ENGINEERING DOCUMENTATION

Two-Finger Parallel Electric Gripper

Dimensional & Integration Guide

DOCUMENT	REVISION / ISSUE	STATUS
DIG-ES-EG-C00-S002-V004	DRAFT-08 / 28 Aug 2026	Engineering Integration Reference

Integration Overview

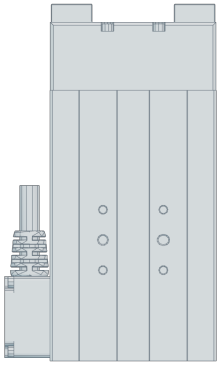
Electric end effector for automated gripping and workpiece handling. This guide supports mounting, finger interface, load-path, cable, commissioning and service planning for ES-EG-C00-S002-V004.

Key Integration Facts

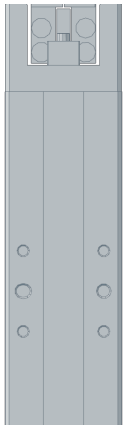
INTEGRATION ITEM	VALUE
Measurement Repeatability	± 0.02 mm
Gripping Force (Per Side)	6~15 N
Maximum Recommended Payload	0.25 kg
Weight	0.5kg kg
Driving Method	+
Unweighted Noise Level	< 50 dB
Communication Interface	: Modbus RTU (RS485) Digital I/O : TCP/IP (USB2.0 CAN2.0A PROFINET EtherCAT)*
Peak Current	0.3 A( ) 0.8 A( ) A

3D Orientation and Interface Views

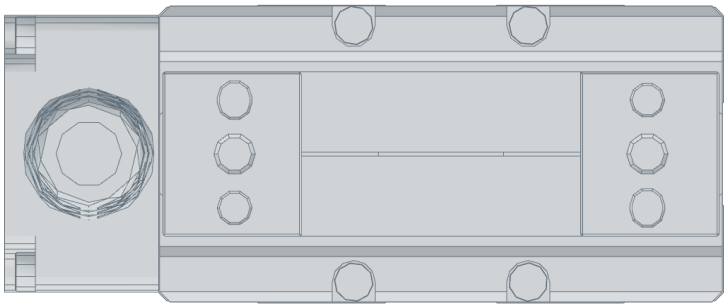
The front, right-side and top views are retained because each exposes a different integration relationship: finger geometry, cable routing direction and robot-side mounting orientation. Dimensions remain governed by the applicable 2D drawing and exact-SKU parameters.



Front View



Right Side View

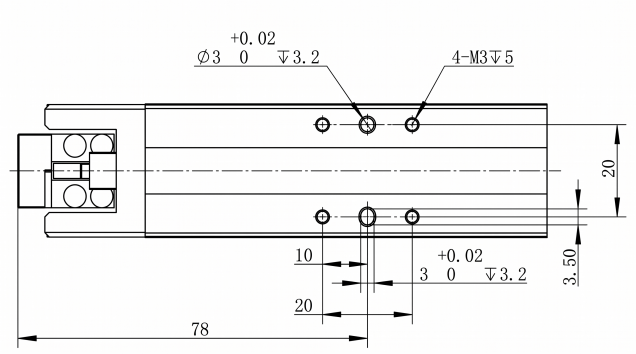


Top View

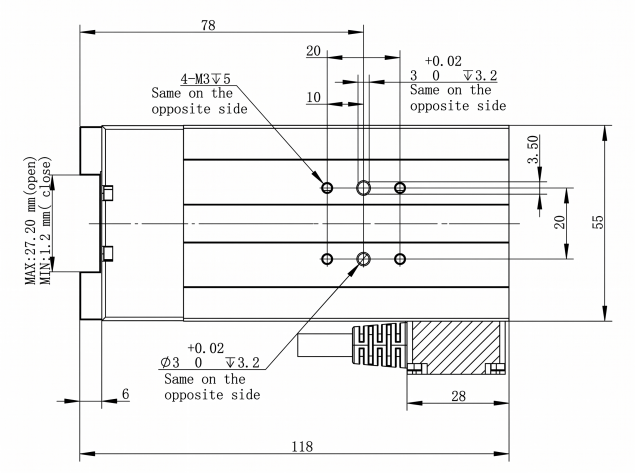
Each selected view contributes a distinct orientation or interface relationship used by the integration guidance.

Product Structure & Views

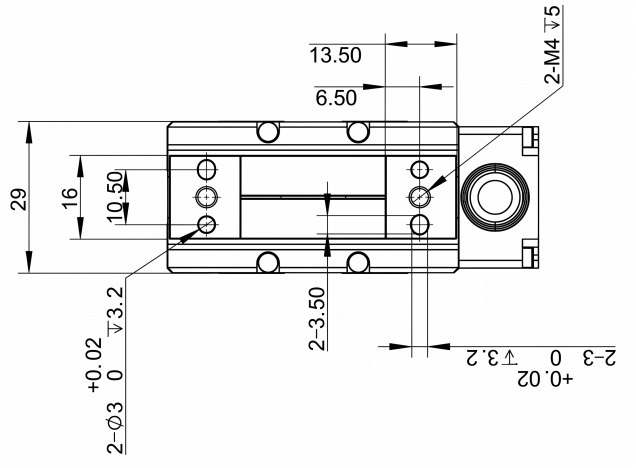
These views present product structure, mounting interfaces and relevant integration geometry for this SKU.



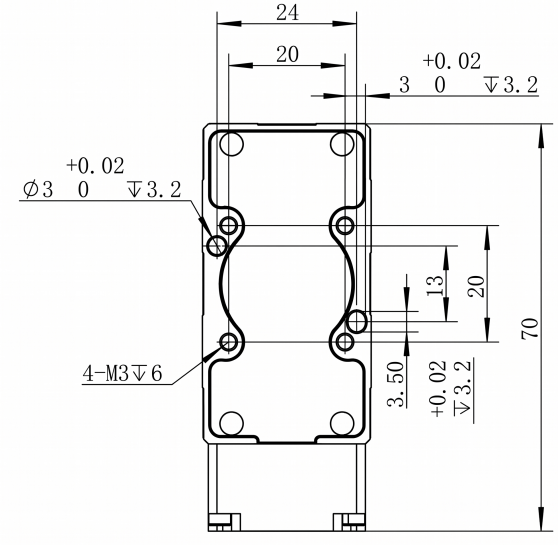
Mechanical View 1



Mechanical View 2



Mechanical View 3



Mechanical View 4

VIEW	FIELD	VALUE
Mechanical View 1	Upper hole diameter with tolerance and surface texture	Diameter 3 mm, tolerance +0.02/0, surface texture 3.2
	Threaded hole specification	4 × M3 holes, 5 feature/depth callout
	Upper vertical dimension	20
	Lower hole diameter with tolerance and surface texture	Diameter 3 mm, tolerance +0.02/0, surface texture 3.2
	Local hole spacing	10
	Lower vertical dimension	3.50
	Hole group horizontal spacing	20
	Reference edge to hole center distance	78

VIEW	FIELD	VALUE
Mechanical View 2	Upper horizontal length	78 mm
	Mounting hole horizontal spacing	20 mm
	Mounting hole local horizontal offset	10 mm
	Threaded hole specification	4 × M3, depth/countersink callout 5; same on opposite side
	Hole diameter and tolerance, upper callout	Diameter 3 mm, +0.02/0 tolerance, 3.2
	Hole diameter and tolerance, lower callout	Diameter 3 mm, +0.02/0 tolerance, 3.2; same on opposite side
	Right-side local vertical dimension	3.50 mm
	Right-side vertical mounting spacing	20 mm
Mechanical View 3	Two M4 threaded holes depth	2 x M4 threaded holes, depth 5 mm
	Upper mounting hole horizontal distance	13.50 mm
	Upper mounting hole horizontal offset	6.50 mm
	Left hole group vertical spacing	10.50 mm
	Left intermediate height	16 mm
	Overall height	29 mm
	Two 3.50 mm features	2 x 3.50 mm
	Left lower two diameter 3 holes with tolerance and roughness	2 x 3 mm holes, tolerance +0.02/0, surface roughness Ra 3.2
	Right lower two diameter 3 holes with tolerance and roughness	2 x 3 mm holes, tolerance +0.02/0, surface roughness Ra 3.2
Mechanical View 4	upper outside width	24 mm
	upper inner spacing	20 mm
	right upper hole diameter tolerance and surface roughness	Diameter 3 mm, +0.02/0 tolerance, surface roughness Ra 3.2
	left side hole diameter tolerance and surface roughness	Diameter 3 mm, +0.02/0 tolerance, surface roughness Ra 3.2
	threaded mounting holes	4 × M3 threaded holes, depth 6 mm
	right lower hole diameter tolerance and surface roughness	Diameter 3 mm, +0.02/0 tolerance, surface roughness Ra 3.2
	lower side offset spacing	3.50 mm
	datum or local label B	B
	isolated numeric label 7	7 mm

Technical Specifications - 1

PARAMETER	VALUE	UNIT
Measurement Repeatability	± 0.02	mm
Gripping Force (Per Side)	6~15	N
Maximum Recommended Payload	0.25	kg
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Driving Method	+	
Unweighted Noise Level	< 50	dB
Communication Interface	: Modbus RTU (RS485) Digital I/O : TCP/IP (USB2.0 CAN2.0A PROFINET EtherCAT)*	
Peak Current	0.3 A( ) 0.8 A( )	A

Technical Specifications - 2

PARAMETER	VALUE	UNIT
Standards Compliance	CE, FCC, RoHS	
Permissible Moment (My)	2	N·m
Continuous Rated Current	0.3 A( ) 0.8 A( )	A
Allowable Static Vertical Load Fz	150	N
Permissible Moment (Mx)	2.5	N·m
Permissible Moment (Mz)	3	
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-V004 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.