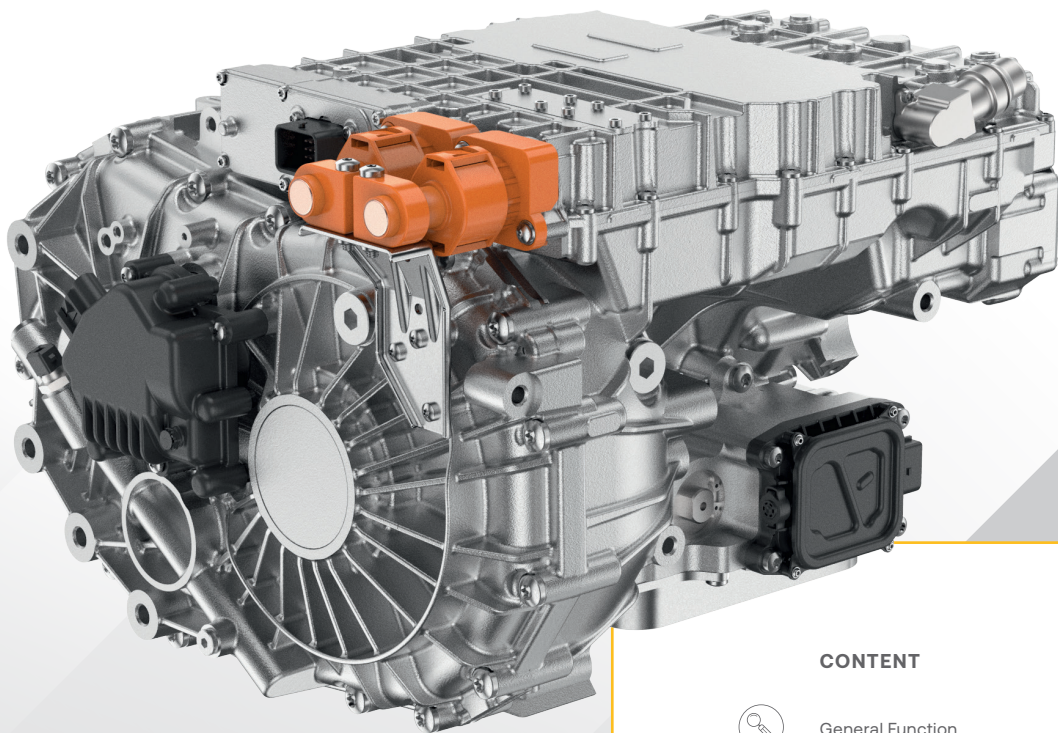


>>>> FACT SHEET

# OFFSET EDU

## OPTIONAL WITH TWO-SPEED



### CONTENT



General Function



Technology



Benefits



Performance

# INNOVATIVE OFFSET EDU WITH TWO-SPEED CAPABILITY

The Offset Electric Drive Unit (EDU) is characterized by its very compact design. For a high power density, a permanent magnet synchronous motor is used. The electric motor and the power electronics can be configured in modular form. Due to the optional two-speed transmission, the perfect ratio between torque, speed and efficiency can be chosen. A parking lock

system can also be added as an option. Due to its compact design, the Offset EDU can be easily integrated into various vehicle platforms.

Our SiC inverter technology leads high efficiency. The integrated differential completes the compact EDU with all necessary components in one housing.

## TECHNOLOGY

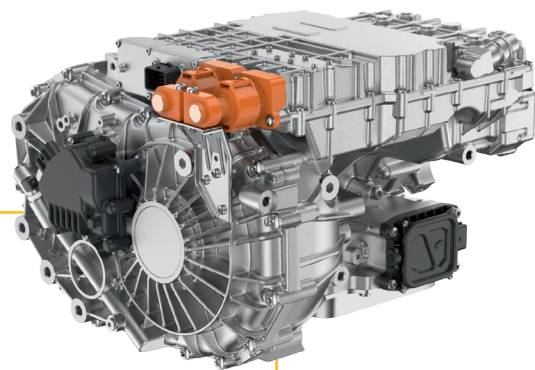
This Offset EDU with an optional two-speed gearbox features an efficient Permanent Magnet Synchronous Motor (PMSM) for optimal performance. The optional two-speed spur gear transmission enables precise adjustment of torque and speed to the respective driving conditions. In the first gear,

higher torque is delivered to ensure quick acceleration and improved traction during startup and uphill driving. In the second gear, higher speed at lower torque enables efficient and comfortable driving on straight roads and highways.



### BENEFITS

- + Very compact EDU-design with a high power density
- + High system performance and efficiency
- + Many years of competence in system integration at hofer powertrain

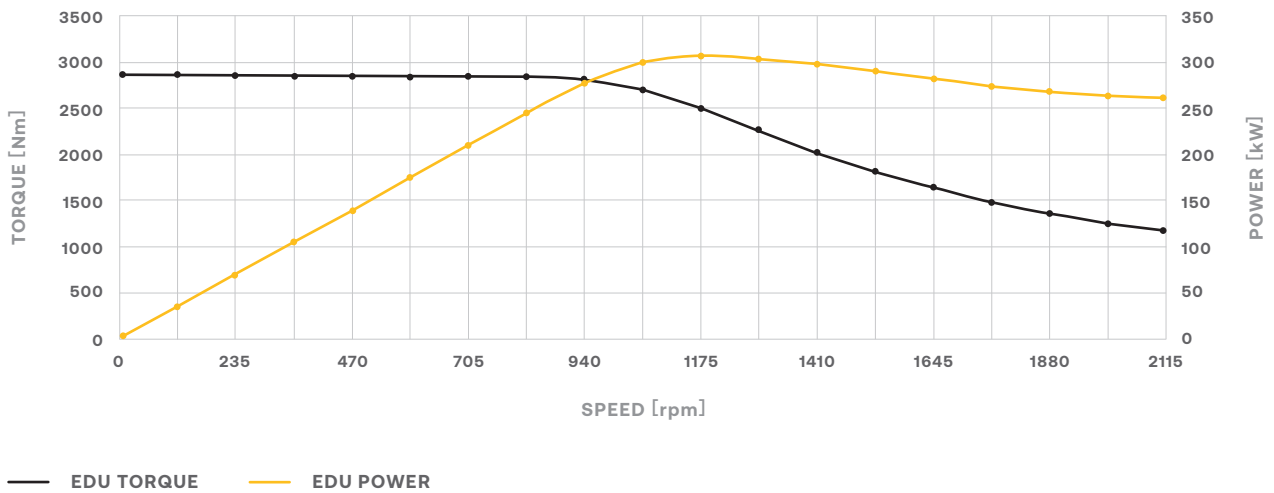


# PERFORMANCE

EDU ARCHITECTURE		OFFSET EDU		
VOLTAGE CLASS	U	800		[V]
NOMINAL VOLTAGE	U	650		[V]
EM TYPE		PMSM		[-]
INVERTER TYPE		SiC Mosfet		[-]
TRANSMISSION RATIO		8.51	11.4	[-]
		EM 195 Top Speed	EM 195	
PEAK AXLE POWER (30 S)	$P_{max}$	307		[kW]
PEAK AXLE TORQUE (30 S)	$M_{max}$	2860	3830	[Nm]
CONT. AXLEPOWER (30 MIN)	$P_{cont}$	149		[kW]
CONT. AXLE TORQUE (30 MIN)	$M_{cont}$	1000	1339	[Nm]
MAX. AXLE SPEED	$n_{opmax}$	2100	1580	[rpm]
WEIGHT	m	80		[kg]

Optional: Two-speed transmission

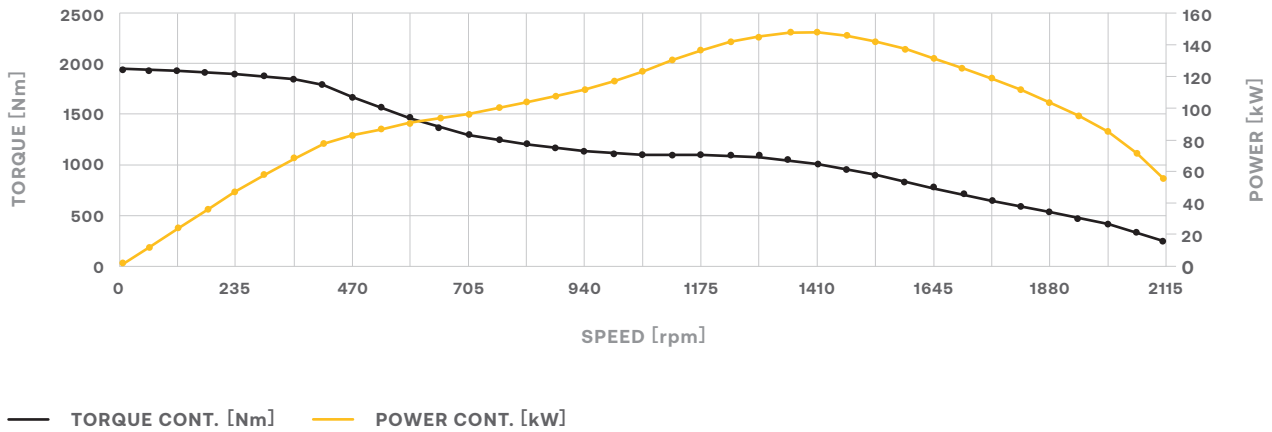
## PEAK PERFORMANCE OF OFFSET EDU 30 S @650 V



## 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 OFFSET EDU @650 V



— TORQUE CONT. [Nm]    — POWER CONT. [kW]

## BOUNDARY CONDITIONS

- + DC voltage: 650 V
- + 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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05/24