



**PROFORMA**  
FORMING MACHINE



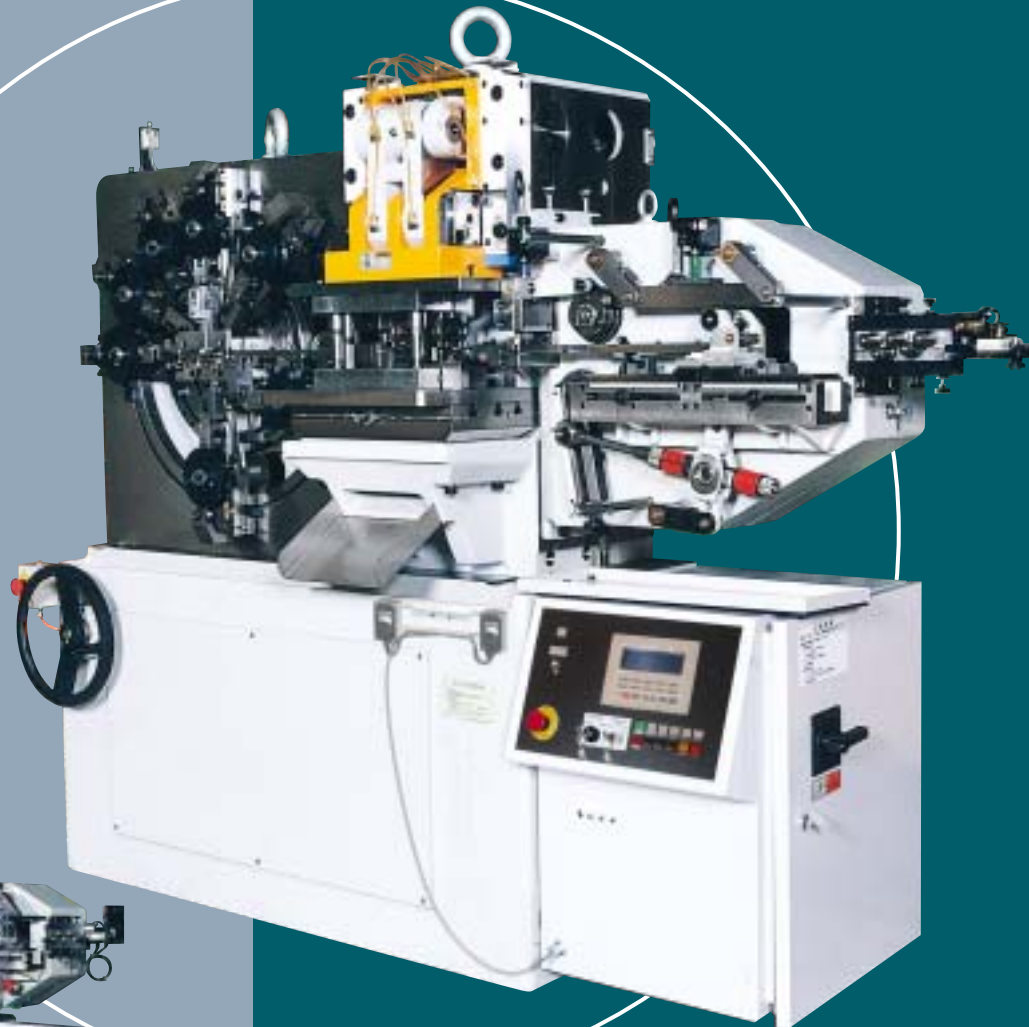
Head Office/Plant

# The *PROFORMA* Series will help you cut costs.

## PROFORMA RF Series

Significant reductions in  
setup and changeover time.

**INTEGRATED  
TECHNOLOGY**



RF-60 standard machine  
(Appearance without safety cover)



RF-20 standard machine

### This is why we recommend the **PROFORMA**.

The advantages of the PROFORMA Series compared to conventional press machines.

1. Both strip and wire material can be processed with the same machine.
2. Reduced material consumption.
3. Produces beautifully finished bends that will add value to your finished products.
4. Complex bending processes are possible for many different applications.
5. Highly-precise bending is possible, making it suitable for high-level applications.
6. Common-use dies for excellent cost performance.
7. Easy die adjustment for improved working efficiency.
8. Can be used as a base machine for multi-process jobs, such as welding and assembling.

### **VARIOUS APPLICATION**

#### ► RF-150

The RF150 is designed to bend large wire diameters and thick strip. Provides high quality bends without marking to enhance product value.



#### ◀ RF-20

Compact model that is ideal for small, high-precision parts for use in home electronics and electrical goods.



(Appearance without safety cover)

#### ▼ RF-80

Large model for large-scale processing.

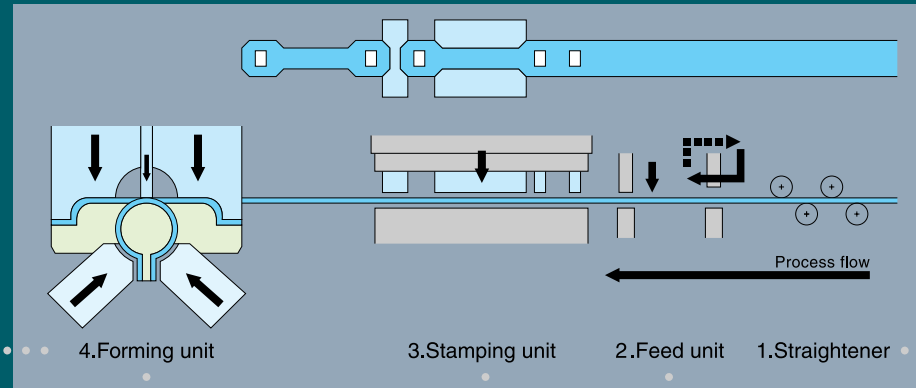


# FEATURES & FUNCTION

More than anything, ease-of-use is our main priority.



## Working Sequences



### Forming unit

The forming unit is comprised of a cam drive bending slide and rear cam slide, and is capable of complex bending processes. The bottom dead point of the punch is easy to adjust, so detailed angling of springy materials is a simple matter.



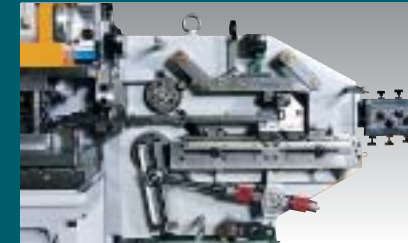
### Rear cam unit

Up to three cams can be installed. The rear cam unit is used with the material guide, the movable center core, the 3-D bending punch and the stage transfer unit, and allows more efficient operation.



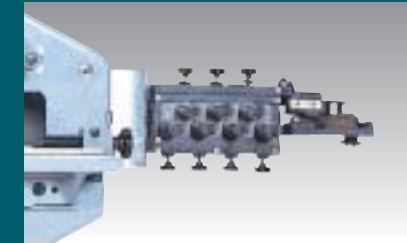
### Stamping unit

The stamping unit performs blanking at the step before the forming process. It is compact, easy-to-use, and solidly built.



### Feed unit

The grip feed unit holds the material and accurately feeds it into the forming unit or stamping unit. It is standard equipment on the machine. The feeding accuracy is within 0.01mm.



### Straightener

Straightens coiled material for more accurate feeding.



### Control panel

Displays production data, operating speed, and the causes of machine stoppages. Operating conditions can be set and the monitor display changed with the touch of a key. It also features a low-speed operating mode that can be used for die adjustment.

## Options

### ■ CNC roll feed unit



### ■ Tapping unit



### ■ CAD tools

Blanking length calculation, bending simulation and designing cams. This CAD software was independently developed by us as a support tool for die design.

### ■ Feed units

It is possible to select the ideal feed unit for your application. This is extremely useful for complex processing.

#### Feed direction

- right feed unit
- left feed unit
- rear feed unit
- front feed unit

#### Machine construction

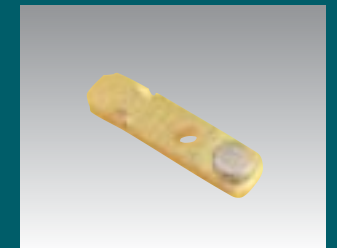
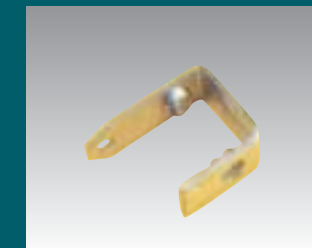
- gripper feed unit
- roll feed unit
- air feed unit

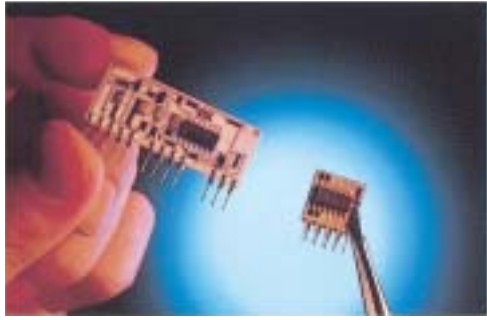
### ■ Welding and joining unit

This unit efficiently performs assembly work for two to three parts by welding and riveting electrical contacts and forming rings and the like, and can remarkably improve productivity.

- contact welding unit
- projection welding unit
- butt welding unit
- YAG laser welding unit
- soldering unit
- riveting unit

## Application examples

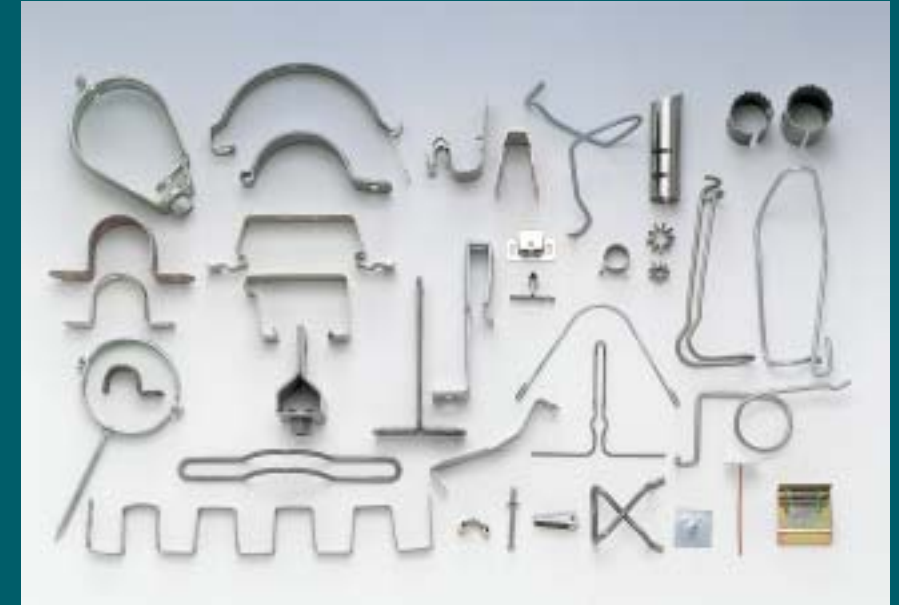




**1**  
Electrical  
and  
electronic parts



**3**  
Building  
hardware



## TYPICAL WORK SAMPLES



**2**  
Automobile parts



**4**  
Stationery  
and  
general  
merchandise

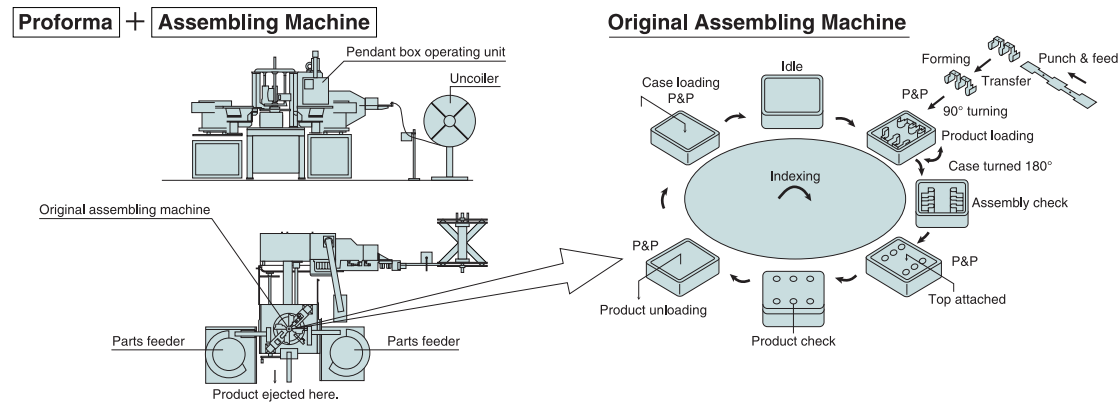


# SYSTEMS

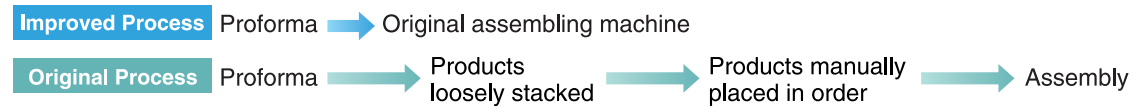
## Working more efficiently

Now, with the cost per part cut to the limit, what is required is integration and a reduction in the number of processing steps in assembly lines. Teijin Seiki Precision is responding swiftly and surely to these demanding requirements.

### ◆ Example Proforma System



### ◆ Work Improvement Proposal



## Detailed attention to customer needs

TS Precision has well established service and engineering support system and conducts regular technical seminars for customers and provides advice regarding die design.



Technical seminar



Training

# SERVICES

## RF SERIES : Main specifications

Item		RF-20	RF-60	RF-80	RF-150
Material	Strip material (Max.mm)	50 <sup>w</sup> ×1.5 <sup>t</sup>	60 <sup>w</sup> ×1.6 <sup>t</sup>	80 <sup>w</sup> ×1.6 <sup>t</sup>	100 <sup>w</sup> ×2.5 <sup>t</sup>
	Wire material (Max.mm)	φ 3	φ 6	φ 8	φ 10
Feed unit	Feed length (Max.mm)	150	220	360	500
	Feeding accuracy (mm)	0.01	0.01	0.01	0.01
	Vertical adjustment range (mm)	±35	±35	±35	±70
Stamping unit	Stamping force (kN)	80	250	350	600
	Ram stroke (mm)	10	15	18	30
	Die height (Max.mm)	155	230	335	355
	Ram adjustment range (mm)	20	20 (Fine adj. ±2.5)	30 (Fine adj. ±2.5)	30
	Bolster vertical adjustment range (mm)	Fixed (55)	Fixed	Fixed	Fixed
	Bolster size (mm)	240 <sup>w</sup> ×115 <sup>L</sup>	420 <sup>w</sup> ×267 <sup>L</sup>	590 <sup>w</sup> ×320 <sup>L</sup>	800 <sup>w</sup> ×400 <sup>L</sup>
	Bending slide	Bending force (kN/set)	11 (20)	30	40 (80)
Bending stroke (Max.mm)		45 (45)	50	65 (60)	110 (90)
Number of sets installable (Max.sets)		9	11	11	11
Rear cam unit	Bending force (kN)	20	30	40	50
	Bending stroke (Max.mm)	50	60	80	125
	Number of sets installable (Max.sets)	3	3	3	3
Main body	Power consumption (kW) 200/220V.50/60Hz	5	10	10	13
	Motor (kW)	3.7	7.5	7.5	11
	Compressed air supply (MPa, ℓ/min)	0.5 , 70	0.5 , 100	0.5 , 100	0.5 , 100
	Machine dimensions (mm)	910 <sup>w</sup> ×1,510 <sup>L</sup> ×1,740 <sup>H</sup>	875 <sup>w</sup> ×2,000 <sup>L</sup> ×1,930 <sup>H</sup>	1,250 <sup>w</sup> ×3,025 <sup>L</sup> ×2,025 <sup>H</sup>	1,200 <sup>w</sup> ×3,300 <sup>L</sup> ×2,340 <sup>H</sup>
	Machine weight (Ton)	1.4	2.7	5	11
Production speed (spm)	35~420	45~310	35~170	15~100	

Note: The values in brackets in the bending slide row are for the 20 kN bending slide.