



aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding



Mobile Inverters and Motors

For Hydraulic Implements, Vehicle Traction and Vehicle Auxiliary Applications



ENGINEERING YOUR SUCCESS.



WARNING – USER RESPONSIBILITY

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

- This document and other information from Parker-Hannifin Corporation, its subsidiaries and authorized distributors provide product or system options for further investigation by users having technical expertise.
- The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalog and in any other materials provided from Parker or its subsidiaries or authorized distributors.
- To the extent that Parker or its subsidiaries or authorized distributors provide component or system options based upon data or specifications provided by the user, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the components or systems.

Overview	5
System Examples	6
Drivetrain / Traction	6
Electro-Hydraulic Pump (EHP)	7
MC Series.....	8
Low Voltage Mobile Inverters	8
MA3 Series.....	10
High Voltage Mobile Inverters.....	10
GVM Global Vehicle Motor and Generator	12
Exceptional Performance	12
Dimensions	13
Highest Efficiency	15
Hybrid Solutions.....	15
Electro - Hydraulic Pump Kits (EHP Kits).....	16
Mobile Inverters, PMAC/Induction Motors, Hydraulic Pump	16
Asynchronous Motors	16
Order Code.....	17
MA Series Inverters	17
MC Series Inverters	18

Parker Hannifin

The global leader in motion and control technologies

A world class player on a local stage

Global Product Design

Parker Hannifin has more than 40 years experience in the design and manufacturing of drives, controls, motors and mechanical products. With dedicated global product development teams, Parker draws on industry-leading technological leadership and experience from engineering teams in Europe, North America and Asia.

Local Application Expertise

Parker has local engineering resources committed to adapting and applying our current products and technologies to best fit our customers' needs.

Manufacturing to Meet Our Customers' Needs

Parker is committed to meeting the increasing service demands that our customers require to succeed in the global industrial market. Parker's manufacturing teams seek continuous improvement through the implementation of lean manufacturing methods throughout the process. We measure ourselves on meeting our customers' expectations of quality and delivery, not just our own. In order to meet these expectations, Parker operates and continues to invest in our manufacturing facilities in Europe, North America and Asia.

Electromechanical Worldwide Manufacturing Locations

Europe

Littlehampton, United Kingdom
Dijon, France
Offenburg, Germany
Filderstadt, Germany
Milan, Italy

Asia

Wuxi, China
Chennai, India

North America

Rohnert Park, California
Irwin, Pennsylvania
Charlotte, North Carolina
New Ulm, Minnesota



Offenburg, Germany

Local Manufacturing and Support in Europe

Parker provides sales assistance and local technical support through a network of dedicated sales teams and authorized technical distributors throughout Europe.

For contact information, please refer to the Sales Offices on the back cover of this document or visit www.parker.com



Milan, Italy



Littlehampton, UK



- Electromechanical Manufacturing
- Parker Sales Offices
- Distributors



Dijon, France

Mobile Applications

Overview

Electro-Hydraulic Actuation

Frequency-controlled electro - hydraulic pump systems for hydraulic implement control

Parker mobile inverters and motors provide frequency control of mobile hydraulic pump systems, particularly in the control of on-vehicle hydraulic implements.

Typical vehicle systems include:

- Construction machinery
- Aerial lift trucks
- Truck-mounted cranes
- Intermodal handling Equipment
- Mining equipment

Electric motor-inverter systems used in conjunction with hydraulic pumps and an onboard battery system offer a number of benefits; significant fuel savings can be achieved, equipment can be operated with the internal combustion engine off and the kinematics of the hydraulic implements can be used to recharge the battery system.



Electric and Hybrid-Electric Vehicle Traction

Permanent magnet motors and inverters for drivetrain applications

In vehicle systems, power density is a key design factor. The torque density and speed capabilities of Parker permanent magnet AC (PMAC) motors, combined with a voltage-matched inverter, provide the speed and torque required to achieve breakthrough performance in a variety of vehicle platforms:

- Large Goods Vehicles
- Motorcycles and scooters
- Light commercial vehicles
- Watercraft
- Personal recreational vehicles

With design teams on multiple continents, Parker has the expertise to provide the optimal motor for the required power.

Where overall size and weight are not significant design factors, Parker can also provide high efficiency AC induction motors in combination with our inverter systems.



Vehicle Auxiliary Systems

Motors and inverters for onboard pumps, fans, compressors

In addition to vehicle propulsion, there are numerous systems that are traditionally reliant on the internal combustion engine for power, such as:

Power steering

- Compressors for climate control
- Air compressors for braking
- Cooling fans

By decoupling these systems from the engine, and implementing battery-fed electric motor systems, the vehicle operator can achieve efficiency improvements from the engine, or be able to reduce the size of the engine.

Parker can assist with the development of motor-inverter systems to operate vehicle auxiliary systems across of range of battery voltages and control systems.



System Examples

Drivetrain / Traction

Description

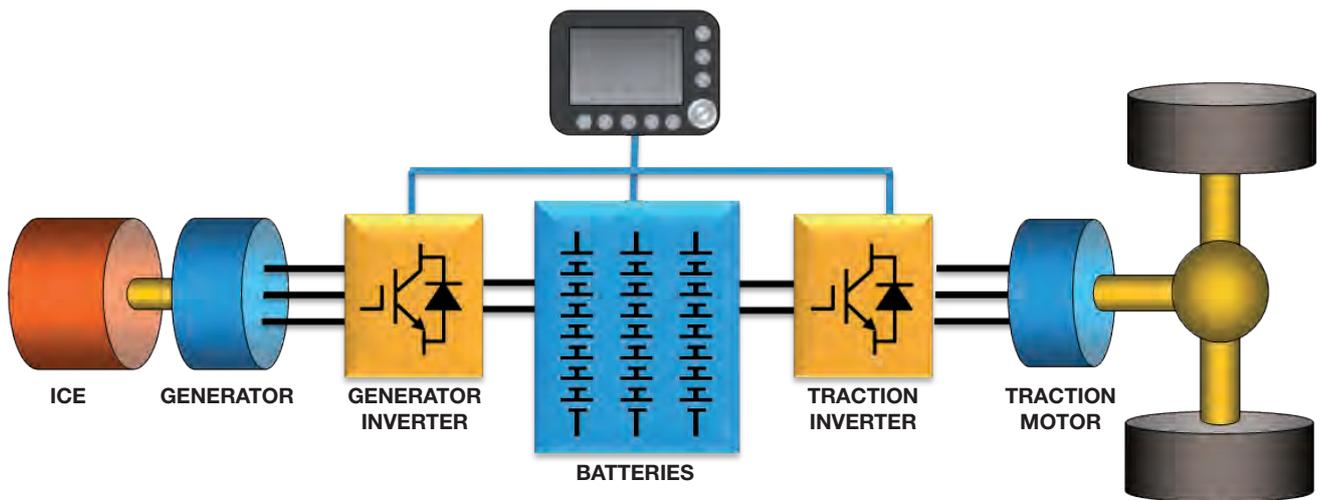
Parker offers complete solutions or sub-systems for a wide range of drivetrain and traction applications. High performance IGBT-based inverters provide maximum versatility, offering compatibility

with PMAC or induction motor designs. Parker's inverter/motor combinations are pre-engineered for the highest efficiency and performance, minimizing losses both during motoring and power

regeneration, providing maximum vehicle range. Whether applied to series- or parallel-hybrid, or all-electric designs, you can rest assured that Parker has a reliable solution.

Drivetrain/traction benefits

- Optimised system design with PMAC or AC induction motors
- Improved speed performance through flexible motor control- resolver, encoder, or sensorless
- Integration into vehicle control system via CAN communications
- Maximum performance and power density through flexible liquid and air cooling



This illustration shows a typical series-hybrid traction system. The internal combustion engine (ICE), which may be a traditional petrol or diesel design, or a gas turbine, drives the Parker PMAC generator, which produces alternating current (AC). The generator output is then converted to direct

current (DC), used to keep the batteries charged. The battery bank can allow operation with the ICE offline, and also absorbs regenerative energy during braking. A Parker battery management system coordinates charging and discharging while monitoring crucial battery parameters. The

traction inverter produces variable frequency alternating current which is used to power the traction motor, which in turn drives the wheels of the vehicle. The system is managed by a central controller over Parker IQAN or other means of communication.

Electro-Hydraulic Pump (EHP)

Description

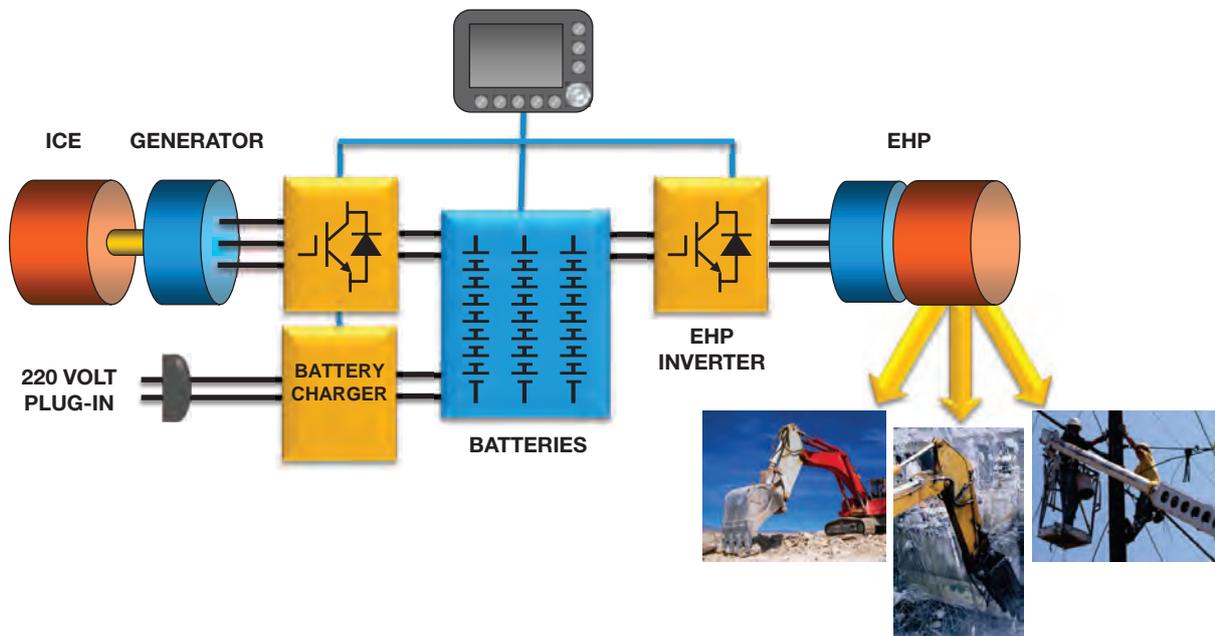
The combination of Parker's experience and expertise in hydraulics with high efficiency electric motors and inverters results in a comprehensive offering of "EHP" systems; hydraulic pumps driven by speed-controlled electric

motors. Especially suited to utility and commercial vehicles, the EHP allows implements to be driven electrically, reducing load on the vehicle's main engine. In cases where the vehicle is stationary during operation, idling can be

eliminated, resulting in reduced fuel consumption and emissions. Vehicles using implements while in motion can benefit from less load on the engine possibly allowing a smaller, more efficient engine to be used.

Electro-hydraulic Pump (EHP) benefits

- Fuel savings from reduced idling
- Reduced emissions
- Quiet operation
- Reduced load on ICE



This illustration shows a typical EHP system that is used to power a hydraulic implement. The AC motor driving the pump is powered by the battery bank through an efficient Parker mobile inverter. In this particular system, the batteries may be charged from the mains supply while the truck is out of

service, or by running a small combustion engine or turbine if recharging is not available. The advantages of the EHP based system include fuel savings and reduced emissions, as an oversized combustion engine does not need to run continuously while the hydraulics are in use. When

used in new applications, since the combustion engine is not relied upon to power the hydraulics, a smaller and more fuel efficient engine can be used. For a retrofit application, periods of engine idling can be reduced or even eliminated, reducing fuel consumption.

MC Series

Low Voltage Mobile Inverters

Description

Parker's MC Series Mobile Inverter range provides high performance and functionality in a compact package for mobile motor control applications from

24 to 96 VDC. Compatible with multiple asynchronous motor manufacturers, the MC series settings can be optimized with supplied configuration software.

Each inverter provides system control capabilities such as analogue and digital inputs and outputs, contactor coil drivers and proportional valve drivers.

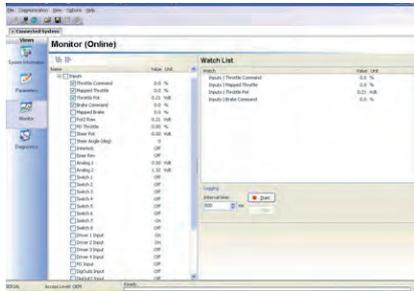
Product Features

- Advanced field oriented vector control
- Auto-configuration of typical induction motors
- Customization possible (firmware)
- High efficiency cold plate heat sink design
- IP65 protection class
- Motor temp sensor input
- Encoder supply output (5 V)
- AB encoder input
- Dual, configurable throttle inputs
- Configurable CAN communication
- Parker IQAN compatible
- Ability to control vehicle control tasks separately from motor control
- 5 configurable coil drive outputs
- 2 configurable digital outputs
- 2 Analogue inputs
- 6 Digital inputs
- Powerful MC configuration utility for system design and diagnostics



Model	MC C	MC D	MC E	MC F
Nominal voltage	24/80 VDC	24/48 VDC	24/80 VDC	24/96 VDC
Max 2 min current	140 - 250 Arms	200 - 350 Arms	350 - 500 Arms	450 - 800 Arms
Max 2 min power	5.1 - 7.1 kVA	5.7 - 19.6 kVA	16.6 - 32.4 kVA	25.4 - 60.6 kVA
Switching freq (Induction)	2.0 - 4.0 kHz			
Weight	1.7 kg	2.8 kg	4.1 kg	6.8 kg
Operating temperature	-40 °C to 50 °C			
Storage temperature	-40 °C to 95 °C			
Protection	IP65			
Control type	Speed or Torque control for Induction (for PMAC, consult your local Parker sales office)			
Feedback	Quadrature encoder			
Communication protocol	CANopen, serial			
Cooling	Air-cooled			
Certifications	UL recognized component per UL583, EMC: designed to EN12895, Safety: designed to EN1175, CE marked to EN 61800-5-1 (Safety, Low Voltage Directive)			

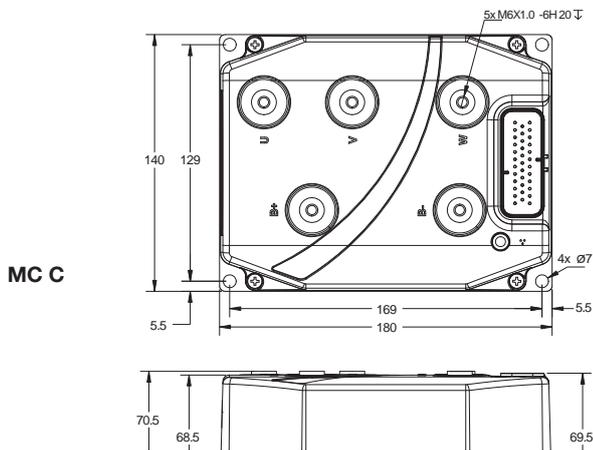
Accessories and Dimensions



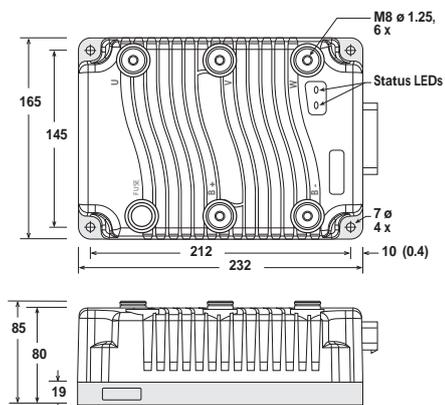
MC Configuration Manager Software

- PC-based programming
- System monitoring
- System diagnostics
- Adjust system variables and programmable parameters
- Online or offline use
- Windows XP/Vista/7 compatible
- Includes USB adaptor

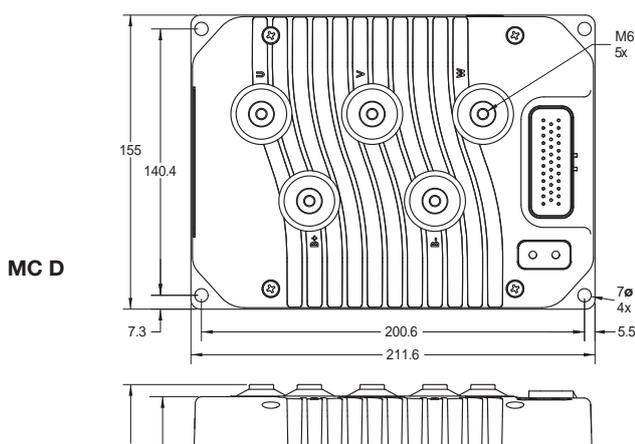
Dimensions [mm]



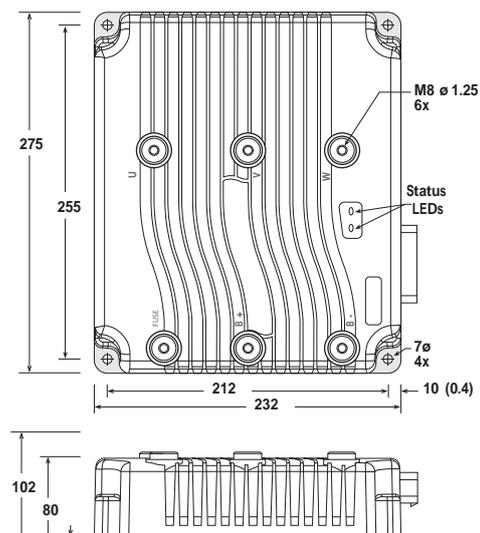
MC C



MC E



MC D



MC F

Additional Accessories

Please consult your local Parker sales office for information on additional accessories required

for the integration of MC Series inverters into vehicle systems. Accessories include contactors,

feedback devices and connection cables and mounting hardware.

MA3 Series

High Voltage Mobile Inverters

Description

MA3 Series inverters combines high performance and motor control with intelligence control functionality. Suitable for either PMAC or AC induction motors, it also offers the flexibility of several feedback

options. Speed and torque points can be adjusted instantaneously and performance algorithms optimized to the vehicles needs. On-board digital communications with multiple protocols comes standard, along with

a USB programming port. The rugged cast aluminum housing integrates a proprietary cooling configuration and necessary environmental protection for the toughest mobile applications.

Product Features

- Environmentally sealed cast housing
- Regenerative braking
- Suitable for induction and servo motors
- Full programmability
- Compatible with choice of feedback devices
- 4 analogue and 6 digital inputs/outputs
- CAN communications
- Mini USB programming port
- Beaded hose barb coolant connections

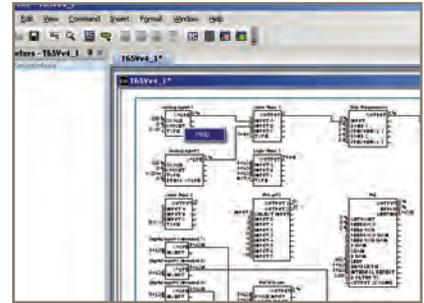


Description	MA3-40			MA3-60			MA3-80		
	225 A	325 A	400 A	225 A	325 A	400 A	225 A	325 A	400 A
Voltage Operating Range	205 - 400 VDC			310 - 600 VDC			410 - 800 VDC		
Nominal Voltage	320 VDC			480 VDC			640 VDC		
Peak Current Output	225 A	325 A	400 A	225 A	325 A	400 A	225 A	325 A	400 A
Continuous Current Output (A_{rms})	130 A	185A	225 A	130 A	185 A	225A	130 A	185 A	225 A
Peak Power	93.5 kW	135 kW	160 kW	155 kW	225 kW	270 kW	187 kW	270 kW	325 kW
Continuous Power	54 kW	77 kW	93.5 kW	90 kW	128 kW	156 kW	108 kW	154 kW	187 kW
Switching Freq (PMAC)	4.0 kHz								
Switching Freq (Induction)	2.0 - 4.0 kHz								
Efficiency	97 %								
Control Voltage Range	7 to 32 VDC								
Max Control Current @7 V	8 A DC								
Min Control Current @32 V	0.7 A DC								
Max Inrush Current (50 ms max)	18.9 A DC								
Weight	5.9 kg								
Operating Temperature	-40 °C to 55 °C								
Storage Temperature	-40 °C to 85 °C								
Protection	IP65								
Control Type	Speed/Torque								
Feedback	Resolver								
Communication Protocol	CANopen								
Cooling Options	Water/Glycol or Hydraulic Oil (Alternate cooling configurations available. Contact your local sales office)								
Flow Rate max (min)	7.6 lpm (3.8 lpm)								
Max Pressure	2.07 bar								
Max Inlet Temperature	55 °C								
Certifications	CE certified (UL pending, consult your local Parker sales office)								

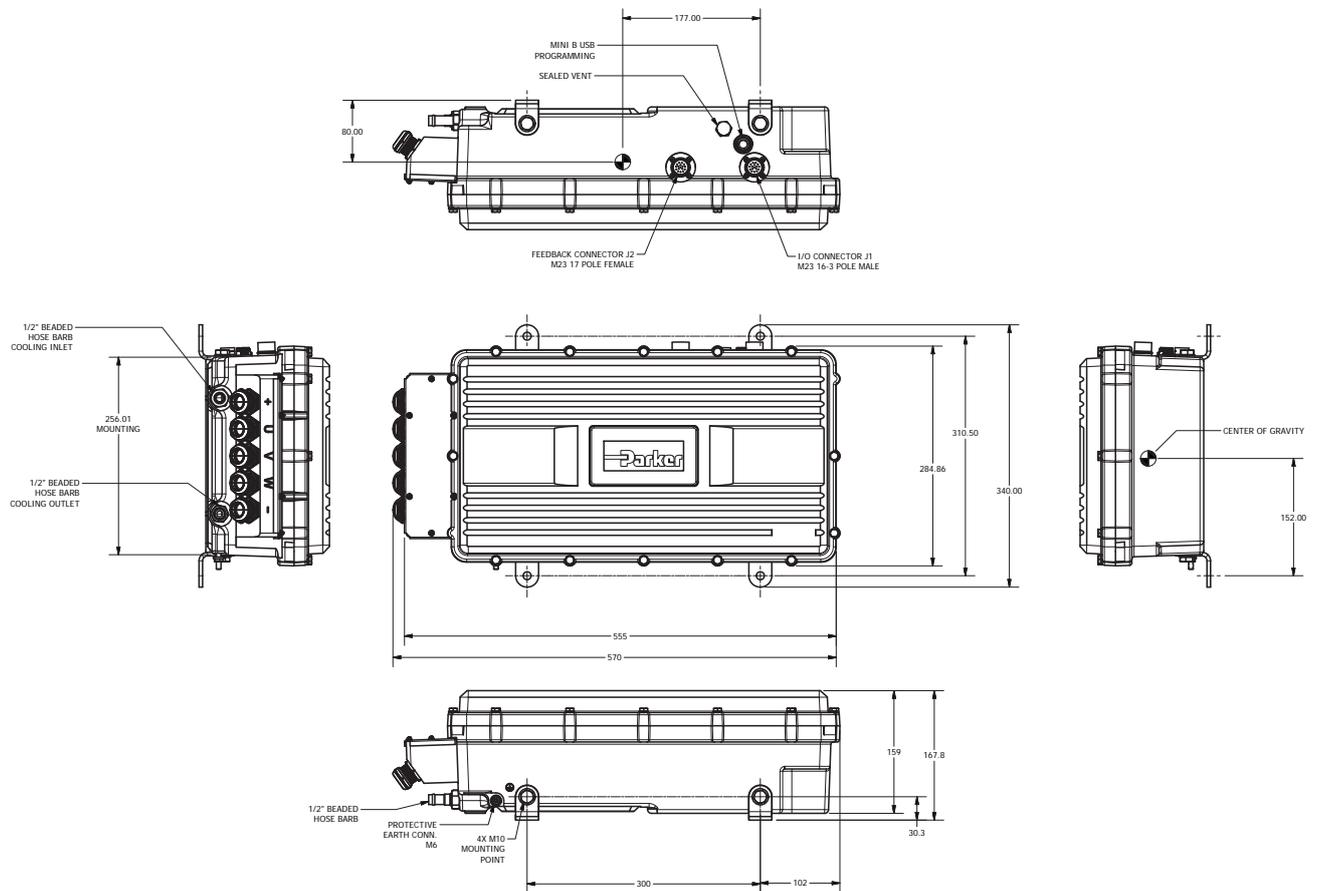
Accessories and Dimensions

DSE Lite Software

For inverter setup and tuning, DSE Lite is an easy-to-use software tool with straightforward function block programming and an intuitive user interface. In addition to supporting user-defined configurations, it offers real-time monitoring and performance charting. An on-line help function is available for the various drive function blocks. DSE Lite is compatible with Windows XP™ and Windows Vista™ operating systems. DSE Lite is available for download free of charge from www.parker.com/ssd



Dimensions [mm]



GVM Global Vehicle Motor and Generator

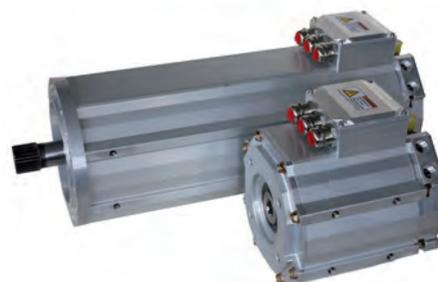
Exceptional Performance

Parker's range of PMAC motors and generators have been designed to meet the challenging requirements of vehicle duty performance. The design has focused on reducing magnetic material content, optimising stator lamination design, and cooling configuration that yields a compact motor with very high output power.

- Max. specific Power (peak) >12.95 kW/dm³
- Max. specific Power (cont) >9.07 kW/dm³
- Max. power Density (peak) >2.62 kW/kg
- Max. power Density (cont) >1.84 kW/kg

All data given for a cooling liquid temperature of 65 °C

Parker's vehicle motors include patent-pending cooling, constant torque/constant power regions, simple and cost-effective electrical connections and full environmental protection.



Custom Solutions

Parker's family of PMAC motors and generators share leading edge magnetic and thermal designs, but can easily be customised to fit the mechanical constraints of our customers' vehicle programs. Parker can assist in the development of both prototype and serial production motors and generators with no minimum volume requirement.

Customisation Specialists

As a designer and manufacturer of PMAC motors and generators, Parker is well positioned to quickly and cost effectively design and produce custom solutions to our customers' specifications, including mechanical solutions, such as connectors, shafts, mounting and motor kits. Additionally, Parker can customise motor magnetic designs and cooling systems to produce desired performance under specific conditions, such as voltage, duty cycle, ambient temperature or operating environment.

Features

- High Flexibility
 - Provided as a "kit" or a complete assembly
- High modularity of standard lamination stack length
- Hollow spline shaft available for Electro Hydraulic Pumps (SAE) and solid spline shaft for traction application
- Water cooling or Natural convection
- Operating voltages available from 24 to 640 VDC
- Rugged Design
- High power density & compactness

Technical Characteristics

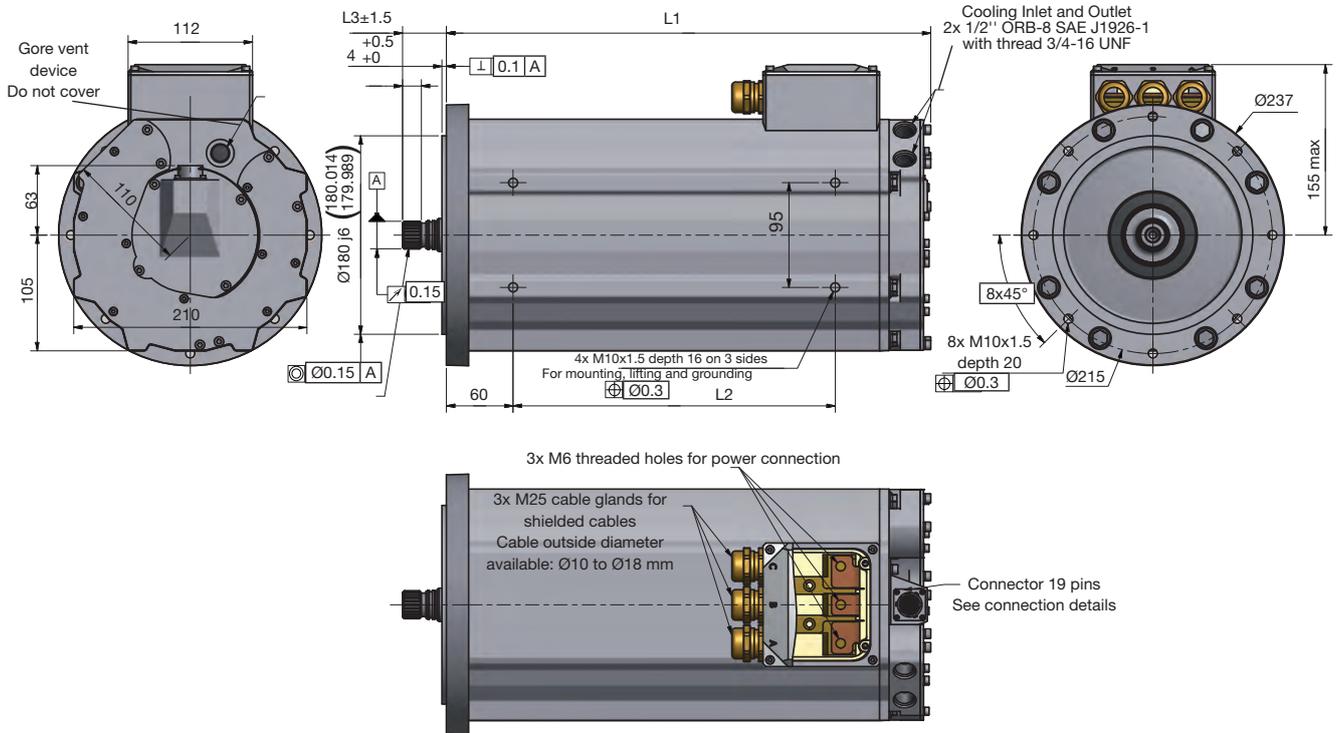
Part Number	Rated Torque [Nm]	Peak Torque [Nm]	Rated Power [kW]	Peak Power [kW]	Rated Speed [min ⁻¹]	Max. Speed [min ⁻¹]	Length [mm]	Weight [kg]
GVM210-050-CR	36,7	82	26,9	36,7	7000	8000	234 max.	38
GVM210-100-JQ	79,1	173	57,1	75,0	6900	8000	285 max.	47
GVM210-150-YP	118	262	84,1	114,8	6800	8000	336 max.	56
GVM210-200-HP	154	352	108	146,8	6700	8000	387 max.	65
GVM210-250-HP	181	442	136	194,2	7200	8000	438 max.	74
GVM210-300-HP	232	530	144	198,7	5910	8000	489 max.	83
GVM210-350-EP	265	621	164	225,5	5910	7100	540 max.	92
GVM210-400-EP	319	710	167	235,2	5000	8000	591 max.	101

Dimensions

For Traction Applications

GVM210

Dimensions [mm]



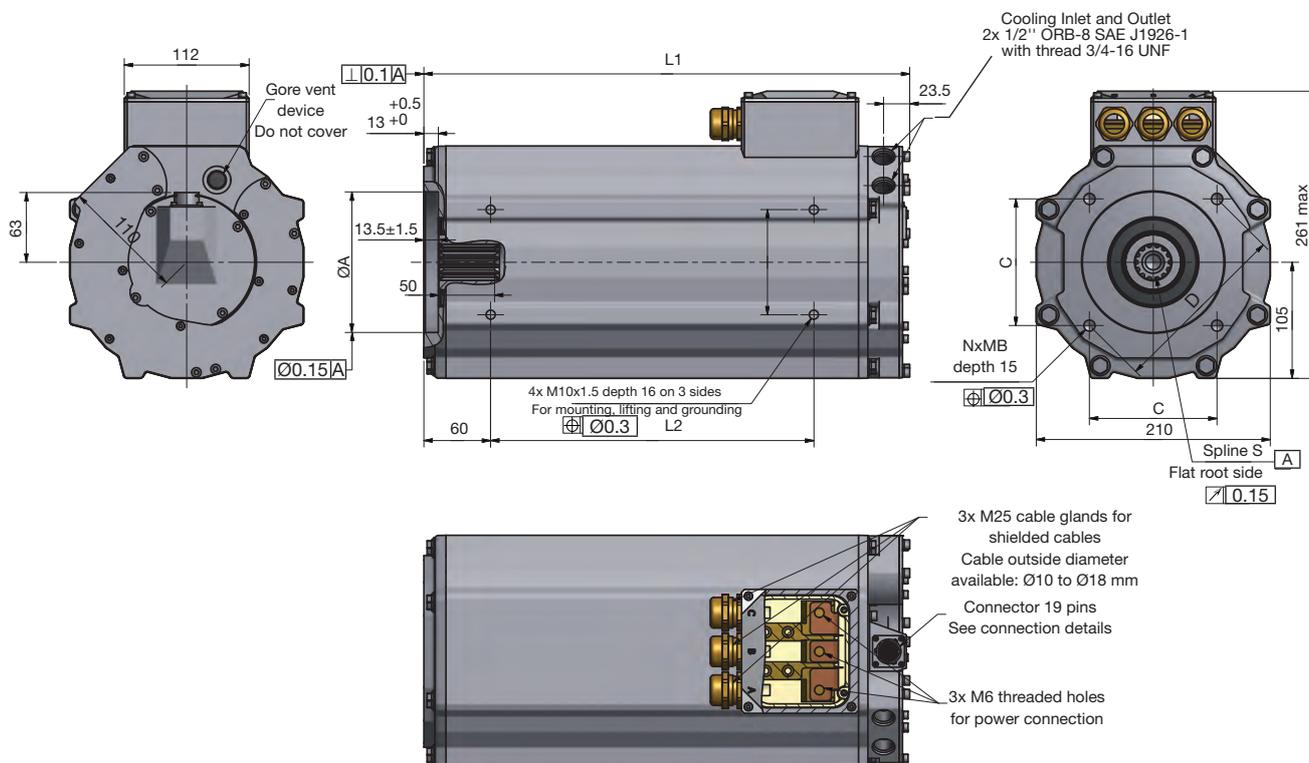
Motor size	L1 [mm]	L2 [mm]	Shaft interface	L3 [mm]	L4 [mm]	Weight [kg]
GVM210-050	234 max	90	TA	39.4	16.8	36.5 kg
GVM210-100	285 max	140	TA	39.4	16.8	45.5 kg
GVM210-150	336 max	190	TA	39.4	16.8	54.5 kg
GVM210-200	387 max	240	TA	39.4	16.8	63.5 kg
GVM210-250	438 max	290	TA	39.4	16.8	72.5 kg
GVM210-300	489 max	340	TB	63.5	38.1	81.5 kg
GVM210-350	540 max	390	TB	63.5	38.1	90.5 kg
GVM210-400	591 max	440	TB	63.5	38.1	99.5 kg

	Spline interface TA	Spline interface TB
Involute Spline	ANSI B92.2M	ANSI B92.1
Flat root side fit	Class 6h	Class 5
Number of teeth	24	27
Module	1.000	-
Spline pitch	-	16/32
Pressure angle	30°	30°
Pitch diameter (Ref)	Ø24.000	Ø42.863
Base diameter (Ref)	Ø20.785	Ø37.12
Major diameter	Ø25.00/Ø24.75	Ø44.45/Ø44.32
Minor diameter	Ø22.50/Ø22.26	Ø39.27
Form diameter (max)	Ø22.89	Ø41.17
Circular tooth thickness (max effective)	1.571	2.456
Circular tooth thickness (min actual)	1.485	2.421
Pin diameter	2.12	3.048
Measurement over pins (Ref)	Ø27.479/Ø27.399	Ø47.460/Ø47.407

For Electro-Hydraulic Pumps (EHP) Applications

GVM210

Dimensions [mm]



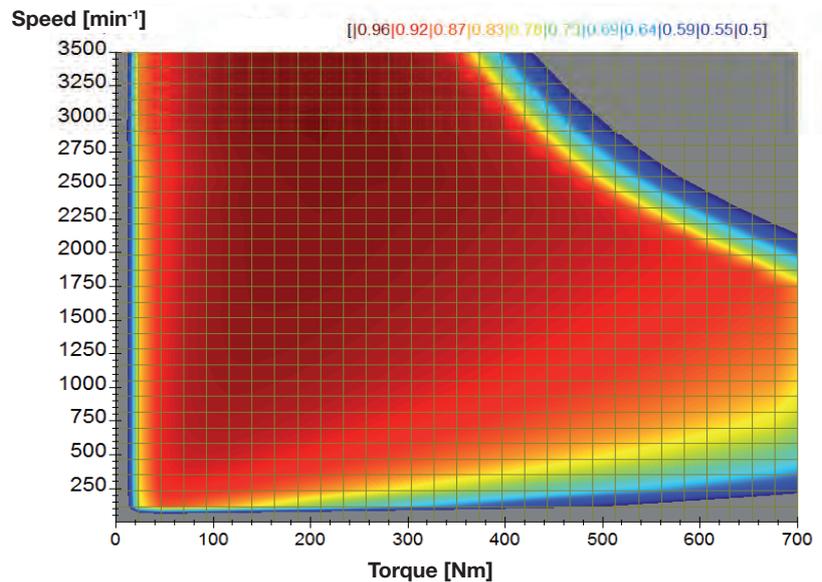
Motor size	L1 [mm]	L2 [mm]	Weight [kg]
GVM210-050	234 max	90	38
GVM210-100	285 max	140	47
GVM210-150	336 max	190	56
GVM210-200	387 max	240	65
GVM210-250	438 max	290	74
GVM210-300	489 max	340	83
GVM210-350	540 max	390	92
GVM210-400	591 max	440	101

Front interface data						
SAE choice	ϕA	N	B	C	D	S
SAE A	$\phi 82.55$ G7	2	10	/	106.4	SAE A 9T 16/32 DP
SAE B	$\phi 101.6$ G7	4	12	89.8	/	SAE B 13T 16/32 DP
SAE B	$\phi 101.6$ G7	4	12	89.8	/	SAE B-B 15T 16/32 DP
SAE B	$\phi 101.6$ G7	2	12	/	146	SAE B 13T 16/32 DP
SAE B	$\phi 101.6$ G7	2	12	/	146	SAE B-B 15T 16/32 DP
SAE C	$\phi 127$ G7	4	12	114.5	/	SAE C 14T 12/24 DP

Highest Efficiency

The right selection and design of the best component technology with the optimal performance characteristics ensures that PMAC motors and generators will perform at very high efficiencies. PMAC stators and rotors have been very carefully designed to minimise losses over a large operational region. Not only does this utilise each battery charge more effectively, but it also increases reliability by limiting thermal build up and cycling that may lead to material fatigue and failure. Together, this provides the lowest total cost of ownership.

Sample efficiency map



Hybrid Solutions

Problem

European standards are more and more restrictive in terms of emissions. Customer are forced to reduce fuel consumption and CO₂ emissions.

Hybrid technology can be the solution.

Parker raised the challenge by replacing full hydraulic system by Electro Hydraulic Pump (EHP).

Characteristics

The motorization is based on PMAC servomotors with very low inertia

- Lift / Extension / Boost functions
- Diam 305 mm
- Length 690 mm
- Power 128 kW
- Torque 340 Nm
- Weight 215 kg

Motors for steering and boost functions

- Diam 258 mm
- Length 705 mm
- Power 65 kW
- Torque 270 Nm
- Weight 155 kg

Benefits

- Reduce fuel consumption and CO₂ emissions
- Smaller ICE required
- Complete Parker solution with hydraulics and Electrics components
- High dynamic system



Electro - Hydraulic Pump Kits (EHP Kits)

Mobile Inverters, PMAC/Induction Motors, Hydraulic Pump

Subsystem Capabilities

Mobile OEMs face tremendous demands to provide machines that cost less to operate and that meet future regulatory standards.

To reduce the time to meet these demands, Parker offers pre-engineered and customisable EHP kits to assist in the development of

hybrid-electric vehicle platforms. An EHP kit includes:

- Low or high voltage inverter, depending on the battery system and performance requirements
- Matched AC induction or PMAC motor
- Motor-pump mounting
- Mobile hydraulic pump- fixed displacement (vane or gear style) or variable displacement (bent-axis piston style)

Please consult your local Parker sales office to discuss your specific application requirements.



Asynchronous Motors

Available for 24 VDC to 96 VDC operation, Parker's asynchronous motors can be supplied as part of a complete mobile inverter system with a pre-configured and tested mobile inverter.

Please consult your local Parker sales office to discuss your specific application requirements.

Typically adapted for Electro-Hydraulic-Pump, they are commonly used in steering applications.

- Speed up to 3500 min⁻¹
- Full programmability
- Power up to 40 kW
- Torque up to 150 Nm
- IP rating: IP20 to IP65



Asynchronous Induction Motor

Order Code

MA Series Inverters

	1	2	3		4		5		6		7	8	9		10
Order example	M	A	3	-	60	-	0400	-	R0	-	1	1	01	-	00

1 Inverter family	M	Mobile Inverter
2 Control module build	A	High Voltage - 400, 600, 800 VDC
3 Frame size	3	MA Series Inverter
4 Maximum operating voltage	40	400 VDC
	60	600 VDC
	80	800 VDC
5 Peak current ratings	400 VDC Max. Voltage	
	0225	225 A - MA3-40 Series Inverter
	0325	325 A - MA3-40 Series Inverter
	0400	400 A - MA3-40 Series Inverter
	600 VDC Max. Voltage	
	0225	225 A - MA3-60 Series Inverter
	0325	325 A - MA3-60 Series Inverter
	0400	400 A - MA3-60 Series Inverter
	800 VDC Max. Voltage	
	0225	225 A - MA3-40 Series Inverter
	0325	325 A - MA3-40 Series Inverter
	0400	400 A - MA3-40 Series Inverter

6 Feedback Option	00	None
	R0	Resolver
	EQ	Incremental quadrature encoder
	A0	Absolute encoder
	M1	SinCos absolute encoder
	LS	Line sync card
7 Communication Option	0	None
	1	CANopen communications
8 Coolant Connections	0	None
	1	Water/Glycol hose
	2	Hydraulic fitting
9 Branding	01	Parker branded
	XX	OEM branding (assigned by factory)
10 Special Options	00	None
	XX	Special option (assigned by factory)

MC Series Inverters

	1	2	3		4		5		6		7
Order example	M	C	C	-	04	-	0450	-	01	-	00

1 Inverter family

M Mobile Inverter

2 Control module build

C Low Voltage - 24...96 VDC

3 Frame size

C
D MC Series
E
F

4 Maximum operating voltage

Low Voltage MC Series Inverter

02 24 VDC

03 36 VDC

04 48 VDC

08 80 VDC

09 96 VDC

5 Peak current ratings

24 VDC Nominal Voltage

0180 180 A - MC Series Frame C

0250 250 A - MC Series Frame C

0350 350 A - MC Series Frame D

36 VDC Nominal Voltage

0400 400 A - MC Series Frame E

0500 500 A - MC Series Frame E

0650 650 A - MC Series Frame F

0800 800 A - MC Series Frame E

48 VDC Nominal Voltage

0200 200 A - MC Series Frame C

0275 275 A - MC Series Frame D

0350 350 A - MC Series Frame D

0450 450 A - MC Series Frame E

0450 450 A - MC Series Frame F

0550 550 A - MC Series Frame E

0650 650 A - MC Series Frame F

80 VDC Nominal Voltage

0175 175 A - MC Series Frame C

0250 250 A - MC Series Frame D

0350 350 A - MC Series Frame E

0550 550 A - MC Series Frame F

0650 650 A - MC Series Frame F

96 VDC Nominal Voltage

0550 550 A - MC Series Frame F

0650 650 A - MC Series Frame F

6 Branding

01 Parker branded

7 Special options

00 E Version with PMAC

01 Non E version without PMAC

02 E Version without PMAC



Parker's Motion & Control Technologies

At Parker, we're guided by a relentless drive to help our customers become more productive and achieve higher levels of profitability by engineering the best systems for their requirements. It means looking at customer applications from many angles to find new ways to create value. Whatever the motion and control technology need, Parker has the experience, breadth of product and global reach to consistently deliver. No company knows more about motion and control technology than Parker. For further info call 00800 27 27 5374



Aerospace

Key Markets

Aftermarket services
Commercial transports
Engines
General & business aviation
Helicopters
Launch vehicles
Military aircraft
Missiles
Power generation
Regional transports
Unmanned aerial vehicles

Key Products

Control systems & actuation products
Engine systems & components
Fluid conveyance systems & components
Fluid metering, delivery & atomization devices
Fuel systems & components
Fuel tank inerting systems
Hydraulic systems & components
Thermal management
Wheels & brakes



Climate Control

Key Markets

Agriculture
Air conditioning
Construction Machinery
Food & beverage
Industrial machinery
Life sciences
Oil & gas
Precision cooling
Process
Refrigeration
Transportation

Key Products

Accumulators
Advanced actuators
CO₂ controls
Electronic controllers
Filter driers
Hand shut-off valves
Heat exchangers
Hose & fittings
Pressure regulating valves
Refrigerant distributors
Safety relief valves
Smart pumps
Solenoid valves
Thermostatic expansion valves



Electromechanical

Key Markets

Aerospace
Factory automation
Life science & medical
Machine tools
Packaging machinery
Paper machinery
Plastics machinery & converting
Primary metals
Semiconductor & electronics
Textile
Wire & cable

Key Products

AC/DC drives & systems
Electric actuators, gantry robots & slides
Electrohydraulic actuation systems
Electromechanical actuation systems
Human machine interface
Linear motors
Stepper motors, servo motors, drives & controls
Structural extrusions



Filtration

Key Markets

Aerospace
Food & beverage
Industrial plant & equipment
Life sciences
Marine
Mobile equipment
Oil & gas
Power generation & renewable energy
Process
Transportation
Water Purification

Key Products

Analytical gas generators
Compressed air filters & dryers
Engine air, coolant, fuel & oil filtration systems
Fluid condition monitoring systems
Hydraulic & lubrication filters
Hydrogen, nitrogen & zero air generators
Instrumentation filters
Membrane & fiber filters
Microfiltration
Sterile air filtration
Water desalination & purification filters & systems



Fluid & Gas Handling

Key Markets

Aerial lift
Agriculture
Bulk chemical handling
Construction machinery
Food & beverage
Fuel & gas delivery
Industrial machinery
Life sciences
Marine
Mining
Mobile
Oil & gas
Renewable energy
Transportation

Key Products

Check valves
Connectors for low pressure fluid conveyance
Deep sea umbilicals
Diagnostic equipment
Hose couplings
Industrial hose
Mooring systems & power cables
PTFE hose & tubing
Quick couplings
Rubber & thermoplastic hose
Tube fittings & adapters
Tubing & plastic fittings



Hydraulics

Key Markets

Aerial lift
Agriculture
Alternative energy
Construction machinery
Forestry
Industrial machinery
Machine tools
Marine
Material handling
Mining
Oil & gas
Power generation
Refuse vehicles
Renewable energy
Truck hydraulics
Turf equipment

Key Products

Accumulators
Cartridge valves
Electrohydraulic actuators
Human machine interfaces
Hybrid drives
Hydraulic cylinders
Hydraulic motors & pumps
Hydraulic systems
Hydraulic valves & controls
Hydrostatic steering
Integrated hydraulic circuits
Power take-offs
Power units
Rotary actuators
Sensors



Pneumatics

Key Markets

Aerospace
Conveyor & material handling
Factory automation
Life science & medical
Machine tools
Packaging machinery
Transportation & automotive

Key Products

Air preparation
Brass fittings & valves
Manifolds
Pneumatic accessories
Pneumatic actuators & grippers
Pneumatic valves & controls
Quick disconnects
Rotary actuators
Rubber & thermoplastic hose & couplings
Structural extrusions
Thermoplastic tubing & fittings
Vacuum generators, cups & sensors



Process Control

Key Markets

Alternative fuels
Biopharmaceuticals
Chemical & refining
Food & beverage
Marine & shipbuilding
Medical & dental
Microelectronics
Nuclear Power
Offshore oil exploration
Oil & gas
Pharmaceuticals
Power generation
Pulp & paper
Steel
Water/wastewater

Key Products

Analytical Instruments
Analytical sample conditioning products & systems
Chemical injection fittings & valves
Fluoropolymer chemical delivery fittings, valves & pumps
High purity gas delivery fittings, valves, regulators & digital flow controllers
Industrial mass flow meters/ controllers
Permanent no-weld tube fittings
Precision industrial regulators & flow controllers
Process control double block & bleeds
Process control fittings, valves, regulators & manifold valves



Sealing & Shielding

Key Markets

Aerospace
Chemical processing
Consumer
Fluid power
General industrial
Information technology
Life sciences
Microelectronics
Military
Oil & gas
Power generation
Renewable energy
Telecommunications
Transportation

Key Products

Dynamic seals
Elastomeric o-rings
Electro-medical instrument design & assembly
EMI shielding
Extruded & precision-cut, fabricated elastomeric seals
High temperature metal seals
Homogeneous & inserted elastomeric shapes
Medical device fabrication & assembly
Metal & plastic retained composite seals
Shielded optical windows
Silicone tubing & extrusions
Thermal management
Vibration dampening

Parker Worldwide

Europe, Middle East, Africa

AE – United Arab Emirates, Dubai
Tel: +971 4 8127100
parker.me@parker.com

AT – Austria, Wiener Neustadt
Tel: +43 (0)2622 23501-0
parker.austria@parker.com

AT – Eastern Europe, Wiener Neustadt
Tel: +43 (0)2622 23501 900
parker.easteurope@parker.com

AZ – Azerbaijan, Baku
Tel: +994 50 2233 458
parker.azerbaijan@parker.com

BE/LU – Belgium, Nivelles
Tel: +32 (0)67 280 900
parker.belgium@parker.com

BG – Bulgaria, Sofia
Tel: +359 2 980 1344
parker.bulgaria@parker.com

BY – Belarus, Minsk
Tel: +375 17 209 9399
parker.belarus@parker.com

CH – Switzerland, Etoy
Tel: +41 (0)21 821 87 00
parker.switzerland@parker.com

CZ – Czech Republic, Klecany
Tel: +420 284 083 111
parker.czechrepublic@parker.com

DE – Germany, Kaarst
Tel: +49 (0)2131 4016 0
parker.germany@parker.com

DK – Denmark, Ballerup
Tel: +45 43 56 04 00
parker.denmark@parker.com

ES – Spain, Madrid
Tel: +34 902 330 001
parker.spain@parker.com

FI – Finland, Vantaa
Tel: +358 (0)20 753 2500
parker.finland@parker.com

FR – France, Contamine s/Arve
Tel: +33 (0)4 50 25 80 25
parker.france@parker.com

GR – Greece, Athens
Tel: +30 210 933 6450
parker.greece@parker.com

HU – Hungary, Budaörs
Tel: +36 23 885 470
parker.hungary@parker.com

IE – Ireland, Dublin
Tel: +353 (0)1 466 6370
parker.ireland@parker.com

IT – Italy, Corsico (MI)
Tel: +39 02 45 19 21
parker.italy@parker.com

KZ – Kazakhstan, Almaty
Tel: +7 7273 561 000
parker.easteurope@parker.com

NL – The Netherlands, Oldenzaal
Tel: +31 (0)541 585 000
parker.nl@parker.com

NO – Norway, Asker
Tel: +47 66 75 34 00
parker.norway@parker.com

PL – Poland, Warsaw
Tel: +48 (0)22 573 24 00
parker.poland@parker.com

PT – Portugal, Leca da Palmeira
Tel: +351 22 999 7360
parker.portugal@parker.com

RO – Romania, Bucharest
Tel: +40 21 252 1382
parker.romania@parker.com

RU – Russia, Moscow
Tel: +7 495 645-2156
parker.russia@parker.com

SE – Sweden, Spånga
Tel: +46 (0)8 59 79 50 00
parker.sweden@parker.com

SK – Slovakia, Banská Bystrica
Tel: +421 484 162 252
parker.slovakia@parker.com

SL – Slovenia, Novo Mesto
Tel: +386 7 337 6650
parker.slovenia@parker.com

TR – Turkey, Istanbul
Tel: +90 216 4997081
parker.turkey@parker.com

UA – Ukraine, Kiev
Tel: +380 44 494 2731
parker.ukraine@parker.com

UK – United Kingdom, Warwick
Tel: +44 (0)1926 317 878
parker.uk@parker.com

ZA – South Africa, Kempton Park
Tel: +27 (0)11 961 0700
parker.southafrica@parker.com

North America

CA – Canada, Milton, Ontario
Tel: +1 905 693 3000

US – USA, Cleveland
Tel: +1 216 896 3000

Asia Pacific

AU – Australia, Castle Hill
Tel: +61 (0)2-9634 7777

CN – China, Shanghai
Tel: +86 21 2899 5000

HK – Hong Kong
Tel: +852 2428 8008

IN – India, Mumbai
Tel: +91 22 6513 7081-85

JP – Japan, Tokyo
Tel: +81 (0)3 6408 3901

KR – South Korea, Seoul
Tel: +82 2 559 0400

MY – Malaysia, Shah Alam
Tel: +60 3 7849 0800

NZ – New Zealand, Mt Wellington
Tel: +64 9 574 1744

SG – Singapore
Tel: +65 6887 6300

TH – Thailand, Bangkok
Tel: +662 186 7000-99

TW – Taiwan, Taipei
Tel: +886 2 2298 8987

South America

AR – Argentina, Buenos Aires
Tel: +54 3327 44 4129

BR – Brazil, Sao Jose dos Campos
Tel: +55 800 727 5374

CL – Chile, Santiago
Tel: +56 2 623 1216

MX – Mexico, Toluca
Tel: +52 72 2275 4200



EMEA Product Information Centre

Free phone: 00 800 27 27 5374

(from AT, BE, CH, CZ, DE, DK, EE, ES, FI, FR, IE, IL, IS, IT, LU, MT, NL, NO, PL, PT, RU, SE, SK, UK, ZA)

US Product Information Centre

Toll-free number: 1-800-27 27 537

www.parker.com