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## **OPERATING & MAINTENANCE MANUAL**

### **18 In. Cone Blender**



# SPECIFICATIONS

**Blender Size:** 18 Inch

**Catalog Number:** 080D-010

**Total Volume:** 1.7 Ft<sup>3</sup>

**Operating Capacity:** 1.1 Ft<sup>3</sup>

**Materials of Construction (Cone):** 304 Stainless Steel

**Type of Variable Speed Control:** DC Rheostat 220V/1 Ph/50 or 60 Hz Power Input, 180 V DC Output

**Drive:** 1 Hp DC Motor, Gear Reducer, Double Chain Drive

**Blender Speed Range:** 10-30 RPM (10 - 20 RPM's Suggested Operating Speeds)

## Capacity

The maximum capacity of this cone blender is 1.1 cubic feet (65% of total volume). Amounts less than this may be loaded into the machine. For best results, this figure should not be exceeded.

## Installation Instructions

It is important that the blender be mounted on a solid sub-stratum with reinforced concrete footings. For cone blenders through 42 inches in diameter, the footer should be 12 inches thick, or structurally capable of supporting half of the total maximum cone blender load, calculated with 100 pound per cubic foot of material, using the maximum operating volume and the weight of the cone blender.

## Footings

Note that the top's of the supporting steel stands are machined and the bottoms are not. When erecting, the top of the stands must be level, and in proper plane, as well as axially aligned. Any shimming or grouting should be between the steel stand and the concrete footing pedestal.

## Erection

Note that the top's of the supporting steel stands are machined and the bottoms are not. When erecting, the top of the stands must be level, and in proper plane, as well as axially aligned. Any shimming or grouting should be between the steel stand and the concrete footing pedestal.

## **Floor Bolting**

On units 42 inches in diameter and smaller, expanding shields with lag screws or machine bolts may be used to secure the stands to the footings.

## **Startup**

The drive for this cone blender is a 180 volt DC, 1 HP motor with a 25:1 gear reducer, connected to the blender through a double roller chain, attached to sprockets with a 3:1 reduction. These components are installed and aligned at the factory. However, since the blenders are bolted to a pallet or shipping crate for ship-ment, it is necessary that the cone blender be reassembled or checked to ascertain all components are properly positioned and secured, and that alignment is maintained prior to operation.

# OPERATING INSTRUCTIONS

All Sepor Cone Blenders are furnished with motor starters and variable speed controls. A rheostat type of variable speed control is furnished for all DC motor drive units. Electrical connections between the variable speed control and motor are factory wired. For installation, connect the appropriate power (either 110 or 220 V/1 Ph) to the variable speed control as indicated in the enclosed operating and installation manual diagram. Normally a cord is furnished, so all that is necessary is to plug the unit into the appropriate receptacle. For more information regarding the equipment used in manufacturing the blender, refer to the enclosed manufacturer's literature.

To load the blender, rotate the cone until the load port cover is on top. The load port cover is held in place by a bar/hand clamp mechanism. To remove the load cover, unscrew the hand wheel, slide the retainer bar out and lift the cover off. Material may be loaded into the load port, up to 1.1 cubic feet in volume, replace the cover, bar and hand clamp and tighten securely. Check the discharge valve to ensure that it is securely in the closed position. The blender is now ready to operate.

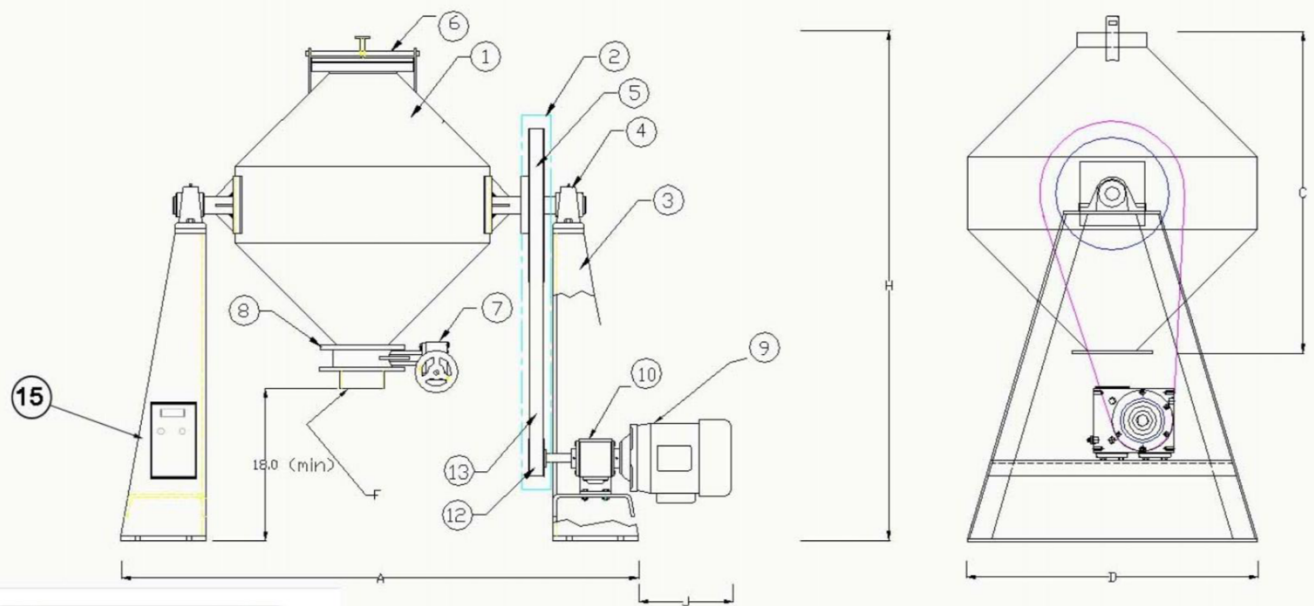
To blend, simply turn the variable speed control to the ON position, and select a speed, around 20 RPM's. Allow the blender to rotate for a period of time, ranging from 10-20 minutes, depending upon the material and blending to be achieved. Over blending cannot occur in a cone blender!

The blending in a cone blender occurs during rotation of the cone when the angle of repose of the material is exceeded and the surface layers of material roll towards the opposite cone. The remaining mass of the material falls to the opposite end, being pushed towards the center of the blender by the cone walls. Since no two particles have parallel paths, there is a large difference in particle velocities and homogeneity quickly results. Material is discharged from the cone blender by stopping the rotation when the butterfly discharge valve is in the bottom position, placing a receptacle container under the blender (18" clearance is provided), and opening the butterfly valve, allowing the blended material to flow into the container.

# LUBRICATION GUIDE

The following lubricants, or their equivalents, are suggested. These are recommended for normal operating conditions with ambient temperatures to 100F.

Mechanical Unit	Exxon Product
Anti Friction Bearings	Unirex N2
Packing Glands	Unirex N2
Gear Boxes	
Worm Gear Type	Spartan EP-5
Helical Gear Type	Nuto 63



P/N	Description	Qty (Ea)
1	Cone assembly	1
2	Belt guard	1
3	Stand	2
4	Bearing	2
5	Large pulley	1
6	Cover assembly	1
7	Butterfly discharge valve	1
8	Discharge flange	1
9	Motor	1
10	Gear reducer	1
11	Bracket	1
12	Small pulley	2
13	Drive chain	1
15	Variable speed controller	1

CONE BLENDER SIZE (INCHES)	D I M E N S I O N S (INCHES)						
	*A*	*B*	*C*	*D*	*F*	*H*	*J*
18	46	18	24	20	5	42	18
24	52	24	24	27	5	44	18
30	59	30	34	28	6	48	20
36	70	36	40	36	6	66	24
42	82	42	47	44	8	76	24

General Dimensions	
PROJECT	Cone Blenders
Tolerances, unless specified:	
0 - .060 ; .00 - .010 ; .000 - .005	
Fractions $\pm 1/16$ ; angular $\pm 1^\circ$ ; finish $\sqrt{\text{ }}$	
SCALE	DATE
None	Yury Vigonsky 4/25/95
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# SPARE PARTS LIST

## 18" CONE BLENDER 080D-010

ITEM#	DESCRIPTION	QTY
080D-EI002	CB FRAME/CONE/BELT GAURD	1
080D-EI003	SS 18"CB PLATE LID	1
080D-EI004	SS 18" CB TOP PLATE FLANGE	1
080D-EI005	SS 18"CB FLANGE	2
MO-108023	1 HP, 180V DC 1750 RPM 56C	1
GR-SK02256C2.0	NORD GEARBOX 25:1	1
CNT-174307.00	DC CONTROLLER LC#174307	1
507ST265	CORROSION RESISTANT SS BUTTERFLY VALVE	1
784ST269	SPROCKET #40BTB30H	1
7884ST275	SPROCKET #40BTB84	1
784ST161	1-1/4" PILLOW BLOCK UCP206-20	2
778ST075	1-1/4" BUSHING TAPER 2012	1

### CAUTION!

ALTHOUGH ALL POWER TRANSMITTING COMPONENTS ON THIS MACHINE HAVE ADEQUATE SAFETY GUARDS, IT IS NECESSARY THAT ANY OTHER PROJECTIONS OR MOVING COMPONENTS OF THE MACHINE ALSO BE GUARDED.

IT IS RECOMMENDED THAT THE ENTIRE ASSEMBLY BE PLACED IN AS ENCLOSURE WHICH WILL PREVENT ANYONE FORM CONTACTING IT WHILE IN OPERATION.