



# ELEMENT MODULAR TRANSMISSION SYSTEM

**Tailored to niche applications, the Element transmission range is designed to reduce time and cost of product development of electrified propulsion systems for high performance and specialised platforms.**

With an adaptable range of torque variants and gear ratio options and compatible with a range of motors, Element offers a selection of ready-to-deploy pre-engineered baseline configurations which can be fully customised to meet unique project requirements.

Choose from our baseline designs\* for low-volume rapid prototyping, or customise for efficient, low-engineering effort product development.

	Simple Planet	Stepped Planet
High Torque	800 - 1600 Nm 1.6:1 - 4:1	Contact us about this requirement
Mid Torque	274 - 970 Nm 4.3:1-7:1	274 - 970 Nm 7:1-10.3:1
Low Torque	100 - 400 Nm 4.3:1 - 7:1	100-400 Nm 7:1 - 10.3:1

## FEATURES

- **Pre-engineered baseline design options manufactured to order** in niche volumes for rapid prototyping
- **Customisable with a range of torque variants and gear ratio options** for cost-effective, low-engineering effort product development
- Suitable for a range of powertrain platforms including **electric, hybrid, and hydrogen fuel cell applications**
- **Plug and play compatible** with a range of motors
- Ideal of **space constrained environments**
- Available **stand-alone or as part of our electric drive unit solutions**

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	High Torque	Mid Torque	Low Torque
<b>Torque range</b>	800 - 1600 Nm	274 -970 Nm	100 - 400 Nm
<b>Max input speed</b>	10,000 RPM	20,000 RPM	25,000 RPM
<b>Ratio range</b>	1.6:1 - 4:1	4.3:1 - 10.3:1	4.3:1 - 10.3-1
<b>Configuration</b>	Single planet	Single or compound planet	Single or compound planet
<b>Weight</b>	~25 KG	~15 KG	~ 13 KG
<b>Lubrication</b>	Splash	Splash	Splash
<b>Cooling</b>	Coolant (jacket) or splash (wet sump)	Coolant (jacket) or splash (wet sump)	Coolant (jacket) or splash (wet sump)
<b>Motor compatibility</b>	Helix SPC330 platform EMPEL EM250	Helix SPC242 platform EMPEL EM200, EM250	Helix SPC242 platform EMPEL EM200, EM250
<b>Speeds</b>	Single	Single	Single
<b>Park brake</b>	No	No	No
<b>Case</b>	Aluminium	Aluminium	Aluminium
<b>Differential</b>	None	None	None

Ricardo's Element Modular Transmission System is available in low-volumes to support prototype, product development, and series supply. They are supplied in programmes based on the following options:

#### PRE-ENGINEERED RANGE

A range of pre-engineered units\* ready-to-deploy for rapid prototyping and product development.

- ✓ Sold to specification
- ✓ No additional services provided

#### CUSTOMISED ORDER

Customised order based on the pre-engineered Element range and tailored to the bespoke specifications of a client's platform.

- ✓ Based on existing Element range
- ✓ Engineering services provided
- ✓ Additional lead times expected

#### A TRUSTED DEVELOPMENT PARTNER

Ricardo is a world-leader in the design, manufacture and test of transmissions for high performance and specialised applications. For over 50 years we have provided the very best, highly optimised, bespoke solutions to top-tier motorsport, premium automotive, and defence customers.

We **supply our transmissions direct to OEMs, tiered suppliers, race teams, prime contractors, and design authorities** to enable cost-effective product development of decarbonised propulsion systems for markets where reliability, durability, and performance are critical.

\*specifications available on request

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