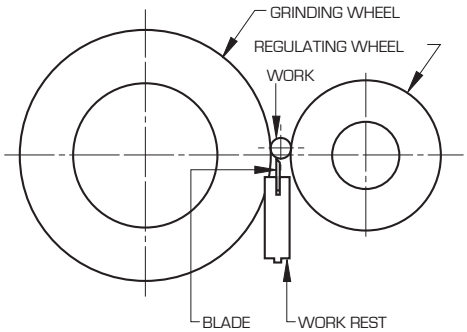
Centerless Grinding

The workpiece lies between two wheels; the grinding wheel and the feed regulating wheel. Feed wheel diameter is always proportionally smaller than the grinding wheel it is matched with (see chart below);

Grinding Wheel Diameter	Feed Wheel Diameter
14"	**8"**
16"	**9"**
20"	**12"**
24"	**14"**



Width of grinding wheel and feed wheel must be the same.

Grinding Wheel	Feed Wheel
20 x **6** x 12	12 x **6** x 5

Three Basic Types of Centerless Grinding

Grinding wheels for centerless grinding range in size from 12" to 24" in diameter, and up to 34" in thickness. They are made with the same vitrified bonds as those used in cylindrical wheels.

Through Feed – Most commonly used centerless grinding where straight cylindrical parts are passed from the entrance on the machine, through, and out the exit side.

In-Feed (Plunge) – Used on part with a shape that does not allow axial movement. Frequently, several diameters are ground at once by using a specially formed wheel face, or by mounting two or more wheels on the same spindle.

End-Feed – For producing or finishing a taper in the workpiece. The parts are fed in the entrance side of the machine up to a fixed end point.

Benefits of Cast Natural Rubber Feed Wheels

This wheel gives the best drive or braking action while resisting spin out of parts. This grade is satisfactory for the majority of applications. For harder grades, see Calendered Wheels.

Benefits of Calendered Rubber Feed Wheels

Calendered wheels are best used on thinner feed regulating wheels or when the cast natural rubber wheel deflects under pressure. The calendered wheel is preferred when close tolerances are required or there is excessive wheel wear on the standard feed wheel.

Typical Centerless Grinding Machines

	Cincinnati Model 2	Cincinnati Model 3	Cincinnati Model 3-20 Twingrip	Landis Model 12R	Royal Master Model TG12	Van Norman Model 1C	Van Norman Model 2C
GRINDING WHEEL							
Shape	T-1	T-1	T-1	T-1	T-1	T-7	T-7
Diameter	20	24	24	20	12	14	24
Width Range	3-8	4-12	–	4-8	–	≤4	4-8
Standard Width	6	8	20	6	3	4	4
Hole Size	12	12	12	12	5	8	12
REGULATING WHEEL							
Shape	T-7	T-7	T-7 / T-7	T-7	T-1	T-7	T-7
Diameter	12	14	14 / 14	12	6	8	12
Width Range	3-8	4-12	– / –	4-8	–	≤4	4-8
Standard Width	6	8	20 / 20	6	3	4	6
Hole Size	5	5	5 / 6	5	1	3	5