Compact EHA
Electro-Hydraulic Actuators for high power density applications
Introducing Compact EHA ...

The new Compact EHA from Parker delivers powerful, reliable linear movement. Compact EHA is a fully self-contained electro-hydraulic actuator which combines high power density with light weight, low noise level and a small envelope. Simple “plug ‘n play” functionality makes Compact EHA the ideal solution for applications where other conventional linear movement technologies lack the power, speed and durability of compact hydraulics.

Available for 12V and 24V DC operation, Compact EHA is suitable for a wide range of mobile, light industrial and domestic applications.

Where Can I Use Compact EHA?

Turf Care/Lawn & Garden
• Deck lifts
• Mower blade lifts
• Golf course sprayer/sweeper

Marine
• Jack plates
• Hatches
• Yacht transom actuators

Material Handling
• Pallet lifts
• Lift tables
• Scissors tables
• Light aircraft tug

Truck & All Terrain/Utility Vehicle
• Tailgate locks
• Utility vehicle attachments
• Cart/trailer bed lifts

Military/Security
• Door opening
• Hatch lifting
• Cab lifts
• Armoured vehicle attachments

Construction
• Attachment locks
• Skid steer bucket levelling
• Plough/blade positioning

Renewable Energy
• Solar panel positioning
• Wind turbine rotor locks

Agriculture
• Chute positioners
• Sprayer arm lifts

Medical/patient handling
• Stretchers & beds
• Ambulance cots
• Wheelchair access ramps
• Kneeling handicap vans
7 Internal Fluid Reservoir
Long working life depends on clean hydraulic fluid. All Parker Compact EHAs are flushed, filled and sealed for life under controlled conditions during manufacture, to ensure that no contaminants enter the hydraulic system. The fluid is contained in an internal reservoir cast into the one-piece housing, so that it remains as clean as the day it was filled.

8 Manual Release
The optional manual release allows the operator to manually move the rod as needed under emergency conditions.

Easy to Install and Connect
Compact EHA is designed to make commissioning as simple as possible. The motor is connected to a suitable power supply and switching circuit, and the rod or base end is secured with a pivot pin. The unit is then actuated to align the opposite pivot pin connection, and the pin inserted to secure. And that’s it – your Compact EHA is ready for use.

Maintenance
Because the Compact EHA is flushed, filled and sealed for life, there is virtually no maintenance required. This, in combination with the anodized housing, stainless steel rod and rugged seals and components, provides a long service life with reduced warranty costs.

Specification

Complete Compact EHA Solutions
Our engineers are expert in the design of complete actuation systems. Where your requirement includes custom actuators, cable harnesses, switchgear and power supplies, please contact us.

Specification

Actuator
Type hydraulic, double-acting
Bore sizes 25.4mm, 31.8mm, 36.5mm
Standard stroke lengths 102mm, 152mm, 203mm
Piston rod diameters 14.2mm, 15.9mm, 19.1mm
Standard mounting pin diameters 6.4mm, 9.5mm, 12.7mm

Motor
Motor types 12V DC, 245W (motor A)
12V DC, 560W (motor B)
24V DC, 245W (motor C)
24V DC, 560W (motor D)

Leads – length 1.5m
Leads – cross section 2.5mm² (motors A & C)
4mm² (motors B & D)

Connector type ring terminals, 6.6mm I/D

Pump
Pump type gear, reversible
Pump capacities .100 gear = .16cc/rev
.190 gear = .31cc/rev
.250 gear = .41cc/rev
.327 gear = .53cc/rev

Fluid medium automatic transmission fluid (ATF)

Circuit
Sealed hydraulic circuit with integrated pump, motor, actuator and reservoir, relief, thermal, check and back pressure valves.

Certification and Testing
Vibration (minimum integrity test) MIL-STD-810F
Sealing IP65 and IP67
Salt spray 1000 hours per ASTM B117
CE marked in conformity with Machinery Directive 2006/42/EC

For other application-specific approvals, please consult factory.

Performance
Maximum force – extend 21.35kN
Maximum force – retract 16.00kN
Maximum speed 84mm/s
Duty cycle see page 5

General
Construction – body anodized cast aluminium, one-piece
Construction – piston rod stainless steel
Orientation universal
Manual release option retained, for emergency use only
Operating temperature range -34°C to +65°C
Noise level < 70dBA
Weight see page 6
Actuator Forces and Speeds
The maximum forces and speeds available on rod extension, with corresponding current draw, are shown below for different combinations of motor, pump and cylinder bore. The curves relate to the different pump sizes available – see page 3.

Motors C and D
Current draw for Motor C (24V DC, 245 W) and Motor D (24V DC, 560 W) will be approximately half of the current draws shown for motors A and B respectively.

Note: this performance data is based on rod extension, not retraction, and is supplied for guidance only.

Retraction Forces
The maximum force available on rod retraction is lower than the extension force due to the presence of the piston rod, which reduces the effective surface area of the piston. When the force required to retract the piston rod approaches that required for extension, please contact the factory.
Hydraulic Schematic

Suggested Diagram for Wiring

Standard Motor Duty Cycle Characteristics

S2 Time at constant load followed by ‘off’ time to allow the motor to cool to ambient temperature.

S3 Percentage of ‘on’ time in a repetitive 10 minute cycle.
**Model Dimensions**

### Dimensions

![Diagram of Compact EHA with dimensions]

<table>
<thead>
<tr>
<th>X Rod Ø</th>
<th>A Ø</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2</td>
<td>6.4</td>
</tr>
<tr>
<td>15.9</td>
<td>9.5</td>
</tr>
<tr>
<td>19.1</td>
<td>12.7</td>
</tr>
</tbody>
</table>

### Weights

To calculate the weight of a standard Compact EHA, identify the weight of the basic unit from the left hand columns, then add the corresponding weight for the motor required. For other bore/rod combinations, where weight is critical, please contact the factory.

All dimensions are in millimetres unless otherwise stated.

### Warning

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker-Hannifin Corporation, its subsidiaries and authorized distributors provide product or system options for further investigation by users having technical expertise.

The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalog and in any other materials provided from Parker or its subsidiaries or authorized distributors.

To the extent that Parker or its subsidiaries or authorized distributors provide component or system options based upon data or specifications provided by the user, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the components or systems.

### Offer of Sale

Please contact your local Parker representative for a detailed offer of sale.

### About Us

Parker Hannifin is the world’s leading diversified manufacturer of motion and control technologies and systems, providing precision-engineered solutions for a wide variety of mobile, industrial and aerospace markets.

The company employs approximately 52,000 people in 48 countries around the world.

Visit us at www.parker.com
## Compact EHA Checklist

To ensure that we supply precisely the right Compact EHA for your application, please review the following aspects before contacting your Parker sales specialist.

### About your Application

What is your application?

What is the specific task to be performed by the Compact EHA?

<table>
<thead>
<tr>
<th>Force</th>
<th>see page 4</th>
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</thead>
<tbody>
<tr>
<td>What is the force needed – on extension</td>
<td>kN</td>
</tr>
<tr>
<td>– on retraction</td>
<td>kN</td>
</tr>
<tr>
<td>What is the maximum anticipated force on the unit?</td>
<td>kN</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Distance</th>
<th>see page 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the distance to be moved – 102mm (standard)</td>
<td></td>
</tr>
<tr>
<td>– 152mm (standard)</td>
<td></td>
</tr>
<tr>
<td>– 203mm (standard)</td>
<td></td>
</tr>
<tr>
<td>– other stroke length</td>
<td>mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Speed</th>
<th>see page 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the speed required – on extension</td>
<td>mm/s</td>
</tr>
<tr>
<td>– on retraction</td>
<td>mm/s</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mounting</th>
<th>see page 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance between standard pin centres (fully retracted)</td>
<td>mm</td>
</tr>
<tr>
<td>Other mounting types – base end</td>
<td></td>
</tr>
<tr>
<td>– rod end</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Environment</th>
<th>see page 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the operating temperature range?</td>
<td>°C</td>
</tr>
<tr>
<td>Hostile operating conditions – side loading</td>
<td></td>
</tr>
<tr>
<td>– vibration</td>
<td></td>
</tr>
<tr>
<td>– shock loading</td>
<td></td>
</tr>
<tr>
<td>– other</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duty Cycle</th>
<th>see page 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the duty cycle continuous or intermittent? (Continuous duty not available)</td>
<td></td>
</tr>
<tr>
<td>What is the – duration of cycles?</td>
<td></td>
</tr>
<tr>
<td>– time between cycles?</td>
<td></td>
</tr>
<tr>
<td>– number of cycles per day?</td>
<td></td>
</tr>
<tr>
<td>What is the product life requirement?</td>
<td></td>
</tr>
</tbody>
</table>

### About your Power Supply

see pages 3-4

<table>
<thead>
<tr>
<th>12V or 24V DC?</th>
<th>V</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the maximum allowable current draw?</td>
<td>A</td>
</tr>
<tr>
<td>Connector type? (standard leads – ring terminals)</td>
<td></td>
</tr>
</tbody>
</table>

Your Parker sales specialist will work with you to develop an accurate unit configuration which incorporates all the features required for your application. Please contact us for further information.