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**DM-101**

**Drum Mixer Instructions  
& Parts**

**OPERATING MANUAL**



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**IPM, INC.**

Manufactured by International Pump Manufacturing, Inc.

# DM-101

## Air Drum Mixer

### OPERATIONS MANUAL WITH PARTS IDENTIFICATION

This manual contains **IMPORTANT WARNINGS** and **INSTRUCTIONS**. Read and retain for reference.

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**For Technical Service Call Your Local Distributor**

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**WARNING:** The equipment described herein must only be operated or serviced by properly trained individuals, thoroughly familiar with the operating instructions and limitations of the equipment.

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## 1.0 SAFETY WARNINGS

Please read and observe all warnings contained in this operations manual before any attempt to operate the equipment.

### ***Misuse of Equipment***

Misuse of the Equipment can cause serious injury. Use the equipment only for its intended purpose. Care should be taken to prevent over pressurization of the pump or accessories connected to it. Use only proper parts in good condition. Use the pump only with compatible fluids. Improper use or misuse of this equipment could result in fluid being splashed on the skin or in the eyes, serious bodily injury, property damage, fire or explosion.

Make daily check on the equipment and repair damaged or worn parts immediately. Do not alter this equipment, doing so could cause it to function incorrectly and could cause serious injury.

### ***Material & Fluid compatibility***

Always ensure the chemical compatibility of the fluids and solvents with the wetted parts in the pump and any components. Check the fluid manufacturer's data sheets and specifications before using the fluids or solvents in this pump.

### ***Pressurized Hoses***

Because the hoses are pressurized, they present a danger should the fluid escape at high pressure. This escaping fluid pressure can spray out and cause serious bodily injury or property damage. Ensure that the hoses do not leak or rupture due to wear, misuse or damage.

The hoses should be handled properly - do not pull on the hoses to move the equipment around. Use the hoses only for fluids in which they are compatible both for the inner liner of the hose and the outer covering. Use care not to exceed the temperature rating of the hose.

Before each use, ensure that the fluid couplings are tight and that the entire length of hose is not worn or damaged. Check the entire hose for leaks, bulging cover, damage, abrasion or cuts. These conditions may cause the hose to fail that could result in splashing of pressurized fluid on the skin, or in the eyes and cause serious bodily injury or property damage.

### ***Pressure Specification***

The maximum working fluid pressure of this equipment is *180 psi (12.5bar)* at the maximum incoming air pressure of *180 psi (12.5bar)*. Ensure all equipment and accessories used with this pump are rated to withstand the maximum working pressure of this mixer. Never exceed the maximum working pressure of the mixer or any device attached to air.

## 2.0 INSTALLATION TIPS AND OPERATIONS

### THROUGH BUNG AIR DRUM MIXER OPERATING TIPS:

We have installed an 8" blade on the mixer to get maximum pull of heavy materials from the bottom of the drum. Upper blades are 6" to help clear the side of the drum as the mixer comes through the bung.

**NOTE:** If you do Not have a Center bung in your drum: To prevent blades from hitting the sides, we recommend taking an 18" piece of 2" pipe threaded on one end and screw into your bung, gently!! pull the top of the pipe away from the center of the drum tilting the bung for better mixer clearance. Reverse of this is bung bend procedure is easy after mixing if desired. It does not take much to get this clearance.

Depending on the viscosity of the material and speed determines the amount of air that you will need. Usually one mixes at a slower speed and can get by on a 10-15 CFM air compressor.

Try to give your product a good 15-20 min. mix. Remember, slower speeds do not entrain as much air into the material, but you need to pull some vortex to get good mix.

**Looking from the top down over the air motor, the rotation should be clockwise for proper swing-out of the blades.**

Some products are the type that set up or seize the folding blades if they set out in the open air. We have found a relative easy way to clean the blade. Make sure that you are in a **SAFE BREATHING AND NON FIRE HAZARD AREA**. Since the blades are stainless steel a welding cutting torch works well to actually burn off the hardened material, and then lubricate the hinge parts with WD-40 or any equivalent. Working them together will bring them back to a loose swing out state again. You do **NOT** need to get the metal red hot !

You can use the 3/8" needle valve as a metering or speed control. A small amount of air tool oil in the air inlet helps to lubricate the air motor. If you have moisture in your air, in long-mixing, the muffler can cause freezing. Simply take the muffler apart and wash in warm water and dry out.

**Try NOT to drop the air motor on the hex top cap, it is plastic! Parts are available.**

THIS MIXER WILL WORK FOR MANY YEARS WITH PROPER MAINTENANCE.

The DM -101 Drum Mixer is a very effective tool in mixing in 55 gallon drums. Complete mixing can be achieved in short periods of time, usually within 30 minutes. The unique design of the blade allows the mixing blade to pass through the 2" NPT opening in the drum. With two -6" and one 8" blade, optimum mixing is achieved throughout the drum.



**Tips: on Vortex**  
**Don't pull too deep of vortex.**  
**This will entrain air.**  
**A vortex is always vertical.**  
**Tilting the barrel will help keep from entraining air into your product**



### Technical Specifications

- ◆ For proper mixing the blades should be 1/3 the diameter of the drum, 24" drum needs a 8" blade.
- ◆ Auger type mixers don't work.
- ◆ Mix time: 1/2 hour
- ◆ ISO Drum – Never mix! Only use in the "B" Resin drum.
- ◆ IPM sells these 6" & 8" mixer blades
- ◆ Collapsible Mixer Blades
- ◆ No, you do not need to use a drum mixer in the Spray Polyurethane Foam Industry but, if you are using the fast set coatings like the Polyurea's, then the "B" Component does need to be mixed.

### THROUGH BUNG AIR DRUM MIXER

**THE MOST EFFICIENT AND ECONOMICAL AIR MIXER ON THE MARKET  
 KEEPS DRUM SEALED WHILE MIXING AT ANY SPEED  
 BLADES CANNOT SPIN ON HEXAGON SHAFT**

#### AIR MOTOR

Maximum power.....	1.7 HP
Maximum air flow.....	65 CFM
Maximum inlet air pressure.....	100 PSIG
Maximum torque.....	57 In. lbs.

#### BLADES

TWO upper 6" dia. each with 5 SS blades  
 ONE bottom 8" dia. with 5 SS blades

#### WEIGHT

Total weight of complete unit .....	12 lbs.
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# 4.0 TECHNICAL SPECIFICATIONS

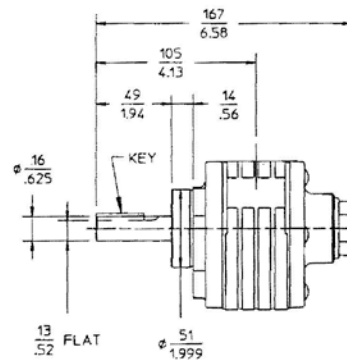
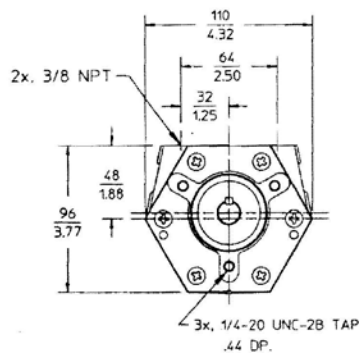
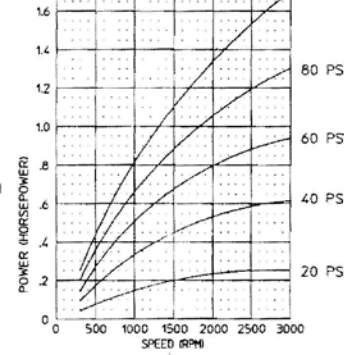
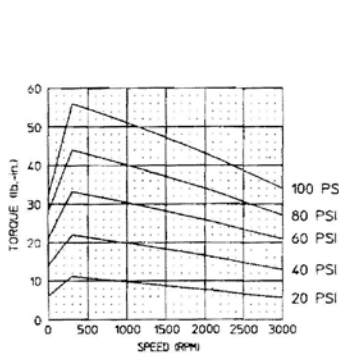
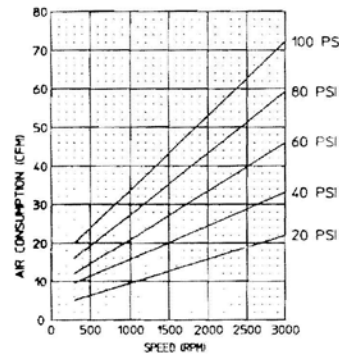
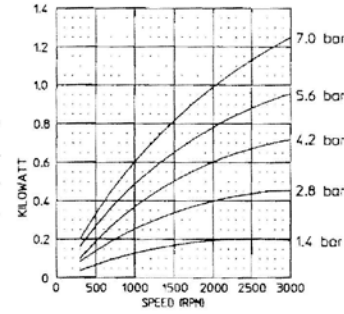
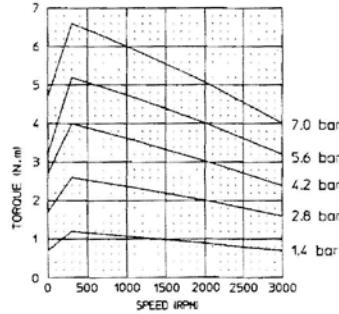
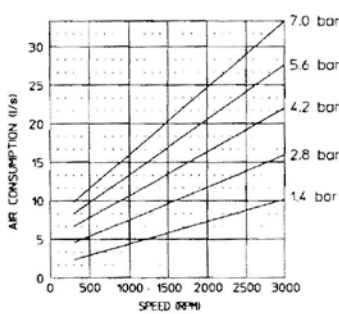
## Product Specifications

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 REVISION: F  
*DRB 2/25/06*

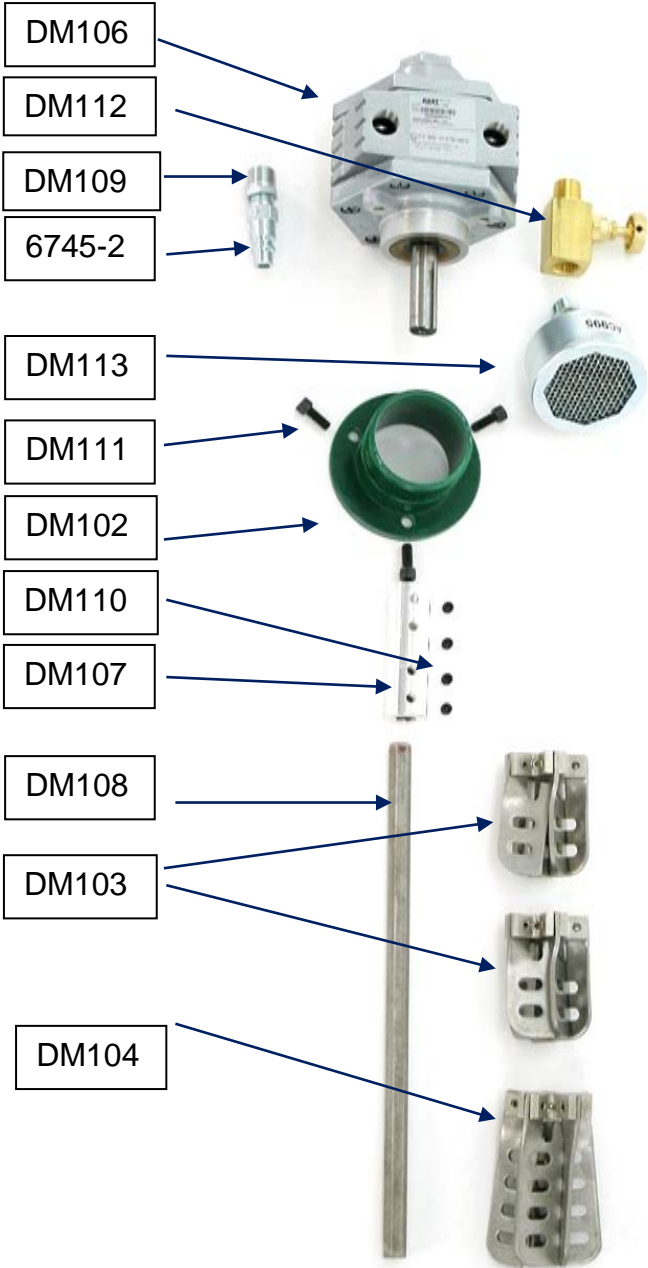
Model Number	MAX. PRESS.		MAX. SPEED	HP	kW	Net Wt.	
	bar.	PSI				lbs.	kg
4AM-NRV-130A	7.0	100	3,000 RPM	1.7	1.25	11	5.0

SOUND LEVEL 87 dB(A) MAX.  
 NORMAL AMBIENT +1° C. - 120° C.  
 RELATIVE HUMIDITY 0% - 100%  
 ENVIRONMENT HAZARDOUS AMBIENT COMBUSTIBLE  
GAS AND DUST +1°C TO +40°C

CONFORMS TO EUROPEAN STANDARD EN13463-1 NON-ELECTRICAL  
 EQUIPMENT FOR EXPLOSIVE ATMOSPHERES GROUP II CAT 2  
 (GAS & DUST), PROTECTED BY CONSTRUCTION (SURFACE TEMP RATED 135C)  
 TECHNICAL DATA SUBJECT TO CHANGE WITHOUT NOTICE.  
 DIMENSIONS ARE FOR REFERENCE ONLY  
 UNLESS OTHERWISE TOLERANCED.



# 5.0 PARTS IDENTIFICATION





## PART NUMBERS:

New Part Number	Old Part Number	Qty/Assy.	Description
604001	DM-101	1	Drum Mixer
500504	DM-102	1	Drum Adapter
700036	DM-103	2	#6 Mixing Vane Assy.
700037	DM-104	1	#8 Mixing Vane Assy.
700052	DM-105	-	Mixing Shaft Assy. (w/out Coupling)
612001	DM-106	1	Air Motor
610014	DM-107	1	Coupling
500513	DM-108	1	Mixing Shaft
610015	DM-109	1	3/8" x 1/4" Bushing
610016	DM-110	4	Set Screw
610017	DM-111	3	Mounting Bolt
500028	6745-2	1	Male Coupling
500029	DM-112	1	Needle Valve
602001	DM-113	1	Muffler

## **6.0 WARRANTY AND DISCLAIMER**

International Pump Manufacturing, Inc. (IPM) warrants the equipment it manufactures to be free of defects in material and workmanship for a period of one year from the day of sale by an authorized IPM distributor to the original purchaser. IPM will at its discretion repair or replace any part of the equipment proven to be defective. This warranty applies only when the equipment is used for the intended purpose and has been installed, operated and maintained in accordance with the written recommendations.

A condition of the warranty is the prepaid return of the equipment to an authorized distributor of IPM who shall provide verification of the warranty claim. IPM will repair or replace, free of charge any parts found and verified to be defective. Transportation will be prepaid for the repaired or replaced parts under warranty. Should the inspection of the equipment not reveal any defect in material or workmanship, repairs will be made at standard charges, which include parts, labor and transportation.

The warranty does not apply or nor will IPM be liable for damage, wear, or malfunction of equipment caused by improper installation, misuse, abrasion, corrosion, negligence, accident, tampering, lack of improper maintenance, or by substitution of non-IPM parts. Additionally IPM shall not be liable for and the warranty does not apply to wear, damage, or malfunction caused by incompatibility of accessories, components, structures, equipment or materials not supplied by IPM. The warranty does not apply to nor will IPM be responsible for the improper operation, maintenance, design, manufacture, installation of components, accessories, equipment or structures not supplied by IPM.

The warranty is void unless the Warranty Registration Card is properly completed and returned to International Pump, Inc. within ONE month of the date of the sale.

### **LIMITATIONS AND DISCLAIMERS**

This warranty is the sole and exclusive remedy for the purchaser. No other warranties (expressed or implied), including warranties for fitness of purpose or merchantability, or non-contractual liabilities are made, including product liability, whether on negligence or strict liability basis. Liability for directly special or non-contractual damages or loss is expressly excluded and denied. IPM's liability shall in no case exceed the amount of the purchase price.

IPM does not warrant and disclaims implied warranties of merchantability and fitness for a particular purpose, components, accessories, equipment, materials sold but not manufactured by IPM. These items (switches, hoses, etc.) are subject to the provisions of the warranty of the manufacturer of these items. IPM will provide reasonable assistance with warranty claims on these items.

## 7.0 DC ELECTRIC MIXER

### *DC electric, gear reduced drum mixer*

- ◆ Types: Air, Hydraulic, DC Electric motors
- ◆ Electric model, no air needed, Quiet!
- ◆ Variable up to 700 rpm
- ◆ 2.25 ft. lbs for  $\frac{3}{4}$  hp motor, torque x's 3.2 gear ratio equals 7.2 ft lbs. torque output.
- ◆ 36 in./lbs torque for a  $\frac{3}{4}$  hp motor, torque x's 3.2 gear ratio, equals 115 in/lbs torque.
- ◆ .75 hp x's 3.2 equals 2.4 hp of torque
- ◆ This is a unique and powerful mixer!





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