

PRODUCT SPECIFICATION

HAC-BS300

Fixed-Column Rigid-Arm Industrial Manipulator

HAC-BS300 is a 300 kg fixed-column rigid-arm manipulator. Its working radius runs from 750 to 2500 mm; the specified lowest and highest end positions are 500 and 1700 mm. The operator guides the balanced load through a handle on the end effector.



Series reference image.

Drive: Project-specific

Mounting: Column

Materials: Workpieces, Drums, Bags, Metal sheets

Configuration, complete technical data and selection guidance

Read the specified load and movement with their conditions. This document supports purchasing and project definition; the supplied equipment instructions govern operation and maintenance.

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Technical specifications

Parameter	Specification
Load	300 kg
Minimum working radius B	750 mm
Maximum working radius C	2500 mm
Lowest end position D	500 mm
Highest end position E	1700 mm
Highest manipulator position F	3450 mm
Machine weight	420 kg
Structural components	Balancer, end effector and mounting structure
End effector	Designed for the workpiece; include end-effector weight in load calculations
Balancing function	Weight-sensing balance for changing loads
Arm arrangement	Rigid arm; maintains the end-effector head level
Operator control position	Handle integrated with the end effector
Mounting arrangement	Fixed-column

Model configuration and selection

HAC-BS300 is a 300 kg fixed-column rigid-arm manipulator. Its working radius runs from 750 to 2500 mm; the specified lowest and highest end positions are 500 and 1700 mm. The operator guides the balanced load through a handle on the end effector.

The column transfers loads to a floor-supported installation. The fixed-column arrangement requires a defined foundation and anchoring layout; it is not a mobile counterweight base. Include end-effector weight in the load calculation. Check both the inner unreachable area and outer reach, and use the installation drawing datum for the end-position and overall-height dimensions. A 2500 mm maximum radius does not mean every point inside that circle is reachable.

Compare model configurations

Selection point	HAH-BM300	HAH-BS300	HAC-BM300	HAC-BS300
Load	300 kg	300 kg	300 kg	300 kg
Minimum working radius B	630 mm	630 mm	750 mm	750 mm
Maximum working radius C	2500 mm	2500 mm	2500 mm	2500 mm
Lowest end position D	500 mm	500 mm	500 mm	500 mm
Highest end position E	1700 mm	1700 mm	1700 mm	1700 mm
Highest manipulator position F	3350 mm	3350 mm	3450 mm	3450 mm
Machine weight	500 kg	500 kg	420 kg	420 kg
Mounting arrangement	Traveling overhead	Fixed overhead	Mobile-column	Fixed-column

A dash means no value is specified for that comparison field; it does not mean zero or an included feature. Read each model's complete technical data with its operating conditions.

Equipment and intended application

A balancing mechanism supports the end effector and workpiece while the operator guides their position. The gripper supplies the workpiece-specific connection; the arm or cable mechanism and mounting structure define the working envelope. The end-effector mass is part of the load that the system must support.

Workpiece suitability and limits

Topic	Details
Workpiece and grip	Identify the lifting feature, surface condition, centre of gravity and required orientation. A clamp, hook and vacuum head solve different grip problems and are not interchangeable load ratings.
Machine access	Check both the minimum and maximum working radius, the lowest and highest end positions and the space occupied by the arm above them.
Assembly work	Describe whether the operator needs to hold a part level, turn it, reach into a machine or maintain a floating load while aligning fasteners.

Configuration and supply boundaries

Topic	Details
Balancer	The balancing unit carries the combined end-effector and workpiece load within its stated envelope.
End effector	The fixture is designed around the actual workpiece and handling sequence. Its weight, gripping points and orientation functions are part of the configuration.
Mounting	Fixed, mobile, overhead and rail-mounted arrangements have different structural and clearance requirements. Use the mounting stated for the selected model.
Utilities	Pneumatic and electric drive versions are separate configurations. Apply only the pressure or electrical requirements actually listed for the model.

Installation and commissioning

- Plot pickup and placement coordinates relative to the mounting point. Include the minimum-radius blind area and the full moving-arm envelope.
- Design the foundation, overhead support or mobile base for the specified system and operating loads. A matching bolt pattern alone does not verify structural capacity.
- Install the selected fixture and utility supply, then commission its balance, grip/release controls and locking functions with representative workpieces.
- Provide the operator with a clear path and access to the controls at every required posture. Reassess the system when the fixture or workpiece changes.

Handling sequence

1. Inspect mounting, joints, fixture and the applicable utility supply.
2. Engage the fixture using its defined gripping procedure and verify that the workpiece is secure.
3. Guide the balanced load through the clear working envelope without forcing it against a travel stop.
4. Support the workpiece at the destination before releasing the fixture; park the arm in its designated position.

Inspection, maintenance and replacement parts

Topic	Details
Arm and mounting	Inspect fixings, joints and locking functions for looseness, wear or drift.
Fixture	Check contact pads, clamp jaws, hooks or vacuum elements according to the installed gripping method.
Pneumatic versions	Check air quality, filter bowl, hoses and leakage; do not alter factory balance settings to compensate for a fault.
Changed loads	Recheck balance and grip after replacing an end effector or changing the workpiece mass or centre of gravity.

Troubleshooting priorities

Topic	Details
Load drifts or balance changes	Support the workpiece and check the fixture mass, utility supply and balance system before continuing.
Cannot reach the placement	Check minimum radius, maximum radius, end height and obstacles. Do not force the arm beyond its mechanical envelope.
Fixture slips	Stop use and review gripping surface, fixture engagement and the actual workpiece geometry.

Frequently asked questions

What load should I use when selecting HAC-BS300?

The stated rated load for HAC-BS300 is 300 kg. Apply it only to the specified configuration and operating conditions. Include the workpiece geometry, orientation and any tooling in the application assessment; do not combine separate maximum reach, height and capacity values.

Does the load figure include the gripper?

The balancing mechanism supports the end effector as well as the workpiece. Assess their combined mass and the centre of gravity when sizing the system.

Why does minimum radius matter?

A position too close to the column may be unreachable even though it is inside the maximum-radius circle. Plot both pickup and placement against the complete arm envelope.

Can one fixture handle every part?

Only if its grip, adjustment and load limits cover those parts. Part families with different centres of gravity or gripping features may need different fixtures.

Information for application assessment

- Identify the workpiece material, dimensions, mass, contact surface and centre of gravity. Include the least favourable item in a mixed production range.
- Describe pickup and placement positions, required orientation changes, handling frequency and the site layout.
- Identify the available power or air supply and any host machine, crane, support structure or interface that must be retained.
- State the destination market and required documentation, accessories and packing constraints so the proposed configuration can be assessed as a complete system.

Document scope

This product specification supports equipment selection and project definition. It includes the model data and application guidance presented on the product page. The operating instructions supplied for the actual machine govern commissioning, testing, maintenance procedures and safe use; this specification does not replace them.

[View this model on the Easytech website](#)

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