


Retraction System
Antivibration System
Quick Release System

TACTICAL UAS
MANNED ISR

mag line 

STANDARD EQUIPMENT INTERCHANGEABILITY



Quick Release system

Payloads are EXPENSIVE assets that can must be used across a number of different UAS, avoiding downtime for repair, maintenance and re-positioning of the vehicles to maximize the investment.

Quick Release system enables any payload to be replaced in less than a minute. This capability allows for different lower cost Gimbals to be installed to better configure UAV/Aircraft for the specific mission.

Quick Release can be mounted inside or mounted outside of a retract mechanism, so that the retract functionality is compatible with the quick release feature for multiple platform/payload interchangeability.

Antivibration and Retraction system

Payloads must be easily integrated in aircraft. For seamless integration Magline has delivered fine tuned dampers to avoid vibration that may affect imagery.

Along with dampers, Magline provides different machined plates which are configured to mount the gimbal at the right CG, avoiding pendulum effect to be noticeable in 2 axes stabilized gimbals.

For operation oriented customers, Retraction System provides an effective protection for the gimbals while in flight or even during storage. Retraction mechanism allows for less exposure of the gimbal to the airflow, extending maintenance times and reducing fuel consumption.



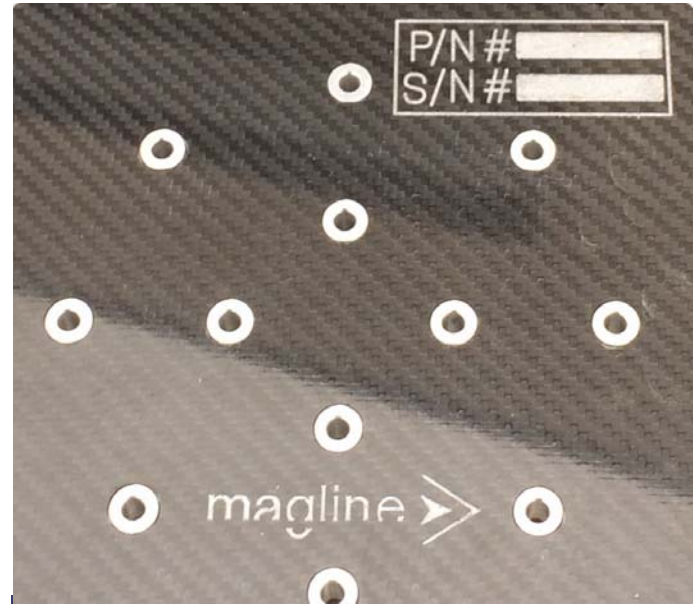
GIMBAL RETRACTION SYSTEM

Mechanical Description

Light and sturdy Carbon Fiber-Aluminum 7075 T-6 CNC construction.

4 units of 10 mm Stainless steel spindels with polymer nuts, guarantee a smooth and precise movement. The four spindels are actuated by two geared Maxon motors with a toothed belt system, ensuring their synchronous operation.

The external carbon fiber and honeycomb cover assure an additional protection



Flexible operation installation

It can be adapted to any gimbal camera (up to 10 inches diameter and 13 Kg weight)

The system can be secured to the vehicle by means of side mounts built in the carbon monoblock housing, or else it provides a pattern for standard quick release systems or structure mount pylons (4-square or 8-round patterns).

Extension length can be customized for the application and extended covers can also be cutout to match fuselage shapes and to isolate completely Payload compartment from the interior of a vehicle.



Interface & Comms

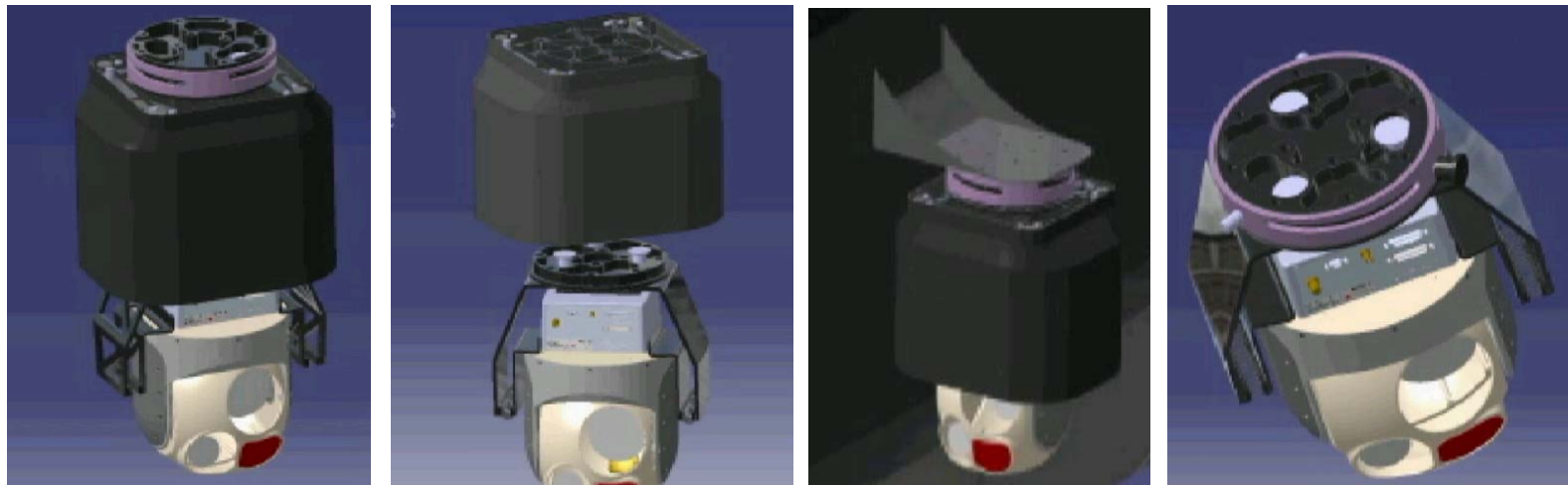
28 V DC standard configuration, (supplied at 12 or 24 V DC).

Can Bus device allows for communication with CAN protocol. Cloud Cap Piccolo compatible

As an option, wiring harnesses with Military connectors are supplied for quicker access to Payload connectors



RETRACT SYSTEM SPECIFICATION



Retraction System

Structure

7075 T-6 Aluminum construction

Aerospace grade materials & manufacturing processes

CNC machined body

High Tensile Strength Carbon Fiber Torsion Box

Mechanical

4 stainless steel spindles with polymer nuts

Ball bearings in top and bottom of the spindles

Spindels are moved by a toothed belt.

Free maintenance system

Electrical

2 Geared High quality Maxon motors (12, 24 or 28 V dc)

Can bus compatible with Piccolo

General speccs

Customizable extention travel (user defined up to 300 mm)

Longer travel available upon request

Available extended box trimmed to fuselage shape

Payload

Any gimbal up to 10 inches diameter and 15 Kg weight

General dimensions

280X280X240 mm

Payload area dimensions

10 inches camera

For additional information

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Magline is UTC Aerospace Systems distributor

for ISR systems (Cloud Cap Technologies) in EU

Magline is Cloud Cap Technolgies Center in Europe



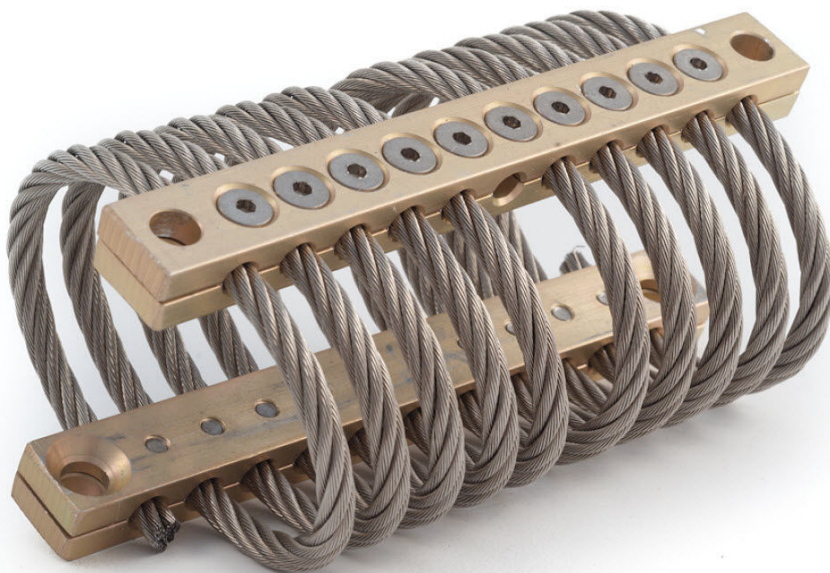
GIMBAL ANTIVIBRATION SYSTEM

Antivibration system

Light and sturdy 7075 T-6 Aluminum CNC machined sheet metal components.

Wire rope isolator dampers, ensure that Gimbal received filtered vibration level from the spectrum of vibration selected for the application.

Engineering department will characterize isolator types to filter our vibration spectrum that would affect the performance of imaging sensors and stabilization systems. Typically engine and rotor/propeller



Vibration systems account for operation restrictions, such as catapult launches or net recoveries peak loads, which would affect over time life endurance of the payload. Dynamic recovery/launch parameters are also taken into account to calculate static damping of the isolator.

Isolators benefit from free maintenance, and are calculated to be infinite life components as opposed to rubber isolators.

It mounts directly to Magline Quick Release System to better provide a complete turn key system for Gimbal Operations.

Benefits

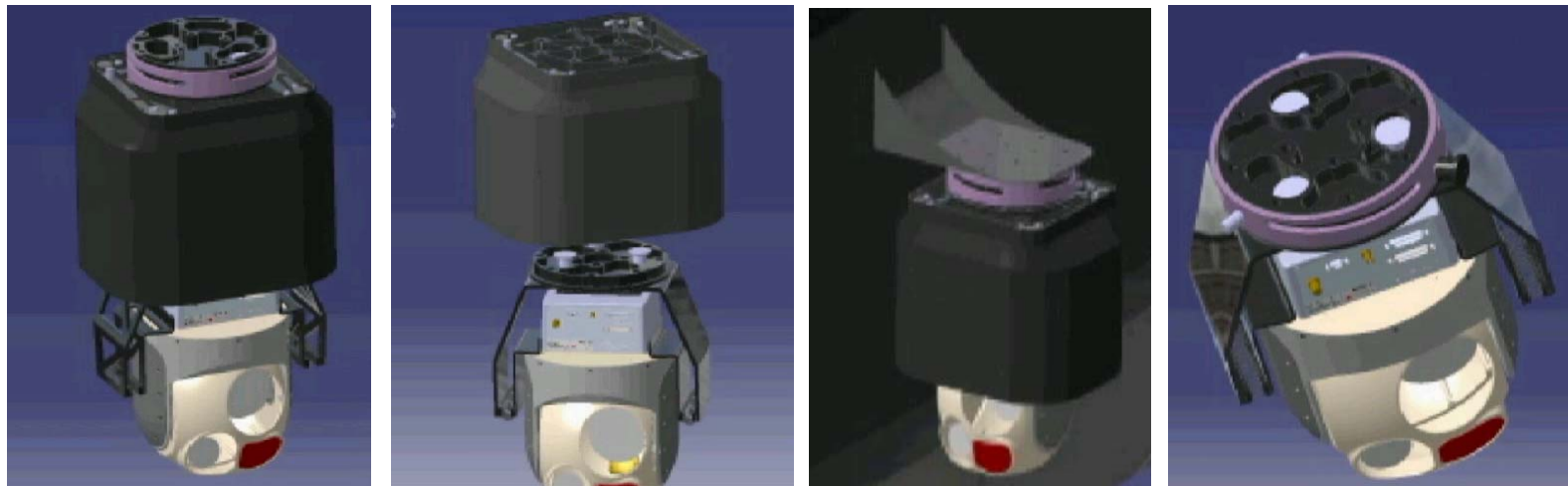
The system is different for each different gimbal, (200, 300 or 400)

Ensures perfect imagery captured by 2 axes gyro-stabilized gimbals that otherwise would deliver poor performance for pendulum effects and undersired vibration spectrum.

Gimbals pick up point are calculated at the center of gravity, so tilt movements are not generated with vehicle inertial motion.



ANTIVIBRATION SYSTEM SPECIFICATION



Anti Vibration System

Structure

7075 T-6 Aluminum construction

Aerospace grade materials & manufacturing processes

CNC machined body

Mechanical

Tuned wire rope isolators for any application

It hold the gimbal in the center of gravity

No tild movements generated by the movement of the vehicle

Free maintenance system

Payload

Tase 200-300 400

General dimensions

Fits Tase 200-300 and 400

height 70 mm

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GIMBAL QUICK RELEASE SYSTEM

Quick Release System

Light and robust 7075 T-6 Aluminum CNC machined components.

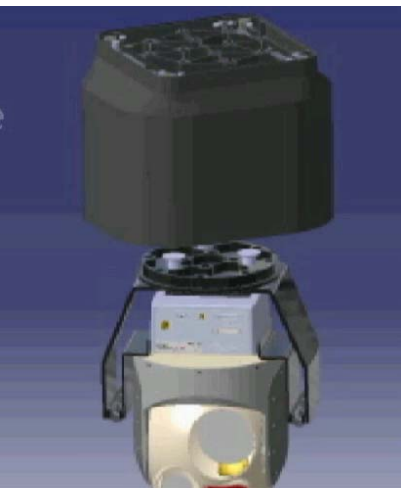
1/3 turn to ensure payload lock in place thanks to spring safety pin

Black anodized for airborne operations.

Quick release system allows for Gimbal interoperability, which maximizes payload air time and flexible operations with a variety of gimbal choices.

Lightweight versions for 10" Gimbal

It can be used directly with the Magline Retraction mechanism onboard UAVs (internally mounted), or on Manned aircraft (externally mounted)



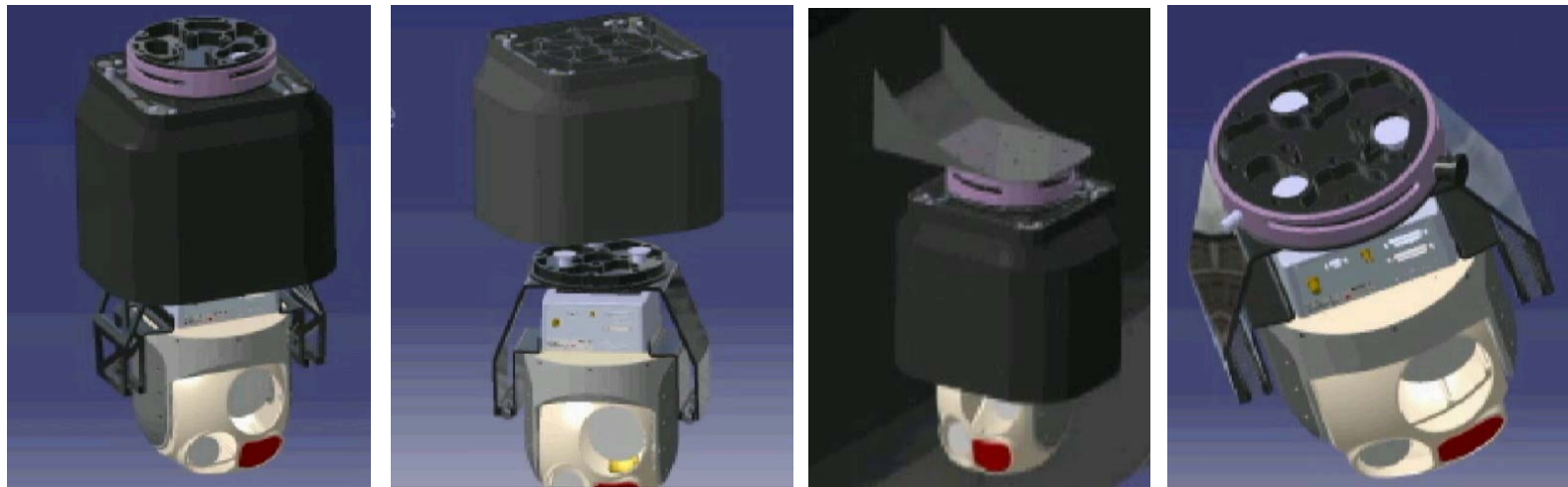
Benefits

Allows for Gimbal interchangeability to maximize equipment air time between platforms.

System fits almost any Payloads and vehicles. Also serves as quick release system for pedestals and antennae.

Designed to meet STC standards for Part 23 Certification

QUICK RELEASE SYSTEM SPECIFICATION



Quick Release System

Structure

7075 T-6 Aluminum construction

Aerospace grade materials & manufacturing processes

CNC machined body

Mechanical

3 pins spaced 120 degrees

1 safety pin to avoid the accidental aperture of the system

Slotted collar with 3 clamping pins

Free maintenance system

Payload

Any gimbal up to 10 inches diameter and 15 Kg weight

General dimensions

190 mm diameter

height 70 mm

Payload area dimensions

Up to 10 inches camera

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