

MEASURES OF PLATESETTER PRODUCTIVITY

Productivity can be an important consideration when determining which platesetter to buy. However, manufacturers are often vague when describing the throughput of their equipment. This section attempts to objectively clarify productivity.

Most manufacturers' brochures quote the productivity of a device as the plates per hour (PPH) at or near the maximum plate size. For many buyers this information is sufficient. For others, for whom production throughput is a concern and operating costs must be keenly evaluated, this provides an adequate "ballpark" guide, but doesn't give sufficient insight to whether the machine will produce the quantity of plates the size they actually use within the time frame that they require.

The various methods of stating productivity can easily create confusion and lead to a miscalculation. If the productivity is stated as PPH, it is safe to conclude that this includes the cycle time of the platesetter. If the plate size is not stated, you must assume that it is for the maximum size plate. If productivity is stated in terms of imaging time, or square inches per minute, or linear inches per minute, it is necessary to account for the cycle time of the platesetter, which is generally in the area of two minutes, but can be in the range of one minute for current technology.

In the case of internal drum devices, the imaging resolution is an important part of the productivity equation. The speed of an internal drum device varies directly with the dpi. In addition, the smaller the plates being imaged, the higher the productivity, as the image time of an internal drum device varies directly with the square inches being imaged. These two variables can result in a significant variance between the PPH represented by the manufacturer and the throughput obtained based on your plate size and resolution requirements. However, there is a caveat when making this calculation. Do not assume that the productivity increases directly with the DPI or plate size since the cycle time per plate remains the same regardless of size or dpi. A fair estimate in computing increases or decreases in PPH should be to assume that the cycle time is 50% of the minutes per plate at the dpi used on the illustrated productivity schedules. It is therefore necessary to calculate any PPH difference because of dpi or plate size by allowing for this constant in your calculation.

In external drum machines, the resolution has no impact on the throughput of the machine. The size of the plates being imaged does have some impact, but it is less than in the internal drum machines. In external drum machines, the drum must rotate the full circumference, regardless of whether it has to image the entire surface or not. The only impact size has on PPH is that the laser has less distance to travel on the linear edge if the full size is not used.

We do feel that use of a common denominator in comparing production speeds between models can be a useful tool for determining the suitability of a given device to your needs. To simplify the comparison between various models, we have chosen to calculate just one common denominator value for each type of equipment (external or internal drum.)

For external drum machines, this value was calculated by multiplying the manufacturers' representation of PPH times the measure of the lead edge of the plate size used by the manufacturer to calculate the PPH. The resulting number was divided by 60 minutes to determine the linear inches per minute, including the cycle time. Linear inches per minute including cycle time is the common denominator for comparing speed of external drum devices.

For the internal drum models, the square inch area of the size plate was multiplied times the manufacturers' stated PPH at the dpi closest to 2400 for that model of platesetter, and the product was divided by 60 minutes for our square inches per minute including cycle time. This value became the common denominator for comparing throughput of internal drum devices.

Productivity for individual platesetters is listed by manufacturer in the charts on pages 33 - 42.