

# Type 5 Precision Knife Grinder



## MACHINE FEATURES:

- Box/Cellular Construction - Stress Relieved
- Easy Grinding Wheel Access from the front of the machine
- Carriage Rides on Easily Replaceable Hardened Steel Bands
- Precision Grinding Motor - 12 or 18HP - 1800 RPM
- 10" diameter Grinding Wheel
- Vertical Feed Servo Motor directly coupled to a vertical oversized ball screw
- Automatic Electronic Programmable Down-feed System with Digital Electronic Control & Position Readout
- A.C. Servo Infinitely Variable Feeds to the Carriage
- 6" (150mm) Wide Magnetic Bed
- DQ Magnetism - Magnetic right up to 1 edge of the bed
- Maximum Grinding Width - 8"
- Maximum Clearance of Grinding Wheel - 5"
- Feed Speed of Grinding Carriage (approx.) 2 to 100 FPM
- Separate Coolant Tank
- Magnetic &/or Paper Band Cleaner

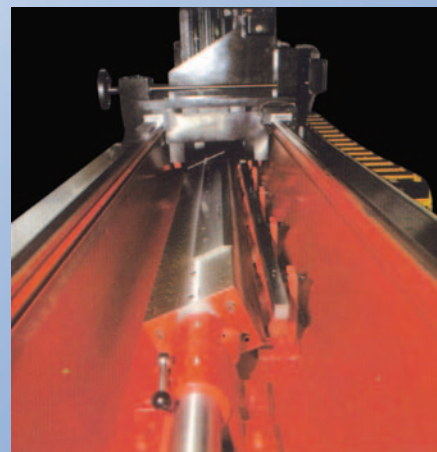
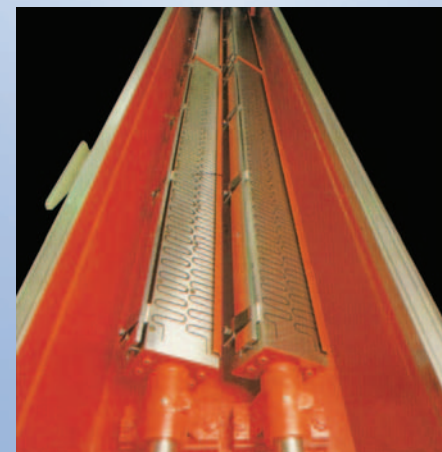
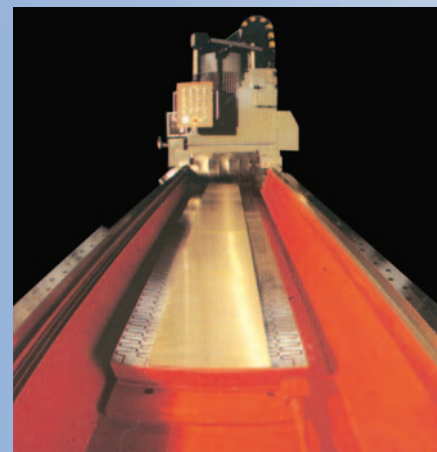


## OPTIONS AVAILABLE:

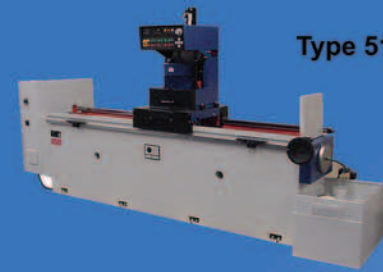
- **VKA - Honing, Micro beveling & Acute Angle Attachment** (see Type 5 VKA)
- **Twin side by side Beds (2 x 4")**
- Different Knife Aligning Bars
- **Wheel Dresser**
- **Digital Bed Angle Readout**
- Additional **Knife Aligning Bars**
- **Magnetic Roller Coolant Cleaner**
- **Paper Band Cleaner**
- **Combination Coolant Cleaner (Magnetic/Paper)**

## Type 5 General Specifications

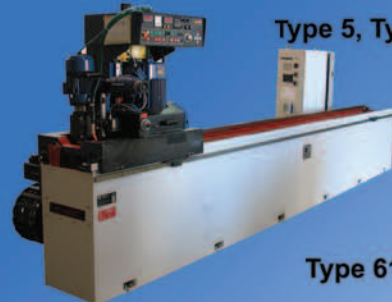
Grinding lengths	40" - 400"
Grinding motor	12/18 HP
Grinding motor (RPM)	1800 RPM
Wheel/Seg. Head diameter	10"
AC Servo Carriage Drive	infinitely variable
Carriage speeds -	infinitely variable 4" to 100 FPM)
Max. passage Width	11"
Height	5"
Mag. table width	6"/7" or 2 x 4"



## Other Models Available:



**Type 51 Knife Grinder**  
 HP: 12 HP Max.  
 Bed Width: 6"  
 Bed Length: to 500"  
 Std Wheel/Head dia.: 10"



**Type 5, Type 5 VKA & Type 55 Knife Grinder**  
 HP: 18 HP Max.  
 Bed Width: 6" or 7"  
 Bed Length: to 600"  
 Std Wheel/Head dia.: 10"



**Type 61 / 71 Knife Grinder**  
 HP: to 36 HP  
 Bed Width: 8" or 10"  
 Bed Length: to 600"  
 Std Wheel/Head dia.: 12" - 16"



**Type 7 & Type 7 VKM Knife Grinder**  
 HP: to 60 HP  
 Bed Width: 10" or 12"  
 Bed Length: to 600"  
 Std Wheel/Head dia.: 14" - 18"



**Type 8 - 19 Knife Grinder**  
 HP: to 350 HP  
 Bed Width: to 60"  
 Bed Length: to 800"



**Type RM40 / 70 Slitter Knife Grinder**  
 Circular knives  
 To 28" capacity  
 Std or Full CNC



Reform Factory in Fulda, Germany

REFORM (Maschinenfabrik A. Rabenseifner & Co.) is the world's leading manufacturer of grinding machines. With over 80 years in the grinding technology manufacturing business, they have manufactured more than 7,500 grinding machines, which sell world-wide.

Employing approximately 200 people in a 400,000 square foot ultra-modern plant, Reform manufactures approximately 200 grinding machines each year.

AKHURST MACHINERY is a leading distributor of machinery, imported from around the world. Incorporated in 1938, Akhurst today has annual sales in excess of \$40 million.

Each of the 6 offices has fully-trained service technicians to assist in the installation, training and start-up of equipment, and to provide repair service to customers, if required.

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Over 950 Reform Grinding Machines Sold and Serviced throughout North and South America



# Type 5 | 55 Series Precision Knife Grinders

[www.akhurst.com](http://www.akhurst.com)



# Type 5 VKA - Precision Knife & Surface Grinder

## with Honing, Micro Beveling & Acute Angle Grinding Attachment



*Incorporates Type 5 Grinder Features Plus the Following:*

**With our new Reform Grinder design with a ZS Honing Attachment we do not have to rely on Hand Honing Expertise!**

### Comments from Customers (Veneer Industry)

*We ran our lathe full out and achieve improved quality veneer and less D grade resulting in less than one year pay back.*

*Our grinding time has been reduced considerably and our knife life is greatly increased.*

*Having the grinder put on a back bevel (hone) has greatly increased our consistency and eliminated human errors through hand honing.*

Besides the above the system is much safer.

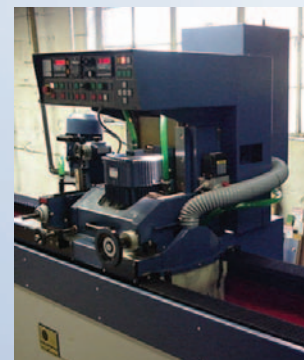
### Some of the Many Benefits:

- You will greatly improve your actual recovery through reduced target sizes due to accuracy and less D-Grade.
- Your knives will last dramatically longer and will come off the veneer machine sharper resulting in less grinding time.
- Sharper Knives means sharper on lathe longer in the sharp condition.
- Faster Veneer Lathe/Slicer speed.
- Fewer lathe spin outs.
- Much easier to determine and maintain backup roll pressure on lathe.
- Veneer lays much flatter.
- Less machining (sanding).
- Less knife sharpening.
- Less knife usage.



Type 5 VKA Double Width Carriage & ZS Honing/Micro Beveling Attachment

**Double Width Carriage** means Top riding Carriage Support Bearings and Side Guiding Bearings are twice as far apart, resulting in much more carriage accuracy and more stability. i.e. the further the bearings are apart the more accuracy we are able to attain in the grind. This is particularly important when we are grinding Micro Bevels.



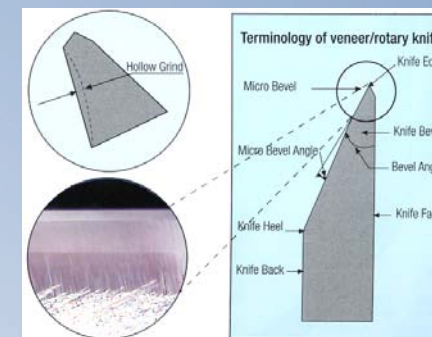
Type 5 with ZS Honing/Micro Beveling Attachment and Mist Collector  
Note: Auto Lube System

The **Vertical Feed** of the Primary/Honing Head is through the use of a **Servo Motor which is directly coupled to a Vertical Oversized Ball Screw (with Double Nut Assembly)**, completely eliminating any play. **Automatic Electronic Down-feed System utilizing a A.C. Servo motor with Digital Electronic Control & Position Readout** enables the operator to preset the machine with a Set Finish Point so that the grinder will proceed at a certain amount of down feed per stroke, back and forth and when the down feed cycle is completed then the machine goes into the Spark-Out Cycle, which is a preset number of strokes back and forth. When this cycle is completed, the grinding head is taken back to the original starting position.

### For Highest Precision Grinding, Microbeveling & Honing of all types of Knives

Reforms Introductory Grinder into the modern emerging veneer knife grinding and honing technology. The VKA has a very economical price to power relationship. The future of knives is the combination of grinding and super fine finishing in one setup. We can achieve optimum results with this mid-range machine. For Veneer Plants the introduction of micro bevel heads has been a major step for technology and improved performance of the grinder and the Veneer Slicer, Veneer Lathe and Chipper for the customer.

- Steel & Carbide
- Veneer & Clipper Knives
- Paper Cutting Knives
- Shear Knives & Press Brake Dies
- Chipper, Planer, Grandular and other misc knives



### For Grinding/Sharpening Shops:

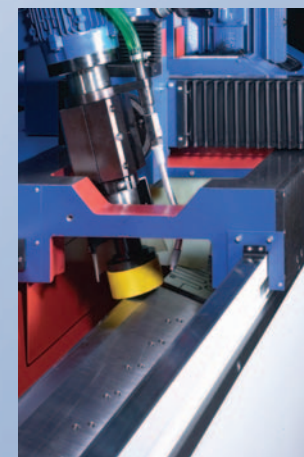
With this generation of machine you will soon realize the many benefits of the type of micro-bevel(s) and consistent fine honing for your customers. You also with the ZS attachment can grind acute angles as found on Press brake Dies.

### Exact honing for High-Quality Veneer Knives, etc.

The grinding and honing of micro angles on a single machine is a topic which has been occupying mainly American and Asian Veneer mills for the past five years or so. There is now no doubt that knife life and blade quality are improved by the honing/ dressing of micro angles after the grinding operation. Reform is the first pure-bred machine-tool builder to address the subject, In its series of VKA knife grinding machines you will find practically the full range of technical possibilities, from the simple grinding and honing machine to fully automatic systems with auto- mated grinding wheel changer and scanner.

**FACT**  
Micro Beveling prolongs knife life and results in very close veneer thickness tolerances

The spindle assembly is mounted on a very heavy swivel base, which has Vernier Angle Scale (**Digital Angle Readout – Optional**) with quick clamp for changing of the angle. **The swivel base** is mounted on an extra heavy and rigid vertical/horizontal slideway with adjustable for play way system. **Accordion way covers** protect the ways and screws from grinding dust and other contaminants and premature wear and loss of precision. We have developed **a back to back wheel system** for single or top and bottom micro beveling. Also available is Power Up/Down, as well Electronic Programmable Feed System for up or down feed of the head.



Type 5 VKA Top Micro bevel & Super fine finish



Type 5 VKA Back Micro bevel as done on Softwood Veneer Peeling & Hardwood Veneer Slicing

S = Standard (Included) O = Optional	Type 5	Type 5VKA	Type 55
<b>Machine Base</b>			
- Box/Cellular Base Construction, Vibration Resistant & Stress Relieved	S	S	S
- Replaceable Hardened Way Bands - Tops & Sides-Inexpensive and easily replaced	S	S	
- HMT – Hardened & Ground Ways with Tychoway Lineal Bearings for absolutely the most accurate Carriage travel – Ways are in replaceable 40" long sections			S
- Accordian Way Covers with leaning guard to protect the ways especially from very harsh dust like Carbide Dust.	O	O	O
- Machine is easily leveled and anchored along the machine length from outside the base	S	S	S
<b>Carriage</b>			
- Carriage – Very Heavy Cellular Construction	S	S	S
- Double Wide Carriage for Best possible Accuracy when using Main Head and Honing or micro-beveling head	—	O	O
- Operator Controls and Push Buttons are located above the grinding motor for easy operation	S	S	S
- Motor Slide Long and Easily adjusted gibs for wear	S	S	S
- Precision HD Ball Bearings on Carriage (Easy Change without carriage removal from the base)	S	S	
- Tychoway Lineal Bearings for absolutely the most accurate Carriage travel	S		S
<b>Way Wipers</b> to keep the ways clean			
- Easy Access to the Carriage and Grinding Wheel Change (From Front of Machine)	S	S	S
<b>Grinding Motor &amp; Downfeed</b>			
- Reform Motor div. Grinding Motor 18 HP – Continuous Duty rated – encapsulated with hollow spindle for coolant & cooling – bearing loading is adjustable to eliminate play			
- Ball Screw Downfeed (Self Tightening) & Playfree i.e. no backlash.	S	S	S
- Servo Motor directly coupled to the Ball Screw for playfree and exact downfeed control	S	S	S
- Electronic Programmable Downfeed Control with Digital Position Readout	S	S	S
- Impulse – Electronic Downfeed (Head downfeeds along the length of the grinder to compensate for wheel wear)	S	S	S
- Power Rise & Fall to Head and Jog Down	S	S	S
- Head Cross Adjustable (for Hollow Grind Position)	S	S	S
- Hollow Grind amount easily adjusted	S	S	S
- Cooling Thru the grinding motor hollow Spindle & also to Outside of wheel	S	S	S
- Quick Change Wheel Flange – for fastest wheel or segmental head change	S	S	S
<b>ZS Honing &amp; Back Grinding Attachment</b>			
- 2.4 Hp Grinding/honing motor	—	O	O
- Special Precision Grinding Spindle	—	O	O
- Spindle can be easily rotated to required angle	—	O	O
- Motorized up/downfeed to the head	—	O	O
- Servo motor Up & Downfeed	—	O	O
- Electronic Upfeed & Downfeed to the ZS Head	—	O	O
- Digital Position or digital angle readout for the honing head	—	O	O
<b>Carriage Feed</b>			
- Carriage Feed Infinitely Variable with Servo Drive (for steel to carbide)	S	S	S
- Helical Rack & Pinion Drive(both easily replaced when worn) Rack is in 40" long sections – with helical pinion & rack the drive will remain smooth even when worn	S	S	S
- Pinion is V Belt Driven for Safety – i.e. reversing failure belt slips no damage	S	S	S
- Shock Absorbers at machine ends for carriage safety	S	S	S
<b>Magnetic Beds</b>			
- Magnetic Beds – Sinusoidal Design for max holding Power	S	S	S
- Magnetic Chuck 6" wide w/aligning bar	S	S	S
- Magnetic Chuck 7" wide w/aligning bar	—	—	O
- Twin Magnetic Beds – 4" wide w/aligning bars (optional)	O	O	O
- DQ – Special Magnetism right to the edge of the bed for best precise knife holding out to the tip	S	S	S
- Auto Demagnetizer for bed & knife including 6 step variable magnetism	O	O	O
- Magnetic Bed can be reground up to .40" removal	S	S	S
- 3" dia Turning shaft mounted in special bearing journals for long solid life	S	S	S
- Vernier Angle Scale(s) (for Bed Angle)	S	S	S
- Digital Bed Angle Readouts	O	O	O
- Magnetic Bed position Lock – inside base for maximum rigidity	S	S	S
<b>Coolant System</b>			
- Cooling Thru the grinding motor hollow Spindle & also to Outside of wheel – for best possible cooling	S	S	S
- Separate Coolant Tank with sectional cleaning	S	S	S
- Washdown Hose w/volume control	S	S	S
- Manual 1 shot or Auto Central Lube (Carriage)	O	O	S
- Magnetic Roller Coolant Cleaner	S	S	S
- Paper Band Filtration System (for mostly carbide grinding)	S	S	S
- Combined Magnetic Roller Coolant cleaner and Paper Band filtration System	S	S	S
<b>Specifications</b>			
- Grinding Lengths (300" – 500")	O	O	O
- Max. HP Grinding Head (Continuous Duty Rating)	18 HP	"	"
- Wheel RPM - Standard	1800	"	"
- Wheel or Head Dia. (std Nut Inserted North American style)	10"	"	"
- Standard FPM (Feed) – Servo Drive – for Steel through Carbide	2"–100fpm	"	"
- Width Between Machine Ways	19.7"	"	"
- Max. Passage Height	5"	"	"
- Main Grinding motor equipped with WYE-Delta Starter – ie low amperage start.	S	S	S
- Electrics are 230/460 or 575 volts 3 phase 60 cycles to UL/CSA Standards	S	S	S