

LiveDrive® for Frameless

**Compact.  
Powerful.  
Adaptable.**



# Genesis LiveDrive® LDX Frameless 1800 Series



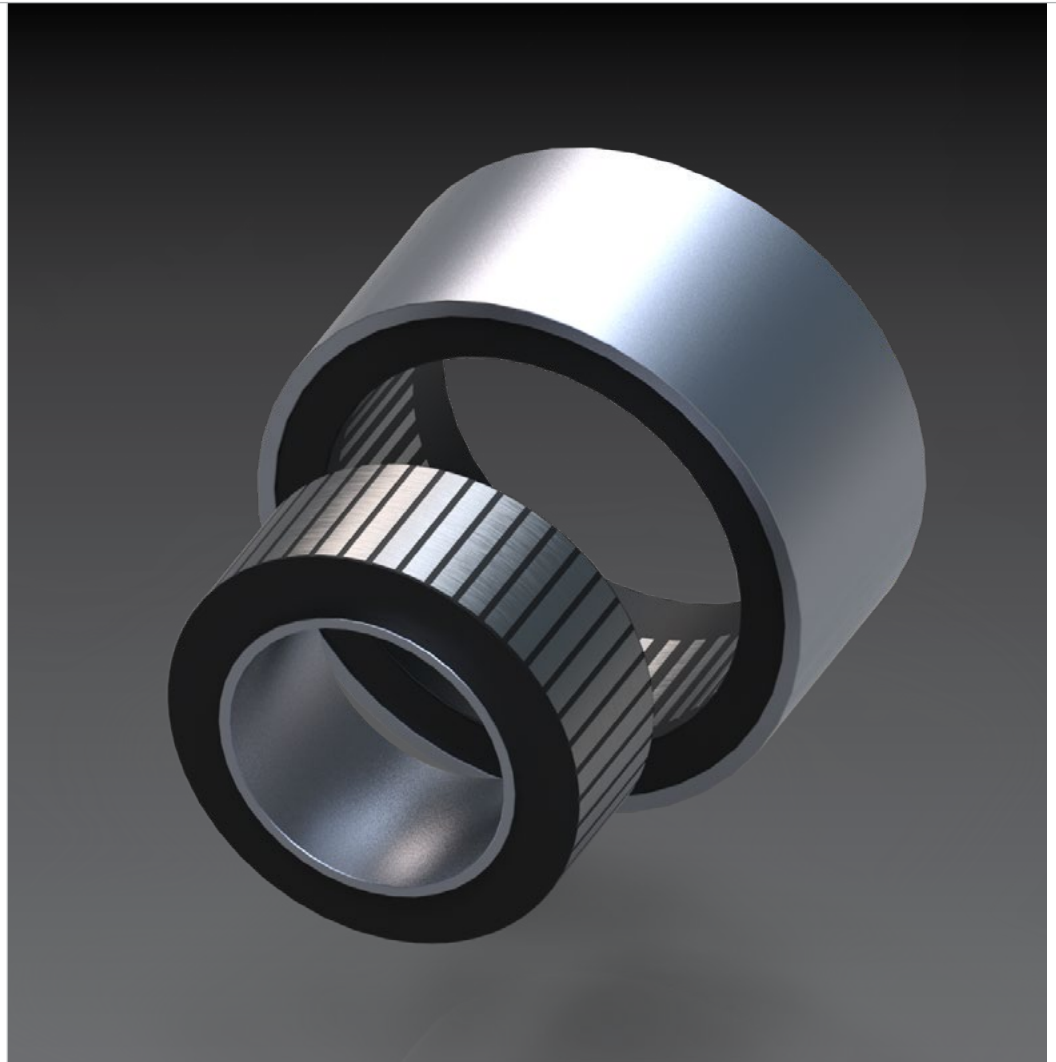
Genesis Robotics &  
Motion Technologies

[genesisrobotics.com](https://www.genesisrobotics.com)

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# Features & Benefits

## LiveDrive® LDX Frameless



**Compact.  
Powerful.  
Adaptable.**

LiveDrive® LDX frameless motors provide superior torque with design flexibility. If you need higher performance with fewer mechanical constraints, our unique technology platform provides all the benefits of a frameless motor in an even more compact and powerful package. It is suitable for a wide range of applications where torque, precision, size, or weight are vital to your operations.

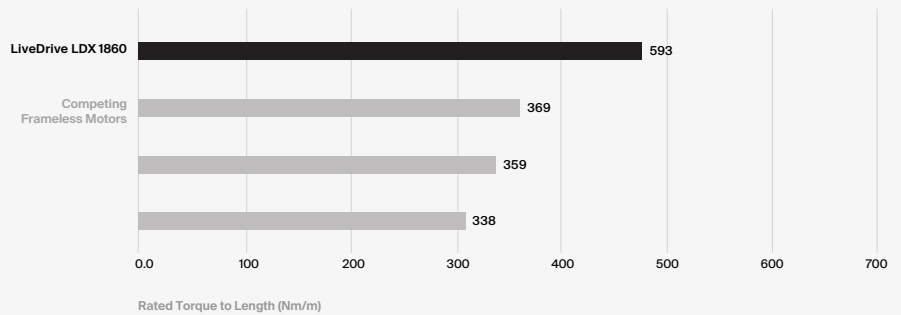
- Industry-highest torque density, for increased performance and reduced machine complexity
- Direct drive precision, designed for accurate positioning and smooth motion
- Large through-bore shaft provides flexibility in overall design and cable management
- Multiple voltages suited for industrial power sources, both 480 and 230 VAC
- Adhesive bonded interfaces on stator and rotor provide flexibility in mechanical integration
- Temperature detectors monitor each phase, providing safety without sacrificing performance

### Get in touch with us for detailed performance data.

We know your application may have unique requirements. Our experienced team can work with you to optimize a solution. Everything from voltage source, motion profiles, cooling methods, mounting requirements, environmental protection, lead lengths, sensors, connectors and more.

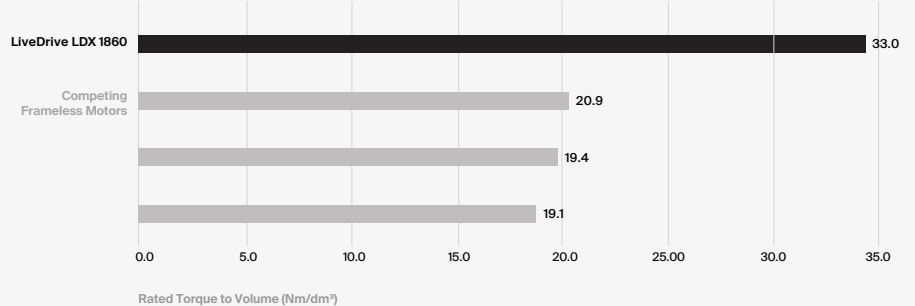
### Higher Torque to Length Move Larger Payloads

Rated Torque  
to Length (Nm/m)



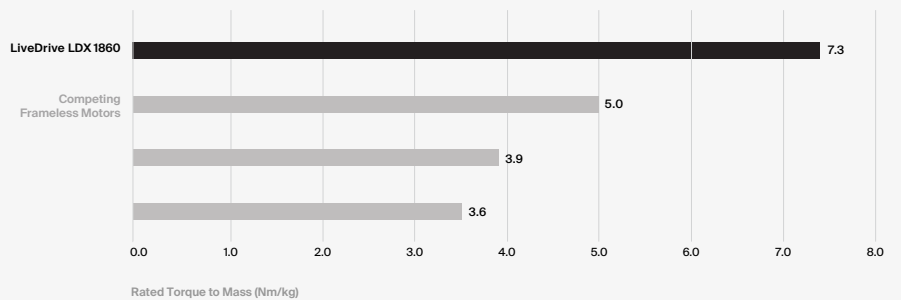
### Higher Torque to Volume More Compact Machines

Rated Torque  
to Volume (Nm/dm<sup>3</sup>)



### Higher Torque to Mass Optimized Solutions

Rated Torque  
to Mass (Nm/kg)



# Applications

**Higher performance with fewer constraints. LiveDrive® LDX frameless motors provide all the benefits of the frameless architecture in a more compact and powerful package.**

## **Highest Industry Torque**

LiveDrive® LDX frameless motors provide superior torque with design flexibility. With the industry-highest torque, you can move higher payloads faster.

## **Smaller Form Factor**

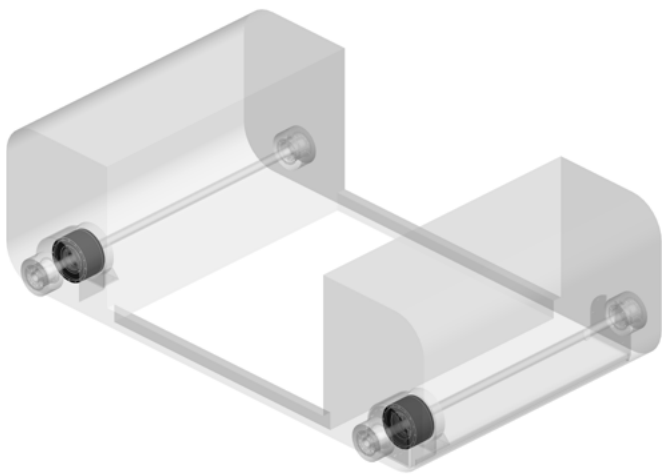
With a compact footprint, the LDX frameless allows you more design flexibility with less weight and floor space to drive more value from your machinery.

## **Simplified Design**

Commission a system quickly by managing fewer parts in the supply chain. A simpler design without drive sub assemblies, such as gears and belts to maintain.

## **Easier Integration**

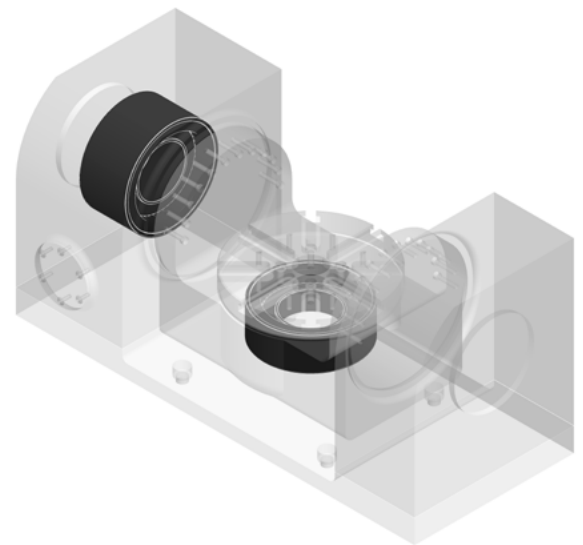
Large through-bore shaft provides flexibility in overall design and cable management. Standard and custom windings for any system voltage or application.



## **Mobile Robots**

Industry-highest torque density to optimize your drivetrains by removing gears, belts, and chains in AMR and AS/RS.

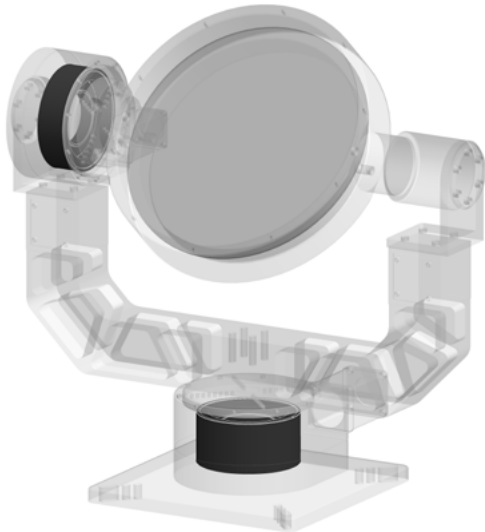
- Lower-height shuttle designs
- Reduced unplanned downtime
- Minimal part inventory
- Simplified supplier base



## **CNC Indexing**

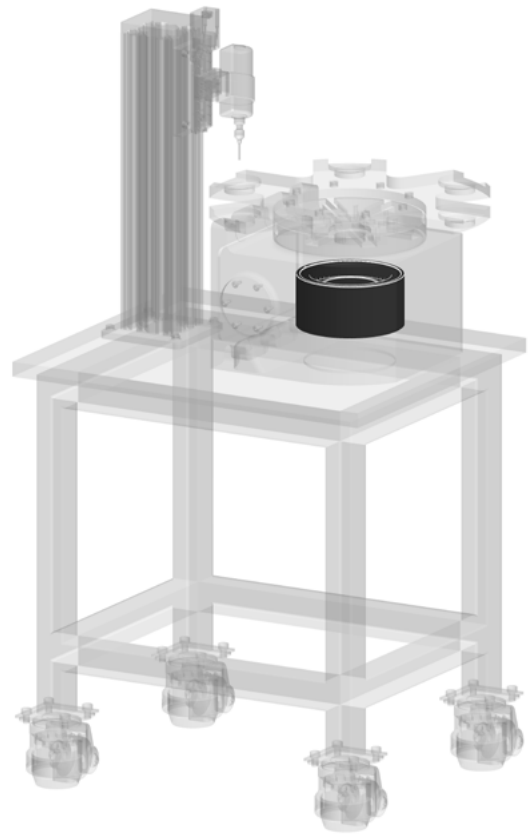
Compact form factor for higher capacity in 1- or 2-axis positioning stages.

- Higher payload
- Larger work pieces
- Tool and part flexibility
- High stiffness for more accurate cuts



## Gimbal

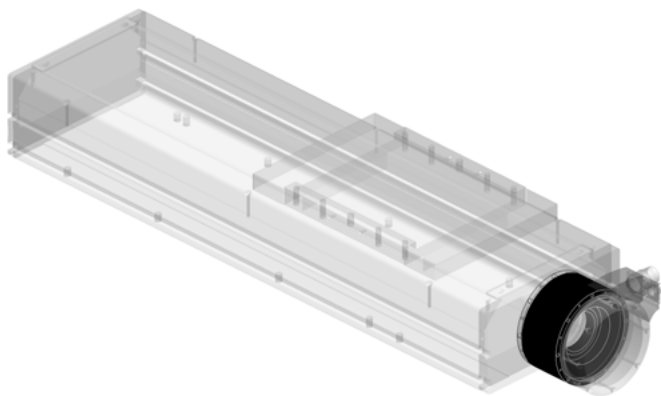
High torque density enables more optimized sensor packages in a smaller mounting area. Smaller size, reduced weight and lower volume.



## Assembly Indexing

Remove gear stages from linear actuation assemblies. No backlash, higher speed and smaller size.

- Better accuracy and smoother motion
- Higher payload
- Faster cycle times from higher acceleration
- Higher throughput



## Linear Actuation

Optimize drivetrains by removing gears, belts, and chains in AMR and AS/RS systems.

- Higher forces without increasing actuator size
- Enables compact in-line actuator designs
- Increased MTBF
- Reduced MTTR



## Have a unique application?

The product team at Genesis Robotics will work with you to create custom solutions for your application.

Contact us for more information on evaluation units and development partnerships.

# Specifications & Performance

## Specifications

Models		LDX 1820A/B	LDX 1830A/B	LDX 1841A/B	LDX 1850A/B	LDX 1860A/B
Outer Diameter	mm	175	175	175	175	175
Inner Diameter	mm	88	88	88	88	88
Stack Length	mm	12.5	25	50	75	100
Overall Length	mm	41	53	79	104	129
Overall Mass	kg	2.2	3.3	5.8	8.1	10.4
Rotor Inertia	kg m <sup>2</sup>	0.0024	0.0045	0.0088	0.0131	0.0175

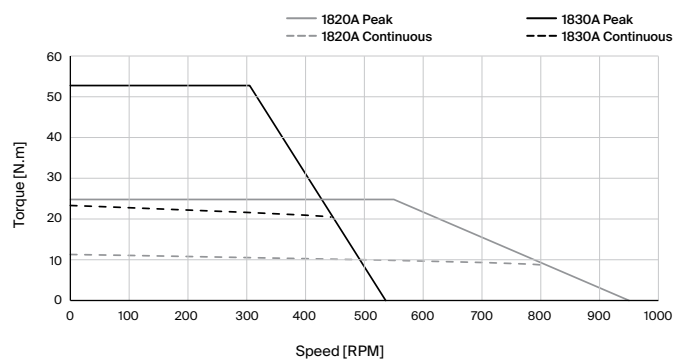
## Performance

Peak Torque	Nm	26	53	105	152	200
Continuous Torque	Nm	11.8	23.6	39.3	62.0	76.2
Voltage Options	VAC	480/230	480/230	480/230	480/230	480/230
Continuous Power Loss	W	228	328	349	552	600

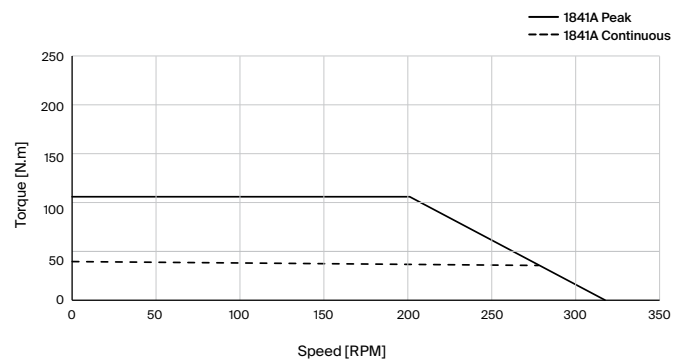
Preliminary specifications within +/-10%. Performance is rated at 145°C winding temperature and 20°C ambient temperature when housed with a heat sink equivalent to an aluminum plate of 400mm x 400mm x 12.7mm size for 1860, 1850 models and 300mm x 300mm x 12.7mm size for 1841, 1830, 1820 models.

## Performance

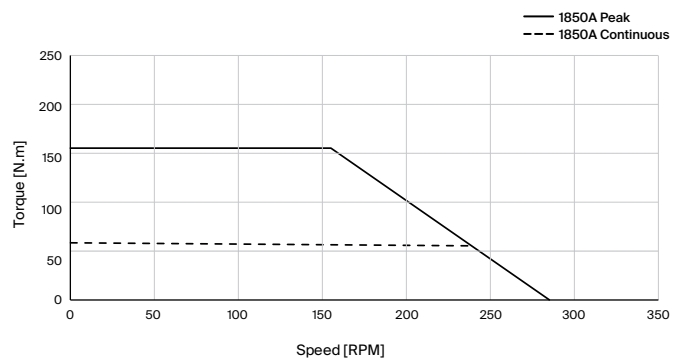
Performance Curves 1820 & 1830



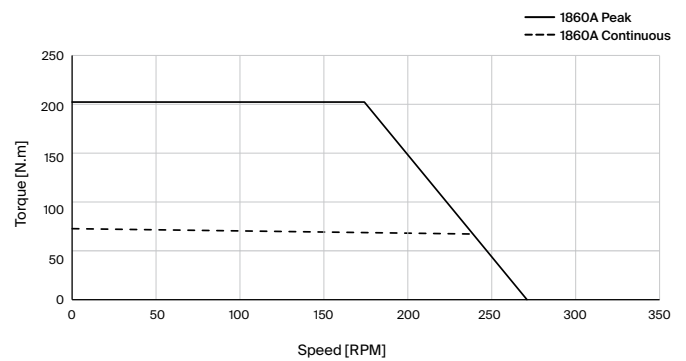
Performance Curves 1841



Performance Curves 1850



Performance Curves 1860





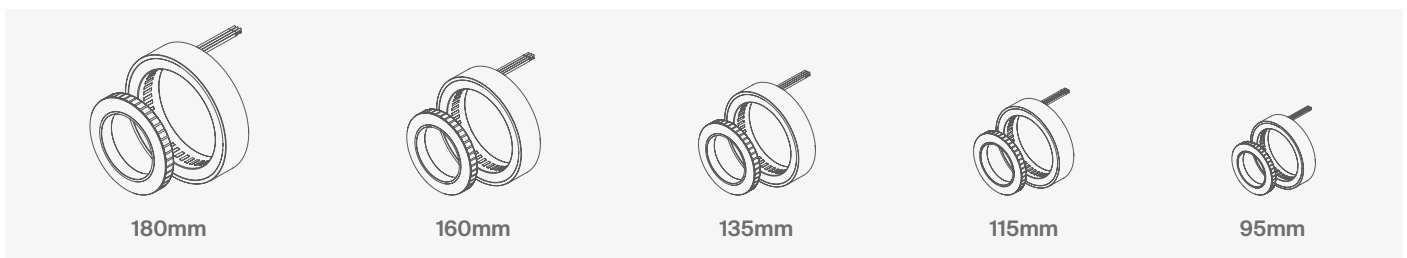
## LiveDrive® LDX frameless motors have the highest torque in the industry.

With several frame sizes in development (from 95mm OD and higher) you have a unique opportunity to evaluate LiveDrive® LDX hardware for your application prior to product launch. Contact us for evaluation in your applications, hardware availability starting Q3 2022.

Let us help you take advantage of the industry leading torque density of the LDX frameless to simplify your machine, increase performance or to differentiate your products from the competition.

## LDX Frameless Product Roadmap

Evaluation available Q3 2022 | Product available Q1 2023





# Motion Redefined.

A KOCH ENGINEERED SOLUTIONS COMPANY



## Engineered for you.

**Genesis Robotics & Motion Technologies** specializes in disruptive direct drive motors and novel geared actuators.

Located in Vancouver, Canada, and with offices expanding across Europe, our mission is to deliver value to our customers by solving some of the most challenging robotics and automation problems in the world.

### Our team brings these core capabilities to every project:

- Advanced modeling and simulation tools to demonstrate the LiveDrive® advantage in your applications.
- Strong commitment to building mutually successful relationships.
- Taking concepts from design to prototype in as little as 6 weeks
- Customized configurations and solutions for clients available to specification.

## Contact

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