



Circular No. 13-3

13-inch Underneath Motor Driven Precision Lathe—Series "T" Quick Change Gear and Standard Change Gear Types

The 13-inch Lathe with underneath belt motor drive is popular for both production operations and tool room work. This lathe is made in the Quick Change Gear Type as shown, also in Standard Change Gear Type. See pages 28 for specifications of lathe.

The Underneath Motor Drive is entirely self-contained and is fully enclosed. It provides an unusually wide range of spindle speeds. A precision belt tension adjustment is provided. The belt drive to the spindle is silent in operation and develops a smooth, steady pull entirely free from gear vibration. See page 4 for description of motor drive.

Attachments, Chucks and Tools for this lathe are listed on pages 90 to 111. This complete line of attachments and accessories greatly increases the usefulness of the lathe. Most of the attachments may be purchased either with the lathe or later.

Regular Equipment included in price consists of: $\frac{3}{4}$ H.P. instant reversing ball bear-

ing motor, drum type reversing switch, wiring for switch and motor, 2 V-belts, flat leather belt, large and small face plates, forged steel heat-treated tool post, adjustable thread cutting stop, No. 3 Morse taper tool steel centers for headstock and tailstock spindles, headstock spindle sleeve, wrenches, quick change gear box or set of independent change gears, installation plan, and book "How to Run a Lathe."

Quick Change Gear

13-inch Underneath Motor Driven Lathes

Bed Length	4-ft.	5-ft.	6-ft.	7-ft.
Distance Between Centers.....	16-in.	28-in.	40-in.	52-in.
Catalog Number.....	113-A	113-B	113-C	113-D
Shipping Weight.....	1460 lbs.	1510 lbs.	1560 lbs.	1615 lbs.
Code Word.....	Becka	Becno	Bedme	Besec

Standard Change Gear

13-inch Underneath Motor Driven Lathes

Bed Length	4-ft.	5-ft.	6-ft.	7-ft.
Distance Between Centers.....	16-in.	28-in.	40-in.	52-in.
Catalog Number.....	112-A	112-B	112-C	112-D
Shipping Weight.....	1440 lbs.	1490 lbs.	1540 lbs.	1595 lbs.
Code Word.....	Betat	Bacik	Bacmo	Badap

All Page References Apply to Catalog 100

SOUTH BEND LATHE WORKS

Lathe Builders Since 1906
425 E. MADISON ST., SOUTH BEND, IND., U.S.A.



Specifications of Series "T" 13-inch Precision Lathes

Applying to all 13-inch Lathes Shown on Pages 29 to 35

All types of 13-inch swing lathes shown in this catalog are identical in workmanship, material and quality, having similar headstock, tailstock, carriage and bed. The only difference between the various models of lathes is in the type of drive and the equipment supplied.

Capacity of Lathe

Swing over bed and saddle wings.....	13 $\frac{1}{8}$ "
Swing over saddle with chip guard removed.....	8 $\frac{3}{4}$ "
Swing over saddle with chip guard.....	7 $\frac{3}{4}$ "

Threads and Feeds

Thread cutting range	
Quick change gear lathe—48 threads R.H. or L.H.....	2 to 112 per inch
Standard change gear lathe—47 threads R.H. or L.H.....	2 to 112 per inch
Longitudinal feeds through friction clutch	
Quick change gear lathe—24 feeds R.H. or L.H.....	.003" to .0208"
Standard change gear lathe—29 feeds R.H. or L.H.....	.0021" to .021"
Cross feeds through friction clutch	
Quick change gear lathe—24 feeds.....	.0011" to .0078"
Standard change gear lathe—29 feeds.....	.0008" to .0078"
Size of lead screw, diameter and threads per inch.....	1"-6

Headstock

Hole through spindle.....	1"
Maximum collet capacity.....	$\frac{5}{8}$ "
Size of Center, Morse taper.....	No. 3
Spindle nose diameter and threads per inch.....	1 $\frac{7}{8}$ "-8
Width of cone pulley step for belt.....	1 $\frac{3}{4}$ "
R.P.M. of spindle, back gears engaged.....	24, 38, 58, 92
R.P.M. of spindle, direct belt driven.....	173, 270, 410, 646
Large face plate diameter.....	10 $\frac{3}{4}$ "
Small face plate diameter.....	6 $\frac{5}{8}$ "

Compound Rest

Cross slide will travel.....	8 $\frac{1}{8}$ "
Angular hand feed of compound rest top slide.....	3 $\frac{1}{8}$ "

Tool Post

Size of opening for tool holder shank.....	1 $\frac{1}{2}$ " x 1 $\frac{1}{8}$ "
Size of cutter bits tool holder takes.....	$\frac{5}{16}$ " sq.

Tailstock

Size of Morse taper centers.....	No. 3
Spindle travel.....	4 $\frac{1}{4}$ "
Each graduation on tailstock spindle advances spindle.....	$\frac{1}{16}$ "
Tailstock top will set over for taper turning.....	$\frac{15}{16}$ "

Motor

Horsepower of standard motor used on 13-inch motor driven lathes.....	$\frac{3}{4}$
R.P.M. of standard motor.....	1725
Number of V-belts used.....	2

Countershaft

Speed in R.P.M. of shaft.....	267
Size of pulleys.....	8" x 2 $\frac{3}{8}$ "

Taper Attachment (telescopic type)

Maximum length turned in one setting.....	9 $\frac{1}{4}$ "
Maximum taper per foot.....	3"

Metric Lathe Specifications

Applying only to lathes with metric lead screw and metric graduations. See pages 108 to 110.	
Quick change gear lathe cuts 46 threads R.H. or L.H.....	7.5 mm to 0.2 mm
Standard change gear lathe cuts 35 threads R.H. or L.H.....	7.0 mm to 0.2 mm
Lead screw pitch.....	4.0 mm
Cross feed screw pitch.....	3.0 mm
Compound rest feed screw pitch.....	3.0 mm
Each graduation on cross feed micrometer collar advances tool.....	0.02 mm
Each graduation on compound rest micrometer collar advances tool.....	0.02 mm
Each graduation on tailstock spindle advances spindle.....	1.0 mm

For description of lathe features see pages 6 to 11