

Automation Pre-Quote Worksheet

RBTX LEARN · COMPANION TO EPSON "AUTOMATION 101"

Fill this out before you contact anyone — a systems integrator, a robot vendor, or an RBTXpert. Every line comes from a question the Epson Automation 101 guide raises. If you can complete every field, you are ready for a real scoping conversation. If you cannot, the blanks tell you exactly what to go find out.

1. WHY ARE YOU AUTOMATING?

Pick one primary driver. Each leads to a different specification, and choosing more than one is how first projects go wrong.

- ☐ Primary driver: ☐ Cost ☐ Volume ☐ Quality ☐ Precision ☐ Safety
- ☐ What specifically fails today, in your own words:

2. KNOW YOUR PROCESS

If you cannot explain the current process to someone who has never seen it, no vendor can build you a good solution.

- ☐ Current process documented, step by step
- ☐ Where each component comes from — feeding method identified
- ☐ Existing jigs, fixtures, or special tooling listed
- ☐ Design for Assembly (DFA) pass done: can any part or step be eliminated before automating?

Every part you eliminate is a feeder you do not buy and a failure mode you do not have to handle.

3. IDENTIFY YOUR PROBLEM AREAS

- ☐ Identified bottleneck — which step takes the most time?

- ☐ Rework rate and root cause:

- ☐ Steps causing repetitive-motion or injury risk identified
- ☐ Part tolerance deviation checked — is it operator error, or are the parts out of spec?

4. REQUIREMENTS — NUMBERS, NOT ADJECTIVES

This is the section vendors need most and receive least often. Estimates are fine; blanks are not.

MEASURE	YOUR NUMBER	TYPICAL RANGE / NOTE
Maximum part weight	_____ g	
Estimated tooling / gripper weight	_____ g	Usually heavier than the part
Total payload (part + tooling)	_____ kg	Size up when near the rated max
Required placement precision	_____ μm	Small assembly is typically 25–200 μm
Parts required per week	_____	
Required cycle time	_____ sec	Derived from parts per week
Required reach	_____ mm	Depends on full cell layout, not the robot

5. ENVIRONMENT AND FACTORY STANDARDS

A five-minute question here prevents a five-figure surprise later.

- ☐ Plant fieldbus standard: ☐ EtherNet/IP ☐ PROFINET ☐ DeviceNet ☐ Other _____
- ☐ Available power at the cell confirmed (voltage, phase, outlet type)
- ☐ Compressed air available, if tooling requires it
- ☐ Mounting surface identified — and is it rigid enough?

An under-rigid base moves when the robot moves. The system then has to settle before it can place accurately, which quietly destroys the cycle time you specified the robot for.

- ☐ Floor space measured, and noted whether people share it

6. WHO WILL BUILD IT?

A full custom build needs four disciplines covered. Check the ones you have in-house.

- ☐ In-house coverage: ☐ Controls ☐ Electrical ☐ Mechanical ☐ Software
- ☐ Chosen path: ☐ Integrator-built custom cell ☐ Pre-configured components, assembled in-house

For complex, high-mix, or safety-critical work, use an integrator. For a simple, single-part-family task, sourcing components directly is now a legitimate option — and a different exercise, because you match requirements to what already exists.

7. BUILD THE JUSTIFICATION

The Epson guide gets you to a specification. It does not get you to a decision. This is the part your CFO reads.

MEASURE	YOUR NUMBER	TYPICAL RANGE / NOTE
Fully loaded labor rate	\$_____ /hr	U.S. private-industry average: \$46.60/hr (BLS, Mar 2026)
Annual cost, one position, one shift	\$_____	Rate × 2,080 hours
Realistic fraction of a position redeployed	_____ %	Be conservative — someone still loads and monitors
Annual recovered labor capacity	\$_____	
Estimated total installed system cost	\$_____	Arm + tooling + feeding + fixturing + base + safety + programming
Implied payback period	_____ months	
Target payback period	_____ months	Compare against the line above

Two caveats. Do not count soft benefits — quality and injury reduction are real but are not line items finance accepts without measurement. And budget ramp-up: a new cell does not hit rated throughput on day one.

NOTES

Finished? Bring this to your next vendor conversation. Read the full RBTXpert debrief and the original Epson guide at learn.rbtx.com, or browse components at rbtx.com.