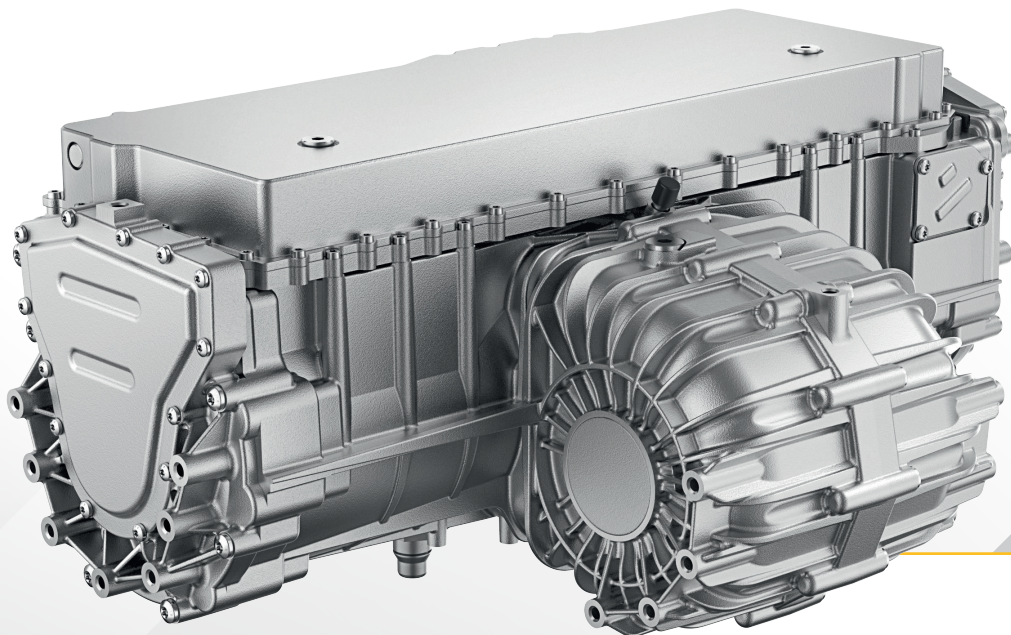


>>>> FACT SHEET

# HIGH PERFORMANCE TORQUE VECTORING EDU



## CONTENT



General Function



Technology



Benefits



Performance

# HIGH SYSTEM PERFORMANCE AND EFFICIENCY

The High Performance Torque Vectoring Electric Drive Unit (EDU) is built up with two similar single EDUs. As each of the single EDUs is controlled like a standalone EDU, active torque vectoring is possible. This feature increases the driving stability of the vehicle. The dual-motor system combines high-efficiency and agility together with an outstanding handling

in only one housing. In combination with our SiC-technology we are also able to reach a high efficiency level. A cooling system designed for high power and the optional parking lock complete this high-performance powertrain system.

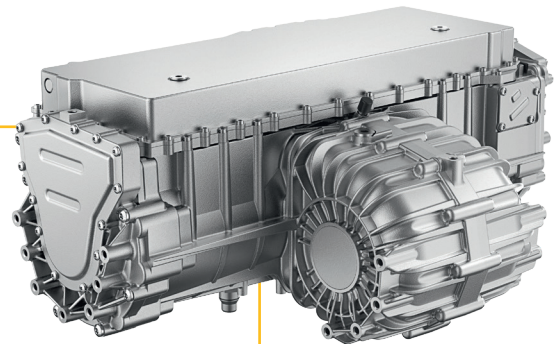
## TECHNOLOGY

Each of the vehicles wheels can accelerate or slow down its speed according to the driving situation. The power of the electric motors is transferred to the half-shafts using a two-stage spur gear system – for optimal torque vectoring implementation. This EDU version is primarily used in high powered vehicles or all-wheel drive systems.



### BENEFITS

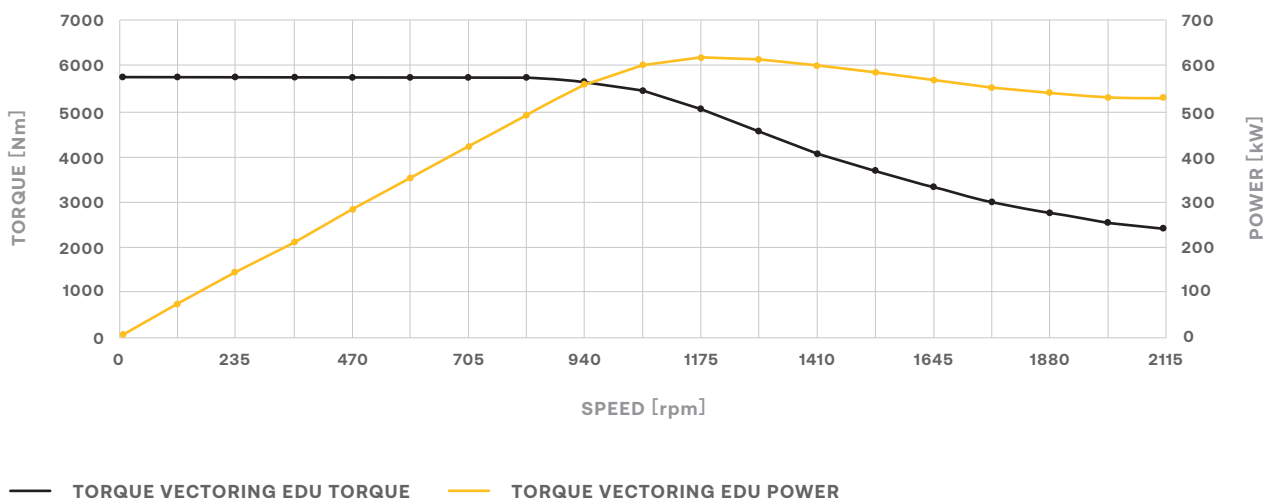
- + Active Torque Vectoring
- + High system performance and efficiency
- + Many years of competence in system integration at hofer powertrain



# PERFORMANCE

EDU ARCHITECTURE		HPTV EDU	
NOMINAL VOLTAGE	U	650	[V]
VOLTAGE CLASS	U	800	[V]
EM TYPE		2 x PMSM	[-]
INVERTER TYPE		800V SiC Dual Inverter	[-]
PEAK AXLE POWER (30 S)	$P_{max}$	614	[kW]
CONT. AXLE POWER (30MIN @ MAX. SPEED)	$P_{cont}$	297	[kW]
PEAK AXLE TORQUE (30 S)	$M_{max}$	5720	[Nm]
CONT. AXLE TORQUE (30 MIN)	$M_{cont}$	2000	[Nm]
MAX. AXLE SPEED	$n_{opax}$	2100	[rpm]
WEIGHT	m	< 130	[kg]

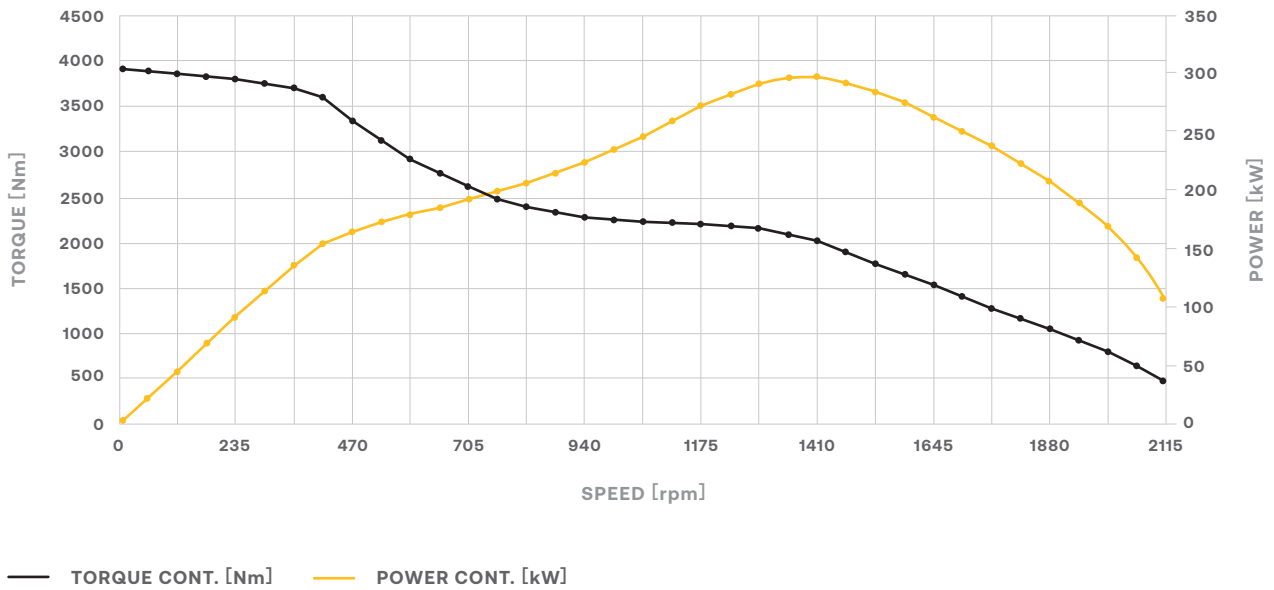
## PEAK PERFORMANCE OF HPTV EDU 30 S @650 V



## BOUNDARY CONDITIONS

- + Motor Typ: PMSM
- + Stator outer diameter: 195 mm
- + Active part length: 114 mm
- + Voltage utilization: 0.95
- + Stator temperature: 120 °C
- + Rotor temperature: 90 °C
- + Current density: 37.1 ARMS/mm<sup>2</sup>
- + Transmission eff.: 97 %
- + Peak time: 30 s

## CONT. PERFORMANCE OF HPTV @650 V



## BOUNDARY CONDITIONS

- + Voltage: 650 V
- + Motor typ: PMSM
- + Stator outer diameter: 195 mm
- + Active part length: 114 mm
- + Voltage utilization: 0.95
- + Stator temperature: 180 °C
- + Rotor temperature: 165 °C
- + Transmission eff.: 97 %
- + Simulation duration: 30 min
- + Coolant Water/ Glycol: 50:50
- + Coolant flow: 8.5 l/ min
- + Inlet temperature: 65 °C

# YOUR CONTACT

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