Roller-burnishing machine RF50

The roller-burnishing machine RF50 – roll-forming machine - is used for:

- roll-forming of shells with cables or sleeves
- roll-forming of cases with plugs
- roll-forming of sleeves and pipes
- roll-forming of sensors with cables

The roll-forming machine guarantees a form-fit connection which helps achieve, among other things, better strain-relief or tightness.

For workers of rotationally symmetric components the roll-forming machine RF50 represents a consistent enhancement of existing systems for the roll-forming of pipes, pipe ends, sleeves, shells, armatures and many other applications.

A typical example is the implementation of sensor sleeves which mechanically protect connection leads from being pulled out and seal them at the same time (IP67 possible). This procedure also allows rolling of plugs into sensor sleeves and many more. Wall thicknesses of 0.2 mm up to approx. 2.0 mm with a diameter of 10 – 50 mm are possible.

Machine setup

The handling of the roll-forming machine is very simple. The work piece is inserted into the opening, usually positioned with the help of a die grinder. A big advantage compared to other systems is that the work piece does not move while the tools roll around its axis. The corresponding working parameters can be stored and managed in the machine control system. The user interface allows easy and logical operation. All essential processes are electronically monitored and the data is stored in the control system. This ensures high process safety and reproducibility.

for more information on the machine setup of roll-forming machine RF50, see here

Basic machine

- basic module for the reception of all functional components consists of: main base plate with carrier for 2 servomotors, recirculating ball screw and main ball screw
- roll-forming head with 3 roll holders with product specific rollers. W > 0.5mm, Ø > 8mm

Protection measures

- front protection with light grid
- emergency stop immediately stops all movements

Control system / Software

- Siemens S7 CPU with user panel Siemens TP700 comfort; S7 and TIA portal V13
- data sets selectable via user panel (by means of bar code scanner if desired)
- data bank for product specific parameters
- 3 access levels for machine control (user, service and administrator)
- language can be chosen as requested (default German and English, other languages with extra charge)
- control cabinet installed into frame

Frame

- holds all machine components
- welded and coated steel frame with 4 rotatable wheels, 2 with locking brake
- aluminium section optional

Machine documents

- documentation, hazard analysis, CE mark

Optional components – additions

The standard roll-forming machine RF50 can be equipped with different optional additions and functions to upgrade it, for example, to a semiautomatic roller-

burnishing machine with process monitoring.

[for more information on components and additions to roller-burnishing machine RF50, see here](#)

Models - RF50

Manual chuck positioning

- manually with longitudinal slide to admit straining module. Driven by crank and trapezoidal thread spindle. Positioning with help of counting module.
- standard chuck is used for straining of work piece
- chuck geometry can be adjusted to work piece

Motor-driven chuck positioning

- motor-driven with longitudinal slide to admit straining module. Driven by servomotor and trapezoidal thread spindle
- standard chuck is used for straining of work piece
- chuck geometry can be adjusted to work piece
- up to 3 roll-forming positions per roll-forming process programmable for grooving of work piece

Load-displacement monitoring

- DMS sensor in connecting link calculates load in lever
- graphic display of loads on separate measuring device
- OK and NOK evaluation

Height adjustable frame

- desktop mounted on height adjustable legs
- height adjustable up to 300 mm
- 4 rotatable wheels, 2 with locking brake

Nonstandard models

- machine can be adjusted according to requirements
- integration of machine into entire machine complex possible

- further alternatives possible

Technical data

Measurements	Standard	1.200 x 1.200 x 2.100 mm (length x width x height)
Die data	number of roll-forming rollers	3
	Roll-forming rollers	hardened
	possible roller diameter	10 – 50 mm
	max. groove width	up to 5 mm
	possible wall thickness	0,2 – 2 mm, depending on material
Power supply	net 3 x L / PE 400V / 50Hz	
Output	3 kVA	
Current	8,2 A	
Pre-fuse	max. 16 A	
Cable cross section	5 x 2,5mm≤	
Compressed air	not required	
Weight	Ca. 950 kg	
Cycle time	ca. 4 – 6 sec.	depending on diameter and number of grooves
Repeat accuracy	± 0,05 mm	

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