



# PMC HYDRAULIC THREAD ROLLING MACHINES FOR THREAD, SPLINE AND PROFILE ROLLING

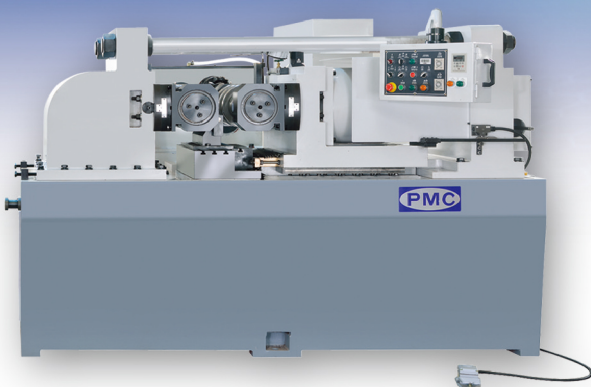
*The World Turns On PMC Machines*



PM-250VS (160 Ton) +2M Pivot



*State-of-the-art*



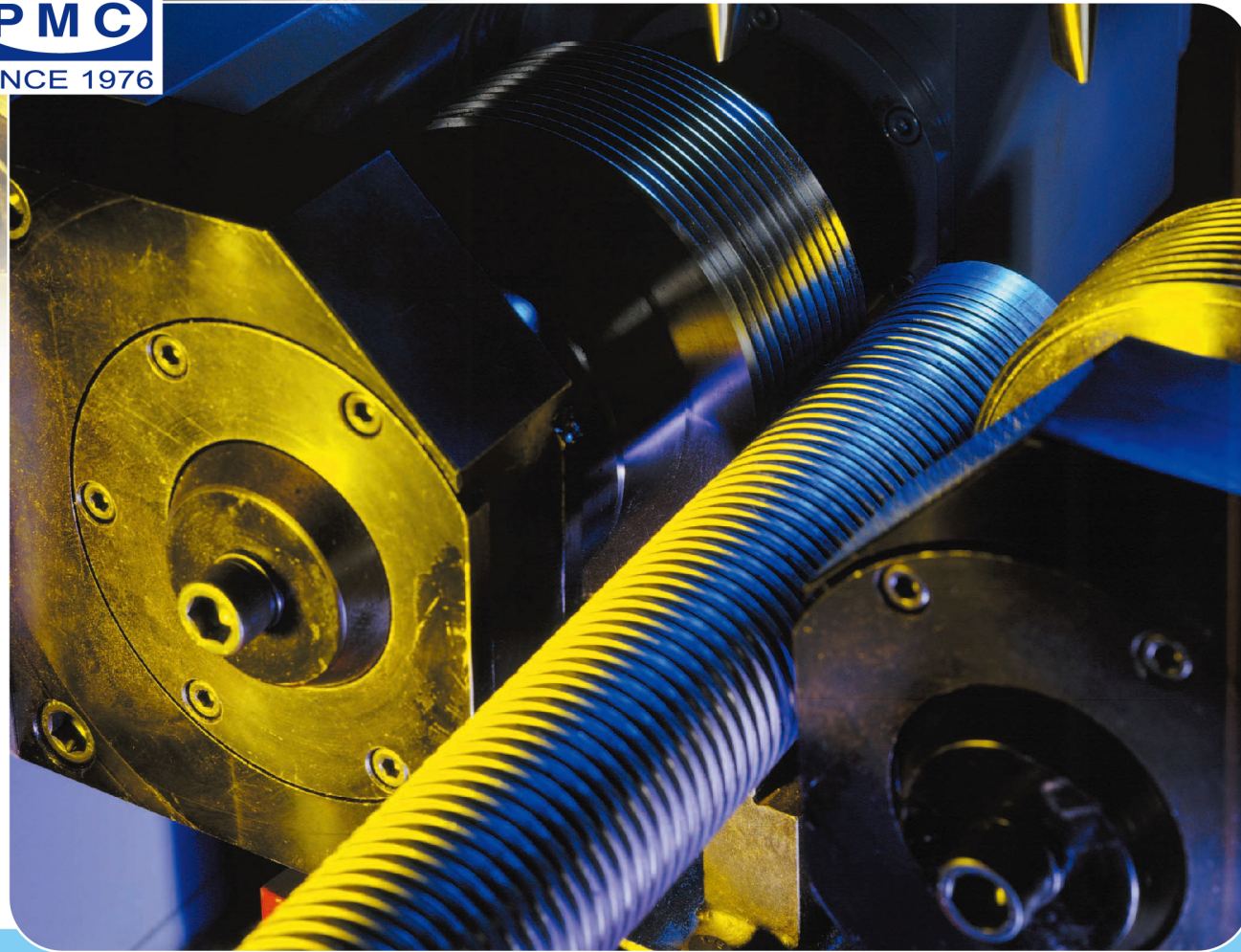
PS-9VS-H



PM-250VS (160 Ton)

PMC presents series of Very Heavy Duty Hydraulic Thread Rolling Machines

Model: PM-160VS (100 Ton); PM-200VS-D (120 Ton x Two-Sliding-Head); PM-250VS (160 Ton)



## ▶ STANDARD MACHINE FEATURES

- 1 Full and simple HYDRAULIC controls for both THRU-FEED (Pre-set and free extension threading length) and IN-FEED (fixed and limited threading length) Thread Rollings.
- 2 For a very comprehensive size of thread rolling production up to 250 mm bar's diameter of 160 ton maximum pressure.
- 3 Five special heavy duty models PM-75VS-L, PM-120VS, PM-160VS, PM-200VS-D and PM-250VS are made from a unique source-PMC to meet all heavy duty thread forming projects.
- 4 With innovative and unique designs to models PM-50 PM-60 PM-75VS-L and PM-120VS (2-roll-type mainly for bar threads), they also suit for Tube Threads if the tube thickness is good enough (subject to our approval).
- 5 For very wide range and many types of roll forming threads, such as: long length screws, ACME screws, gear teeth, shafts, scaffolds, hardware, bicycle, motorcycle, automobile, electric fan, construction, office machinery parts, worm and serrated components etc.
- 6 The main machine frame is of sturdy and durable construction, made of high grade casting iron and steel plate, heavily proportioned, with stress relieved and then machined.
- 7 Steady and Smooth Feed Motion: Square rail slide is casted with the machine frame as a whole piece, and precision ground, so assures there is no jumping, vibrating, and wearing during rolling process.
- 8 Perfect Transmission: The worm gear shaft with induction hardened and precision thread ground, and heat treatment. It incorporated special phosphor-bronze worm wheel gears, so to complete and smooth transmissions.
- 9 The slide travel and feed rate are adjustable. Adjustable hydraulic feed pressure to meet all job demand.
- 10 Powerful rolling pressure (adjustable) up to 160 ton (PM-250VS) hydraulic drive offers heavy duty and wide range rolling capacity.
- 11 Variable rolling spindle speeds (VS Model), this features wide range possibilities for form rolling many types and sizes of threads. Also increasing productivity, die life and product quality.
- 12 When for in-feed rolling, the rolling cycle time is adjustable, and is controlled by the timer. This facilitates the rolling of fine and coarse forms by simple adjustment. The cycle can be interrupted immediately if required, and can be re-set quickly.

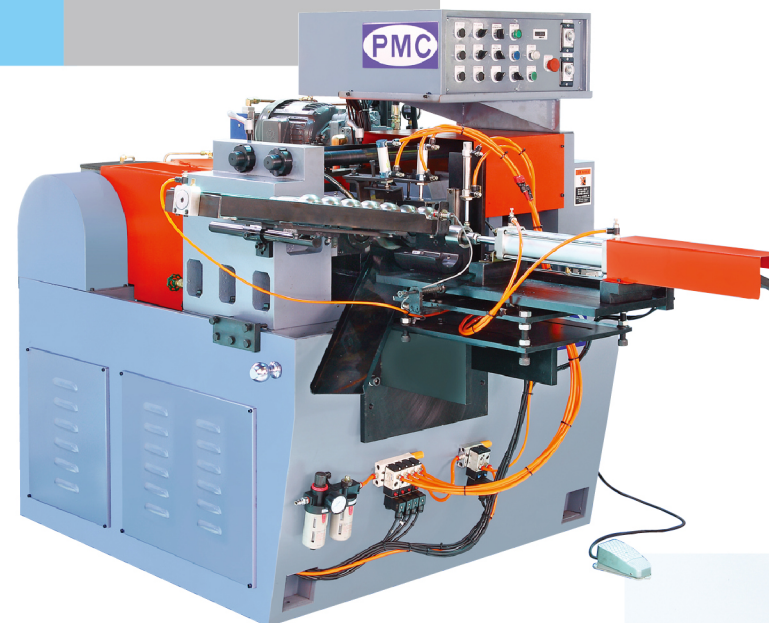


- Thread Rolling with Two-Rolling-Dies in THREAD ROLLING MACHINES is in effect a Cold Forging Process and forms the fibers of the metal instead of turning lathe cutting.
- The advantage of this process is not only as the most rapid and accurate method in producing screw threads in mass production rate, but also results in greater tensile strength, shear strength and wear resistance than those threads by cutting process.
- PMC Thread Rolling Machines have been introduced since 1976, they have been well developed and improved over the past years, their present advanced and highly efficient design meet the strict requirement of high quality thread making machines.
- All the advantages of cold forming are embodied by PMC Thread Rolling Machines, such as: uninterrupted grain flow material and surface consolidation, bright surface finish and substantial savings and extremely short production times.
- The workpiece diameter, needed threading length, pitch, kind of thread and material, and workpiece shape. They are absolutely concerned to decide a thread rolling machine suited completely or not. However, standard designs and specifications as shown in this catalogue are for standard reference only, and subject to our final approval to drawings or samples offered from customers.

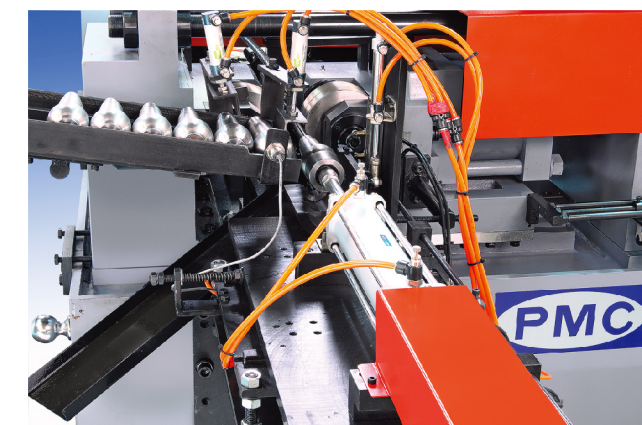
- 13 According to workpiece shape, the center supporters can be fitted at both ends during thread rolling process to modify the concentricity of rolled workpiece.
- 14 High quality THREAD ROLLING DIES are made of superior special steel, HITACHI Alloy Tool Steel SLD2 (JIS SKD-11), German Cold Work Tool Steel K-340 of HRC 63, High Speed Steel M2, special die material DC53, W8...etc. and heat treatment by German vacuum furnace to feature fine durability, toughness and strength. The Thread Profile is ground by Swiss REISHAUER and British MATRIX Thread Grinding Machines.
- 15 Available Automatic Material Feeding Unit (Extra Equipment). It is of special design, different workpieces may in different auto feeding designs, subject to our approval on samples.
- 16 Also available series of PMC Precision Bar and Shaft Straightening Machines as introduced in tail end of the catalogue.



- 1. PMC One Sliding Head Two-Roll-Type Thread & Profile Rolling Machine features rapid roll carriage infeed and return on the heavy duty slideways with easy selection of the hydraulic pressure and feed rate giving consistently accurate threads.
- 2. All controls and adjustments nearly are from the front operator's position. In addition, Preselector time control for auto cycling; Roll slide positive stop; Automatic lubrication.
- 3. Semi or Fully-Automatic Loading Equipment available for all machines.
- 4. Thousands machines of series PM-32, PM-32VS, PM-40, PM-40VS including automation have been widely introduced to 42 countries for a comprehensive industrial thread & profile rolling such as: plunge-feed thread rolling on Single-Ended and Double-Ended B7 Stud Bolts; U-Bolts (single-end and double-ends); Hook Bolts; Foundation Bolts; Anchor Bolts; All-Threaded-Bar up to 6M long (Thru-Feed); Screw Jacks; Elevating Screws; ACME Shafts (single-start to three-start); Grease Tubes; Ball Pin Thread; Diamond and Straight Knurling; Tie Rod; Splines; many others .....



Model: PM-40-AUTO with cartridge type loader for fully-automatic Ball Pin Thread.



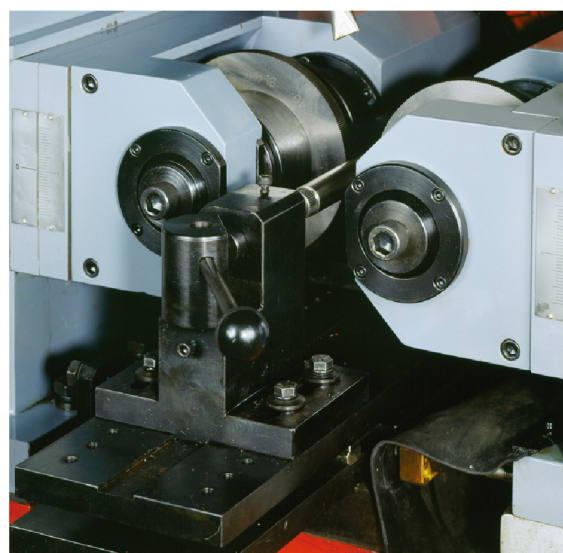
Picture Shows Cartridge Type Loader for Automatic Ball Pin Thread



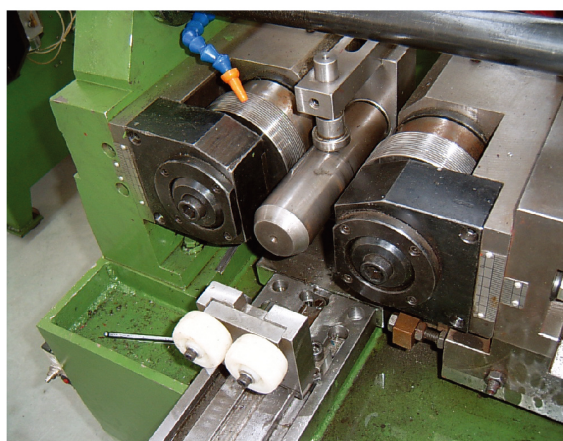
Spline Rolling Dies



Ball Pins



Precision Center Rest Fixture



Rolling Grease Tubes 56.5 and 62.5mm x 250~450mm Long with Trapezoid Thread and Diamond knurling by Model PM-32VS with Special-Made Fixture (optional equipment)

(S) = STANDARD (O) = OPTION

SPECIFICATIONS	MODEL	PM-32 PM-32VS	PM-40 PM-40VS
Maximum Rolling Pressure (Ton)		22 TON	27 TON
	Outside Diameter (threaded)	3 ~ 32 mm	3 ~ 40 mm
	Thread Pitch Range	0.5 ~ 4.0 P 40 ~ 6 TPI	0.5 ~ 4.5 P 40 ~ 5 TPI
CAPACITY	Other Type of Thread suited (many others subject to approval)	Diamond Knurling; Straight Knurling; Small Spline; Small Ball Screw etc.	
ON	Max. Plunge-Feed (in-feed)	70 mm (S)	150 mm
SOLID	Thread Length = Max Die-Width	100 mm (O) enlarged mechanism	150 mm
BAR	Max. Thru-Feed Thread Length	INFINITE (free extension thread length)	
	Die-Spindle Diameter (2 piece roller spindle)	54 mm (2 1/8")	54 mm (2 1/8")
	Max. Outside Diameter	150 mm	150 mm
ROLLING	Rolling Dies Bore Diameter	54 mm (2 1/8")	54 mm (2 1/8")
DIES	Max. Rolling Dies Width	70 mm (S) - 100 mm (O)	150 mm
AND	4 Step Spindle Speed Range	20 ~ 60 RPM	20 ~ 60 RPM
SPEED	Variable Spindle Speeds (VS)	0 ~ 90 RPM	0 ~ 90 RPM
	Max. Inclination of All-2-Spindles	From 0° up to 10° (for Thru-Feed Production)	
	Distance between 2 die-spindle centers	125 ~ 180 mm	125 ~ 190 mm
	Height from table surface to spindle center	160 mm	160 mm
	Die-Spindle Main Drive	5 HP (S) - 7.5 HP (O)	7.5 HP
MOTORS	Variable Speeds Drive (VS)	7.5 HP Inverter	10 HP Inverter
	Hydraulic Motor	5 HP	5 HP
	Coolant System	1/8 HP	1/8 HP
	Machine net weight (approx.) kg	1300 kg	2100 kg
	Machine gross weight (approx.) kg	1500 kg	2300 kg
	Machine dimension LxWxH (approx) cm	178 x 151 x 178	190 x 156 x 185
	Shipping dimension LxWxH (approx) cm	200 x 171 x 198	210 x 176 x 205

- Model PM-40-AUTO BALL PIN is a fully-automatic machine for Ball Pin Thread (with loader & unloader)
- All models available with Automation Linkage (magazine loader + auto feed + unloader).
- Design and technical data are subject to continuously improve and modify without notice.



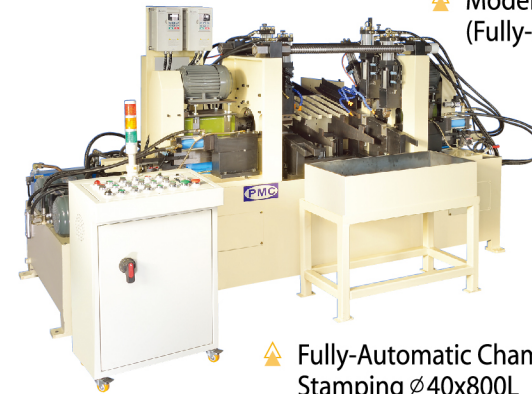
▲ Model: PM-60VS (Variable Speeds)  
Model: PM-60 (4 Step Spindle Speeds)



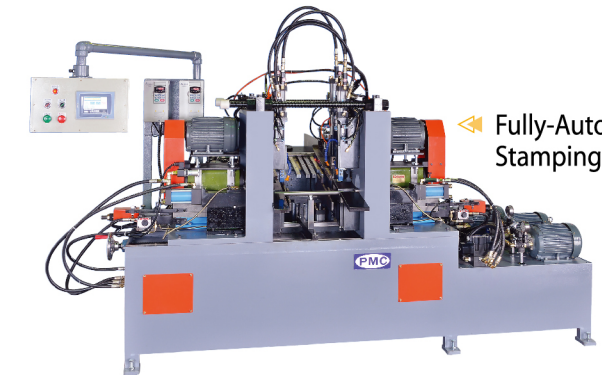
▲ Model: PM-50VS (Variable Speeds)  
Model: PM-50 (4 Step Spindle Speeds)



▲ Model: PM-60VS-Auto + AC-40x500D-Stamping  
(Fully-Automatic Double-Ends Chamfering + Stamping + Thread Rolling Production)

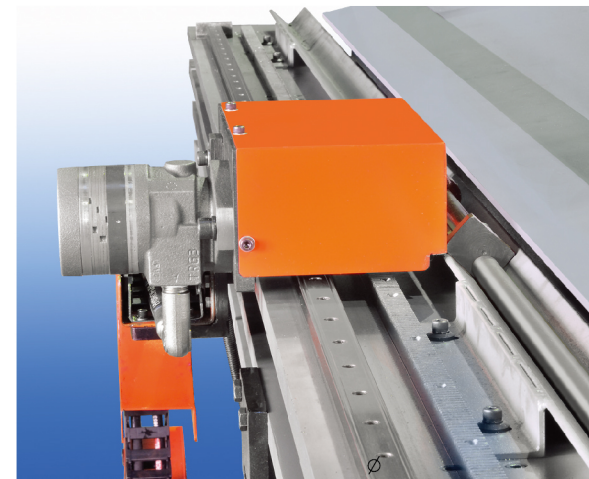


▲ Fully-Automatic Chamfering & Stamping  $\phi 40 \times 800L$



▲ Fully-Automatic Chamfering & Stamping  $\phi 40 \times 500L$

- 1 Within the last 40 years PMC made history with various developments and innovations in the field of rolling using circular dies. Whenever it comes to roll threads, profiles, splines, rings, to burnishing or to densification then PMC supports its customers with Machine, Die, Process from one source, with quality products exclusively manufactured in Taiwan.
- 2 Serial Models PM-50, PM-50VS, PM-60 and PM-60VS are the medium capacity thread & profile rolling machines.
- 3 Picture shows below is the machine PM-60VS with Magazine Loader for 4M stock bars + Hydraulic Auto Feed + Auto Unloader for 4M All-Thread-Bar & can be freely chose to thru-feed and plunge-feed thread rolling on one-end or two-ends.
- 4 Picture shows next page is the machine PM-60VS with integrated linkage including Loader and Unloader (with conveyor out-feed) to form a Fully-Automatic Double-Ends Chamfering + Stamping + Thread Rolling for  $\phi 12 \sim 40$  mm x up to 500 and 800 mm length



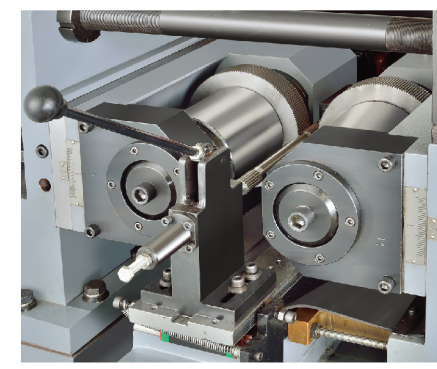
▲ Hydraulic Auto Feed for 4M  $\phi 12 \sim 32$ mm bars



▲ Model: PM-60VS-HS-4M AUTO  
A High-Speed Machine with Magazine Loader & Hydraulic Auto Feed for 4M All-Thread-Bar  $\phi 12 \sim 32$ mm



▲ PM-60VS with Precision Center Rest Fixture for Spline Rolling



Precision Center Rest Fixture for Spline Rolling

(S) = STANDARD (O) = OPTION

SPECIFICATIONS	MODEL		
	PM-50 PM-50VS	PM-60 PM-60VS	PM-60VS-AUTO + AC-40x500D-STAMPING
Maximum Rolling Pressure (Ton)	35 TON	40 TON	40 TON
Outside Diameter (threaded)	4 ~ 50 mm	4 ~ 60 mm	Same as PM-60VS but
Thread Pitch Range	1 ~ 6 P 24~4 TPI	1 ~ 6 P 24~4 TPI	Linked with an automatic
Other Type of Thread suited	Trapezoid (Tr); DIN 405 Knuckle; Spline; Ball Screw; Tie Rod; Diamond Knurling		Chamfering + Stamping Machine as an integrated unit with:
Max. Plunge-Feed (in-feed)	150 mm	200 mm	Auto Double-ends Chamfering + Auto Double-Ends Stamping + Auto Thread Rolling (choose for Single or Double-Ends Plunge-Feed Thread Rolling or Thru-Feed Thread Rolling)
Thread Length = Max Die-Width			
Max. Thru-Feed Thread Length	INFINITE (free extension thread length)		
Die-Spindle Diameter (2 piece roller spindle)	54 mm (2 1/8")	70 mm (S) 69.85 mm (O)	
Max. Outside Diameter	180 mm	190 mm	
Rolling Dies Bore Diameter	54 mm (2 1/8")	70 or 69.85 mm	By Servo Feed & PLC Control
Max. Rolling Dies Width	150 mm	200 mm	All-In-One-Cycle-Time
4 Step Spindle Speed Range	20 ~ 60 RPM	20 ~ 60 RPM	
Variable Spindle Speeds (VS)	0 ~ 90 RPM	0 ~ 90 RPM	Chamfering model AC-40x500D is for bar diameters 12 ~ 40 mm x bar length 150 ~ 500 mm (it is available 200 ~ 800 mm).
Max. Inclination of All-2-Spindles	From 0° up to 10° (for Thru-Feed)		
Distance between 2 die-spindle centers	145 ~ 205 mm	145 ~ 225 mm	
Height from table surface to spindle center	230 mm	235 mm	
Die-Spindle Main Drive	10 HP	15 HP	
Variable Speeds Drive (VS)	15 HP Inverter	20 HP Inverter	Available with/without Stamping
Hydraulic Motor	7.5 HP	7.5 HP	Available other diameter and length range as order production
Coolant System	1/4 HP	1/4 HP	
Machine net weight (approx.) kg	2800 kg	3100 kg	2600 + 3100 + 900 (automation)
Machine gross weight (approx.) kg	3000 kg	3350 kg	
Machine dimension LxWxH (approx) cm	178 x 151 x 178	190 x 156 x 185	
Shipping dimension LxWxH (approx) cm	200 x 171 x 198	210 x 176 x 205	

- Model PM-60VS-SPLINE is for Precision Serration (Spline) roll forming with Precision Center Rest Fixture
- All models available with Automation Linkage (magazine loader + auto feed + unloader).
- Design and technical data are subject to continuously improve and modify without notice.



▲ Model: PM-75VS-L



▲ Model: PM-75VS-L



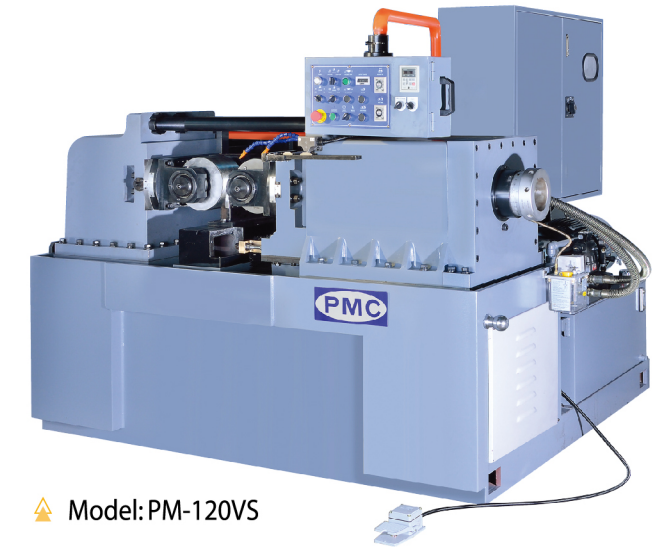
▲ Model: PM-75VS-L + PLC + HMI



▲ Model: PM-120VS-6M Auto (6M Loader + Motorized Auto Feed + 6M Unloader)



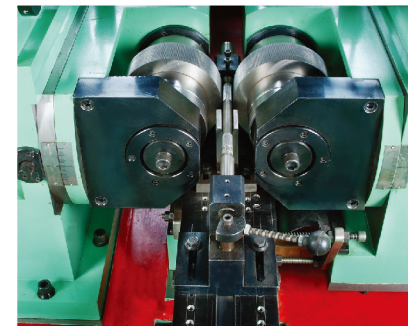
▲ Model: PM-120VS-HS  
(High Speed Machine for High Productivity of All-Threaded-Bar)



▲ Model: PM-120VS



▲ Heavy Duty High Speed Gear Box



▲ PM-75VS-L Worm Rolling Device



▲ Sample of Rolled Splines



▲ Sample of Worm Shafts made by PM-75VS-L

- 1 Model PM-120VS-HS with High-Speed Gear Box features double spindle speeds mainly for mass production of All-Threaded-Bar with Double Productivity.
- 2 Model PM-120VS-TWIN is a machine with innovative design of the mechanism which incorporates with 2 pairs thread rolling dies for synchronous plunge-feed thread rolling on double-ends of the component which allows up to 300 mm long giving Double Productivity.

(S) = STANDARD (O) = OPTION

SPECIFICATIONS	MODEL	PM-75VS-L	PM-120VS	PM-120VS-HS	PM-120VS-TWIN
				High-Speed Model (High Speed Gearbox)	Twin-End Sync Thread
Maximum Rolling Pressure (Ton)		60 TON	75 TON	(High Speed Gearbox)	75 TON
Outside Diameter (threaded)		5 ~ 80 mm	6 ~ 120 mm	6 ~ 60 mm (HS)	6 ~ 120 mm
Thread Pitch Range		1~10 P 24~2.5TPI	1~12 P 24~2TPI	1~8 P (24~3 TPI)	1~12 P 24~2TPI
CAPACITY ON SOLID BAR	Other Type of Thread suited	Trapezoid (Tr); DIN 405 Knuckle Thread; Spline Rolling; Ball Screw; Heavy Duty Tie Rod; Diamond Knurling; Straight Knurling etc.			
Max. Plunge-Feed (in-feed)		230 mm	260 mm	260 mm	150 + 150 = 300 mm (Double Productivity)
Thread Length = Max Die-Width					Plunge-Feed only
Max. Thru-Feed Thread Length		INFINITE (free extension thread length)			
Die-Spindle Diameter (2 piece roller spindle)		85 mm (Standard) or 80 mm (Option)			85mm(S) – 80mm(O) x 4 pcs rolling dies
ROLLING DIES AND SPEED	Max. Outside Diameter	220 mm	240 mm	240 mm	240 mm
	Rolling Dies Bore Diameter	85 mm (Standard) or 80 mm (Option)			
	Max. Rolling Dies Width	230 mm	260 mm	260 mm	300 mm = 150 + 150
	Variable Spindle Speeds (VS)	0 ~ 90 RPM	0 ~ 90 RPM	0 ~ 200 RPM	0 ~ 90 RPM
Max. Inclination of All-2-Spindles		From 0° up to 10° (for Thru-Feed Production)			Plunge-Feed only
Distance between 2 die-spindle centers		220 ~ 340 mm		240 ~ 400 mm	
Height from table surface to spindle center		300 mm			325 mm
MOTORS	Die-Spindle Main Drive	25 HP			30 HP
	Variable Speeds Drive (VS)	30 HP Inverter			40 HP Inverter
	Hydraulic Motor	15 HP	20 HP	20 HP	20 HP
	Coolant System	1/2 HP	1/2 HP	1/2 HP	1/2 HP
Machine net weight (approx.) kg		5750 kg	6600 kg	6600 kg	6800 kg
Machine gross weight (approx.) kg		6050 kg	6900 kg	6900 kg	7100 kg
Machine dimension LxWxH (approx) cm		230 x 206 x 206	260 x 212 x 208	260 x 212 x 208	260 x 224 x 208
Shipping dimension LxWxH (approx) cm		252 x 226 x 228	282 x 230 x 228	282 x 230 x 228	282 x 230 x 228

- Above serial models PM-75VS-L and PM-120VS available with advanced Movable Front Spindle Support Housing.
- All models available with Automation Linkage (magazine loader + auto feed + unloader).
- Design and technical data are subject to continuously improve and modify without notice.



▲ Model: PM-250VS (160 Ton)



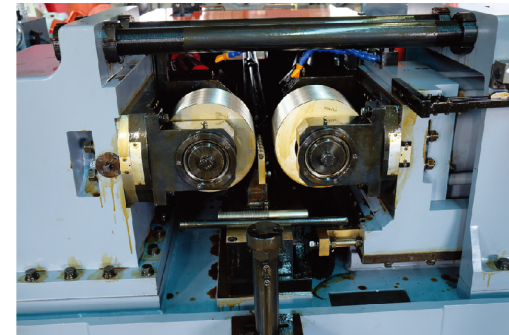
▲ Model: PM-250VS  
(with 2M Semi-Auto Pivot Equipment)

- 1 Series of PM-160VS, PM-200VS-D and PM-250VS are very heavy duty thread and profile rolling with machines made by PMC is state of the art manufacturing with highest quality.
- 2 The Movable Front Spindle Housing Mechanism giving extra strength and rigidity to well protect the die-spindles to avoid any deflection and ensure it's maximum durability.
- 3 Model PM-250VS (160 Ton) is one of the world's biggest machine for wind power plant foundation bolts, tie rod and anchor bolts for tunnel constructions, stainless steel and titanium bolts for aerospace Industry, cross sea bridge, shipyard, nuclear power plant etc.
- 4 Model PM-250VS is experienced to rolling 9M long high tensile bars of 200 mm diameter with 600 mm thread length on each end with an auxiliary running motor 2 HP to start rotating it in synchronous match to the approached start rolling of the rolling dies.

(S) = STANDARD (O) = OPTION

MODEL		PM-160VS	PM-200VS-D Two-Sliding-Head	PM-250VS
<b>SPECIFICATIONS</b>				
Maximum Rolling Pressure (Ton)		100 TON	120 TON	160 TON
Outside Diameter (threaded)		12 ~ 160 mm	16 ~ 200 mm	20 ~ 250 mm
Thread Pitch Range		3 ~ 16 mm Pitch	3 ~ 20 mm Pitch	4 ~ 25 mm Pitch
Other Type of Thread suited (many others subject to approval)		Trapezoid (Tr); DIN 405 Knuckle Thread; Heavy Spline Rolling; Heavy Duty Ball Screw, Tie Rod, Foundation Bolts for wind power & power plants etc.		
CAPACITY ON SOLID BAR	Max. Plunge-Feed (in-feed)	310 mm	310 mm	350 mm
	Thread Length = Max Die-Width			
	Max. Thru-Feed Thread Length	INFINITE (free extension thread up to 12 M long)		
Die-Spindle Diameter (2 piece roller spindle)		100 mm Standard (85 mm Option)		120mm(S) - 100mm(O)
ROLLING DIES AND SPEED	Max. Outside Diameter	300 mm	300 mm	320 mm
	Rolling Dies Bore Diameter	100 mm Standard (85 mm Option)		120mm(S) - 100mm(O)
	Max. Rolling Dies Width	310 mm	310 mm	350 mm
Variable Spindle Speeds (VS)		0 ~ 75 RPM	0 ~ 75 RPM	0 ~ 60 RPM
Max. Inclination of All-2-Spindles		From 0° up to 10° (for Thru-Feed Production)		
Distance between 2 die-spindle centers		260 ~ 450 mm	260 ~ 530 mm	300 ~ 560 mm
Height from table surface to spindle center		360 mm	380 mm	420 mm
MOTORS	Die-Spindle Main Drive	50 HP	50 HP	75 HP
	Variable Speeds Drive (VS)	60 HP Inverter	60 HP Inverter	100 HP Inverter
	Hydraulic Motor	20 HP (S) - 25 HP (O)	25 HP (Two-Sliding-Head)	30 HP
Coolant System		1 HP	1 HP	1 HP
Machine net weight (approx.) kg		9500 kg	10500 kg	15000 kg
Machine gross weight (approx.) kg		9900 kg	10900 kg	15500 kg
Machine dimension LxWxH (approx) cm		300 x 230 x 230	330 x 230 x 230	390 x 240 x 238
Shipping dimension LxWxH (approx) cm		330 x 230 x 230	360 x 230 x 230	430 x 230 x 230

- ▲ Above models PM-160VS + PM-200VS-D + PM-250VS available with advanced Movable Front Spindle Support Housing.
- ▲ All models available with Automation Linkage (magazine loader + auto feed + unloader).
- ▲ Design and technical data are subject to continuously improve and modify without notice



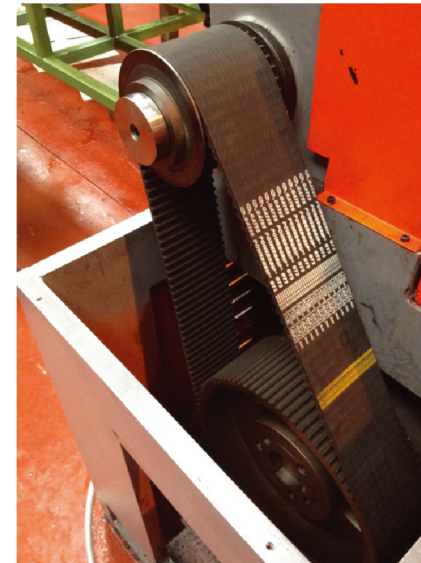
▲ The advanced design shows the Movable Front Spindle Housing Mechanism



▲ Pneumatic Clutch Operation Device (option) is convenient to operator to easily adjusting the pitch from the front operators position.



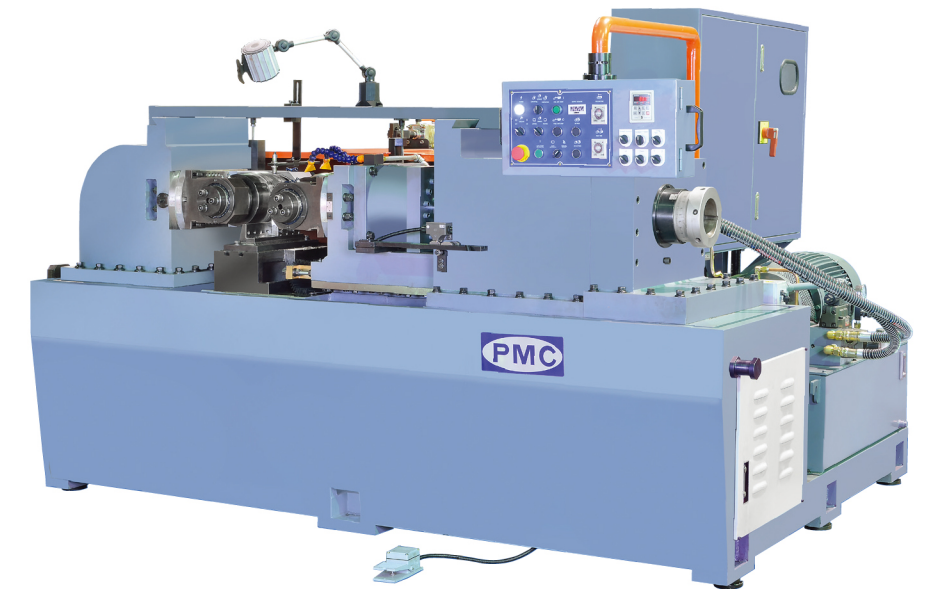
Centralized Control Panel incorporates with PLC & HMI



Using GATES Belt ensures no transmission slip (option)



▲ Model: PM-160VS (100 Ton) with PLC + HMI



▲ Model: PM-160VS (100 Ton)



▲ Model: PM-160VS-6M Auto with 6M Loader + Motorized Auto Feed + 6M Unloader. with sets of worm gear shaft jacks & couplings for easy levelling height adjustment when changing the workpiece diameter.

**STANDARD EQUIPMENTS:**

- 1 Standard equipment is ready for production suits for both Thru-Feed and Plunge-Feed Production.
- 2 Adjustable hydraulic rolling pressure, hydraulic die feed stroke and micro rate of die penetrations.
- 3 Complete hydraulic system with pressure meter, oil level indicator, solenoid valves, overload device etc.
- 4 Electrical equipment with safety standard and centralized control panel.
- 5 One set = 2 pcs 70 mm die-width thread rolling dies for one customer's thread sizes thru-feed or plunge-feed rolling and one pc precision roller bearing type work rest blade to support rolling.
- 6 Complete coolant system; Splash guard and safety covers; Front workpiece supporter; Foot operated Brake; Tool box with adjusting tools etc.

**OPTIONAL EQUIPMENTS/ACCESSORIES:**

- 1 V-shaped guider type front and rear supporting stand with adjustable levelling height for various bar diameter x up to 6M long (Manual Type).
- 2 Slant type material loader with manual arrangement plus auto feed and auto thread rolling (Semi Automatic Type).
- 3 Bundle magazine loader + auto feed + auto thread rolling + auto unloader suits for one-end and double-ends plunge-feed thread rolling, thru-feed and all-thread-bar in one-cycle-time by PLC-control.
- 4 Special-made magazine loader such as cartridge, hopper and conveyor type in connection to automation.
- 5 Thread rolling dies for ISO metric, Imperial, ACME, Trapezoid, Knurlings, Splines, Worm Screws etc.
- 6 Additional needed spare work rest blade.
- 7 Other special-made fixtures (such as precision center rest) to assist, accommodate, support or engage with thread rolling.

➤ Model: ABC-1030A  
A Fully-automatic machine with magazine loader for high-speed press cut-off



▲ Model: PS-9VS-H  
A Very Heavy Duty Hydraulic Straightening Machine for Bar  $\phi$  up to 95mm and Shaft  $\phi$  up to 75mm (after heat treatment)



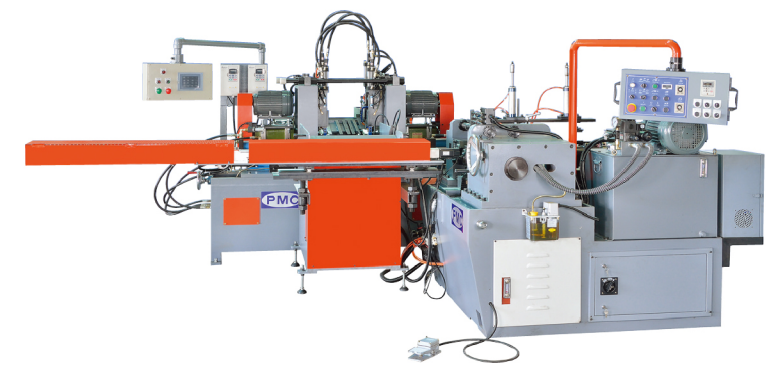
▲ Series of PMC mechanical type bar & shaft straightening machines for  $\phi$ 4~75mm x up to 12M long



▲ Model: AC-40 x 800D fully-automatic double-ends chamfering & stamping machine for  $\phi$ 40 x 800mm



▲ Model: PM-3D-80 3-Roll-Type machine in automatic linkage with an induction heating machine for fully-automatic Railway Screw thread rolling production.



▲ Model: PM-60VS-Auto + Chamfering features full automation of double-ends chamfering + stamping + thread rolling with unloader of conveyor out-feed.



▲ Model: PM-3D-80-AUTO 3-Roll-Type Automatic Scaffolding Pipe Thread Rolling Machine is the world most popular machine.



▲ Series of PMC High-Speed Fully-Automatic Wire Straightening & Cutting Machines up to  $\phi$ 38mm x 12M Cut-off Length



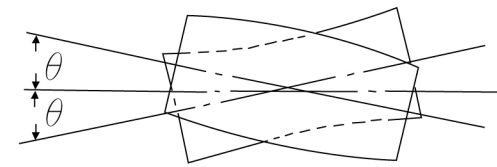
▲ Model: PM-250VS (160 Ton) with a 2.6M bearing type bar support feed and live center stop for finest centering. Moreover, when rolling long and heavy splines to access a 3HP hydraulic motor and hydraulic cylinder feed by button control as automatic feed is greatly improved.

■ MAIN TECHNICAL DATA (QUICK CHECK): (S) = STANDARD (O) = OPTION

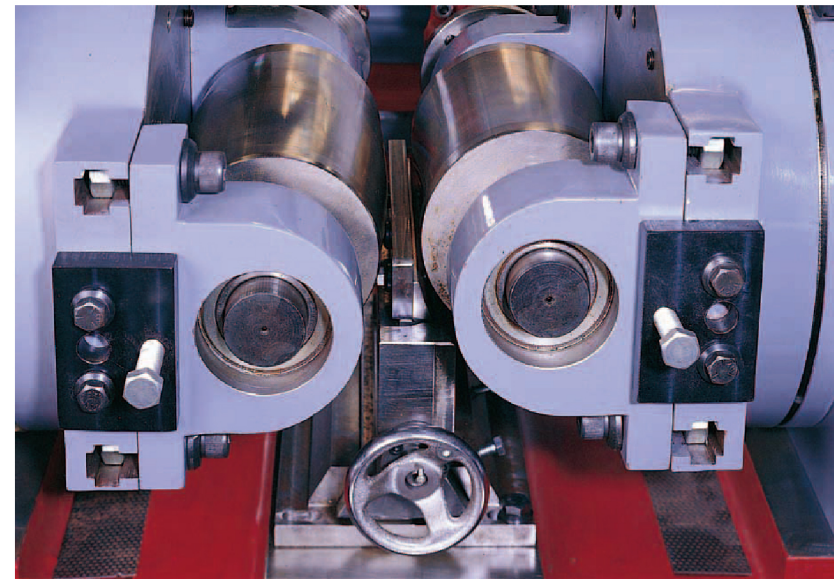
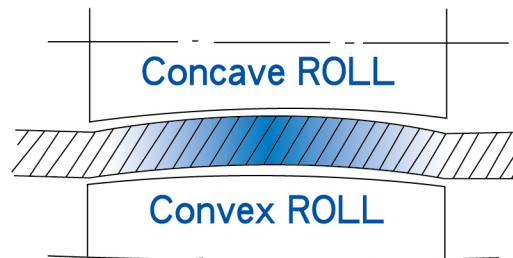
TECH DATA	MODEL	PM-32	PM-40	PM-50	PM-60	PM-60VS-AUTO	PM-75VS-L	PM-120VS	PM-160VS	PM-200VS-D	PM-250VS
		PM-32VS	PM-40VS	PM-50VS	PM-60VS	+ CHAMFERING					
Max. Rolling Pressure		22 Ton	27 Ton	35 Ton	40 Ton	40 Ton	60 Ton	75 Ton	100 Ton	120 Ton	160 Ton
Capacity: Max Bar $\phi$ x Max Pitch		32 mm x 4 P	40 mm x 4.5 P	50 mm x 6 P	60 mm x 6 P	60 mm x 6 P	80 mm x 10 P	120 mm x 12 P	160 mm x 16 P	200 mm x 20 P	250 mm x 25 P
Max. Thru-Feed Thread Length		INFINITE (free extension thread length)									
Max. Plunge-Feed Thread Length		70 mm	150 mm	150 mm	200 mm		230 mm	260 mm	310 mm	310 mm	350 mm
Die-Spindle $\phi$ = Rollers Bore $\phi$		54 mm (2 1/8")	54 mm (2 1/8")	54 mm (2 1/8")	70 mm (S) - 69.85 mm (O)		85 mm (S) or 80 mm (O)	100 mm (S) or 85/80 mm (O)	120 mm (S)		
Rolling Dies Max OD x Max Width		150 mm x 70 mm	150 mm x 150 mm	180 mm x 150 mm	200 mm x 200 mm		220 mm x 230 mm	240 mm x 260 mm	300 mm x 310 mm	300 mm x 310 mm	320 mm x 350 mm
Spindle Motor x 4 Speeds rpm		5 HP x 20 ~ 60	7.5 HP x 20 ~ 60	10 HP x 20 ~ 60	15 HP x 20 ~ 60		25 HP x 0-90 (VS)	30 HP x 0-90 (VS)	50 HP x 0-75 (VS)	50 HP x 0-75 (VS)	75 HP x 0-60 (VS)
VS Model (Inverter x Variable Speeds)		7.5 HP x 0 ~ 90	10 HP x 0 ~ 90	15 HP x 0 ~ 90	20 HP x 0 ~ 90		30 HP Inverter	40 HP Inverter	60 HP Inverter	60 HP Inverter	100 HP Inverter
Hydraulic Motor		5 HP	5 HP	7.5 HP	7.5 HP		15 HP	20 HP	25 HP	25 HP	30 HP
Machine Weight (basic machine)		1300 kgs	2100 kgs	2800 kgs	3100 kgs	6600 kgs	5750 kgs	6600 kgs	9500 kg	10500 kgs	15000 kgs

■ All models available with Automation Linkage (magazine loader + auto feed + unloader).  
■ Design and technical data are subject to continuously improve and modify without notice.

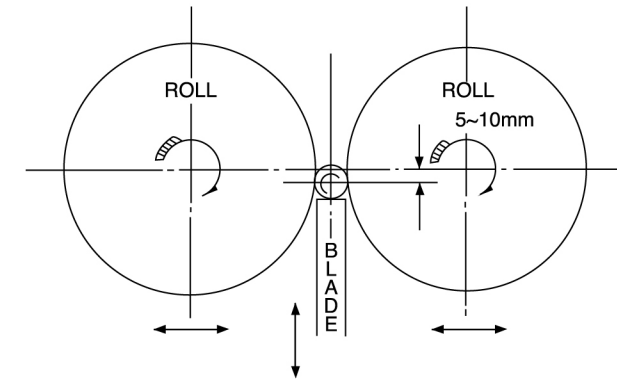
Series of 5 machine models for various round metal bars up to 95 mm diameters



Tilting of ROLLS



High Precision Heavy Duty Roll Straightening Mechanism



Height Positions of the Work Rest Blade and the Bar to the Central of 2 Rolls

**Standard Machine Features:**

- 1 The machine suits for Straightening not only low and medium carbon steel bars, but also for stainless steel bars, alloy tool steel bars, all bars, all bars of high hardness, high tensile and high strength.
- 2 The machine main support frame and gear box are made of very heavy duty and robust CAST STEEL Structure (at least of FCD-55), it gets the maximum rigidity in machine tools manufacturing.
- 3 High Straightening Accuracy of 0.03 mm (based to a 7/8" SNCM-8 alloy tool steel bar x 400mm long).
- 4 Standard Rolling Die is 2 pieces of one each CONCAVE and CONVEX ROLLS in contradictory profile, rotated by high precision taper roller bearings and with adjustable tilting angle (inclination) up to 7°.
- 5 Two Die-Spindles transmitted from the gear box drive the Rolling Dies which are made of German Cold Work Tool Steel K-340 with hardness at least HRC-62°, plus heat treatment and precision grinding.
- 6 Precision Work Rest Blade with tungsten carbide insertion to ensure a smooth holding and passing through to the bar during it's straightening process and to minimize the friction.
- 7 When changing the bar's diameter, simply it only needs to adjust the Roll's inclination angle, and the interval between 2 rolls, the only exchange is the work rest blade to suit the new bar size (low idle time).
- 8 The gear box gears are of oil bath lubrication. There is a rotary gear pump with automatic forced lubrication to the rollers and the bar on it's straightening process. The flow rate of the lubrication is adjustable by a valve control.

SPECIFICATIONS	MODEL	PS-2VS	PS-3VS	PS-4VS	PS-5VS	PS-9VS-H
Type of Machine		MECHANICAL TYPE				HYDRAULIC TYPE
Bar Diameter Capacity (w/out heat treatment)		5 ~ 19 mm	10 ~ 25 mm	20 ~ 38 mm	30 ~ 50 mm	35 ~ 95 mm
Bar Diameter Capacity (with heat treatment)		5 ~ 16 mm	10 ~ 20 mm	20 ~ 30 mm	30 ~ 40 mm	35 ~ 75 mm
ROLLS (one each)	Diameter	115 mm	165 mm	200 mm	250 mm	300 or 350 mm
	Concave & Convex Roll) Die Face Width	150 mm	230 mm	300 mm	500 mm	up to 600 mm
ROLLS (Multi-Piece Special-Made Rollers)						∅ 300 x 35W
Inclination of Rolls (adjustable angle)		0° ~ 7°				1.5° ~ 7°
Spindle Speed rpm (Roller Variable Speed)		up to 300	up to 220	up to 65	up to 45	up to 50
Straightening Speed (Meters/Minute)		12 ~ 20	10 ~ 20	8 ~ 20	7 ~ 20	6 ~ 20
Die-Spindle Drive Motor		3 HP	5 HP	10 HP	25 HP	50 HP
Frequency Inverter (Variable Speed) VS		5 HP	7.5 HP	15 HP	30 HP	60 HP
Hydraulic Motor						25 HP
Machine Net Weight (approx..)		750 kg	1000 kg	2300 kg	5100 kg	13000 kg

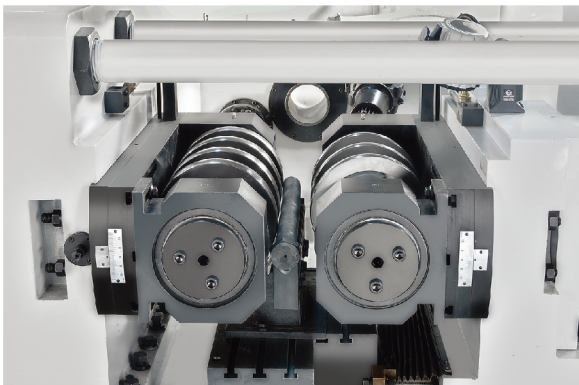
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A Very Heavy Duty High-Grade Machine for Plunge-Feed & Thru-Feed Precision Straightening



▲ Model: PS-9VS-H



Innovative Roll Straightening Mechanism showing a pair of 2 x Multi-Piece-Type Roll Straightening Dies for precision Plunge-Feed Straightening.



▲ Model: PS-9VS-H

- 1 One of the world's biggest machine for high-grade precision bar & shaft straightening (machine net weight 13000 kgs).
- 2 Capacity 95 mm bar diameter (w/out heat treatment) and 75 mm shaft diameter (with heat treatment)
- 3 130 mm very heavy duty spindle diameter.
- 4 300 ~ 350 mm roll straightening dies diameter x die-width up to 600 mm (max.)
- 5 A pair of one each Concave and Convex Dies for Thru-Feed Roll Straightening and 2 x Multi-Piece-Type Special-Made Dies for Plunge-Feed Roll Straightening.
- 6 Machine size: 2600 x 2050 x 1700 mm (L x W x H)
- 7 50 HP spindle motor x variable speeds x 6 ~ 20 M/Min. productivity.
- 8 Suits for precision straightening on wind power foundation bolts, heavy duty shafts for different industries.



Innovative motorized positioning adjustment to the heavy duty slideway whenever changing the workpiece diameter.