POWER-PACKER®

a CentroMotion brand

EDU Electro-Hydraulic Actuators

Designed to address the challenges of space, weight, and efficiency in your equipment

OPERATIONAL EXCELLENCE | GLOBAL TRUSTED AND CERTIFIED ADVISOR | MARKET AND ENGINEERING EXPERT

PRODUCT DESCRIPTION

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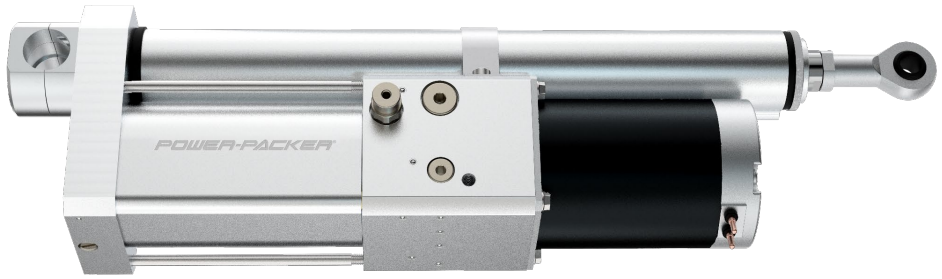
The **EDU** is an advanced electro-hydraulic system that integrates a hydraulic pump, cylinder, and electric motor. This high power-density system allows for independent adjustment of load and velocity in both directions. Designed for efficiency, the EDU is ideal for power-on-demand applications in mobile environments, requiring only an electrical power connection to operate.



BENEFITS

Maximum Power:
Get the power you need regardless of available space.

Plug and Play:
Only electrical power supply required for installation.

Enhanced Performance:
Supports heavy-duty applications with high load capabilities and optimized efficiency.

Safe Operation:
Overload protection prevents damage to the interface; manual override possible.

Proven Quality:
Time-tested robust design built for maximum performance & long life.

Ease of Installation:
No hydraulic hoses, no air bleeding required.

No Risk of Contamination:
Self-contained design ensures the unit is protected from outside contaminants.

Environment Friendly:
Power-on-Demand, less energy consumption, high efficiency.

No Maintenance:
Proven high quality, long life, high endurance, excellent corrosion resistance.

KEY FEATURES

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VERSATILE FUNCTIONALITY

- Accurate adjustment of height, angle, and position
- Opening and closing functions with secure hold and lock under high-force conditions

FLEXIBLE MOTOR OPTIONS

EDU-DC (Direct Current): Utilizes hydraulic energy without electronic components, simplifying automatic movement and enhancing reliability. Ideal for applications requiring robust performance with minimal complexity.

EDU-BLDC (Brushless DC Motor): Offers advanced control through an optional driver, enabling highly efficient and precise motion. Perfect for systems that demand dynamic responsiveness and energy efficiency.

OPTIONAL INTEGRATED COVER AND HYDRAULIC LATCHES

For specific applications, an integrated cover with hydraulic latches ensures easy installation and smooth operation. The latch system supports remote activation via a quick-connect hose to the EDU-DC, reducing setup time and eliminating oil spills or air bleeding.

TECHNICAL SPECIFICATIONS

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POWER PERFORMANCE	EDU BRUSHED DC	EDU BRUSHLESS DC
DYNAMIC FORCE	Up to 18.5 kN push Up to 7.6 kN pull	Up to 14.4 kN push Up to 1.7 kN pull
MAXIMUM LOAD	23 - 25 kN limited by pressure relief valve	23 - 25 kN limited by pressure relief valve
SPEED	Continuous variable up to 20 mm/s	Continuous variable up to 50 mm/s
HOLD FUNCTION	Hydraulic hold valve 0.25 mm/min	Hydraulic hold valve 0.25 mm/min

PUMP		
MOTOR	**BRUSHED DC**	**BRUSHLESS DC**
POWER SUPPLY	24 Vdc Max. 25 A	18 to 37 Vdc Max. 50 A
PUMP TYPE	Radial piston	Gear pump
START/STOP	PWM	Soft start/stop by electronic motor control
MANUAL OVERRIDE		
ACTIVATION	Opening a spindle	Remote by Bowden cable
SPEED	Depending on load on plunger	Constant, controlled by flow control valve
ENVIRONMENT		
IP CLASS	IP69	IP56 with cover
TEMPERATURE RANGE	-25 to +70 °C Operating -40 to +70 °C Storage	-25 to +70 °C Operating -40 to +70 °C Storage
EMC	To be validated in end application	To be validated in end application
VIBRATION	DIN IEC 60068-2-64	IEC 60068-2-34 Fd
SHOCK	IEC 60068-2-27 Ea	IEC 60068-2-27 Ea
SOUND PERFORMANCE	Max. 75dB(A) @ 1 m distance	Max. 65 dB(A) @ 1 m distance
OPERATING LIFETIME	>10k cycles	65k cycles
SERVICE	Maintenance free	Maintenance free
ENCLOSURE		
MECHANICAL INSTALLATION	Threaded/Bolt connection (Customer specific on req.)	Threaded/Bolt connection (Customer specific on req.)
SIZE & WEIGHT		
CYLINDER	Piston diameter 32 mm Plunger diameter 22 mm	Piston diameter 32 mm Plunger diameter 22 mm
STROKE	Up to 450 mm	up to 450 mm
DIMENSIONS	See installation drawing	125 x 80 x 250 (typical, customer specific)
WEIGHT	~ 7 kg	~ 6 kg

APPLICATIONS

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MEDICAL

- Beds
- Stretchers
- Ambulance cots
- Wheelchair access ramps

CONSTRUCTION

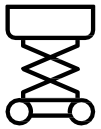
- Attachment locks
- Skid-steer bucket leveling
- Plough/Blade positioning

AGRICULTURE

- Sprayer arm lifts
- Seeding and spraying

TRUCK / ALL TERRAIN / UTILITY VEHICLES

- Hood lift
- Tailgate locks
- Utility vehicle attachments
- Cart/Trailer bed lifts



MATERIAL HANDLING

- Pallet lifts
- Lift tables
- Scissor tables

GUIDE TO SELECTING THE IDEAL ACTUATOR

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Follow these guidelines to find the best fit for your application:

1

DEFINE APPLICATION REQUIREMENTS

Start by identifying the specific needs of your application. Consider factors such as required force, speed, and stroke length. This initial assessment will help narrow down your options and guide your choice of EDU.

2

EVALUATE AVAILABLE OPTIONS

Once you have defined your application requirements, explore the available EDU options. Carefully review product specifications and performance data to compare features.

3

COST COMPARISON

Consider the total cost of ownership (TCO). For example, choosing an EDU that eliminates the need for air bleeding can significantly reduce installation time and improve efficiency.

4

MAINTENANCE CONSIDERATIONS

Look into the maintenance requirements of each EDU. Choose one that is easy to maintain. In some cases, EDUs require no maintenance at all.

5

SEEK EXPERT ADVICE

If you are still unsure about the best EDU for your application, consult with us. Our experts can help you evaluate options and make an informed decision.

BEST PRACTICES FOR INSTALLATION AND USE

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MONITOR LOAD CONDITIONS

Ensure that the force generated by the EDU is appropriate for the external load. The hydraulic pressure relief valve is designed to limit the maximum force generated, thereby preventing overload situations and ensuring that connected interfaces on the application remain intact and do not break.

ALIGN LOADS PROPERLY

Always move loads in line with the plunger. Use spherical joint connections and appropriate guiding mechanisms to prevent side loads.

POSITION FOR PROTECTION

When positioning the EDU, especially in environments prone to dust or debris, keep the actuator in a closed state to protect the chrome plunger from unwanted stone chippings.

IMPLEMENT SAFETY MEASURES

Always use a safety stay when working beneath an extended hydraulic system to prevent accidents.

UTILIZE MANUAL OVERRIDE CORRECTLY

In the event of an electrical failure, use the manual override to extend or retract the EDU. Ensure that the cylinder can be retracted safely and be aware that this movement is uncontrolled.

ADHERE TO ENVIRONMENTAL CONDITIONS

Ensure that the EDU operates within specified temperature ranges (-25°C to +55°C) and pressure conditions (500 hPa to 1060 hPa) to maintain functionality.

FOLLOW CLEANING PROTOCOLS

When disinfecting the EDU, use cleaning products that do not damage its surface or materials. Avoid strong acids, alkalis, and abrasive cleaning methods.

SAFETY RISKS TO AVOID FOR INSTALLATION AND USE

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AVOID SIDE LOADS

Refrain from allowing side loads on the EDU, as this may result in malfunction or damage. The maximum allowable side load is specified as 50 N.

DO NOT RELY ON HYDRAULIC BLOCKING FOR SAFETY

While the cylinder movement can be hydraulically blocked, this does not constitute a mechanical lock. Therefore, it should not be used as a safety stay.

DO NOT EXCEED LOAD SPECIFICATIONS

Ensure that the nominal working force does not exceed approximately 70% of the maximum specified force to guarantee full functionality under all circumstances.

AVOID OPERATING OUTSIDE BUILT-IN ORIENTATION

Do not operate the pump or pull out the main plunger if the EDU is not in its designated built-in orientation, as this may introduce air into the system.

DO NOT STORE IMPROPERLY

Ensure that the EDU is stored in conditions that prevent exposure to extreme temperatures or humidity outside the specified ranges.

AVOID DIRECT WATER SPRAY

When cleaning, do not spray water directly into the cover or wiring inlet, and maintain a safe distance to prevent damage to the EDU, especially for the BLDC series.

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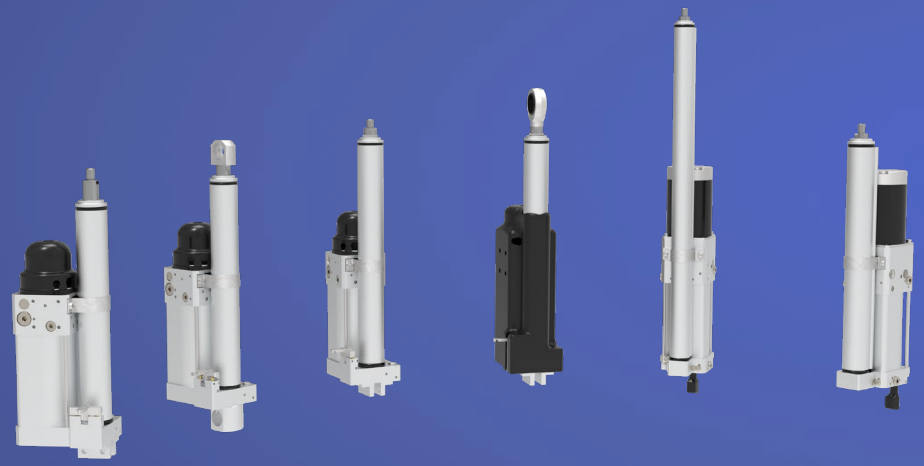

ABOUT US

At Power-Packer, we are committed to delivering high-quality solutions, adhering to strict safety standards, and pursuing continuous improvement. Our product portfolio includes cab tilt systems, hood lift actuation, locking mechanisms, drive systems for convertible rooftops, manual-hydraulic and electro-hydraulic actuators for medical applications, stabilization legs, and more.

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