

## REIDL450/13 铝及铝合金大拉机技术规范书 Technical specification of REIDL450/13 Aluminium & Alloy Rod Breakdown Machine

Installation photo in progress at customer site:



**Z** 213161 **A** Hutang, Wujin District, Changzhou City, Jiangsu, China  
**T** +86 (519) 8657 6650 **F** +86 (519) 8637 1322 **E** [sales@rlbcable.com](mailto:sales@rlbcable.com)

## 1、设备用途

### Application:

本机组主要用于将最大 $\phi 9.5\text{mm}$ 的普通铝杆或铝合金杆拉制成 $\phi 4.5\text{mm} \sim \phi 1.8\text{mm}$ 的圆铝单线，采用双盘将线收成盘式。

This equipment is mainly used for  $\phi 9.5\text{mm}$  ordinary aluminum rod or aluminum alloy rod  $\phi 4.5\text{mm} \sim \phi 1.8\text{mm}$  round aluminum single wire adopts double coils to gather the wire into disc type.

## 2、设备主要技术参数

### Main technical parameters

2.1 进线直径:	$\phi 9.5\text{mm}$ (铝或铝合金)
Incoming wire diameter:	$\phi 9.5\text{mm}$ (aluminum or aluminum alloy)
2.2 出线直径:	$\phi 4.5\text{mm} \sim \phi 2.50\text{mm}$ (合金铝线)
Outlet diameter:	$\phi 4.5\text{mm} \sim \phi 2.50\text{mm}$ (alloy aluminum wire) $\phi 4.5\text{mm} \sim \phi 1.8\text{mm}$ (普通铝线) $\phi 4.5\text{mm} \sim \phi 1.8\text{mm}$ (ordinary aluminum wire)
2.3 拉丝鼓轮直径:	$\phi 450\text{mm}$
Diameter of wire drawing drum:	$\phi 450\text{mm}$
2.4 最多拉伸次数:	11 (合金铝线), 13 (普通铝线)
Max. drawing times:	11 (alloy aluminum wire), 13 (ordinary aluminum wire)
2.5 最大出线速度:	25m/s
Max. outgoing line speed:	25m/s
2.6 储线器储线长度:	5 m
Length of wire accumulator:	5 m
2.7 出线眼模转速:	69r/min
Outlet die speed:	69r/min
2.8 收线盘规格:	PND630、PND500
Take-up bobbin size:	PND630、PND500
2.9 主电机	250KW (DC)
Main motor	250KW (DC)

**Z** 213161 **A** Hutang, Wujin District, Changzhou City, Jiangsu, China

**T** +86 (519) 8657 6650 **F** +86 (519) 8637 1322

**E** [sales@rlbcable.com](mailto:sales@rlbcable.com)



2.10 定速轮电机	75KW (DC)
Fixed speed wheel motor	75KW (DC)
2.11 双盘收线电机 (两台)	30KW (DC)
Double wire take-up motor (two sets)	30KW (DC)
2.12 拉丝模具最大外形尺寸	φ53×35mm
Max. overall dimension of wire drawing die	φ53×35mm

### 3、设备的主要组成部分

#### Main components of equipment

3.1 放线架	1 台
Pay-off stand	1 set
3.2 拉丝主机	1 台
Drawing machine	1 set
3.3 收线张力储线器	1 台
Take-up tension accumulator	1 set
3.4 双盘自动收线机	1 台
Double wire automatic take-up	1 set
3.5 轧头穿模机	1 台
Rolling head threading-die machine	1 set
3.6 电气控制系统	1 套
Electric control system	1 set
3.7 齿轮油润滑循环系统	1 套
Gear oil lubrication circulating system	1 set
3.8 油泵	1 套
Oil pump	1 set
3.9 管壳式换热器	1 套
Tubular heat exchanger	1 set

### 4、各主要部件的结构说明

#### Structure description of main components

**Z** 213161 **A** Hutang, Wujin District, Changzhou City, Jiangsu, China

**T** +86 (519) 8657 6650 **F** +86 (519) 8637 1322

**E** [sales@rlbcable.com](mailto:sales@rlbcable.com)

#### 4.1 旋臂式双工位放线架

##### Swing arm type double station paying off stand

4.1.1 在立式机架上方安装可旋转放线臂，当放线臂旋转时，可实现对两个工位的线卷放线。  
A rotatable paying off arm is installed above the vertical frame. When the paying off arm rotates, the winding and paying off of two stations can be realized.

4.1.2 两堆线卷置于旋臂下方，导线经上方导线框，绕过导轮进入拉线主机。

The two stacks of wire coils are placed under the rotating arm, and the wire passes through the upper wire frame, bypasses the guide wheel and enters the pulling host.

4.1.3 附全线联动停车装置

Attached with linkage parking device of the whole line

#### 4.2 拉丝主机

##### Drawing machine

4.2.1 进线直径:  $\phi 9.5\text{mm}$  (铝或铝合金)

Incoming wire diameter:  $\phi 9.5\text{mm}$  (aluminum or aluminum alloy)

4.2.2 出线直径:  $\phi 4.5\text{mm} \sim \phi 2.50\text{mm}$  (合金铝线)

Outlet diameter:  $\phi 4.5\text{mm} \sim \phi 2.50\text{mm}$  (alloy aluminum wire)

$\phi 4.5\text{mm} \sim \phi 1.8\text{mm}$  (普通铝线)

$\phi 4.5\text{mm} \sim \phi 1.8\text{mm}$  (ordinary aluminum wire)

4.2.3 最大出线速度 25m/s

Max. Out wire speed 25m/s

4.2.4 伸线眼模 13 个

Drawing die 13 pcs

4.2.5 伸线鼓轮直径 450 mm

Dia. of extension drum 450 mm

4.2.6 主电机功率 250KW(DC)

Motor power 250KW(DC)

4.2.7 定速轮电机 75KW(DC)

**Z** 213161 **A** Hutang, Wujin District, Changzhou City, Jiangsu, China

**T** +86 (519) 8657 6650 **F** +86 (519) 8637 1322

**E** [sales@rlbcable.com](mailto:sales@rlbcable.com)



Fixed speed wheel motor 75KW(DC)

4.2.8 出线回转模转速 69r/min

Rotating speed of outgoing wire rotary mold 69r/min

4.2.9 入口第一道井字导轮，立式 2 只为井口独立导轮，横式上导轮为移动式。

The first well shaped guide wheel at the inlet is two vertical independent guide wheels at the wellhead, and the horizontal upper guide wheel is mobile.

4.2.10 外门盖采用 6 片不锈钢板，手动开启；内门盖采用 9 片不锈钢板，均附手把，人工打开。

The outer door cover is made of 6 stainless steel plates, which are opened manually; The inner door cover is made of 9 stainless steel plates, all of which are attached with handlebars and opened manually.

4.2.11 拉丝轮采用半浸方式，循环冷却。

The drawing wheel is semi immersed and circularly cooled.

4.2.12 拉丝液槽与齿轮箱中间设有空间隔开，防止液体混入齿轮油中。拉丝液通过拉丝液槽底部的管道回到拉丝液池。

There is a space between the drawing fluid tank and the gear box to prevent the liquid from mixing into the gear oil. The wire drawing fluid returns to the wire drawing fluid pool through the pipe at the bottom of the wire drawing fluid pool.

4.2.13 出线模座配备旋转机构，出线出口处设有拉丝油涂抹机构。

The outlet die base is equipped with a rotating mechanism, and the outlet is equipped with a drawing oil coating mechanism.

4.2.14 穿模点动开关，并设有防逆转装置。

The die threading inching switch is equipped with an anti reverse device.

4.2.15 附出线口断线检出装置、急停装置。

Outgoing wire break detection device and emergency stop device are attached.

4.2.16 拉丝鼓轮采用低碳合金钢，表面喷涂碳化钨。

The drawing drum is made of low carbon alloy steel, and its surface is sprayed with tungsten carbide.

### 4.3 张力储线器

#### Tension wire accumulator

**Z** 213161 **A** Hutang, Wujin District, Changzhou City, Jiangsu, China

**T** +86 (519) 8657 6650 **F** +86 (519) 8637 1322

**E** [sales@rlbcable.com](mailto:sales@rlbcable.com)



4.3.1 适用线径	φ4.5mm~φ1.8mm
Applicable wire dia.	φ4.5mm~φ1.8mm
4.3.2 储线长度	5m
Storage wire length	5m

4.3.3 张力采用气动涨紧，压力可调。

The tension is pneumatically tightened and the pressure is adjustable

4.3.4 压缩空气工作压力	0.3Mpa~0.7Mpa
----------------	---------------

Working pressure of compressed air	0.3Mpa ~ 0.7Mpa
------------------------------------	-----------------

储线器固定轮在下方，移动轮在上方，固定轮和移动轮均为分片式。移动轮内装有直线移动轴承。固定轮和移动轮均进行铝喷涂陶瓷处理。

The fixed wheel of the wire accumulator is at the lower part and the mobile wheel is at the upper part. Both the fixed wheel and the mobile wheel are of chip type. The moving wheel is equipped with a linear moving bearing. Both fixed wheels and mobile wheels are treated with aluminum spraying ceramic.

4.4.5 气压可调并备有张力检测传感器与双盘收线机联动，控制收线速度。

The air pressure is adjustable and equipped with a tension detection sensor, which is linked with the double reel take-up machine to control the take-up speed.

4.4.6 附断线检出装置及电子计米装置。

Attached with broken wire detection device and electronic meter counting device

## 4.5 双盘自动收线机

### Double wire automatic take-up machine

4.5.1 收线直径	φ4.5mm~φ1.8mm
Take-up dia.	φ4.5mm~φ1.8mm
4.5.2 收线盘规格	PND630、PND500
Take up bobbin size	PND630、PND500
4.5.3 最大收线速度	25m/s
Max.take up wire speed	25m/s
4.5.4 收线电机（两台）	30KW（DC）
Take-up motor(2 sets)	30KW（DC）

**Z** 213161 **A** Hutang, Wujin District, Changzhou City, Jiangsu, China

**T** +86 (519) 8657 6650 **F** +86 (519) 8637 1322

**E** [sales@rlbcable.com](mailto:sales@rlbcable.com)

4.5.5 排线电机 0.75KW(AC)

Traversing wire motor 0.75KW(AC)

4.5.6 排线架为双支撑结构，运行平稳，排线换向位置可以在拉线状态下进行电动调节。

The traversing wire stand is a double support structure, which operates stably. The traversing position of the flat cable can be electrically adjusted under the pull wire state

4.5.7 当收线长度达到预置长度要求时，自动从满盘切换到空盘。

When the take-up length meets the preset length requirements, it will automatically switch from full reel to empty reel.

4.5.8 气动升降装卸线盘，气动夹紧、放松线盘。

Pneumatic lifting and unloading reel, pneumatic clamping and loosening reel.

4.5.9 气动刹车。

Pneumatic brake

4.5.10 备有压力传感器，当气压低于规定值时即发出停机信号，安全可靠。

A pressure sensor is provided to send a shutdown signal when the air pressure is lower than the specified value, which is safe and reliable.

4.5.11 收排线架底座为钢板组焊件，并进行定性处理，整体稳定、牢固。

The base of the cable take-up rack is a steel plate assembly weldment, which is subject to qualitative treatment and is stable and firm overall.

## 4.6 轧头穿模机

Rolling head threading-die machine

4.6.1 轧辊直径  $\phi 100\text{mm}$

Roller dia.  $\phi 100\text{mm}$

4.6.2 轧辊转速 24r/min

Roller rotating speed 24r/min

4.6.3 进线直径  $\phi 9.5\text{mm} \sim \phi 2\text{mm}$

Wire-inlet dia.  $\phi 9.5\text{mm} \sim \phi 2\text{mm}$

4.6.4 鼓轮直径  $\phi 450\text{mm}$

Drum wheel dia.  $\phi 450\text{mm}$

4.6.5 鼓轮转速 16r/min

**Z** 213161 **A** Hutang, Wujin District, Changzhou City, Jiangsu, China

**T** +86 (519) 8657 6650 **F** +86 (519) 8637 1322

**E** [sales@rlbcable.com](mailto:sales@rlbcable.com)

Drum wheel rotating speed 16r/min

4.6.6 主电机功率 5.5KW

Main motor power 5.5KW

4.6.7 穿模夹头：夹头锯齿状，设有一弹簧顶开夹头，拉紧则自动排线成圈，绕在鼓轮上的线材足够穿模长度要求。

Threading-die collet: the collet is serrated, and is equipped with a spring to open the collet. When it is tensioned, the wire is automatically arranged into a circle. The wire wound on the drum is enough to meet the requirement of threading length.

## 4.7 电气控制系统

### Electric control system

4.7.1 本机电源为三相五线制 The power supply of this machine is three-phase five wire system, 380V ( $\pm 10\%$ ), 50Hz.

4.7.2 本机采用 SIMENS 可编程控制器，触摸屏控制各部分电气工作状态。工艺参数可在触摸屏中设定、修改和显示。

The machine adopts SIMENS programmable controller, and the touch screen controls the electrical working state of each part. The process parameters can be set, modified and displayed on the touch screen.

4.7.3 本机拉丝主电机、定速轮电机及双盘收线电机均采用直流电机。

The main wire drawing motor, fixed speed wheel motor and double reel take-up motor of the machine are DC motors(Chinese brand).

4.7.4 本机设有下列保护。

The machine is equipped with the following protections.

4.7.4.1 直流调速装置的故障报警。

Fault alarm of DC speed regulating device.

4.7.4.2 断线保护。

Wire break protection.

## 4.8 润滑油系统

### Lubricating oil system

4.8.1 该系统用于主机箱体内各齿轮、轴承润滑冷却。

**Z** 213161 **A** Hutang, Wujin District, Changzhou City, Jiangsu, China

**T** +86 (519) 8657 6650 **F** +86 (519) 8637 1322

**E** [sales@rlbcable.com](mailto:sales@rlbcable.com)



The system is used for lubrication and cooling of gears and bearings in the main engine box.

4.8.2 该系统包括油箱、过滤器、油泵马达、列管式热交换器以及管道和压力传感器等。

The system includes oil tank, filter, oil pump motor, tubular heat exchanger, pipeline and pressure sensor, etc.

4.8.3 润滑油经过过滤器后，由齿轮油泵打到列管式热交换器进行冷却后，经过管道对拉丝主机箱体内部的齿轮和轴承进行润滑冷却。

After the lubricating oil passes through the filter, it is pumped to the tubular heat exchanger by the gear oil pump for cooling, and then lubricated and cooled to the gear and bearing in the drawing main box through the pipeline.

4.8.4 该系统与主机连接部分的管路及附件由用户自备。

The pipes and accessories connecting the system with the host shall be provided by the user.

**5、装机总容量：400KW。**

**Total installed capacity: 400KW.**

**6、设备颜色按用户提供色板执行。**

The device color is executed according to the color palette provided by the user.

**7、用户提供线盘图纸。**

The user provides bobbin drawings.

**8、设备配置:放线架、拉丝主机、储线器、双盘收线机、轧头机、电器控制系统和齿轮油润滑循环系统。**

Equipment configuration: pay off stand, wire drawing machine, wire accumulator, double reel take-up machine, rolling head machine, electrical control system and gear oil lubrication circulation system.

**9、设备安装所需电线电缆、水冷却系统、压缩空气气源、水管、油管、气管系统等由使用方自备。**

Wires and cables, water cooling system, compressed air source, water pipe, oil pipe, gas pipe system, etc. required for equipment installation shall be provided by the user.

**Z** 213161 **A** Hutang, Wujin District, Changzhou City, Jiangsu, China

**T** +86 (519) 8657 6650 **F** +86 (519) 8637 1322

**E** [sales@rlbcable.com](mailto:sales@rlbcable.com)