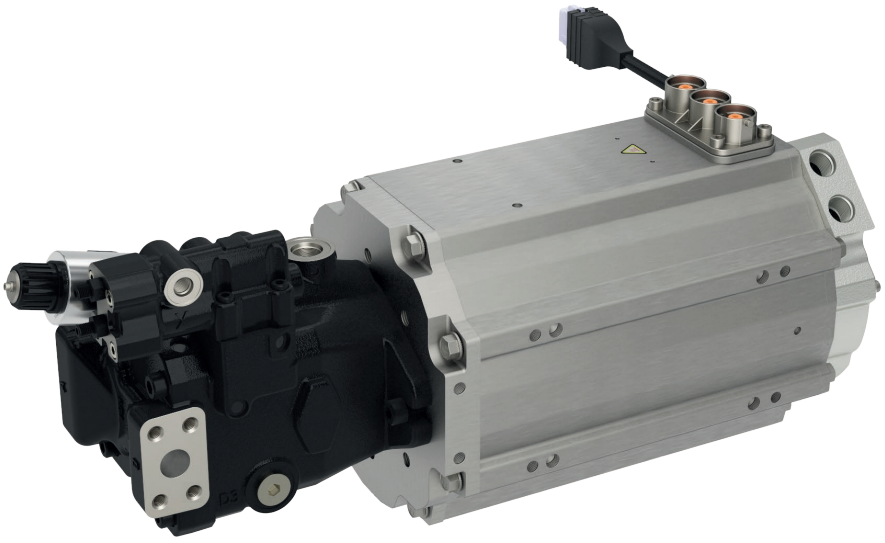


Configured ePumps

Electro-Hydraulic Pumps (EHP) and Inverters for Mobile Applications

Integrated SMART Electrification Connected Efficient

Parker

ENGINEERING YOUR SUCCESS.

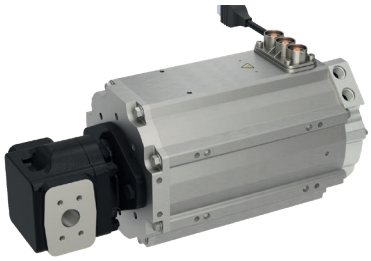
Configured ePumps

Parker's global expertise in hydraulic, electric motor, and inverter technologies is combined into the Configured ePump, creating an optimized and customizable system for hybrid electric and all fully electric mobile applications.

Parker's Configured ePumps are an integral product offering of our Smart Electrification solutions, which maximize system efficiency, integrate electric and hydraulics and connect machinery for a cleaner tomorrow.

Parker's Configured ePumps consist of an electric motor, directly coupled to a hydraulic pump (EHP Series) and controlled by a high performance mobile hardened inverter (GVI Series). Our Configured ePumps provide the lowest possible installed cost and highest efficiency, while still maintaining superior reliability in the most demanding applications.

In addition to our wide range of Configured ePumps, our Smart Electrification portfolio also includes an Electric Power Take-Off (ePTO), consisting of our GVI Series Inverter and GVM Series electric motor.



Motor type	GVM Permanent Magnet AC synchronous motor (PMAC)
Pump type	Parker hydraulic vane pumps, axial piston, bent axis, gear pumps or Helical Gear pumps
Rated voltage	24 to 800 VDC
Hydraulic power	up to 260 kW
Flow range	up to 350 l/min
Pressure range	up to 450 bar
Protection (motor + pump)	IP6K9K as standard with GVM servomotors

Markets

- Construction
- Mining
- Material Handling
- Trucks
- Bus
- Agriculture and Forestry

Benefits of a Configured ePump

- Highly reliable components (inverters, motors, and pumps that are perfectly matched without the need for extra adaptors) provide greater assurance
- A wide range of motor/pump combinations adaptative to every battery pack provide greater flexibility
- Reduced energy consumption and emissions through flow on demand
- Longer runtime due to higher, overall efficiency
- Reduced noise pollution
- Simplified sourcing with a multi-technology Parker solution

Global Vehicle Motor (GVM)

The efficient GVM motor with PMAC technology offers high torque density and high speeds to meet the requirements of electric or hybrid-electric equipment.

	GVM142	GVM210	GVM310
Operating Voltage	24 to 800 VDC	24 to 800 VDC	up to 800 VDC*
Peak Power	up to 57 kW	up to 280 kW	up to 409 kW
Max. Torque	up to 85 Nm	up to 710 Nm	up to 1430 Nm
Pump Interface	SAE A	SAE A SAE B SAE C 4 bolts ISO 7653	SAE C SAE D 4 bolts

* High voltage only

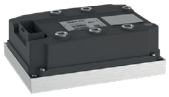
Global Vehicle Inverter (GVI)

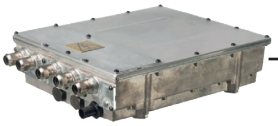
Parker's GVI series represents the latest mobile application design standards for compact and reliable inverters.

	Low voltage	High Voltage
Nominal Voltage	24 / 48 / 80 / 96 Vdc	650 Vdc
Peak Current	700 Arms	500 Arms
Peak Power	68 kVA	300 kVA
Safety	-	Motor Torque Off and HVIL
Protection	IP65	IP6K9K
Control Type	Speed or Torque control	
Feedback	Sin/Cos encoder	Resolver
Communication	CAN J1939, CAN Open, Parker IQAN compatible	
Cooling	Cold plate	WEG liquid cooled
Conformance	IEC60068, EN61000-4, EN1175-1, IEC60529, EN55022	ISO20653:2006, ISO16750-4, ISO16750-3 EN60068-2, CISPR25 Ed.4 Class 3, ISO11452-4, ISO11452-8, ISO7637-2

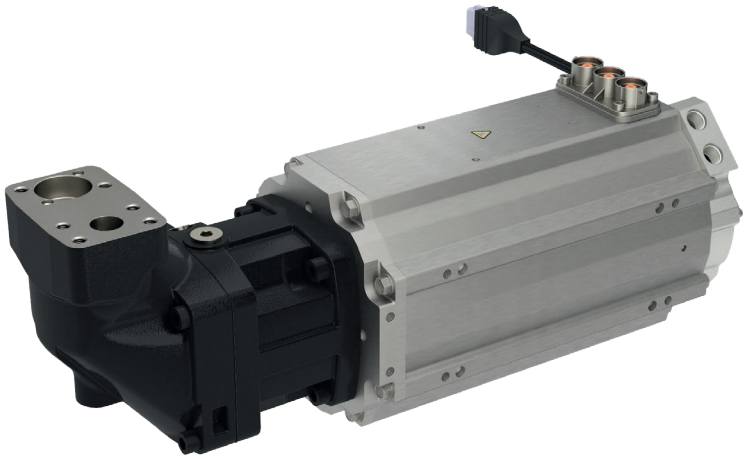
Configured ePump Combinations

Global Vehicle Motor
GVM





Global Vehicle Inverter
GVI



Bent Axis Piston Pump
F10, F11, F12

Bent Axis Piston Pump
F1, F2

Vane Pump
T7

External Gear Pump
PGP

Internal Gear Pump
IGP

Axial Piston Pump
P1M

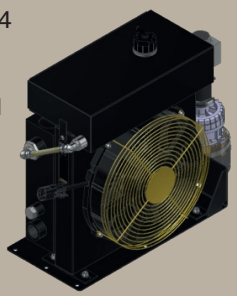
Axial Piston Pump
P2, P3

Axial Piston Pump
VP1

Complementary Products

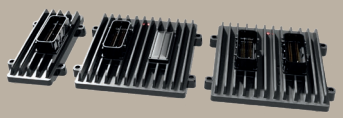
Thermal Management Cooling

The QDC cooler range, whether 24 VDC or 600 VDC ties in perfectly with Parker inverters and motors ensuring greatest efficiency for all electrified applications.



Controllers & Softwares

IQAN by Parker offers a complete range of control products from the most basic valve driver application to a complete control system.



Fixed Displacement Pump Series

Fixed displacement pumps with a variable speed motor offer the lowest cost option for the required flow. Parker's fixed displacement range offers a wide variety of specifications and provides the highest efficiency with our bent axis pump, the lowest noise level with our vane pump, and the cost-effectiveness of our gear technology.

	Bent Axis	Truck pump	Vane	External Gear	Internal Gear
Product Series	F10, F11, F12	F1, F2	T7	PGP	IGP
Displacement Range (cc/rev)	4.9 to 242	25.6 to 102.9	5.8 to 137.5	0.8 to 80	5.4 to 25.2
Max Operating Pressure* (bar)	350 to 450	350 to 400	300 to 320	170 to 300	280 to 320
Max operating Speed* (RPM)	1500 to 5000	2100 to 3050	3600	2300 to 4000	3600 to 4200
Min Operating Speed* (RPM)	50	50	150 to 300	500	100 to 200

* Size & pressure dependent

Variable Displacement Pump Series

Variable displacement piston pumps provide the ability to optimise performance based on specific requirements, including, torque control, pressure, for allowing a smaller motor size.

	Axial Piston	Axial Piston	Axial Piston
Product Series	P1M	P2/P3	VP1
Displacement Range (cc/rev)	28 to 105	60 to 145	95 to 130
Max Operating Pressure* (bar)	250 to 280	320 to 350	350 to 400
Max operating Speed* (RPM)	2700 to 3300	2200 to 2800	1900 to 2200
Min Operating Speed* (RPM)	100	500	500

* Size & pressure dependent

Electrification Testing Capabilities

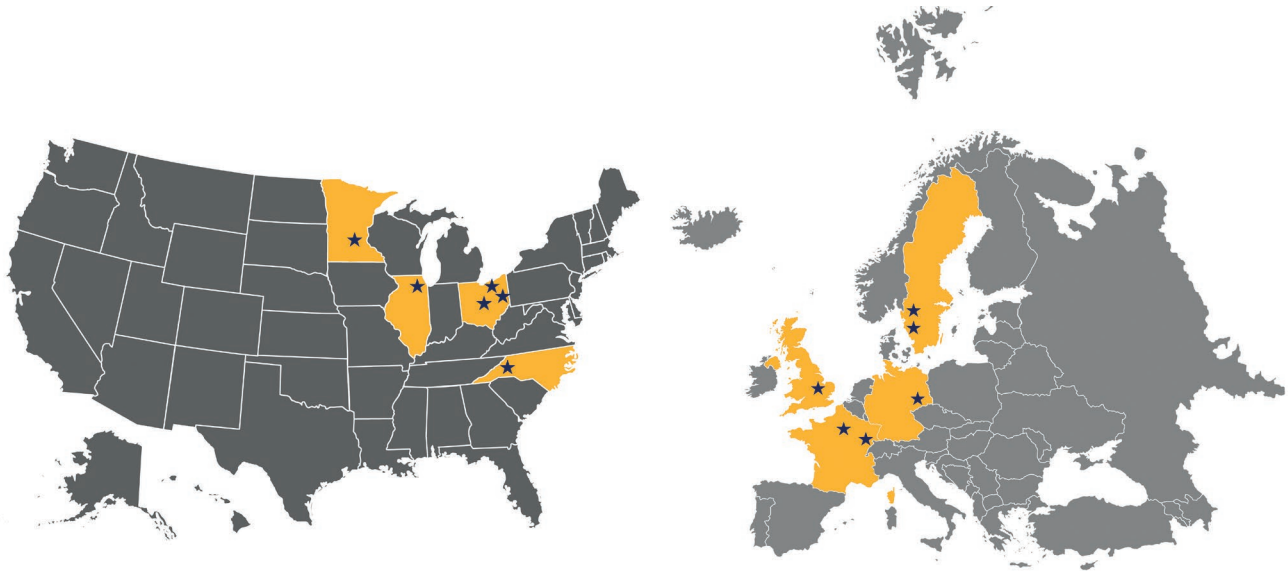
Parker's electrification testing has been a key focus with an investment in a new and dedicated electrical load test rig. Our electrification testing includes two areas of focus, traction and work functions:

World-Class Traction Dyno Testing Capabilities
- Performance
- Endurance
- Efficiency Improvement
- Drive Cycle Simulation
- Customer Validation Testing System

Electro-Hydraulic Work Function Testing Capabilities
- Performance
- Endurance
- Efficiency
- Application Simulation
- Life Improvement Validation

Global Testing Capabilities

Parker offers global testing capabilities at a variety of divisions and Global Mobile Systems' field testing locations.



Twelve worlwide testing centers with six located in the US and six throughout Europe.

www.parker.com

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 192-300111-NA 10/2022