M SERIES DUST COLLECTORS

LARRY HESS AND ASSOCIATES, INC.
BLAST-IT-ALL®
P.O. BOX 1615
SALISBURY, NC 28145

WWW.BLAST-IT-ALL.COM

M2 & M4
DUST COLLECTORS

MANUAL NUMBER: 502

WARNING

DO NOT USE *SAND*. SAND WILL CAUSE SILICA DUST, WHICH IS THE CAUSE OF SILICOSIS DISEASE, A CONDITION OF MASSIVE FIBROSIS OF THE LUNGS. THIS STATEMENT INDICATES POTENTIAL PERSONNEL HAZARD.

FAILURE TO COMPLY WITH THESE INSTRUCTIONS
MAY RESULT IN PERSONAL INJURY.

WEBSITE CONCERNING SILICOSIS:

http://www.osha.gov/Silica/IT69D_1.html

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MM-502

SPECIFICATION AND INSTRUCTIONS FOR M-SERIES COLLECTORS

1.0 GENERAL DESCRIPTION

The **MODEL M COLLECTORS** are cartridge filter jet pulse type collectors. These collectors may be supplied as a complete unit. An air inlet is located on the top of the collector. The dirty air stream passes through the inlet and is deflected away from the cartridges to help prevent premature cartridge wear. As the dirty air enters the collection chamber the velocity reduces due to the expanded area. The heavier particles drop into the DUST CONTAINER. The air separates as it is drawn into the cartridge filter(s). The air goes through the cartridge media for the final separation of the solids (dirt) from the air stream. Solid particles are captured on the filter media as the air stream passes through and into the center section of the cartridge and is exhausted from the collector. Compressed air jets are used periodically to BACK FLUSH (CLEAN) the filter pleats causing the collected particles to fall down into the DUST CONTAINER.

2.0 DESIGN CONSIDERATIONS

2.01 Maximum negative pressure: 15" WG.

2.02 Design operating temperature: 150 F

2.03 Compressed air supply: 80 to 90 PSIG operating pressure with a 100 PSIG being the maximum design.

3.0 INSTALLATION AND ARRANGEMENT

The user will place the unit on a flat level surface.

4.0 BASIC CONSTRUCTION

4.01 Basic Unit: The basic unit is fabricated from 12 gauge carbon steel. All seams are welded to form a solid seal. The air jet valves are designed especially for this type air pulse application and are operated through the sequence control by manual push buttons or by timed unit depending on the model of the unit.

4.02 Filter Cartridges: Each cartridge contains approximately 103 SQ.FT. FILTER AREA FOR EACH CARTRIDGE, and the number of filter units depends on the unit size.

4.03 Cleaning Control: The cleaning is actuated by one of two means. On the manual cleaning units a manual push-button is provided. On the AUTO CLEAN units a solid state controller is provided.

5.0 REVERSE PULSE JET AIR SYSTEM

The compressed air manifold is to be supplied with compressed air at 85 PSIG. The user must provide a pressure regulator to maintain this pressure. The air supply must be clean and free of moisture.

6.0 PAINT

One coat of primer is applied to all interior and exterior surfaces. A finish coat of industrial enamel is applied to the exterior.

7.0 SHIPMENT

The units are shipped assembled.

8.0 COMPRESSED AIR PIPING

The compressed air piping installed by the user shall be a minimum of 1/2" sch 40. **IN ADDITION A PRESSURE REGULATOR MUST BE PROVIDED AND INSTALLED BY THE USER.**

PRE-START CHECK

1.0 PRE-START CHECKLIST

Review all components to assure that they are operational.

1.01 ALL DUCTWORK - The inlet and exhaust ducting must be inspected to assure it is properly installed and complete.

1.02 DUST CONTAINER - The FLEX HOSE must be installed and attached to the dust container. This container must be closed and secured before operation.

1.03 COMPRESSED AIR PIPING - A pressure regulator must be installed and set for 85 PSI. Make sure the air is clean and dry.

1.04 WIRING - Motors must be wired and installed with proper overload protection.

1.05 SEQUENCE CONTROL BOX - Provide incoming wiring. Control will be pre-set.

1.06 ELECTRICAL PROTECTION DEVICES - Fuses, circuit breakers, heaters, etc., must be properly sized and installed.

1.07 SYSTEM FAN - Make sure the rotation of the fan is correct.

OPERATION

1.0 START-UP AND OPERATION

1.01 Turn on compressed air supply.

1.02 Start system: CHECK FAN ROTATION.

1.03 Check seals.

2.0 FILTER CLEANING

2.01 If the unit is equipped with automatic pulse cleaning the cleaning cycle will be timer activated when the unit is in operation.

2.02 If the unit is not equipped with a automatic pulse package, the filters are cleaned by manually pushing the clean pulse air valve. This will allow the cartridge to be pulse cleaned. **(PUSH AND RELEASE) THIS NEEDS TO BE OPERATED AT LEAST ONCE EACH HOUR OF OPERATION OR MORE IF A DIRTY CABINET CONDITION EXISTS.**

3.0 DUST CONTAINER

The collector must be shut down before any attempt is made to empty the dust container.

3.01 Shut system down.

3.02 Remove and empty container in to approved dust receptacle.

3.03 Replace container and attach cover.

MAINTENANCE

Regular maintenance is consistent with satisfactory and efficient operation of any dust collector. Remember to clean and inspect the filters regularly and do not allow the dust container(s) to overfill.

1.0 WEEKLY

1.01 Compressed air pressure set at 85 PSI.

1.02 Drain all moisture from compressed air lines.

1.03 Check and record pressure drop across the filters.

1.04 Empty dust container. The container may have to be emptied more frequently depending on use.

2.0 MONTHLY

2.01 Inspect dust container gasket(s).

2.02 Remove and inspect filter cartridge.

2.03 Replace cartridge if evidence of dirt is inside.

3.0 YEARLY

3.01 Check all gaskets and replace if required.

3.02 Remove all cartridges and inspect for wear. If evidence of dirt is inside replace filters.

4.0 FILTER REMOVAL

4.01 Unscrew filter cover and remove filter.

4.02 Pull out filters

5.0 FILTER CARTRIDGE REPLACEMENT

5.01 Brush any dust that may have fallen. Remove any bits of the old filter gasket that may have stuck to the filter plate.

5.02 Slowly place cartridges in holes.

5.03 Tighten cover plate

TROUBLESHOOTING

1.0 VISIBILITY POOR IN CABINET

1.01 Pulse Interval Time Too Long:

Adjust the knob in the sequence control panel to shorter time.

1.02 Filter(s) Wet:

Make sure there is no moisture in the compressed air lines.

1.03 Filter(s) Blinded:

A. Blinded filters can be the result of operating the unit too long without cleaning or the cleaning interval is too long.

B. The dust container is over full. A full container will cause severe dust retainment, which will overload (blind) the filters. Remove the filters from the unit and clean or replace.

2.0 CONTROL CIRCUIT FAILS TO OPERATE:

2.01 If the diaphragm valve does not operate, this generally indicates a leak in the tubing. If the control tube has a leak the diaphragm valve will remain open and no pressure will build up in the log manifold.

2.02 Compressed Air Bleed Down: If a diaphragm valve will not return to the closed position, this indicates either a break in the diaphragm, a leaking control line, or a control pulse solenoid is stuck in the open position.

2.03 Check to make sure there is sufficient air pressure / flow to the log manifold.

3.0 PUFF OF DUST OUT EXHAUST AFTER EACH CLEANING:

3.01 Cleaning Too Often: Clean less often or increase the interval on the control panel.

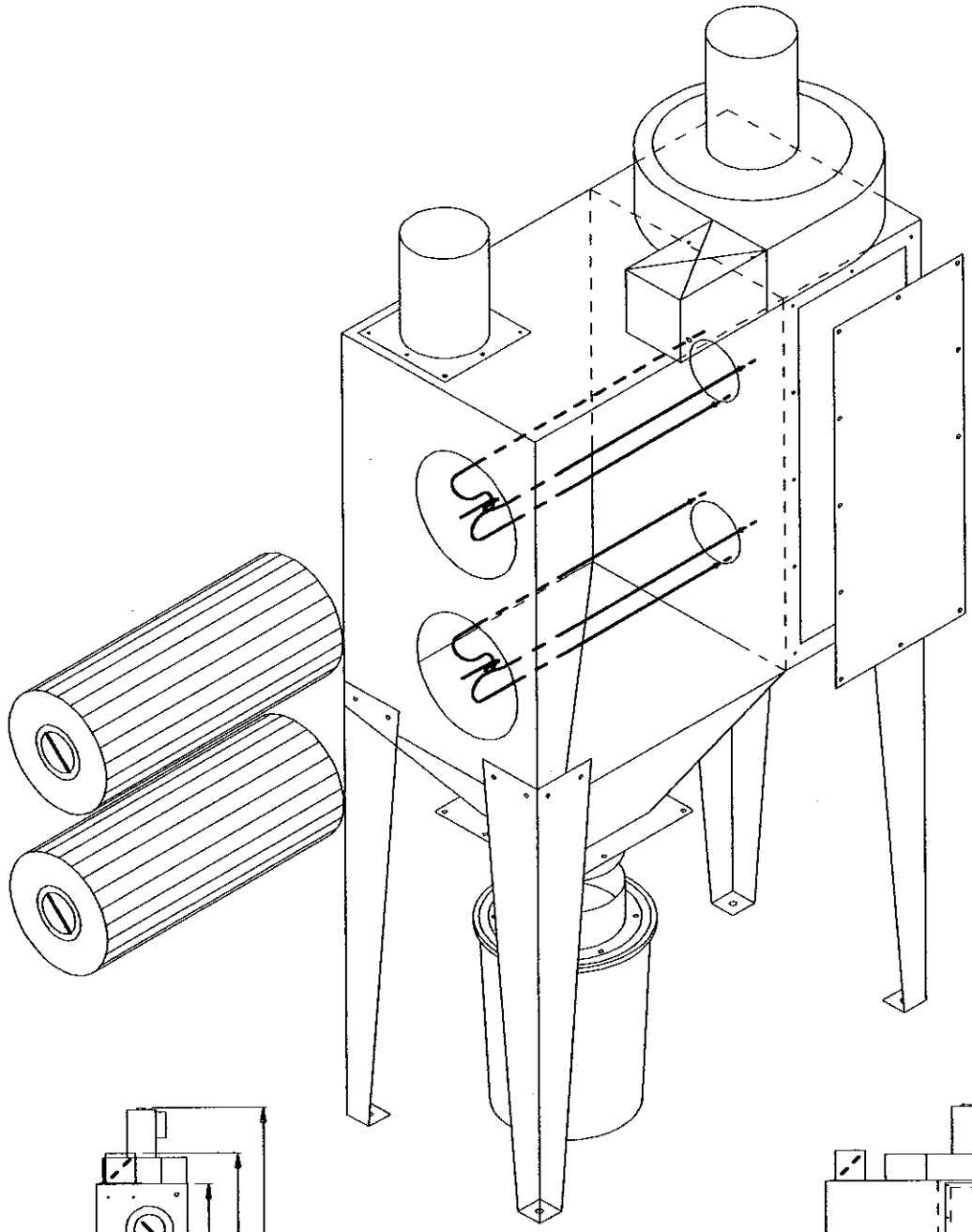
3.02 Filter Worn: Remove and inspect filters for pin holes, spots, or other locations where dust may be passing through the filter media. Replace filter cartridges if required.

4.0 CONTINUOUS DUST OUT EXHAUST:

4.01 Broken, Torn, or Punctured filter media. Locate and replace cartridge.

4.02 Poor Seal Between Cartridge and Collector Plate: Look for dust patterns around the filter seals. Re-tighen or replace filter. Do not attempt to repair gasket seal.

BLAST-IT-ALL®



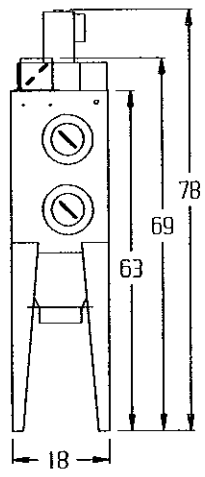


Fig. A

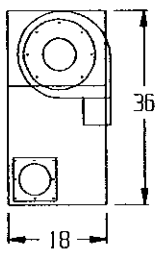


Fig. B

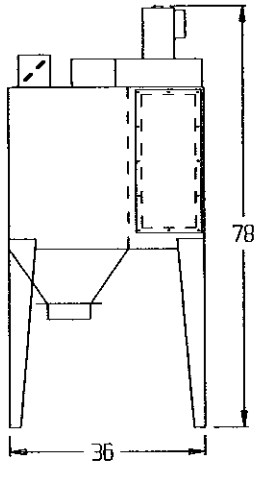


Fig. C

MODEL M2-DC

LARRY HESS & ASSOCIATES

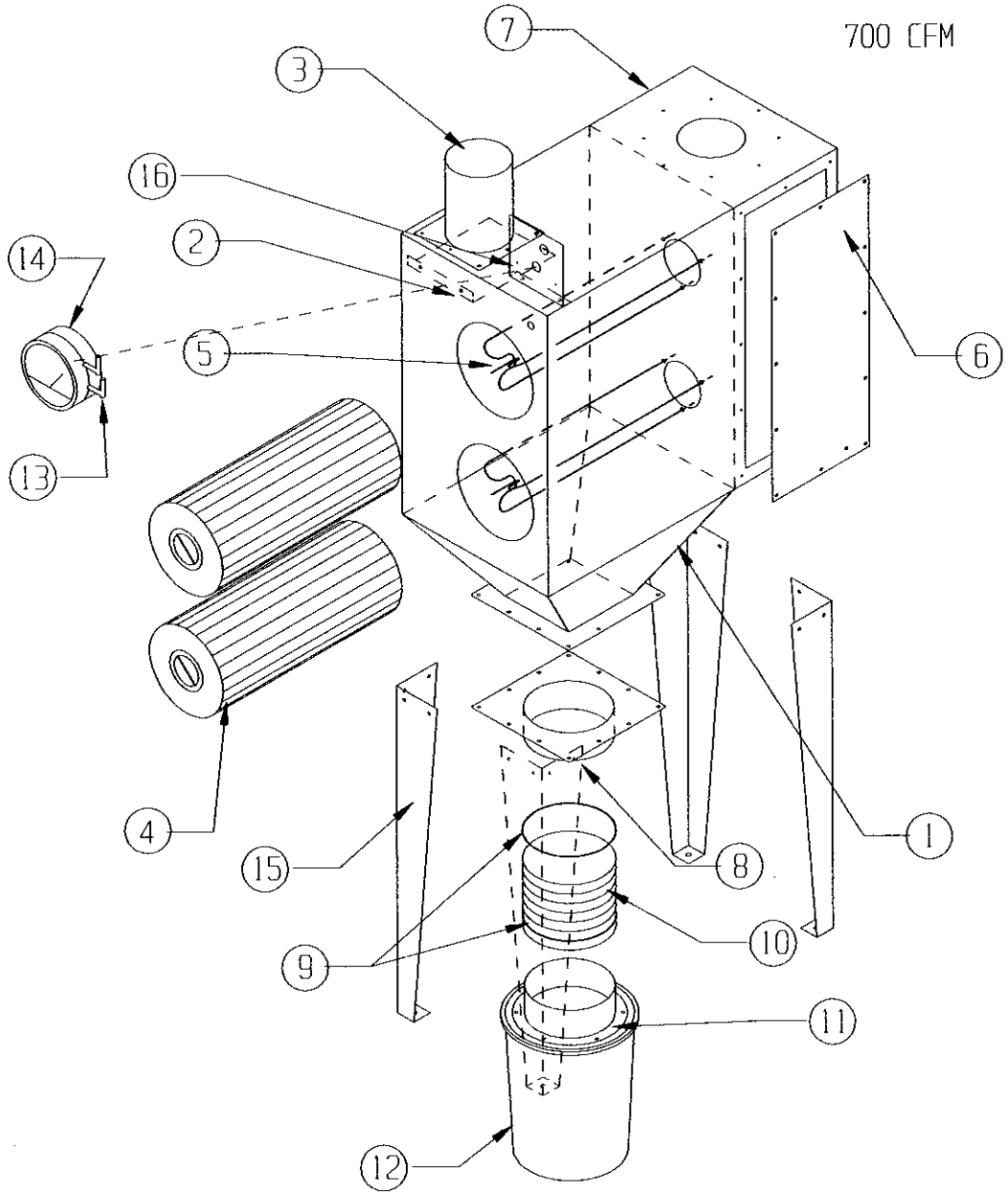
DESCRIPTION: M2 DUST COLLECTOR STANDARD

DATE: 05/30/07

ENGINEER: LJF

DWG. NO.: M2091

700 CFM



ITEM NO.	PART NO.	DESCRIPTION
1	B2198	DUST COLLECTOR
2	B2198-9	BAFFLE PLATE
3	000723	DAMPER INLET
4	011519	CARTRIDGE
5	011520	CARTRIDGE HOLDER
6	B2198-8A	COVER PLATE RIGHT SIDE
7	B2198-8	COVER PLATE LEFT SIDE
8	B2198-10	WASTE OUTLET
9	21-038	CLAMP
10	19-098-12	FLEX HOSE 8"ø x 12" LG.
11	011351-1	PAIL COVER W/ADAPTOR
12	011350	3 GALLON PAIL
13	003084	1/8" 90° BRASS FITTING
14	004457	MAGNAHELIC GUAGE
15	A2628	LEGS (4)
16	A741	MAGNEHELIC GAGE BRACKET

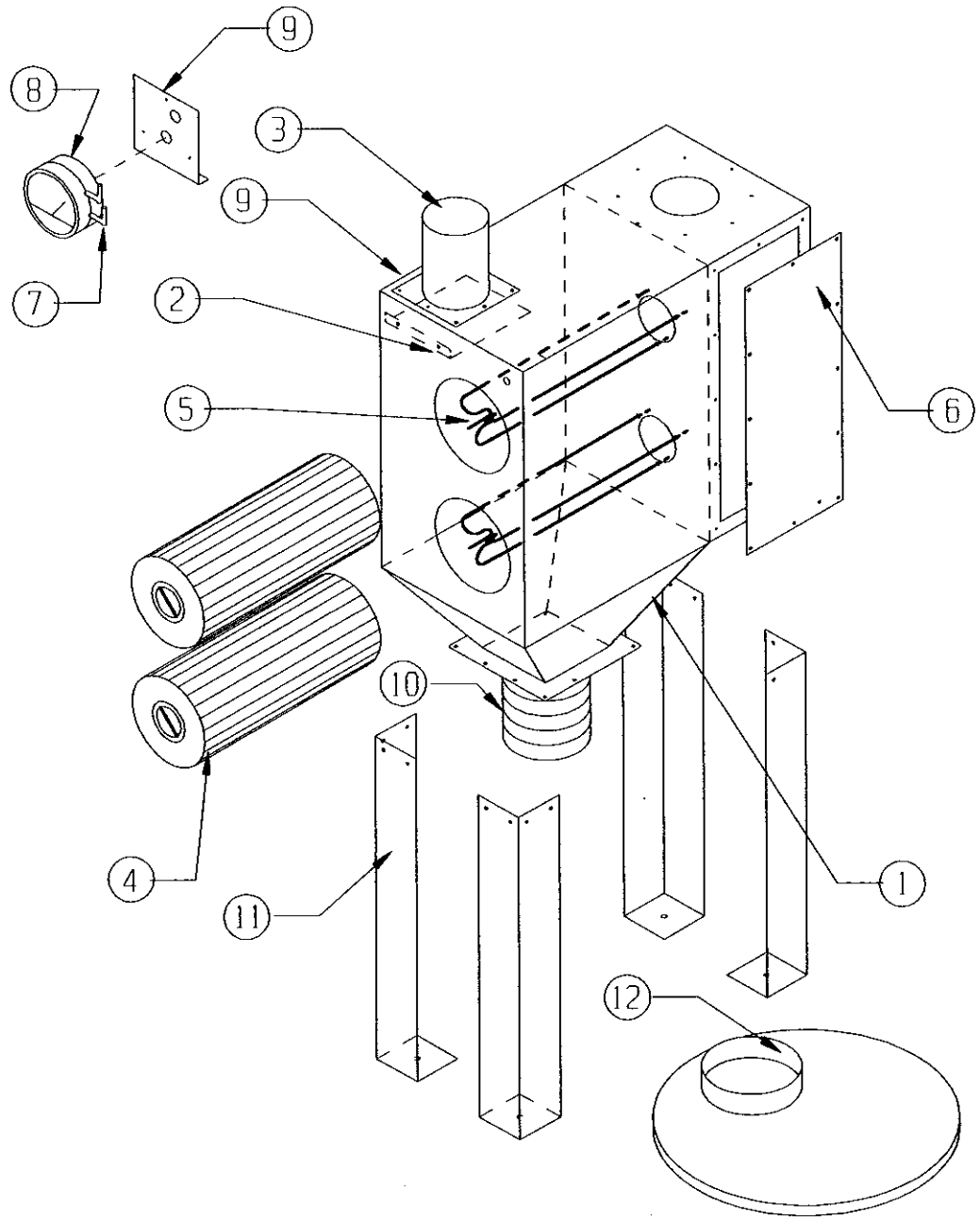
LARRY HESS & ASSOCIATES

DESCRIPTION: M2 D. C. WITH 55 GAL. LEGS

DATE: 07/28/03

ENGINEER: LJF

DWG. NO.: M2084



ITEM NO.	PART NO.	DESCRIPTION
1	B2198	DUST COLLECTOR
2	B2194-2	BAFFLE PLATE
3	000723	DAMPER INLET
4	011519	CARTRIDGE
5	011520	CARTRIDGE HOLDER
6	B2198-8A	COVER PLATE RIGHT SIDE
7	003084	1/8" 90° BRASS FITTING
8	004457	MAGNAHELIC GUAGE
9	004457-B	MAGNAHELIC BRACKET
10	19-098	Ø 8" HOSE (SPECIFY LENGTH)
11	A2650	LEGS (4) 55 GAL KIT
12	A2651	55 GAL. DRUM LID

LARRY HESS & ASSOCIATES

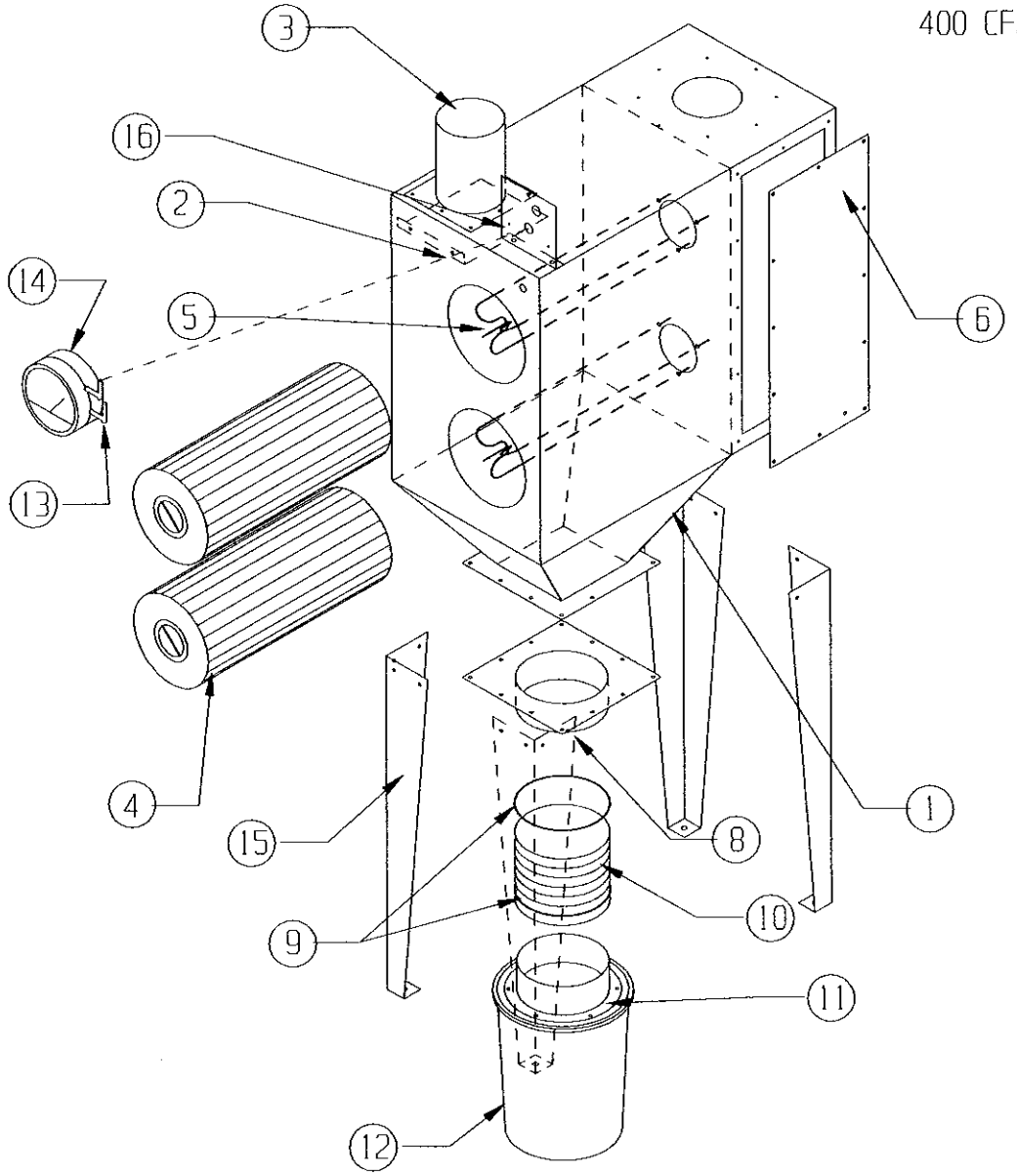
DESCRIPTION: M2 DUST COLLECTOR WITH LEGS

DATE: 09/25/02

ENGINEER: DEC

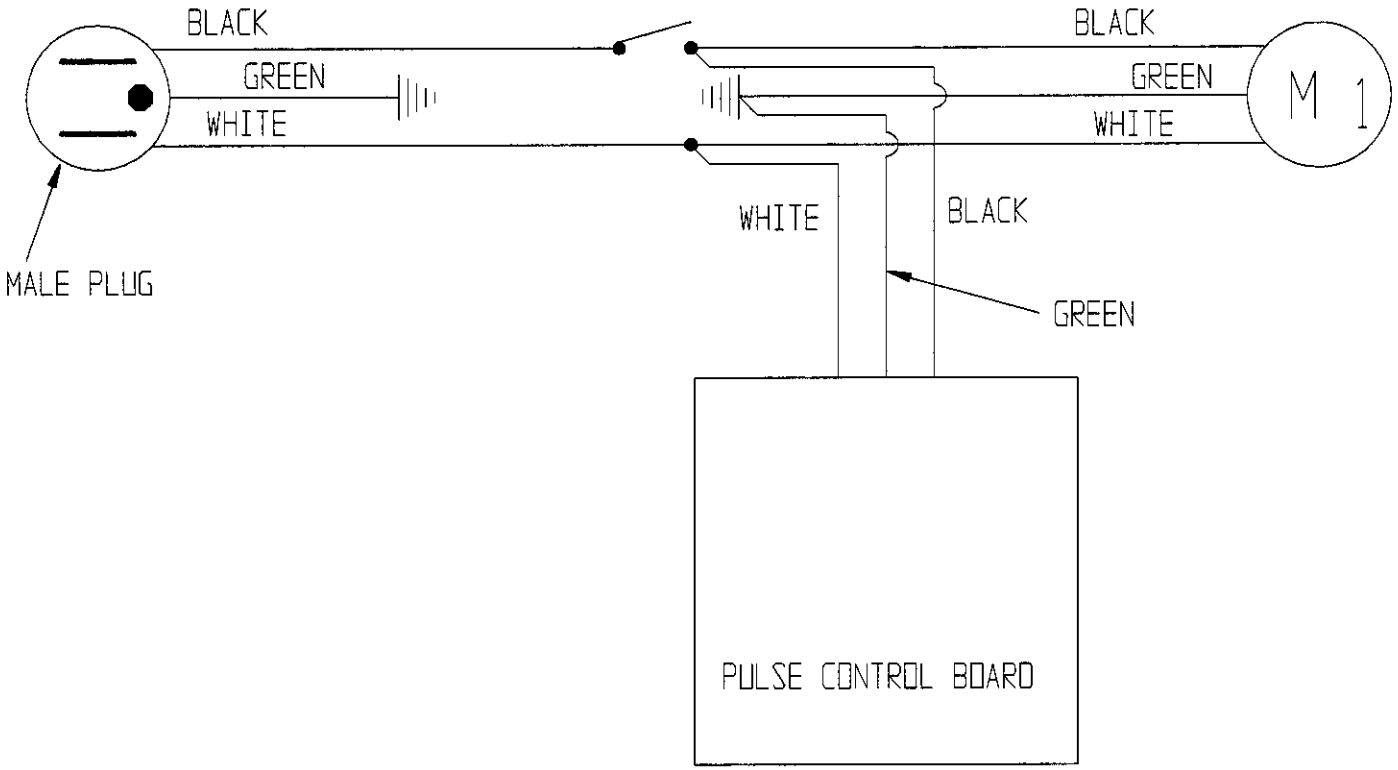
DWG. NO. M2081

400 CFM



ITEM NO.	PART NO.	DESCRIPTION
1	B2198	DUST COLLECTOR
2	B2198-9	BAFFLE PLATE
3	A35249	DAMPER INLET
4	011519	CARTRIDGE
5	011520	CARTRIDGE HOLDER
6	B2198-8A	COVER PLATE RIGHT SIDE
7	------	----------
8	B2198-10	WASTE OUTLET
9	21-038	CLAMP
10	19-098-12	FLEX HOSE 8"Ø x 12" LG.
11	011351-1	PAIL COVER W/ADAPTOR
12	011350	3 GALLON PAIL
13	003084	1/8" 90° BRASS FITTING
14	004457	MAGNAHELIC GUAGE
15	A2628	LEGS (4)
16	A741	MAGNEHELIC GAGE BRACKET

A5198



REV.	DESCRIPTION	BY	DATE

LARRY HESS & ASSOCIATES, INC.
SALISBURY, NORTH CAROLINA

DESCRIPTION: M2 DC ELECTRICAL

MATERIAL:

DRAWN BY:	DATE:	SCALE:	JOB NO:
LJF	03/20/08	NTS	STD.
CHK'D BY:	DATE:	FRACTIONAL: DECIMAL: ANGULAR:	NEXT ASS'Y.:

DRAWING NO.: A5198

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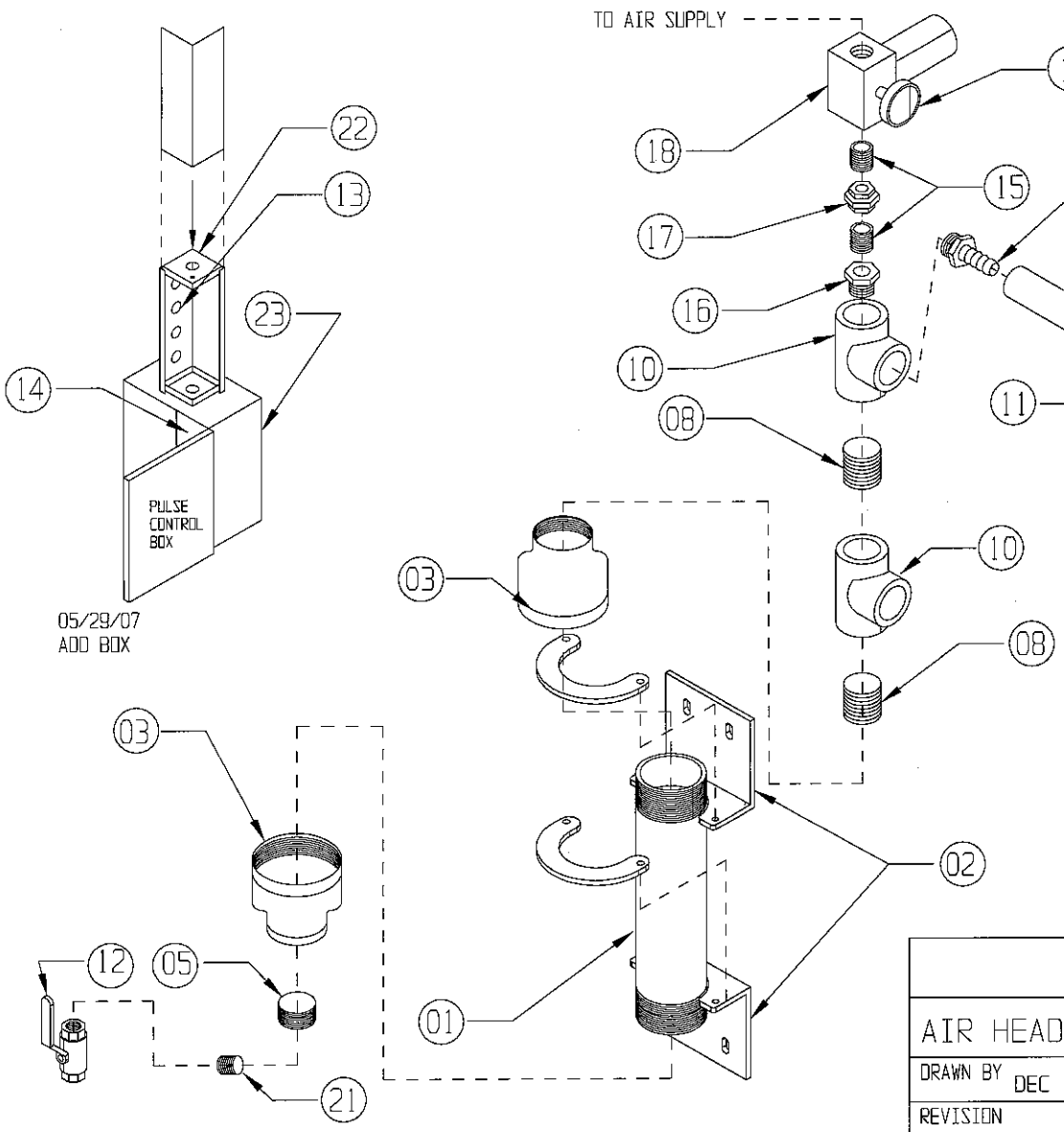


ITEM	QTY	DESCRIPTION	PART NO.
23	1	PULSE CONTROL BOX	003000-E
22	1	SOLENOID BOX	A5176
21	1	1/4" x 1 1/4 NIPPLE	14-321
20	2	1" 90° ELL	14-360
19	1	1/4" PRESSURE GUAGE	16-819
18	1	3/4" REGULATOR	16-969
17	1	3/4" UNION	14-521
16	1	1" TO 3/4 BUSHING	14-371
15	2	3/4" CLOSE NIPPLE	14-341
14	1	CONTROL BOARD	010453
13	2	SOLENOID VALVE	003285
12	1	1/4" BALL VALVE	14-463
11	4	1" HOSE CLAMP	21-032
10	2	1" TEE	14-359
09	2	Ø 1" HOSE 3" LONG	000831
08	4	1" CLOSE NIPPLE	14-357
07	2	PULSE VALVE AIR DIFFUSER	A2633
06	2	PULSE VALVE, 1"	005410
05	1	1" x 1/4" BUSHING	14-411
04	4	1" KC FITTING	14-355
03	2	2 x 1" BELL ADAPTOR	011221
02	2	HEADER END BRACKET	B7093-02
01	1	Ø 2" x 16" HEADER BODY	B7093-01

BLAST-IT-ALL, INC.

AIR HEADER /M2-DC HORIZONTAL

JOB NO.

ITEM NO.

DRAWN BY	DATE	SCALE	DWG. NO.
DEC	05/02/02	1/4"= 1"	B7107
REVISION	DATE		

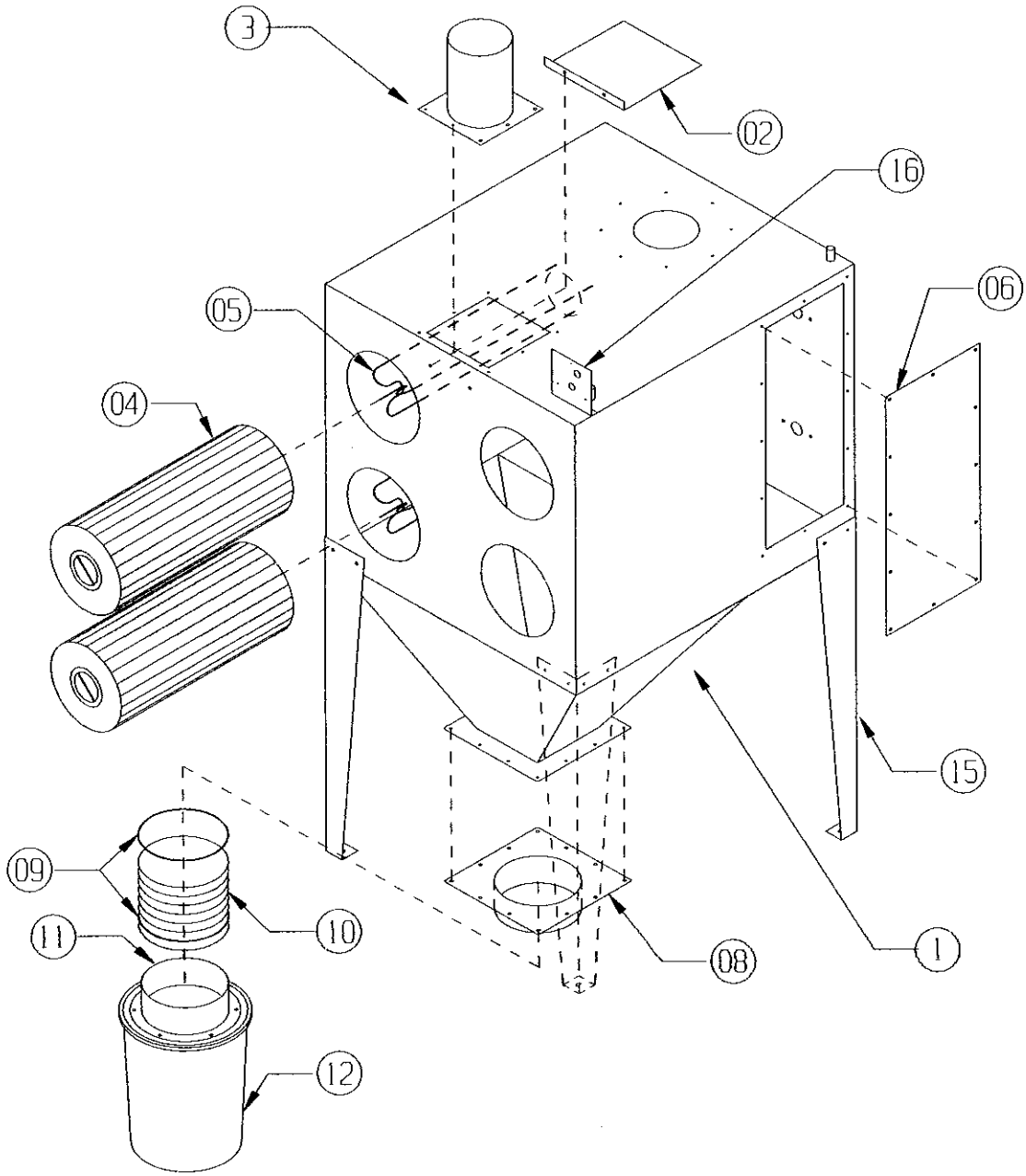
LARRY HESS & ASSOCIATES

DESCRIPTION: M4 DUST COLLECTOR (700 CFM)

DATE: 10/30/03

ENGINEER: LJF

DWG. NO.: M2086



ITEM NO.	PART NO.	DESCRIPTION
1	B2199	DUST COLLECTOR
2	B2198-9	BAFFLE PLATE
3	000723	DAMPER INLET
4	011519	CARTRIDGE
5	011520	CARTRIDGE HOLDER
6	B2198-8A	COVER PLATE RIGHT SIDE
7	------	----------
8	B2198-10	WASTE OUTLET
9	21-038	CLAMP
10	19-098-12	FLEX HOSE 8"Ø x 12" LG.
11	011351-1	PAIL COVER W/ADAPTOR
12	011350	3 GALLON PAIL
13	------	----------
14	------	----------
15	A2628	LEGS (4)
16	A741	MAGNEHELIC GAGE BRACKET

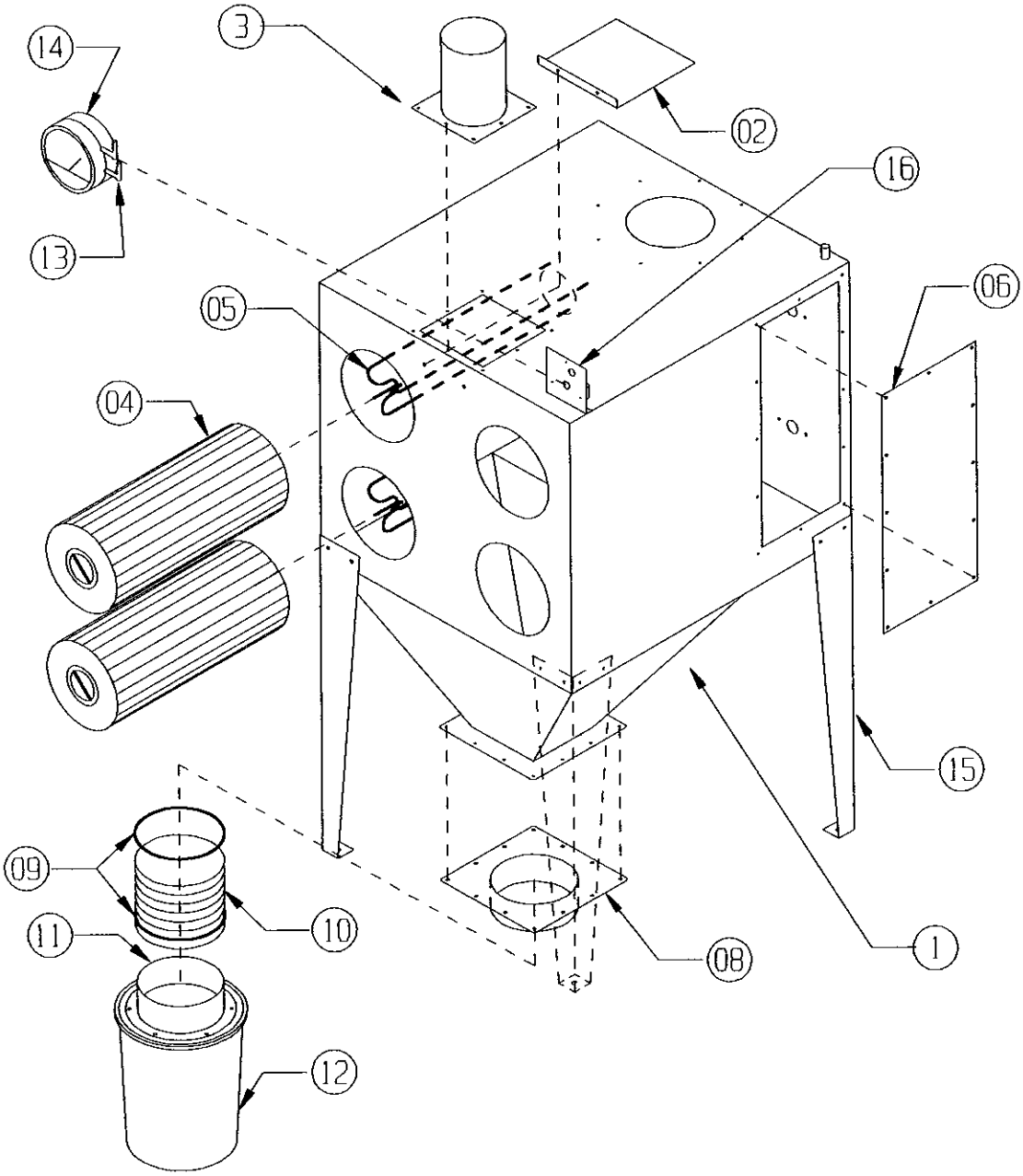
LARRY HESS & ASSOCIATES

DESCRIPTION: M4 DUST COLLECTOR (900 CFM)

DATE: 10/30/03

ENGINEER: LJF

DWG. NO.: M2085



ITEM NO.	PART NO.	DESCRIPTION
1	B2199	DUST COLLECTOR
2	B2199-9	BAFFLE PLATE
3	001046	DAMPER INLET
4	011519	CARTRIDGE
5	011520	CARTRIDGE HOLDER
6	B2198-8A	COVER PLATE RIGHT SIDE
7	------	----------
8	B2198-10	WASTE OUTLET
9	21-038	CLAMP
10	19-098	FLEX HOSE 8"Ø x 12" LG.
11	011523	PAIL COVER
12	011522	5 GALLON PAIL
13	003084	1/8" 90° BRASS FITTING
14	004457	MAGNAHELIC GUAGE
15	A2628	LEGS (4)
16	A741	MAGNEHELIC GAGE BRACKET

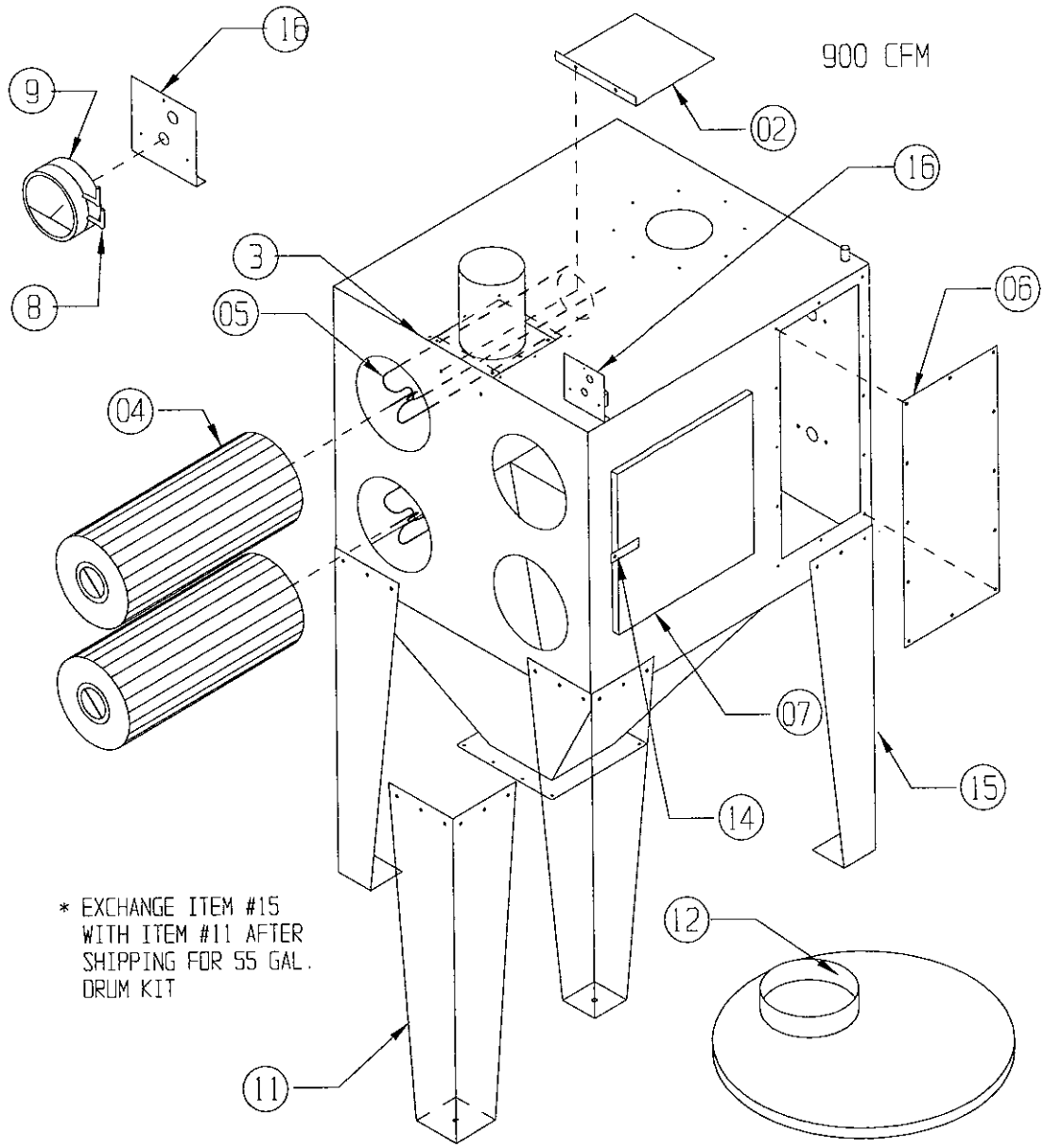
LARRY HESS & ASSOCIATES

DESCRIPTION: M4 DUST COLLECTOR (900 CFM)

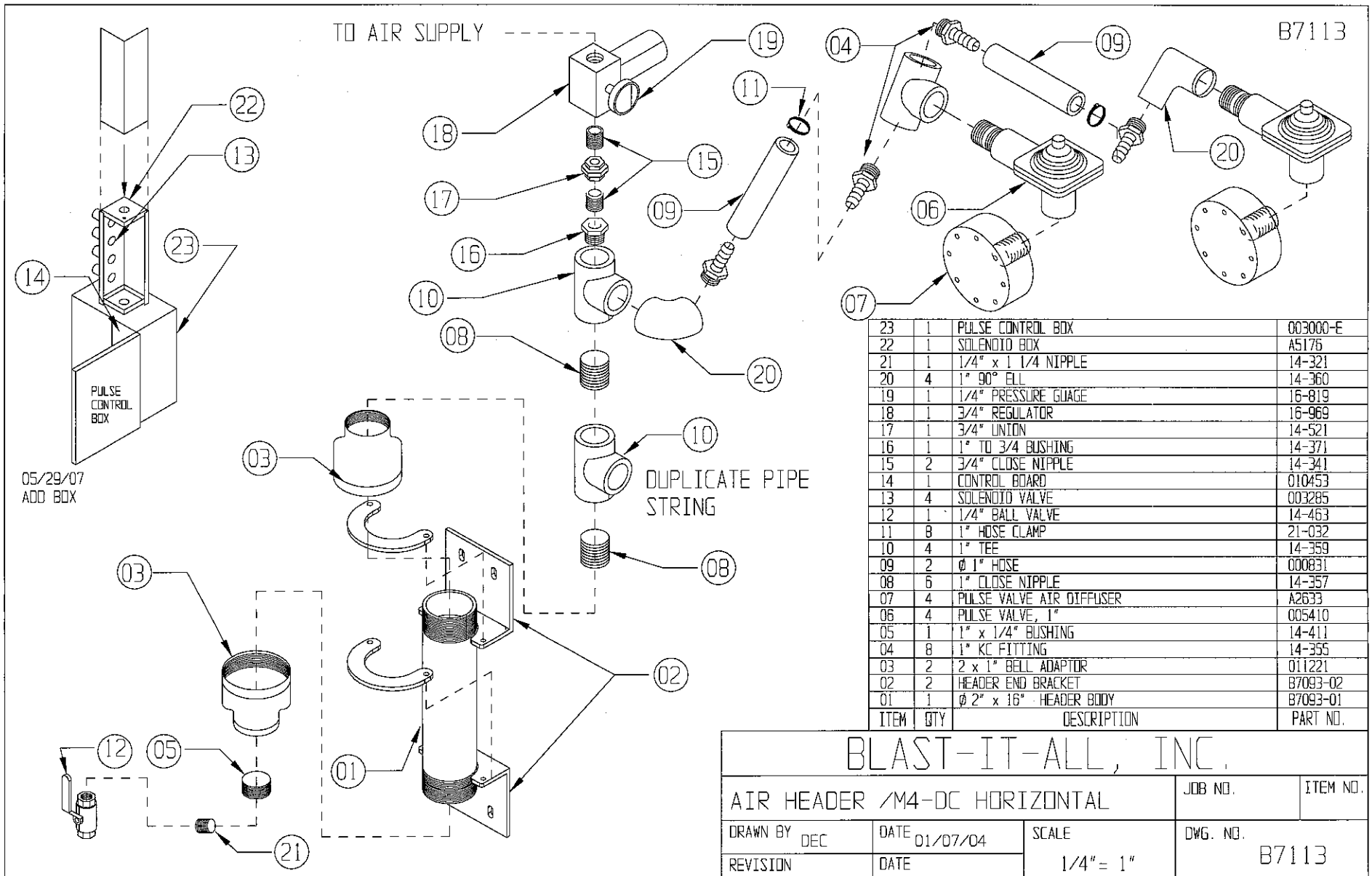
DATE: 01/06/04

ENGINEER: DEC

DWG. NO.: M2089



ITEM NO.	PART NO.	DESCRIPTION
1	B2199	DUST COLLECTOR
2	B2199-9	BAFFLE PLATE
3	001046	DAMPER INLET
4	011519	CARTRIDGE
5	011520	CARTRIDGE HOLDER
6	B2198-8A	COVER PLATE RIGHT SIDE
7	A2662	ACCESS DOOR
8	003084	1/8" 90° BRASS FITTING
9	004457	MAGNEHELIC GAGE
10	19-098	ø 8" FLEX HOSE (SPECIFY LENGTH)
11	A2749	LEGS (4) 55 GAL. KIT
12	A2651	55 GAL. DRUM LID
13	------	----------
14	003770	BRIXON LATCH & CATCH (SMALL)
15	A2628	LEGS (4)
16	A741	MAGNEHELIC GAGE BRACKET



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22	1	SOLENOID BOX	A5176
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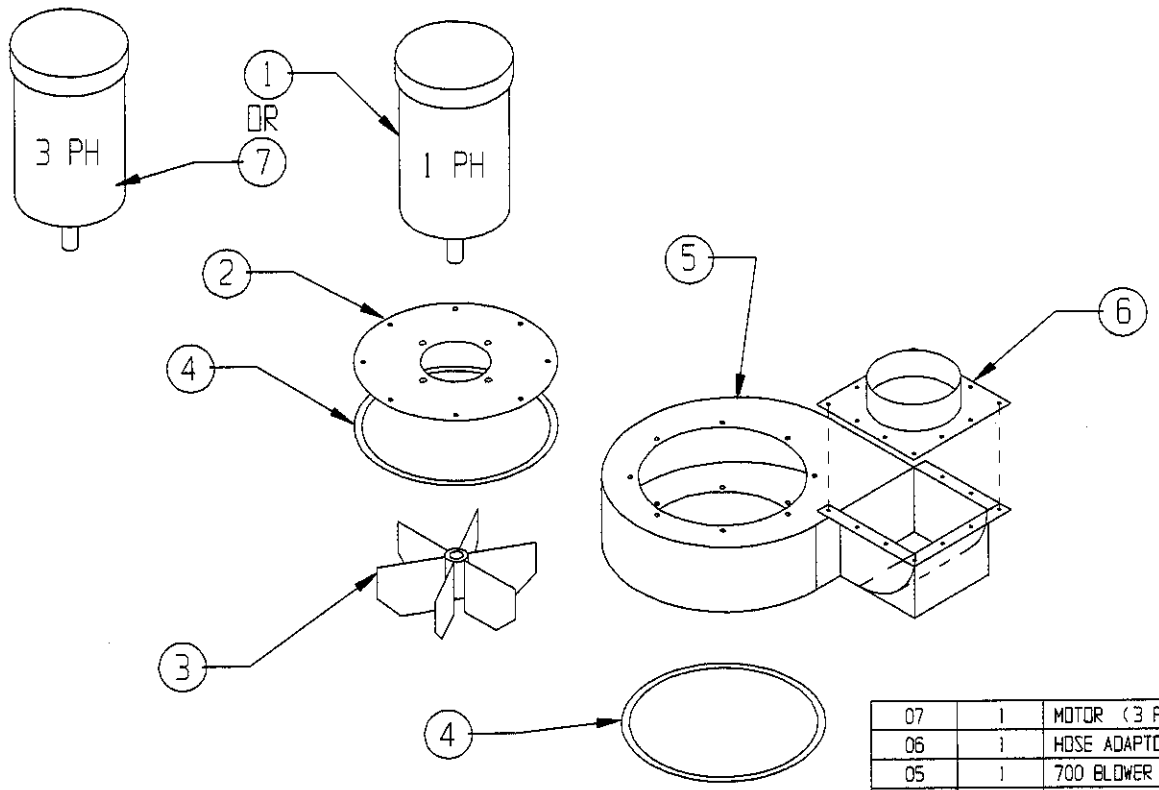
20	4	1" 90° ELL	14-360
19	1	1/4" PRESSURE GUAGE	16-819
18	1	3/4" REGULATOR	16-969
17	1	3/4" UNION	14-521
16	1	1" TO 3/4 BUSHING	14-371
15	2	3/4" CLOSE NIPPLE	14-341
14	1	CONTROL BOARD	010453
13	4	SOLENOID VALVE	003285
12	1	1/4" BALL VALVE	14-463
11	8	1" HOSE CLAMP	21-032
10	4	1" TEE	14-359
09	2	Ø 1" HOSE	000831
08	6	1" CLOSE NIPPLE	14-357
07	4	PULSE VALVE AIR DIFFUSER	A2633
06	4	PULSE VALVE, 1"	005410
05	1	1" x 1/4" BUSHING	14-411
04	8	1" KC FITTING	14-355
03	2	2 x 1" BELL ADAPTOR	011221
02	2	HEADER END BRACKET	B7093-02
01	1	Ø 2" x 16" HEADER BODY	B7093-01

BLAST-IT-ALL, INC.

AIR HEADER /M4-DC HORIZONTAL			JOB NO.	ITEM NO.
DRAWN BY DEC	DATE 01/07/04	SCALE 1/4"= 1"	DWG. NO. B7113	
REVISION	DATE			

M12041



ITEM NO.	QTY.	DESCRIPTION	DWG.NO./ MATERIAL
07	1	MOTOR (3 PHASE)	13-701
06	1	HOSE ADAPTOR	A12767-2
05	1	700 BLOWER HOUSING UPWARD	11-716-UP
04	*	PUTTY TAPE	24-030
03	1	BLADE	11-718
02	1	MOTOR PLATE	11-720
01	1	MOTOR (1 PHASE)	13-700

LARRY HESS & ASSOCIATES, INC.
SALISBURY, NORTH CAROLINA

REV.	DESCRIPTION	BY	DATE

CONFIDENTIAL

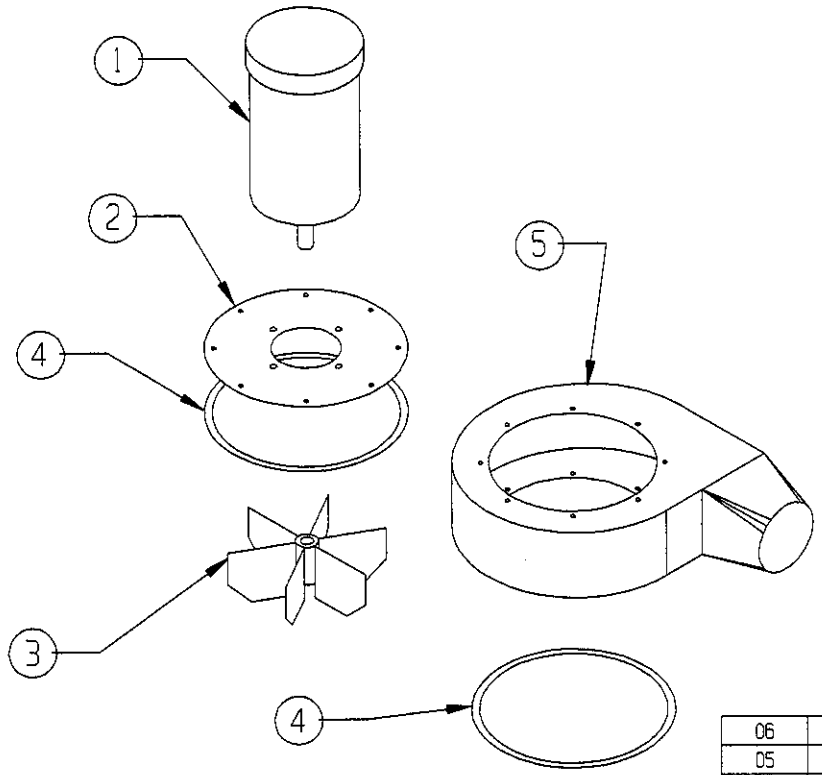
DESCRIPTION:
700 REPLACEMENT BLOWER PARTS

MATERIAL:
PER DWG.

DRAWN BY:	DATE:	SCALE:	JOB NO:
DEC	05/03/02	NONE	
CHK'D BY:	DATE:	FRACTIONAL: DECIMAL: ANGULAR:	NEXT ASS'Y.:

DRAWING NO.: M12041

M12042



ITEM NO.	QTY.	DESCRIPTION	DWG. NO./ MATERIAL
06	1	CLAMP	21-036
05	1	400 BLOWER HOUSING	11-416
04	*	PUTTY TAPE	24-030
03	1	BLADE	11-418
02	1	MOTOR PLATE	11-420
01	1	MOTOR (1/2 HP)	13-400

LARRY HESS & ASSOCIATES, INC.
SALISBURY, NORTH CAROLINA

DESCRIPTION:
400 REPLACEMENT BLOWER PARTS

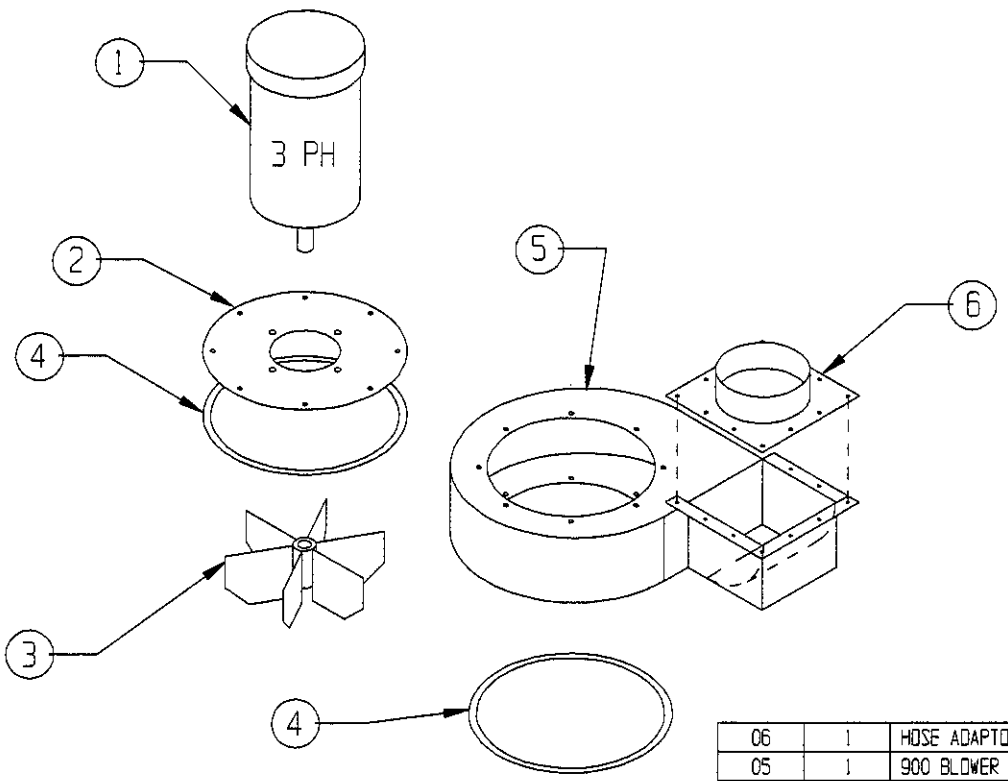
MATERIAL:
PER DWG.

DRAWN BY:	DATE:	SCALE:	JOB NO:
DEC	09/25/02	NONE	
CHK'D BY.	DATE.	FRACTIONAL: DECIMAL: ANGULAR:	NEXT ASS'Y.:

DRAWING NO.: M12042

REV.	DESCRIPTION	BY	DATE

M12043



ITEM NO.	QTY.	DESCRIPTION	DWG.NO./ MATERIAL
06	1	HOSE ADAPTOR	B12374
05	1	900 BLOWER HOUSING UPWARD	11-916-UP
04	*	PUTTY TAPE	24-030
03	1	BLADE	11-918
02	1	MOTOR PLATE	11-920
01	1	MOTOR (3 PHASE)	13-900

LARRY HESS & ASSOCIATES, INC.
SALISBURY, NORTH CAROLINA

DESCRIPTION:
900 REPLACEMENT BLOWER PARTS

MATERIAL:
PER DWG.

DRAWN BY:	DATE:	SCALE:	JOB NO:
DEC	01/06/04	NONE	
CHK'D BY:	DATE:	FRACTIONAL: DECIMAL: ANGULAR:	NEXT ASS'Y.:

DRAWING NO.: M12043

REV.	DESCRIPTION	BY	DATE

BULLETIN NO. **A-27**

OPERATING INSTRUCTIONS and PARTS LIST

Dwyer Magnehelic® Differential Pressure Gage

PART NO. 004457

SPECIFICATIONS

Dimensions: 4-3/4" dia. X 2-3/16" deep.

Weight: 1 lb. 2 oz.

Finish: Baked dark gray enamel.

Connections: 1/8 N.P.T. high and low pressure taps, duplicated, one pair side and one pair back.

Accuracy: Plus or minus 2% of full scale, at 70°F. (Model 2000-0, 3%; 2000-00, 4%).

Pressure Rating: 15 PSI.

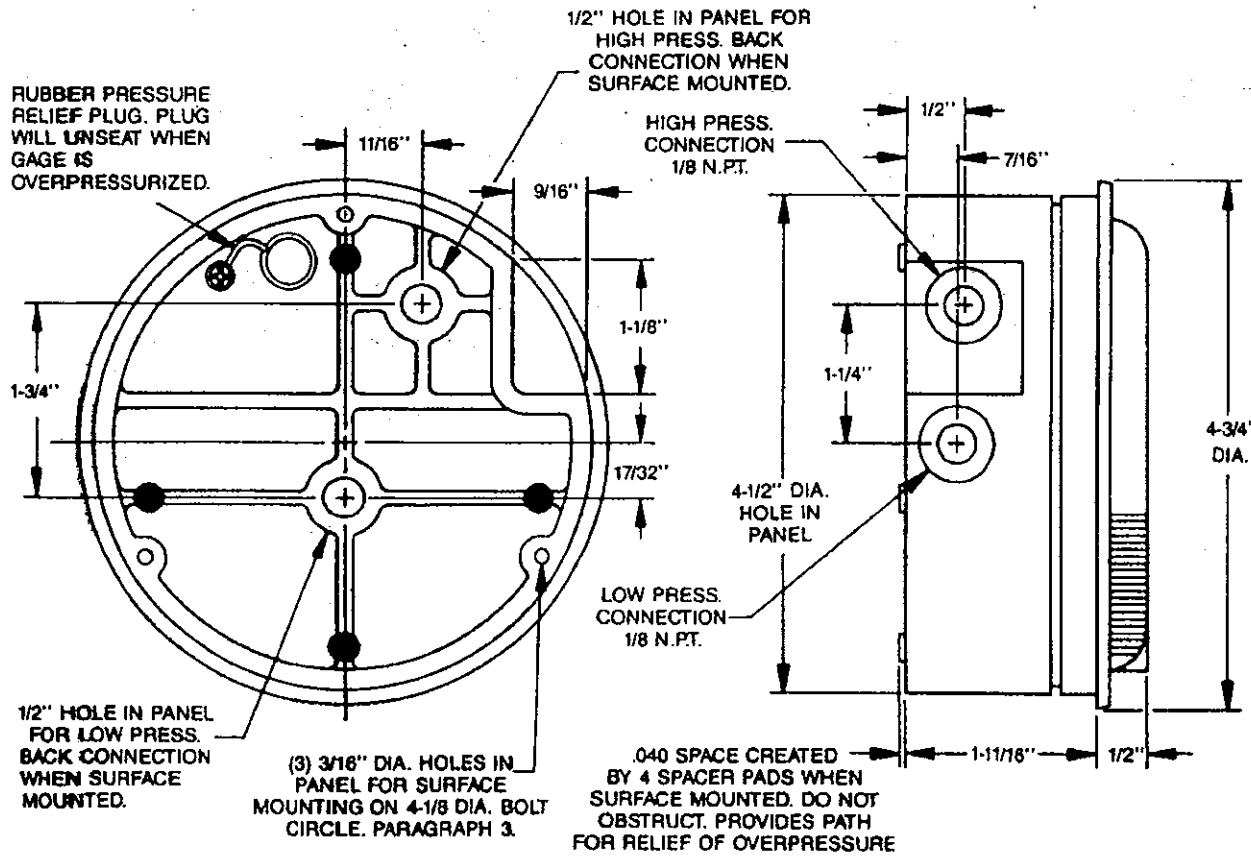
Ambient Temperature Range: 20° to 140°F.

Standard gage accessories include two 1/8" N.P.T. plugs for duplicate pressure taps, two 1/8" pipe thread to rubber tubing adapters, and three flush mounting adapters with screws.

Caution: For use with air or compatible gases only.

For repeated over-ranging or high cycle rates, contact factory.

Hydrogen Gas Precautionary Note: The rectangular rare earth magnet used in the standard gage may not be suitable for use with hydrogen gas since a toxic and explosive gas may form. For hydrogen service, consult the factory for an alternate gage construction.

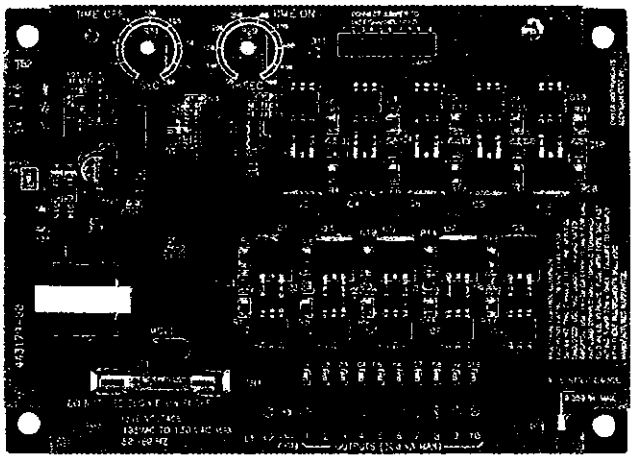


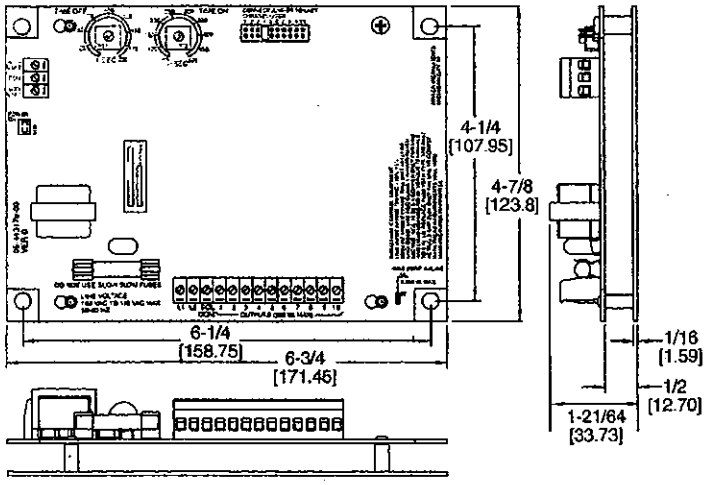
DWYER INSTRUMENTS, INC.
P.O. BOX 373 • MICHIGAN CITY, INDIANA 46360, U.S.A.
Telephone 219/879-8000
Fax 219/872-9057

Series DCT 500 Timer Controller

BULLETIN E-98

Specifications – Installation & Operating Instructions





Introduction

The Series DCT 500 Timer Controller is a timing system for pulse-jet type dust collectors or pneumatic conveying systems in either continuous or on-demand cleaning applications. It is provided with either 4, 6, or 10 channels. The DCT 500 was designed for ease of installation in your dust collector system. For installations requiring fewer channels than available on the board, a shorting plug is provided to allow selection of the last used channel. Time-on and time-off settings are selected using two potentiometers. High-limit and low-limit control inputs are provided for use with on-demand systems. When used in a continuous mode the high-limit input is jumpered. For safety, the control circuitry including the control inputs and the last channel jumper, is isolated from the power line.

Installation

Warning: Always install and service this device with the power off and a lockout installed if required. Line voltages are exposed on the board. As a result, this device is not intended to be installed in any open location. It must be installed within an enclosure that meets appropriate safety and local code requirements. Follow applicable safety procedures when installing or servicing this product.

Warning: Always replace the fuse with the proper type and rating. The fuse is Type 3 AG fast acting 3 Amp @ 250V. DO NOT use slow-blow type fuses. Failure to comply with this requirement will pose a serious safety risk and will void manufacturer's warrantee.

Power Requirements

The controller is designed for operation on 120 VAC 50/60 Hz power. The input voltage must be between 102 VAC and 132 VAC either 50 or 60 Hz. The solenoid loads must be rated for 120 VAC operation.

Location

The system must be located in an enclosure that meets relevant safety standards and electrical codes. There are no other special orientation requirements. Mount it using the four mounting holes in the baseplate. The baseplate back is flush, so no special spacers are needed to accommodate obstructions except for those imposed by the location itself.

PHYSICAL DATA

Storage Temperature: -40°F to 176°F (-40°C to 80°C).
Operating Ambient Temperature: -40°F to 176°F (-40°C to 80°C).
Weight: .9 oz (255 gm).
Power: 102 to 132 VAC 50 or 60 Hz, 1.8W max no load power.
Fuse: Type 3AG, 3A @250VAC.
Output Channels: 4, 6, and 10 channels available.
Solenoid supply: 300 VA.
On Time: 50 msec to 500 msec.
On Time Accuracy: ±5% of setting.
Off Time: 1 second to 200 seconds.
Off Time Accuracy: 5% of setting.

Connections

The line and solenoid connections are located at the lower edge of the board. The terminal block is a "Euro" style connector system that clamps the wire within the connector body. The connector will accept wire sizes from 14 to 22 gages. These terminals should be torqued to 5 in. lb. The connectors are specified for single connection but multiple wires may be connected to a single lug provided local codes allow this and good workmanship practices are followed. When using stranded wire, make sure that there are no "stray" strands. These pose safety hazards and may cause system failure or damage. Connect the line power to L1 and L2. Connect the solenoids between the selected output and the solenoid common. Solenoid common and L2 are internally connected. Refer to Figure 2-1.

The wire should be stripped to no more than 0.25 in. A strip gauge is provided at the lower right corner of the board. Longer than this may cause shorts or expose line voltages to possible contact.

Switches connected to the control inputs at the top of the board must be isolated normally open contacts connected only to the relevant terminal and to the common terminals.

WARRANTY

Larry Hess & Associates, Inc. Warrants to the original purchaser the merchandise sold to be free from defects in material and workmanship under normal use and service for a period of one (1) year. Upon prompt notification by the buyer, to LHA, components that are determined by LHA to be defective will be repaired or replaced at no additional charge, F.O.B. our factory.

Manufacturer shall have the right to inspect prior to replacing all merchandise in question.

This warranty does not apply to parts that are directly involved in the blasting operation. Example: gun, gun parts, viewing window, hose, gloves, etc.

Manufacturer shall not be required to pay any removal or installation charges whatsoever under this warranty.

Manufacturer shall not be liable for prospective profits, special or consequential damages, nor shall any recovery of any kind against manufacturer be greater in amount than the cost of repairs of defects in workmanship.

This warranty does not apply to damage caused by accidents, damage in transit, alterations by unauthorized personnel, abuse or damage by flood, fire, or acts of God, nor by artificially generated electric currents or any other cause whatsoever except defects in material or factory workmanship.

In all cases, defective parts must be returned to Larry Hess & Associates, Inc. before credit is issued.

If genuine BLAST-IT-ALL® replacement parts are not used, the warranty is void.

This warranty is in lieu of all other warranties expressed or implied and releases Larry Hess & Associates, Inc. of all other obligations and liabilities whatsoever. This warranty neither assumes nor authorizes any person to assume any obligation other than those specified by this warranty.

WARNING

DO NOT USE ***SAND***. SAND WILL CAUSE SILICA DUST, WHICH IS THE CAUSE OF SILICOSIS DISEASE, A CONDITION OF MASSIVE FIBROSIS OF THE LUNGS. ***THIS STATEMENT INDICATES POTENTIAL PERSONNEL HAZARD. FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY.***

BLAST-IT-ALL®
Larry Hess & Associates, Inc.
Airport Industrial Park
185 Piper Lane
P.O. Box 1615
Salisbury, NC 28145-1615