekly and cleaned with compressed air or replaced if necessary. It is important to remember to check the filter gasket and fix or replace as needed.

SECTION 6.2 REPLACEMENT PARTS

- 1) Compressed air Filter 414958

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SECTION 6.3 MAINTENANCE SCHEDULE

TO BE USED IN CONJUNCTION WITH DRYER INSTRUCTION MANUAL

DRYER#:	DATE:
SPECIAL INSTRUCTIONS:	
WEEKLY	
CHECK AND CLEAN OR REPLACE FILTERS	
CHECK FOR UNUSUAL NOISE	
CHECK SYSTEM FOR AIR LEAKS (HOSES, HOPPER)	
SEMI-ANNUALLY	
CHECK AMP DRAW OF HEATER	
(SEE WIRING DIAGRAM)	

PSI TO CFM CONVERSION TABLE

PSI	CFM	DEW POINT
3	6	-40
4	10	-40
5	11	-40
6	12	-40
7	13	-40
8	14	-40
9	15	-40
10	16	-40
11	17	-40
12	19	-40

