ENGINEERING DOCUMENTATION

Two-Finger Parallel Electric Gripper

Dimensional & Integration Guide

DOCUMENT	REVISION / ISSUE	STATUS
DIG-ES-EG-C00-S002-V007	DRAFT-08 / 28 Aug 2026	Engineering Integration Reference

Integration Overview

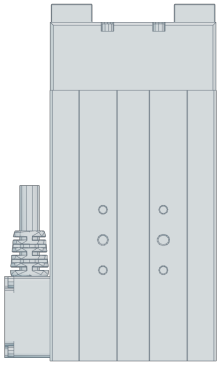
Electric end effector for automated gripping and workpiece handling. This guide supports mounting, finger interface, load-path, cable, commissioning and service planning for ES-EG-C00-S002-V007.

Key Integration Facts

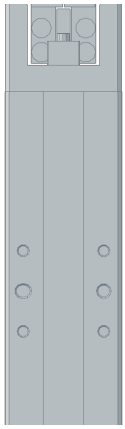
INTEGRATION ITEM	VALUE
Measurement Repeatability	± 0.02 mm
Gripping Force (Per Side)	15~50 N
Maximum Recommended Payload	1 kg
Weight	0.5kg kg
Permissible Moment (My)	2 N·m
Allowable Static Vertical Load Fz	150 N
Driving Method	+
Permissible Moment (Mx)	2.5 N·m

3D Orientation and Interface Views

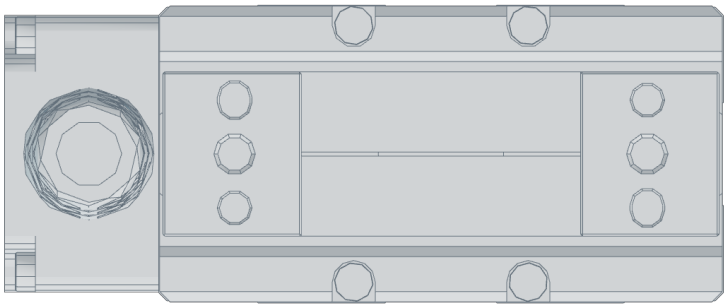
The front, right-side and top views are retained because each exposes a different integration relationship: finger geometry, cable routing direction and robot-side mounting orientation. Dimensions remain governed by the applicable 2D drawing and exact-SKU parameters.



Front View



Right Side View

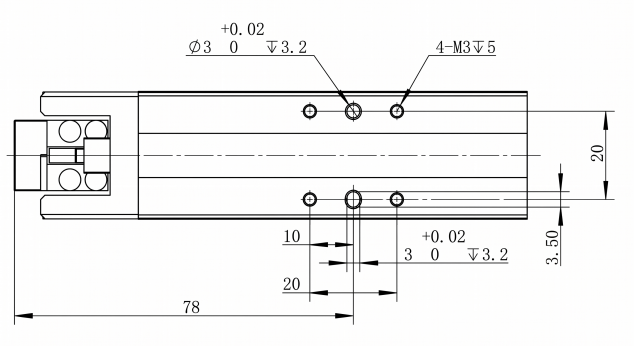


Top View

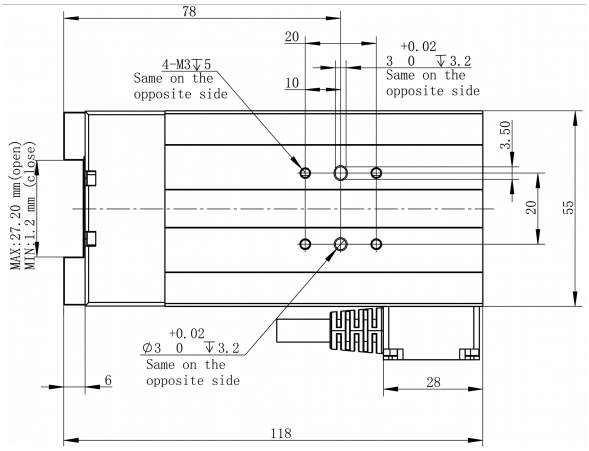
Each selected view contributes a distinct orientation or interface relationship used by the integration guidance.

Product Structure & Views

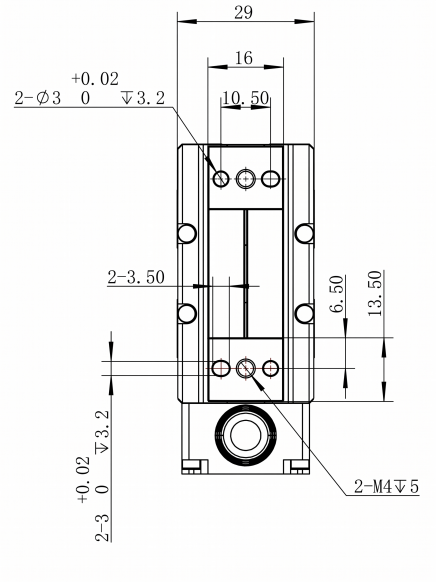
These views present product structure, mounting interfaces and relevant integration geometry for this SKU.



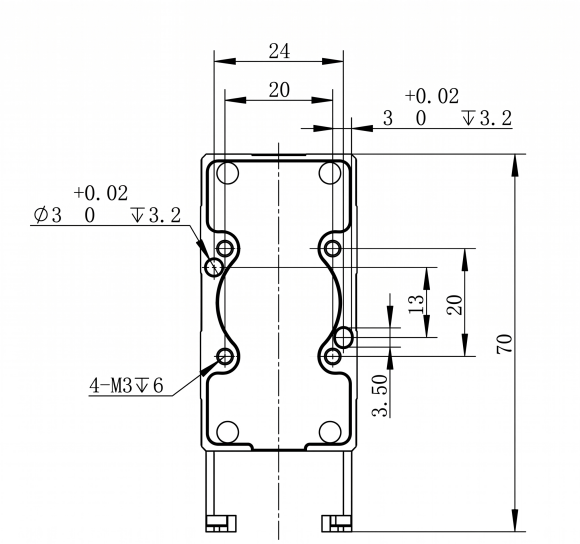
Mechanical View 1



Mechanical View 2



Mechanical View 3



Mechanical View 4

VIEW	FIELD	VALUE
Mechanical View 1	Upper row hole diameter and depth	Diameter 3 mm with tolerance +0.02/0, depth 3.2 mm
	M3 threaded hole quantity and depth	4× M3 threaded holes, depth 5 mm
	Right-side vertical spacing	20 mm
	Lower row hole diameter and depth	Diameter 3 mm with tolerance +0.02/0, depth 3.2 mm
	Hole horizontal spacing 10	10 mm
	Right-side vertical dimension 3.50	3.50 mm
	Hole horizontal spacing 20	20 mm
	Overall length	78 mm

VIEW	FIELD	VALUE
Mechanical View 2	Body length reference dimension	78 mm
	Mounting hole horizontal spacing	20 mm
	Mounting hole horizontal offset	10 mm
	Quantity and specification of M3 countersunk holes	4 × M3, 5, same on opposite side
	Upper Ø3 hole tolerance and countersink/depth specification	Ø3 mm, +0.02/0 tolerance, 3.2, same on opposite side
	Side step or clearance dimension	3.50 mm
	Mounting hole vertical spacing	20 mm
	Body height	55 mm
	Lower Ø3 hole tolerance and countersink/depth specification	Ø3 mm, +0.02/0 tolerance, 3.2, same on opposite side
Mechanical View 3	Top overall width	29 mm
	Upper inner mounting width	16 mm
	Upper hole center spacing	10.50 mm
	Upper mounting hole specification	2 holes, diameter 3 mm, tolerance +0.02/0, depth/surface callout 3.2
	Middle horizontal hole spacing	2 × 3.50 mm spacing
	Right short vertical spacing	6.50 mm
	Right long vertical spacing	13.50 mm
	Lower mounting hole specification	2 holes, diameter 3 mm, tolerance +0.02/0, depth/surface callout 3.2
	Threaded hole specification	2 × M4 threaded holes, depth 5 mm
Mechanical View 4	Upper outside width	24 mm
	Upper hole center distance	20 mm
	Hole diameter with tolerance	Diameter 3 mm, +0.02/0 tolerance, surface finish 3.2
	Right-side local hole spacing	13 mm
	Right-side local dimension	7 mm
	Threaded hole specification	4 x M3, depth/countersink indication 6
	Right lower local height	3.50 mm

Technical Specifications - 1

PARAMETER	VALUE	UNIT
Measurement Repeatability	± 0.02	mm
Gripping Force (Per Side)	15~50	N
Maximum Recommended Payload	1	kg
Weight	0.5kg	
Permissible Moment (My)	2	N·m
Allowable Static Vertical Load Fz	150	N
Driving Method	+	
Permissible Moment (Mx)	2.5	N·m

Technical Specifications - 2

PARAMETER	VALUE	UNIT
Permissible Moment (Mz)	3	N·m
Unweighted Noise Level	< 50	dB
Communication Interface	: Modbus RTU (RS485) Digital I/O : TCP/IP (USB2.0 CAN2.0A PROFINET EtherCAT)*	
Peak Current	0.2 A( ) 0.8 A( )	A
Standards Compliance	CE, FCC, RoHS	
Continuous Rated Current	0.2 A( ) 0.8 A( )	A
Peak Power	20	W

Mounting, Fingertip and Workpiece Integration

- Support the complete robot mounting interface and verify locating features, fastener engagement and surrounding clearance.
- Validate fingertip mass, overhang, stiffness, retention, contact pressure and the complete finger and workpiece collision envelope.

Load, Cable and Commissioning

- Validate payload, grip contact, workpiece center of mass, acceleration, emergency stop and allowable moments as one installed load case.
- Provide suitable cable routing and strain relief, then verify supply, interface, initialization, command authority and feedback states before automatic operation.

Integration Checklist

01	Confirm the exact-SKU drawing and parameter set.
02	Verify mounting geometry, locating features, fasteners and body envelope.
03	Validate fingertips, workpiece contact, payload, acceleration and moments.
04	Route and strain-relieve the cable through the complete motion envelope.
05	Verify initialization, command authority, feedback and fault behavior.

View SKU Product Datasheet Request controlled 2D drawing Request controlled STEP review Request a Quote

Engineering Use and Verification Notice

01. This Dimensional & Integration Guide applies only to EmbodyStack SKU ES-EG-C00-S002-V007 and is intended for dimensional evaluation and preliminary integration. It is not a manufacturing drawing, machine-level load approval, wiring final integration, safety validation or production authorization. Before design freeze, installation or commissioning, verify all dimensions, interfaces, fits, fasteners, loads, motion limits, cable requirements, environmental boundaries and maintenance requirements against the applicable EmbodyStack engineering documentation for this exact SKU. Validate the complete installed system under intended operating and fault conditions.