

AC Solutions

AC motors, drives, and switchboards for drilling applications

TECHNOLOGY



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OEM AC Motors

AC Traction Motors

Cameron's OEM™ AC traction motors are designed and manufactured to handle deep drilling applications. Available in 400-, 550/600-, 1150-, and 1500/1600-hp models, these inverter motors are designed specifically for 460- to 690-volt duty and deliver maximum efficiency. To meet varying installation requirements, OEM AC motors are available in vertical or horizontal designs.

Double the Torque

Unlike conventional traction motors, OEM AC motors possess a unique design that meets the requirements of oil and gas applications. A key characteristic of the motor is the ability to offer a high level of torque, ranging from 0 to 800 rpm (select motors can achieve a maximum speed up to 3000 rpm). The torque generated at a wide range of speeds can enhance the performance of a broad array of drilling equipment driven by these motors.



OEM AC Motors

Built-In Reliability and Dependability

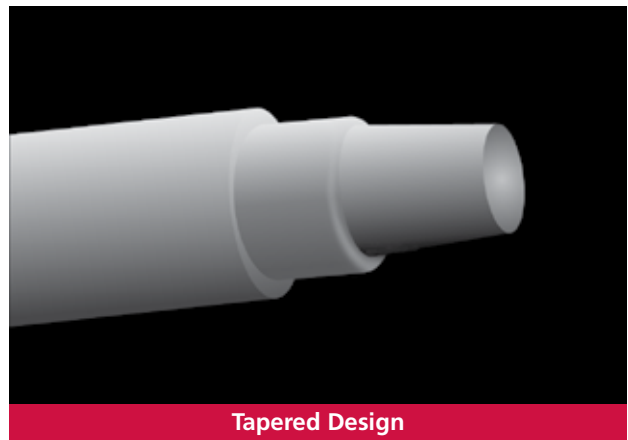
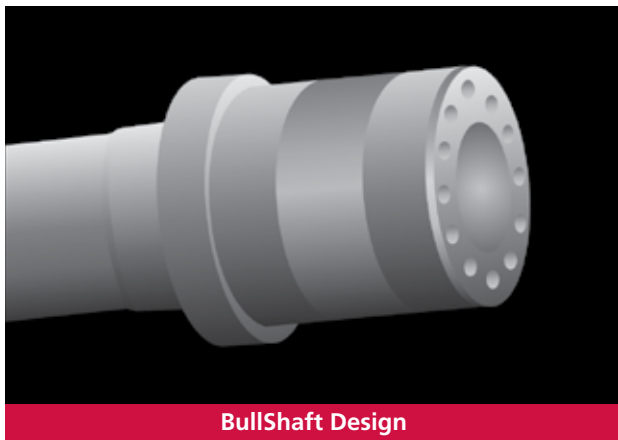
Long-term protection against component failure and reduced repair time are key advantages of OEM AC motors. Cameron's innovative design and industry leading engineering standards maximize both performance and longevity. OEM products utilize high-quality inverter wire throughout the motor manufacturing process. The stator undergoes a rigorous vacuum pressure impregnation (VPI) process and is epoxy dipped for long-term protection. In addition, VPI and bake oven processes are computer controlled for consistency and quality.



OEM BullShaft

To accommodate the demands of a wide range of belt-driven equipment, OEM 1150-hp and 1500-hp AC motors feature an innovative, patented BullShaft™ design. The BullShaft, designed to withstand the torsional forces that lead to shaft failure, features a more heavy-duty construction than conventional shafts.

Unlike competitive models, which employ non-standard shafts and components, the BullShaft design uses standard components and hub patterns. As a result, BullShaft-equipped OEM motors are easily serviced and require limited modifications for standard AC motor installations.

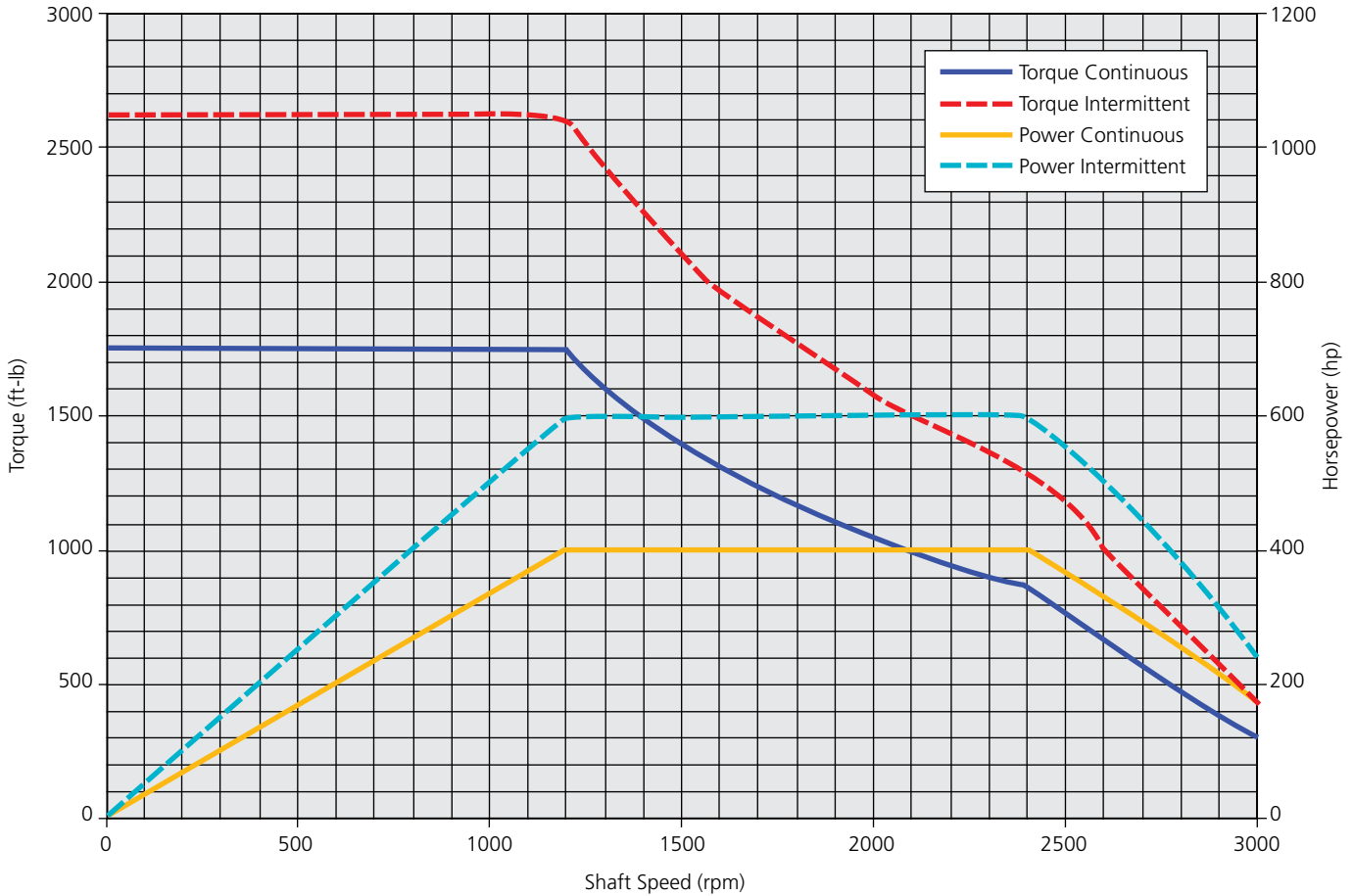


OEM AC Motors

- 1 High-density windings put more copper in the slot to accommodate high-torque applications.
- 2 Greater copper and iron content provide more thermal mass to withstand the high temperatures of continuous operation without diminishing component life.
- 3 Life-extending, enhanced insulation system includes turn-to-turn and phase-to-phase protection, two VPI treatments, plus final treatment with epoxy and heavy build resin for chemical and corrosion resistance.
- 4 Superior laminations strengthen the magnetic fields in the stator, and rotors are precision balanced for smooth operation.
- 5 Insulated bearing housings on the 1150-hp and 1500-hp models prevent current transmission through the shaft and premature bearing wear.
- 6 OEM AC motors include winding heaters and six slot-embedded resistive thermal devices (RTDs).
- 7 The 1150-hp and 1500-hp models fit the footprint and shaft height of the GE752 for simplified installations, including retrofits.
- 8 A minimal number of turns per phase group reduces voltage drop on the leading turn. Turn-to-turn insulation, an exclusive feature, provides for enhanced insulation.
- 9 Two surge rings and a shorting ring provide high rigidity and reduce flexing of windings in high-torque applications.



OEM AC Motors



PERFORMANCE DATA

OEM 400-HP AC MOTOR

Power 400 hp (298 kW) continuous,
600 hp (448 kW) at 150% overload

Voltage 575 VAC (690 VAC maximum)

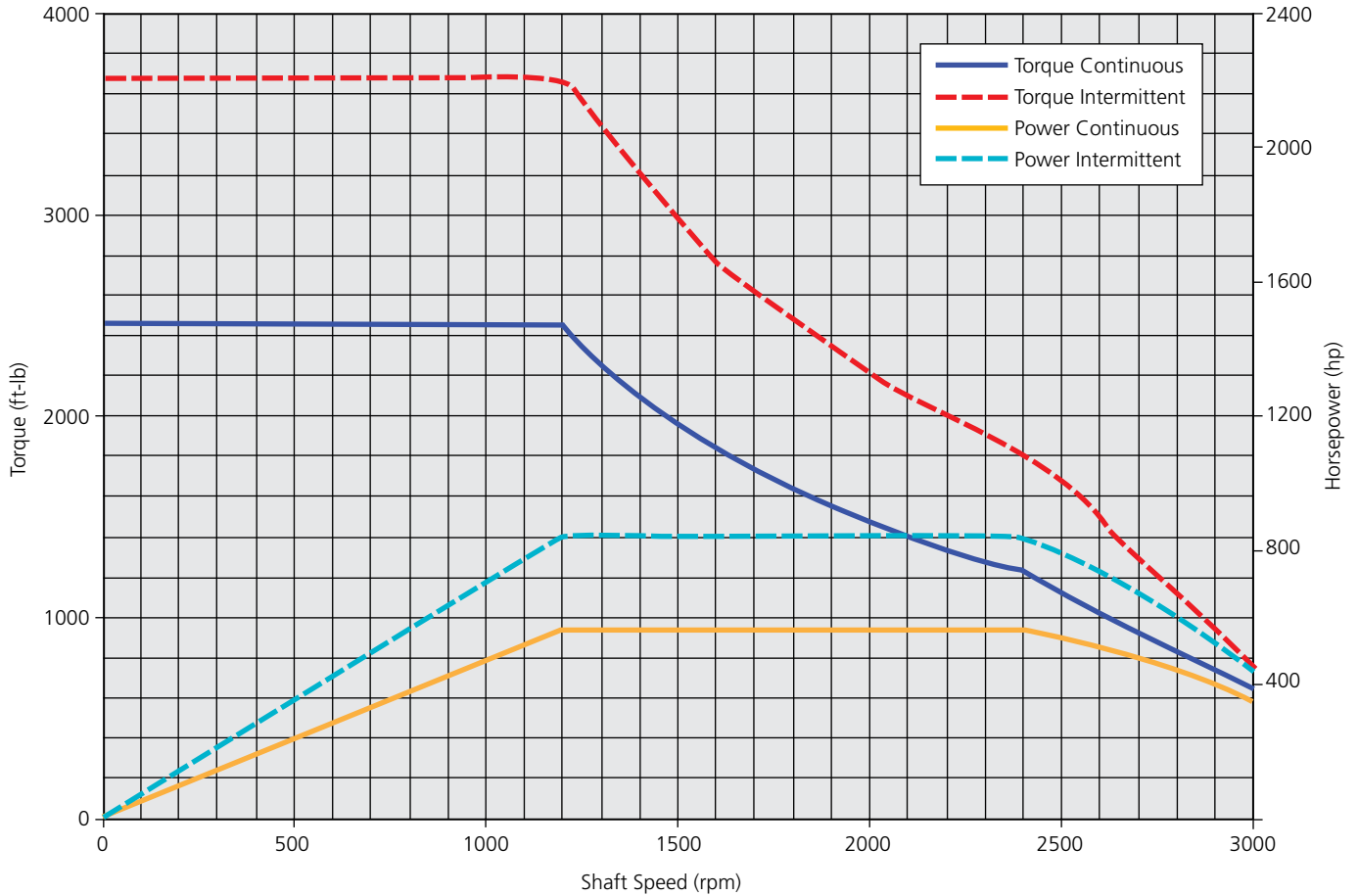
Current 374 amp continuous,
528 amp at 150% overload

Torque 1790 ft-lb continuous,
2685 ft-lb at 150% overload

Speed 0 to 1174 rpm (40 Hz) constant torque,
3000 rpm maximum – horizontal mount
2400 rpm maximum – vertical mount

All specifications are subject to change. Information important to a particular application should be verified by Cameron.

OEM AC Motors



PERFORMANCE DATA

OEM 550/600-HP AC MOTOR

Power 550 hp (410 kW) continuous,
825 hp (615 kW) at 150% overload

Torque 2450 ft-lb continuous,
3675 ft-lb at 150% overload

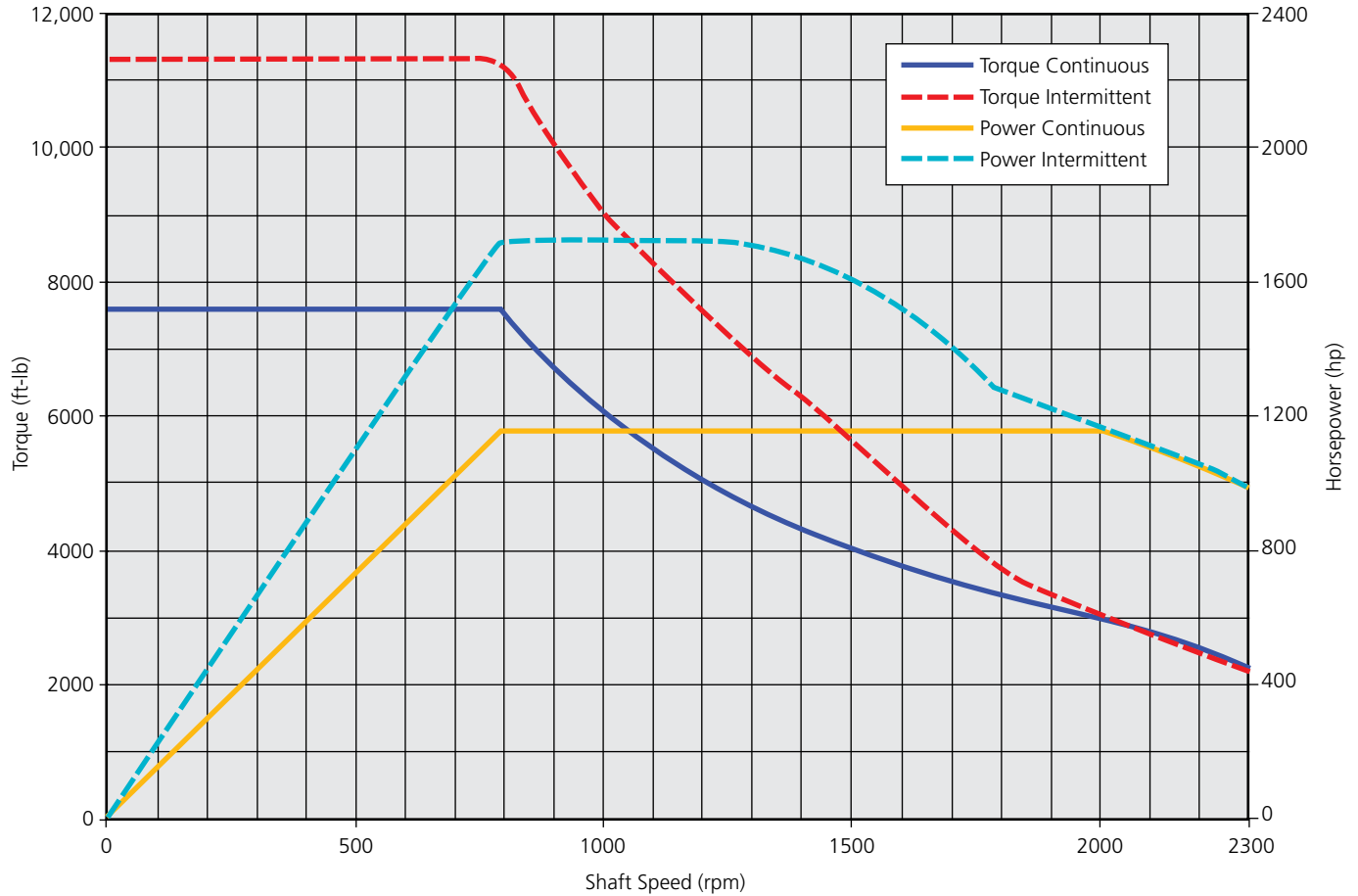
Voltage 575 VAC (690 VAC maximum)

Speed 0 to 1180 rpm (60 Hz) constant torque,
3000 rpm maximum – horizontal mount

Current 580 amp continuous,
870 amp at 150% overload

All specifications are subject to change. Information important to a particular application should be verified by Cameron.

OEM AC Motors



PERFORMANCE DATA

OEM 1150-HP AC MOTOR

Power 1150 hp (858 kW) continuous,
1725 hp (1287 kW) drawworks duty

Torque 7547 ft-lb continuous,
11,320 ft-lb drawworks duty

Voltage 575 VAC (690 VAC maximum)

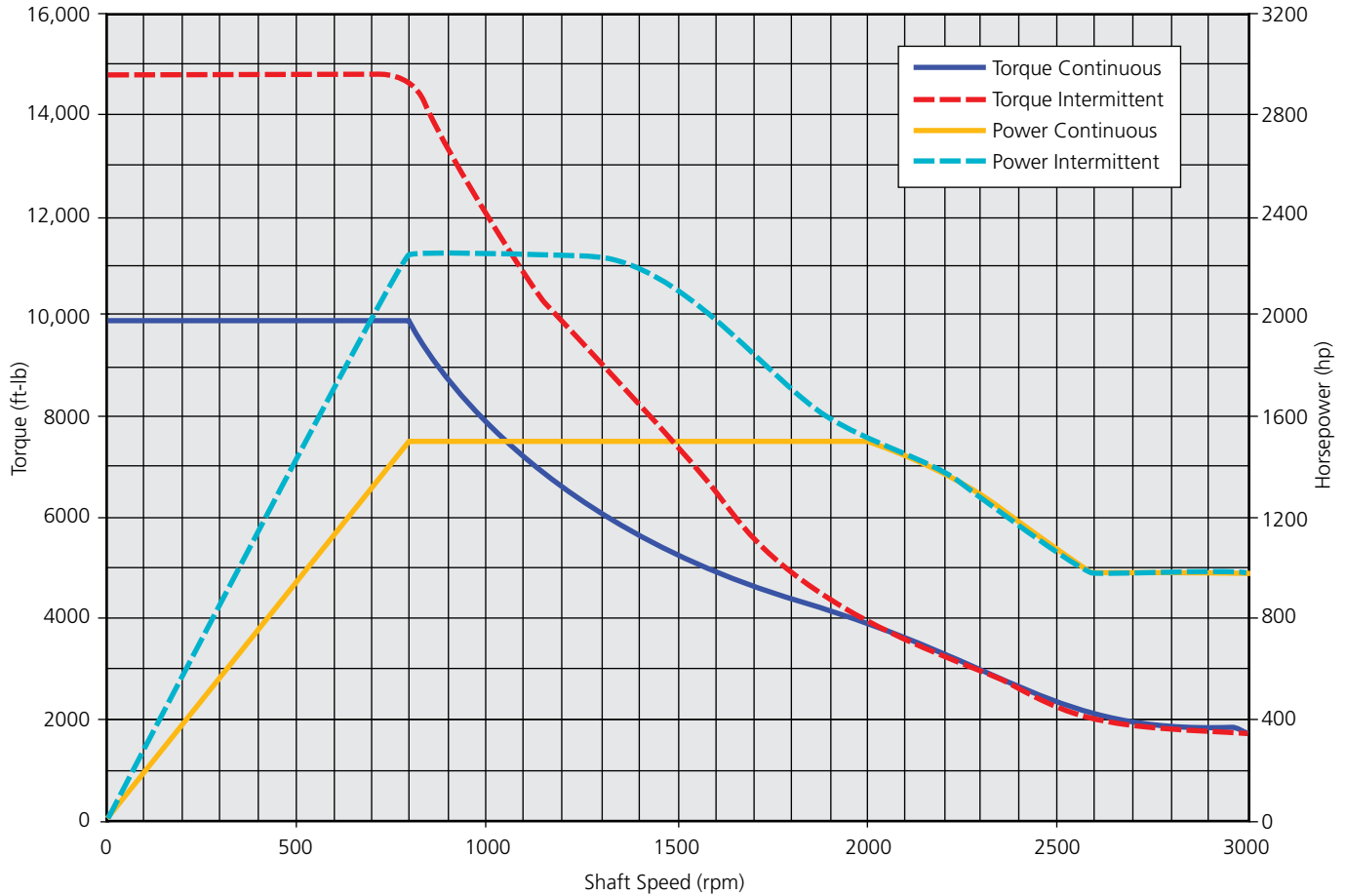
Speed 0 to 788 rpm (40 Hz) constant torque,
2300 rpm maximum – horizontal mount

Current 1050 amp continuous,
1575 amp at 150% overload

1050 rpm maximum – with BullShaft installed

All specifications are subject to change. Information important to a particular application should be verified by Cameron.

OEM AC Motors



PERFORMANCE DATA OEM 1500/1600-HP AC MOTOR

<p>Power 1500 hp (1119 kW) continuous, 2250 hp (1679 kW) drawworks duty</p> <p>Voltage 575 VAC (690 VAC maximum)</p> <p>Current 1350 amp continuous, 2025 amp at 150% overload</p>	<p>Torque 9993 ft-lb continuous, 14,989 ft-lb drawworks duty</p> <p>Speed 0 to 788 rpm (40 Hz) constant torque, 2300 rpm maximum – horizontal mount 1050 rpm maximum – with BullShaft installed</p>
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All specifications are subject to change. Information important to a particular application should be verified by Cameron.

OEM AC Drives



Variable Frequency AC Drives

Cameron's OEM variable frequency drives (VFDs) are available in air-cooled and liquid-cooled models designed to control the speed and torque of low-voltage motors from 460 VAC to 690 VAC. These AC drives are compact in size and designed for efficiency, productivity, and reliability. This high power factor, coupled with a low-maintenance modular composition, results in greater fuel economy, minimal maintenance costs, easy servicing, and reduced spares.

Cameron can provide drives configured as single units or arranged into a common DC bus. If your system requires harmonic mitigation, then these drives can be supplied with phase-shifted rectifiers or active harmonic filtering. Motor regenerative energy is managed effectively through dynamic braking or an optional fully regenerative active front end. Drive cubicles are front accessible and easily integrated into switchgear or installed into fabricated power control enclosures.

These drives feature programmable, digital controls that interface with many standard communications protocols. They produce torque regulation to eliminate the need for conventional mechanical braking. Factory load testing and functional routines are conducted for quality assurance and optimized performance. OEM VFDs are ideal for marine and harsh industrial environments.

OEM AC Switchboards

Cameron's OEM AC switchboards can be provided for the complete low-voltage main and emergency power system. Controls are available to protect and operate engine-driven generators, allowing for parallel synchronization and load sharing. Circuit breakers, motor control centers, and power distribution transformers are tailored to application-specific needs. Engineering design studies can be conducted to meet customer or third-party reviews.



OEM Fabricated Power Control Buildings

Cameron's OEM fabricated power control buildings are available for onshore and offshore applications. Buildings are completed with power distribution and control systems to provide a total integrated solution. Design and construction follow proven industry standards and can be certified as requirements dictate. The finished building arrives tested and ready to install.



HOUSTON

4601 Westway Park Blvd.

Houston, TX 77041

USA

Tel 1 713 939 2211

NORWAY

Andøyfaret 3

N-4623 Kristiansand S.

Norway

Tel 47 380 00 570

SINGAPORE

No. 100 Tuas S. Ave. 8

Offshore Marine Centre

Singapore 637424

Singapore

Tel 65 6577 1400

UAE

PO Box 127424

Abu Dhabi,

United Arab Emirates

Tel 971 0 2 699-6300

UK

5 The Heights, Brooklands

Weybridge, Surrey KT13 0NY

UK

Tel 44 1932 452124

Learn more about Cameron's AC solutions at:

www.c-a-m.com

**HSE Policy Statement**

At Cameron, we are committed ethically, financially and personally to a working environment where no one gets hurt and nothing gets harmed.