ROYSON ENGINEERING COMPANY
BASIC INFORMATION ON VIBRATORY FINISHING

XX Part Size

Bowl size determines the MAXIMUM length, width and/or height of the largest part that can be processed in the bowl. The largest size part(s) that will go into a machine system that will be worked properly or uniformly is determined by the bowl's channel width dimension. That is, a part will move in an equal x y and z motion. Parts larger than the dimension MAXIMUM can be worked in any bowl, equal to channel dimension; however, they will be touching either the inside or outside walls of the bowl and may not rotate properly. The largest size part is a function or cord length of the inside cone and outside wall diameters. Longer parts can be processed that are larger than the channel width; however, the part will not move freely and will be touching either the inside or outside wall of the bowl.

There is no restriction as to the smallest part you can work in our equipment except the size of the drain hole openings. The biggest problem is getting a media small enough to allow the parts to be separated out of media. The smallest parts capable of being processed and separated by our screen system are .120 in size.

Capacity

Fill capacity is shown in liquid and pounds of media. Normal deburring and burnishing operations are done with perform media shapes which varies in density and weight.

Ceramic media weights approximately 100 pounds per cubic foot.
Steel burnishing media weights around 300 pounds per cubic foot.
Plastic media which normal weights from 55 to 85 pounds per cubic foot.
Dry organic media from 25 to 35 pounds per cubic foot.

For the best and fastest processing results, all bowls should be run 2/3 to 3/4 full of media. The greater the amount of media or weight you can get in the machine the faster it works. As a rough guideline, the capacity of parts that can go into our equipment can be determined in a number of ways as follows:

Weight

For deburring purposes, use 50 to 60% media to parts by weight. That is, if the 1 cubic foot machine takes 100 pounds of ceramic media, you can normally add 40 to 50 pounds of parts to that same machine system per batch for a total of 150 pounds.
For polishing purposes, use 80 to 90% media to parts by weight. Based upon 1 cubic foot machine that equals 10 to 20 pounds of parts. Using dry organic media, that equals approx. 25 pounds of media to 15 pounds of parts = 40 pounds.

Volume
1 cubic foot machine system can process the amount of parts you can fit into a box 12" x 12" x 12".
1/2 cubic foot machine system can process the amount of parts you can get into a box 6" x 6" x 6".
1/4 cubic foot machine system can process the amount of parts you can get into a box 3" x 3" x 3".

Motors
All vibratory systems come with vibration motors. All vibratory machines get their energy from the eccentric weights attached to the motor. The larger the weight the greater the vertical lift of the bowl and the more aggressive the movement within the work chamber and the shorter the processing time. Naturally the greater the eccentric weight the more pressure is exerted on the motor and bearings. At some point, life expectancy of the motor is determined by the weight of the eccentric.