productive robotics®

OB7-series

Productive Robotics

Collaborative Robot Automation

Designed & Built in the USA

OB7 ROBOTS ARE THE NEWEST GENERATION OF COLLABORATIVE ROBOTS

PROVIDING UNMATCHED AUTOMATION PRODUCTIVITY, FLEXIBILITY AND ACCURACY FOR BUSINESSES OF ALL SIZES.

OB7 robots bring home the competitive edge for manufacturers across all industries including defense, aerospace, electronics, medicine, food, and others. By providing consistent repeatable operation in production tasks, OB7 eliminates errors, reduces scrap, and improves throughput. From high volume production to short runs and high mix/low volume jobs, OB7 automates any task you throw at it. With zero complicated software programming, automation is fast and simple. Your existing staff can teach OB7 to automate in minutes.

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NO INTEGRATION REQUIRED

INSTALLATION IS FAST AND SIMPLE, IN AS LITTLE AS A FEW HOURS.

People Safe

No cage required. Each model of OB7 collaborative robots works safely alongside people. When equipped with safety sensors and people aren't present, OB7 can safely work at high speeds, then slow to safe speeds when people are nearby.

No Programming

No programming means no coding, classes or special training needed. Anyone can teach OB7 to do hundreds of complex automation jobs simply and quickly. Just 'show' OB7 and it learns.

Simple Set Up

Just roll OB7 up and go—no outside integration necessary. Your existing staff can set it up in minutes. Productive Robotics' accessories provide a one-stop for your automation projects. With OB7, you'll be running production in less than an hour.

Ultimate Flexibility

Each model of OB7 collaborative robots has seven joints, providing unmatched flexibility to reach around obstacles and into tighter areas. Its flexibility combined with ease of use makes it highly versatile. You can switch from one job to another with no downtime.

Immediate ROI

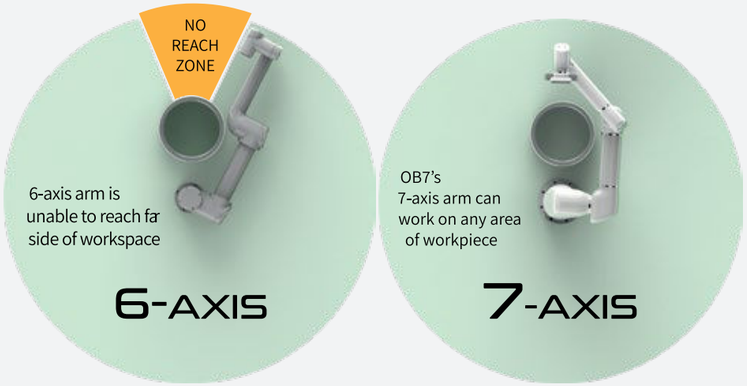
OB7 costs less per month than an operator's weekly salary and does over 3x the work. With fast set up, ease of use, and consistent operation, OB7 productivity goes straight to your cash flow in as little as 1 week.

Made in America

Productive Robotics' full line of OB7 collaborative robots are designed and built in the United States, specifically Santa Barbara, CA. OB7 brings lower cost and increased capability to collaborative robots with its next generation technology. OB7 comes with dedicated factory support just a phone call away.

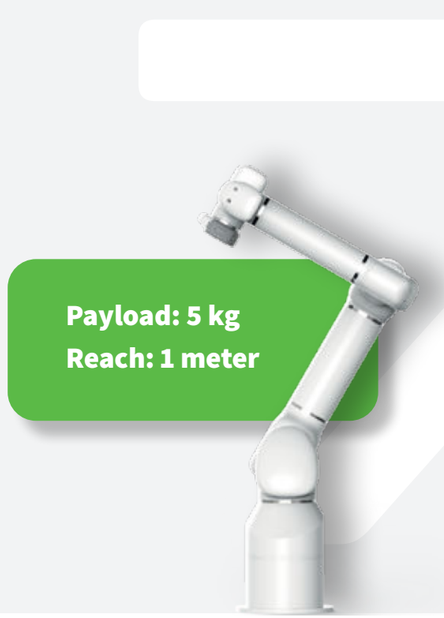
MEET THE OB7 TEAM

All OB7 Robots Feature 7-Axis Extreme Maneuverability Unmatched By Any 6-Axis Robot.



THE 7-AXIS ADVANTAGE

Like a human arm, seven joints give OB7 robots the flexibility to operate in a confined space and reach around obstructions, such as a machine tool's sliding door. It allows the operator access to do maintenance, setups and tool changes without blocking access to the machine.



OB7

- The Perfect Automation Cobot
- 7-Axis Extreme Maneuverability
- No Programming

OB7 Stretch

- A slightly longer arm than OB7, offering a bit more reach. Most popular for lathes.
- 7-Axis Extreme Maneuverability
- No Programming

OB7 Max 12

- Highest weight capacity, ideal for handling heavier parts.
- 7-Axis Extreme Maneuverability
- No Programming

OB7 Max 8

- Ultimate reach capacity, offering the longest reach of all the cobots.
- 7-Axis Extreme Maneuverability
- No Programming

AUTOMATE LIMITLESS APPLICATIONS. ELIMINATE WAITING.

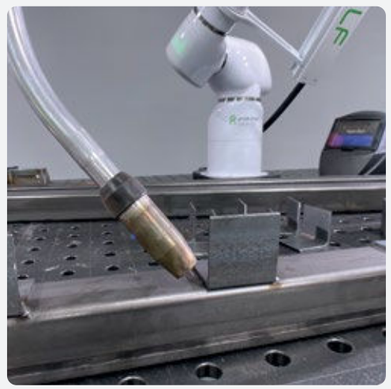
OB7 seamlessly rolls into an existing production line and starts to work quickly. No downtime waiting to re-engineer your production line and no waiting for software or programming. OB7 is the cost slashing solution to maximize production output, while lowering delivery times and manufacturing costs.

MILL TENDING

LATHE TENDING

DEBURRING

WELDING

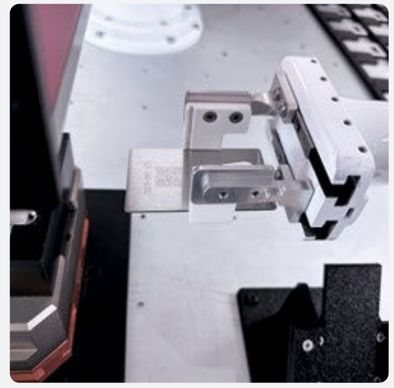


GLUING

PACKAGING

QC | TESTING

PART MARKING



OB7 Delivers For Your Business At Every Level

“I was surprised at how simple OB7 was to program. I almost had to simplify my thoughts for programming.”

—LJB Productions

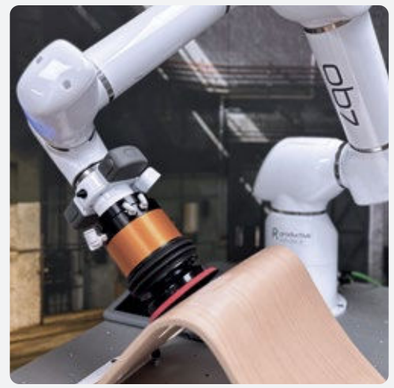
“OB7 isn’t just a dummy pick-and-place robot. It gives us analytical data about each part.”

—Lenkbar LLC

“Every time we’ve reached out, we got a real person to respond to us immediately, which has been fantastic.”

—Xymox Technologies

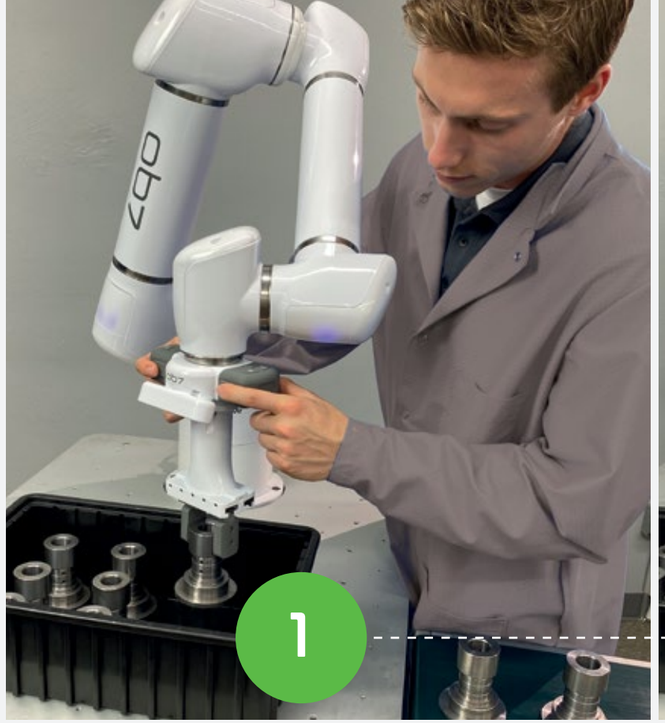
WORK ASSISTANT



SANDING

OB7 LEARNS BY DOING.

USE THE CONTROL HANDLE TO PHYSICALLY TEACH OB7 A TASK. YOU'LL NEVER NEED A SINGLE LINE OF CODE.



Show OB7 the part and pick it up using the control handle.

Then show OB7 where to place the part. OB7 has now learned the task.

NO PROGRAMMING

No classes, training academy, or robotics experience needed. Even for complex jobs. Anyone can quickly and easily automate a task with OB7.

OB7 features the **Productive Robotics' "No Programming" system**. Using visual 'tiles' and a 'drag and drop' interface, OB7's intuitive control tablet makes it simple to customize jobs, whether it is a simple pick and place or a more complex task like machine tending.

- Anyone can teach OB7 in minutes
- No need to ever write any code
- 'Teach' OB7 tasks by physically 'showing' it what to do
- No downtime waiting to re-engineer your production line
- No waiting for software programming
- Modify and execute thousands of different jobs quickly
- No limits to the complexity of jobs that OB7 can learn

3

Set details on the Control Tablet with Productive Robotics' famous drag and drop display.

PACKAGES

ALL-INCLUSIVE MACHINE TENDING PACKAGES

Complete out-of-the-box solutions with everything needed to add OB7 robotic machine tending to your CNC mill, lathe or deburring.

LATHE PACKAGE INCLUDES

- OB7, Stretch, Max 8 or Max 12 Robot
- Controller & Tablet
- Robot Stand
- Assembly & Staging Table
  39" x 28" (OB7, Stretch Robots) 47" x 47" (MAX Robots)
- DUAL PG2 Parallel Programmable Electric Gripper
  (reduces wait time during part reloading)
- DUAL Gripper Interface and Adapter
- Robot Machine Interface
- All Necessary Cables
- Remote Interface Relay (x3)

MILL PACKAGE INCLUDES

- OB7, Stretch, Max 8 or Max 12 Robot
- Controller & Tablet
- Robot Stand
- Assembly & Staging Table
  39" x 28" (OB7, Stretch Robots) 47" x 47" (MAX Robots)
- PG2 Parallel Programmable Electric Gripper
- Robot Machine Interface
- AirVise Table Vise AVT4 with 6"Jaws
  Kurt Pneumatic Vise Optional
- Chip Fan
- Air Blow Off Kit
- Remote Interface Relay Module-Single

ADDITIONAL PACKAGE OPTIONS AVAILABLE

BASIC ROBOT PACKAGE

The OB7 collaborative robot is sold as a fully functional automation system. The basic package includes an OB7 robot arm, proprietary computer, control tablet and charging dock, and control handle. Protected with a one-year hardware warranty, including software upgrades, and online training videos.

OB VISION™

ROBOT VISION OPTION

OB Vision Specifications

- **Working Area** 12" to 18" (300 mm to 450 mm)
- **Smallest Object** 1" (25 mm)
- **Largest Object** 8" (200 mm)
- **Recognition Speed** 1 second (approximate)
- **Lighting required** All necessary lighting integrated.

Table Top Picking

Simply show OB7 a sample of the part to be picked and it is automatically programmed. OB Vision is compatible with most grippers, including Productive Robotics' PG2 grippers and most vacuum grippers. Identify and sort multiple different objects simultaneously. OB7 easily picks parts out of grid trays.

OPTIONS

DEBURRING

Deburring Stage

As the deburring wheels wear, the Deburring Stage adjusts automatically while continuing to apply a constant force as parts are processed. The deburring stage supports most common rotary bench grinders or tools. The OB7 robots provide control of the deburring stage and rotary tool.

GLUING | BONDING | SEALING FLUID DISPENSING

Fluid Controller

Controls pneumatically driven fluid and bonding material delivery, including vacuum retract at the end of bonding cycles. Both dispense pressure and vacuum retract pressure are adjustable. Dispense and retract actuation and times are fully controller by any OB7 robot.

SANDING | POLISHING | FINISHING

Sanding Attachment

Provides dynamic control of contact forces in sanding applications. The ATI Orbital Sander can be easily integrated onto any OB7 robot.

GENERAL EQUIPMENT INTERFACE

The OB7 General Equipment Interface (GEI) is a cost effective solution for interfacing to most production machinery. The interface has 8 electrically isolated digital and analog inputs, 8 electrically digital outputs, and 4 analog inputs. The OB7 GEI connects to OB7 with a single cable which can be unplugged when moving between jobs.

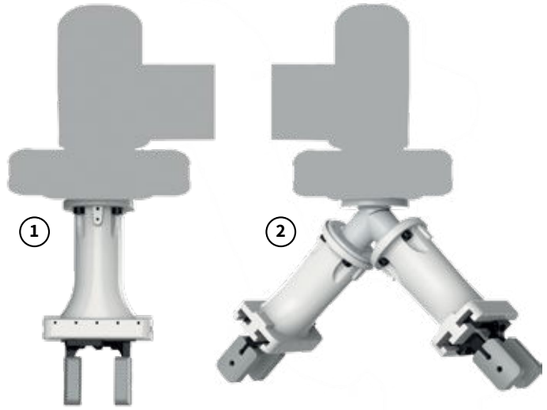
GRIPPERS

1. PG2 Parallel Gripper

A fully integrated two finger electric robotic gripper designed for OB7 series collaborative robots. IP65 rated and compatible with Productive Robotics' dual gripper installations. Machinable fingers and silicone finger pads included.

2. DUAL PG2 Gripper

Minimize machine wait time during part reloading to speed up production. Unloading a completed part, then immediately reloading a new blank, eliminates the extra trip to and from the machine. In lathe operations with short cycle times, this frees the operator to prepare other jobs.



OB7 robots are compatible with most grippers, including: Robotiq, OnRobot, Piab, Schmalz, PhD, Schunk and more.

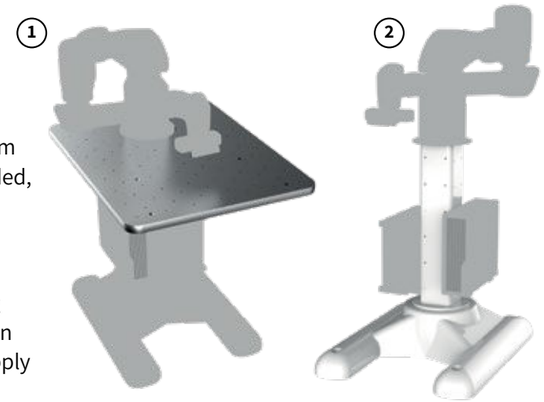
ROLLING WORK STATION

1. OB7 Assembly Table

A convenient and optimized work surface which mounts securely to the OB7 Rolling Stand. Made from 6061-T6 anodized aluminum with integrated, threaded, work fixture hold-down and pin registration holes.

2. OB7 Rolling Stand

Mounted on this industrial quality and stable rolling stand, OB7 can quickly and easily be moved between work cells. An integrated battery back-up power supply keeps OB7 powered up and running when moving.



MATERIAL STAGING

Four drawer material staging cabinet holds material for many hours of unattended machining. The Staging Cabinet holds a large volume of material for long unattended CNC runs.

Technical Specifications

Specifications subject to change without notice.

	OB7	OB7 Stretch	OB7 Max 12	OB7 Max 8
Payload	5 kg (11 lbs)	4 kg (8.8 lbs)	12 kg (26 lbs)	8 kg (17 lbs)
Reach	1000 mm (39.3”)	1250 mm (49.2”)	1300 mm (51.1”)	1700 mm (66.9”)
Weight	22 kg (58 lbs)	22 kg (58 lbs)	58 kg (127 lbs)	58 kg (128 lbs)
Robot Mounting Flange	220 mm (8.6”)	220 mm (8.6”)	250 mm (9.8”)	250 mm (9.8”)
Power Consumption (speed/payload dependent)	90—650 W	90—650 W	90—1,000 W	90—1,000 W

All OB7 Robots

Maneuverability	Unmatched 7-Axis flexibility
Programming	No programming. All OB7 robots learn by demonstration.
Repeatability	+/- 0.1 mm (.004”)
Speed	0-2+ m/sec
IP Class	IP 61
Joint Ranges	+/- 360° (all)
Gripper Mounting Flange	ISO 9409-1-5 0-4-M6
Working Temperature	0—37C (32—100F)
Power Source	100—240 VAC 50—60 Hz
Safety	Speed and Force Limited
Linear Speed	2 m/sec Max (dependent on position)
Noise Level	Quiet (dependent on speed and payload)
Mounting Orientation	Vertical (table/ceiling). Horizontal (wall).
Cable Length	1 meter, 5 meters (3 ft, 16 ft)

Control Computer

IP Rating	IP 30
Dimensions	123 mm x 396 mm x 373 mm (4.8” x 15.5” x 14.6”)
Communication (Hardware)	Ethernet 100 MB
Protocols	Ethernet IP, TCP/IP, Modbus
Power	100-240 VAC 50-60 Hz

Control Tablet

IP Rating	IP 41
Dimensions	292 mm x 213 mm (11.5” x 8.4”)
Connection	Ethernet 100 MB
Cable	5 meters (15 ft)

Robot Stand

Base Dimensions	780 mm x 597 mm (30.7” x 23.5”)
Robot Base Mounting	882 mm (32.7”) Height
Weight	73.5 kg (162 lbs)
Casters	4
Leveling Feet	4
Mounting	Included for Control Computer

Assembly Table

Dimensions	702 mm x 902 mm (27.6” x 35.5”)
Table Height	914 mm (36”)
Work Fixture Registration Holes	6 mm on 100 mm centers (metric model) 1/4” on 4” centers
Work Fixture Hold Down Holes	M6 on 100 mm centers (metric model) 1/4-20 on 4” centers
Table Surface Material	6061-T6 Anodized Aluminum
Weight	23 kg (51 lbs)

General Equipment Interface

Robot Connection	Ethercat RJ45
Power Supply	24V 2A
Digital Input Ports	8 Optically Isolated
Digital Output Ports	8 Relay isolated, NC & NO
Analog Input Ports	8
Dimensions	253 mm x 125 mm x 37 mm (10” x 5” x 1.5”)

PG2 Gripper/Dual Gripper

Tool Plate	Standard ISO Mount
Travel	92 mm
Gripping Force	25—140 N
Full Travel Close/Open Time	1 Second
Force Control	Set by the robot
Open/Close Positions	Set by the robot
Grip Range	92 mm Extendable to 175 mm
PG2 Gripper Weight	1 kg (2.31 lbs)
DUAL PG2 Gripper Weight	2.1 kg (4.62 lbs)

Deburring Stage

Force Range	0-14.9 lb
Air Pressure	0-60 psi
Max Supply Pressure	145 psi
Air Consumption (at max supply pressure)	4.4 L/min
Adjustment Range	50 mm (2”)
Weight Capacity of Deburring Motor	22.6 kg (50 lbs)
Dimensions	332 mm x 594 mm x 73 mm
Parts Weight Capacity (dependent on gripper)	4 kg
Deburring Force Adjustable From;	1.5 lb to 14.9 lb

Direct Factory Support

Our Robotics Experts are here to help with all your questions.

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