

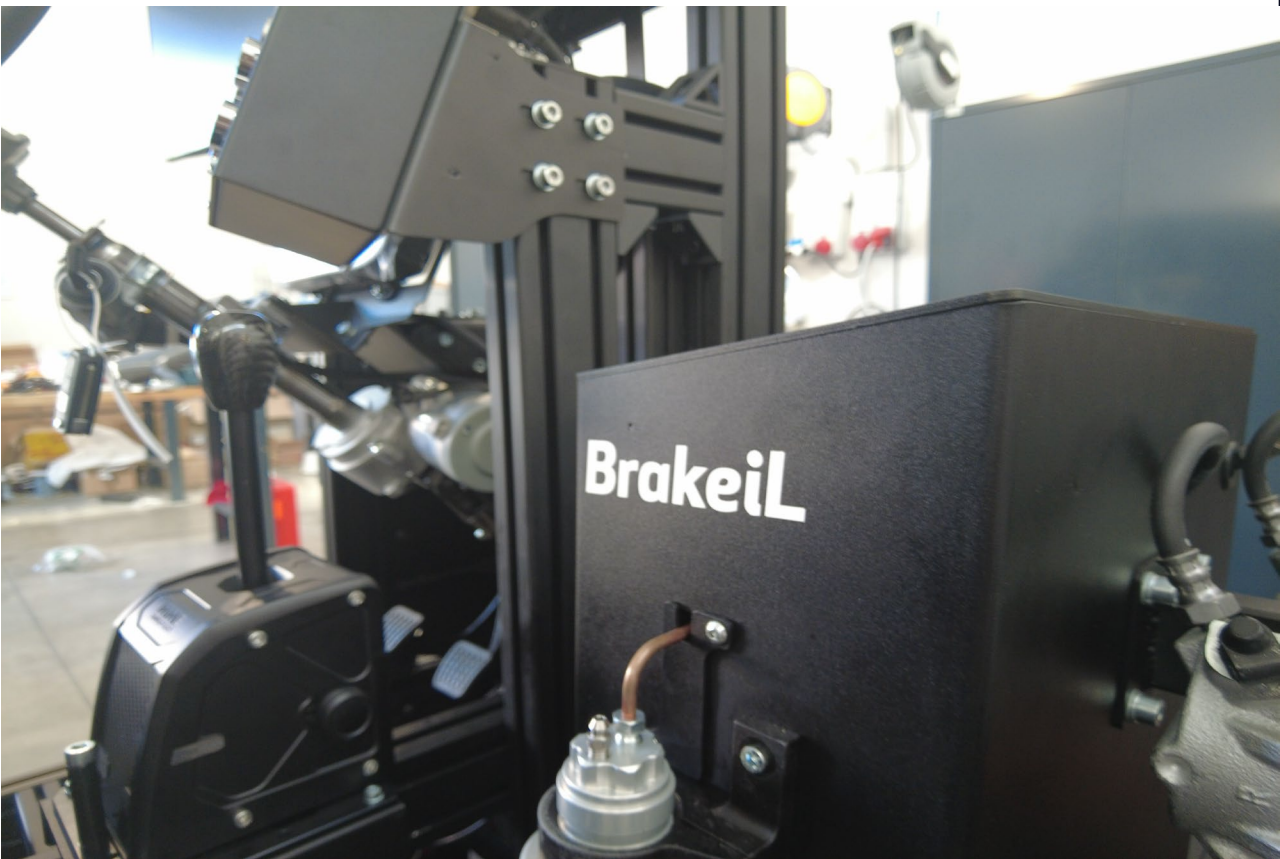


MECCANICA 42

BrakeiL – Brake System in the Loop

Brochure

AGENDA



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Introducing BrakeiL: real-time rig for testing complete brake systems.

The brake pressure is built up with a pedal actuator and all the braking functions (ABS, ESC, etc.) are physically performed by the devices under test.

With BrakeiL you can test complete brake system including depending on the vehicle under test):



✓ Brake pedal

✓ Master cylinder

✓ Brake-by-wire

✓ Brake booster
(pneumatic, electric, electromechanical, etc)

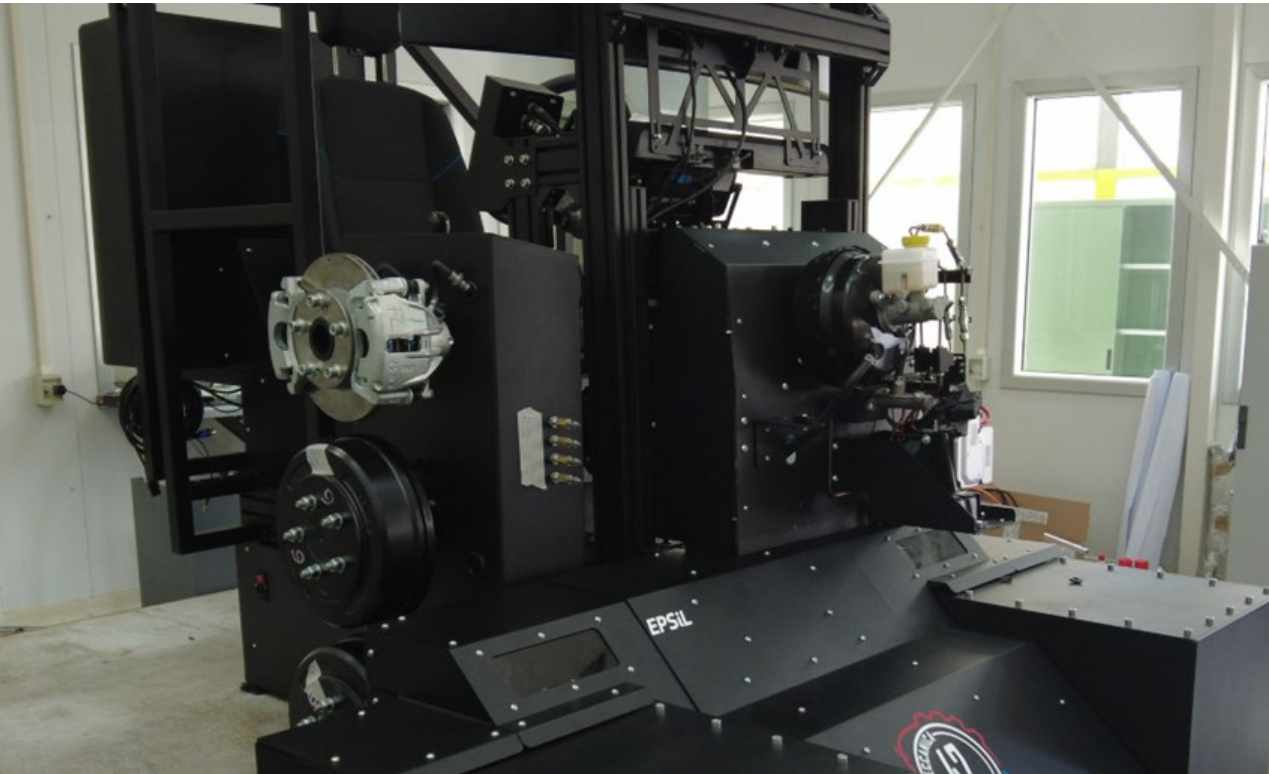
✓ One-box brake system

✓ ESC module

✓ Hoses, calipers, pads, discs

What can you do with BrakeiL?

BrakeiL enables automated tests or real-time testing with driving simulators and it is suitable to develop, tune and validate braking functions.



 FuSa
Fault injection

 SOTIF
Management of predictable risks

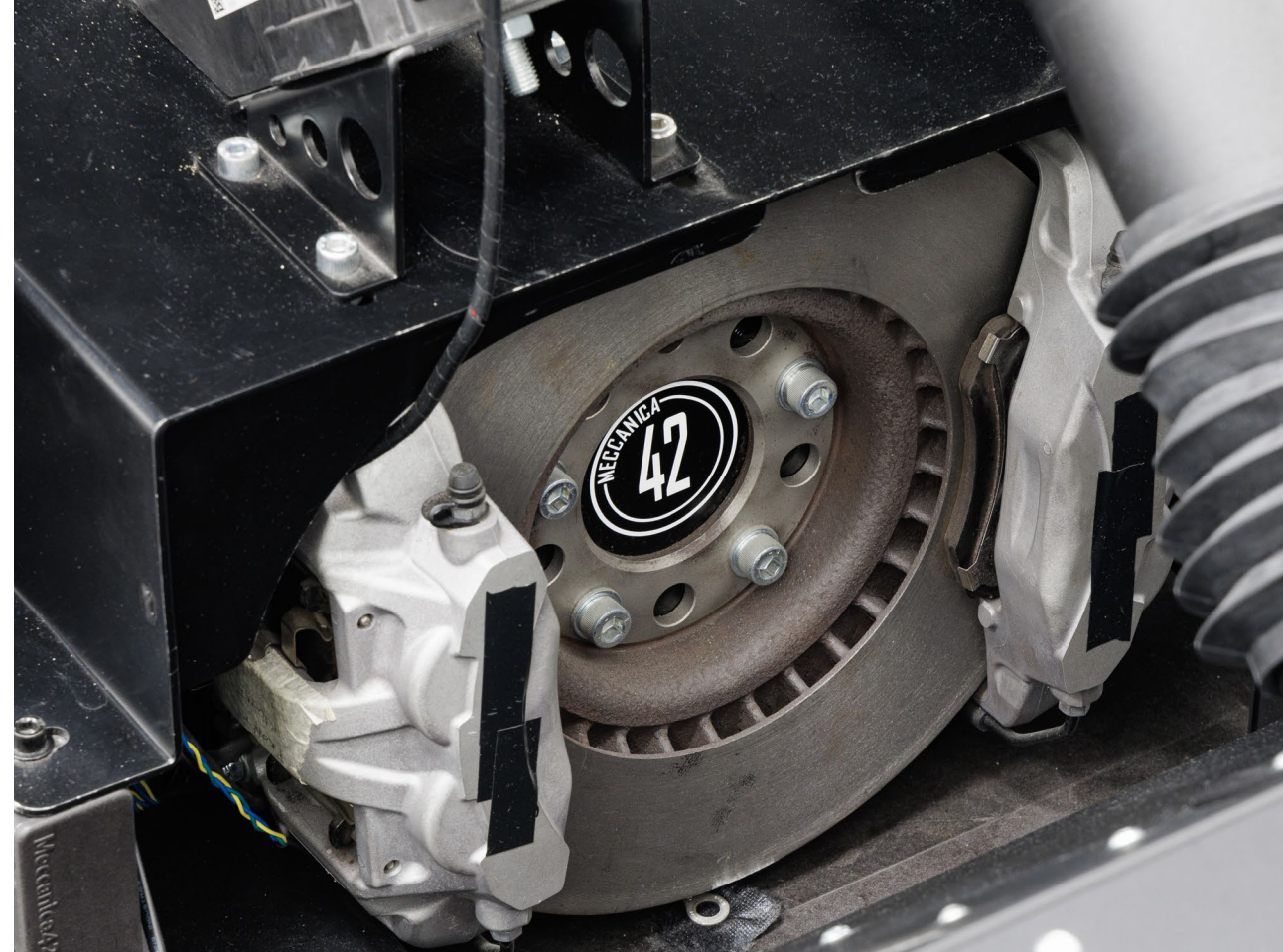
 Subjective Evaluations
Brake pedal feel

 Vehicle Dynamics
ABS/ESC

Key performances of BrakeiL

BrakeiL is designed for easy integration and precise performance.

With real-time testing capabilities and accurate reproduction of wheel speed signals, BrakeiL ensures reliable results.



Communication latency
< 3 ms



Max linear velocity of robotized pedal
1.1 m/s



Max force of robotized pedal
2000 N



Max linear travel of robotized pedal
150 mm

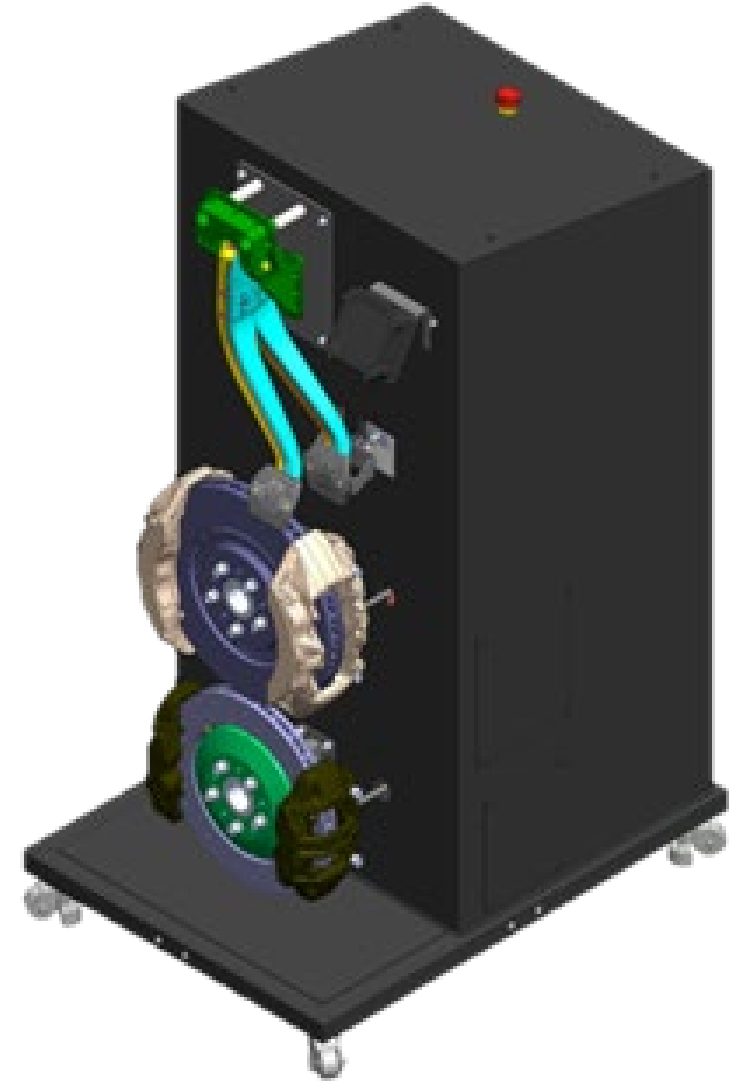


Communication protocol with the real-time machine
EtherCAT

BrakeiL

BrakeiL integrates brake system components into simulation loops.

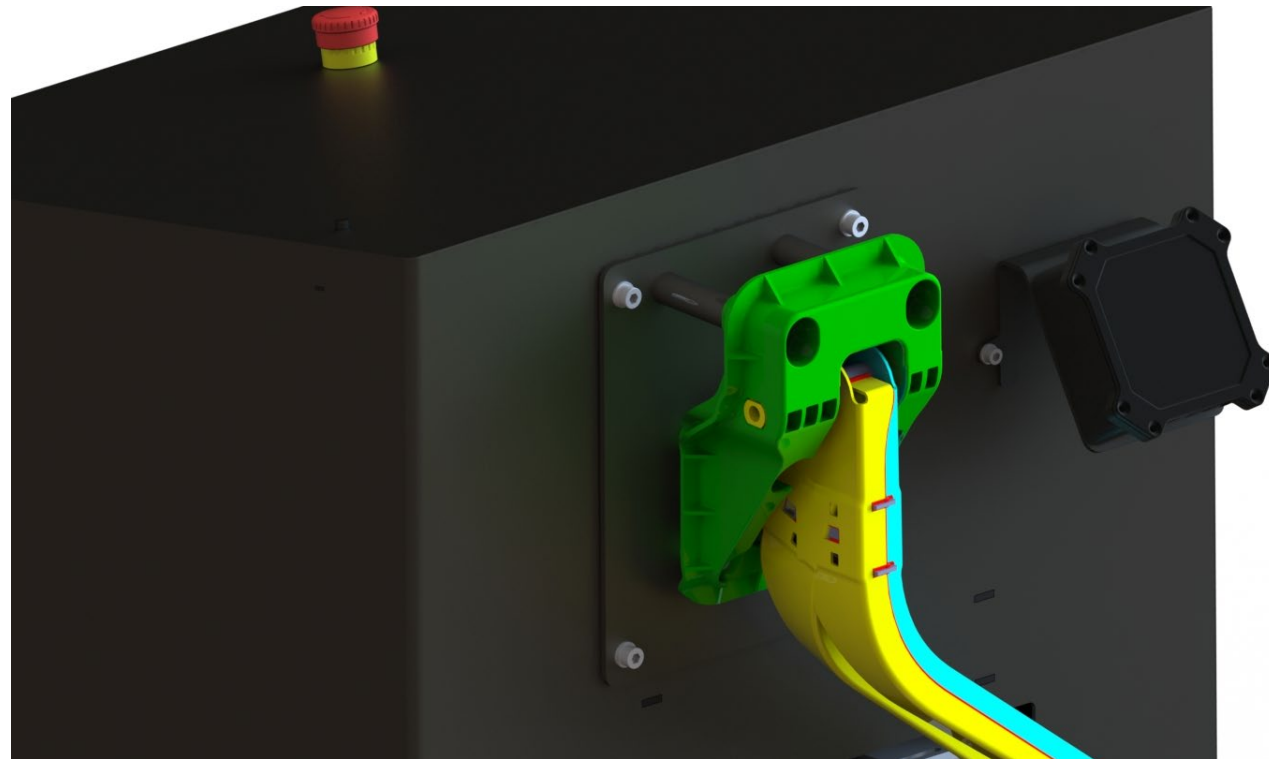
BrakeiL also allows the bench to be mounted in a location other than the cockpit, enabling the braking system to be controlled remotely.



BrakeiL optionals

Complete your BrakeiL bench with our products: you can use the bench with all its functions.

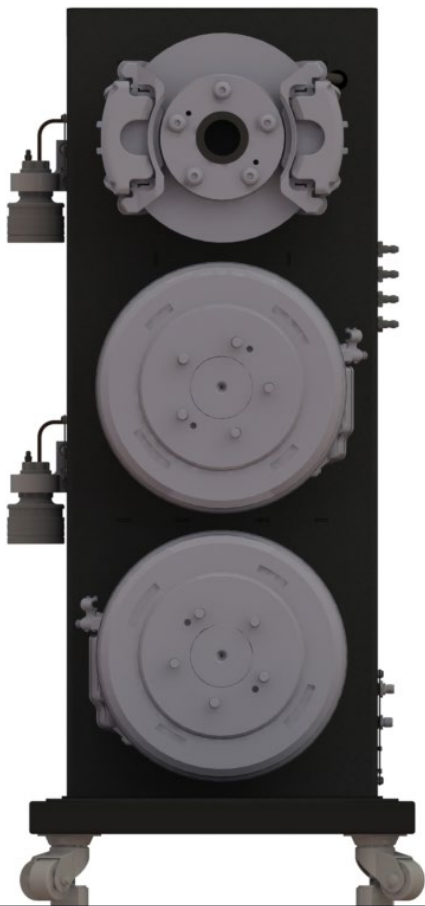
WSE – Wheel Speed Emulator



Valve systems for adjusting system compliance



BrakeiL options



Compatible with disc and drum systems

BrakeiL can be a built-on-you product

Imagine a product that feels like it was made just for you - because it was.



Braking element links



Cable management



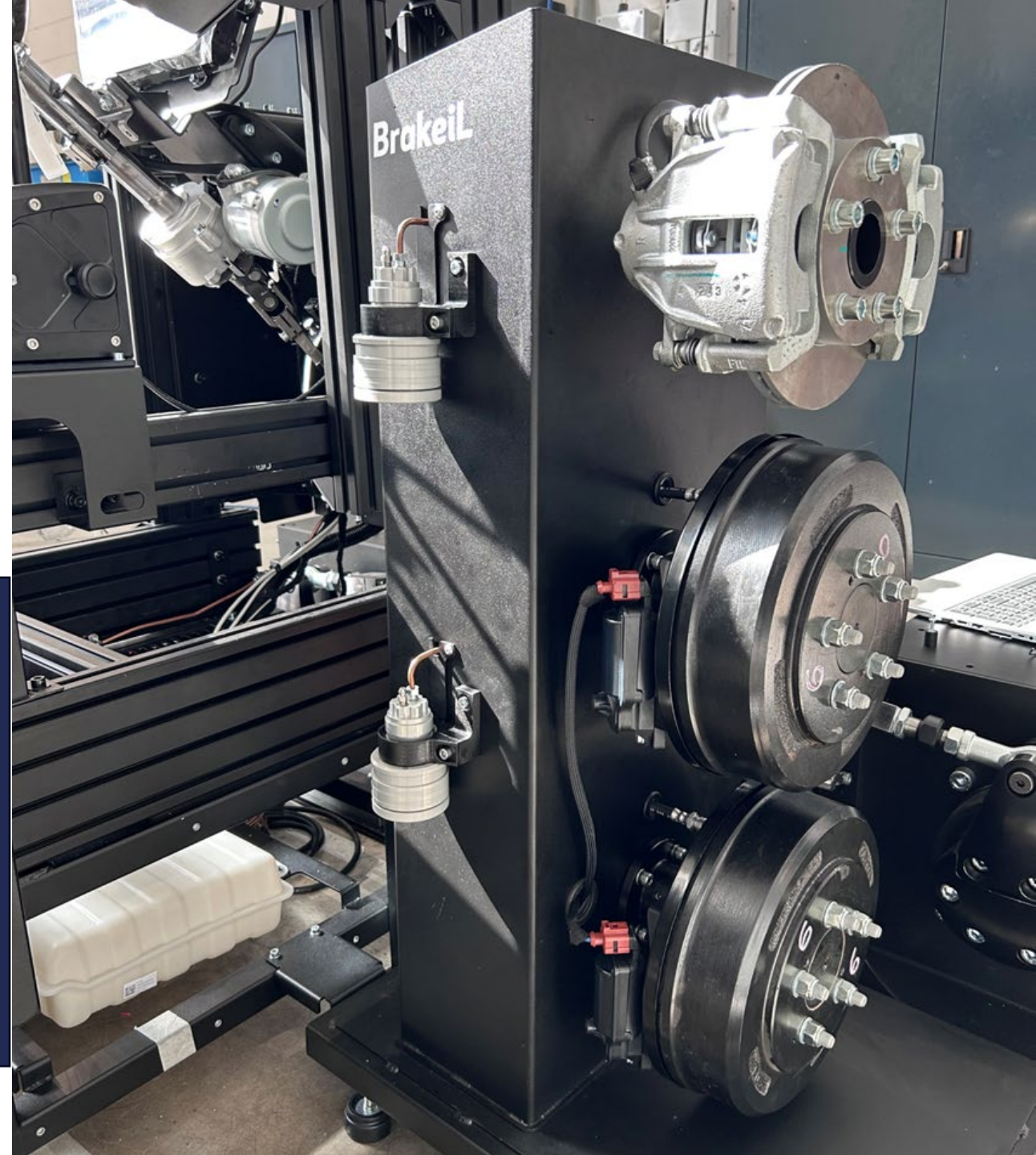
Tuning controls and interfaces



Pipe routing



Connectors/wiring





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