



Add: B 49/1, Industries Area, SITE IV, Sahibabad Industrial Area,
Ghaziabad, Uttar Pradesh- 201010
Tel : +91-011-43503165 Mobile Phone : +91-9999313315
E-mail : Info@velocityengineers.com

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:** $\Phi 0.25 \sim \Phi 0.6$ 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:** $\Phi 300\times\Phi 215\times290$ mm or $\Phi 400\times\Phi 270\times300$ mm. Available in $\Phi 300$ mm or $\Phi 400$ 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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