ENGINEERING DOCUMENTATION

Three-Finger Centric Electric Gripper

Dimensional & Integration Guide

DOCUMENT	REVISION / ISSUE	STATUS
DIG-ES-EG-C00-S006-V001	DRAFT-08 / 28 Aug 2026	Engineering Integration Reference

Integration Overview

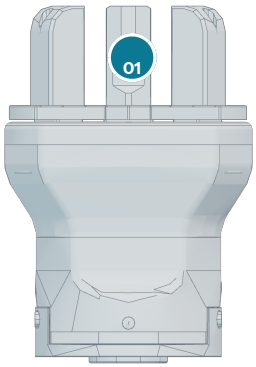
Three-finger centric electric end effector for cylindrical and rotationally symmetric workpieces. This guide supports mounting, fingertip, load-path, cable, commissioning and service planning for ES-EG-C00-S006-V001.

Key Integration Facts

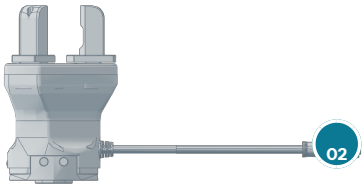
INTEGRATION ITEM	VALUE
Gripping Force (Per Side)	20~80 N
Continuous Rated Output Power	12 W
Operating Noise	< 50 dB
Finger stroke	10 mm
Position Repeatability	± 0.03 mm
Maximum Recommended Payload	1.5 kg
Full-Stroke Open / Close Time	0.5 s/0.5 s
Operating Voltage	24 V DC ± 10% V DC

Annotated 3D Orientation and Interface Views

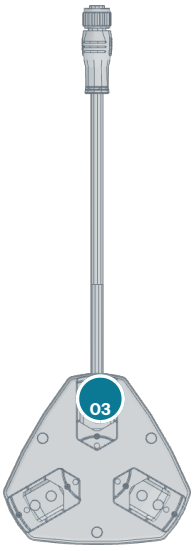
The front, right-side and top views are retained because each exposes a different integration relationship: finger geometry, cable routing direction and robot-side mounting orientation. Dimensions remain governed by the applicable 2D drawing and exact-SKU parameters.



Front View



Right Side View



Top View

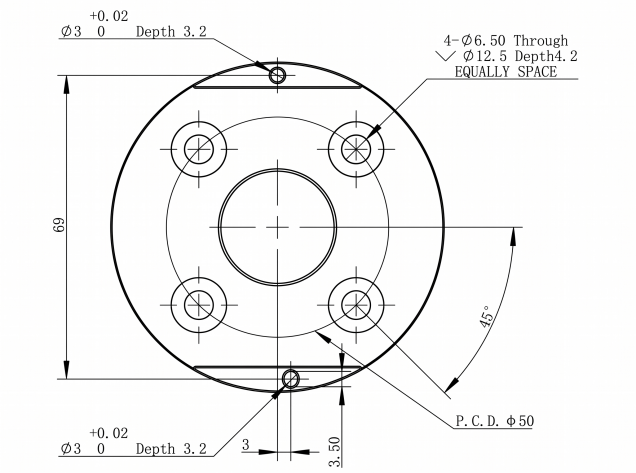
Numbered references identify concrete interfaces and actions used by the integration sections.

Functional Callout Schedule

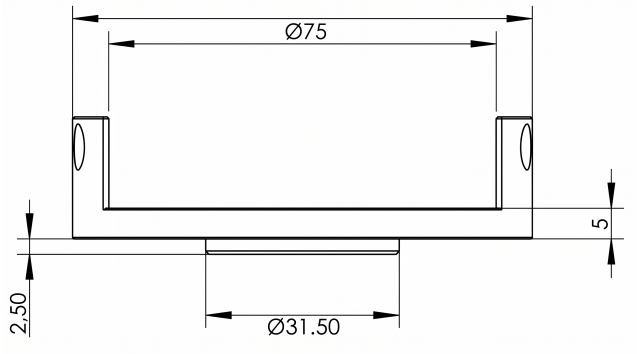
REF.	VIEW	INTEGRATION REFERENCE
01	Front View	Finger and fingertip interfaces - verify balanced contact and the complete moving envelope.
02	Right Side View	Cable exit and wrist-routing direction - provide suitable slack, strain relief and service clearance.
03	Top View	Robot-side mounting and locating orientation - align the exact-SKU mating interface before tightening fasteners.

Product Structure & Views

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



Mechanical View 1



Mechanical View 2

VIEW	FIELD	VALUE
Mechanical View 1	Upper locating hole diameter and depth	Diameter 3 mm, tolerance +0.02/0, depth 3.2 mm
	Four through hole diameter	4 holes, diameter 6.50 mm through
	Recess or countersink diameter and depth	Recess/countersink diameter 12.5 mm, depth 4.2 mm
	Equally spaced hole arrangement	Equally spaced
	Overall outside height	Overall height 69 mm
	Hole angular spacing	45 degrees
	Pitch circle diameter	Pitch circle diameter 50 mm
	Lower locating hole diameter and depth	Diameter 3 mm, tolerance +0.02/0, depth 3.2 mm
	Bottom slot width or spacing	3 mm
	Bottom local height or spacing	3.50 mm
Mechanical View 2	Main body outer diameter	Diameter 75
	End flange/step thickness	Thickness 5
	End offset/step distance	Offset 2.50
	Lower cylindrical shaft/interface diameter	Diameter 31.50

Technical Specifications - 1

PARAMETER	VALUE	UNIT
Gripping Force (Per Side)	20~80	N
Continuous Rated Output Power	12	W
Operating Noise	< 50	dB
Finger stroke	10	mm
Position Repeatability	± 0.03	
Maximum Recommended Payload	1.5	kg
Full-Stroke Open / Close Time	0.5 s/0.5	s
Operating Voltage	24 V DC ± 10%	V DC

Technical Specifications - 2

PARAMETER	VALUE	UNIT
Rated / peak current	0.5 A ( ) / 1.2 A ( )*	A
Transmission type	+	
Recommended Operating Environment	0~40 , 85% RH	
Allowable static vertical load Fz	200	N
Weight	1.5	kg
Allowable Load Moment (My)	2	N·m
Allowable Load Moment (Mx)	2.5	
Compliance Standards	CE, FCC, RoHS	

Technical Specifications - 3

PARAMETER	VALUE	UNIT
Communication Protocol	: Modbus RTU (RS485), Digital I/O(2 2) : TCP/IP, USB2.0, CAN2.0A, PROFINET, EtherCAT *	
Ingress Protection Rating	IP 67	
Allowable Load Moment (Mz)	3	N·m
Dimensions	141 mm x 103 mm x 75	mm

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-S006-V001 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.