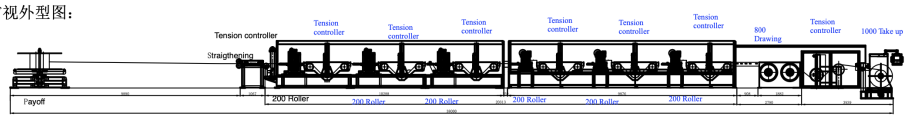
FRM : Flat Rolling Mill

前视外型图：



工艺流程图：

A complete range of FLAT ROLLING MILLS for cast bar, block and strip for precious metal and special metal alloys.

The FRM series is one of the most popular machines worldwide for rolling of cast bars, blocks or strips for precious metals and special metal alloys.

With its reduced footprint and slim design and the five different sizes it will fit into all production facilities.

The wide range of available roll sizes up to 450mm width and a max. rolling force of 500 tons will allow all applications for narrow strip materials in different industries.

Combined with lots of possible options the FRM machines are the high performers in its class.

I. Structural Features and Performance Parameters:

1. Structural Features

(1) Power Control: The main motor is controlled by a frequency converter for stepless speed adjustment, allowing for arbitrary adjustments within the range of 40 to 70 MPM. The touch screen displays the current main motor speed. The active pay-off and flattening motor are separately equipped with frequency converters. Through a pneumatic tension rod, the signal of resistance value change is automatically calculated under the control of PLC, instructing the frequency converter to immediately adjust the motor speed, ensuring the tension rod remains stable and adjusting to the optimal tension, maintaining uniform thickness of the outgoing wire diameter.

(2) Pay-off method: Tray-type pay-off (can accommodate 1-meter reels or loose coils of wire)

(3) Flat flattening method: Precision rollers synchronously counter-roll.

(4) Transmission mode: The entire machine is driven by a coupling.
(5) Adopting special high-quality products: A. The reducer is a square box reducer paired with a variable frequency motor. B. All bearings (NSK) are imported.

1. Performance parameters:

(1) Wire feeding range: φ4.0-φ10 round steel wire.

(2) Wire unwinder: 1000 outer diameter steel coil or 2000 loose coils, with a capacity of 3 tons.

(3) Calendering range: flat calendering with 300MM roll, calendering ratio within 2.5, and flat calendering

with 220MM roll, calendering ratio within 3.5.

(4) Mechanical speed: 70RPM/Max.
(5) Range of calendered finished products: Width 7-15MM, thickness 2-4MM
(6) Cooling method: Circulating emulsion water cooling
(7) Number of calenders: 6 flat calenders.
(8) Outer diameter of calender rollers: 3 sets of 300mm flat calenders and 3 sets of 220mm flat calenders.
(9) Pay-off tension: Pulley damping type
(10) Motor for 300mm calender: 60HP (45KW variable frequency motor) AC motor and 60HP (sinusoidal) tension type frequency converter
(11) Motor for 220mm flat calender: 40HP (30kw) reducer (variable frequency motor) AC motor and 40HP tension type frequency converter
(12) Inlet and outlet of calender: Straightening and fine adjustment guide slot
(13) Traction: 850mm flat wheel dual traction, power 7.5HP reducer AC motor and 7.5HP tension type frequency converter
(14) Wire take-up: 1000 shaft-driven wire take-up machine, power 30HP reducer AC motor and 30HP tension type frequency converter
(15) Wire arrangement: 4KW servo, precision screw and guide rail, shaft-driven precision wire arrangement
II. Machine Composition:
1. 2000 Wire Pay-off Machine: 1 unit
2. 300 Flat Rolling Mill:
3 units 3. 220 Flat Rolling Mill: 2 units 220 Flat Rolling Mill (Tungsten Steel): 1 unit 4. Rolling Mill Inlet and Outlet Straightening System: 12 sets
5. Pneumatic Wire Take-up Tension System: 1 set
6. Pneumatic Tension System: 6 sets
7. 850 Traction System: 1 set
8. Laser Detection System: 1 set
9. Round Wire Straightening System: 1 set
10. Flat Wire Finishing Straightening System: 1 set
11. 1000 Wire Take-up System: 1 set
12. Full Machine Protective Cover: 1 set
13. Oil Circuit Cooling System (including Filter): 1 set
14. Electronic Control System: 1 set