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## **VE-18DHA Fine Wire Drawing Machine (Spray Type)**

The VE-18DHA is a high-speed, efficient fine wire drawing machine designed for precision metal drawing. It features robust construction, advanced control, and is built for consistent performance with low power consumption.

### **I. Key Technical Parameters**

- Max. Inlet Wire Size:  $\Phi 1.0 \sim 1.6$  mm
- **Outlet Wire Size:**  $\Phi 0.25 - \Phi 0.6$  mm
- Max. Drawing Dies: 18
- Max. Drawing Speed: 2000 M/MIN
- **Main Motor Power:** 18.5 KW (AC)
- **Take-up Motor Power:** 4 KW (AC)
- **Total Power Installation:** 23 KW
- **Drawing Slip Ratio:** 1.17
- **Area Reduction Ratio (Machine):** 15%
- **Area Reduction Ratio (Fixed Capstan):** 8%
- **Machine Weight:** 2200 KG
- **Voltage:** 415V 50HZ

### **II. Machine Composition**

The system includes:

1. Overhead Pay-off (1 set)
2. Main Drawing Machine (1 set)

**Included Documentation:** A comprehensive operation manual covers technical parameters, machine operations, structure, drawing dies formula, foundation drawings (including water, power, and air diagrams), error removal, maintenance, electrical diagrams, and inverter manual.

### III. Machine Details & Usage

#### A. Main Machine Structure:

- **Material:** HT200 cast iron for the machine body.
- **Construction:** The machine body is cast iron, undergoes annealing treatment to eliminate internal stress, and is processed with precision boring machines.
- **Equipment Structure:** Horizontal arrangement of drawing wheel.
- **Inlet:** Located on the left side with 5 inlet holes and ceramic eyes. Includes water collection parts below the inlet.
- **Axis:** Made of 40Cr material, precision tempered to enhance hardness and remove inner force.
- **Transmission Parts:** Utilizes **NSK or SKF bearings**. Transmission uses both timing belts and flat belts.

#### B. Drawing Drums

- **Type:** Ceramic drums
- **Configuration:** 8 layers, 4 pieces; the last drawing drum is 1 piece. Drums are arranged horizontally for easy wire insertion.
- **Fixing:** Drums are fixed by conical screws, allowing for easy loading and unloading.
- **Capstan Diameter:** Fixed speed diameter:  $\Phi 208$  mm. Max Capstan Dia: 242mm. Fix Capstan Dia: 206mm
- **Die Base:** The first drawing die is in a single place. Dies from 2nd to 17th are cast parts, designed for easy wire insertion. The drawing die base is adjustable.

#### C. Lubrication:

- **Method:** Spraying oil over drums and drawing dies. Spraying pipes are adjustable.
- **Specifics:** The 1st and last drawing dies use a single spraying pipe.
- **Lubrication Type:** Spray Type.
- **Lubrication Consumption:** 60 liters/minute.
- **Access:** Drawing parts are equipped with Stainless Steel (SS) covers for easy opening.

#### D. Tension and Take-up System:

- **Tension Part:**
  - **Type:** Balance arm.

- **Guiding Wheel:** Ceramic aluminum wheel.
- **Monitoring:** Precision indicating for tension and approaching switches for wire breaking.
- **Control:** Weight Balance Type.
- **Take-up:**
  - **Spool Fixing:** Uses an expansion shaft to fix the spools , along with spool loading and unloading parts.
  - **Take-up Range:**  $\Phi 0.25\text{--}\Phi 0.6$  mm (based on main drawing wires).
  - **Max Take-up Speed:** 2000 m/min (according to main drawing speed).
  - **Take-up Motor:** 4KW (AC).
  - **Spool Sizes:**  $\Phi 300 \times \Phi 215 \times 290\text{mm}$  or  $\Phi 400 \times \Phi 270 \times 300\text{mm}$ . Available in

$\Phi 300\text{mm}$  or  $\Phi 400\text{mm}$  (Bobbin Size).

- **Features:** Full seal covers with checking windows to monitor working conditions. Includes tools for loading and unloading spools.
- **Maximum Load:** 100KG (on take-up).
- **Traversing Type:** Synchronous Motor + Belt.
- **Take Speed Control:** By PID.
- **Brake:** 20KG Magnetic Brake.

#### IV. Control System

- **Power Control:** Dual Inverter Control.
- **Transmission Type:** By time and flat belt.

#### V. Main Parts Brands (18DHA Reference)

NO	NAME	BRAND	ORIGINAL
1	Main bearing	NSK and SKF	Japan and Sweden
2	Drives	Yaskawa	Japan
3	MAIN MOTOR	WN MOTOR	AnHui
4	AIR SWITCH	SHILIN	TAIWAN

NO	NAME	BRAND	ORIGINAL
5	BUTTONS AND RELAYS	SCHNEIDER	FRANCE
6	APPROACHING SWITCH	TEND	TAIWAN



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