

# BAYKAL



**FIBER LASER  
ROBOT  
SOLUTION**



**Fully Integrated Laser  
Robotic  
Welding Package**



## Machine laser welding torch guarantees Complete complex welding

- ✓ Does not affect welding posture
- ✓ Minimize welding blind spot

### System integrated to ensure ultra-high-quality welding

- Precise control of signal transmission
- Integrated wire feed control
- Integrated laser generator power regulation
- The arc welding process realizes laser welding (arc welding process package)
- Energy follow, make more precisely welding works
- Enhanced back reflection protection and built-in diagnostics improve reliability, and modular construction makes it easy to service
- Ideal one-micrometer wavelength offers the best solution for processing metals
- All laser processing commands through the robot teach pendant
- Dedicated laser functions within the robot control for laser power, assist gas, ramping slopes, wire feed, etc



### Integrated circuit guaranteed continuous working ability and easy maintenance, room save

- ✓ Low failure rate
- ✓ Compact and space-saving installation area
- ✓ Easy maintenance because all components are highly integrated
- ✓ Plug and play function with direct connection of the robot controller to the fiber laser



### Independently Designed Cooling System

Laser generator and integrated circuit unified's tower integrated external cooling system  
Uniquely designed machine welding torch cooling system  
The unique internal cooling system of the laser generator





# Integrated Design



## More Wider Range of Process Solutions

● Welding

● Cutting



# Robot Body Design Most Suitable for Laser Welding



Optimized forearm

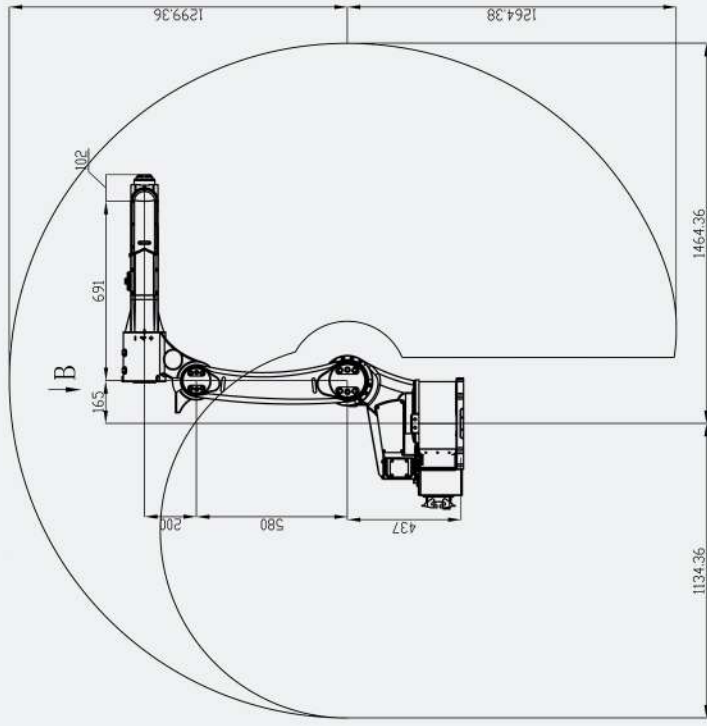
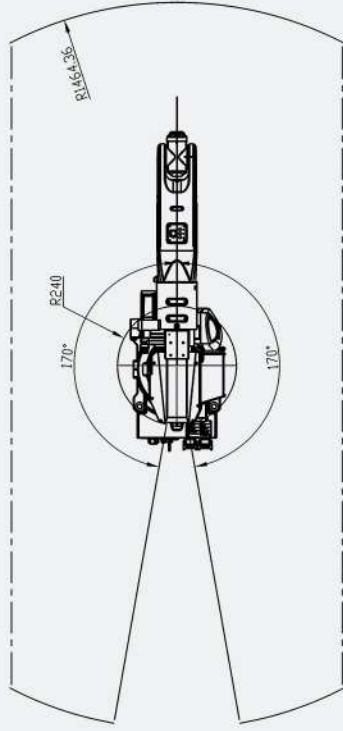


Optimized reducer motor, driver



Optimized robot body strength design

**BAYKAL**



BR10iG-14 Working Range

	Range of motion						Max speed					
	J1	J2	J3	J4	J5	J6	J1	J2	J3	J4	J5	J6
<b>BR10iG-14</b>	± 170°	+90° -160°	+115° -90°	± 190°	± 140°	± 360°	173.6°/s	138.8°/s	198.3°/s	288.1°/s	400°/s	588.2°/s
<b>BR20iG-16</b>	± 175°	+64° -130°	± 80°	± 150°	± 140°	± 360°	215.1°/s	160°/s	148.8°/s	294.1°/s	400°/s	588.2°/s
<b>BR20iG-18</b>	± 175°	+85° -150°	± 80°	± 150°	± 140°	± 360°	172.1°/s	135.1°/s	173.6°/s	294.1°/s	400°/s	588.2°/s

## BR10iG-14

## BR20iG-16

## BR20iG-18

- **Load** 10KG
- **Span** 1464mm
- **Name** Laser welding robot
- **Type** Vertical joint 6 degrees
- **The main purpose** Laser weld
- **Max load weight** 10KG
- **Position repeatability** ±0.05mm
- **Vibration** ≤4.9m/S<sup>2</sup>
- **Battery capacity** 2KVA
- **Body weight** 149KG
- **Maximum reach** 1566mm
- **Conditions** 0-45°C, 10-80%RH (no condensation)
- **Protection class** Equivalent to IP65
- **Installation** Ground, hoisting and side mounting



## • CCD Observation

Welding result path visualization guarantees perfect welding and protects eyes.



## • Laser dedicated robot body (optional)

BR10iG-14

BR20iG-16

BR20iG-18

## • Integrated Push-pull wire feeder (optional)

Wire retraction function ensures clean welding



Compact feeder design, clean and neat, avoidance of interference

Automatic wire feeding, avoiding manual adjustment before welding, save time and improve efficiency

## • Laser positioning and laser tracking

Data collection is relative to the robot path for complete process analysis (optional)



## • Laser Source (optional)

Laser generator brand



Raycus



Max



Reci

Laser power

1000W

1500W

2000W

3000W