



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



Solutions for Offshore and Marine Applications

Variable Speed Drive Systems



ENGINEERING YOUR SUCCESS.

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.

Worldwide Manufacturing Locations

Europe

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

Asia

Shanghai, China
Chennai, India

North America

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



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



● Manufacturing

○ Parker Sales Offices

● Distributors



Delivering motor control solutions to offshore and marine industries

Drive solutions for offshore platform equipment

Motor-driven systems are to be found in abundance throughout every offshore installation. The efficient control and management of these systems can mean the difference between reliable, trouble-free operation, or a high-maintenance, problematic installation.

Whether controlling part of the production process in the form of mud pumps or shale shakers, or part of the accommodation heating and ventilation systems, Parker SSD Drives has 30 years experience of interpreting the needs of our customers and translating these into highly-effective variable speed drive motor control solutions.

With a large team of electrical and design engineers based in Littlehampton, West Sussex, we are able to manufacture in-house

bespoke motor control solutions to suit some of the most arduous conditions to be found on the planet.



Variable Speed Drive (VSD) control of marine motor systems

We recognise that installing variable speed drive systems in marine settings has its own set of unique challenges. Space, temperature, electrical power quality, EMC and certification issues are but a few of the considerations that impact upon any motor control solution.

So whether you're looking for winching, winding or handling equipment control, trust to our experience of delivering high quality, reliable and safe systems gained across a wide range of applications in the marine industry.

Featuring industry leading design and utilising award-winning technology such as our advanced

Vapourisable Dielectric Fluid (VDF) cooling system, we have been able to produce ever more compact and reliable motor

control systems for our customers. A very important consideration when your vessel could be anywhere around the world.



Supporting you through every stage of your project

Project Management

From concept to installation and beyond, Parker SSD Drives has a full range of complimentary capabilities to provide as much or as little support to your own team's expertise as you need. With a team of highly qualified and experienced design, build and service engineers, we take the risk out of any capital project by ensuring that all stages of the project are managed and executed precisely to your requirements.

Holding certification to the latest quality standards (ISO 9001 - 2008) means that as a customer, you can be assured of reliable, repeatable quality of design, build and documentation.

Working extensively in the marine and offshore markets also means that Parker SSD Drives is used to building systems that comply with

the requirements of marine standards such as Lloyds Register and DNV.



After-Sales Services

Recognising that drive systems are central to many modern offshore and marine processes, we have developed a comprehensive range of Parker SSD Drives support services, aimed at providing optimum support for your drive and automation systems, minimising down-time and ensuring the peak performance of your equipment.

In addition to the normal working hours telephone and on-site technical support, we also provide contracted 24 hour support to give you peace of mind that emergency breakdowns are rectified in the most expedient manner possible.

There is also a suite of additional training, product and site related services that can be supplied to a standard format, or customised to

suit your particular needs either at one of our facilities, or in a place and at a time to suit your business requirements.



Driving the offshore and marine industries

Ship Mounted Davits

With a background in winding and unwinding in numerous industries, Parker SSD Drives were the natural choice when a leading manufacturer of davits was looking for precise control of its ship mounted products.

With dedicated winding algorithms and fully featured software function blocks, Parker SSD Drives' range of AC variable speed drives offered this manufacturer tangible benefits

compared to other VSD's on the market.

With many years of successful installations into this type of application, Parker has honed its expertise and capabilities of delivering accurate tension control in pitching and rolling seas to provide industry leading davit control aboard commercial and naval vessels.



Pump, Fan and Ancillary Systems for Ships and Platforms



Pump applications can be found in almost every offshore or marine application. From mud pumps to drinking water pumping systems, these systems can frequently benefit from the addition of variable speed drive technology by allowing the motor speed to be matched to system requirements, which in turn saves energy and reduces unnecessary wear and tear.

Similarly fan systems benefit in the same way by matching motor speed to system requirements.

Parker SSD Drives' AC drives can be found in all manner of offshore equipment and have been used extensively by a leading manufacturer of drilling and platform equipment in their range of shale shakers that have seen service in many of the world's most arduous offshore environments.

Offshore and Marine Handling Systems

Whether it's controlling the pay-off of cable from a subsea cable laying ship, the control of an umbilical for an ROV on a research vessel, or the complete coordination and control of a Replenishment-At-Sea (RAS) system for a naval re-supply ship, Parker SSD has a proven track record with many of the industry's leading players.

Accurate, safe and reliable control are the fundamentals on which all of

our systems are founded, ensuring that they meet and exceed the demands placed upon them.

When you need to guarantee your handling system's operation in all weather conditions, partnering with Parker SSD Drives provides you with the peace of mind that comes with over 30 years experience of providing turnkey solutions for some of the most challenging applications imaginable.

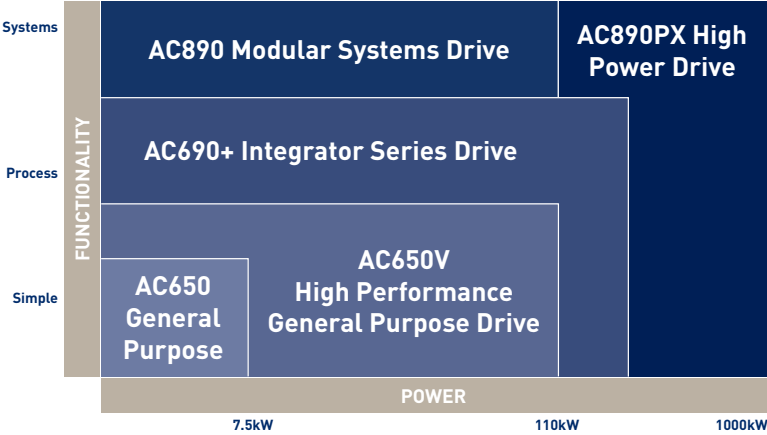


Standard products for integration into your motor control systems



From our UK manufacturing headquarters in Littlehampton, West Sussex we can offer you a wide range of standard off-the-shelf products to suit any application. With our broad portfolio of AC and DC drives, HMIs, asynchronous AC motors, torque motors, software and ancillary components you can be confident that we have the products to meet all of your motor control requirements from 0.25kW through to 1MW and above.

AC Drives Product Overview



Engineered solutions for the marine and offshore industries

Systems Build Capabilities

For those customers requiring more support in the design and implementation of their control systems, Parker offers a complete design and build service, enabling them to focus on their core competencies.

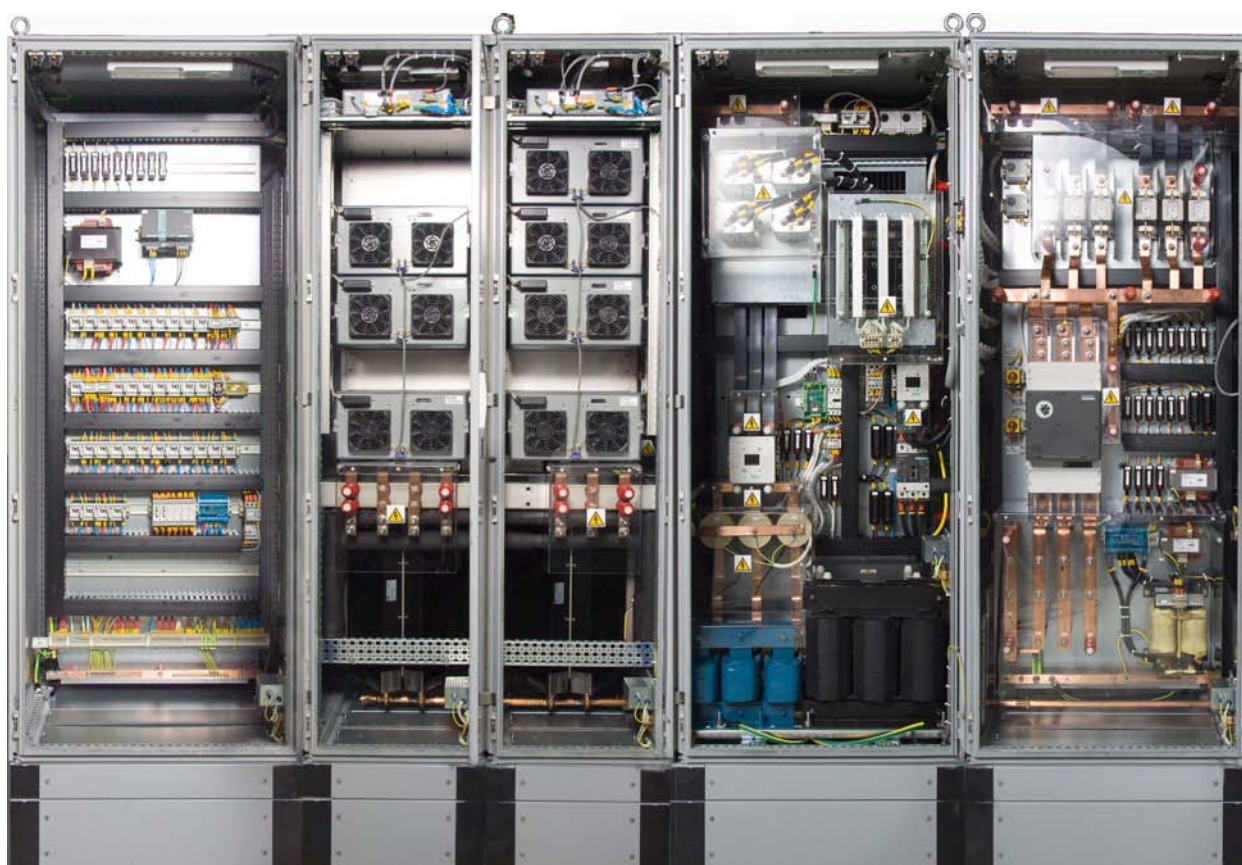
Based on the fundamental principles of application expertise, quality, reliability and safety, Parker's systems team are able to undertake all aspects of an electrical control system project, from pre-design specification to on site installation and cabling services.

By allowing Parker to undertake the design, build, programming and commissioning of your motor control system, you can be assured that every aspect of the design, from environmental considerations through component selection to mounting of products has been carefully considered and allowed for.

Documenting and certifying complete control systems can be a daunting task for many equipment manufacturers. Again, Parker are on hand to help by providing

complete electrical schematic and single line drawings as well installation, maintenance and operating instructions.

As an accredited systems builder, Parker SSD Drives is also able to undertake the certification process required to enable systems to be put into service in the offshore and marine industry.



Engineered solutions for marine and offshore

Protection for Harsh Environments

At the heart of any Parker system is an understanding of the demands of the environment in which it will operate. Our designers believe that time spent getting this right at the start of a project reduces costly downtime later on when in service.

As well as ensuring the correct IP rating, typically IP56 minimum, our systems can also include stainless steel fasteners throughout, as well as a marine standard paint finish to all external surfaces and openings into the enclosure.

In addition to the highest levels of corrosion resistance, shock resistance and vibration control is considered at every stage of

the design process, both in the selection of components that meet or exceed the levels of shock that are likely to be experienced and

their mounting in such a way as to withstand the continuous levels of vibration likely to be present in offshore or marine applications.



Specialist Cooling Solutions

With the extremes of temperature that can be experienced by equipment installed or passing through some of the most inhospitable parts of the planet, ensuring a consistent operating temperature range for any system is of critical importance.

Ensuring that electronic equipment stays within the specified operating temperature not only maintains reliable operation, but also helps to prolong equipment life. Parker continually innovates to bring the latest cooling technologies to its equipment.

With cooling systems designed to meet specific requirements, we can offer any number of cooling

methods including chillers, air/water heat exchangers, force/natural ventilation, water cooling or our innovative, award winning

vapourizable dielectric fluid cooling system which substantially reduces cabinet footprint for a given power rating.



Offshore industries

EMC Compatibility

With equipment such as generators, radio communications, radar and even weapons defence systems, it is of vital importance that any drive system does not radiate electromagnetic noise or induce harmonics into the power supply. Parker SSD ensures that all systems are equipped with the necessary filtering and are built in such a way as to minimise EMC issues.

All doors and openings include low resistance EMC seals to produce an electrically conductive surface, which in turn leads to excellent attenuation levels. EMC cable glands and gland plates ensure that all cable entries also maintain the highest levels of EMC integrity.



Market Leading Design



Boasting over 30 years of designing and manufacturing variable speed drives and systems, Parker SSD Drives has delivered systems of all manner of complexity into thousands of applications worldwide, in accordance with numerous electrical and quality standards.

In marine specific applications, Parker SSD Drives has extensive experience of designing,

manufacturing and installing systems that meet the toughest marine standards such as DNV and Lloyds Register.

By taking such an integrated approach to design and build, Parker SSD Drives removes the risks associated with meeting stringent international standards, ensuring complete peace of mind for you and your customers.

Maintenance and Serviceability

Inevitably, in such difficult environments there comes a time when equipment needs maintaining or servicing.

Parker SSD Drives' high quality designs have delivered drive MTBF times amongst the highest in the industry.

As the world's leading diversified manufacturer of motion and control technologies and systems, Parker is able to respond to any demands

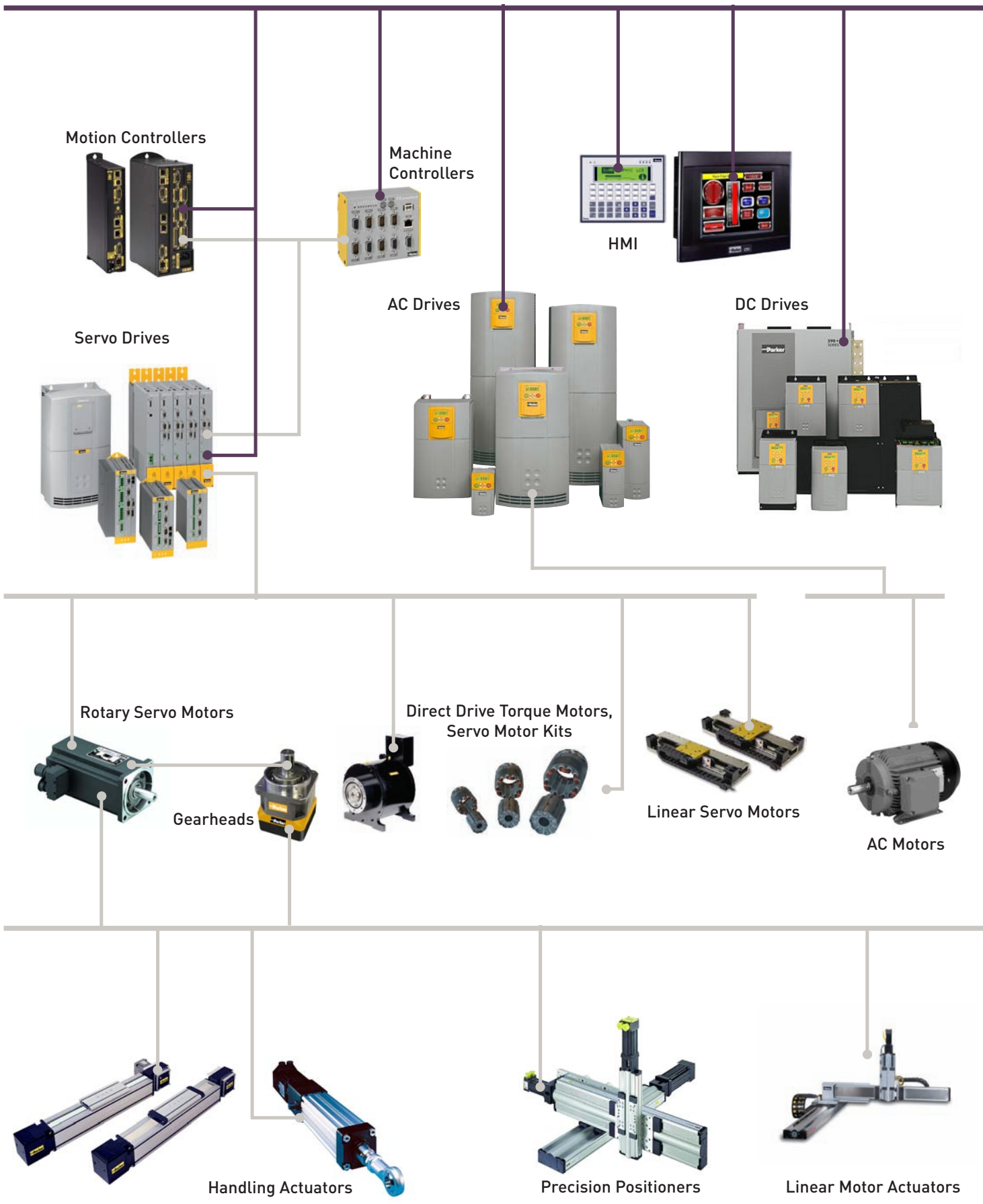
your operations may place on you.

Innovative modular design featuring common components, low maintenance and simple replacement, help to minimise spares holding requirements.

Even with our highest power drive products, removable 25kg power modules mean that replacement units can easily be air freighted to your installation wherever it may be around the world.

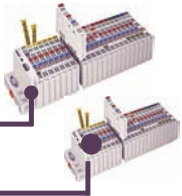


Parker Electromechanical and Drives ra



Range of solutions

Remote I/O



Stepper Drives



Stepper Motors



Gantry Systems

Value Added Services

In addition to providing products and systems, Parker also provides a number of value added services to our customers:

- Programming and commissioning services
- Power quality and energy surveys
- 24-hour support and service
- Product repairs
- Product training

Customisation

Most automation applications cannot be solved with off the shelf products. Parker's products are designed to be versatile as well as easy to configure for the majority of industrial and process applications. Some customers require solutions that can't be found in a catalogue, and Parker has the resources and expertise available to provide customised solutions:

- Custom motor designs
- Customised mechanical positioning systems
- Customised control functionality
- Customised communication solutions



System Solutions

Parker offers system design and manufacturing in two main categories:

Drive Systems

Complete AC and DC drive systems across a wide power range, from less than 100 kW to more than 1 MW. Systems typically include electrical enclosure, ancillary electronic equipment and full documentation. Commissioning and support services are standard.

Mechanical Systems

Parker has more than 20 years of experience in providing a variety of multiple axis mechanical positioning systems, complete with motors, drives and controls. Typical applications include material transfer and pick and place gantry systems.

Additionally, Parker designs and builds custom precision (micron and submicron level) positioning systems, integrating precision bearing, feedback and drive systems, including Parker's range of linear servo motors. Each system comes complete with motors, drives and controls, and can include the programming and commissioning.

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Your local authorized Parker distributor

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