STANDARD KNOCKOFF

Practical sensor-timed reject for moderate-speed lines—fail digital input + trigger sensor with actuator feedback.

SSI's Standard Knockoff is a simple, cost-effective reject mechanism for moderate-speed conveyor lines. An upstream system asserts a **fail digital output**. The knockoff **queues fail events** and waits for the product to reach a **trigger sensor** at the reject point. When triggered, the actuator extends to knock the product off and then retracts—using **extend/retract sensors** to confirm the cycle before the next reject.

SYSTEM OVERVIEW

- Fail digital input + trigger sensor timing
- Queues back-to-back fails (spacing dependent)
- Adjustable delay for tuning to your line
- Extend/retract sensors confirm actuation
- Simple integration—no HMI required

FAIL INPUT + QUEUE LOGIC

- Upstream fail digital signal is latched/queued
- Handles back-to-back fails (subject to cycle time)
- Optional ready/fault outputs as scoped

TRIGGER SENSOR TIMING

- Trigger photoeye at reject point
- Adjustable delay aligns contact to product position
- Works with variable spacing (minimal gap required)

ACTUATOR FEEDBACK

- Sensor confirms solenoid/cylinder fully extended
- Retract confirmation completes the cycle
- Fault handling if motion does not complete

REJECT HANDOFF OPTIONS

- Knock to chute, bin, or reject conveyor
- Layout and discharge direction are customizable
- Built for maintainability and service access

WHEN TO USE STANDARD VS HIGH-SPEED

Standard Knockoff is ideal for moderate speeds where sensor-timed reject is sufficient. For tight windows and precision tracking, see SSI's High-Speed Knockoff with encoder-synchronized targeting.

HOW IT WORKS

1 **Latch fail** — Upstream equipment asserts a fail digital output; the system queues the reject request.

2 **Detect product** — Product reaches the trigger sensor at the reject point (photoeye).

3 **Actuate** — Knockoff extends to reject; an extend sensor confirms full stroke; then it retracts.

4 **Complete** — Retract confirmation closes the cycle; the next queued reject is ready.

INCLUDED

• Fail digital input interface + queue logic
• Trigger sensor timing with adjustable delay
• Extend/retract confirmation sensing
• Commissioning support and diagnostics foundation

OPTIONAL

• Stack light and supervisor alerting integration
• Reject confirmation at chute/bin (application dependent)
• Additional I/O handshakes (ready/fault) as scoped
• Custom reject conveyor and discharge configurations

PROJECT INPUTS (FOR SCOPING)

• Product dimensions, weight, and stability
• Line speed and **minimum gap** between products
• Conveyor geometry and available reject space (chute/bin/conveyor)
• Upstream fail signal source and required interlocks
• Air and electrical availability at the reject point
SSI defines delay, cycle timing, and safety scope based on real line constraints and acceptance criteria.

Next step: Share product + line speed/spacing • Request a Quote