



# **hobby products company**

A DIVISION OF EMCO MAIER CORPORATION

2757 Scioto Parkway • Columbus OH 43026-2334 • 614/771-5996

**Dear Customer,**

In 1947, Emco Maier began a tradition of manufacturing excellence that has spanned four decades and continues today. Based in Hallein, Austria, the company began with the UNIMAT brand of miniature machine tools, and now produces a line that includes everything from the UNIMAT up to CNC (computer numerically controlled) lathes and mills for production use.

Through the years, the UNIMAT has remained a steadfast symbol of quality in small lathes for hobby, home, and professional use. The popularity of this universal machine has increased to the point where there are now over 350,000 Unimats in use, worldwide.

In 1977, Emco Maier opened a facility in Columbus, Ohio to act as the distribution and marketing organization for the U.S. market. At that time, total distribution of the Unimat was taken over from the Edelstaal Corp., who had previously been the sole distributor for the Unimat in the U.S. and Canada.

The growth of the Emco Maier Corp. in the U.S. has been phenomenal. Four separate divisions exist to handle marketing for the now extensive and diverse product line. Hobby Products was formed in 1983 for the purpose of marketing the Unimat and other smaller, "hobby-oriented" products. Today there are close to 500 "Authorized Unimat Dealers" in approximately 42 states and these numbers continue to climb.

This catalog represents the complete Emco Maier/Hobby Products line. In these pages you will find products to suit most hobby, and many professional needs. Take a close look at this catalog. We are certain you will be pleased with our products.

If you have any questions, or to find the name of your nearest "Authorized Unimat Dealer", Call 1-800-521-8289.

Let Hobby Products and the Unimat help your ideas "TAKE OFF"!

Sincerely,



**HOBBY PRODUCTS COMPANY**  
*A Division of Emco Maier Corporation*

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# Unimat 3

## The Machine System for Wood, Metal and Plastic

In the beginning man had only his hands. Then he learned to use stones as primitive tools. Later he produced the tools himself, out of bronze, iron, then out of steel and finally replaced inaccurate handcrafted work with mechanical precision. In this way mechanical saws, drills, mills, and also lathes were invented.

It was our intention to unite all these separate operations into one machine system. It would turn work into pleasure for all those who work manually, either as a hobby or professionally.

We have brought these intentions into reality: our UNIMAT 3 is the genuine miniature universal machine tool for metal, wood and plastic work, which, with accessories in the building-block system offers a comprehensive range of operations: longitudinal turning, facing, external and internal

taper turning, thread-cutting, drilling, milling, dividing, sawing, grinding, polishing, combing, grooving, coving and woodturning.

The Unimat 3 has many uses: It offers the beginner the opportunity of becoming acquainted with the basics of machining technology. The more experienced user can take advantage of its precision and the wide range of efficient operations.

The UNIMAT 3 is the machine system with the many possibilities for creatively using spare time—and for precision work in the professional field.

Working with the UNIMAT 3 is simply a pleasure: it has much to offer, can be used universally, is easy to operate; and is economical.











UNIMAT 3—the machine system for turning ideas into reality. And for the joy of success.

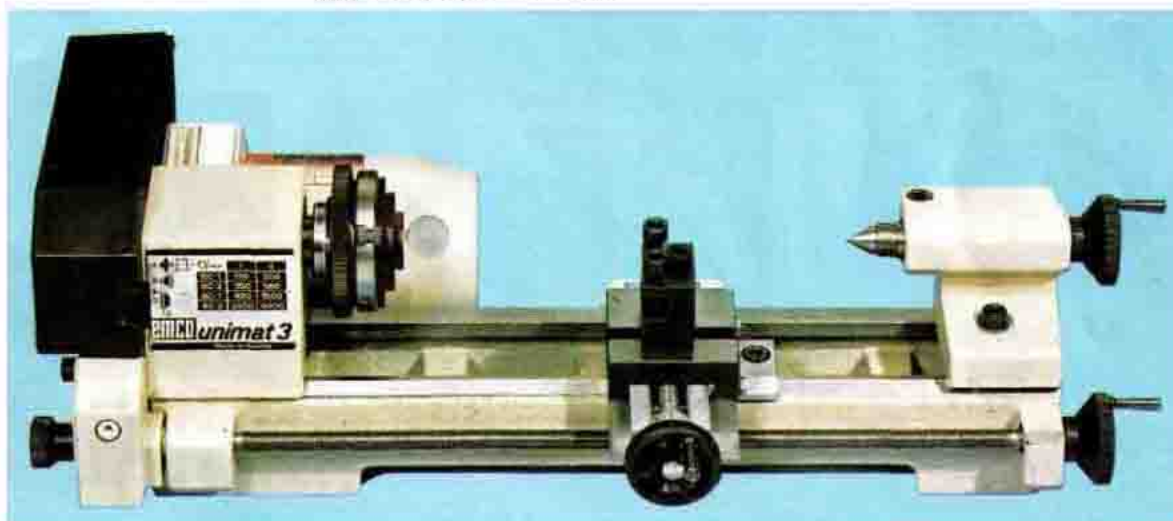
**Order No. 150.0LA UNIMAT 3**  
base machine with driving plate, lathe dog, 2 dead centers, toolholder, service tools and instructions.

### TECHNICAL DATA

Distance between centers	8" (203mm)
Center height	1.75" (46mm)
Swing over bed	3.6" (92mm)
Travel of cross slide	2.1" (52mm)
Hole through spindle	0.4" (10.2mm)
Spindle speeds (8)	130/200/350/560/920/ 1500/2400/4000 rpm
Motor	2-speed, 95 watt, 115 volt
Weight	15.4 lbs.

### ACCURACY STANDARDS FOR EMCO-UNIMAT 3

Drive pulley accuracy (A-roundness B-face)		A 0.0030" B 0.0030"
Faceplate accuracy		0.0032"
Main spindle accuracy (A-roundness B-face)		A 0.0008" B 0.0008"
Cross slide spindle accuracy (A-angle B-play)		A 0.0030" B 0.0050"
Lead screw accuracy (A-angle B-play)		A 0.0030" B 0.0050"
Tailstock barrel accuracy		0.0059"
Between centers accuracy (A-horizontal B-vertical)		A 0.0020" B 0.0020"
Round turning accuracy of centers		0.0008"
Round turning accuracy of drill chuck		0.0032"
Round turning accuracy of lathe chuck		0.0032"





# Unimat 3

## The genuine small lathe

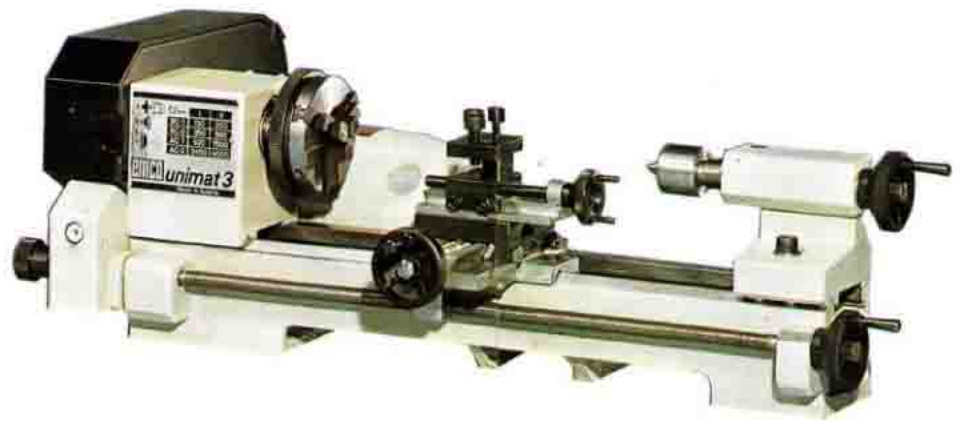
The Construction of the Unimat 3 is similar to that of larger, "industrial sized" lathes: T-ribbed lathe bed of high grade cast iron to ensure rigidity and prevent distortion. Ground V-guideway for cross-slide and tailstock. Tightly bolted headstock for high precision. Main spindle held in two self-adjusting precision bearings to ensure accuracy for the life of the machine. Highly accurate "dovetail" guides on both cross and top (compound) slide.

UNIMAT 3—distance between centers 7.8", center height 1.8", swing over bed 3.6", travel of cross slide 2.4", required space 21.6" x 10.4", weight 15.40 lbs. Hole through spindle .41", spindle nose M 14 x 1, spindle speeds 130/200/350/560/920/1500/2450/4000 rpm. Tailstock barrel diameter .7", traverse of barrel .9", drill chuck mounting M 14 x 1. Two-speed ac/dc motor 95 W with radio interference suppression, drive via belt pulleys, belt guard.

New enamel! Baked epoxy powder coating. This means: the enamel is chip-resistant, long-lasting and is protected for life.

### Discount Package:

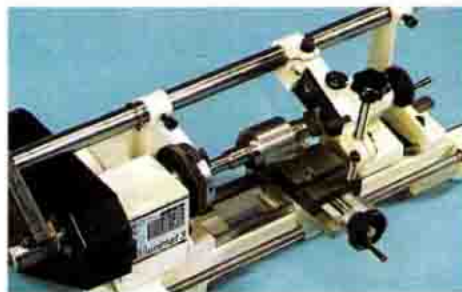
**Order No. 150.001A**—Base machine plus: fixed steady rest (150.240), 3-jaw lathe chuck (150.410), set of six lathe tools (111.500) and live center (150.270).



**Longitudinal turning and facing**—Turning between centers on the basic machine using the faceplate and lathe dog. Other workholding possibilities: 3-jaw lathe chuck (as shown), 4-jaw independent chuck, clamping plate with clamping shoes, collet attachment. An assortment of ground turning tools is included in our list of tools.



**Taper turning**—External and internal tapers up to 1.57" long can be turned using the accessory top slide. The desired taper angle can be adjusted exactly on a graduated scale. The top slide has a built-in toolholder. The adjustable dovetail guide provides accuracy.



**Thread-cutting**—Thread-cutting attachment for internal and external threads up to 1.9" dia. The rigid guide arm, the strong cutting arm and the sturdy lathe bed ensure extreme accuracy. Our range of accessories includes formers and guides for 9 metric and 14-inch thread pitches. Our tool assortment includes 2 thread-cutting tools.



**Center drilling**—A countersink must be made in both endfaces of workpieces when working between centers. The workpiece is clamped in the 3-jaw lathe chuck (as in the picture), for longer workpieces, use of the 3-point steady rest is recommended. Drill chuck is screwed onto the tailstock quill. The countersink bit is part of both sets of tools.



**Polishing spindle**—For mounting felt discs, fabric-covered discs, grinding and polishing discs, circular brushes. The conical thread enables the discs or brushes to be screwed on firmly and align themselves by their own centrifugal force. An assortment of felt discs is available.



**Tool grinding attachment**—Well-guarded tool grinding attachment for turning tools, twist drills and woodturning tools. The guard and rest are mounted onto the lathe bed, the grinding wheel arbor on the spindle nose. The toolrest can be adjusted to any desired angle.



# Unimat 3

## The small universal machine tool

Unimat 3—Can be equipped with the vertical drilling and milling attachment: for drilling and milling at any angle up to 90°, for fly cutting, grinding, slotting and parting-off.

Unimat 3—Data on the vertical unit: dia. of column 1.12", max. distance from cross slide to vertical spindle 7.8", throat 2.56", drilling stroke 1", spindle nose M 14 x 1, head swivels from vertical to horizontal position (90°).

Unimat 3—Possible uses for the vertical unit: mounting on the rear of the lathe bed, mounting on the cross slide for milling between centers (the workpiece is fixed, the milling attachment moves), mounting on the milling table for setting up a small drilling machine (independent of the lathe bed).

### Discount Package:

Order No. 150.002A—Unimat 3 base machine plus: vertical head (151.100), fixed steady rest (150.240), milling table (150.350), 3-jaw lathe chuck (150.410), 3-jaw drill chuck (152.500), set of six lathe tools (111.500), set of eight drilling and milling tools (119.000) and live center (150.270).



**Gear milling**—The workpiece is clamped in the 3-jaw lathe chuck, and the chuck is screwed onto the dividing attachment. The dividing attachment is bolted onto the cross slide (for other dividing operations it can be mounted on the lathe bed). Depending on the number of teeth, 6 different gear milling cutters as well as different dividing plates are available in our range of tools.

**Vertical drilling**—The machine vice (capacity max. 1.16") is fixed in the T-slot of the cross slide. The drill chuck (max. clamping capacity .32") is screwed onto the spindle nose. The return spring automatically returns the pinion to the correct position. 15 twist drills, dia. 1-8mm, are included in our large set of tools.



**Machining center**—The machinist who often performs different operations is usually required to re-set often. With the optional milling table and milling table support, and the vertical head fitted to the rear (as shown) it is possible to carry out two operations at once. Turning at the front, and drilling at the back.

**Working with tilted vertical head**—For angled milling and drilling, the vertical head can be swivelled up to 90° (exact adjustment on a graduated scale). Picture shows a milling operation: workpiece on the milling table, milling tool in the collet attachment. The vertical fine feed attachment guarantees precise work.



**Fly cutter**—With this special accessory, you can work on surfaces horizontally, bore holes and—with help of the dividing attachment—carry out decorative turning in metal, wood and plastic. The vertical fine feed is recommended during these operations.



**Milling between centers**—For milling shafts and making pinions, etc., the workpiece is clamped between dividing attachment and tailstock. The workpiece is stationary and the milling unit moves. The vertical column is fixed in the T-slot of the cross slide, or, to enlarge the working area, on the mounting bridge.



**Slot milling**—The vertical head is swivelled to the right by 90° and to the rear by 90°. The collet attachment with the slotting tool is screwed onto the spindle. The workpiece—a steel tube—is held onto the milling table with clamping shoes.



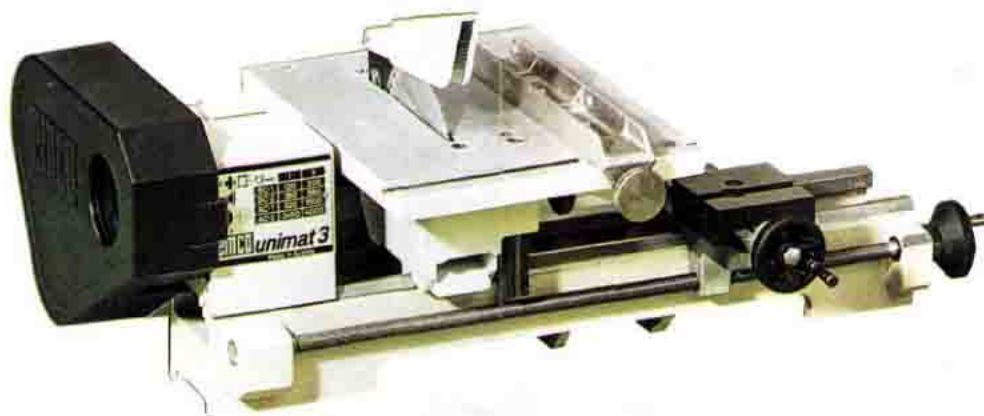
# Unimat 3

## The precision woodworking machine

Unimat 3—The compact wood workshop with many capabilities: circular sawing, jig and fret sawing, combing, grooving, coving, disc sanding, polishing, woodturning.

Unimat 3—Large circular saw table 8" x 7", depth of cut 0-.92"; jig and fret saw table open on all sides, cutting stroke  $\frac{1}{2}$ ", throat of fret saw bow 10"; grooving and coving to max. .36" width and .80" depth; woodturning between centers up to 8" length. Workpiece dia. for woodturning 3.6"; sanding and polishing large-surfaced workpieces with flexible shaft and rubber disc, sanding exact angles on the circular saw table with help of the sanding disc and the miter gauge.

Unimat 3—The woodworking machine for the model constructor, architect, restorer, carpenter; and for unlimited creativity in spare time. In short—for all who want to perform woodworking operations quickly, simply, precisely and safely.



**Fret sawing**—Large cutting capacity because of great number of strokes (up to max. 4000/min)—even the smallest radius is cut successfully (important for model building, inlay work, etc.). Various saw blades are available for wood, metal and plastic.



**Circular sawing**—Simple execution of straight cuts in wood, metal and plastic. With aid of the miter gauge accurate cutting of angles up to 45° is possible. Our range of tools includes a circular saw blade for wood, another for metal and plastic.



**Jig sawing**—The table, open on all sides, facilitates the easy handling of large workpieces. Even complicated internal cuts are easy to carry out. A set of jig saw blades is among our range of tools (one each for wood, metal and plastic).



**Working with the flexible shaft**—The 1 meter long flexible shaft enables one to work in inaccessible places away from the stationary machine: for example, drilling in housings, sanding and polishing of larger and uneven workpieces. Nose of flexible shaft with adaptor thread M 14 x 1 for taking various tools.



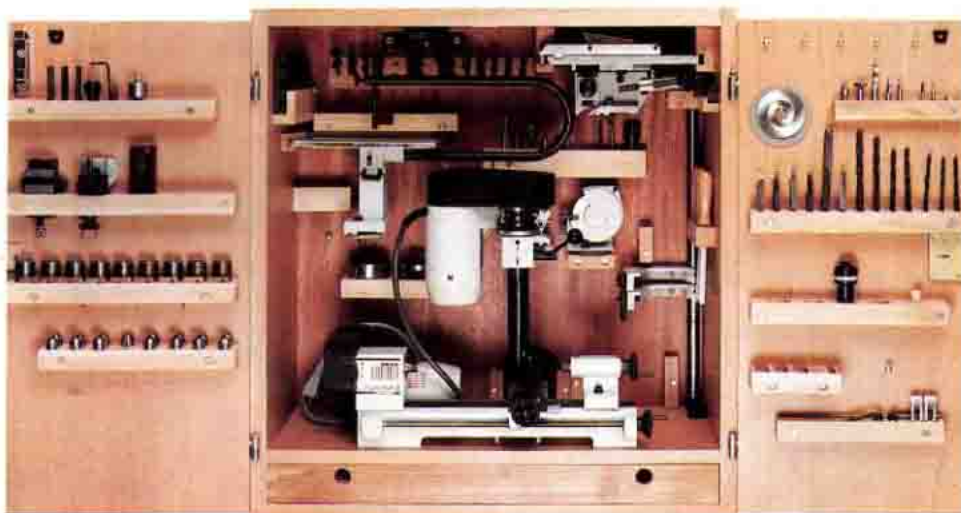
**Combing and Grooving**—These operations are carried out on the circular saw table: the circular saw blade is clamped onto the special arbor and then screwed onto the spindle nose, the combing guide on the circular saw table serves as width stop. The miter gauge guarantees exact guidance in right angle.



**Woodturning**—For longitudinal turning, the workpiece is held between drive center and live center. For cross grain turning, the workpiece is fixed to the main spindle by means of either the cup center or—as shown—the faceplate (basic equipment). Toolrest and tools are part of the range of accessories.



# Unimat 3 Accessories and Tools



**Discount Package: Order No. 150.004A**—Complete machining system in a wood storage cabinet.

## UNIMAT KITS

### ORIGINAL BUILDING KITS FOR THE BEGINNING UNIMAT USER

Each kit comes complete with: • raw materials and drawings • step-by-step instructions • descriptive leaflet



**Bronze Mortar**—2.7" x 2.2" x 1.4"  
Order No. 140.070



**Chess Set**  
Set of chess figures without board—  
Order No. 140.150



**Wooden Puzzle**  
4.1" x 4.1" x 4.1"  
Order No. 140.090



**Mortar**—4" x 3.4" x 2"  
Order No. 140.020



**Mortar**—4.3" x 3.5" x 2"  
Order No. \$40.050



**Small Hour Glass**—φ 2.2" x 4.1"  
Order No. 140.040



**Large Hour Glass**  
Order No. 140.180



**Dachshund**  
5.1" x 1.6" x 2.6"  
Order No. 140.110



**Cannon with Gun Carriage**  
4.3" x 2.8" x 1.8"  
Order No. 140.060



**Gun with Limber Frame**  
25.5" x 6.7" x 5"  
Order No. 140.130



**Balance Scales**  
7.4" x 4.7" x 9"  
Order No. 140.120



**Stuart 10 V Steam Engine**  
3.1" x 5.9"  
Order No. 140.141

## Literature

**Machinist's Bedside Reader**—By Guy Lautard  
Recommended for experienced machinists and gunsmiths; this book is both informative and entertaining. Containing projects, hints, tips and anecdotes of "the trade". (General in content; not specifically oriented toward the Unimat). 208 pages...\$18.95  
Order No. 150.066A



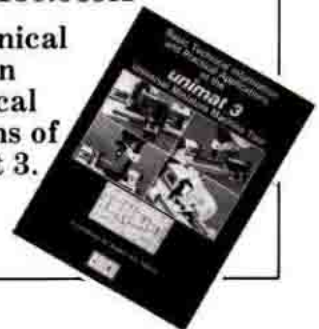
**The Book of the Unimat**—  
By D. J. Laidlaw-Dickson  
Illustrated guide to Unimat operation, accessories and possibilities aimed primarily at the user as a "first-timer". Also contains information regarding "older model" Unimat (SL1000 or DB200). 128 pages...\$7.95  
Order No. 150.068A



**Making the most of the Unimat**—by Rex Tingey  
Intended as a "sister" publication to Laidlaw-Dickson's **Book of the Unimat**, this is one of the most informative books ever written about the Unimat. Contains projects, tips on machine maintenance, product-enhancement "how-to's" and a variety of other information that every Unimat owner will find useful. Covers both "old" (SL1000 or DB200) and "new" (Unimat 3). 128 pages...\$12.95  
Order No. 150.069A



**Basic Technical Information and Practical Applications of the Unimat 3.**  
Order No. EN2052



## Accessories (Continued)

### Lathe Accessories

#### Universal lathe chuck



with 3 jaws,

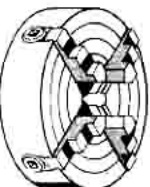
55 mm dia.

Order no. 150 410

Set of 3 soft jaws

Order no. 100 300

#### 4-jaw lathe chuck



55 mm dia.,

with 4 independently adjustable jaws, with key

Order no. 150 420

#### 3-jaw drill chuck



capacity 8 mm, with key

Order no. 152 500

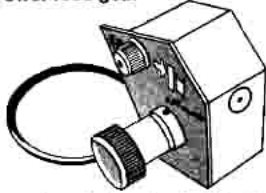
Collets and collet attachment see: Accessories Milling and Drilling Attachment.

#### Live centre



Order no. 150 270

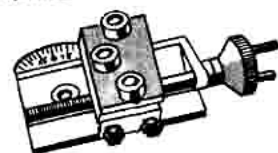
#### Power feed gear



for automatic longitudinal feed

Order no. 150 300

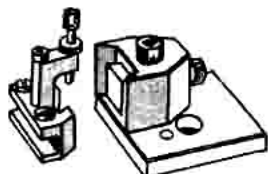
#### Top slide



for taper turning

Order no. 150 190

#### Quick-change toolpost



consisting of toolpost body, 3 standard toolholders and 1 operating key.

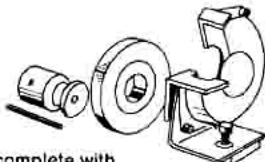
Order no. 152 010

#### 3 point steady rest



Order no. 150 240

#### Tool grinding attachment



complete with grinding wheel

Order no. 150 090

#### Polishing spindle



Order no. 150 370

#### Thread-cutting attachment



Order no. 150 250

#### Individual formers & guides



Set of 9 formers & guides for metric pitches (0.5-1.5 mm) clockwise

Order no. 150 465

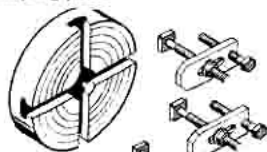
Set of 14 formers & guides for inch pitches (16-56 tpi), clockwise

Order no. 150 555

#### Individual formers & guides

pitch metric	Order no.	pitch inch	Order no.
0.5 mm	150 470	16 TPI	150 560
0.6 mm	150 480	18 TPI	150 570
0.7 mm	150 490	20 TPI	150 580
0.75 mm	150 500	22 TPI	150 590
0.8 mm	150 510	24 TPI	150 600
0.9 mm	150 520	26 TPI	150 620
1.0 mm	150 530	28 TPI	150 630
1.25 mm	150 540	30 TPI	150 640
1.5 mm	150 550	32 TPI	150 650
		36 TPI	150 660
		40 TPI	150 670
		48 TPI	150 680
		50 TPI	150 690
		56 TPI	150 710

#### Clamping plate



with 2 clamping shoes

Order no. 150 360

#### Machine base

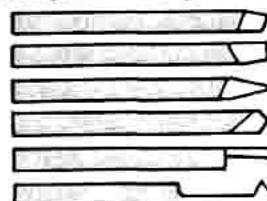


with drawer

Order no. 151 170

### Lathe Tools

#### Turning and Threading Tools



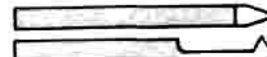
6 assorted tools bits, ground

Order no. 111 500

5 tools bits, unground

Order n. 110 010

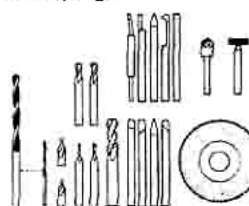
2 thread-cutting tools



(external and internal thread-cutting tool)

Order no. 111 600

#### Tool set, large



15 twist drills, 1-8 mm dia. in steps of 0.5 mm; 2 centre drills, 1.5 mm dia.; 4 T-slot cutters, 3, 4, 5, 6 mm dia.; 1 roughing tool, 8 mm dia.; 8 assorted ground turning tools; 1 turning tool, unground; 1 circular saw blade, dia. 60 mm; 1 countersink bit 90°; 1 two-flute cutter, 16 x 4 mm dia.

Order n. 152 100

#### Tool set, small:

1 each twist drill, 2, 3, 4, 5 mm dia.; centre drill, 1.5 mm dia.; countersink bit 90°; slot cutter, 4 mm dia.; two-flute cutter, 16 x 4 mm dia.

Order no. 119 000

#### Grinding wheel



for tool grinding attachment

Order no. 152 090

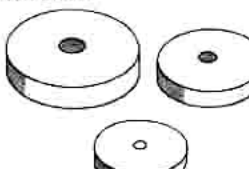
#### Truing diamond



for grinding wheel

Order no. 116 000

#### 3 felt discs



40 x 8, 50 x 10, 70 x 15 mm dia.

Order no. 119 300

#### 2 circular brushes

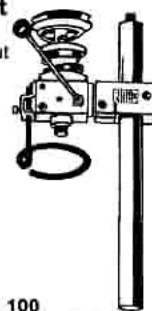


brass and steel wire

Order no. 119 500

### Vertical milling and drilling attachment

with spindle sleeve, without drive unit



Order no. 151 100

### Accessories Milling and Drilling Attachment

#### Drive unit



(motor and intermediate gear on carrier plate, belt guard)

Order no. 151 9LA

Please state voltage when ordering

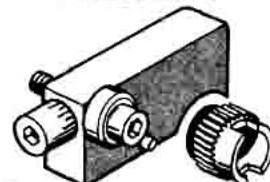
#### 3-jaw drill chuck



capacity 8 mm, with key

Order no. 152 500

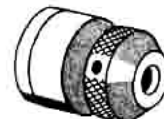
#### Vertical fine feed attachment



1 division = 0.1 mm feed

Order no. 151 110

#### Collet attachment



Order no. 150 290

#### Collets

for chucking of tools (when using vertical milling attachment) and for holding of workpieces (when using with lathe)

Set of 10 collets ES 16

in wooden box,

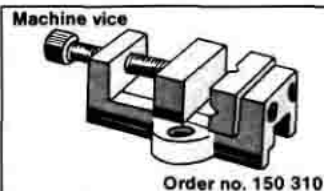
0.5-8.0 mm, 1/2" - 5/16"

Order no. 152 200

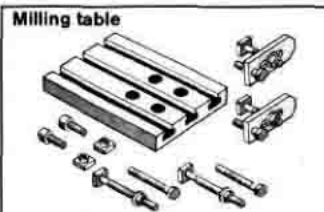
#### Individual collets ES 16

Nominal Ø mm	Capacity mm	Order no.
Nominal Ø inch	Capacity inch	
1.0 mm	0.5-1.0 mm	
1/32"	0.0197"-0.0394"	152 210
1.5 mm	1.0-1.5 mm	
3/64"	0.0394"-0.0590"	152 215
2.0 mm	1.5-2.0 mm	
1/16"	0.0590"-0.0787"	152 220
2.5 mm	2.0-2.5 mm	
1/32"	0.0787"-0.0984"	152 225
3.0 mm	2.5-3.0 mm	
3/64"	0.0984"-0.1181"	152 230
4.0 mm	3.0-4.0 mm	
1/8"	0.1181"-0.1575"	152 240
5.0 mm	4.0-5.0 mm	
1/16"	0.1575"-0.1968"	152 250
6.0 mm	5.0-6.0 mm	
3/64"	0.1968"-0.2362"	152 260
7.0 mm	6.0-7.0 mm	
1/4"	0.2362"-0.2756"	152 270
8.0 mm	7.0-8.0 mm	
5/32"	0.2756"-0.3150"	152 280

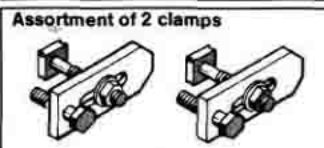




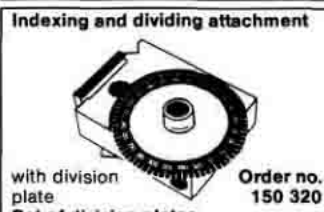
Order no. 150 310



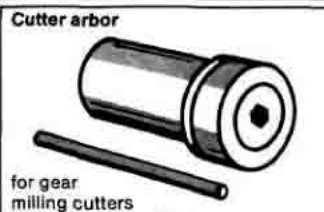
with 2 clamping shoes  
Order no. 150 350



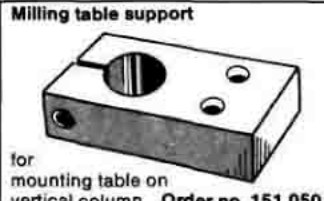
with 2 T-slot bolts, 2 screws and 2 nuts  
Order no. 151 080



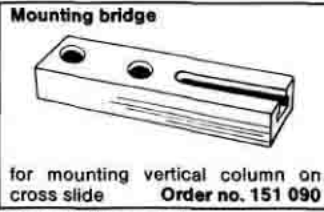
with division plate  
Set of division plates:  
30, 36, 40  
Order no. 150 323



for gear milling cutters and circular saw blades  
Order no. 151 070

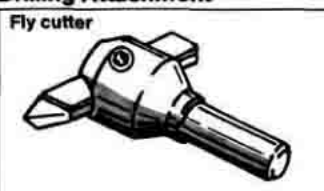


for mounting table on vertical column  
Order no. 151 050

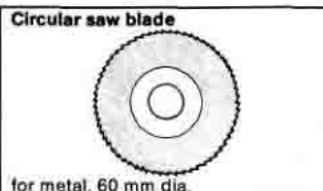


for mounting vertical column on cross slide  
Order no. 151 090

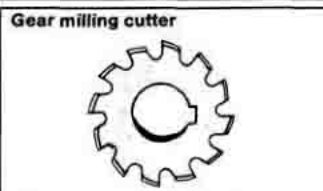
## Tools Milling and Drilling Attachment



with a ground tool, 2 unground tool bits, operating key  
Order no. 150 100

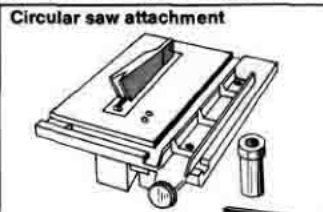


for metal, 60 mm dia.  
Order no. 123 100

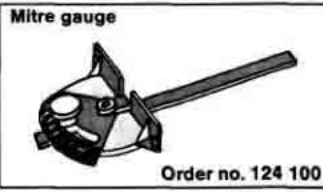


ø 40 mm dia., module 0.5, no. 1, number of teeth 12-13  
Order no. 764 601  
ditto, no. 2, number of teeth 14-16  
Order no. 764 602  
ditto, no. 3, number of teeth 17-20  
Order no. 764 603  
ditto, no. 4, number of teeth 21-25  
Order no. 764 604  
ditto, no. 5, number of teeth 26-34  
Order no. 764 605  
ditto, no. 6, number of teeth 35-54  
Order no. 764 606  
Set of gear milling cutters  
40 mm dia., module 0.5, no. 1-6  
Order no. 152 110

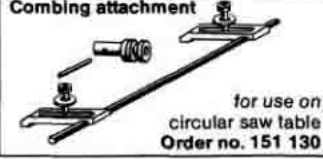
## Woodworking Accessories



without blade  
Order no. 150 380



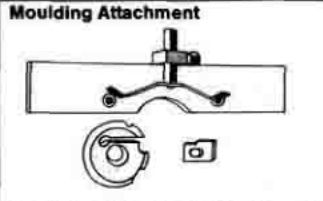
Order no. 124 100



for use on circular saw table  
Order no. 151 130

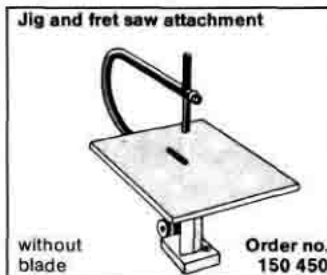


90 mm dia.  
Order no. 150 280

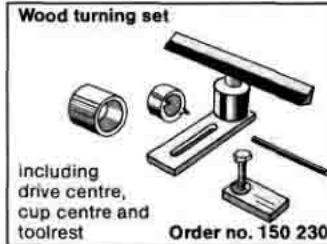


Consisting of fence hold down, moulding head, rabbeting cutter. Necessary Accessory: Circular sawing attachment  
Order no. 151 160

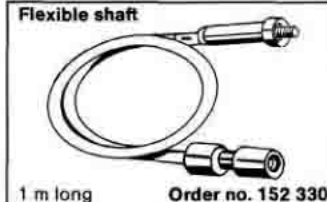
Set of profile cutters  
Order no. 151 165



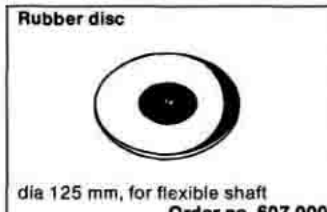
without blade  
Order no. 150 450



including drive centre, cup centre and toolrest  
Order no. 150 230

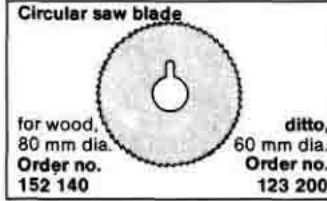


1 m long  
Order no. 152 330

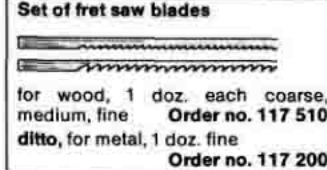


dia 125 mm, for flexible shaft  
Order no. 607 000

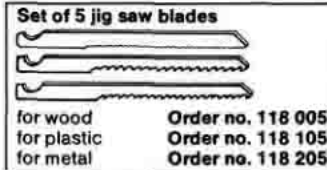
## Woodworking Tools



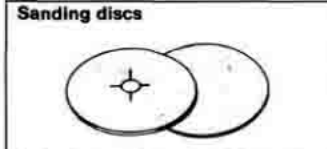
for wood, 80 mm dia.  
Order no. 152 140  
ditto, 60 mm dia.  
Order no. 123 200



for wood, 1 doz. each coarse, medium, fine  
Order no. 117 510  
ditto, for metal, 1 doz. fine  
Order no. 117 200

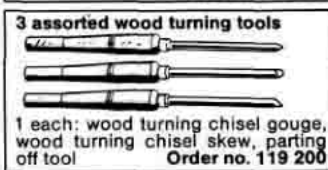


for wood  
Order no. 118 005  
for plastic  
Order no. 118 105  
for metal  
Order no. 118 205



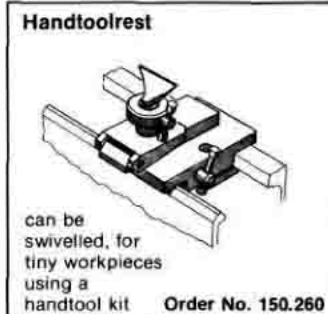
1 doz. for sanding disc, 90 mm dia.  
grit 100  
Order no. 112 500  
grit 80  
Order no. 112 600  
grit 60  
Order no. 112 700  
1 doz. for rubber disc, 125 mm dia.  
grit 120  
Order no. 116 700  
grit 80  
Order no. 116 800  
grit 50  
Order no. 116 900  
Adhesive for sanding discs,  
tin 100 g  
Order no. 112 900

Polishing lambskin mop for rubber disc  
Order no. 116 600

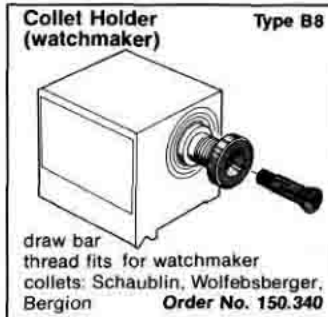


1 each: wood turning chisel gouge, wood turning chisel skew, parting off tool  
Order no. 119 200

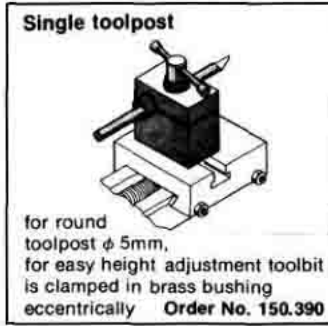
## Watchmakers Accessories



can be swivelled, for tiny workpieces using a handtool kit  
Order No. 150.260



draw bar thread fits for watchmaker collets: Schaublin, Wolfesberger, Bergion  
Order No. 150.340



for round toolpost ø 5mm, for easy height adjustment toolbit is clamped in brass bushing eccentrically  
Order No. 150.390



including fixing attachment, up to 120 divisions  
Order No. 150.440

# Compact 5

## You Can Machine Metals and Plastics Better

For the more demanding hobbyist or professional, the COMPACT 5 lathe is designed with the precision and accuracy of larger industrial lathes. The cast iron bed is extremely resistant to vibration and twist. With optional accessories the COMPACT 5 also converts to a universal machine tool with added capabilities of thread-cutting, milling, drilling, gear cutting and vertical boring.

What do modelmakers, instrument makers, opticians, watchmakers, jewelers, do-it-yourselfers, and many others need a lathe for?—For turning, of course: for turning those parts and fittings, such as bolts, shafts, bushes, and threaded parts, which are either not available commercially, or

which would take a long time and be very expensive to buy. Of course it makes a difference whether these workpieces are made on "just any old" lathe: *because the machine is the decisive factor in determining the range of shapes which can be made, the precision, machining quality, and the size of the work.* Let us have ten minutes of your time—and you will know what matters in a lathe, and all the things that a lathe such as the EMCO COMPACT 5 can perform.

### TECHNICAL DATA

Distance between centers .....	13.780"
Center height .....	2.559"
Swing over bed .....	5.120"
Cross slide travel .....	1.969"
Hole through spindle .....	0.630"
Spindle speeds .....	6—(250/400/650/ 1100/1800/2800)
Motor rating .....	500 W 115 V/60/1
Tailstock taper .....	MT1
Tailstock travel .....	1.378"
Tailstock diameter .....	0.866"
Weight:	
without topslide and power feed	
200.1CB .....	57 lbs.
with topslide and power feed	
200.110A .....	62 lbs.

### Base Machine:

**Order No. 200.1CB**—Compact 5 base machine includes: driving plate, lathe dog, 2 dead centers, toolholder, service tools and instruction and spare parts manual.

### Discount Package:

**Order No. 200.110A**—Base machine as described above, including top slide (200.550) and power feed (200.200).



Machine Shown With Optional Accessories



## HEADSTOCK—The Mounting for the Work Spindle.

The spindle, which imparts the rotary motion to the workpiece, is mounted in the headstock. It must be amply sized and rigidly mounted, in order to absorb the large end thrusts on it during turning. Play in the bearings will impair true running of the spindle, and cause chatter marks on the surface of the work.



\*The EMCO COMPACT 5's work spindle is amply dimensioned—including the diameter—

and extremely rigid, and runs in robustly-designed, deep-groove ball bearings. These are completely sealed against dirt, with lifetime lubrication. The sizeable spindle hole, 16mm bore, makes it easier to turn bar stock.



**Parting Off—**This is the term for cutting off a workpiece once it has been machined. This imposes severe

loads on the spindle and spindle bearing. The EMCO COMPACT 5 handles the operation with no trouble.

**Easy setting of the correct speed required—**The speed of the work spindle must be matched to the diameter of the work; the larger the diameter of the work, the lower the speed, and vice versa. This means that the speed has to be changed often.

\*Setting the correct speed is as simple as could be on the EMCO COMPACT 5: All you have to do is shift one belt. Nothing more (see illustration "Drive"). With the six speeds provided (200 to 2400 rpm), you can machine any work properly.

## THE AUTOMATIC FEED MECHANISM—For the finest surface finish on the work.



The automatic longitudinal travel of the tool carriage, and thus of the tool, ensures the finest surface finish. With the EMCO COMPACT 5 automatic feed mechanism (accessory) you can choose between two rates of feed (0.07 and 0.14mm/rev.) and five common thread pitches, from 0.4 to 1.5mm. Another ten metric and fourteen inch threads are provided by the "Change Gear Set" accessory.

**THE CARRIAGE—For longitudinal and transverse positioning—**The tool feed and infeed movements are performed with slides. For precise machining, it is important that they run along the guideways without play. Vee and dovetail guideways are the most suitable.



\*The slide of the EMCO COMPACT 5 runs in vee-ways, and the cross and tool slides in dove-

tail ways. To ensure that slides continue to run free of play, thus maintaining maximum infeed accuracy, the guideways can be adjusted with gibs.

## THE TAILSTOCK—Counter support for the workpiece.

When turning long pieces, the tailstock serves as a steady support, and also to center the workpiece.



\*The tailstock of the EMCO COMPACT 5 slides on the vee-guideway of the bed and can be fixed in any desired position. The scale on the tailstock sleeve enables exact drilling operations.

## THE LATHE BED—The Basis for precision and long-life.

It supports all the main elements of the lathe and is subject to particularly severe stress when machining bulky work, which may cause twisting. The results are inaccurate machining, a poor finish on the turned work, and a shortened life of the lathe. Therefore, the lathe bed should be as rigid and resistant to twisting as possible.



\*The bed of the EMCO COMPACT 5 lathe is of high-grade, vibration-absorbing gray

cast iron; its high cheeks and sturdy ribs make it extremely resistant to twisting and torsions. The saddle and tailstock run in their own ground vee-ways.—So you can machine even massive



workpieces very accurately, with no trouble.

## THE ADVANTAGES OF THE EMCO LATHE CHUCK.



The EMCO COMPACT 5's chuck (accessory) offers decisive advantages over conven-

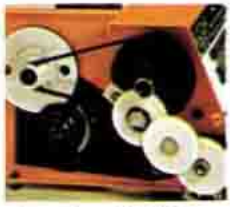
tional designs:

- fits on spindle without difficulty and provides maximum centering and true-running accuracy, because it is direct-fitting—no backplate!
- The lack of a backplate and the light-weight design give a reduction of about 25% in overall width and in weight.—This means less stress on the drive and transmission components of your lathe.

(Continued on next Page)



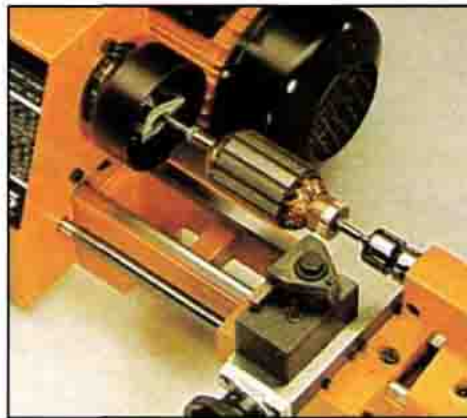
## Examples of Work—Lathe



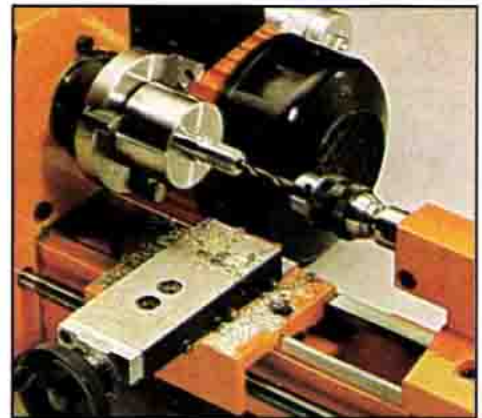
**THE DRIVE**—Full power transmission by vee-belt. The drive is from a sturdy

standard 500 watt motor, by vee-belt transmission to the work spindle. In the EMCO COMPACT 5, screw threads are cut using a quadrant plate with change gears, just like on a production lathe.

\*These are good reasons why about half a million model makers and do-it-yourselfers throughout the world use EMCO machines.



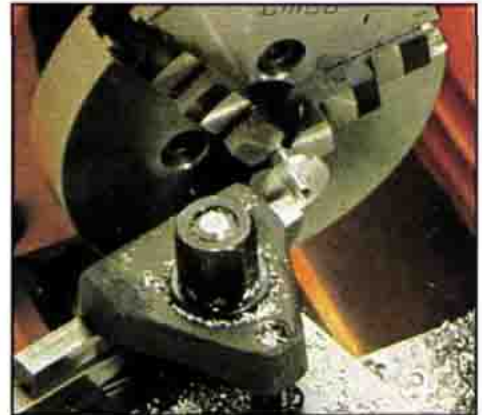
Turning a commutator



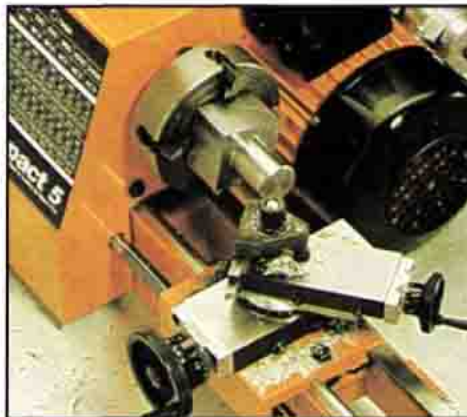
Drilling



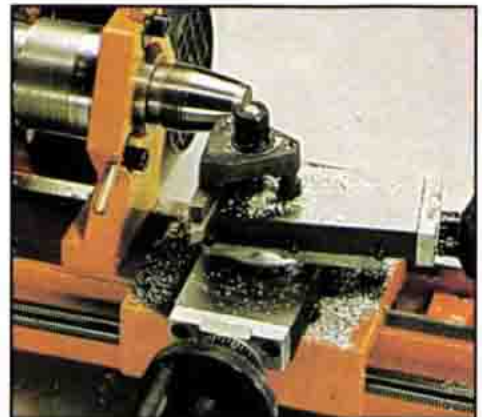
Eccentric turning



Turning a small part



Taper turning with top slide



Taper turning using steady rest



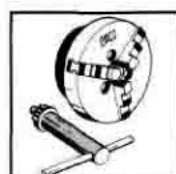
Screw thread-cutting



Boring



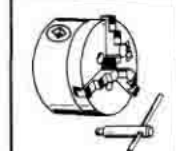
# Lathe Accessories



**Three-jaw lathe chuck**, light version, 80 mm dia., with scroll, reversible jaws and tee-handle pinion key  
**Order No. 200 410**

**Set of three soft jaws**

**Order No. 200 430**



**Three-jaw lathe chuck**, compact version for highest precision, 80 mm dia., with scroll, 2 x 3 jaws, tee-handle key  
**Order No. V3U 176**

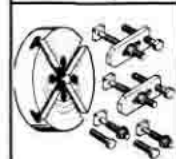
**Set of three soft jaws**

**Order No. T1U 013**



**Four-jaw independent chuck**  
90 mm dia., with reversible jaws  
**Order No. 200 420**

**Four-jaw lathe chuck**  
80 mm dia., with scroll, 2 x 4 jaws, key  
**Order No. V3U 178**



**Clamping plate**  
90 mm dia., with 4 chucking grooves, 2 clamps.  
**Technical tip:** Fits on spindle of headstock and on divider Order No. 200 320 and support flange Order No. 200 250  
**Order No. 200 360**



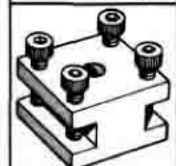
**Three-jaw drill chuck**  
capacity 1-8 mm, with M 14x1 mounting thread  
**Order No. 152 500**



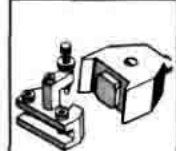
**Morse taper arbor MT 1**  
with M 14x1 mounting thread (for mounting drill chuck to tailstock)  
**Order No. 200 280**



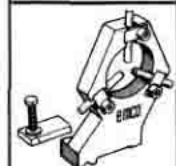
**Revolving center MT 1**  
**Order No. 200 260**



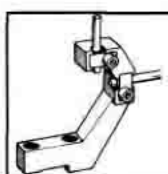
**Double tool holder**  
for square tools up to a maximum cross-section of 6x6 mm.  
**Technical tip:** Fits on top slide Order No. 200 500  
**Order No. 200 010**



**Quick-change tool holder**  
consisting of tool holder body, 3 standard tool holders, 1 operating key. For square tools up to a maximum cross section of 8x8 mm.  
**Technical tip:** Fits on top slide Order No. 200 500 (200 550)  
**Order No. 202 000**



**Fixed steady**  
for workpieces from 2-40 mm dia.  
**Order No. 200 240**



**Travelling steady**  
for workpieces from 4-25 mm dia.

**Order No. 200 230**

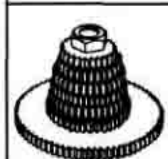


**Top slide**  
for taper turning

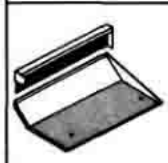
metric version **Order No. 200 500**  
inch version **Order No. 200 550**



**Automatic feed mechanism**  
consisting of gear quadrant with six change gear-wheels and clutch for two longitudinal feeds and five thread pitches (four thread pitches on inch type machine)  
**Order No. 200 300**



**Set of change gears**  
consisting of seven change gears for thread cutting, 10 metric pitches from 0.25-2.5 mm and 14 inch pitches from 48 to 10 tpi (11 metric pitches from 0.25 to 1.75 mm and 13 inch pitches from 64 to 10 tpi on inch type machine)  
**Order No. 200 200**



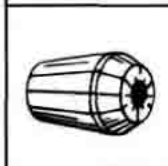
**Splash guard with chip tray**  
can also be mounted at later stage  
**Order No. 200 150**

**Leveling device** **Order No. 200 210**

**Safety goggles** **Order No. 152 120**



**Collet attachment**  
consisting of collet holder and union nut. For collets type ESX-25, capacity 1.5-14 mm  
**Order No. 200 040**

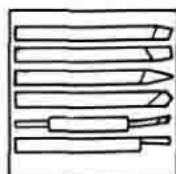


**Set of 14 collets ESX-25**  
in wooden case, gripping capacity 1.5-14 mm  
**Order No. 225 000**

## Individual collets ESX-25

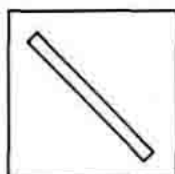
Nominal diameter in mm	Chuck capacity in mm	Chuck capacity in inches	Order No.
2,0	1,5-2,0	1/16-5/16	225 020
2,5	2,0-2,5	5/32	225 025
3,0	2,5-3,0	5/16	225 030
4,0	3,0-4,0	1/8-9/32	225 040
5,0	4,0-5,0	1/4-5/8	225 050
6,0	5,0-6,0	13/32-19/32	225 060
7,0	6,0-7,0	1/2-17/32	225 070
8,0	7,0-8,0	9/16-19/16	225 080
9,0	8,0-9,0	7/8-1 1/8	225 090
10,0	9,0-10,0	23/32-1 1/4	225 100
11,0	10,0-11,0	15/16-1 1/2	225 110
12,0	11,0-12,0	7/8-1 3/4	225 120
13,0	12,0-13,0	1 1/8-1 5/8	225 130
14,0	13,0-14,0	1 1/4-1 3/4	225 140

# Lathe Tools



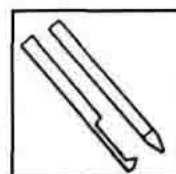
**6 turning tools**  
assorted, ground

**Order No. 111 500**



**5 turning tools**  
unground

**Order No. 110 010**



**2 threading tools**  
external and internal

**Order No. 111 600**

# Examples of Work—Vertical Milling and Drilling Attachments



End milling



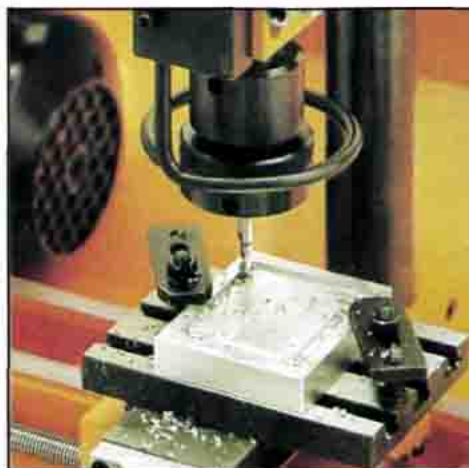
Gear milling



Internal turning



Milling with end mill

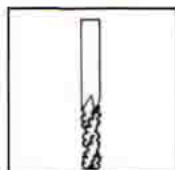


Milling coordinates



Drilling with a swivelled head

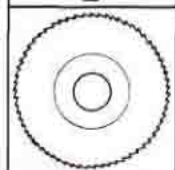
## Tools for Vertical Milling and Drilling Attachment



### Heavy-duty end mill

high speed steel with roughing toothings, shaft dia. 8 mm

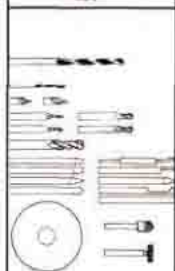
**Order No. 764 200**



### Circular saw blade

for metal, 60 mm dia.

**Order No. 123 100**



### Tool assortment, large

15 twist drills, 1–8 mm dia. in steps of 0.5 mm  
2 center drills 1.5 mm dia.  
4 grooving cutters dia. 3, 4, 5, 6 mm  
1 roughing mill dia. 8 mm  
8 turning tools, ground, assorted  
1 turning tool, unground  
1 circular saw blade for metal dia. 60 mm  
1 countersink 90°  
1 T-slot cutter  $\varnothing 16 \times 4$  mm

**Order No. 152 100**



### Set of 6 gear mills

dia. 40 mm. Module 0.5 (No. 1–6)

**Order No. 152 110**

### Individual gear mills

$\varnothing 40$  mm, module 0.5, No. 1, for 12–13 teeth  
 $\varnothing 40$  mm, module 0.5, No. 2, for 14–16 teeth  
 $\varnothing 40$  mm, module 0.5, No. 3, for 17–20 teeth  
 $\varnothing 40$  mm, module 0.5, No. 4, for 21–25 teeth  
 $\varnothing 40$  mm, module 0.5, No. 5, for 26–34 teeth  
 $\varnothing 40$  mm, module 0.5, No. 6, for 35–54 teeth

**Order No. 764 601**  
**Order No. 764 602**  
**Order No. 764 603**  
**Order No. 764 604**  
**Order No. 764 605**  
**Order No. 764 606**

### Tool assortment, small

1 twist drill each 2, 3, 4, 5 mm dia., 1 center drill 1.5 mm dia.,  
1 countersink 90°, 1 grooving cutter 4 mm dia.,  
1 T-slot cutter  $16 \times 4$  mm dia.

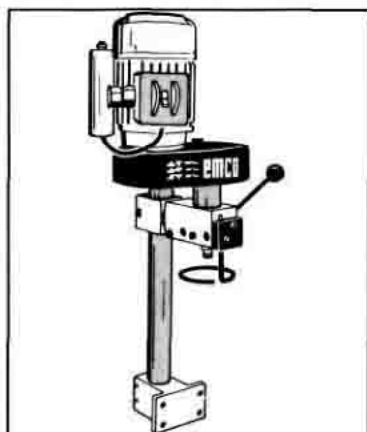
**Order No. 119 000**

### Service parts set

2 V-belts, 10 shear pins, 2 washers, 2 grooved pins

**Order No. 200 990**

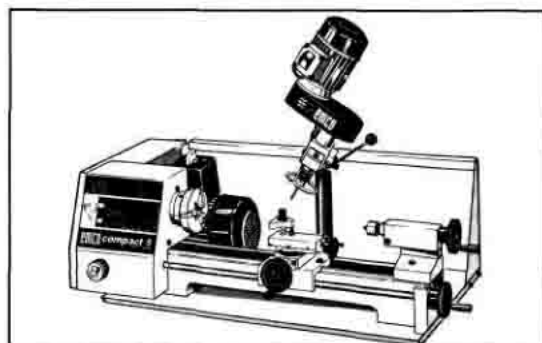




## Vertical Milling and Drilling Attachment

**Drive Motor:** Single-phase ac motor with capacitor, switch, and cable. **Order No. 201.1BZ**

*Please indicate voltage and frequency when ordering.*



## Accessories for Milling and Drilling Attachment



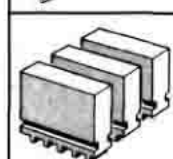
**Three-jaw drill chuck**  
capacity 1 to 8 mm, with M 14x1 mounting thread

**Order No. 152 500**



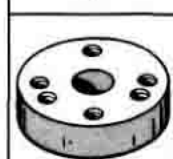
**Three-jaw lathe chuck**  
80 mm dia., with scroll, reversible jaws, and tee-handle pinion key

**Order No. 200 410**



**Set of 3 soft jaws**  
**Technical tip:** For three-jaw lathe chuck  
**Order No. 200 410**

**Order No. 200 430**



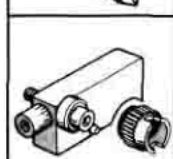
**Support flange**  
**Technical tip:** For mounting three-jaw lathe chuck  
**Order No. 200 410, four-jaw independent chuck**  
**Order No. 200 360, collet attachment** **Order No. 200 040**

**Order No. 200 250**



**Facing and boring head (Fly cutter)**  
with 1 ground facing and boring tool, 2 unground tools, operating key

**Order No. 150 100**



**Vertical fine feed attachment**  
1 division = 0.1 mm

**Order No. 151 110**



**Collet attachment**  
for collets type ESX-25, gripping capacity 1.5-14 mm

**Order No. 200 050**



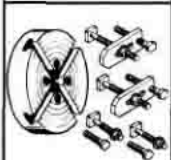
**Cutter arbor**  
for tooth milling cutters and circular saw blade

**Order No. 151 070**



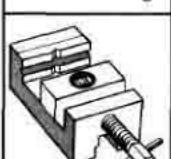
**Milling table**  
with 2 clamps, can be mounted on cross slide for fixing or clamping large-surface workpieces

**Order No. 150 350**



**Clamping plate**  
90 mm dia., with 2 clamps  
**Technical tip:** Fits on spindle of headstock and dividing attachment **Order No. 200 320**

**Order No. 200 360**



**Machine vice**  
Clamping range 32 mm  
Width of jaws 46 mm  
Height of jaws 18 mm

**Order No. 200 310**



**Dividing attachment**  
with integrated dividing plate for direct dividing.  
22 possible divisions: 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 15, 16, 18, 20, 24, 28, 30, 36, 48, 56, 60  
**Technical tip:** Chucking means that can be used -  
Three-jaw lathe chuck **Order No. 200 410**  
Clamping plate **Order No. 200 360**  
Four-jaw independent chuck **Order No. 200 420**  
Collet attachment **Order No. 200 040**

**Order No. 200 320**



**Set of 14 collets ESX-25**  
in wooden case, gripping capacity from 1.5-14 mm

**Order No. 225 000**

### Individual collets ESX-25

Nominal dia. in mm	Chuck capacity in mm	Shaft dia. in inches	Order No.
2,0	1,5-2,0	1/16-5/64	225 020
2,5	2,0-2,5	3/32	225 025
3,0	2,5-3,0	7/64	225 030
4,0	3,0-4,0	1/8-9/64-5/32	225 040
5,0	4,0-5,0	11/64-3/16	225 050
6,0	5,0-6,0	13/64-7/32-15/64	225 060
7,0	6,0-7,0	1/4-17/64	225 070
8,0	7,0-8,0	9/32-19/64-5/16	225 080
9,0	8,0-9,0	21/64-11/32	225 090
10,0	9,0-10,0	23/64-3/8-25/64	225 100
11,0	10,0-11,0	13/32-27/64	225 110
12,0	11,0-12,0	7/16-29/64-15/32	225 120
13,0	12,0-13,0	21/64-1/2	225 130
14,0	13,0-14,0	23/64-17/32-35/64	225 140

# C-5 Unimill

## The Perfect Drilling/Milling Machine

If your needs for precision milling and drilling are great, but your work-space is limited, consider the C-5 UNIMILL.

Compact in size, but substantial in its construction and performance, the C-5 Unimill is the perfect milling and drilling machine for applications in:

- MODEL BUILDING
- PRECISION MECHANICAL WORK
- HOME WORKSHOP
- ELECTRONICS
- REPAIR & MAINTENANCE
- R & D PROTOTYPE WORK

The milling head, which swivels 360°, can also be attached to the bed of the

Compact 5 for milling between centers. Mounted to the heavy-duty X-Y coordinate table, it becomes a dedicated milling/drilling device with a longitudinal travel of 10½" and a cross travel of 3".

All of this for about half the cost and a third of the space requirements of a "full-size" milling unit or drill press!

### TECHNICAL DATA

#### WORKING AREA

Maximum height between milling table and spindle nose .....	9¼"
Throat .....	3¼"
Table size .....	15" x 4"
Longitudinal travel .....	10½"
Cross travel .....	3"
SPACE REQUIRED .....	21" x 14"
COLOR .....	Yellow

#### MILLING HEAD

3 Spindle speeds ..... 450/800/1900 rpm  
Milling head can be turned and swiveled up to 360°

#### Drive

..200 W 53-60% ED-single phase ac motor	
Spindle nose.....	M14 x 1
Quill stroke .....	1.2"
Net weight of machine assembly .....	49 lbs.
Net weight of vertical unit .....	16 lbs.
Net weight of X-Y table .....	33 lbs.

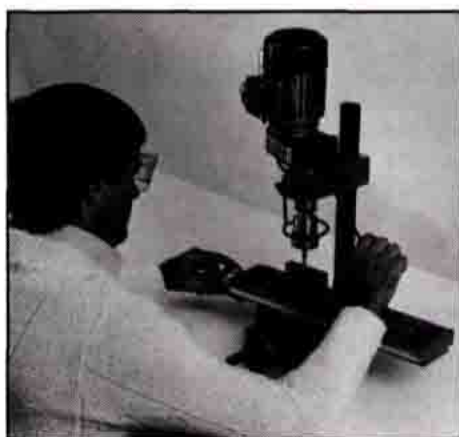
**BASE EQUIPMENT:** X-Y coordinate table, vertical column with drive unit and motor, cable and plug.

#### BASE MACHINE:

C-5 Unimill including mill-drill head and X-Y milling table.

**Order No. 201.010A**

X-Y milling table only for C-5 Unimill. **Order No. 201.011A**





## APPLICATIONS



Milling a face



Angled drilling



End Milling

(Vertical)

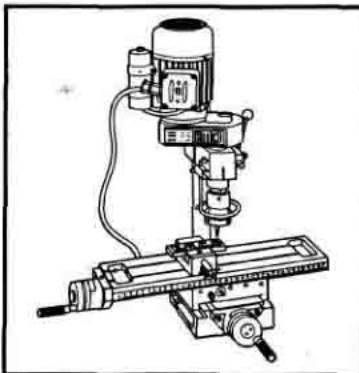


Drilling with  
dividing attachment

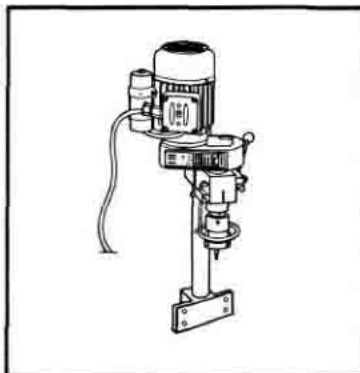
(Horizontal)



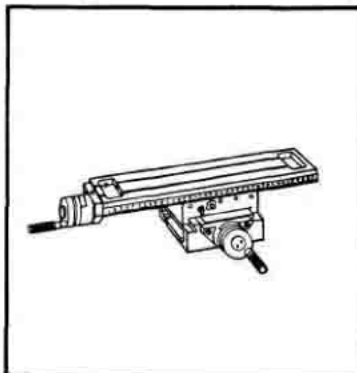
Drilling with  
dividing attachment



C-5 Unimill includes:  
vertical milling and drilling  
head. **Order No. 201.010A**



Vertical milling and drilling head only.  
Drive motor: single-phase ac motor  
with capacitor, switch and cable.  
**Order No. 201.1BZ**



X-Y Table (only)  
**Order No. 201.011A**

## ACCESSORIES

	<b>Three-jaw drill chuck</b> capacity 1 to 8 mm, with M 14x1 mounting thread <b>Order No. 152 500</b>		<b>Milling table</b> with 2 clamps, can be mounted on cross slide for fixing or clamping large-surface workpieces <b>Order No. 150 350</b>		<b>Cutter arbor</b> for tooth milling cutters and circular saw blade <b>Order No. 151 070</b>
	<b>Three-jaw lathe chuck</b> 80 mm dia., with scroll, reversible jaws, and tee- handle pinion key <b>Order No. 200 410</b>		<b>Clamping plate</b> 90 mm dia., with 2 clamps Technical tip: Fits on spindle of headstock and dividing attachment Order No. 200 320 <b>Order No. 200 360</b>		<b>Heavy-duty end mill</b> high speed steel with roughing toothing, shaft dia. 8 mm <b>Order No. 764 200</b>
	<b>Set of 3 soft jaws</b> Technical tip: For three-jaw lathe chuck Order No. 200 410 <b>Order No. 200 430</b>		<b>Machine vice</b> Clamping range 32 mm Width of jaws 46 mm Height of jaws 18 mm <b>Order No. 200 310</b>		<b>Tool assortment, large</b> 15 twist drills, 1-8 mm dia. in steps of 0.5 mm 2 center drills 1.5 mm dia. 4 grooving cutters dia. 3, 4, 5, 6 mm 1 roughing mill dia. 8 mm 8 turning tools, ground, assorted 1 turning tool, unground 1 circular saw blade for metal dia. 60 mm 1 countersink 90° 1 T-slot cutter Ø 16x4 mm <b>Order No. 152 100</b>
	<b>Support flange</b> Technical tip: For mounting three-jaw lathe chuck Order No. 200 410, four-jaw independent chuck Order No. 200 360, collet attachment Order No. 200 040 <b>Order No. 200 250</b>		<b>Dividing attachment</b> with integrated dividing plate for direct dividing. 22 possible divisions: 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 15, 16, 18, 20, 24, 28, 30, 36, 48, 56, 60 Technical tip: Chucking means that can be used - Three-jaw lathe chuck Order No. 200 410 Clamping plate Order No. 200 360 Four-jaw independent chuck Order No. 200 420 Collet attachment Order No. 200 040 <b>Order No. 200 320</b>		<b>Circular saw blade</b> for metal, 60 mm dia. <b>Order No. 123 100</b>
	<b>Facing and boring head (Fly cutter)</b> with 1 ground facing and boring tool, 2 unground tools, operating key <b>Order No. 150 100</b>		<b>Set of 14 collets ESX-25</b> in wooden case, gripping capacity from 1.5-14 mm <b>Order No. 225 000</b>		<b>Vertical fine feed attachment</b> 1 division = 0.1 mm <b>Order No. 151 110</b>
	<b>Collet attachment</b> for collets type ESX-25, gripping capacity 1.5-14 mm <b>Order No. 200 050</b>				<b>Set of 6 gear mills</b> dia. 40 mm, Module 0.5 (No. 1-6) <b>Order No. 152 110</b>
					<b>Service parts set</b> 2 V-belts, 10 shear pins, 2 washers, 2 grooved pins <b>Order No. 200 990</b>

### Individual collets ESX-25

Nominal dia. in mm	Chuck capacity in mm	Shaft dia. in inches	Order No.
2.0	1.5-2.0	1/16-5/64	<b>225 020</b>
2.5	2.0-2.5	9/32	<b>225 025</b>
3.0	2.5-3.0	7/32	<b>225 030</b>
4.0	3.0-4.0	1/8-9/32	<b>225 040</b>
5.0	4.0-5.0	7/32-5/16	<b>225 050</b>
6.0	5.0-6.0	13/32-11/16	<b>225 060</b>
7.0	6.0-7.0	1/2-17/32	<b>225 070</b>

### Individual collets ESX-25

Nominal dia. in mm	Chuck capacity in mm	Shaft dia. in inches	Order No.
8.0	7.0-8.0	9/32-19/64-5/16	<b>225 080</b>
9.0	8.0-9.0	21/64-11/32	<b>225 090</b>
10.0	9.0-10.0	23/64-3/8-25/64	<b>225 100</b>
11.0	10.0-11.0	13/32-27/64	<b>225 110</b>
12.0	11.0-12.0	7/16-29/64-15/32	<b>225 120</b>
13.0	12.0-13.0	31/64-1/2	<b>225 130</b>
14.0	13.0-14.0	33/64-17/32-35/64	<b>225 140</b>

### Individual gear mills

Ø 40 mm, module 0.5, No. 1, for 12-13 teeth  
 Ø 40 mm, module 0.5, No. 2, for 14-16 teeth  
 Ø 40 mm, module 0.5, No. 3, for 17-20 teeth

**Order No. 764 601**  
**Order No. 764 602**  
**Order No. 764 603**

Ø 40 mm, module 0.5, No. 4, for 21-25 teeth  
 Ø 40 mm, module 0.5, No. 5, for 26-34 teeth  
 Ø 40 mm, module 0.5, No. 6, for 35-54 teeth

**Order No. 764 604**  
**Order No. 764 605**  
**Order No. 764 606**

### Tool assortment, small

1 twist drill each 2, 3, 4, 5 mm dia., 1 center drill 1.5 mm dia.,  
 1 countersink 90°, 1 grooving cutter 4 mm dia.,  
 1 T-slot cutter 16x4 mm dia. **Order No. 119 000**

# Unimat 1

## Turning, Drilling, Milling and Sanding

With Construction Kit UNIMAT 1—The Unimat 1 is made up of different machine part assemblies on the modular construction principle. From these you can build up whatever machine you require at the moment: a lathe, a drilling machine or a milling machine.

**Safety for the junior modelmaker:** The drive is provided by a 6-volt electric motor powered from a battery or via a transformer.

UNIMAT 1: Turning, Drilling, Milling. With the UNIMAT 1, you can construct and repair: model cars, aircraft, ships, small steam engines, chessmen, models of historical cannons, miniature figures, etc. Of course, you cannot always succeed with perfect models right from the word go—Rome wasn't built in a day. At the beginning, the UNIMAT 1 Modelmaking Guide (accompanies the machine) is an invaluable aid.

### TECHNICAL DATA

#### LATHE

Distance between centers ..... 5.3" (135mm)  
 Center height ..... 1" 25mm)  
 Swing over bed ..... 2" (50mm)  
 Cross slide travel ..... 1.1" (30mm)  
 Longitudinal slide travel ..... 2" (50mm)  
 Hole through spindle ..... 0.3" (8mm)  
 Spindle nose ..... M12 x 1  
 Spindle speed (*idling*) ..... 1500 rpm  
 Stroke at center sleeve/tailstock  
 ..... 0.59" (15mm)

#### DRILLING MACHINE:

Table size ..... 5.9" x 2" (150mm x 50mm)  
 Distance—table to spindle nose  
 ..... 0-7.4" (0-190mm)  
 Throat ..... 2.79" (71mm)  
 Stroke of quill ..... 1.1" (30mm)

#### MILLING MACHINE:

Strokes: longitudinal ..... 2" (50mm)  
 cross ..... 1.1" (30mm)  
 Table (*cross slide*) . 3.4" x 2" (87mm x 50mm)





## ACCESSORIES



Turning of a cup  
Accessory: Woodturning  
attachment (i) with clamping  
plate (g) and turning gouge  
▲ Order No. 162.100

Aluminum drilling  
Accessory:  
Drilling table (f)  
Order No. 162.070 ▶



Drilling with  
dividing  
attachment (b)  
▲ Order No.  
162.040



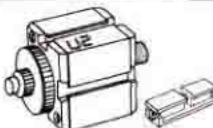
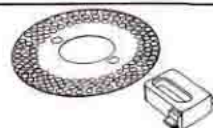
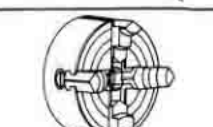

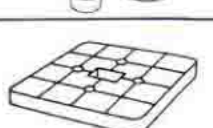
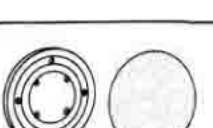

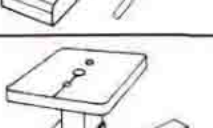
Tool grinding ▲  
Accessory: Tool grinder (d)  
with grinding wheel (e)  
Order No. 162.060



Wood grinding ▲  
Accessory: Sanding disc  
with clamping plate (g)  
and 5 pieces sanding paper (h)  
Order No. 162.110

The UNIMAT 1  
Instruction Book  
tells you how to  
construct the  
various machine  
tools and how  
to operate  
them correctly.



	Countershaft (a) (Headstock) Order No. 162.030	Fly center including 1 bit Order No. 162.200
	Dividing attachment (b) Order No. 162.040	Gear milling head including 2 cutters module 0.5 Order No. 162.210
	4-jaw lathe chuck (c) Order No. 162.050	2 special cutters module 1 for 162.210 Order No. 162.290
	Tool grinder (d) with 1 grinding wheel (e) Order No. 162.060	1 outside and 1 inside turning tool Order No. 162.230
	Drilling table (f) Order No. 162.070	2 turning gouges (k) Order No. 162.240
	Sanding disc (g) with 5 pieces sanding paper (h) Order No. 162.110	Set 10 jig saw blades Order No. 162.250
	Woodturning attachment (i) with clamping plate (g) and turning gouge (k) Order No. 162.100	10 pieces sanding paper grain 100/150 Order No. 162.260
	Jig Saw attachment (j) including 2 blades Order No. 162.120	2 grinding wheels Order No. 162.270
		Service parts set (Drive belt, clamping elements, screws, etc.) Order No. 162.280



**Basic Machine:** Machine bed no. 1, machine bed no. 2, headstock, tailstock, raw material, three-jaw chuck, machine vice, longitudinal slide, lever for drilling, intermediate pieces, slide no. 1, slide no. 2, collets, motor with switch, collet holder, clamping jaw, connection pieces, center, drill, milling cutter, turning tool, allen key, T-slot nuts, screws, nuts, spacers, rods, etc. Order No. 160.100

# Playmat

## Attention Beginning Model Makers

The PLAYMAT consists of a number of separate parts from which you can build up fully-functioning machines in the same way as from a construction kit. Machine for sawing, for drilling, for woodturning and for sanding.

You will successfully be turning out simple workpieces with the PLAYMAT after only a short time. Why not begin with the flying glider; the raw material and instructions are supplied with the machine. And then perhaps move on to a

Jumping Jack or a toy car for your little brother, furniture for the kitchen in your sister's doll house or a bird house.

All PLAYMAT machines are driven by a 6-volt electric motor designed in accordance with safety specifications and powered either from a battery or via a transformer.

### TECHNICAL DATA

#### JIG SAW:

Table ..... 3.5" x 3.5" (90mm x 90mm)  
Width of plywood .... 0 to .1181" (0 to 3mm)  
Strokes in rev/min..... 3700

#### DRILLING:

Table size..... 3.5" x 3.5" (90mm x 90mm)

#### DISTANCE:

Table—spindle nose ..... 0-1.97" (0-50mm)  
Throat ..... 1.5" (40mm)

#### WOODTURNING:

Center distance ..... 5.5" (140mm)  
Center height ..... 1.57" (40mm)  
Maximum distance diameter ... .62" (16mm)  
Spindle speed (rev/min) ..... 3700  
Motor capacity ..... 20 watt  
Nominal rpm ..... 11,000

#### GRINDING:

Disc speed (rev/min) ..... 3700  
Diameter of disc ..... 1.18" (30mm)

Base machine includes all items listed on Page 20.

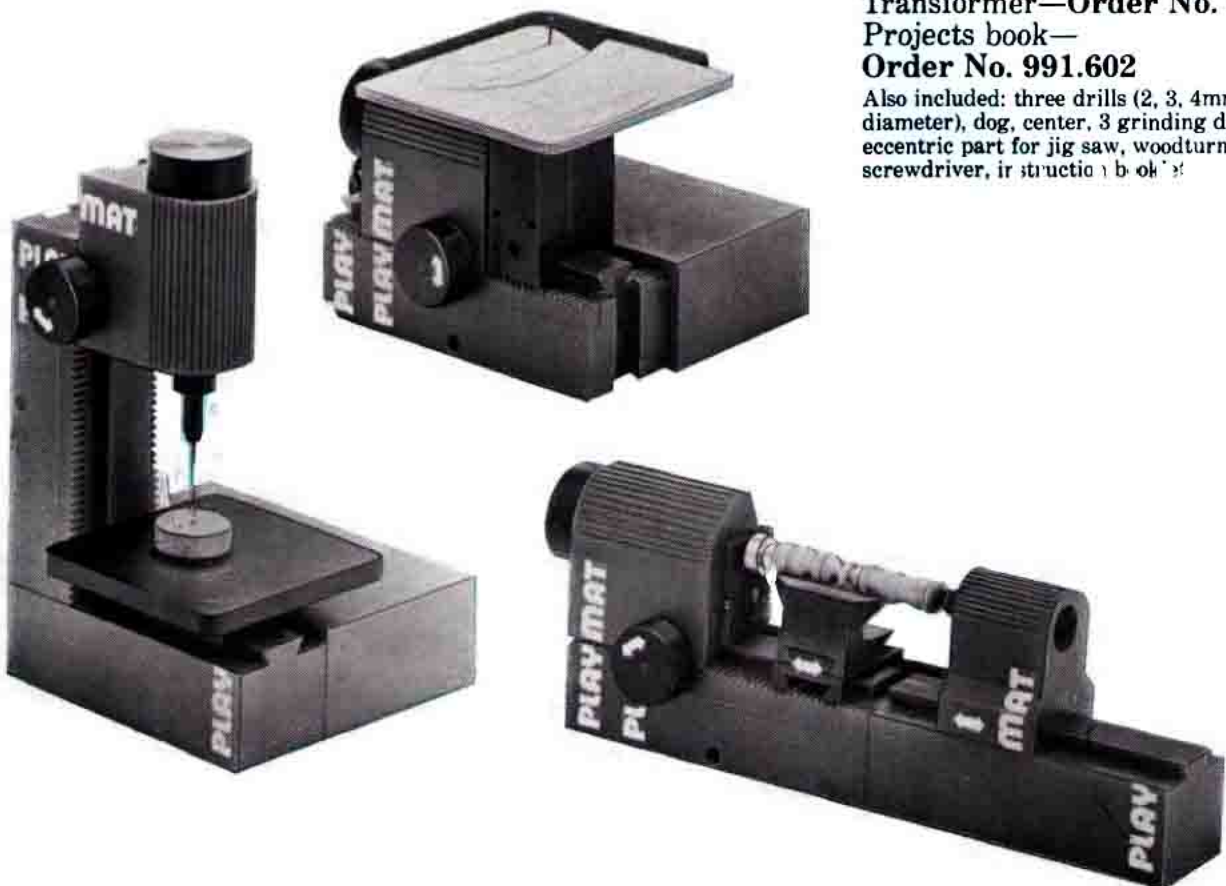
Order No. 901.100

Transformer—Order No. 16100

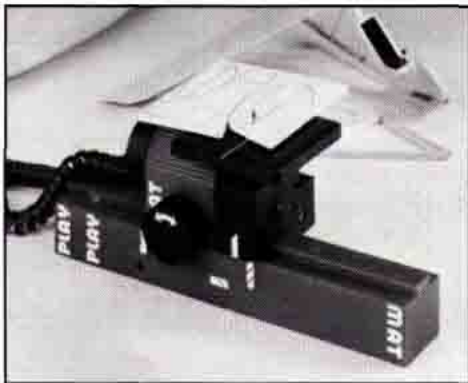
Projects book—

Order No. 991.602

Also included: three drills (2, 3, 4mm diameter), dog, center, 3 grinding discs, eccentric part for jig saw, woodturning tool, screwdriver, instruction book.







The PLAYMAT Instruction Book tells you how to construct the various machine tools and how to use them correctly. There you also find the construction-drawing for the flying glider.



**Basic equipment:** Headstock, motor with switch, machine bed, saw housing, cross slide, handtoolrest, tailstock housing, drilling table, intermediate piece, battery pack, saw table, raw material for glider, driver, center, sanding disc, spindle, 2 drill chucks, sanding paper. Additionally several clamping elements and miniparts. Order No. 901.100.

# Unimat SL1000, DB200

## A Complete Service from EMCO MAIER

For over a century, the UNIMAT SL has been the standard in universal miniature machine tools with a quarter of a million units sold worldwide.

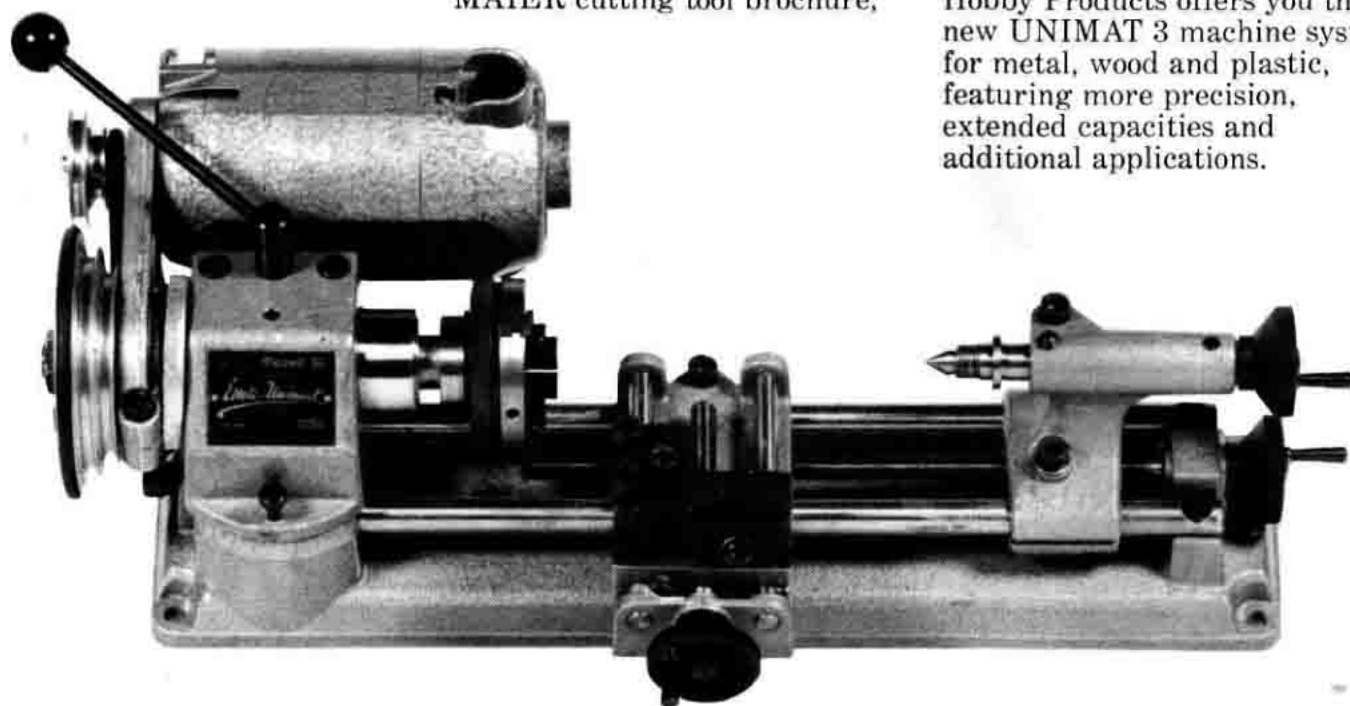
EMCO MAIER assures to the thousands of UNIMAT SL users around the United States

continued supply of all accessories and spare parts as well as complete product service.

Page 22 lists all available accessories for the UNIMAT SL. A complete line of tooling is also available. (Request the EMCO MAIER cutting tool brochure,

order number 990.070). For a listing of available replacement parts, consult your owner's manual or request further information from Hobby Products.

And if you should decide to replace your UNIMAT SL, Hobby Products offers you the new UNIMAT 3 machine system for metal, wood and plastic, featuring more precision, extended capacities and additional applications.





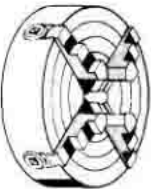
## Accessories

### Universal lathe chuck



with 3 jaws,  
55mm dia. Order no. 100.100  
Set of 3 soft jaws  
Order no. 100.300

### 4-jaw lathe chuck



55mm dia.,  
with 4 independently adjustable  
jaws, with key Order no. 100.200

### 3-jaw drill chuck



capacity 8mm, with key  
Order no. 100.500

### Watchmaker's Spindle

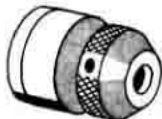
Order no. 102.200

Collets for Watchmaker's Spindle  
B8 8-piece set metric 1-8mm  
by 1mm Order no. 102.310

8-piece set inch B8 1/32"-1/4"  
by 1/32" Order no. 102.300

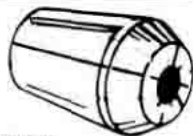
Individual Collets B8  
1/32"-1/4" by 1/32"  
Order no. 102.301 to 102.303

### Collet attachment



Order no. 102.000

### Set of 10 Special Collets ESX-16



inch. 1/32"-13/64"  
Order no. 152.200

Metric, 0.5-8.0mm  
Individual Collets ESX-16  
Order no. 152.210 to 152.280

### Power feed gear



for automatic longitudinal feed  
Order no. 129.000

Quill return spring for vertical  
Order no. 100.800

### 3 point steady rest



Order no. 104.000

### Polishing spindle



Order no. 103.000

### Thread-cutting attachment



Order no. 127.000

### Individual formers & guides



Set of 9 formers & guides  
for metric pitches  
(0.5-1.5mm) clockwise  
Order no. 127.100

Set of 14 formers & guides  
for inch pitches (16-56 tpi)  
clockwise Order no. 127.150

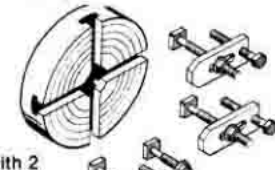
Individual formers & guides  
Order no. 127.151 to 127.164

### Live centre



Order no. 122.200

### Clamping plate



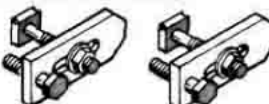
with 2  
clamping  
shoes Order no. 126.100

### Milling table



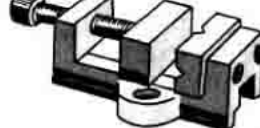
with 2 clamping shoes  
Order no. 121.000

### Assortment of 2 clamps



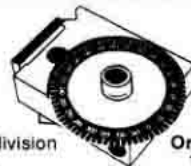
with 2 T-slot bolts, 2 screws and  
2 nuts Order no. 121.200

### Machine vice



Order no. 101.000

### Indexing and dividing attachment



with division  
plate Order no. 126.000

### Set of division plates:



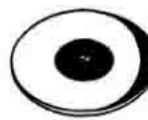
30, 36, 40  
Order no. 126.500,  
600, 700

### Cutter arbor



for gear  
milling cutters  
and circular saw blades  
Order no. 124.500

### Rubber disc



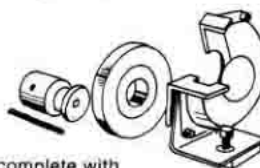
dia. 125mm, for flexible shaft  
Order no. 116.500

### Fly cutter



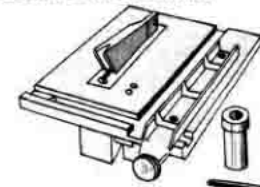
with a ground tool, 2 unground tool  
bits, operating key  
Order no. 150.100

### Tool grinding attachment



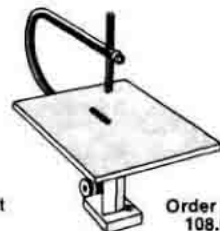
complete with  
grinding wheel Order no. 134.000

### Circular saw attachment



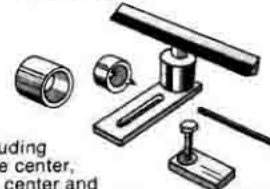
without blade Order no. 124.000

### Jig and fret saw attachment



without  
blade Order no. 108.000

### Wood turning set



including  
drive center,  
cup center and  
toolrest Order no. 139.500

### Sanding plate for sanding discs



90mm dia. Order no. 133.000

### Intermediate Piece

(required  
for no. 124.000,  
105.000 & 133.000)



Order no. 131.100

### Replacement Drive Belts



Large—  
Order no. 130.091  
Small—  
Order no. 130.090  
For power  
feed—  
Order no. 130.095

### Grinding wheel



for tool grinding attachment  
(Set of 3) Order no. 119.100

### Mitre gauge



Order no. 124.100

### ONE YEAR LIMITED WARRANTY

Emco-Maier Corporation warrants to the original purchaser that the product purchased will be free from defects in material and workmanship for a period of twelve months from the date of purchase. We will repair or replace, at our option, the product or any part thereof which is defective provided (a) that prior to the expiration of the twelve-month period, the product or part is shipped, transportation charges prepaid, with proof of date of purchase to Emco-Maier Corporation, 2737 Scioto Parkway, Hilliard, Ohio 43026, and (b) that before such shipment, we receive notice in writing, of the nature of the defect and the product or part to be shipped.

This warranty does not apply to products or parts which have been misused, damaged by accident, subjected to unauthorized repairs or alterations, or not operated in accordance with normal procedure.

#### LIMITATION

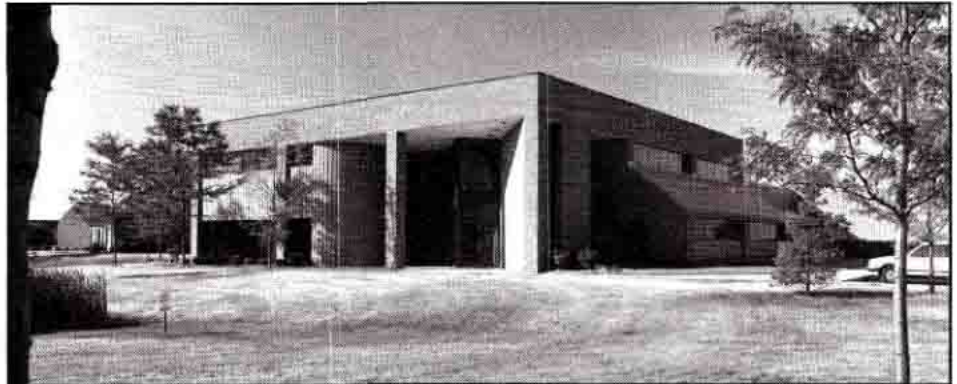
REPAIR OR REPLACEMENT OF THE PRODUCT OR PART IN THE MANNER AND FOR THE TIME PERIOD SPECIFIED ABOVE IS THE PURCHASER'S EXCLUSIVE REMEDY AND WILL SATISFY ALL LIABILITIES OF EMCO-MAIER CORPORATION TO PURCHASER ARISING OUT OF THE SALE OR USE OF THE PRODUCT, WHETHER BASED ON CONTRACT, WARRANTY, NEGLIGENCE OR OTHERWISE. IN NO EVENT WILL EMCO-MAIER CORPORATION BE LIABLE FOR ANY PROPERTY LOSS OR OTHER INCIDENTAL OR CONSEQUENTIAL LOSS OR DAMAGE RESULTING FROM ANY DEFECTS IN THE PRODUCT. TO THE EXTENT ALLOWED BY LAW, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS IS LIMITED TO THE DURATION OF THIS LIMITED WARRANTY.

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This warranty gives you specific legal rights and you also may have other rights which vary from state to state.

Emco Maier Corporation, the parent company of Hobby Products, is an international machine tool builder with its headquarters in Hallein, Austria.

Your Authorized Unimat Dealer is:



The present location of Hobby Products at 2757 Scioto Parkway, Columbus, Ohio is a 70,000 square foot facility dedicated to marketing, application engineering, service, product quality, CNC training and inventory management.

**Hobby Products Company**  
2757 Scioto Parkway  
Columbus OH 43026-2334