Smarter part feeding
for better assembly

EPSON®

EXCEED YOUR VISION

The smart alternative
for parts singulation

Powered by Epson® robots, the Epson Parts Feeder series offers a smart alternative to part feeders available in the market today. This revolutionary system eliminates costly, time-consuming retooling and allows manufacturers to work with a wide variety of parts without purchasing new equipment.

Integrated with Epson RC+® Development Software, the Epson Parts Feeder series offers easy setup and configuration from one environment to another. Its point-and-click interface reduces the typical development time required for advanced applications often from weeks down to days.

A comparison between an Epson system setup and a typical system setup can be seen here:

Epson System Setup

1 **Vision Programming**
Built-in robot-to-vision calibration and point-and-click programming

2 **Part Tuning**
Automatic parts tuning with vision feeder integration

3 **Parts Control Adjustment**
Configuration wizard for defining part separation pick-up area and more

Typical System Setup

1 **Feeder Communications**
Low-level protocol using feeder command set

2 **Feeder Tuning**
Getting parts to move properly

3 **Vision Setup and Calibration**
Calibrating vision system to robot

4 **Vision Programming**
Finding parts reliably

5 **System Programming**
Robot + Feeder + Vision coordination

6 **Optimisation**
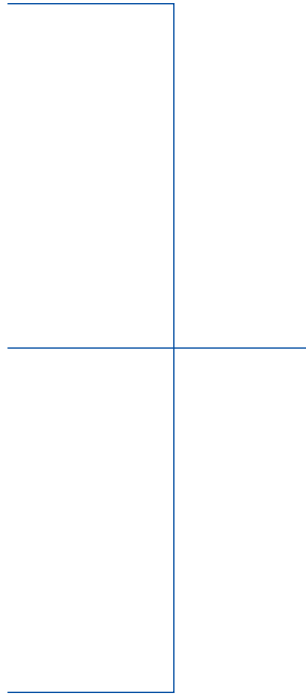Fine-tuning and performance optimisation

Epson robot

Epson vision guide

Epson Parts Feeder IF

Integrated flexible feeding solution

Smart auto-tuning automatically adjusts the Epson Parts Feeder series for new parts, giving you a flexible, cost-efficient, future-proof parts singulation solution that's always ready for action.

Continuous parts feeding made simple

High-performance parts-feeding solution — powered by Epson robots, Epson Parts Feeder software, and Vision Guide

Simple setup and configuration — fully integrated with Epson RC+ Development Software

Point-and-click interface — helps reduce the typical development time required for advanced applications

Flexible parts handling — supports parts from 3mm to 15mm, 5mm to 40mm, 15mm to 60mm and 30mm to 150mm

Quick parts changeover — feeder offers easy setup to accommodate different parts for reduced total cost of ownership

Compatible with a wide range of parts — supports simple to complex parts, as well as delicate materials

Smart auto-tuning — automatically adjusts the feeder parameters for new parts setup

Unique directional vibration capabilities — multi-axis vibration technology for optimized parts control and singulation

Backlight options — red, white, blue, green and infrared available

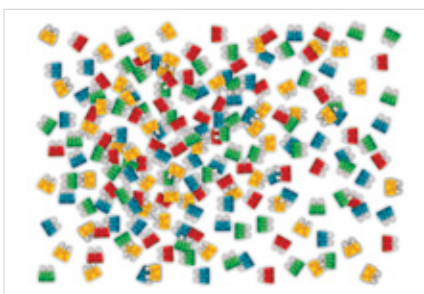**Tray configuration options —** ESD/anti-static, anti-stick and anti-rolling available

Easy customisation for a huge variety of parts

A step-by-step approach to system configuration with an easy-to-use wizard makes it simple to set up the feeder to the exact parameters needed for many different part types.
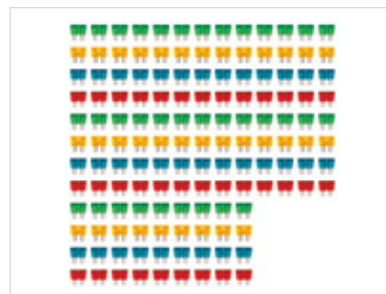
Multi-axis vibration technology for optimised parts control

1 Parts cannot be picked when they are bunched together

2 Vibration technology is used to separate parts so they can be found and picked by the robot

3 Parts are then separated and precisely placed across the full scope of the pallet
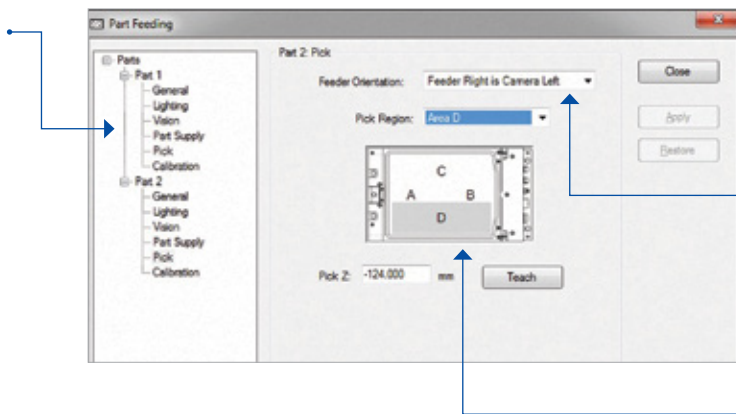
Vision Guide is used with Epson Parts Feeder software to drive feeder motions and optimise parts singulation.

Precision parts calibration with smart auto-tuning

An intuitive wizard also guides users through customised calibration step-by-step, automatically determining the exact values needed for optimum tuning and calibration.

Part pickup regions maximise parts throughput

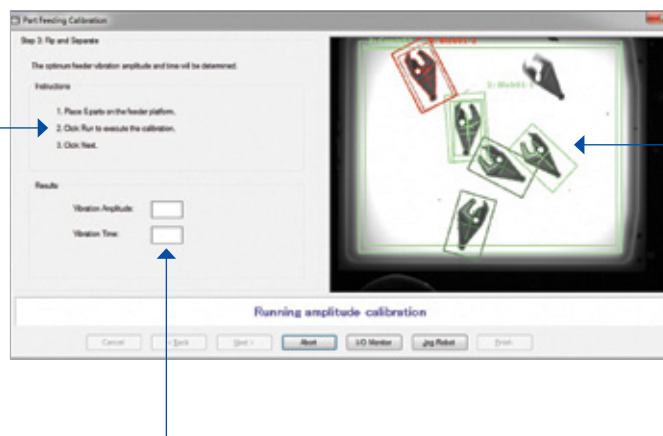Easily set parameters specific to each part, no coding required

Configures feeder orientation to properly select pickup area without need to modify physical application layout

Define part pickup area to optimize cycle time

Part calibration (tuning) wizard reduces tuning time

3 simple steps to set up flip and separate calibration parameters

Integrated image display window to show part separation results

Automatically computes and displays vibration amplitude and vibration time tuning parameters

Versatile parts compatibility

The Epson Parts Feeder series' flexible feeding supports a wide array of parts and materials, making it ideal for all sorts of different part types. It can brilliantly handle simple and complex parts ranging from 3mm to 15mm, 5mm to 40mm, 15mm to 60mm and 30mm to 150mm in size, as well as delicate materials.

A super-easy setup allows for quick parts changeover too, cutting down development times and reducing cost of ownership compared to typical feeders. Another big plus is that – unlike bowl feeders – our Epson Parts Feeder series can be used for the parts you need today, as well as those you may want to use in the future.

It's versatile in every way, with a range of options to meet your needs today, and into the future:

Technical specifications				
Model Name	Epson Part Feeding IF-80	Epson Part Feeding IF-240	Epson Part Feeding IF-380	Epson Part Feeding IF-530
Model Number	IF 80	IF 240	IF 380	IF 530
Part Size Dimensions	3 – 15mm	5 – 40mm	15 – 60mm	30 – 150mm
Communication	Ethernet (TCP/IP)			
Power Supply	24 V/6 A	24 V/8 A	24 V/20 A	24 V/20 A
Vibration Platform (Length x Width)	65 x 52mm	195 x 150mm	254 x 325mm	427 x 371mm
Footprint (Length x Width x Height)	320 × 65 × 140mm	300 x 171 x 132mm	499 × 257 × 307mm	600 x 372 x 320mm
Compatible Robots	G-Series/LS-Series/RS-Series/T-Series/C-Series/N-Series/VT-Series			
Compatible Vision Systems	Vision Guide CV2 and PV1			
What's in the Box	Flexible Feeder, Vibration Plate, Epson Parts Feeder software, 5M Power Cable and RJ45 CAT5e Cable			
Options				
Integrated Backlight LED Options	Red, White, Green, Blue, Infrared			
Tray Configuration Options	ESD (Anti-Static)/Anti-Stick/Anti-Rolling			
Hopper Options	0.16 Litres	2 Litres, 3 Litres	10 Litres	15 Litres
Software Features				
Maximum number of feeders supported by a single robot controller	4 (G-Series/LS-Series/RS-Series/C-Series/N-Series) 2 (T-Series/VT-Series)			
Maximum number of robots sharing the same feeder at the same time (RC700A with drive units only)	2[1]			
Maximum number of unique parts per feeder running simultaneously	4			
Max number of parts per development environment project (Epson RC +)	16			

1 - Not possible for the RC90-B and T-Series/VT-Series

Applications:

Mechanical & Electronic Assembly

Kitting/Palletising/Tray Loading

Material Handling

Parts Materials:

Plastic

Rubber

Metal

Ensure your production line hits top gear

Epson robot systems: precise, fast and reliable

Our robots pallet, saw, mill, drill, grind, assemble, move and build together. They work precisely and at a breathtaking speed in all these and many other applications – often for up to 24 hours a day.

Our product portfolio includes one of the most extensive SCARA model ranges worldwide, 6-axis robots, controllers and software.

Epson Spider robots

The economic miracle. Thanks to its unique design, the Epson Spider can reach every corner of its workspace while achieving unmatched cycle times.

Epson SCARA robots

Precise working even at high speeds. Compact and powerful, Epson has the world's largest range of SCARA robots – with over 300 models.

Discover the full potential of your Epson robot systems

As a service, we offer a comprehensive pre and after-sales support program, including:

Feasibility studies for maximum planning and project security

Support for planning and implementation

Introductory seminars, programming/maintenance courses, operator training

Inspection and individual maintenance concepts

Hotline service, on-site repair service

Central spare part stocking

Epson controllers

Strong performance in a small space. Epson controllers are based on a robust, integrated system and can control manipulators and peripherals.
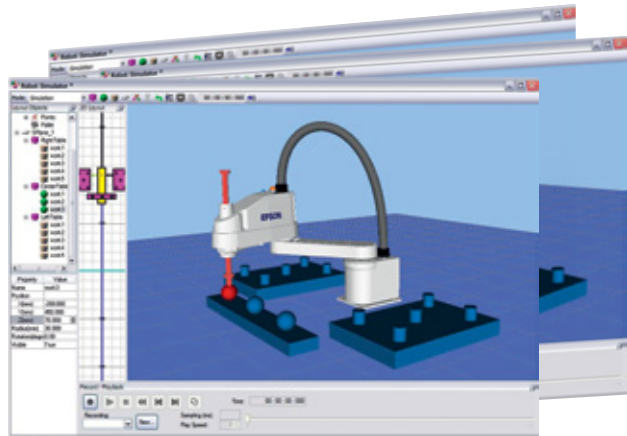
Epson 6-axis robot

Flexibility through rotating axes. Unrivalled point and track accuracy enable complex work processes to be precisely executed.

Epson RC+ 7.0 development interface – powerful, efficient, intuitive

Thanks to its intuitive Windows control interface, open structure and integrated image processing, programming applications is incredibly quick and easy.

The unique Epson-developed SPEL+ script language, enables you to programme a very wide range of robot motions, from simple pick & place application to complex multi-manipulator line control.

The Epson RC+ Simulator allows you to carry out risk-free testing, comparison and process visualisation before any robot implementation.

Integrated software tools for the Epson RC+ 7.0 development environment

Command
One-line command editor.

Compiler
Programme checking (syntax, definition, value range, and many more).

Debugger
Programme with stop points / step mode.

DLL-functions
Access to external DLL functions.

Editor
Create SPEL+ programs:
Online help, syntax check, label lists, detection and colour display of keywords, parameters and comments, parameter list, definition jump.

Error text editor
Creation of your own, application-specific, error messages.

File management
Create and access files and databases (Excel, Access, SQL).

IO label editor
Edit names for I/O / markers / field bus I/O for the data sizes bit, byte, and word.

IO monitor
Display the status of I/O / markers / field bus I/O for the data sizes bit, byte, and word. Allows you to create special user displays.

Macro editor
Create a SPEL+ program as a programming aid.

Robot manager
Contains all information and control elements relevant to robots – inserted in clear windows: Set-up, edit points, loop parameters, tool and robot coordinate systems, load capacity and moment of inertia. The robot trip points can be used to switch power on and off, complete a reset or complete a home run.

Stack editor
Display the program branches.

System history
Record errors, events and warnings (diagnostics).

Task manager
Display called multi-tasks, traps, and their statuses, display current program line.

Variable editor
Display / Edit current variable values.

Maintenance manager
Create / Load / Display backups, controller reset.

Simulator
Plan and visualise processes, validate programs.

Software options

Conveyor tracking
Synchronise position with conveyor running.

External control point (ecp)
Guide the workpiece contour easily and precisely along an external point.

Force sensing
Real-time robot force measurement.

Gui builder
For the fast, easy creation of your own user interface based on the Epson SPEL+ programming language.

Optical character recognition (OCR)
Reliably detect fonts and symbols and check printing – even under challenging conditions.

PG motion system
Read conveyor speeds via encoders.

RC+ API
Integrate your application in external software, develop user interfaces, and use databases.

Security option
Increased security through user management and usage control.

Vision guide 7.0
Powerful Epson image processing system.

Pioneering global robotic solutions for intelligent automation

Epson Robotic Solutions is one of the leading suppliers of high-tech robot systems that are renowned worldwide for their reliability. The product range includes 6-axis robots, SCARA robots, the SCARA entry-level LS and T models, the special Epson-developed Spider and N robots types, as well as the pioneering Dual Arm robot. Added to this are image processing controls and the Epson Force Sensor for force-controlled applications.

This gives Epson Robotic Solutions one of the most comprehensive ranges of high-precision industrial robots in the world, making them a technological pioneer for intelligently controlled automation processes.

Technological pioneer

1982
Epson SCARA robots freely available in Japan for the first time

1986
First cleanroom robot class 1

1997
First PC-based controller

2008
Inventor of the right or left arm-optimised G3 SCARA robot

2009
Inventor of the spider – a unique SCARA robot with no dead zones

2013
First application of Epson QMEMS® sensors in robotics, reducing 6-axis kinematics vibrations

2014
Epson Compact Vision CV2: Epson's own ultra-fast image processing computer

2016
Epson N2 series: World's first 6-axis robot with folding arm – extremely compact and space-saving

2017
Epson Dual Arm robot with an arm geometry inspired by human physiology, as well as integrated sensors such as cameras, force sensors, and accelerometers

2019
Market launch of entry-level robot models T series and VT series with integrated controller

Pre and after-sales support

Feasibility studies for maximum planning and project security

Support for planning and implementation

Introductory seminars, programming/maintenance courses, operator training

Inspection and individual maintenance concepts

Hotline service, on-site repair service

Central spare part stocking

Epson Industrial Solutions Centre – find your solution

Epson
Industrial
Solutions
Center

Experience all our Epson robots in action. Build, simulate and improve your automation application in a workshop cell, with help from our experts. The cell can be controlled and networked using all conventional fieldbus systems. In addition, we can supply you with modern peripherals such as a vision and conveyor tracking system.

Make an appointment

Call us on
+49 2159 538 1800

or send an email to
info.rs@epson.de

Epson Deutschland GmbH
Robotic Solutions Division
Otto-Hahn-Straße 4
40670 Meerbusch

Phone: **+49 2159 5381800**
Fax: **+49 2159 5383170**
E-Mail: **info.rs@epson.de**
www.epson.de/robots

Epson America Inc.
www.epsonrobots.com

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http://global.epson.com/products/robots/

Epson China Co, Ltd.
www.epson.com.cn/robots/

f EpsonUK   @EpsonUK
  @EpsonUK   epson-uk-ltd

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