



PHARMA MACHINERIES

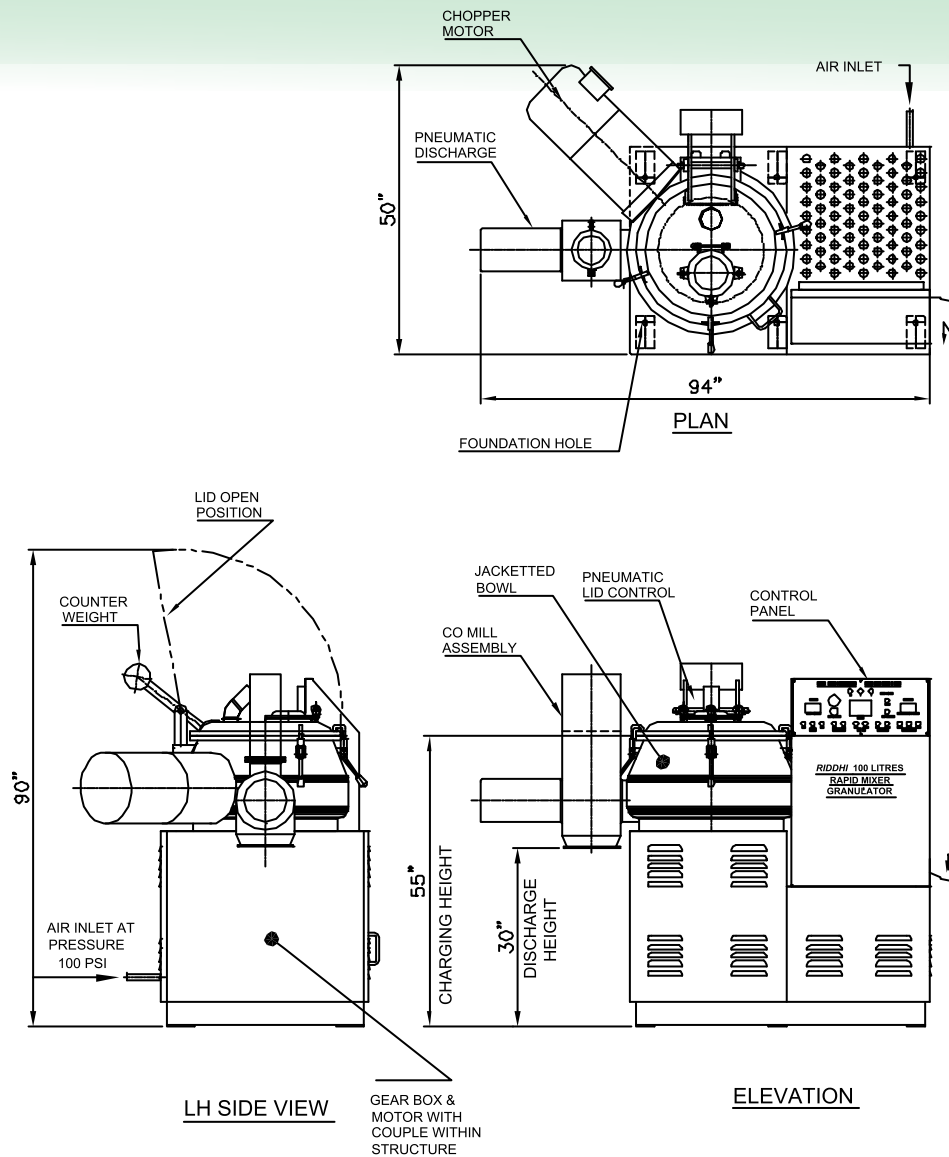


**RAPID MIXER GRANULATOR**





Riddhi Pharma Machinery Ltd. (India)



NOTE:  
 1. ELECTRIC VOLTAGE AND FREQUENCY CAN BE PROVIDED AS PER CUSTOMER'S REQUIREMENTS.  
 2. THE RIGHTS FOR THE MODIFICATIONS IN DESIGN AND SPECIFICATIONS ARE RESERVED WITHOUT PRIOR NOTICE

MACHINE :- RAPID MIXER GRANULATOR-100 LTR. (GMP) STD SCOPE OF SUPPLY

TITLE : GENERAL ARRANGEMENT DRAWING

POWER SUPPLY 415 V X 3 Ph. X A.C.

CUSTOMER: M/S. COROMANDEL INTERNATIONAL LTD., VISKHAPATNAM. (A.P.)

ALL DIMENSIONS ARE IN MM

DT.: 20.04.13

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## **RAPID MIXER GRANULATOR**

### **TECHNICAL OFFER**

#### **INTRODUCTION:**

Riddhi Mixer Granulator is designed to meet special needs of tablet manufacturing technology. This is achieved by reducing processing time, more homogenous mixing, Uniformity of Granule size and above all maintaining improved hygiene compliant to GMP norm.

#### **DESCRIPTION**

Machine will be complete with Mixing Bowl, Mixing Blades, Granulator, Pneumatic Discharge, Motor, Gear Box, Operating Panel and the Control Panel.

#### **MIXING BOWL:**

The Mixing Bowl is cylindrical with a large diameter and flat base. The Top portion of the bowl is conical in shape to assist circulation of cohesive powders. The Bowl is fabricated from S.S. 316 Quality Stainless Steel with all internal and external surfaces polished to mirror finish.

#### **TOP LID**

Pneumatically Openable (except RMG 50 & 100LTRS) type lid consists of charging hole, air filter and special type silicon gasket.

#### **MIXING BLADE**

Mixing blade consisting of two Nos. full and two Nos. half blades specially designed for intense mixing. The angles of the blades are such that half blades lift the material and full blade pushes the material. Continuous action of this with the different ingredient immensely mixes thoroughly with homogeneously. Mixing blade assembly is mounted on main shaft with separate bearing housing which fully eliminate any chance of cross contamination of product with any lubricants. The upper portion of the housing contains specially designed Teflon seal along with air purging facility. Lower stage housing contains bearing alongwith oil seals that make it completely leak proof.

#### **BEARING HOUSING**

The bearing housing of the main shaft connected to gearbox by means of heavy duty chain coupling. Chopper blade assembly consists of a separate bearing housing coupled to motor by means of flexible coupling, with Teflon impregnated gland packing and air seals.



### **GRANULATING BLADE**

A high speed Granulator is inserted horizontally through the wall of the bowl to assist blending of powder and to break the lumps of the products in to granules of required sizes. These lumps are formed while wet mixing.

### **DISCHARGE VALVE**

Machine has a side discharge outlet with pneumatically operated. The discharge valve is exactly matching the profile of the intervene bowl with perfect sealing arrangement. Pneumatic cylinder housing is specially designed with swivel type arrangement, which helps for easy cleaning. Safety interlocks are provided to discharge valve as well as top lid with limit switches.

### **MACHINE BASE**

Rigid Machine base frame made from M.S. Square pipe is designed to accommodate the mixing bowl and the control panel. The motor V belt drive and reduction gear are also housed in the frame. The machine base is totally enclosed and removable flush type S.S. give access to motor gearbox and belt drive inside and machine base. Removable S.S. Cover finished mirroring finish on all side of the machine base frame. Inside of the M.S. base frame duly epoxy painted to avoid any rusting. The bottom of the base frame duly covered with M.S. Sheet So that any oil or dust from belt should not fall on the floor.

### **ELECTRIC CONTROL PANEL**

#### **MAIN PANEL**

All the main Circuit like Switchgears, Relays, and MCBs etc. will be contained in a S.S. Panel box and kept in Non Flame Proof area.

#### **PROCESS TIMER**

SAMS make Process Unit with programmable digital timer, auto mode indicating lapsed/balance time etc.

#### **OPERATING PANEL**

An Operating Panel mounted near the mixing bowl for the easy operation in the case of NON FLP MOTOR. In FLP only Flame Proof Operating unit provided near the Bowl with auto manual switch, Emergency stop and push buttons for main motor, chopper motor Discharge valve open and close, ammeter for main motor and chopper motor.

#### **PNEUMATICS SYSTEMS**

The machine is supplied with duly required pneumatisystems of **FESTO/CAMOZZI** Make. The customer has to ensure, supply of oil free compressed air, also free from any other possible impurity, which may contaminate the product. Air filter and Air water separator are also provided with the machine. Pressure regulator is provided to regulate the desired air pressure. The systems is suitable to accept an Input air pressure of 7kg/cm<sup>2</sup> to be



terminated at ½" " BSP" terminal. Air lubricator is provided to lubricate solenoid valves and pneumatic cylinders is incorporated in the system.

### **PRESSURE SWITCH**

A Pressure Switch is incorporated in the Pneumatic circuit to ensure that unless required minimum air pressure is available in the system the machine cannot be started. And once the machine starts and if drop below preset the value the machine stops immediately. In case of the Flame Proof Machine the pressure Switch is fitted in main panel. All M.S. parts will be clad with SS 304Q sheet and all SS parts will be polished to smooth surface.

### **STANDARD PROCESSING DURATION**

Dry Mixing approx 3 - 5 Mins  
 Wet Mixing approx 5 - 10 Mins  
 Wet Granulation approx 5 - 10 Mins  
 Discharge approx 1-15 Mins  
 Above time may vary from material to material.

### **RMG IMPROVED PROCESSING**

Uniform distribution of all formulation ingredients.  
 Short mixing and granulation time.  
 Useful working capacity of upto 80% to 40% of bowl volume.  
 Uniform granules by gentle processing.  
 Wide range of applications.  
 Easy scale up & Scale down between machine sizes.  
 Bowl shape design to have no dead spaces.

Riddhi Mixer Granulator's can be offered in 10Ltrs. R&D & 25Ltr. / 50Ltr. For R&D or pilot plants. The process parameters derived in the Lab/Pilot scaled up into production machines. These machines can also be offered with PLC'S.

## **TECHNICAL SPECIFICATION**

### **RAPID MIXER GRANULATOR GMP MODEL**

<b>Models</b>	<b>RDRMG-100</b>	<b>RDRMG-150</b>	<b>RDRMG-250</b>	<b>RDRMG-400</b>
Gross capacity (ltrs.)	100	150	250	400
Working capacity (lits.)	80	120	200	320
Batch Size in Kg.	20-30	30-60	50-100	75-150
Mixer Motor	7.5 HP / 10 HP	10 HP / 15 HP	22.5 HP / 30 HP	35 HP / 40 HP
Mixer RPM	75/11500	750/1500	750/1500	750/1500
Granulator Motor	2 HP / 3 HP	3 HP / 5 HP	3 HP / 5 HP	5 HP / 7.5 HP
Granulator RPM	1500/3000	1500/3000	1500/3000	1500/3000
Overall Dimensions				
Length (cm)	240	240	270	280
Width (cm)	210	210	220	240
Height (Lid closed) (cm)	200	200	210	215kg
Net Weight (approx)	1400 kg	1600 kg	1800 kg	2400 kg

\*Technical Specifications are subject to change due to continuous technical upgradation.



<b>Models</b>	<b>A-Total Length</b>	<b>B-Platfor Length</b>	<b>C-Width</b>	<b>D-Platfor Width</b>	<b>E-Open lid height</b>	<b>NT. WT. Kgs.</b>
25 L	1990	1350	925	700	1680	700
100 L	2290	1550	1170	795	2190	900
150 L	2390	1590	1960	1700	2275	2000
250 L	2550	1690	2130	1760	2585	2800
400 L	2880	2040	2450	1960	2960	3000
600 L	3100	2240	2640	2080	3440	3500
1000 L	3250	2500	3150	2650	3250	4000

## **RIDDHI PHARMA MACHINERY LTD.**

**Manufacturer & Exporters of Pharmaceutical Machineries**

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