

## FLAP FOLDING

Problem Observed	Alarm	Possible Cause	Solutions
Flaps not folding	Flap Folding Station Fault	1: Cylinder not actuating	1: Check SCADA → Output for cylinder
			2: Check solenoid valve
			3: Check air supply
	Pneumatic Pressure Low	2: Low air pressure	1: Check FRL unit
			2: Set required pressure (5–6 bar)
			3: Check leakage
	Sensor Not Detected	3: Carton not detected	1: Check sensor status in SCADA
			2: Clean sensor
			3: Adjust position
	Carton Position Error	4: Carton not in correct position	1: Check stopper cylinder
2: Adjust carton guide			
Flap partially folding	Flap Folding Delay Fault	1: Incorrect timing	1: Adjust delay in SCADA
	Cylinder stroke incomplete	2: Air leakage / weak cylinder	1: Check air pipes
			2: Inspect cylinder
Mechanical obstruction	3: Jam or misalignment	1: Stop machine	
			2: Remove obstruction
Flap damaged / bent	Mechanical Fault	1: Excess force	1: Reduce air pressure
	Wrong guide setting	2: Misaligned guides	1: Adjust guides properly
	Carton quality issue	3: Weak carton	1: Replace carton batch
Flap not locking properly	Flap Lock Fault	1: Locking mechanism misaligned	1: Adjust locking unit
	Incorrect carton size setting	2: Wrong recipe	1: Go to SCADA → Recipe page
2: Verify dimensions			
Machine stops at flap station	Station Timeout Alarm	1: Process not completed in time	1: Check sequence in SCADA
			2: Reset alarm
	Sensor signal missing	2: Feedback not received	1: Check sensor input
	Cylinder feedback not received	3: No end position signal	1: Check cylinder sensor
Flap folding cylinder not returning	Cylinder Return Fault	1: Solenoid stuck	1: Check valve operation
	Exhaust blocked	2: Air exhaust issue	1: Clean muffler
	Spring return failure	3: Internal cylinder issue	1: Replace cylinder
Irregular flap folding	Process Mismatch	1: Conveyor speed mismatch	1: Adjust speed in SCADA
	Carton entering skewed	2: Guide misalignment	1: Adjust infeed guides