



FORCE   
 TRAVEL   
 PERFORMANCE 



# CLS-P COLLECTIVE.

## Your choice for Helicopter Simulation up to FFS Level D.

The BRUNNER CLS-P Active Force Feedback Collective meets the highest demands of professional flight simulation. As a top level element of our Control Loading System portfolio of leading drop-in devices, the CLS-P Collective integrates perfectly into many new or existing FNPT I as well as in FNPT II MCC or even FFS Level D Helicopter cockpit environments.

Supporting standard procedure training as well as abnormal and emergency procedure training, the BRUNNER CLS-P Collective provides excellent quality, highest fidelity and unique durability at an unmatched price-performance level. The integrated high resolution load cell and the high dynamic brushless AC Servo technology reacts with realistic movements to even finest inputs and offers excellent artificial feeling for highest demands!

Our CLS-P Collective is supporting single as well as dual pilot applications. A unique real-time synchronization logic enables unmatched and automatic pilot/co-pilot take-over functionality for MCC applications.

The optionally available BRUNNER Collective Lever, or a customized wired-trough Lever, can be easily mounted and replaced during operation for fast adoption to your training scenarios.

Enabled by our CLS2Sim software-environment, the CLS-P Collective communicates easily with commercially available simulation software such as X-Plane, M-FSX, and Prepar3D®. Any third party flight simulation connects via a simple TCP/IP or UDP remote interface protocol.



# CLS-P COLLECTIVE.

## Features.

- BRUNNER Drop-In fully integrated, with built-in power supply and control unit, no additional auxiliary devices required
- High resolution load cell and high dynamic servo drive for highest fidelity and most realistic flight experience
- Simulated effects: engine, ground, turbulence, force trim release, autopilot, stall etc.
- Aircraft and type-specific profiles
- Dynamic pressure dependent force profile
- BRUNNER real-time synchronization logic for dual-pilot cockpit with automatic pilot/co-pilot take-over (MCC)
- Designed for standard, abnormal and emergency procedure training
- Plug & Play (CAN or USB), optional Ethernet via BRUNNER high-speed Ethernet2CAN gateway
- CANaerospace on request
- Reliable, smooth, backlash and maintenance free design
- Contactless high-resolution position feedback
- No fan, very quiet, high efficient
- Direct support for X-Plane, FSX, FSX Steam edition, Prepare-3D with BRUNNER CLS2SIM SW, X-Plane plugin for Windows, Linux and Mac
- Fully external control for QTG testing, applied over a simple network protocol
- Unlimited CLS2Sim license for single cockpit application
- Safety integrated, Safe Torque Off (STO)
- Swiss Made
- 2 Years Warranty

## Specification.

<b>Peak Force</b>	50 Nm / 37 lb-ft
<b>Travel</b>	+/- 20°
<b>Collective Lever</b>	optionally: BRUNNER Collective Lever
<b>Interface (Com)</b>	CAN (RJ45), USB (USB-2 Type-B) Ethernet via optional Ethernet2CAN gateway
<b>Interface (I/O)</b>	wire through I/O connection with top- and bottom side connector (D-Sub32)
<b>Power</b>	400 W peak (no fan)
<b>Operating Voltage</b>	90-255 VAC 50/60 Hz (IEC5)
<b>Size</b>	375 x 212 x 197 mm 14.8 x 8.4 x 7.8 in
<b>Weight</b>	9 kg / 19.8 lb

## Dimensions.



