

# Centerless Roller Burnishing Machines Types MXM For Cylindrical Shafts

Plain and stepped shafts between  $\text{Ø}3 - \text{Ø}40$  mm



## Technical Datas

Burnishing allowance :  $\sim +0,005$  to  $+0,02$  mm  
Pre-machining : Precision lathening or grinding  
Pre-machining roughness :  $R_z = 5-15$   $\mu\text{m}$

## Application

YAMASA MXM type machines are used for the aim of burnishing the cylindrical stepped and plain shafts. The machine provides as well as surface hardness and low rate calibration (measurement accuracy) beside of burnishing. Because of the high processing power and speed ability, it provides time saving. These are the preference causes for the serial production.

## Technical Features

YAMASA MXM roller burnishing machines can process the cylindrical shafts up to H8 tolerances with a single adjustment. These machines are capable to process all kinds of metallic materials with  $1400 \text{ N/mm}^2$  tensile strength and hardness up to max. 42-45 HRC. Super finish surfaces up to  $R_a = 0,02 \mu\text{m}$  can be obtained.

With MXM Type burnishing machines, part feeding and tolerance adjustment can be done automatically. The machine takes the workpiece and then removes out after the burnishing process is completed. The machine has full automatic specifications. It is capable to achieve a rapid production in order to the automatic feeding system. It can be integrated to each production line for every kind of serial production. As well as automatic loading system can be integrated.

## Design and Function

MXM Roller Burnishing Machines are capable to process any kind of diameter between  $\text{Ø}3 - \text{Ø}40$  mm by changing the roller heads. One roller head is used for each nominal diameter. Each roller head has an adjustment capacity of 0,5 mm. The nominal diameter of the roller head can be adjusted with the tolerance between -0,40 and +0,10.

## Advantages

- It is capable to achieve a rapid and serial production.
- Saves time, money and energy.
- The roller heads can be replaced easily and rapidly.
- A precise and fast adjustment can be done through the adjustment mechanism.
- No sawdust and residues occur.

## Samples of application

- Shock absorber shafts • Pneumatic cylinder shafts
- HDD shafts • Coil • Powered tooth brush drive shafts
- Printer guide shafts • Piston rods • Air hammer parts
- Air condition shafts • Pump shafts • Motor shafts
- Optical drum for copying machine • Wire etc.





PROCESSING PROPERTIES	MODELS					
	MXM-1 NC HORIZONTAL	MXM-1 DPH HORIZONTAL	MXM-1 DVH HORZ.-VERT	MXM-2 NC HORIZONTAL	MXM-2 DPH HORIZONTAL	MXM-2 DVH HORZ.-VERT
Diameter range (mm)	Ø3 - Ø 20	Ø3 - Ø 20	Ø3 - Ø 20	Ø3 - Ø 40	Ø3 - Ø 40	Ø3 - Ø 40
Workpiece processing length (mm)	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited
Max. feed rate (mm/rev.)	2	2	2	2	2	2
Achieved min. roughness (Ra / μm )	0.02	0.02	0.02	0.02	0.02	0.02
Stepped workpiece processing possibility	x	x	x	x	x	x
<b>POWER PROPERTIES</b>						
Motor power	1.5 kW	1.5 kW	1.5 kW	2.2 kW	2.2 kW	2.2 kW
Electrical connection	380 V	380 V	380 V	380 V	380 V	380 V
Speed control	1.5 kW	1.5 kW	1.5 kW	2.2 kW	2.2 kW	2.2 kW
Oil pump	90 W	90 W	-	90 W	90 W	-
<b>COMMAND - CONTROL</b>						
Lighting	x	x	x	x	x	x
Discharging system for tightened piece	x	x	x	x	x	x
Emergency stop	x	x	x	x	x	x
Control panel	x	x	x	x	x	x
Speed control	x	x	x	x	x	x
Automatic emergency stop	x	x	x	x	x	x
Electronic revolution indicator	x	x	x	x	x	x
Lubrication	x	x	-	x	x	-
Oil lessen/out alarm	x	-	-	x	-	-
Colored LCD computerized control panel	x	-	-	x	-	-
Daily piece counter indicator	x	-	-	x	-	-
Total piece counter indicator	x	-	-	x	-	-
Processing period indicator (optional)	x	-	-	x	-	-
Memory by operation	x	-	-	x	-	-
Program and receipt print	x	-	-	x	-	-
Digital revolution setting system	x	-	-	x	-	-
Additional module possibility	x	-	-	x	-	-
Automatic loading system Integrated possibility	x	x	x	x	x	x
Commanding and programming piece loading system with the present computerized panel	x	-	-	x	-	-
<b>CHANGEABLE PARTS</b>						
Roller head	x	x	x	x	x	x
Input-middle-output centering apparatus	x	x	x	x	x	x
<b>COOLING TANK</b>						
Lubrication	x	x	-	x	x	-
Oil level indicator	x	x	-	x	x	-
Filtering	x	x	-	x	x	-
Capacity (Liter)	30	30	-	30	30	-
<b>DIMENSIONS</b>						
Width (mm)	780	780	500	780	780	500
Length (mm)	1400	1400	1000	1400	1400	1000
Height (mm)	1200	1200	550	1200	1200	550