## THE STANDARD FOR SEAT RECLINE & CONTROL

The industry-standard Hydrolok<sup>®</sup> delivers an infinite range of adjustment options, with the longest lifespan, for the lowest total cost of ownership.

Infinite Adjustment Capability – Can go on any seat in the aircraft regardless of allowable recline; allows changes during cabin reconfiguration or seat refurbishment

Longest Service Life – Designed and tested for 250,000+ cycles for maximum reliability, with the longest standard warranty in the industry

Lowest Total Cost of Ownership – Lifetime savings on labor, repair, and replacement costs over both gas and other hydraulic locks

Quick & Easy Installation – Drop-in replacement for almost all recline locks in service saves time and labor

Industry-Standard Control Cables – Dependable push-button Control Cables offer low friction with minimal stretch and low button force for ease of operation

More Miles Flown – Over 500,000 Hydroloks and more than 1 million AC/MC Series Control Cables sold



# HYDROLOKS<sup>®</sup> & CONTROL CABLES





3000 Winona Avenue Burbank, California 91504 United States Mail: PO Box 7722 Burbank, California 91510 United States

Phone: +1 (818) 526-2600 **www.craneae.com** 

Hydroloks and Control Cables Brochure 2019.03.15 © 2019 Crane Aerospace Inc.



## HOW IT WORKS

The cylinder-and-piston design of the Hydrolok<sup>®</sup> uses an integral valve and porting system. This design gives passengers a smooth reclining motion by creating a controlled flow of hydraulic fluid from one side of the piston to the other.

All Hydroloks use Crane A&E proprietary hydraulic seal technology to prevent leaks and increase the life of the system. Hydroloks also have an auxiliary reservoir chamber that replenishes the very small amount of hydraulic fluid used with each passenger input. This assures consistent operation and long cycle life for operators.

## MARKETS/APPLICATIONS

#### Aircraft:

Main Cabin Seating Pilot and Crew Seats Storage Bins Crew Rest Modules Elevator and Door Actuation

#### Transportation:

Passenger Rail Charter / VIP and Public Buses Ferries

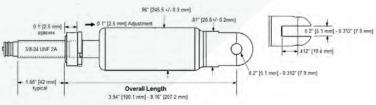
## HG HYDROLOK<sup>®</sup> SERIES



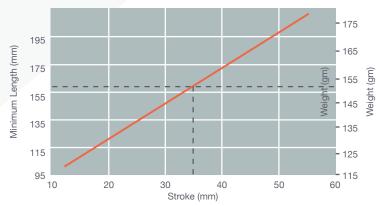
#### HG Features

- Extremely lightweight: as low as 0.26 lbs. (119 d)
- Best-in-class ultimate load of 4.000 lbf (16.444 N)
- Infinite adjustment capability
- Override safety feature
- Adjustable stroke
- Integral attachment end
- 4130 steel chrome-plated piston
- Proprietary hydraulic seal technology
- Anodized protective finish
- ▹ Continuous fluid compensation

#### HG Hydrolok® Schematic



#### HG Hydrolok<sup>®</sup> Minimum Length & Weight Vs. Stroke



#### Performance Specifications

Button force... ..6-12 lbf (26.7-53.7 N) Ultimate compressive load....4,500 lbf (20,017 N) Ultimate tensile load......4,000 lbf (17,793 N) .1,000 lbf (4,444 N) Operating load. ...0.3-0.6 sec/in. of stroke Speed to extend. Operational life. ..250,000 cycles

#### Customizable Options\*

Extend force40-130	lbf
Override force40-130	lbf
Stroke0.5-2.1 in. (12.7-53.3 n	nm)
OverallLength3.94-8.16.1 in.(100.1-207.2 n	nm)
Mounting ClevisCustomized to exact sp	ecs
*See graph	

AL HYDROLOK<sup>®</sup> SERIES

#### AL Standard Features

- Aluminum impact extruded cylinder
- Integral clevis attachment end
- 4130 steel chrome plated piston
- Proprietary hydraulic seal technology
- Anodized protective finish
- Continuous fluid compensation
- Tamper proof stroke adjustment
- Lockout setting
- Rigid locking at any position

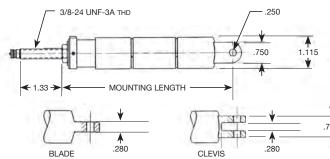
#### **Optional Features**

- Blade attachment ends
- Custom attachment ends/lengths

#### Performance Specifications

Override force......70 lbs. (311 N) Button force..... ....4 lbs. (14 N) Compression load....3000 lbs (13.3 kN) Tensile load.... ...3000 lbs. (13.3 kN) ..1500 lbs. (6.6 kN) Proof Load .. Nominal weight.. ...0.9oz (255 g) Speed to extend......0.4 sec. nominal Operational life .... ...250,000 cycles

### AL Hydrolok<sup>®</sup> Schematic



#### Mounting Length 6.1-9.8 in. (155-249 mm)

Available Stroke 0-1.380 in. (0-35.05 mm)

**Output Force Compressed\*** 95-120 lbs. (423-534 N) 105-140 lbs. (467-623 N) 135-145 lbs. (600-645 N)

#### **Output Force Extended\*** 65-80 lbs. (289-356 N) 65-85 lbs. (289-378 N) 70-80 lbs. (311-356 N) 75-80 lbs. (334-356 N)

\*Varies with mounting length

HL & HV Series

- Standard Features
- Machined aluminum cylinder Machined clevis attachment end
- 4130 steel chrome plated piston
- Proprietary hydraulic
- seal technology
- Anodized protective finish
- Automatic fluid replenishment
- Tamper proof stroke adjustment
- Lockout setting
- Rigid locking at any position

#### **Optional Features**

- Blade attachment ends
- Custom attachment ends/lengths

Performance Specifications Override force......70 lbs. (311 N) Button force.... Compression load....3000 lbs (13.3 kN) Tensile load.. Proof Load Nominal weight. Speed to extend.....0.4 sec. nominal Operational life... .....250,000 cycles

#### Mounting Length 6.1-9.8 in. (155-249 mm)

Available Stroke 0-1.380 in. (0-35.05 mm)

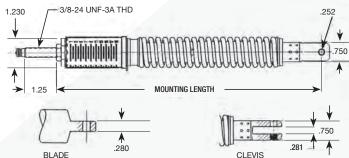
### **Output Force Compressed\*** 95-120 lbs. (423-534 N) 105-140 lbs. (467-623 N)

# **Output Force Extended\***

\*Varies with mounting length

..4 lbs. (14 N) ..3000 lbs. (13.3 kN) .1500 lbs. (6.6 kN) ...0.9oz (255 g)

#### HL/HV Hydrolok® Schematic



135-145 lbs. (600-645 N)

## 65-80 lbs. (289-356 N) 65-85 lbs. (289-378 N)

70-80 lbs. (311-356 N) 75-80 lbs. (334-356 N)

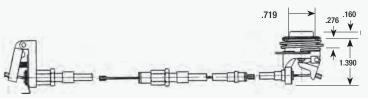
HL/HV HYDROLOK<sup>®</sup> SERIES

## HISTORY OF EXCELLENCE

Compact AA Hydrolok® - Completely interchangeable with most gas lock applications, the compact AA design is comparable to gas locks in size, weight and cost yet boasts up to three times the reliability. AA Hydroloks require virtually no maintenance.

AL Hydrolok® - Certified drop-in replacement for HV, HL and UL10 locks. Infinite adjustment of the lock for multiple seat pitch settings.





#### AC21 Control

Die cast aluminum output with guick release clip. Rugged injection molded button housing



#### AC71 Control

Die cast aluminum output with guick release clip. Injection molded button with low installation heigh