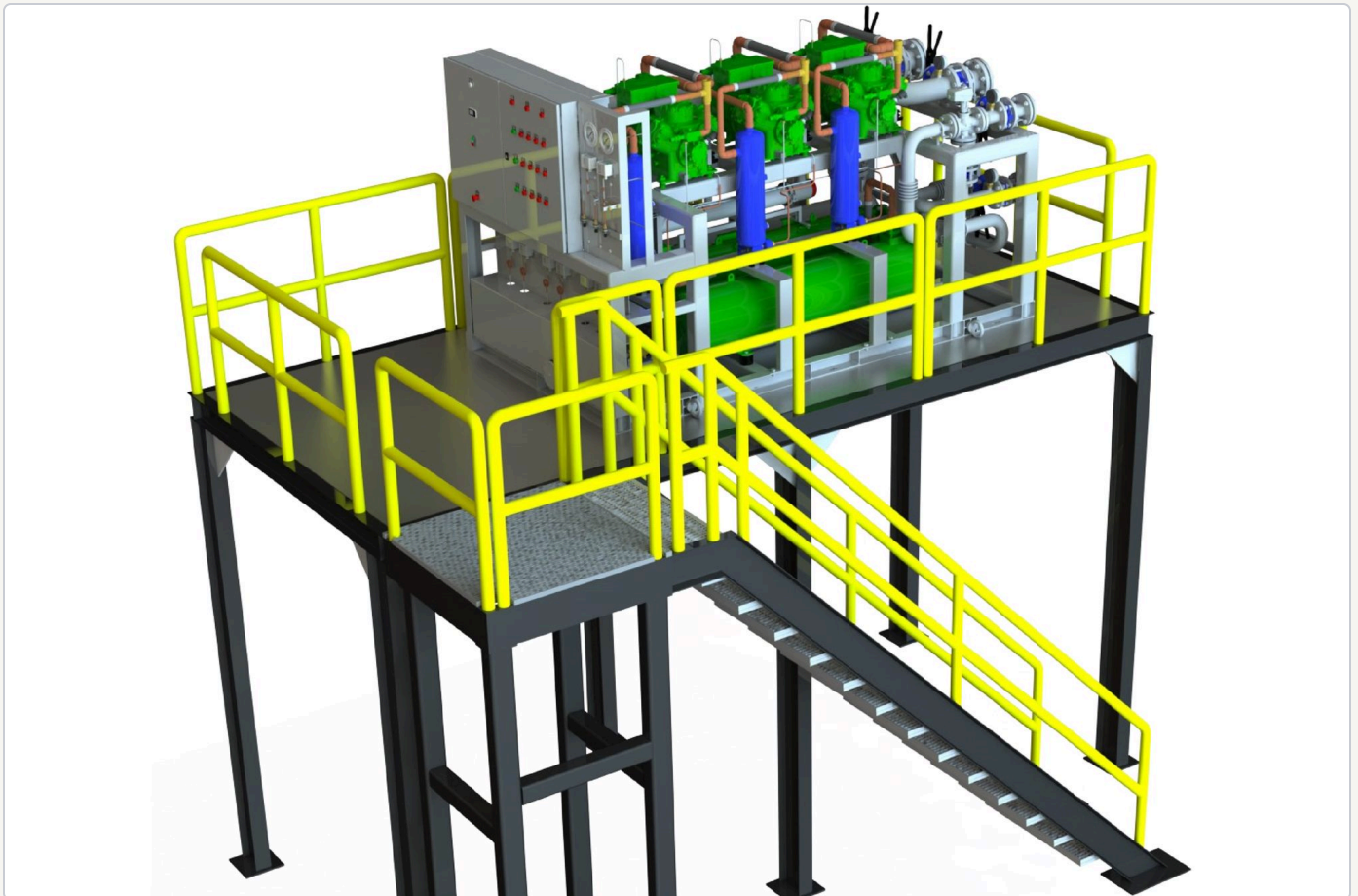


SENIOR MECHANICAL DESIGN ENGINEER

I design parts that can be built, analyzed, and defended in review.

Nearly 20 years in mechanical design across automotive electronics, heavy-truck interiors, elevators, and HVAC equipment: injection-molded and stamped parts, brackets and housings, structural FEA, and tolerances that follow function.



CONTENTS	Profile at a glance · Condensing-unit mezzanine · Access platforms · Pre-cooling control panel · ECU housing demo · Stability chamber airflow
CONTACT	jorgefilipigh.com/?page=contact

Profile at a glance

FOCUS	Hands-on design + technical review
PARTS	Plastic housings · stamped brackets · sheet-metal structures · mechanisms
ANALYSIS	Structural FEA (ANSYS, Siemens NX, CATIA, SolidWorks Simulation) · tolerance stack-ups
CAD	SolidWorks · Siemens NX · CATIA V5/V6
INDUSTRIES	Automotive (Tier 1) · Elevators · HVAC & refrigeration

WHAT I WORK ON

Design for the process

Injection-molded and stamped parts designed with the supplier in the loop: DFM and Moldflow reviews, tolerance and special-characteristic negotiation, prototype builds.

Analysis that answers a question

Structural FEA for brackets, sheet-metal assemblies, and supports, from elevator components to automotive speaker enclosures.

Tolerances that follow function

GD&T drawings, tolerance stack-ups, and dimensional reports, including PCB-to-housing interfaces and keep-outs.

Raising the team's work

Mentoring engineers in 3D modeling and FEA interpretation, supporting their simulations, and running engineering change meetings.

CAREER

2023–NOW	Otis Elevator Company · Florence, SC · elevator components, structural FEA
2020–22	Marquardt Switches · Cazenovia, NY · switch enclosures, key fobs, PCB keep-outs
2019–20	XDIN (ALLEN Group) · Greensboro, NC · Volvo & Mack interiors, mechanisms
2016–18	Harman International · Querétaro, MX · molded & stamped audio parts, speaker brackets
2011–16	Continental Automotive · Guadalajara, MX · body-electronics housings, PCB integration
2009–11	Frimax · Guadalajara, MX · HVAC design
2007–08	Interlift de México · Puebla, MX · residential and inclined elevators
2005–07	Ascensores Volta · Mar del Plata, AR · passenger lift components

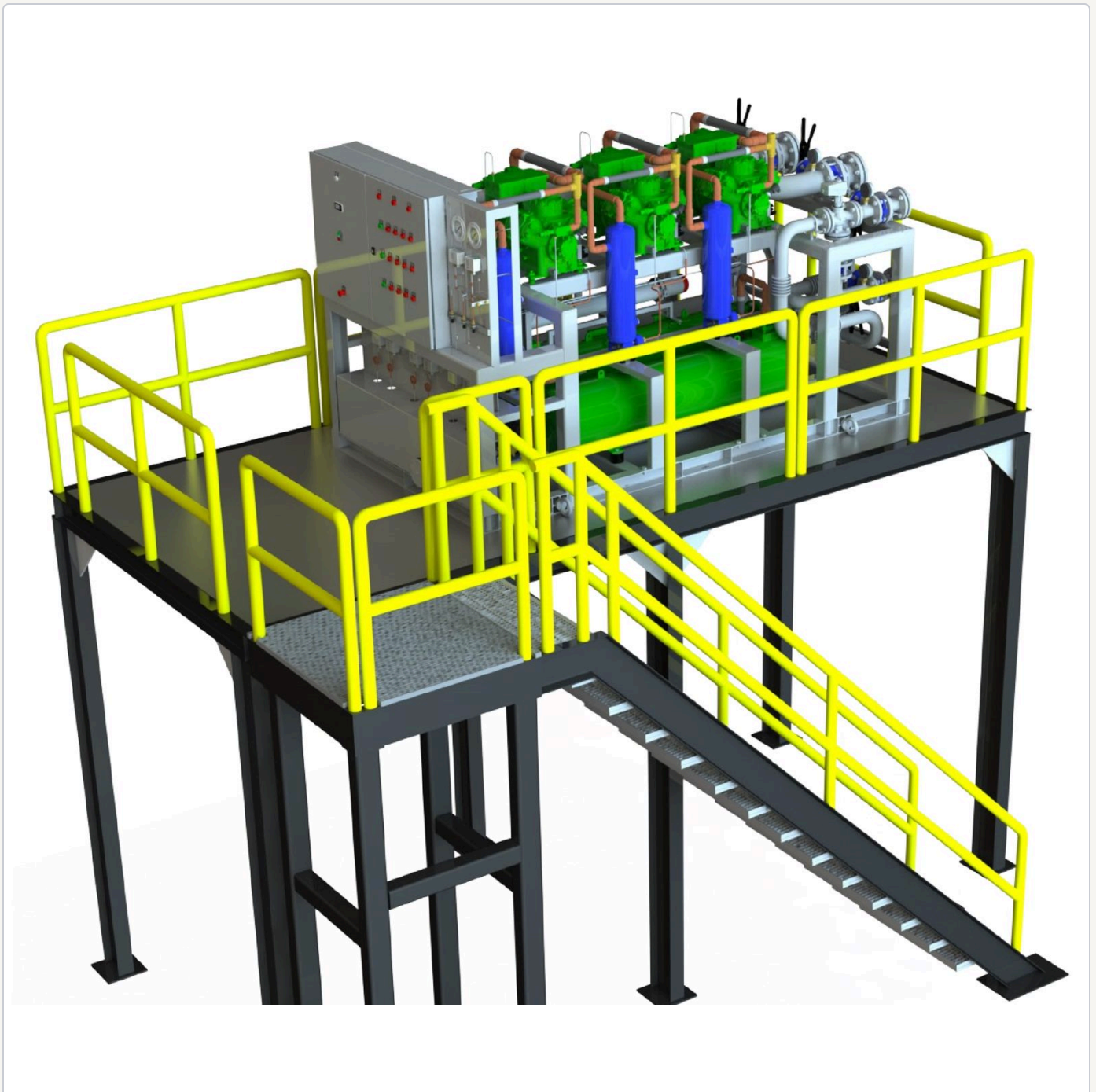
EDUCATION · PATENT · PUBLICATION

Mechanical Engineering degree, Universidad Nacional del Nordeste, Argentina (2005), evaluated as equivalent to a U.S. B.S. in Mechanical Engineering. Co-inventor, *Interchangeable connectivity modules*, Mexican patent filing MX/a/2016/013231 (rights assigned to Continental). Co-author, Lagrangian model of a two-joint, tendon-driven robotic arm, UNNE, 2005.

Condensing-unit mezzanine with maintenance access

CAD • SOLIDWORKS

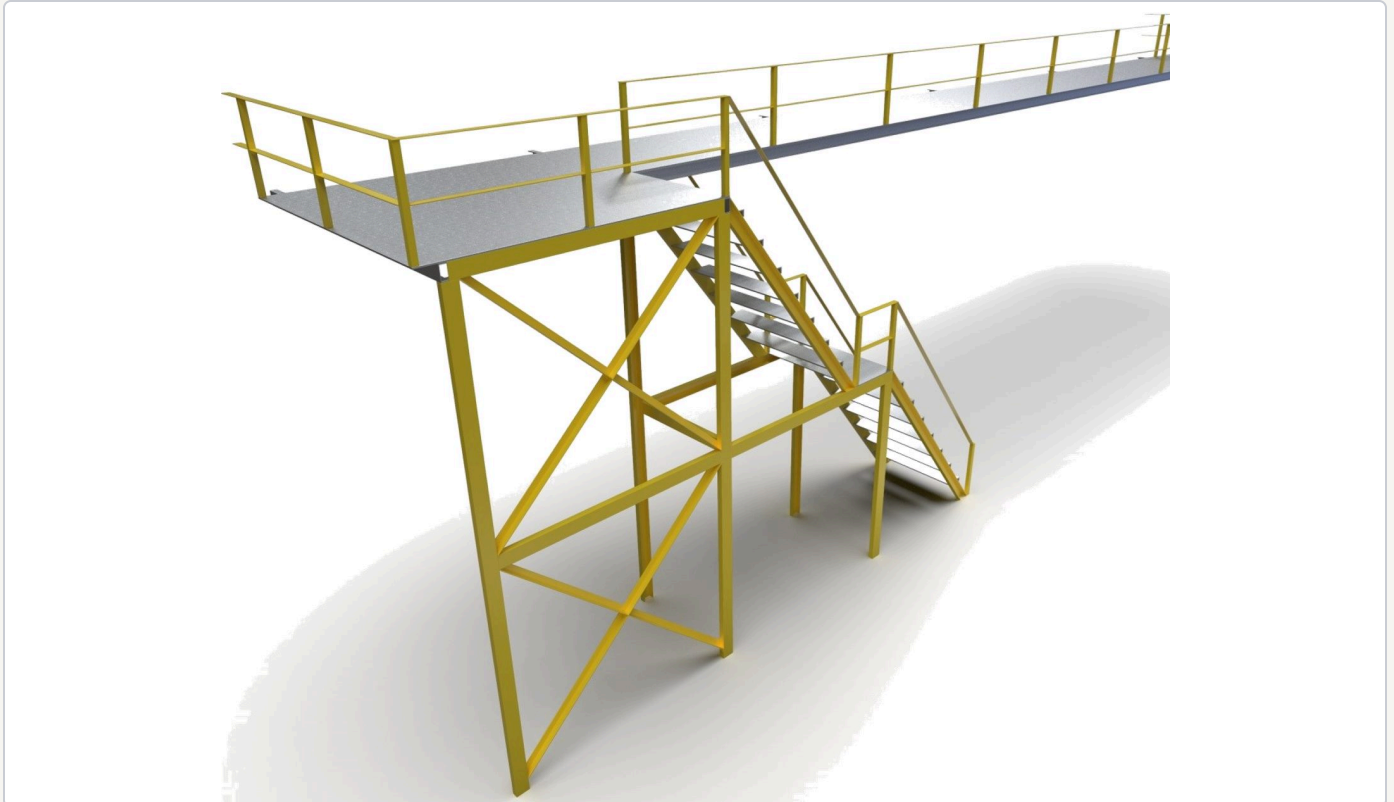
Structural steel platform that carries a multi-compressor refrigeration rack and its control panel above floor level. The layout keeps the equipment serviceable: guarded walkways around the rack, a grated landing, and stair access for maintenance.



Access platforms and stairs

CAD • SOLIDWORKS

Braced steel platforms, walkways, and stairs modeled as structural assemblies. The second view includes a human figure for scale.



Control panel for a food-industry pre-cooling process

CAD • SOLIDWORKS

ELECTRICAL LAYOUT

Enclosure layout for a pre-cooling process: two variable-frequency drives control the fans, and a PLC controls the condensing unit and the evaporator. The panel is modeled with its DIN-rail components, wiring space, door sub-panel, and status light, so it can be checked for fit and access before it is built.

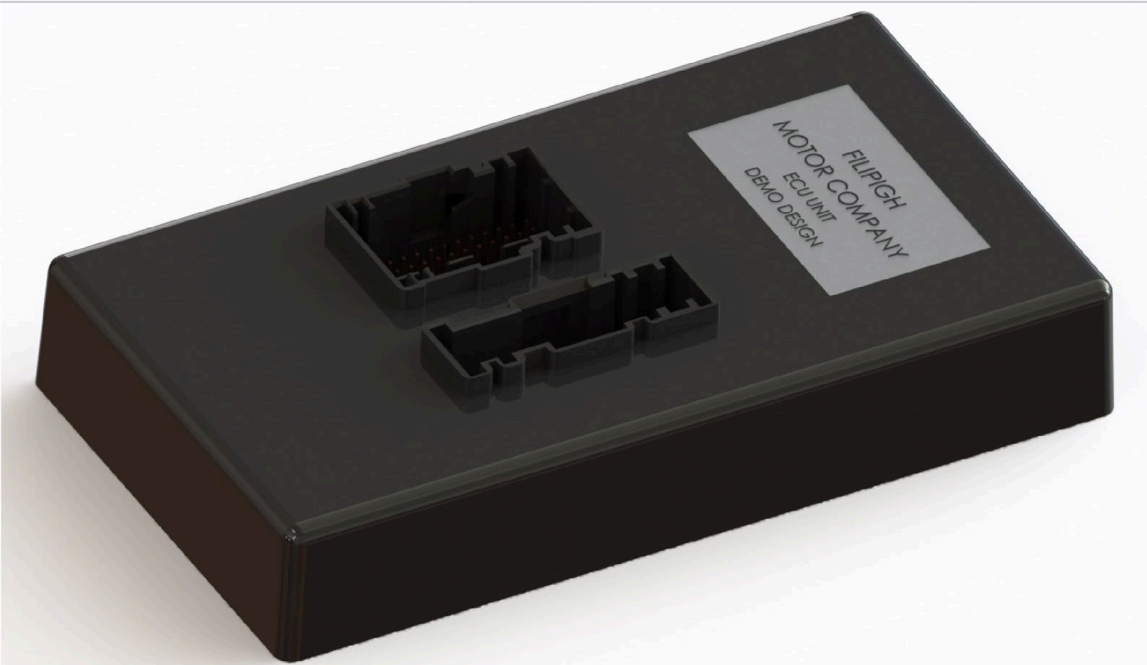
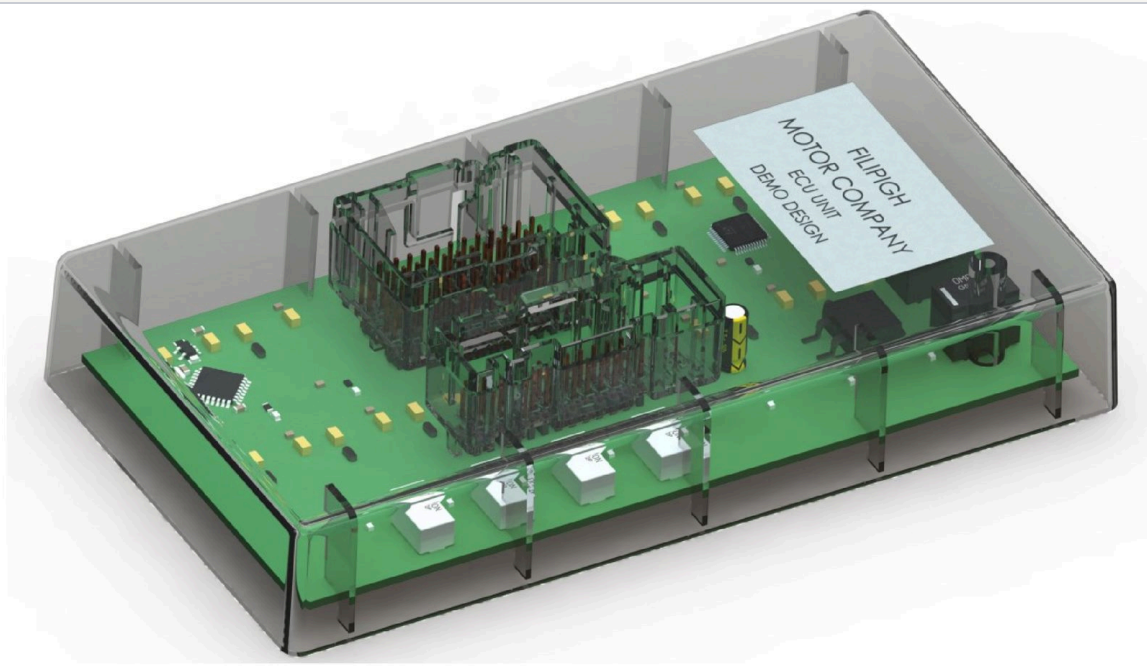


ECU housing: PCB-to-housing integration demo

CAD • SOLIDWORKS

PERSONAL DEMO

A demo electronic control unit, created from scratch to show how a PCB, its header connectors, and a molded plastic housing are packaged together: connector openings, internal ribs, and board support. It is a personal design study and is not derived from any employer program.



Airflow distribution in a stability chamber

[SIM](#)[TEST](#)

The supply and return layout of a stability chamber was simulated to predict air velocity across the working volume. After the chamber was built, velocity was measured point by point with an anemometer. On average, the measurements agreed closely with the simulation.

METHOD NOTE

SIM marks a simulation result; TEST marks a physical measurement. A simulation is a prediction until something measured agrees with it.

HOW I REVIEW

REVIEW NOTE 1

Load path and process first, cosmetics last.

REVIEW NOTE 2

What is this tolerance protecting?

REVIEW NOTE 3

Tell me what the model leaves out before I trust what it says.

GET IN TOUCH

Opportunities, interview requests, and technical questions: jorgefilipigh.com/?page=contact

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