

LH-TC

End-Of-Arm Tooling



LH-TC•Force controlled deburring tools

Precise Efficient Flexible Automatic

ZHENGZHOU LINGHANG ROBOT CO.,LTD

LH-TC•Force controlled deburring tools

Comply with the products shape, eliminate workpiece error, provide a safe, fast, precise deburring solution

LH-TC constant force Floating Material Removal tool is an efficient and flexible automatically deburring tool, equipped with powerful electric motor, it can quickly and automatically remove burrs, seams and edge -breaking of various materials. Applied in multi-process, suitable for components with materials such as cast iron, steel, aluminum alloy, plastic, etc. Under operation condition, the floating mechanism and the tool can comply the irregular workpiece burrs and conduct adaptive processing, avoid the damage of the tool and the workpiece, eliminate the error of workpiece shape and positioning.



Flexible contact, adjustable rotate speed



360 degree floating in Radial direction, floating in axial direction



Durable contact component, dust-proof, air leakage proof



Aluminum alloy shell, light weight design



Build-in steel ball to reduce friction and lengthen service life



Replaceable Variety grinding heads, meet customized deburring requirement

LT-6000

Item No.: F14050003

- ✓ High Speed, Efficiency, Large volume cutting
- ✓ Over cut prevention, Low residue
- ✓ Automatically Replaceable tool, tool holder
- ✓ Cooling method: Water cooling
- ✓ Interface: $\Phi 10$ pneumatic pipe
- ✓ Available tool holder diameter: 2-16mm

interface standard: ISO25

Standard configuration:

Tool holder: ISO25-ER25-60

Chuck (10mm) : ER25-10

Standard wrench: ISO25

Optional configuration: Controller: LMO-100B-JX01

Use scope:

- ✓ cast iron, steel, aluminum alloy, etc.
- ✓ Connection part below 4mm
- ✓ General burrs
- ✓ Seam line
- ✓ Processed flanging
- ✓ Chamfer below C5

Product Parameters:

Product measurement	Product weight	The Max rotate speed	The spindle torque	Power	Floating angle (x, y)	Axial floating range	Floating force
$\Phi 180\text{mm} \times 543\text{mm}$	30.7kg	36000rpm	2.8N·m	6KW	$\pm 4^\circ$	360°	96N-203.8N



LT-FRC series Support replaceable tool automatically

Perfect solution for complex components with multi-process

LT-FRC030B-3060J

Item No.: F14020035

- ☑ 360°Radial floating, adaptive all-round deburring
- ☑ High efficient in multi-process deburring applications
- ☑ Flexible contact between tool and workpiece to avoid over cutting
- ☑ Adjustable applied force between tool and workpiece

Standard configuration :

8m cables、 Controller 1 set、 Pressure regulate valve 1 piece、
Proportional valve 1piece、 Pressure regulating filter 1 piece
Clamping: Φ6.0mm (CHK-6.0) / Screw nut (K-265)
Optional clamping: Φ3.0mm (CHK-3.0) / Screw nut (K-265)
Wrench(12×14)2pieces / (22×27) 2pieces

Use scope:

- √ Cast iron, steel, aluminum alloy, resin etc.
- √ Seam line
- √ Connection part below 2mm
- √ Processed flanging
- √ General burrs
- √ Chamfer below C2



LT-FRC030B-3030T-J

Item No.: F14020020

- ☑ The torque is greatly increased and the power is more sufficient
- all the other parameters are same with LT-FRC030B-3060J

Product Parameters:

Model	LT-FRC030B-3060J	LT-FRC030B-3030T-J
Product measurement	Φ104mm*237mm	Φ104mm*237mm
Product weight	3.48kg	3.5kg
The Max rotate speed	60000rpm	30000rpm
The max torque	9cN·m	18cN·m
Power	350W	350W
Floating angle (X, Y)	±5°	±5°
Radial floating angle	360°	360°
Axial floating distance	7mm	7mm
Floating force	7N-30N	7N-30N
Change tools automaticly	Replaceable tool diameter: 0.5~6.35mm	Replaceable tool diameter: 0.5~6.35mm

LT-FR series

Meet variety of grinding demands in multiple process

LT-FR030B-3060J Item No.: F14020036

- ☑ 360°Radial floating, adaptive all-round deburring
- ☑ Position repeatability eliminate the workpiece error perfectly.
- ☑ Absorb the deformation of the product during deburring process, adaptive processing, reduce the debugging difficulty
- ☑ Flexible contact between tool and workpiece to avoid over cutting

Standard configuration :

8m cables、Controller 1 set、 Pressure regulate valve 1 piece、
precision pressure regulate valve 1 piece、 Pressure regulating filter
Clamping: $\Phi 6.0\text{mm}$ (CHK-6.0) / Screw nut (K-265)
Optional clamping chuck: $\Phi 3.0\text{mm}$ (CHK-3.0) / Screw nut (K-265)
Wrench(12×14)2pieces / (22×27) 2pieces

Use scope:

- √ cast iron, steel, aluminum alloy, resin etc.
- √ Seam line
- √ Connection part below 2mm
- √ Processed flanging
- √ General burrs
- √ Chamfer below C2



LT-FR030B-3030T-J Item No.: F14020034

- ☑ The torque is greatly increased and the power is more sufficient
- ☑ More efficient in hole deburring applications
- ☑ Ceramic bearings are 2 times more durable than steel bearings
- All the other parameters are same with LT-FR030B-3060J

Product Parameters:

Model	LT-FR030B-3060J	LT-FR030B-3030T-J
Product measurement	$\Phi 82\text{mm} \times 179\text{mm}$	$\Phi 82\text{mm} \times 179\text{mm}$
Product weight	1.8kg	1.8kg
The Max rotate speed	60000rpm	30000rpm
The max torque	9cN·m	18cN·m
Power	350W	350W
Floating angle (X, Y)	$\pm 5^\circ$	$\pm 5^\circ$
Radial floating angle	360°	360°
Axial floating distance	5mm	5mm
Floating force	7N-30N	7N-30N

LT-FR040B-S4040

Item No.: F14030004

- ☑ Cone runout < 1.5μm
- ☑ Available tool-holder diameter 1mm-7mm
- ☑ Air cooling and holder heat dissipation system
Ensure machine its temperature is normal
- ☑ Positive pressure air curtain dust proof system to lengthen service life
- ☑ Build-in temperature sensor
- ☑ 2 pole brushless motor with DC

Standard configuration:

10m cables, Controller 1 set, Pressure regulate valve 1 piece,
Precision pressure regulate valve 2pieces, Precision pressure
regulating filter 1piece,
Clamping: Φ6.0mm (ER11-6.0) / Screw nut (ER11)
Wrench (12×14) 2pieces

Use scope:

- √ cast iron, steel, aluminum alloy, resin etc.
- √ Seam line
- √ Connection part below 2mm
- √ General burrs
- √ Processed flanging
- √ Chamfer below C2

Product Parameters:

Product measurement	Product weight	The Max rotate speed	The spindle torque	Power	Floating angle (X, Y)	Radial floating angle	Floating force	Axial floating distance
Φ97mm*203mm	3.2kg	20000rpm	60cN·m	400W	±5°	360°	7N-29N	6.5mm



LT-FR020A-20-S6000

Item No.: F14010004

- ☑ Light weight design low noise exquisitely grinding
- ☑ Position repeatability eliminate the workpiece shape error perfectly.
- ☑ Adjustable applied force between tool and workpiece
- ☑ Flexible contact between tool and workpiece to avoid over cutting

Standard configuration:

6m cables, Controller 1 set, Pressure regulate valve 1 piece,
Precision pressure regulate valve 1 piece, Precision pressure
regulating filter 1piece
Clamping: Φ3.0mm (CHA-3.0) / Screw nut (CHN-A)
Wrench (8×5) 1piece. (9×11) 1piece

Use scope:

- √ aluminum alloy, resin etc.
- √ Seam line
- √ General burrs
- √ Processed flanging
- √ Chamfer below C0.5

Product Parameters:

Product measurement	Product weight	The Max rotate speed	The max torque	Power	Floating angle (X, Y)	Radial floating angle	Floating force	Axial floating distance
Φ68mm*195mm	1.1kg	60000rpm	9cN·m	250W	±5°	360°	3N-14N	4mm



LT-AF series

Perfect solution for adaptive output force compensation and flexible polishing

LT-AF100B

Item No.: F15010003

- ☑ Adaptive complex concave and convex surface flexible contact grinding, making the grinding tool and the workpiece always fit to ensure the same grinding effect.
- ☑ The constant force actuator automatically recognizes the state and compensates the output force.
- ☑ Active constant force compensation accuracy within $\pm 0.5\text{N}$, to achieve accurate force control.
- ☑ Real-time feedback contact force data, visual operation, convenient process debugging.
- ☑ Plug and play with the market robot, solving the problem of ecological fragmentation and cross-terminal docking.

Standard configuration:

Force control unit 1set

Controller LT-KZG-A 1 set

M12-12 pin cable 12 m long

M12-8 pin cable 5m Long

M12-5 pin cable 5m long

Communication connector RJ45(Support modbus/tcp, profinet, Ethernet/IP、TCP/IP)



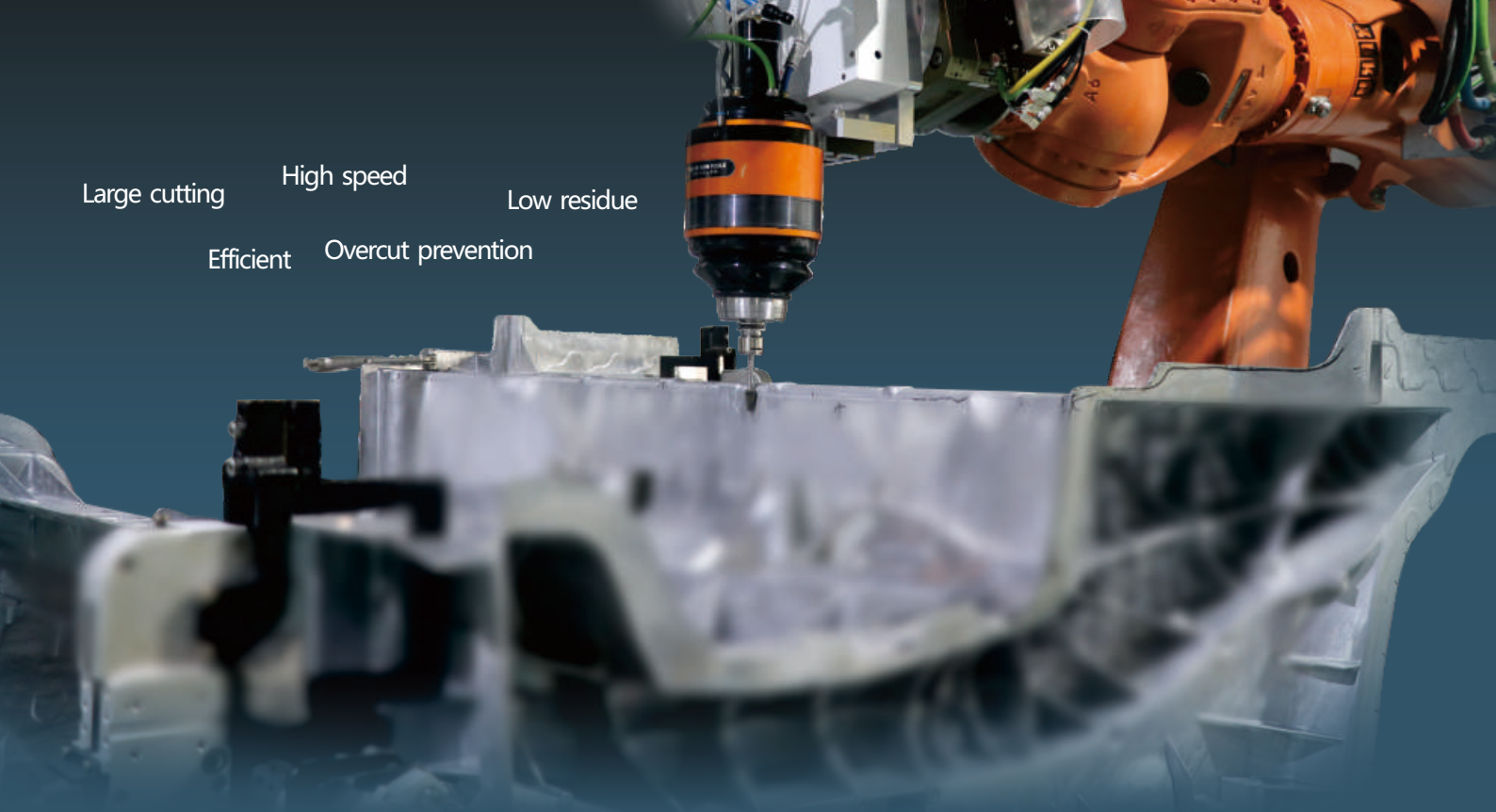
Applicable materials: Cast iron, steel and other metals, new materials, fibers, composite materials, etc.

Use scope:

- √ Welding spot, seam lines
- √ General burrs
- √ Polishing, brushing, mirror, etc.
- √ Quantitative cutting and grinding

Product Parameters:

Floating force (N)	10-100N
Force control accuracy (N)	± 0.5
Stroke (mm)	35
Payload (kg)	3.5
Proof class	IP65
Working temperature (°C)	+5~+45
Air supply (Mpa)	0.4~0.7 (without oil, water and dust 0.03mm)
Air consumption (L/min)	5~10
Size (Withdraw, mm)	148*175*200
Size (Stretch, mm)	148*175*235
Self-weight (kg)	4.2
Pipe diameter (mm)	$\Phi 6$



Large cutting High speed Low residue
Efficient Overcut prevention

**Leading the technological innovation in the field of integrated die-casting deburring
Provide integrated die-casting deburring solutions for new energy vehicles**

Pain points of integrated die-casting deburring industry

Large product size

There are many burrs, and the grind beat is required to be fast

Widely distributed burrs

All surfaces need to be ground, heavy workload

Large product deformation

Product deformation is large and cannot be accurately positioned

In view of the pain points of the industry, Linghang innovatively launched intelligent force-controlled floating flexible deburring processing system



Advantage 1

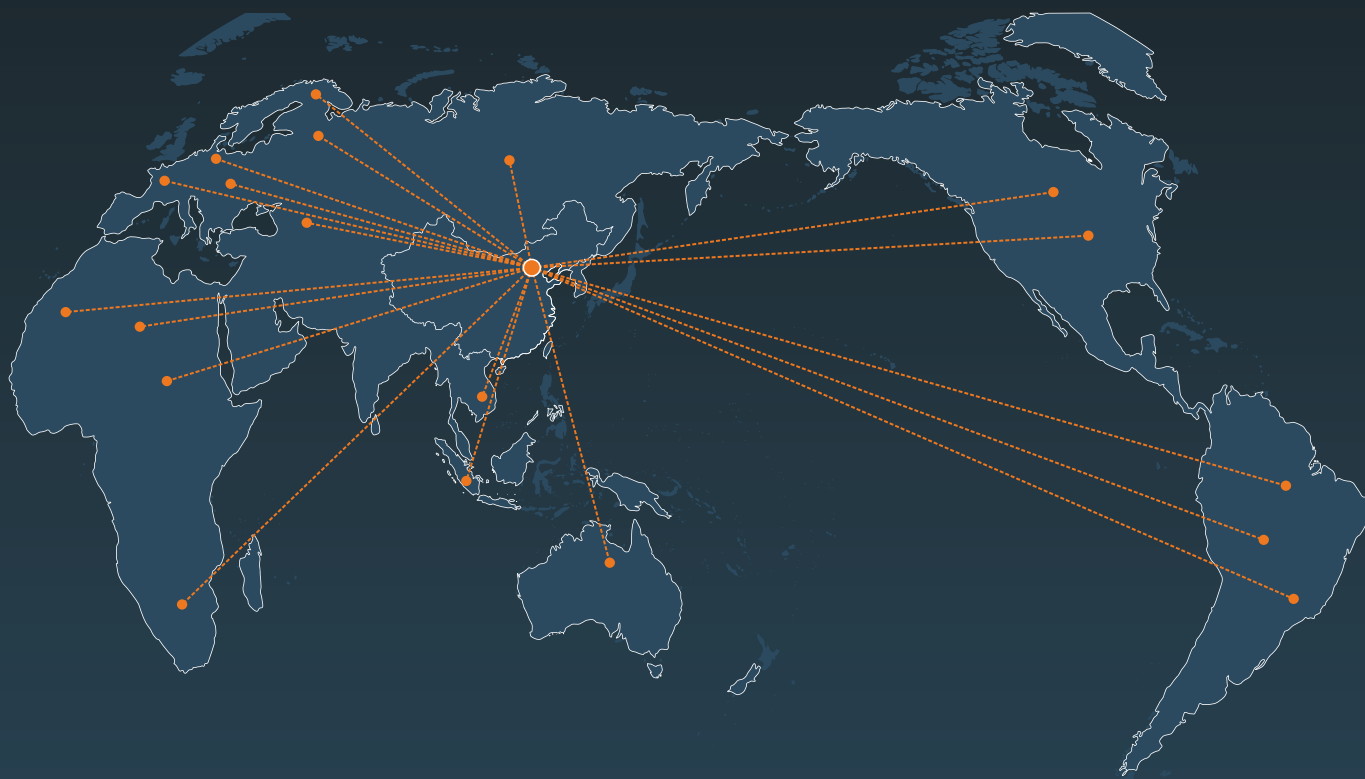
We have cooperated with many first-line car enterprises such as Volvo and SERES (AITO and other automobile manufacturers), accumulated abundant experience, established a segmented process database of integrated die-casting grind, and provided the industry with accurate and efficient process parameter adjustment solutions.



Advantage 2

Research and develop special grind process and automatic tool change technology, efficiently solve the pain points of integrated die-casting, improve the quality and efficiency of the die-casting grind industry.

Sales network overview of Linghang Robot



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