RBD Machine with Individual Drivers

1. Introduction

In wire and cable products, traditional conductors are mainly copper and aluminum wires, but aluminum alloy cables have gradually gained widespread application in recent years. As the first process in the manufacture of cable products, the drawing of the conductor plays a vital role and is closely related to the quality of the product. Due to its large hardness, the use of traditional sliding gear-driven wire drawing machines can easily cause wire surface damage and drawing drum wear, which will affect the surface quality of aluminum wire and reduce the life of the drawing drum.The non-sliding drawing machine provided by our company, each drawing drum is driven by the separate motor independently. During the drawing process, there is almost no sliding between the wires and the drums, which greatly reduces the surface damage of the wires and effectively guarantees the quality of the wires. This is particularly suitable for drawing aluminum alloy wires.
In addition, copper and aluminum drawing machines with individual motors can also be provided according to customer needs to meet customers' drawing requirements for different products. At the same time, we can also provide two types of single head and double head drawing machines for customers to choose, in order to meet customer demand for production capacity.

2. Equipment Features

2.1 There is basically no sliding friction between the wires and the drum surface when drawing, which can extend the service life of the dies and the drums.
2.2 Compared with the traditional gear drawing machine, it can save about 20% of electricity
2.3 When drawing large-size wires, you can turn off the unnecessary motors, this can save up to 20% of energy consumption.
2.4 The elongation of each dies can be adjusted flexibly according to production requirement.
2.5 The drums are arranged in line with quick dies change. When the wire specifications are changed, it is only necessary to replace the finished die and reduce the drawing dies, which is convenient for threading the dies and change the wire specifications.

3. Main Technical Parameters

Model	LT-D9M		LT-D11M		LT-D13M	
Applicable materials	Cu/Al/Al alloy		Cu/Al/Al alloy		Cu/Al/Al alloy	
No. of wires	1	2	1	2	1	2
No. of dies	Max.9		Max.11		Max.13	

Inlet diameter (mm)	Cu: 8.0 Al/Al alloy: 9.5	Cu: 8.0 Al/Al alloy: 9.5	Cu: 8.0 Al/Al alloy: 9.5
Outlet diameter (mm)	Cu:2.20 ~ 3.60 Al/Al alloy: 2.60 ~ 4.70	Cu:1.60 ~ 3.60 Al/Al alloy: 1.80 ~ 4.70	Cu:1.20 ~ 3.60 Al/Al alloy: 1.50 ~ 4.70
Drawing speed (m/min)	Max.1200	Max.1500	Max.1500

4. Comparison of Energy Consumption

Comparison of energy consumption between our drawing machine with individual motors and a gear type drawing machine for drawing 2.6mm copper wire, as follows:

Type	Motor	Driving method	Reduction rate	Maximum output (Reference)	Summary
Individual motors	AC+Siemens, high-efficiency servo motor frequency conversion	Front 6-axis reducer + motor drive, rear toothed belt pulley + motor drive	10% ~ 30% Adjustable; slight slip, low noise	2.6mm*20h (2 pcs) 120T,110 degree/T	High efficiency and energy saving, low noise, large production capacity and less labor
Gear type	Host DC motor + lead DC motor	2 DC motors 500kW + 90kW	23% ~ 25% , fixed reduction	2.6mm*2 180 degree/T	Large noise, high energy consumption, dies and drums are easy to wear and cannot change the reduction rate

Example: Take the peak electricity as 1.11 yuan / degree and the valley electricity as 0.3 yuan / degree: the average electricity cost is: (1.11 + 0.3) / 2 = 0.7 yuan / degree.

The production capacity of 2.6mm * 2 copper wires is calculated at 20 hours per day,it can produce 120T copper wires per day. The gear drawing machine consumes 180 degrees / T of power, and the drawing machine with individual motors consumes 110 degrees / T. The difference is 70 degrees / T.

70 degrees / T*120 T=8400 degrees (per day)*0.7 yuan (average electricity bills)=5,880 yuan (electricity bills)

5880 yuan (One-day electricity ills difference)*30 days *12 months=2,110,000 yuan (Electricity saved in one year).

The above data is for reference only!

The drawing machine with individual motors from us can not only draw copper wires and aluminum wires, but also more suitable for aluminum alloy wires. It is the first choice for drawing aluminum alloy wires.

Product link：https://www.linttop.com/rbd-machine-with-individual-drivers.html