

- 2X-3X higher throughput than competitors' units
- Exceptional reliability
- Automatic adjustment for filter distribution
- Easy OEM integration
- Adapters available for major microscopes
- No external controller needed
- Major software program support
- Optional external shutter driven from auxiliary port
- Optional reflection reducing angled filter pockets

FLI's high speed filter wheels represent a major leap forward in speed and reliability. Optimized hardware cuts move times in half even with a fully loaded wheel. Software does not need to be manually "tuned" to the number of filters or their locations. No bulky external controller box is needed. Up to three of the compact units can be daisy-chained from a single computer port. Life-time testing of the units has exceeded 250 million cycles.

## HS-625

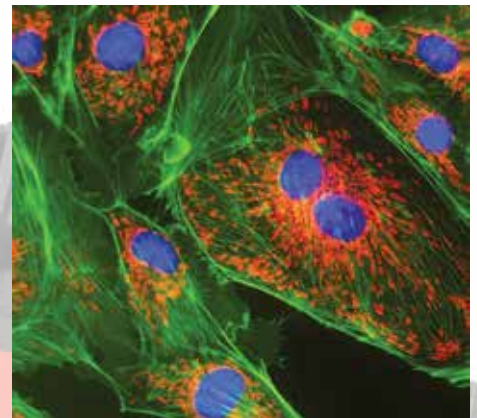
6 positions for 1" / 25mm filters  
23 msec to move to adjacent filter  
45 msec to move to opposite filter

## HS-1025 / HS-1032

10 positions for 1" / 25mm filters (HS-1025)  
10 positions for 32mm filters (HS-1032)  
30 msec to move to adjacent filter  
90 msec to move to opposite filter



High Speed Filter Wheel HS-625 with 6 positions for 1" / 25mm filters changes to the adjacent filter in as little as 23 milliseconds.



Filter wheel stands are available for added rigidity.



An optional manual control is available for the HS-625



The filter exchange port makes it simple to change filters

	HS-625	HS-1025	HS-1032
<b>Positions</b>	6	10	10
<b>Filter Size</b>	1" / 25mm	1" / 25 mm	32 mm
<b>Tolerance</b>	± 0.1 mm		
<b>Filter Thickness</b>	1-9 mm		
<b>Speed</b>	23 msec	30 msec	30 msec
<b>Weight</b>	2.5 lbs 1.14 kg	3.2 lbs 1.45 kg	3.2 lbs 1.45 kg
<b>Aux I/O</b>	Opto-isolated for ex. trigger or ex. shutter		
<b>Max Daisy-Chain</b>	3 HSFWs & 2 (optional) external shutters		

### Why are FLI's high speed filter wheels faster?

High performance brushless servo motors are more efficient than the stepper motors used in other systems. FLI's HSFWs use state-of-the-art semiconductor components, a high performance digital signal processor (DSP), and a sophisticated control algorithm. This control system continuously monitors the position of the wheel and adjusts the amount of torque delivered by the motor to get maximum speed with minimum vibration. When filters are added or removed, the controller automatically adapts to changes in load.

### Servo Motors are more reliable.

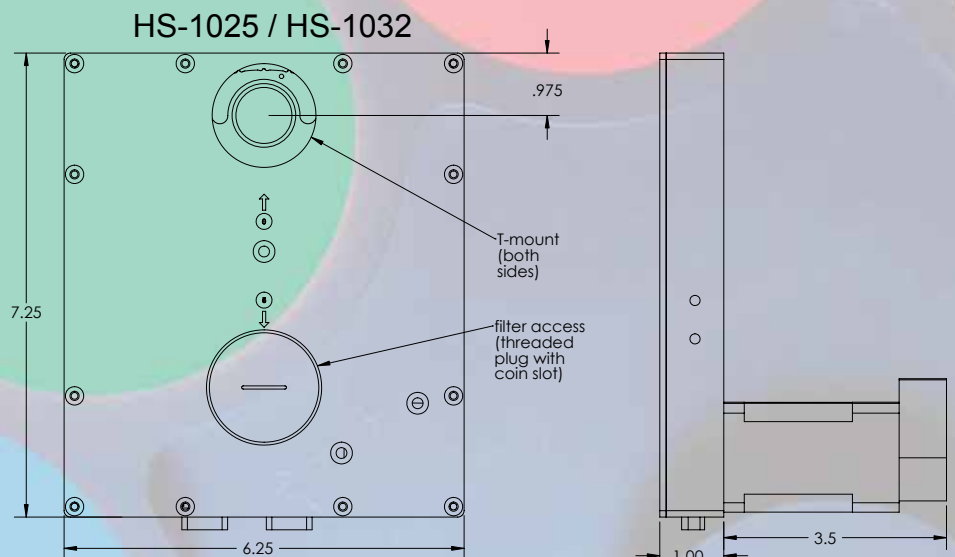
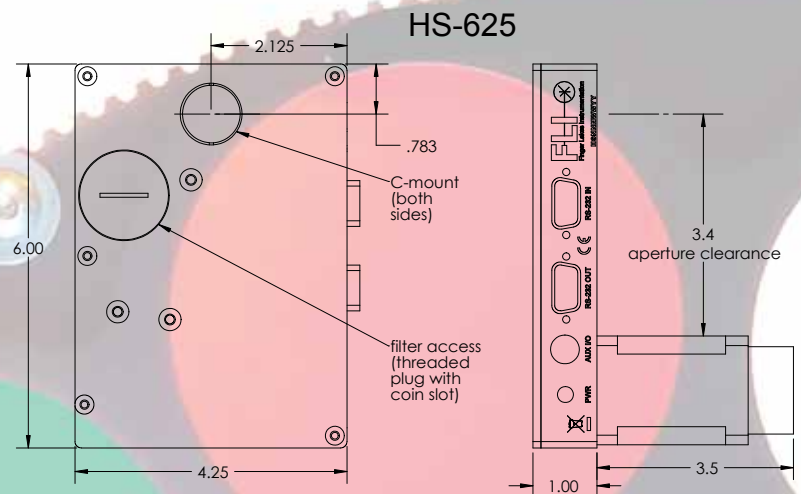
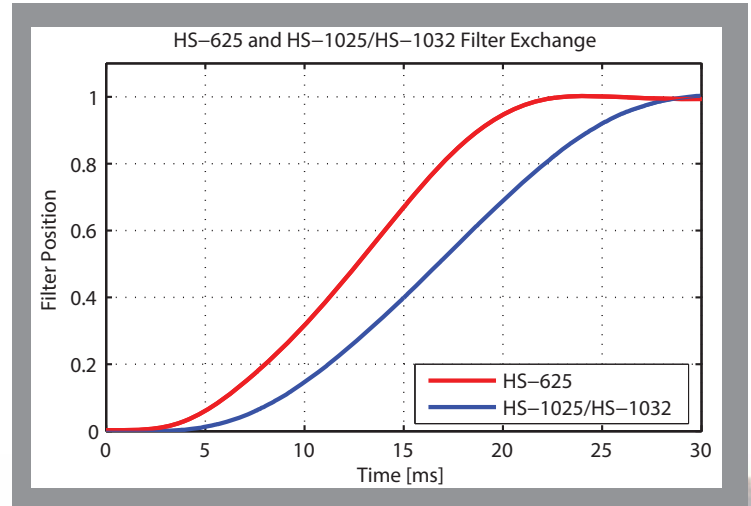
Encoder feedback provides more reliable positioning than open-loop stepper motors that can sometimes skip steps. In terms of usable lifetime, a HSFW continuously running at FLI has completed 250 million operations without a problem.

### Can the servo motor be replaced with a shorter motor?

The existing design has been optimized for lowest cost at highest speed. If you need a lower profile, there are alternative motors that will raise cost and potentially increase filter change time.

### Settling Time

FLI's Filter Exchange Chart (below) shows timing including settling, independent of load. The times given in the chart are valid independent of load distribution.



FLI also manufactures a wide variety of cooled CCD cameras and standard speed color filter wheels.